| FED.RD. DIV.NO. | FEDERAL AID PROJECT NO. | | SHEET NO. |
|---|---|---|---|
| 6 | | | 1 |
| STATE | STATE DIST. | COUNTY | |
| TEXAS | SAT | BEXAR | |
| CONT. | SECT. | JOB | HIGHWAY NO. |
| 0915 | 12 | 576 | VARIES |

# STATE OF TEXAS
## DEPARTMENT OF TRANSPORTATION

## PLANS OF PROPOSED
## STATE HIGHWAY IMPROVEMENT

FEDERAL AID PROJECT.

## BEXAR COUNTY
## VARIES

PROJ NO:
CSJ: 0915-12-576
FROM: VARIOUS LOCATIONS IN BEXAR COUNTY
TO: ON STATE SYSTEM
NET LENGTH: 0.001 MI
CONSTRUCT CURB RAMPS, SIDEWALKS AND OTHER PEDESTRIAN RELATED INFRASTRUCTURE

DESIGN SPEED = N/A
AREA OF DISTURBED SOIL = 0.55 ACRES
ADT: N/A

# VOLUME I

INDEX OF SHEETS

| SHEET NO. | DESCRIPTION |
|---|---|
| SEE SHEETS 2-4 FOR INDEX OF SHEETS | |

CSJ 0915-12-576
END BANDERA RD
STA 1750+00

CSJ 0915-12-576
BEGIN BANDERA RD
STA 1500+00

CSJ 0915-12-576
END
RIGSBY - PHASE II
STA 180+00

CSJ 0915-12-576
BEGIN
RIGSBY - PHASE II
STA 120+00

CSJ 915-12-576
END SW MILITARY-A
STA 410+00

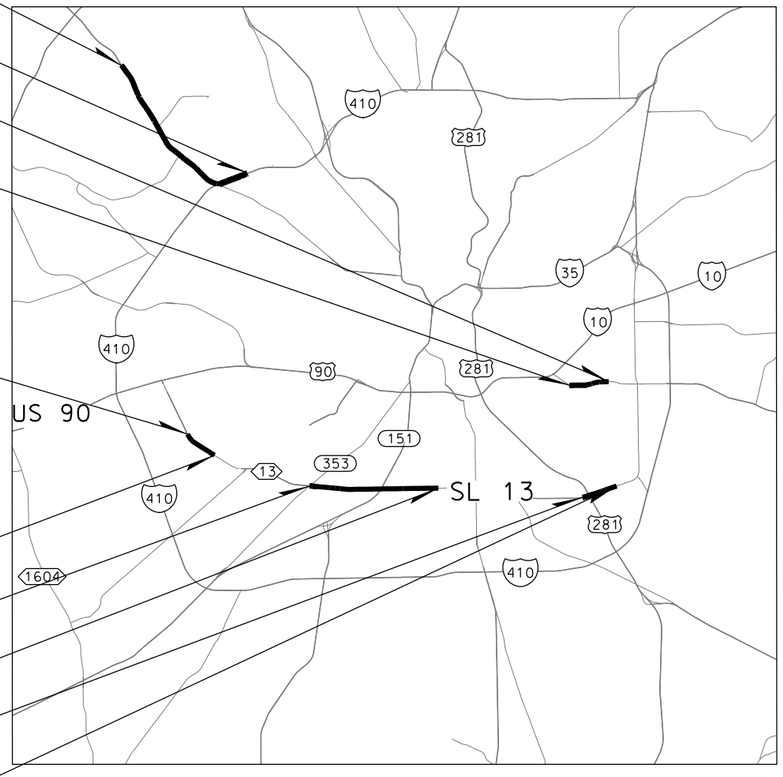
CSJ 0915-12-576
BEGIN SW MILITARY-A
STA 364+00

CSJ 0915-12-576
BEGIN SW MILITARY B
STA 505+00

CSJ 0915-12-576
END SW MILITARY B
STA 726+00

CSJ 0915-12-576
BEGIN MILITARY DRIVE
STA 985+00

CSJ 0915-12-576
END MILITARY DRIVE
STA 1125+00




N

LOCATION MAP NOT TO SCALE

EXCEPTIONS: NONE
EQUATIONS: NONE
RR X-ING'S: NONE

REGISTERED ACCESSIBILITY SPECIALIST (RAS) INSPECTION REQUIRED. TDLR NO. EABPRJ: _____

FINAL PLANS

LETTING DATE: _____

DATE CONTRACTOR BEGAN WORK: _____

DATE WORK WAS ACCEPTED: _____

FINAL CONTRACT COST: $ _____

CONTRACTOR: _____

FINAL PLANS STATEMENT:

THE CONSTRUCTION WORK WAS PERFORMED IN ACCORDANCE WITH THE PLANS.

_____ P.E. _____
AREA ENGINEER DATE

TEXAS DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR LETTING

DESIGN SUPPORT DIRECTOR

RECOMMENDED FOR LETTING

DIRECTOR OF TRANSPORTATION, PLANNING & DEVELOPMENT

APPROVED FOR LETTING

DISTRICT ENGINEER

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, NOVEMBER 1, 2014 AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS, SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHWA 1273, MAY, 2012).



Plotted on: 4/10/2019

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Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\General\1113507*Index01.dgn

| SHEET NO. | DESCRIPTION |
|---|---|
| | **VOLUME I** GENERAL |
| 1 | TITLE SHEET |
| 2-4 | INDEX OF SHEETS |
| 5-8 | PROJECT LAYOUT MAPS |
| 9-13 | TYPICAL SECTIONS |
| 14-26 | GENERAL NOTES |
| 27 | ESTIMATE AND QUANTITIES |
| 28-42 | SUMMARY OF ROADWAY QUANTITIES |
| 43-44 | SUMMARY OF SIGNING AND PAVEMENT MARKINGS QUANTITIES |
| 45 | SUMMARY OF UTILITY QUANTITIES |
| 46 | SUMMARY OF INDEFINITE QUANTITIES |
| | TRAFFIC CONTROL PLAN |
| 47-50 | TRAFFIC CONTROL PLAN ADVANCE WARNING DEVICES |
| 51 | NARRATIVE |
| | TRAFFIC CONTROL PLAN STANDARDS |
| 52 | *BC(1)-14 |
| 53 | *BC(2)-14 |
| 54 | *BC(3)-14 |
| 55 | *BC(4)-14 |
| 56 | *BC(5)-14 |
| 57 | *BC(6)-14 |
| 58 | *BC(7)-14 |
| 59 | *BC(8)-14 |
| 60 | *BC(9)-14 |
| 61 | *BC(10)-14 |
| 62 | *BC(11)-14 |
| 63 | *BC(12)-14 |
| 64 | *TCP(1-1)-18 |
| 65 | *TCP(1-4)-18 |
| 66 | *TCP(2-6)-18 |
| 67 | *WZ(BTS-1)-13 |
| 68 | *WZ(BTS-2)-13 |
| 69 | *WZ(UL)-13 |
| | ROADWAY DETAILS |
| 70-86 | HORIZONTAL AND VERTICAL CONTROL SHEETS |
| 87-96 | HORIZONTAL ALIGNMENT DATA SHEET |
| 97 | SAMPLE PLAN LAYOUT AND LEGEND OF SYMBOLS |
| | US 87 RIGSBY AVE |
| 98 | EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 130+00 |
| 99 | EB SIDEWALK CONSTRUCTION PLAN STA 130+00 TO STA 134+00 |
| 100 | EB SIDEWALK CONSTRUCTION PLAN STA 130+00 TO STA 134+00 DETAILS |
| 101 | EB SIDEWALK CONSTRUCTION PLAN STA 134+00 TO STA 147+00 |
| 102 | EB SIDEWALK CONSTRUCTION PLAN STA 150+00 TO STA 157+00 |
| 103 | EB SIDEWALK CONSTRUCTION PLAN STA 157+00 TO STA 161+00 |
| 104 | EB SIDEWALK CONSTRUCTION PLAN STA 161+00 TO STA 165+00 |
| 105 | EB SIDEWALK CONSTRUCTION PLAN STA 165+00 TO STA 180+00 |
| 106 | WB SIDEWALK CONSTRUCTION PLAN STA 607+00 TO STA 611+00 |
| 107 | WB SIDEWALK CONSTRUCTION PLAN STA 611+00 TO STA 615+00 |
| 108 | WB SIDEWALK CONSTRUCTION PLAN STA 615+00 TO STA 619+00 |
| 109 | WB SIDEWALK CONSTRUCTION PLAN STA 619+00 TO STA 623+00 |
| 110 | WB SIDEWALK CONSTRUCTION PLAN STA 623+00 TO STA 627+00 |
| 111 | WB SIDEWALK CONSTRUCTION PLAN STA 633+00 TO STA 637+00 |
| 112 | WB SIDEWALK CONSTRUCTION PLAN STA 637+00 TO STA 641+00 |
| 113 | WB SIDEWALK CONSTRUCTION PLAN STA 641+00 TO STA 645+00 |
| 114 | WB SIDEWALK CONSTRUCTION PLAN STA 645+00 TO STA 649+00 |
| 115 | WB SIDEWALK CONSTRUCTION PLAN STA 645+00 TO STA 649+00 DETAILS |
| 116 | WB SIDEWALK CONSTRUCTION PLAN STA 649+00 TO STA 653+00 |
| 117 | WB SIDEWALK CONSTRUCTION PLAN STA 653+00 TO STA 657+00 |
| 118 | WB SIDEWALK CONSTRUCTION PLAN STA 657+00 TO STA 661+00 |
| 119 | WB SIDEWALK CONSTRUCTION PLAN STA 653+00 TO STA 661+00 DETAILS |
| 120 | WB SIDEWALK CONSTRUCTION PLAN STA 661+00 TO END PROJECT |
| | SL 13 SW MILITARY A |
| 121 | EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO END PROJECT |
| 122 | WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO 425+00, STA 448+00 TO 450+00 |
| 123 | WB SIDEWALK CONSTRUCTION PLAN STA 468+00 TO END PROJECT |
| | SL 13 SW MILITARY B |
| 124 | EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 508+00 |
| 125 | EB SIDEWALK CONSTRUCTION PLAN STA 508+00 TO STA 512+00 |
| 126 | EB SIDEWALK CONSTRUCTION PLAN STA 508+00 TO STA 512+00 DETAILS |
| 127 | EB SIDEWALK CONSTRUCTION PLAN STA 512+00 TO STA 516+00 |
| 128 | EB SIDEWALK CONSTRUCTION PLAN STA 512+00 TO STA 516+00 DETAILS |
| 129 | EB SIDEWALK CONSTRUCTION PLAN STA 516+00 TO STA 520+00 |
| 130 | EB SIDEWALK CONSTRUCTION PLAN STA 520+00 TO STA 524+00 |
| 131 | EB SIDEWALK CONSTRUCTION PLAN STA 524+00 TO STA 526+00, STA 754+00 TO STA 756+00 |

| SHEET NO. | DESCRIPTION |
|---|---|
| | SL 13 SW MILITARY B CONT |
| 132 | EB SIDEWALK CONSTRUCTION PLAN STA 526+00 TO STA 529+50 |
| 133 | EB SIDEWALK CONSTRUCTION PLAN STA 529+50 TO STA 533+00 |
| 134 | EB SIDEWALK CONSTRUCTION PLAN STA 537+00 TO STA 541+00 |
| 135 | EB SIDEWALK CONSTRUCTION PLAN STA 541+00 TO STA 545+00 |
| 136 | EB SIDEWALK CONSTRUCTION PLAN STA 541+00 TO STA 545+00 DETAILS |
| 137 | EB SIDEWALK CONSTRUCTION PLAN STA 545+00 TO STA 548+00 |
| 138 | EB SIDEWALK CONSTRUCTION PLAN STA 556+00 TO STA 560+00 |
| 139 | EB SIDEWALK CONSTRUCTION PLAN STA 556+00 TO STA 560+00 DETAILS |
| 140 | EB SIDEWALK CONSTRUCTION PLAN STA 560+00 TO STA 564+00 |
| 141 | EB SIDEWALK CONSTRUCTION PLAN STA 560+00 TO STA 564+00 DETAILS |
| 142 | EB SIDEWALK CONSTRUCTION PLAN STA 574+00 TO STA 576+00, STA 804+00 TO STA 806+00 |
| 143 | EB SIDEWALK CONSTRUCTION PLAN STA 583+00 TO STA 587+00 |
| 144 | EB SIDEWALK CONSTRUCTION PLAN STA 589+50 TO STA 593+50 |
| 145 | EB SIDEWALK CONSTRUCTION PLAN STA 593+50 TO STA 597+00 |
| 146 | EB SIDEWALK CONSTRUCTION PLAN STA 597+00 TO STA 599+00, STA 603+00 TO STA 605+00 |
| 147 | EB SIDEWALK CONSTRUCTION PLAN STA 610+25 TO STA 614+00 |
| 148 | EB SIDEWALK CONSTRUCTION PLAN STA 629+00 TO STA 633+00 |
| 149 | EB SIDEWALK CONSTRUCTION PLAN STA 635+25 TO STA 637+25, STA 643+75 TO STA 645+75 |
| 150 | EB SIDEWALK CONSTRUCTION PLAN STA 635+25 TO STA 637+25, STA 643+75 TO STA 645+75 DETAILS |
| 151 | EB SIDEWALK CONSTRUCTION PLAN STA 648+00 TO STA 650+00, STA 653+00 TO STA 654+75 |
| 152 | EB SIDEWALK CONSTRUCTION PLAN STA 654+75 TO STA 656+25, STA 659+00 TO STA 661+00 |
| 153 | EB SIDEWALK CONSTRUCTION PLAN STA 661+00 TO STA 665+00 |
| 154 | EB SIDEWALK CONSTRUCTION PLAN STA 661+00 TO STA 665+00 DETAILS |
| 155 | EB SIDEWALK CONSTRUCTION PLAN STA 666+50 TO STA 670+00 |
| 156 | EB SIDEWALK CONSTRUCTION PLAN STA 670+00 TO STA 672+00, STA 900+00 TO STA 902+00 |
| 157 | EB SIDEWALK CONSTRUCTION PLAN STA 676+00 TO STA 680+00 |
| 158 | EB SIDEWALK CONSTRUCTION PLAN STA 680+00 TO STA 684+00 |
| 159 | EB SIDEWALK CONSTRUCTION PLAN STA 684+00 TO STA 689+00 |
| 160 | EB SIDEWALK CONSTRUCTION PLAN STA 684+00 TO STA 689+00 DETAILS |
| 161 | EB SIDEWALK CONSTRUCTION PLAN STA 694+50 TO STA 698+55 |
| 162 | EB SIDEWALK CONSTRUCTION PLAN STA 701+00 TO STA 705+00 |
| 163 | EB SIDEWALK CONSTRUCTION PLAN STA 709+00 TO STA 711+00, STA 939+00 TO STA 941+00 |
| 164 | EB SIDEWALK CONSTRUCTION PLAN STA 711+00 TO STA 715+00 |
| 165 | EB SIDEWALK CONSTRUCTION PLAN STA 711+00 TO STA 715+00 DETAILS |
| 166 | EB SIDEWALK CONSTRUCTION PLAN STA 719+00 TO STA 723+00 |
| 167 | EB SIDEWALK CONSTRUCTION PLAN STA 719+00 TO STA 723+00 DETAILS |
| 168 | EB SIDEWALK CONSTRUCTION PLAN STA 723+00 TO END PROJECT |
| 169 | WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 746+00 |
| 170 | WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 746+00 DETAILS |
| 171 | WB SIDEWALK CONSTRUCTION PLAN STA 746+00 TO STA 750+00 |
| 172 | WB SIDEWALK CONSTRUCTION PLAN STA 750+00 TO STA 754+00 |
| 173 | WB SIDEWALK CONSTRUCTION PLAN STA 750+00 TO STA 754+00 DETAILS |
| 174 | WB SIDEWALK CONSTRUCTION PLAN STA 756+00 TO STA 760+00 |
| 175 | WB SIDEWALK CONSTRUCTION PLAN STA 756+00 TO STA 760+00 DETAILS |
| 176 | WB SIDEWALK CONSTRUCTION PLAN STA 760+00 TO STA 763+00 |
| 177 | WB SIDEWALK CONSTRUCTION PLAN STA 763+00 TO STA 765+00 |
| 178 | WB SIDEWALK CONSTRUCTION PLAN STA 765+00 TO STA 768+00 |
| 179 | WB SIDEWALK CONSTRUCTION PLAN STA 768+00 TO STA 772+00 |
| 180 | WB SIDEWALK CONSTRUCTION PLAN STA 768+00 TO STA 772+00 DETAILS |
| 181 | WB SIDEWALK CONSTRUCTION PLAN STA 772+00 TO STA 776+00 |
| 182 | WB SIDEWALK CONSTRUCTION PLAN STA 776+00 TO STA 780+00 |
| 183 | WB SIDEWALK CONSTRUCTION PLAN STA 780+00 TO STA 784+00 |
| 184 | WB SIDEWALK CONSTRUCTION PLAN STA 780+00 TO STA 784+00 DETAILS |
| 185 | WB SIDEWALK CONSTRUCTION PLAN STA 784+00 TO STA 788+00 |
| 186 | WB SIDEWALK CONSTRUCTION PLAN STA 784+00 TO STA 788+00 DETAILS |
| 187 | WB SIDEWALK CONSTRUCTION PLAN STA 788+00 TO STA 792+00 |
| 188 | WB SIDEWALK CONSTRUCTION PLAN STA 788+00 TO STA 792+00 DETAILS |
| 189 | WB SIDEWALK CONSTRUCTION PLAN STA 796+50 TO STA 798+50, STA 802+00 TO STA 804+00 |
| 190 | WB SIDEWALK CONSTRUCTION PLAN STA 806+00 TO STA 810+00 |
| 191 | WB SIDEWALK CONSTRUCTION PLAN STA 852+00 TO STA 856+00 |
| 192 | WB SIDEWALK CONSTRUCTION PLAN STA 856+00 TO STA 860+00 |
| 193 | WB SIDEWALK CONSTRUCTION PLAN STA 856+00 TO STA 860+00 DETAILS |
| 194 | WB SIDEWALK CONSTRUCTION PLAN STA 863+00 TO STA 865+00, STA 879+00 TO STA 881+00 |
| 195 | WB SIDEWALK CONSTRUCTION PLAN STA 863+00 TO STA 865+00, STA 879+00 TO STA 881+00 DETAILS |
| 196 | WB SIDEWALK CONSTRUCTION PLAN STA 881+00 TO STA 885+00 |
| 197 | WB SIDEWALK CONSTRUCTION PLAN STA 885+00 TO STA 889+00 |
| 198 | WB SIDEWALK CONSTRUCTION PLAN STA 889+00 TO STA 893+00 |
| 199 | WB SIDEWALK CONSTRUCTION PLAN STA 893+00 TO STA 895+00, STA 902+00 TO STA 904+00 |
| 200 | WB SIDEWALK CONSTRUCTION PLAN STA 904+00 TO STA 908+00 |
| 201 | WB SIDEWALK CONSTRUCTION PLAN STA 908+00 TO STA 911+50 |
| 202 | WB SIDEWALK CONSTRUCTION PLAN STA 908+00 TO STA 911+50 DETAILS |
| 203 | WB SIDEWALK CONSTRUCTION PLAN STA 911+50 TO STA 913+00 |
| 204 | WB SIDEWALK CONSTRUCTION PLAN STA 915+00 TO STA 919+00 |
| 205 | WB SIDEWALK CONSTRUCTION PLAN STA 925+00 TO STA 928+00 |
| 206 | WB SIDEWALK CONSTRUCTION PLAN STA 928+00 TO STA 931+00 |

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# INDEX OF SHEETS

SHEET 1 OF 3

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 2 |

DESIGN

INTERIM REVIEW

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

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DATE: 4/10/2019

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PAPE-DAWSON ENGINEERS
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| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 3 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\General\1113507*Index01.dgn

| SHEET NO. | DESCRIPTION |
|---|---|
| | ROADWAY - STANDARDS CONT |
| 373 | *MB-14(2) |
| 374 | *MB-14(2A) |
| 375 | *MB-14(2B) |
| 376 | *RW1(L)A |
| 377 | *RW1(L)B |
| 378 | *RW1(L)C |
| 379 | *RW2 |
| 380-381 | *SETB-PD |
| 382 | *PSET-PD |
| 383 | *PSET-RR |
| 384-385 | *MC-5-20 |
| 386 | *SW-0 |
| 387 | *SCP-6 |
| 388 | *BCS |
| | TRAFFIC - STANDARDS |
| 389 | *ED(1)-14 |
| 390 | *ED(3)-14 |
| 391 | *ED(4)-14 |
| 392 | *SMD(GEN)-08 |
| 393 | *SMD(SLIP-1)-08 |
| 394 | *SMD(SLIP-2)-08 |
| 395 | *SMD(SLIP-3)-08 |
| 396-397 | *D & OM(1)-15 |
| 398 | *PM(1)-12 |
| 399 | *PM(2)-12 |
| 400 | *PM(3)-12 |
| | ENVIRONMENTAL |
| 401 | *EPIC |
| 402 | *SW3P |
| 403-405 | *EC(9)-16 |
| 406 | SW3P EXAMPLE INTERSECTION |

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.

ENGINEER: JOHN A. TYLER

P.E. SERIAL NO: 105193

DATE: 4/10/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ

P.E. SERIAL NO: 84722

DATE: 4/10/2019

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# INDEX OF SHEETS

SHEET 3 OF 3

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
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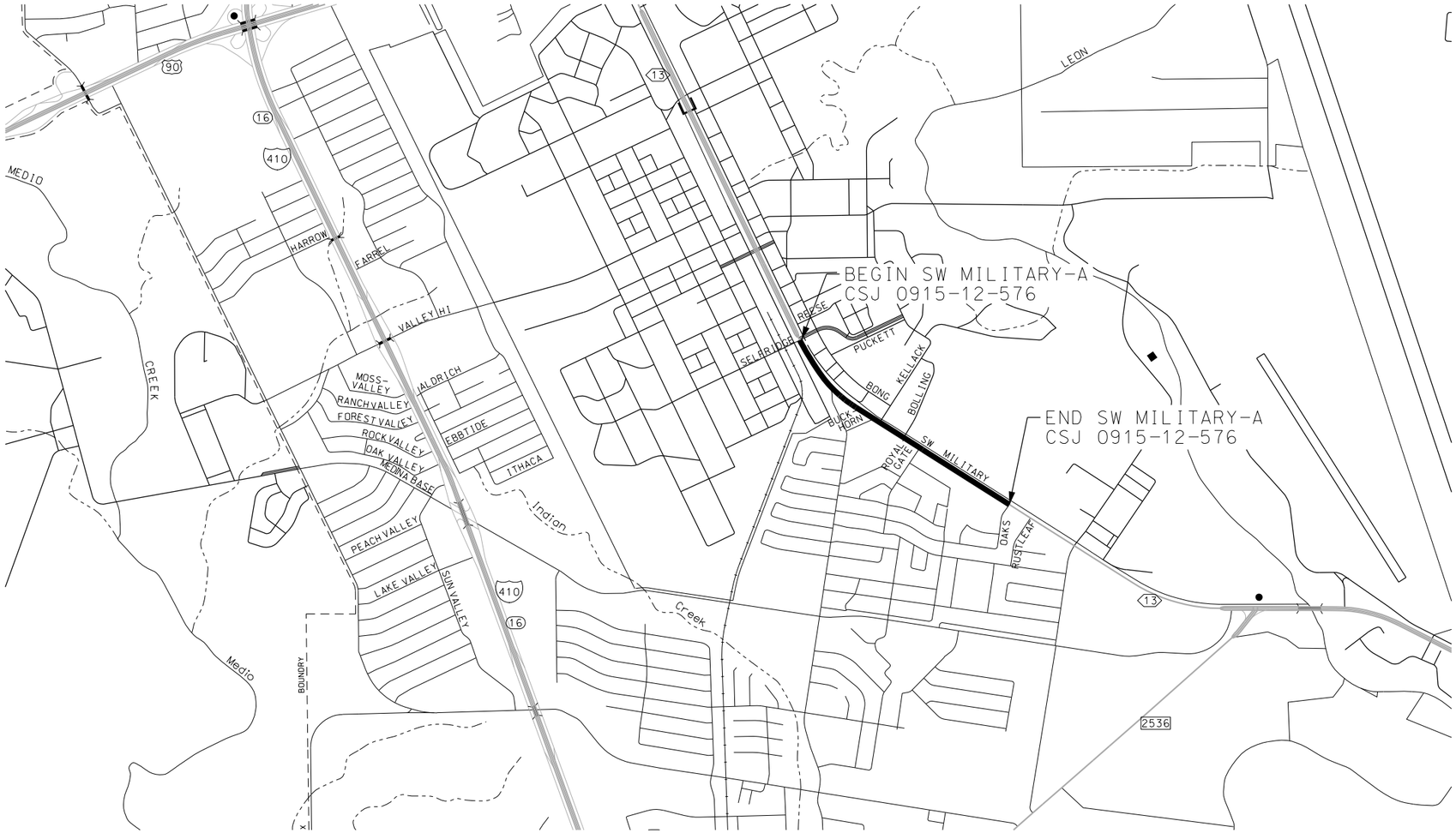
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 4 |

Plotted on: 4/10/2019




SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




# PROJECT LAYOUT MAPS

SHEET 1 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 5 |

Design Filename: P:\111\35\07\design\Civil\General\1113507*ProjLayout.dgn


SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800




# PROJECT LAYOUT MAPS

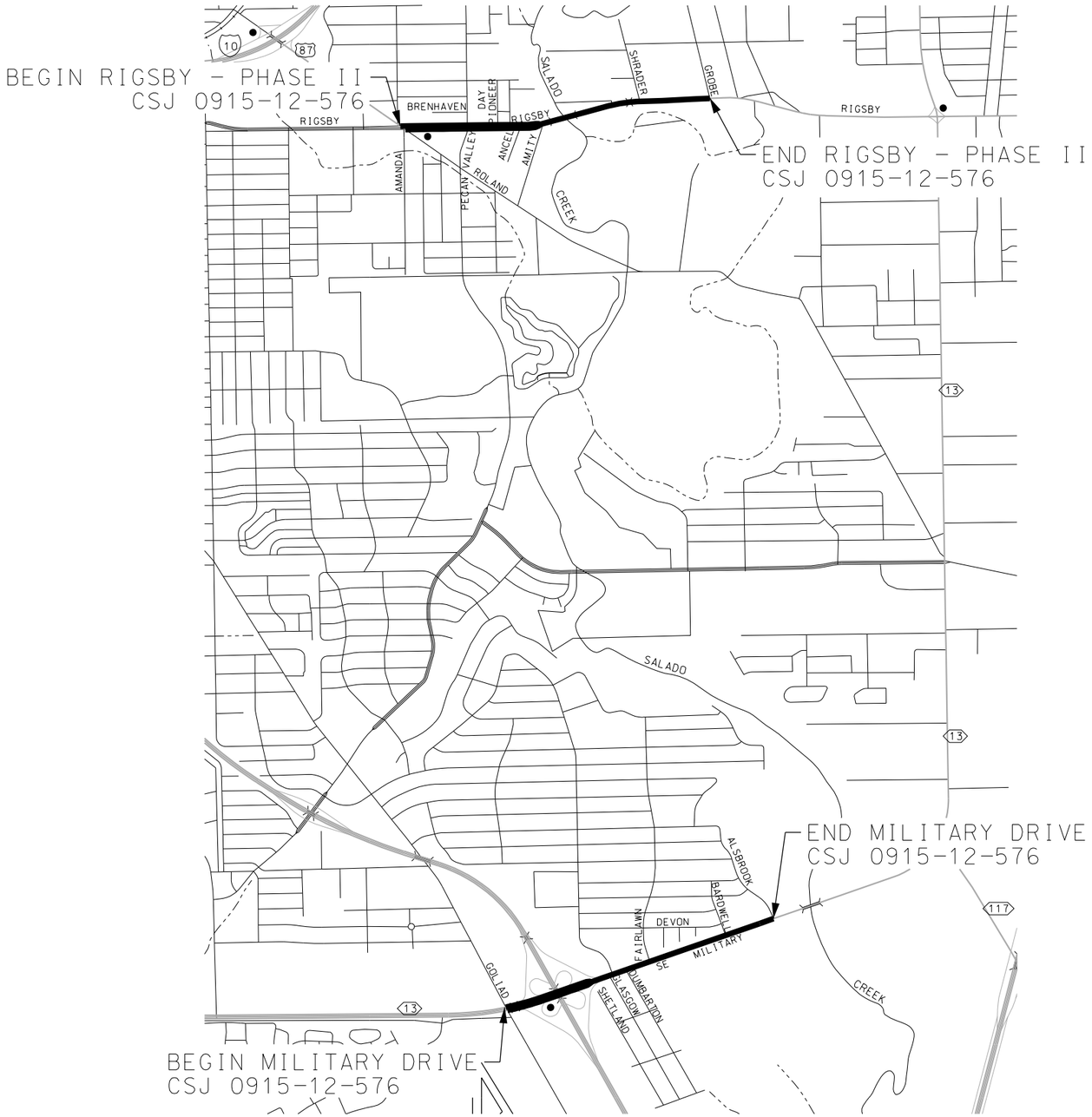
SHEET 2 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 6 |


Plotted on: 4/10/2019
Design Filename: P:\111\35\07\design\Civil\General\1113507*ProjLayout.dgn

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\General\1113507*ProjLayout.dgn




SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




# PROJECT LAYOUT MAPS

SHEET 3 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 7 |


SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS

SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800




# PROJECT LAYOUT MAPS

SHEET 4 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 8 |

Plotted on: 4/10/2019

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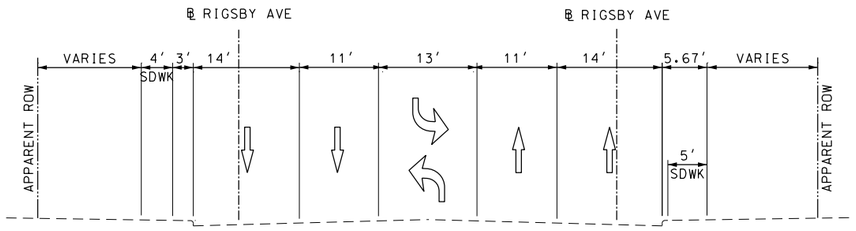
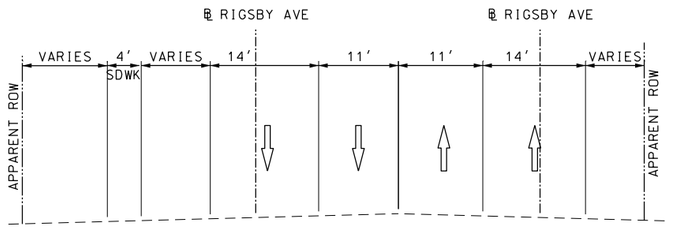
Plotted on: 4/10/2019




EXISTING TYPICAL SECTION
RIGSBY AVE (US 87)
NOT TO SCALE
FROM STA 123+00 TO STA 149+00
FROM STA 636+00 TO STA 663+00

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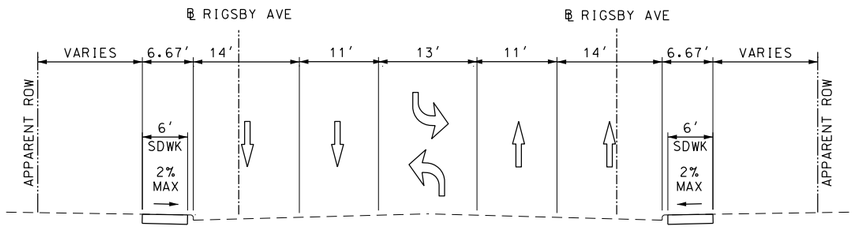
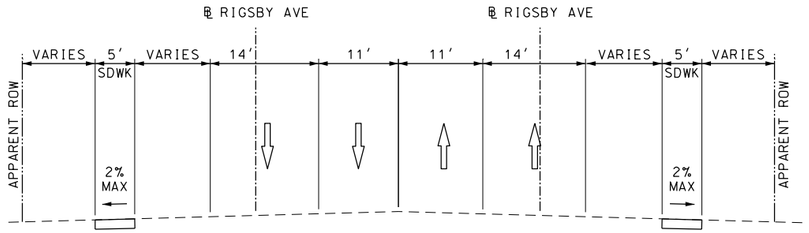



PROPOSED TYPICAL SECTION
RIGSBY AVE (US 87)
NOT TO SCALE
FROM STA 123+00 TO STA 149+00
FROM STA 636+00 TO STA 663+00




PROPOSED TYPICAL SECTION
RIGSBY AVE (US 87)
NOT TO SCALE
FROM STA 149+00 TO STA 181+00
FROM STA 605+00 TO STA 636+00

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

| REV. NO. | DATE | DESCRIPTION | BY |
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# TYPICAL SECTIONS

SHEET 1 OF 5

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 9 |

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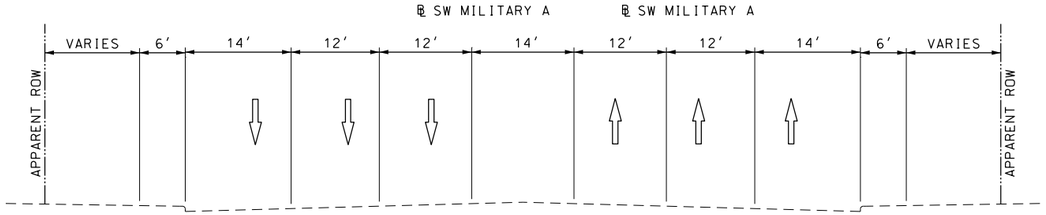


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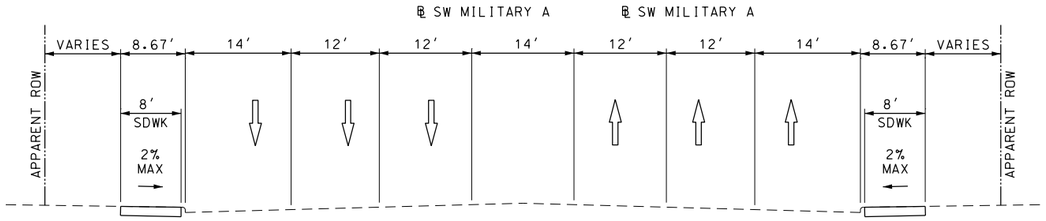


PROPOSED TYPICAL SECTION
SW MILITARY A (SL 13)
NOT TO SCALE
FROM BEGIN PROJECT TO END PROJECT

DESIGN

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# TYPICAL SECTIONS

SHEET 2 OF 5

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
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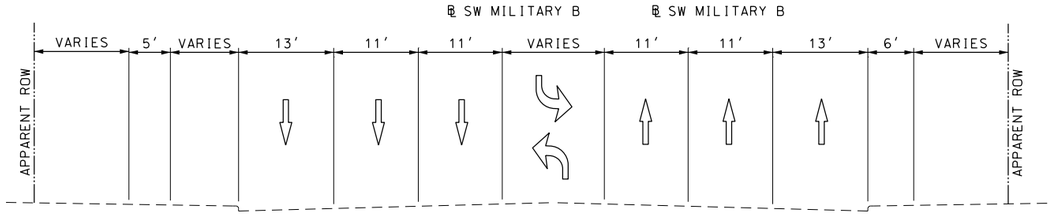


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NOT TO SCALE
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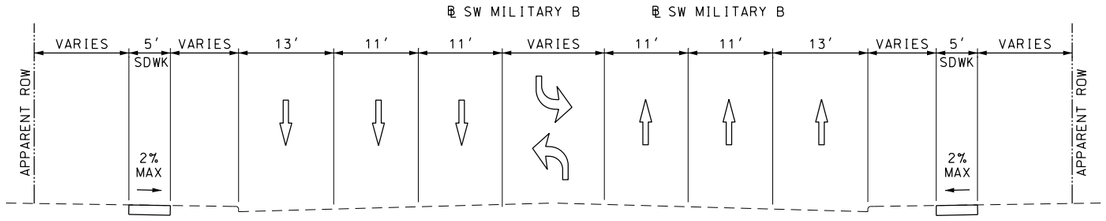
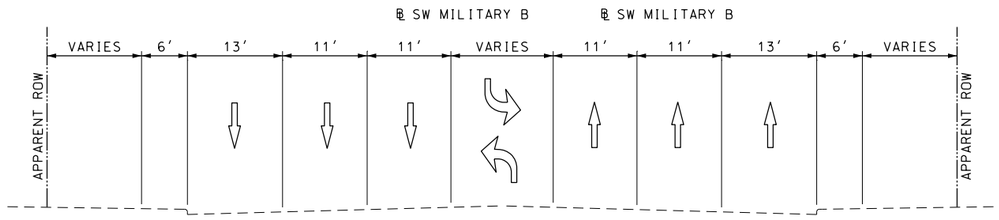
FROM STA 742+00 TO STA 802+00




PROPOSED TYPICAL SECTION
SW MILITARY B (SL 13)
NOT TO SCALE
FROM STA 505+00 TO STA 663+00
FROM STA 742+00 TO STA 802+00




EXISTING TYPICAL SECTION
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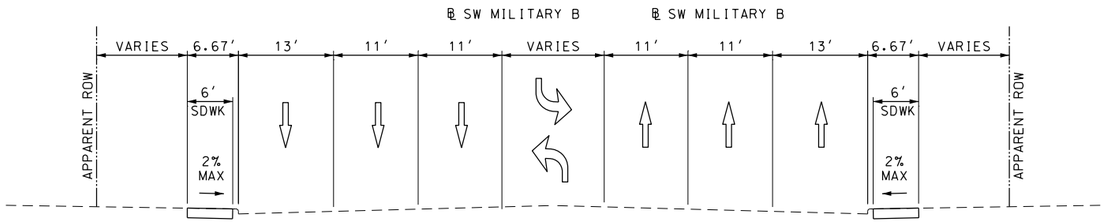
FROM STA 663+00 TO STA 726+00
FROM STA 802+00 TO STA 956+00




PROPOSED TYPICAL SECTION
SW MILITARY B (SL 13)
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FROM STA 663+00 TO STA 726+00
FROM STA 802+00 TO STA 956+00

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DATE: 4/10/2019

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# TYPICAL SECTIONS

SHEET 3 OF 5

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 11 |

Plotted on: 4/10/2019

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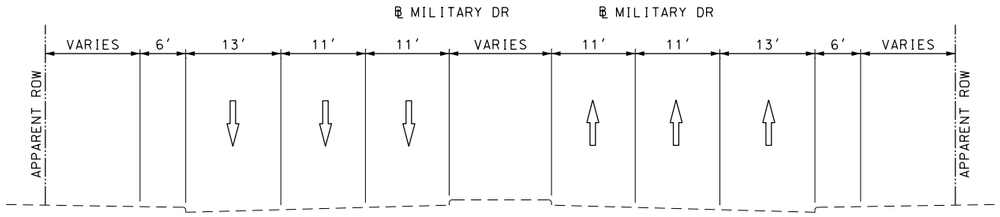


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NOT TO SCALE
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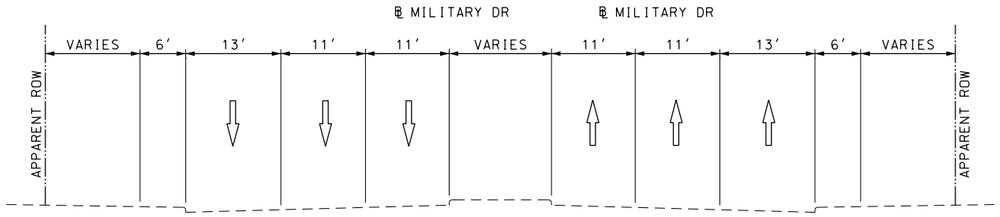
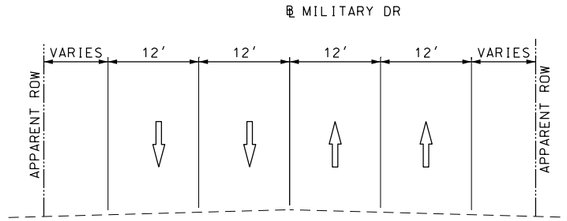
FROM STA 1141+00 TO STA 1252+00




PROPOSED TYPICAL SECTION
MILITARY DR (SL 13)
NOT TO SCALE
FROM STA 981+00 TO STA 1092+00
FROM STA 1141+00 TO STA 1252+00

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MILITARY DR (SL 13)
NOT TO SCALE
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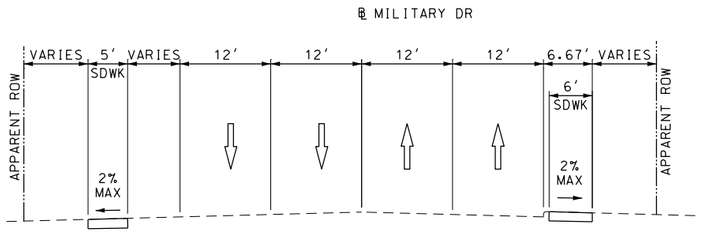


PROPOSED TYPICAL SECTION
MILITARY DR (SL 13)
NOT TO SCALE
FROM STA 1092+00 TO STA 1128+00
FROM STA 1252+00 TO STA 1288+00

DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
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REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

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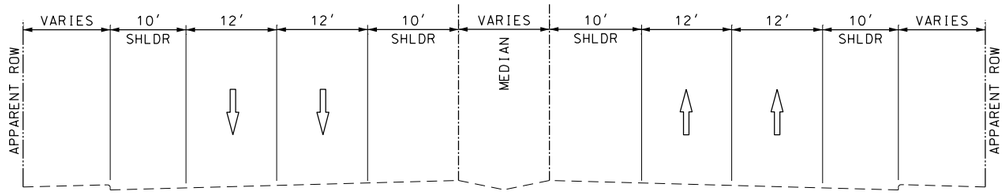
# TYPICAL SECTIONS

SHEET 4 OF 5

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 12 |



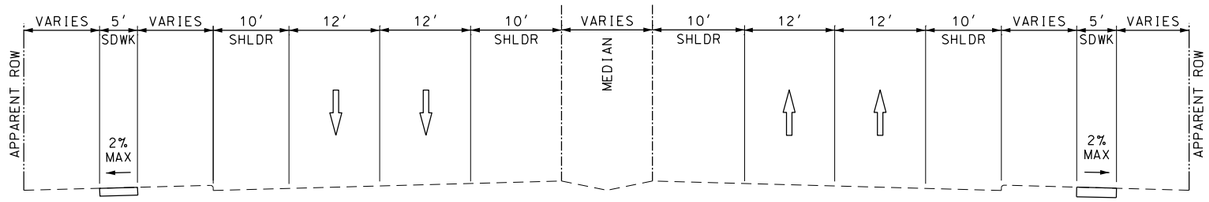

EXISTING TYPICAL SECTION

BANDERA RD

NOT TO SCALE

FROM STA 1483+00 TO STA 1513+00

FROM STA 1884+00 TO STA 1941+00



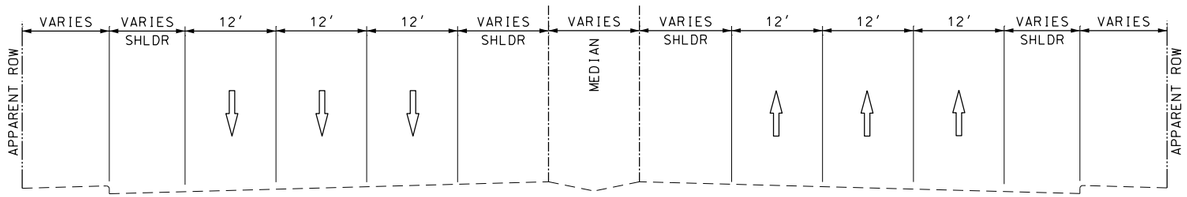

PROPOSED TYPICAL SECTION

BANDERA RD

NOT TO SCALE

FROM STA 1483+00 TO STA 1513+00

FROM STA 1884+00 TO STA 1941+00



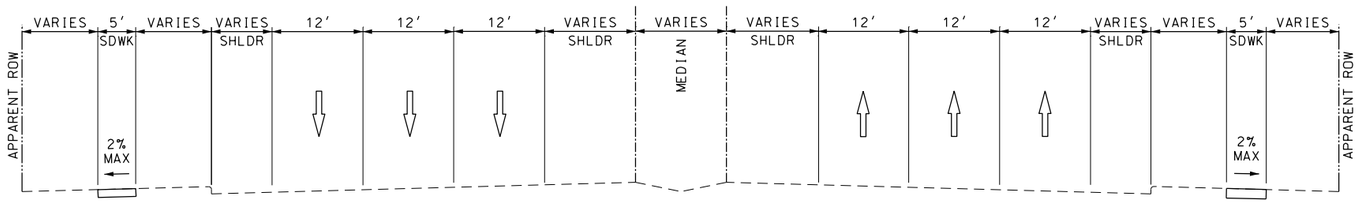

EXISTING TYPICAL SECTION

BANDERA RD

NOT TO SCALE

FROM STA 1319+00 TO STA 1483+00

FROM STA 1719+00 TO STA 1884+00




PROPOSED TYPICAL SECTION

BANDERA RD

NOT TO SCALE

FROM STA 1319+00 TO STA 1483+00

FROM STA 1719+00 TO STA 1884+00

DESIGN

INTERIM REVIEW

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ENGINEER: JOHN A. TYLER

P.E. SERIAL NO: 105193

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REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ

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| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS

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# TYPICAL SECTIONS

SHEET 5 OF 5

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 13 |

Plotted on: 4/10/2019

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**********GENERAL NOTES**********
2014 Specification Book (Revised March 12, 2019)

========== **Basis of Estimate** ==========

| Item | Description | Rate/Area | Quant-Unit |
|---|---|---|---|
| 168 | Vegetative Watering | 1.3 GAL/SY-WEEK | MG |
| 340 | Hot Mix (All Types) | 115 LB/SY-IN | TON |

Note: The rates of asphalt and aggregate are for estimating purposes only and may be varied as directed.

G-3 Contact the Engineer or the City when construction operations are within 400 feet of a signalized intersection to determine/verify the location of loop detectors, conduit, ground-boxes, etc. Repair or replace any signal equipment damaged by construction operations. The method of repair or replacement shall be pre-approved and inspected. Depending on the type and extent of the damage, the Engineer reserves the right to perform the repair or replacement work and the Contractor will be billed for this work.

G-4 Remove existing raised pavement markings as the work progresses or as approved. This work is subsidiary to the various bid items. Properly dispose materials removed.

G-5 To better fit field conditions, the cross sections may be varied when approved.

G-6 If there are waste areas or material source areas, follow the Texas Aggregate Quarry and Pit Safety Act requirements.

G-7 Any materials removed and not reused and determined to be salvageable shall be stored within the project limits at an approved location or delivered undamaged to the storage yard as directed. Properly dispose unsalvageable materials in accordance with local, state, and federal regulations. Deface traffic signs so that they will not reappear in public as signs.

G-8 Any sign panels that are adjusted or removed and replaced, shall be done the same workday unless otherwise approved. This work shall be considered subsidiary to Item 502.

G-10 Locate and reference all manholes and valves within the construction area with station and offset. Each manhole and valve shall be identified by its owner (SAWS, CPS, etc.). No roadwork will begin until this list has been submitted. All valves and manhole covers have to be accessible at all times, therefore; temp. CTB, material stock piles, etc. cannot be placed over these valves or covers.



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

G-11 Adjust or construct all manholes and valves to final pavement elevations prior to the final mat of ACP. If, between the final elevation adjustment and the final mat of ACP, the manholes and valves are going to be exposed to traffic, place temporary asphalt around the manhole and valve to provide a +/- 50:1 taper. The cost of elevation adjustment will be part of the manhole and valve work, and asphalt tapers are part of the ACP work.

G-12 Hurricane Evacuation

Hurricane Season is from June 1 thru November 30. As the closest metropolitan city inland from the Texas Coast, the City of San Antonio is a major shelter destination during mandatory hurricane evacuations. As such, planned work zone lane or road closures may be restricted and/or suspended during mandatory hurricane evacuation operations. The District will coordinate these restrictions at a minimum H-120 from any projected impact to the Texas Coast.

No time charges will be made if the Engineer determines that work on the project was impacted by the hurricane.

The Engineer may order changes in the Traffic Control Plan to accommodate evacuation traffic, and may suspend the work, all or in part, to ensure timely completion of this work. All work to implement changes in the Traffic Control Plan will be paid through existing bid prices or through Item 9.5, Force Account. However, the Department will not entertain any request for delay damages, loss of efficiency that may be attributed to the restriction or suspension of road or lane closures, or to changes in the Traffic Control Plan.

Removal of existing foundations, miscellaneous concrete, and various structures identified on the plans or encountered in the field, are not paid for specifically but are subsidiary to the various bid items unless otherwise shown in the plans.

Saw cutting existing pavement, concrete, and riprap is not paid for separately but is subsidiary to various bid items.

Unless otherwise shown or directed by the Engineer, miscellaneous site grading, embankment, and excavation is not paid for separately and is subsidiary to the various bid items. This includes areas behind proposed retaining walls unless otherwise specified on the plans.

It is the Contractors responsibility to ensure compliance with the PED-12A standard along the accessible route when signs are adjusted.

Irrigation heads and fixture relocations in conflict with the proposed improvements are not paid for separately but are subsidiary to various bid items.

Buildings and Structures must be protected from concrete splash at all times. The Contractor is to install a material approved by the Engineer which will guard the buildings against concrete splash.



| REV. NO. | DATE | DESCRIPTION | BY |
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# GENERAL NOTES

SHEET 1 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 14 |

This work is considered subsidiary to Item 531 and will not be paid separately. If concrete splash litters a building facade the Contractor, at their expense, is responsible for cleaning and remedying the concrete as approved by the Engineer.

Grade street intersections and median openings for surface drainage.

Sweep and remove all litter, construction debris and surplus material on the right-of-way within the project limits to keep the jobsite neat at all times. Keep roadways and sidewalks free of sediment. Consider subsidiary to pertinent items.

Construct all ramps, sidewalks, steps, curb ramps, handrails, and other pedestrian elements in accordance with Texas Accessibility Standards (TAS) issued by the Texas Department of Licensing and Regulation. Maintain one copy of TAS at the project site at all times.

When working near aerial electrical lines and / or utility poles, provide adequate safety measures, as needed, to comply with the appropriate sections of Federal and State regulations. For electrical lines and poles shown in the plans, if the lines need to be de-energized and / or if poles require bracing, contact the electrical company to coordinate the de-energizing and bracing. Work pertaining to de-energizing lines, bracing poles and any other protective measures required will not be paid at the expense of TxDOT.

All structures are to be backfilled with cement stabilized sand as directed by the engineer.

Personnel will be experienced in items of work in contract. Safety vests and hard hats will be pre-approved and worn at all times when outside vehicles within the work area.

Pavement markers will be left in place until such time as they are in conflict with the work in progress.

All pavement markings and/or striping that are in conflict with traffic operations will be removed by the contractor. Such removal will be considered subsidiary to the various bid items, and will not be paid for directly.

Single lane closures, except as otherwise shown in the plans, will be restricted to off-peak hours as defined in the following table:

| Peak Hours | | Off-Peak Hours | |
|---|---|---|---|
| 6 to 8:30 AM Monday through Friday | 3:30 to 7 PM Monday through Friday | 8:30 AM to 3:30 PM and 7 PM to 6 AM Monday through Friday | All day Saturday and Sunday |



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

Work that requires closure of multiple travel lanes in the same direction, except as otherwise shown in the plans, will be performed at night between the hours of 9 PM and 6 AM.

Existing storm sewers and utilities are shown from the best available information. Verify the location of all underground facilities prior to starting work.

For dimensions of right of way not shown on the plans, see right of way map on file at the TxDOT District Office.

The following Holiday/Event lane closure restriction requirements apply to this project: No work that restricts or interferes with traffic shall be allowed between 3 PM on the day preceding a Holiday or Event and 9 AM on the day after the Holiday or Event.

| **Holiday Lane Closure Restrictions** | |
|---|---|
| **New Year's Eve and New Year's Day** (December 31 through January 1) | 3 PM December 30 through 9 AM January 2 |
| **Easter Holiday Weekend** (Friday through Sunday) | 3PM Thursday through 9 AM Monday |
| **Memorial Day Weekend** (Friday through Monday) | 3 PM Thursday through 9 AM Tuesday |
| **Independence Day** (July 3 through July 5) | 3 PM July 2 through 9 AM July 6 |
| **Labor Day Weekend** (Friday through Monday) | 3 PM Thursday through 9 AM Tuesday |
| **Thanksgiving Holiday** (Wednesday through Sunday) | 3 PM Tuesday through 9 AM Monday |
| **Christmas Holiday** (December 23 through December 26) | 3 PM December 22 through 9 AM December 27 |

Plan work schedules around the appropriate dates above to ensure productive work is performed without lane closures.

**Modifications to Lane Closure / Work Restrictions:**
Submit a request in writing for approval by the Engineer a minimum of 10 days in advance of implementing a change to lane closure restrictions.

When deemed necessary, the Engineer will lengthen, shorten, or otherwise modify lane closure restrictions as traffic conditions warrant.



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# GENERAL NOTES

SHEET 2 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
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When deemed necessary, the Engineer will modify the list of major events when new events develop, existing events are rescheduled, or when warranted.

Special Events/ Special Situations will be handled on a case by case basis. No work restricting lane closures is allowed from 3 PM a day before to 9 AM the day after the Special Event or Special Situation.

The Contractor's attention is directed to the list of temporary easements provided by TxDOT and their expiration dates as identified in the project's Right of Entry agreements.

Complete all work in these easement areas prior to the expiration dates shown. In any event that work is done after these expiration dates, all costs for extending these dates will be borne by the Contractor.

Erect temporary fencing in the easement areas as necessary to secure the property. Provide at least one week notice to the property owner prior to removing or relocating the fence. Restore permanent fencing to an equal or better condition.

Mail box manipulation made necessary because of construction will be in accordance with Item 560 "Mailbox Assemblies," except that this work will not be paid for directly but will subsidiary to the pertinent bid items.

Provide all-weather surface for temporary ingress and egress to adjacent property, as directed. Materials, labor, equipment and incidentals necessary to provide temporary ingress and egress will not be paid for directly, but will be subsidiary to the various bid items.

Where necessary, the governing slopes indicated herein may be varied from the limits shown, to the extent approved.

All driveway openings will be determined by the Engineer and will conform with Texas Department of Transportation "Regulations for Access Driveways to State Highways" adopted September 1953, and revised June 2004.

Take care that existing curb and curb and gutter is not discolored or damaged during construction operations. In the event of discoloration or damage, clean or repair as directed.

Provide temporary drain openings at all low points or other drainage structures, as required, at the Contractor's expense.

Remove any obstructions to existing drainage due to the contractor's operations, as required, at the Contractor's expense.



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

Install all required concrete riprap flumes immediately following the construction of ditches in which they are to be placed. In addition, apply all erosion control measures as shown on the plans or as directed, immediately following construction of channels to their required line, grade, and section.

**--Item 5--**

5-1 Reference all existing striping and other pavement markings to allow these markings to be re-established. Ensure the markings (lane lines, edge lines, ramp gores, etc.) are in line with signs, TMS arrows, etc. located on overhead sign supports.

5-2 Taper ACP placed at curb inlets, traffic inlets and slotted drains.

5-5 When working near aerial electrical lines or utility poles, comply with Federal, State and local regulations. A horizontal boom or equivalent equipment is required for construction in the vicinity of the CPS Energy electric lines in order to provide vertical clearance of equipment during construction. Contact CPS Energy Utility Coordination Group sixteen (16) week in anticipation of pole bracing. The estimated duration for pole bracing is 6 to 10 weeks (or longer if temporary construction easements are required) after invoice is paid. For de-energizing or sleeving of the overhead electrical lines depicted on the plans, please contact CPS Energy Utility Coordination Group sixteen (16) week in anticipation of needed de-energization. The estimated duration for de-energizing is approximately 4 to 6 weeks (after invoice is paid) but could vary on system scenario and backfeed requirements. De-energizing may not be possible in all instances or may be restricted during specific periods of time due to load demand. Contractor will be reimbursed for the invoice cost for pole bracing and/or de-energizing or sleeving through force account.

5-6 Prevention of Migratory Bird Nesting

It is anticipated that migratory birds, a protected group of species, may try to nest on bridges, culverts, vegetation, or gravel substrate, at any time of the year. The preferred nesting season for migratory birds is from February 15 through October 1. When practicable, schedule construction operations outside of the preferred nesting season. Otherwise, nests containing migratory birds must be avoided and no work will be performed in the nesting areas until the young birds have fledged.

Structures

Bridge and culvert construction operations can not begin until swallow nesting prevention is implemented, until after October 1 if it's determined that swallow nesting is actively occurring, or until it's determined swallow nests have been abandoned. If the State installed nesting deterrent on the bridges and culverts, maintain the existing nesting deterrent to prevent swallow nesting until October 1 or completion of the bridge and culvert work, whichever occurs earlier. If new nests are built and occupied after the beginning of the work, do not perform work that can



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# GENERAL NOTES

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interfere with or discourage swallows from returning to their nests. Prevention of swallow nesting can be performed by one of the following methods:

1. By February 15 begin the removal of any existing mud nests and all other mud placed by swallows for the construction of nests on any portion of the bridge and culverts. The Engineer will inspect the bridges and culverts for nest building activity. If swallows begin nest building, scrape or wash down all nest sites. Perform these activities daily unless the Engineer determines the need to do this work more frequently. Remove nests and mud through October 1 or until bridge and culvert construction operations are completed.

2. By February 15 place a nesting deterrent (which prevents access to the bridge and culvert by swallows) on the entire bridge (except deck and railing) and culverts.

No extension of time or compensation payment will be granted for a delay or suspension of work caused by nesting swallows. This work is subsidiary to the various bid items.

5-7 Provide a non-intrusive back-up alarm system on all heavy equipment used in close proximity to residential areas. This item is subsidiary to various bid items.

When shop drawings, shop details, erection drawings, working drawings, forming plans, or other drawings are required, the drawings will be prepared and submitted on sheets 8-1/2 by 11 inches, 17 by 22 inches, or full size drawings reduced to half scale if completely legible. If, in the opinion of the Engineer, the drawings are not completely legible, they will be prepared and submitted on sheets 22 by 34 inches, with a 1-1/2 inch left margin, and 1/2 inch top, right, and bottom margins.

All sheets submitted will have a title in the lower right hand corner. The title must include the sheet index data shown on the lower right corner of the project plans, name of the structure or element or stream, sheet numbering for the shop drawings, name of the fabricator and the name of the Contractor.

**--Item 6--**

6-1 Show the stockpile lot and/or sub lot numbers on all tickets for all materials.

**--Item 7--**

7-2 The total disturbed areas within the project is anticipated at less than one (1) acre. Due to this type of construction, the project qualifies for exclusion under the Construction General Permit (CGP) issued by the Texas Commission on Environmental Quality (TCEQ). However; should the sum of the Engineer's anticipated disturbances and the Contractor's (On ROW and off ROW) PSL's equal or exceed the one (1) acre threshold; both TxDOT and the Contractor have project responsibilities under the CGP that reverts to non-exclusion status. Obtain approval for all non-depicted areas of disturbance that increases the initial soil and vegetation disturbed area estimates before work starts at these locations.





7-3 Notify the Engineer of the disturbed acreage within one (1) mile of the project limits. Obtain authorization from the TCEQ for Contractor PSL's for construction support activities on or off ROW.

7-4 Roadway closures during the following key dates and/or special event are prohibited. See the TCP Narrative for these dates.

**--Item 8--**

8-1 Working days will be computed and charged in accordance with Article 8.3.1.4 standard work week.

8-3 Create and maintain a Bar Chart schedule.

**--Item 9--**

9-1 When approved, provide uniformed, off-duty law enforcement officers with marked vehicles during work that requires a lane closure. The officer in marked vehicles shall be located as approved to monitor or direct traffic during the closure. The method used to direct traffic at signalized intersections shall be as approved. Additional officers and vehicles may be provided when approved or directed.

Complete the daily tracking form provided by the department and submit invoices that agree with the tracking form for payment at the end of each month approved services were provided.

Show proof of certification by the Texas Commission on Law Enforcement Standards.

All law enforcement personnel used in Work Zone Traffic Control shall be trained for performing duties in work zones and are required to take "Safe and Effective Use of Law Enforcement Personnel in Work Zones" (Course #133119) which can be found online at the following site: www.nhi.fhwa.dot.gov

Certificates of completion should be available to all who finish the course. These should be kept by the officers in order to substantiate completion when reporting to the work site.

Minimums, scheduling fees, etc. will not be paid; TxDOT will consider paying cancellation fees on a case by case basis.

**--Item 104--**

In those areas where the pavement is not to be overlaid, provide a smooth surface after the curb removal. Planing or grinding is considered an acceptable method at these locations. Measurement and payment is in accordance with this item.

Removing concrete curb is paid as a separate bid item if the existing pavement on which it rests is not removed at the same time.



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# GENERAL NOTES

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Sawing of concrete or asphalt is not paid for directly, but is considered subsidiary to this item.

**--Item 105--**
Take possession of recycled asphalt pavement from the project and recycle the material.

Properly dispose of unsalvageable material at your own expense.

**--Item 110--**

110-1 Where excavation extends beyond a right of way fence, remove and replace the fence to a comparable condition. This work shall be considered subsidiary to the bid item.

An indefinite quantity is included for this item to account for any adjustments to field conditions as approved by the inspector.

**--Item 132--**

132-1 At no time shall the retaining wall backfill material exceed the adjacent embankment operation by more than one embankment lift. At no time will the embankment adjacent to the retaining wall backfill exceed the wall backfill by any elevation.

An indefinite quantity is included for this item to account for any adjustments to field conditions as approved by the inspector.

**--Item 162--**

162-1 Furnish and place block grass sod.

An indefinite quantity is included for this item to account for any adjustments to field conditions as approved by the inspector.

**--Item 168--**

168-1 Apply vegetative watering as needed to supplement natural rainfall during the vegetation establishment period. Plan quantity of irrigation water is based on the application of a total of 1.3 gal of water each week for each sq. yd. of area that is sodded or seeded. Establishment time is estimated to be 12 weeks for both sod and permanent seed mixes. Temporary seeding will require less time for establishment. Provide a schedule and coordinate watering cycles and rates per cycle with the Engineer. Obtain approval if the quantity of water to be applied is expected to exceed the plan quantity. Adjust the amount of water applied with each cycle and the number of cycles each wk. according to actual site conditions. Drought or other conditions, as determined by the Engineer, may require the application of supplemental irrigation during hours other than normal working hours.

An indefinite quantity is included for this item to account for any adjustments to field conditions as approved by the inspector.



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

**--Item 340, 341, 342, 344, 346, 347, & 348--**

1. Table 10, in Item 340, Table 10 in Item 341 and Table 11in Item 344, Hamburg Wheel Test Requirements tested in accordance with Tex-242-F are changed for PG 64-22 or lower and PG 70-22. Minimum number of passes at 1/2" Rut Depth, Tested at 122 degrees F will be 5,000 and 10,000 respectively.

2. Design all mixture types using a target laboratory-molded density of 96.5%, when the Texas Gyrator Compactor is utilized. Increase the target laboratory-molded density to 97.0% or 97.5% at the Contractor's discretion. When utilizing SGC, design all mixture types at 50 gyrations (N-Design) and a target laboratory-molded density of 96.0%, but may be reduced to no less than 35 gyrations at the Contractor's discretion.

3. The asphalt plant shall have truck scales as defined in Item 520. Give three weight tickets bearing the date, the truck number, the gross, net & tare weights to the truck driver for the State inspector at the spreading and finishing operation. Trucks may be required to weigh on public scales or portable platform scales to verify the weight of the ticket.

4. Submit a copy of the Tex 233-F production charts on a weekly basis. At the end of the ACP work, provide all originals.

5. Crushing of aggregate for hot mix and immediate use for production of the mix is not allowed. Stockpile the aggregate until enough material is available for five days of production unless prior approval is provided. Hold a pre-placement meeting one month prior to the placement of the hot mix.

6. The main purpose of hot mix cores taken by the State are for payment calculations. If (for quality control purposes) the core information is needed sooner, take additional cores.

7. Do not use diesel or solvents as asphalt release agents in production, transportation, or construction. A list of approved asphalt release agents is available from the District Laboratory.

8. No more than one hot mix lot will be open for any specific type of hot mix, unless authorized. After a lot is open and the Contractor gets approval to change plants, the previous lot will be closed and a new lot will be opened. The numbering for the lots produced at the new plant will start with No. 1. If allowed to switch back to the original or previous plant, the next lot from that plant will resume numbering sequentially from the last lot produced by that plant.

9. Schedule lay-down placement where uneven travel lanes are minimized and eliminated weekly.

10. If asphalt material is obtained from other than a commercial source presently inspected by TxDOT, furnish a Type D structure for the asphalt mix control laboratory for the Engineer's use. Provide a minimum height of 8 feet and a minimum of 400 square feet of gross floor area for



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permanently located asphalt plants or 200 square feet for a temporary plant. The floor area will be partitioned into a minimum of two rooms, with a minimum of two windows per room. The floor shall have an impervious cover and sufficient strength to support the testing equipment. Portable structures shall be support blocked for stability and shall be tied down.

11. The use of Recycled Asphalt Shingles (RAS) will not be allowed on the final riding surface.

12. When placing item 346 mixtures, utilize a material transfer vehicle as defined in the plans for item 320.

**Minimum Roadway Placement Temperature**
**--Item340, 341, & 344--**

1. Place mixture when the roadway surface temperature is equal to or higher than listed in Table 1 unless otherwise approved or shown on the plans. Measure the roadway surface temperature with a hand-held thermal camera or infrared thermometer. Placement may be allowed to begin prior to the roadway surface reaching the required temperature if conditions are such that the roadway surface will reach the required temperature within 2 hrs. of beginning placement operations. Place mixtures only when weather and moisture conditions of the roadway surface are suitable in the opinion of the Engineer. The Engineer may restrict the Contractor from paving if the ambient temperature is likely to drop below 32°F within 12 hr. of paving.

Table 1
Minimum Pavement Surface Temperatures

| Specification Item Number | High Temperature Binder Grade | Minimum Pavement Surface Temperatures in Degrees Fahrenheit * | |
|---|---|---|---|
| | | Subsurface Layers or Night Paving Operations | Surface Layers Placed in Daylight Operations |
| 340, 341, & 344 | PG 64 | 45 | 50 |
| | PG 70 | 55 | 60 |
| | PG 76 | 60 | 60 |

* Except for PG 64, may pave at temperatures 10º F lower than the values shown in Table 1when utilizing a Material Transfer Vehicle that is capable of providing a remixing, and continuous flow of material from the haul truck to the paver, such as a Roadtec SM-2500e/ex, that eliminates thermal segregation. In these cases, use either an infrared bar attached to the paver, or a hand held thermal camera or infrared thermometer, or a hand held infrared thermometer operated in accordance with Text Method 244-F to demonstrate that the uncompacted mat has no more than 10º F of thermal segregation.



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

**Substitute Binder**
**--Item340, 341 & 344--**
The Contractor may use a substitute PG binder for non-surface mixtures listed below in Table 1 instead of the PG binder originally specified in Table 5 of the Standard Specification, if the substitute PG binder and mixture made with the substitute PG binder meet the following:

- The substitute binder meets the specification requirements for the substitute binder grade in accordance with Section 300.2.10., "Performance-Graded Binders;" and
- The mixture has less than 10.0 mm of rutting on the Hamburg Wheel test (Tex-242-F) after the number of passes required for the originally specified binder. Use of substitute PG binders may only be allowed at the discretion of the Engineer if the Hamburg Wheel test results are between 10.0 mm and 12.5 mm.

Table 1
Allowable Substitute PG Binders and Maximum Recycled Binder Ratios

| Originally Specified PG Binder | Allowable Substitute PG Binder | Maximum Ratio of Recycled Binder[1] to Total Binder (%) | | |
|---|---|---|---|---|
| | | Surface | Intermediate | Base |
| **HMA** | | | | |
| 76-22[2,5] | 70-22 | 20.0 | 20.0 | 20.0 |
| | 70-28 | 20.0 | 35.0 | 40.0 |
| 70-22[2] | 64-22 | 20.0 | 20.0 | 20.0 |
| | 64-28 or 58-28 | 20.0 | 35.0 | 40.0 |
| 64-22[2] | 58-28 | 20.0 | 35.0 | 40.0 |
| 76-28[2,5] | 70-28 | 20.0 | 20.0 | 20.0 |
| | | | | |
| 70-28[2] | 64-28 or 58-28 | 20.0 | 20.0 | 20.0 |
| | 64-34 or 58-34 | 20.0 | 35.0 | 40.0 |
| 64-28[2] | 58-28 | 20.0 | 20.0 | 20.0 |
| | 58-34 | 20.0 | 35.0 | 40.0 |
| **WMA[3]** | | | | |
| 76-22[2,5] | 70- 22 | 20.0 | 35.0 | 40.0 |
| 70-22[2] | 64-22 or 58-28 | 20.0 | 35.0 | 40.0 |
| 64-22[4] | 58-28 | 20.0 | 35.0 | 40.0 |
| 76-28[2,5] | 70-28 | 20.0 | 35.0 | 40.0 |
| 70-28[2] | 64-28 or 58-28 | 20.0 | 35.0 | 40.0 |
| 64-28[4] | 58-28 | 20.0 | 35.0 | 40.0 |

1. Combined recycled binder from RAP and RAS.
2. Use no more than 20.0% recycled binder when using this originally specified PG binder.
3. WMA as defined in Section 341.2.6.2., "Warm Mix Asphalt (WMA)."
4. When used with WMA, this originally specified PG binder is allowed for use at the maximum recycled binder ratios shown in this table.
5. No more than 1-PG grade lower than what is show on the plans will be permitted for Surface mixtures

**--Item 354--**
Retain planed material.



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**--Item 420--**

420-1 Mass concrete will be measured in place.

**--Item 423--**

423-1 The backfill material for pre cast retaining walls shall be approved before placement. Build stockpile(s) in lifts not to exceed 2 feet and a minimum working face of not less than 10 feet, but not more than 20 feet.

**--Item 432--**

432-1 In all riprap slopes, provide 3 inch diameter weep holes at 10 foot maximum spacing and backed with loose graded gravel or crushed stone and galvanized hardware cloth.

432-2 In areas where guard fence posts are to be placed in riprap, the riprap shall have an 18 inch +/- blocked out area (round or square). After the posts are installed, the blocked out area shall be topped off with 4 inches of low strength grout/mortar consisting of about 1 sack of cement per cubic yard of mix.

432-3 Match the slope of the Riprap (Mow Strip) to the slope of the adjacent roadway.

In large areas of riprap, provide one-half (1/2)-inch thick expansion joint material at approximately 15-foot intervals, or as determined by the Engineer.

Place asphalt expansion joint material between proposed riprap and utility poles, guy wires, vent pipes, stand pipes and as directed.

Place felt or filter fabric at open joints as required by the Engineer. This will be considered subsidiary.

All concrete riprap will be 5" (.42') in thickness, unless otherwise shown on the plans, and must be reinforced.

An 8 inch (.67 ft.) by 18 inch (1.5 ft.) toe wall is required at the exposed edges of all concrete riprap, unless otherwise directed.

Locations and lengths of riprap flumes shown on the plans are approximate. Actual lengths and locations are to be determined in the field.

**--Item 450--**

An indefinite quantity is included for this item to account for any adjustments to field conditions as approved by the inspector.



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**County:** Bexar

**Highway:** Various

**--Item 462--**

462-1 Use lean concrete or 2 sack flowable backfill for fill between pre-cast boxes. Lean concrete and 2 sack flowable backfill shall be considered subsidiary to this bid item.

**--Item 465--**

465-1 Concrete Class B invert shaping is required at all inlets, manholes and junction boxes in order to insure positive flow. The material and work performed for the placement of the inverts shall be considered subsidiary to this item.

**--Item 496--**

496-1 The Contractor will submit a demolition plan for all structures to be replaced and/or removed in accordance with Item 496.

**--Item 500--**

500-1 "Materials on Hand" payments will not be considered in determining percentages for mobilization payments.

**--Item 502--**

502-1 Place standard markings no later than 14 days after surface treatment operations are completed.

502-2 When advanced warning flashing arrow panels and/or changeable message sign is specified, have one standby unit in good condition at the job site. Standby time shall be considered subsidiary to the bid item.

502-3 Treat the pavement drop-offs as shown in the TCP.

502-4 After written notification, the time frame is provided on the Form 599 to provide properly maintained signs and barricades before considered in non-compliance. Failure to make corrections as noted may result in payment for this item being withheld.

502-6 Moving an existing sign to a temporary location is subsidiary to this Item. Installations with permanent supports at permanent locations will be paid for under the applicable bid item (s).

502-7 Mount temporary mailboxes on plastic drum in accordance with Compliant Work Zone Traffic Control Devices, Section K. Mounting and moving the mailbox as needed for the various construction phases is subsidiary to this Item.

502-8 Notify the Engineer in writing 10 business days in advance of any temporary or permanent lane, ramp, connector, etc. closures/detours, restrictions to lane widths, alterations to vertical clearances, or modifications to radii. Any other modifications to the roadway that may adversely affect the mobility of oversized/overweight trucks also require 10 business days advance written notice to the Engineer. Unless shown in the TCP, no lane, ramp, connector, etc. closures are



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allowed during special events. At least one lane has to remain open at all times. Lane closures will not be allowed if this reporting requirement is not met.

502-9 Avoid placing stockpiles within the roadway's horizontal clear zone. If a stockpile is placed within the clear zone, address in accordance with the TMUTCD.

502-10 Do not place barricades, signs, or any other traffic control devices where they interfere with sight distance at driveways or side streets.

502-11 In addition to providing a Contractor's Responsible Person and a phone number for emergency contact, have an employee available to respond on the project for emergencies and for taking corrective measures within 2 hours or within a reasonable time frame as specified by the Engineer.

502-12 Temporary Rumble Strips are to be used according to WZ (RS)-16.

502-13 If Nighttime work is required and work is not behind positive barrier then full TY 3 reflective gear is required to be worn by all workers, hard hat halos are required to be worn by the flaggers at flagging stations, TY III barricades are required to be spaced at 500 ft, and a mandatory night work meeting is required.

Prior to beginning construction, the Engineer shall approve the routing of traffic and sequence of work.

Additional signs and barricades as directed by the Engineer shall be considered subsidiary to Item 502.

Wash the channelizing devices and barricades following each rainfall or snowfall event and at times deemed necessary by the Engineer.

Fill any holes left by barricade or sign supports and restore the area to its original condition.

502-14 The Contractor Force Account "Safety Contingency" that has been established for this project is intended to be utilized for work zone enhancements, to improve the effectiveness of the Traffic Control Plan, that could not be foreseen in the project planning and design stage. These enhancements will be mutually agreed upon by the Engineer and the Contractor's Responsible Person based on weekly or more frequent traffic management reviews on the project. The Engineer may choose to use existing bid items if it does not slow the implementation of enhancement.

**--Item 506--**

506-1 An Inspector will perform a regularly scheduled SWP3 inspection every 7 calendar days.



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**Highway:** Various

506-3 Failure to address items noted on the SW3P inspection report within two report cycles may result in the Department stopping all construction operations, exclusive of time charges, or withholding that month's estimate until the SW3P deficiencies are corrected unless the Engineer determines that the area is too wet to correct SW3P deficiencies.

Erosion control logs, sandbags and other BMPs will be placed and relocated as directed by the Engineer in order to comply fully with the SW3P requirements.

Water pumped off the project must have sediment and any other solids in suspension removed before discharging.

Place one-half (1/2)-inch pre-molded expansion joint material at 40-foot intervals and at the beginning and end of all radii. Place 3/25-inch grooved or sawed construction joints, as directed by the Engineer, spaced equally, with the spacing not to exceed ten feet between joints.

Remove accumulated sediment or replace SW3P controls when the capacity has been reduced by 50% or when the depth of sediment at the control structure exceeds one foot.

506-4 Failure to correctly maintain daily monitoring reports and submitting to TxDOT on a daily/weekly basis may result in the monthly estimate being withheld.

**--Item 529--**

529-1 Class "C" concrete is required for machine extruded curb.

529-2 Curb inlets and extensions are based on an exposed curb height of 7 inches. The roadway curb height and shape will be transitioned to the inlet's curb with a 40: 1 taper.

**--Item 530--**

Use Class A Concrete for all concrete driveways.

**--Item 531--**

531-1 The curb ramp locations shown in the plans have taken into account the geometric features of the intersection, traffic signals, and the pavement markings. If anything changes during construction, the location of curb ramps must be adjusted to ensure they meet TAS requirements.

High early strength concrete for proposed driveways to be available as deemed necessary and as directed.

The furnishing and installation of the sand cushion in proposed sidewalks, sidewalk ramps, and driveways will not be paid for directly but will be subsidiary to this bid item.

Truncated dome pavers are prohibited.



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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# GENERAL NOTES

SHEET 8 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
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| CHK DGN: | 6 | TEXAS | | | | VARIES |
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All detectable warning surfaces are to be prefabricated panels constructed of cast iron or composite materials of contrasting color to the surrounding material, as approved by the Engineer.

Proposed curb ramps, sidewalks, curbs, and riprap is to be doweled 8in minimum, unless otherwise shown, into existing concrete using ½ in reinforcement placed on 12 in centers.

Curb wall along ramps and landings, unless otherwise shown on the plans, is not paid for separately but is subsidiary to the ramp or landing. If the wall extends above the plane of the ramp, retaining wall, unless otherwise noted on the plans, should be utilized. Retaining wall quantities are shown for Contractor information only, payment is subsidiary to Item 531 Sidewalks. See special details sheets for more information.

Areas labeled with a "T" on the construction drawings allow the Contractor to transition to existing conditions. Slope and grade of all transitions must be approved by the Engineer.

For driveways and turnouts, coarse aggregate Grade No. 3 through No. 8 conforming to the gradation requirements specified in the Item, "Hydraulic Cement Concrete" will be permitted.

All compliant ramps are to remain in place.

Construct compliant curb ramps based upon referenced design criteria, Texas Accessibility Standards and TxDOT Pedestrian Facilities Standards. Consider the locations of existing traffic and pedestrian control devices including loop detectors and pedestrian push buttons during curb ramp construction at signalized intersections, and construct ramps to allow such existing facilities to remain undisturbed and reused to the fullest extent possible while providing for full ADA compliance. All corners are unique and it may be necessary to use various combinations of ramp elements to achieve a compliant ramp configuration.

Review the curb ramp location and layout with the inspector prior to demolition so that both parties agree that the curb ramp can be installed properly. Should it become apparent at any time during the ramp layout and construction process that a curb ramp cannot be installed as indicated on the Project Drawings, promptly notify the inspector.

Any approval, inspection, or checking of the Contractor's layout and the acceptance of all or any part of it shall not relieve the Contractor of his responsibility to secure the proper dimensions, grades and elevations of the various parts of the work.

Construction of each curb ramp is to be completed within seven (7) working days after start of construction process. Construction process of curb ramps shall include: demolition of existing conditions, placement of concrete or brick, removal of lips, street surface patching in front of the curb or ramp, adjustment of counter slope within 24-inches of the bottom of the ramp or curb and gutter, street level landings, backfill, placement of topsoil, grading and sodding, and clean-up. All other related work such as adjustment of crosswalk, special heat-welds, asphalt overlays, and other work that does not affect accessibility shall be completed per a schedule pre-approved by TxDOT.



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

Contractor is to match existing concrete color and texturing at various locations which, as directed by the Engineer, require matching.

The furnishing and installation of the sand cushion in the proposed sidewalks, sidewalk ramps and driveways will not be paid for directly but shall be considered subsidiary to this bid item.

The furnishing and installation of pipe underdrains, filter material, and other incidentals to ensure proper drainage of special concrete sidewalk with retaining wall per Concrete Sidewalk (Special)(Type B) will not be paid for directly but shall be considered subsidiary to this bid item and in accordance with Item 556.

Removal of existing concrete, surfaces, asphalt, base material, sign posts, miscellaneous materials, and all incidentals is included in this pay item within the footprint of the proposed work. If additional work related to the removal of existing is required beyond the quantity identified for Contractors information only, no additional payment will be made.

In areas where there is no curb fillet or concrete pavement, saw cut the existing curb and gutter and remove the curb.

When lack of right of way width or obstructions creates insufficient space, the ramp may be relocated within the right of way when authorized by the Engineer. All deficient ramps will be removed and replaced at the Contractor's expense.

For curb ramps, form tooled joints on each side of the ramp section where it meets a flare or curb wall, at each break in ramp slope or geometry, and at intervals equivalent to the width of the sidewalk for the purpose of cracking control. Place expansion joint material between proposed ramps and existing concrete.

Place expansion joint material between proposed sidewalk and utility poles, guy wires, vent pipes, stand pipes and as directed.

Construct concrete steps, as shown in the plans or as directed by the Engineer, measured by the cubic yard and paid for as Item 420 Concrete Substructures.

Notify the Engineer 48 hours in advance of beginning operations at a new location.

Schedule work such that two-way traffic is provided through all intersections and intersecting streets at all times, unless otherwise authorized by the Engineer.

Limit operations such that no more than 12 separate curb ramp locations are under construction and incomplete at any time, unless otherwise authorized by the Engineer.



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# GENERAL NOTES

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**--Item 560--**
Move and replace all mailboxes within the project limits such that they may be served by the mail carrier from his car at all times during and after construction. This work will be considered subsidiary to the various bid items of this contract.

**--Item 610--**

610-1 Fabricate steel roadway illumination poles in accordance with the RIP standards. Poles fabricated according to RIP require no shop drawings. Alternate designs or the use of aluminum to fabricate poles will require the submission of shop drawings electronically.

For instructions on submitting shop drawings electronically go to: http://www.txdot.gov/business/resources/specifications/shop-drawings.html File is titled: Guide to Electronic Shop Drawing Submittal.

Provide lamps from the pre-qualified Materials Producers List, Category is "Roadway Illumination and Electrical Supplies" located on the Construction Divisions (CST) web site.

610-2 Ballast/capacitors removed from the light assembly, will remain the property of the State. Assume all ballast/capacitors contain Polychlorinated Biphenyl (PCB), unless a notation appears on the outside of the unit that specifies it does not contain PCB's. All ballast/capacitors with PCB's shall be placed in 55 gallon open top drum in accordance with Department of Transportation (DOT) specifications. Place six (6) inches of sawdust or other absorbent material in the bottom of the drum. Furnish and place a DOT approved PCB warning label on the outside of the drum. Do not fill a drum more than ¾ of capacity. Avoid rupturing the ballast/capacitor(s). If a ballast/capacitor is ruptured, use proper procedures, specialist trained staff and personal protective equipment for the clean-up operations.

610-3 The lamps in light fixtures may contain hazardous levels of mercury, halide, and sodium vapors. Observe and comply with all federal, state and local laws, ordinances and regulations regarding the management of these lamps. Prevent the breakage of the lamps. At a minimum, package all lamps removed from the light fixture(s) in a container that minimizes the breakage of the lamps. Broken lamps shall be collected in a sealed plastic bag (i.e. Ziploc). Broken lamps shall be stored in separate containers from unbroken lamps. Furnish a suitable container and attach a label stating "Universal Waste Lamps" on the container. Write the date the first lamp was placed in the container on the "Universal Waste Lamp" label. Within one (1) week after the first lamp is placed in a container, notify the Engineer. The lamps and PCB containing ballast/capacitors, placed in properly labeled containers, will remain the property of the State. Place the container in an area where it is protected from damage and the elements. The Engineer will make arrangements to collect, transport, and dispose/recycle the container. The ballast/capacitor and lamp's removal and storage is subsidiary to this item.



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

610-4 Stencil each illumination assembly with the circuit, light and relay numbers in black paint on the roadway side of the pole at a 45 degree angle. The numbers shall be in 3" tall and begin 6' from the top of the foundation. This work will be considered subsidiary to this item.

**--Item 613--**

613-1 Use an electrically conducting protective thread lubricant compound (Crouse-Hinds TL-2, 0Z/Gedney STL, Thomas & Betts Kopr-Shield) for the pipe joint compound to coat the threads of the anchor bolts, prior to installation of nuts.

**--Item 614--**

614-1 Fabricate high mast ring assemblies in accordance with shop drawings approved by the Department. Submit shop drawings for each project, or use pre-approved standard shop drawings.

For project specific shop drawings, furnish seven sets of drawings of the complete assembly in accordance with Item 441, "Steel Structures". Deliver shop drawings to the Director of Traffic Operations Division, Texas Department of Transportation, 125 East 11th Street, Austin, Texas 78701-2483.

To be eligible to use pre-approved standard shop drawings, the shop drawing must be submitted and approved by the Department prior to use on the project. Deviation from the pre-approved standard shop drawing will require resubmission of the shop drawings. The Engineer may approve, in writing, the use of updated standard drawings in cases where the standard drawings have been updated and the updated version has been approved by the Department.

For pre-approval and updates to previously approved standard shop drawings, furnish seven sets of drawings of the complete assembly in accordance with Item 441, "Steel Structures" to the Director of Traffic Operations Division, Texas Department of Transportation, 125 East 11th Street, Austin, Texas 78701-2483.

Copies of the standard shop drawings are on file with Traffic Operations Division, Bridge Division, and the Materials Section of Construction Division. Additional shop drawings for high mast illumination assemblies built in accordance with these drawings are not required. Pre-approved shop drawing manufacturers and assembly model numbers can be found on the Materials Produce list of the Construction Divisions (CST) web site.

Category is roadway illumination and electrical supplies.

**--Item 618--**

618-1 It might be necessary to cut concrete for placement of conduit. Saw cut existing concrete, remove the concrete from the steel reinforcement (bars or fabric) and bend the steel to install the conduit. After the conduit has been placed, bend the steel back to its original position and back-fill the trench with an approved concrete. This work is subsidiary to this Item.



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# GENERAL NOTES

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618-2 The conduit depth for illumination under the City of San Antonio streets is 36 inches.

618-3 Use materials from Material Producers list as shown on the Construction Division's (CST) web site. Category is "Roadway Illumination and Electrical Supplies."

The location of conduit is diagrammatic and may be varied to meet local conditions upon approval of the Engineer. Ensure all couplings and connectors are made wrench tight. Trenching depths shall provide a minimum of 2.5 feet (30 inches) of cover unless otherwise approved by the Engineer. The Contractor must ensure that conduit is not damaged during trench or bore pit backfilling operations. No conductors shall be pulled through conduit until all backfilling for the conduit run is complete and the template, having a diameter of not less than 75 percent of the inside diameter of the conduit, has been drawn through the conduit. Open ends of all conduit shall be fitted with temporary caps or plugs to prevent entry of dirt or debris during construction operations. A non-metallic pull rope shall be used to pull electrical conductors and traffic signal cables through non-metallic conduit. A 1/4-inch nylon or polypropylene pull rope shall be pulled through each conduit run and shall remain in the conduit for future use. A minimum of three feet of pull rope shall be neatly left coiled in the ground boxes at each end of the conduit run. The pull rope will not be paid for directly but shall be considered subsidiary to Item 618, "Conduit." After the work is completed, the Contractor shall restore any curbs, walks, driveways or raised concrete medians which have been damaged or disturbed to an equivalent original condition and to the satisfaction of the Engineer. This work shall not be paid for directly but shall be considered subsidiary to Item 618, "Conduit."

Use Schedule 80 PVC conduit for all traffic and illumination portion of this project. Bored conduit runs placed under driveways and streets or highway approaches shall maintain a minimum of 30 inches below the proposed natural ground elevation or 36 inches below the existing driveway or proposed top of pavement backfill and compact trenches the same day or erect plastic fencing to discourage entry into the trenched area by pedestrians or vehicles.

**--Item 620--**
Grounding conductors that share the same conduit, junction box, ground box or structure shall be bonded together at every accessible point in accordance with the electrical detail sheets (ED), and the latest edition of the National Electrical Code. See Item 7 Section 19.13 "Electrical Requirements" for additional details.

**--Item 644--**
644-1 The wedge anchor system shown on State Standard Sheet SMD (TWT) is not allowed.

644-2 The set screw type for Triangular Slipbase Systems is not allowed. Use the following products for the Triangular Slipbase System.



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

Triangular Slip Base Systems
(For use with 10 BWG and Schedule 80 Round Posts)

| | | |
|---|---|---|
| Southern Plains Fabrication | SPF Triangular Slipbase Housing | Info@SouthernPlainsFabrication.com<br>http://SouthernPlainsFabrication.com<br>(806) 241-0060 |
| Structural and Steel Products | Triangular Slipbase Breakaway Support | CustServ@s-steel.com<br>http://s-steelcom<br>(800) 782-5804 |

*This note was added because the set screw type triangular slipbase system doesn't have enough surface contact/friction to keep the wind from causing the signs to rotate and eventually stripping the set screw.*

**--Item 658--**
658-1 CTB reflectors will not be paid for directly but will be considered subsidiary to the barrier.

**--Item 666--**
666-1 Use TY II material (vs. an acrylic or epoxy) as the sealer for the TY I markings, place the TY II a minimum of 14 calendar days (to provide adequate curing) before placing the TY I markings.

Collection of retroreflectivity readings using a mobile retroreflectometer is the preferred method. If retroreflectivity readings are collected using a portable or handheld unit, then measurement is defined as a collective average of at least 20 readings taken along a 200-foot test section. A minimum of three measurements will be required per mile of roadway. Measurements collected on a centerline stripe will be averaged separately for stripe in each direction of travel. A TxDOT inspector must witness the calibration and collection of all retro-reflectivity data.

666-2 Failure to provide the retroflectometer testing data within the time specified in the specifications will result in non-payment of the bid item.

**--Item 672--**
672-1 Place all adhesive material directly from the heated dispenser to the pavement. Do not use portable or non-heated containers. Use adhesive of sufficient thickness so that when the marker is pressed into the adhesive, 1/8" or more adhesive will remain under 100% of the marker. The adhesive should extend not less than 1/2" but not more than 1 1/2" beyond the perimeter of the marker.

**--Item 677--**
677-1 Obtain approval before using the mechanical method for the elimination of existing thermoplastic pavement markings.



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# GENERAL NOTES

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**--Item 682--**

682-1 Provide all signal heads from the same manufacturer. Pedestrian signals may be by a different manufacturer than the vehicle signal heads.

682-2 Cover all signal faces until placed in operation.

682-3 All pedestrian signal faces shall be single section LED Type. Die cast polycarbonate is acceptable in lieu of die cast aluminum. All mounting attachments shall be constructed of steel pipe and mounted as shown on the plans.

**--Item 684--**

684-1 Provide an extra 10' for each cable terminating in the controller cabinet. All cables shall be continuous without splices from terminal point to terminal point. All proposed signal cable shall be #12 AWG stranded copper.

**--Item 686 & 687--**

686-1 Provide all signal poles from the same manufacturer. Pedestrian poles may be from a different manufacturer.

**--Item 688--**

688-1 The sealant used for vehicle loop wire must be approved.

688-2 The pedestrian push button shall be raised or flush and a minimum of 2 inches in the smallest dimension. The force to activate the control shall be no greater than 5 lb/f. The button placement has to be coordinated with the concrete pad to access the button. The concrete pad (if required) shall be paid separately.

688-3 The pedestrian push button shall be wired with a 2/C#14 loop detector cable in lieu of a #12 A.W.G. XHHW wire.

Provide push buttons for pedestrian actuation meeting current ADA requirements.

Vehicle loop detectors are to be placed where construction activities impact the functionality of the system. Areas outside of the limits of construction where vehicle loop detectors are destroyed are to be replaced at the contractor's expense. Use of vehicle loop detectors must be approved by the engineer prior to placement. Sealing existing saw cut lines in not paid for separately and is incidental to this pay item.

Any deviation of location for proposed loop detector work shall be as approved.
Install loop vehicle detectors in accordance with plan Standard Sheet LD1-03 (Loop Detector Installation Details). All loop detectors shall be rectangular.

Use 2/c #14 AWG shielded for loop lead-ins and #14 AWG for loop wire in pavement.



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

Splices for loop wire will be permitted only at ground boxes or pole base with approved weather-proof splice kits.

A minimum length of 2 feet for each cable shall be left in each ground box.
All wiring not covered by the plans and specifications shall be in accordance with the latest edition of the National Electrical Code.

Plugging and patching existing holes where existing push buttons or pedestrian signals are relocating is not paid for separately but is subsidiary to the corresponding removal item. Use a method approved by the engineer to repair the area impacted by the removal.

Provide pedestrian push buttons a minimum of 2 in. diameter in the smallest dimension.
Install a rubber grommet or bushing between the push button assembly and the signal pole to protect the conductors.

If existing audible pedestrian push buttons are encountered and shown for adjustment, proposed buttons should also be audible. No additional payment will be made for audible push buttons.
When an existing push button is adjusted, pay item includes payment for a new pedestrian push button assembly. The Engineer may approve use of the existing button if it is compliant and only requires adjustment.

**--Item 5003--**
Apply an approved surface applied detectable warning surface to otherwise compliant existing curb ramp as directed.

Truncated dome pavers are prohibited.

All detectable warning surfaces are to be prefabricated panels constructed of cast iron or composite materials of contrasting color to the surrounding material, as approved by the Engineer.

**--Item 6001--**
Provide all portable changeable message signs and arrow panels with a photoelectric device to allow for automatic dimming of operations to approximately 50% of their normal brightness when ambient light drops to approximately five footcandles, and then increase back again for daytime operations.

2 electronic portable changeable message sign unit(s) will be required. Individual or collective use of signs will be required by the Engineer when deemed necessary to supplement the traffic control plan.



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# GENERAL NOTES

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**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

Each sign must have programmed in its permanent memory the following 15 messages:

1. Right Lane
2. Left Lane
3. Closed Ahead
4. Two Lane
5. Detour Ahead
6. Thru Traffic
7. Prepare To Stop
8. Merging Traffic
9. Expect 15 Minute Delay
10. Merge Right
11. Merge Left





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Plotted on: 4/10/2019

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# ESTIMATE AND QUANTITY

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Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\1113507*Summaries*RDWY.dgn

| | ITEM | 0104-6009 | 0104-6017 | 0104-6024 | 0104-6029 | 0104-6036 | 0105-6037 | 0110-6002 | 0132-6003 | 0160-6003 | 0162-6002 | 0168-6001 | 0340-6066 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | REMOVING CONC (RIPRAP) | REMOVING CONC (DRIVEWAYS) | REMOVING CONC (RETAINING WALLS) | REMOVING CONC (CURB OR CURB & GUTTER) | REMOVING CONC (SIDEWALK OR RAMP) | REMOVING STAB BASE AND ASPH PAV (0"-16") | EXCAVATION (CHANNEL) | EMBANKMENT (FINAL)(ORD COMP)(TY B) | FURNISHING AND PLACING TOPSOIL (4") | BLOCK SODDING | VEGETATIVE WATERING | D-GR HMA(SQ) TY-C PG76-22 |
| SHT NO | | SY | SY | SY | LF | SY | SY | CY | CY | SY | SY | MG | TON |
| 98 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 130+00 | | | | 120 | 1 | 20 | | | 56 | 56 | 0.87 | |
| 99 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 130+00 TO STA 134+00 | | 56 | | 95 | 4 | 137 | | | 35 | 35 | 0.55 | |
| 101 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 134+00 TO STA 147+00 | | 53 | | 214 | 18 | 109 | | | 61 | 61 | 0.95 | |
| 102 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 150+00 TO STA 157+00 | | | | 136 | | | | | 42 | 42 | 0.66 | |
| 103 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 157+00 TO STA 161+00 | | | | 24 | | 132 | | 35 | 254 | 254 | 3.96 | |
| 104 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 161+00 TO STA 165+00 | | | | | | | | | 268 | 268 | 4.18 | |
| 105 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 165+00 TO STA 180+00 | | | | | | | | | 86 | 86 | 1.34 | 2.0 |
| 106 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 607+00 TO STA 611+00 | | 13 | | | 6 | 151 | | | 268 | 268 | 4.18 | |
| 107 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 611+00 TO STA 615+00 | | 14 | | | | 16 | | | 243 | 243 | 3.79 | |
| 108 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 615+00 TO STA 619+00 | | 11 | | | 28 | 9 | | | 199 | 199 | 3.10 | |
| 109 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 619+00 TO STA 623+00 | | | | | 42 | 69 | | | 340 | 340 | 5.30 | |
| 110 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 623+00 TO STA 627+00 | | | | 30 | 12 | | | | 220 | 220 | 3.43 | |
| 111 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 633+00 TO STA 637+00 | | 57 | | 191 | 7 | 155 | | | 100 | 100 | 1.56 | |
| 112 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 637+00 TO STA 641+00 | | 19 | | 231 | | 159 | | | 150 | 150 | 2.34 | |
| 113 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 641+00 TO STA 645+00 | | 92 | | 208 | 9 | | | | 95 | 95 | 1.48 | |
| 114 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 645+00 TO STA 649+00 | 1 | 239 | | 138 | 8 | 179 | | | 26 | 26 | 0.41 | |
| 116 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 649+00 TO STA 653+00 | 11 | 93 | | 195 | 9 | 61 | | | 70 | 70 | 1.09 | |
| 117 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 653+00 TO STA 657+00 | | 199 | | 95 | 21 | 438 | | | | | | |
| 118 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 657+00 TO STA 661+00 | | 108 | | 248 | | 282 | | | 28 | 28 | 0.44 | |
| 120 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 661+00 TO END PROJECT | 13 | 43 | | 71 | 12 | 117 | | | 70 | 70 | 1.09 | |
| 121 | SL 13 SW MILITARY A EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO END PROJECT | | | | | | | | | 7 | 7 | 0.11 | 16.0 |
| 122 | SL 13 SW MILITARY A WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO 425+00, STA 448+00 TO 450+00 | | | | 26 | 22 | | | | 41 | 41 | 0.64 | |
| 123 | SL 13 SW MILITARY A WB SIDEWALK CONSTRUCTION PLAN STA 468+00 TO END PROJECT | | | | 10 | | | | | 5 | 5 | 0.08 | |
| 124 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 508+00 | | 126 | | | 7 | 193 | | | 216 | 216 | 3.37 | |
| 125 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 508+00 TO STA 512+00 | | 205 | | 21 | 16 | 69 | | | 398 | 398 | 6.21 | |
| 127 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 512+00 TO STA 516+00 | | 248 | | | 10 | 145 | | | 361 | 361 | 5.63 | |
| 129 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 516+00 TO STA 520+00 | | 14 | | | | 28 | | | 165 | 165 | 2.57 | |
| 130 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 520+00 TO STA 524+00 | | 46 | | | | 6 | | | 85 | 85 | 1.33 | |
| 131 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 524+00 TO STA 526+00, STA 754+00 TO STA 756+00 | | 23 | | 100 | 20 | 45 | | | 70 | 70 | 1.09 | 19.0 |
| 132 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 526+00 TO STA 529+50 | | 180 | | 135 | | 115 | | | 19 | 19 | 0.30 | |
| 133 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 529+50 TO STA 533+00 | | 97 | | 91 | | 199 | | | | | | |
| 134 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 537+00 TO STA 541+00 | | 31 | | 115 | | 26 | | | 56 | 56 | 0.87 | |
| 135 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 541+00 TO STA 545+00 | | 104 | | 287 | | 189 | | | 67 | 67 | 1.05 | |
| 137 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 545+00 TO STA 548+00 | | 171 | | 75 | | | | | 103 | 103 | 1.61 | |
| 138 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 548+00 TO STA 552+00 | | | | 37 | | | | | 31 | 31 | 0.48 | |
| 139 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 556+00 TO STA 560+00 | | 94 | | 264 | 4 | 139 | | | 46 | 46 | 0.72 | |
| 141 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 560+00 TO STA 564+00 | | 107 | | 152 | 65 | 63 | | | | | | |
| 143 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 574+00 TO STA 576+00, STA 804+00 TO STA 806+00 | | 1 | | 79 | | | | | 15 | 15 | 0.23 | |
| 144 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 583+00 TO STA 587+00 | | 111 | | 48 | | 82 | | | 40 | 40 | 0.62 | |
| 145 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 589+50 TO STA 593+50 | | 106 | | 34 | | 48 | | | 28 | 28 | 0.44 | |
| 146 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 593+50 TO STA 597+00 | | 175 | | 12 | | | | | | | | |
| 147 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 597+00 TO STA 599+00, STA 603+00 TO STA 605+00 | | | | | | | | | | | | |
| 148 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 610+25 TO STA 614+00 | | | | | | | | | 70 | 70 | 1.09 | |
| 149 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 629+00 TO STA 633+00 | | 121 | | 27 | | 77 | | | 30 | 30 | 0.47 | |
| 150 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 635+25 TO STA 637+25, STA 643+75 TO STA 645+75 | | 359 | | 227 | 8 | 17 | | | 32 | 32 | 0.50 | |
| 152 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 648+00 TO STA 650+00, STA 653+00 TO STA 654+75 | 10 | | | 14 | | | | | | | | |
| 153 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 654+75 TO STA 656+25, STA 659+00 TO STA 661+00 | 5 | 98 | | 79 | | 28 | | | 40 | 40 | 0.62 | |
| 154 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 661+00 TO STA 665+00 | | 238 | | 129 | 12 | 169 | | | 114 | 114 | 1.78 | |
| 156 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 666+50 TO STA 670+00 | | 78 | | 113 | | 68 | | | | | | |
| 157 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 670+00 TO STA 672+00, STA 900+00 TO STA 902+00 | | 22 | | 28 | | 26 | | | | | | |
| 158 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 676+00 TO STA 680+00 | | 60 | | 88 | | 115 | | | | | | |
| 159 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 680+00 TO STA 684+00 | 40 | 108 | | 120 | 4 | 116 | | | 8 | 8 | 0.12 | |
| 160 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 684+00 TO STA 689+00 | | 310 | | 139 | | 78 | | | | | | |
| 162 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 694+50 TO STA 698+55 | | 102 | | 207 | | 190 | | | 26 | 26 | 0.41 | |
| 163 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 701+00 TO STA 705+00 | | 86 | | 49 | | 55 | | | | | | |
| 164 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 709+00 TO STA 711+00, STA 939+00 TO STA 941+00 | 13 | | | 81 | | | | | 41 | 41 | 0.64 | |
| 165 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 711+00 TO STA 715+00 | | 161 | | 161 | | 82 | | | 30 | 30 | 0.47 | |
| 167 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 719+00 TO STA 723+00 | | 121 | | 143 | | 202 | | | | | | |
| 169 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 723+00 TO END PROJECT | | 38 | | 19 | | 71 | | | | | | |
| 170 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 746+00 | | 93 | | 174 | | 414 | | | 70 | 70 | 1.09 | |
| 172 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 746+00 TO STA 750+00 | | 125 | | 226 | | 7 | | | 170 | 170 | 2.65 | |
| 173 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 750+00 TO STA 754+00 | | 359 | | 89 | | 113 | | | 30 | 30 | 0.47 | |
| 175 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 756+00 TO STA 760+00 | | 360 | | 74 | 156 | 34 | | | | | | |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |


PAPE-DAWSON ENGINEERS

SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS

2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000

TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800




# SUMMARY OF ROADWAY QUANTITIES



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 28 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\111350?*Summaries*RDWY.dgn

| | ITEM | 0351-6028 | 0354-6023 | 0420-6007 | 0420-6074 | 0420-6132 | 0423-6008 | 0432-6003 | 0450-6047 | 0450-6048 | 0462-6006 | 0462-6010 | 0464-6001 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | FLEX PAVE STRUCTURE REPAIR (8"-10") | PLANE ASPH CONC PAV(0" TO 4") | CL A CONC (FLUME) | CL C CONC (MISC) | CL A CONC (STEPS) | RETAINING WALL (CAST - IN - PLACE) | RIPRAP (CONC)(6 IN) | RAIL (HANDRAIL)(TY A) | RAIL (HANDRAIL)(TY B) | CONC BOX CULV (5 FT X 2 FT) | CONC BOX CULV (6 FT X 3 FT) | RC PIPE (CL III)(12 IN) |
| SHT NO | | SY | SY | CY | CY | CY | SF | CY | LF | LF | LF | LF | LF |
| 98 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 130+00 | | | | 1.5 | | | | | | | | |
| 99 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 130+00 TO STA 134+00 | | | | 1.5 | | | | | | | | |
| 101 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 134+00 TO STA 147+00 | | | | 5.5 | | | | | | | | |
| 102 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 150+00 TO STA 157+00 | | | | 2.1 | | | | | | | | |
| 103 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 157+00 TO STA 161+00 | | | | 2.1 | | | | | | | | |
| 104 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 161+00 TO STA 165+00 | | | | 5.5 | | 66 | | | 33 | | | |
| 105 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 165+00 TO STA 180+00 | 10 | | | 8.5 | | | | | | | | |
| 106 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 607+00 TO STA 611+00 | | | | 5.5 | | | | | | | | |
| 107 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 611+00 TO STA 615+00 | | | | | | | | | | | | |
| 108 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 615+00 TO STA 619+00 | | | | | | | | | | | | |
| 109 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 619+00 TO STA 623+00 | | | | 9 | | | 2 | | | | | |
| 110 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 623+00 TO STA 627+00 | | | | 5.5 | | 66 | | | 33 | | | |
| 111 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 633+00 TO STA 637+00 | | | | 2.1 | | | 1 | | | | | |
| 112 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 637+00 TO STA 641+00 | | | | 5.9 | | | | | | | | |
| 113 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 641+00 TO STA 645+00 | | | | | | | | | | | | |
| 114 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 645+00 TO STA 649+00 | | | | | | | 1 | | | | | |
| 116 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 649+00 TO STA 653+00 | | | | 5.9 | | | | | | | | |
| 117 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 653+00 TO STA 657+00 | | | | | | | | | | | | |
| 118 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 657+00 TO STA 661+00 | | | | | | | | | | | | |
| 120 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 661+00 TO END PROJECT | | | | 5.5 | | | | | | | | |
| 121 | SL 13 SW MILITARY A EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO END PROJECT | | 132 | | | | | | | | | | |
| 122 | SL 13 SW MILITARY A WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO 425+00, STA 448+00 TO 450+00 | | | | 0.9 | | | | | | | | |
| 123 | SL 13 SW MILITARY A WB SIDEWALK CONSTRUCTION PLAN STA 468+00 TO END PROJECT | | | | | | | | 10 | | | | |
| 124 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 508+00 | | | | | | | | | | | | |
| 125 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 508+00 TO STA 512+00 | | | | | | | | | | | | |
| 127 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 512+00 TO STA 516+00 | | | | | | | | | | | | |
| 129 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 516+00 TO STA 520+00 | | | | | | | | | | | | |
| 130 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 520+00 TO STA 524+00 | | | | | | | | | | | | |
| 131 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 524+00 TO STA 526+00, STA 754+00 TO STA 756+00 | | | | | | | | | | | | |
| 132 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 526+00 TO STA 529+50 | | | | | | | | | | | | |
| 133 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 529+50 TO STA 533+00 | | | | 5.9 | | | | | | | | |
| 134 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 537+00 TO STA 541+00 | | | | | | | 1 | | | | | |
| 135 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 541+00 TO STA 545+00 | | | | | | | | | | | | |
| 137 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 545+00 TO STA 548+00 | | | | | | | | | | | | |
| 138 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 548+00 TO STA 552+00 | | | | 0.9 | | | | | | | | |
| 139 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 556+00 TO STA 560+00 | | | | | | | | | | | | |
| 141 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 560+00 TO STA 564+00 | | | | | | | 10 | | | | | |
| 143 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 574+00 TO STA 576+00, STA 804+00 TO STA 806+00 | | | | | | | 1 | | | | | |
| 144 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 583+00 TO STA 587+00 | | | | | | | | | | | | |
| 145 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 589+50 TO STA 593+50 | | | | | | | | | | | | |
| 146 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 593+50 TO STA 597+00 | | | | 1 | | | | | | | | |
| 147 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 597+00 TO STA 599+00, STA 603+00 TO STA 605+00 | | | | | | | | | | | | |
| 148 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 610+25 TO STA 614+00 | | | | | | | | | | | | |
| 149 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 629+00 TO STA 633+00 | | | | | | | | | | | | |
| 150 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 635+25 TO STA 637+25, STA 643+75 TO STA 645+75 | | | | | | | | | | | | |
| 152 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 648+00 TO STA 650+00, STA 653+00 TO STA 654+75 | | | | | | | 2 | | | | | |
| 153 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 654+75 TO STA 656+25, STA 659+00 TO STA 661+00 | | | | | | | 1 | | | | | |
| 154 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 661+00 TO STA 665+00 | | | | | | | | | | | | |
| 156 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 666+50 TO STA 670+00 | | | | | | | | | | | | |
| 157 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 670+00 TO STA 672+00, STA 900+00 TO STA 902+00 | | | | | | | | | | | | |
| 158 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 676+00 TO STA 680+00 | | | | | | | | | | | | |
| 159 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 680+00 TO STA 684+00 | | | | | | | 8 | | | | | |
| 160 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 684+00 TO STA 689+00 | | | | | | | | | | | | |
| 162 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 694+50 TO STA 698+55 | | | | | | | | | | | | |
| 163 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 701+00 TO STA 705+00 | | | | | | | | | | | | |
| 164 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 709+00 TO STA 711+00, STA 939+00 TO STA 941+00 | | | | 5.9 | | | | | | | | |
| 165 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 711+00 TO STA 715+00 | | | | | | | | | | | | |
| 167 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 719+00 TO STA 723+00 | | | | | | | | | | | | |
| 169 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 723+00 TO END PROJECT | | | | | | | | | | | | |
| 170 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 746+00 | | | | | | | | | | | | |
| 172 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 746+00 TO STA 750+00 | | | | | | | | | | | | |
| 173 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 750+00 TO STA 754+00 | | | | | | | | | | | | |
| 175 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 756+00 TO STA 760+00 | | | | | | | | | | | | |

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



# SUMMARY OF ROADWAY QUANTITIES



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 29 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\111350?*Summaries*RDWY.dgn

| | ITEM | 0467-6134 | 0467-6168 | 0467-6324 | 0467-6326 | 0471-6003 | 0481-6029 | 0496-6001 | 0496-6004 | 0496-6007 | 0496-6030 | 0496-6041 | 0496-6099 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | SET (TY I) (S= 4 FT)(HW= 2 FT) (6:1) (P) | SET (TY I) (S= 5 FT)(HW= 2 FT) (6:1) (P) | SET (TY II) (12 IN) (RCP) (4: 1) (P) | SET (TY II) (12 IN) (RCP) (6: 1) (P) | GRATE & FRAME | PIPE (PVC) (SCH 80) (18 IN) | REMOV STR (BOX CULVERT) | REMOV STR (SET) | REMOV STR (PIPE) | REMOVE STR (BOLLARD) | REMOV STR (LARGE) | REMOVE STR (RAIL) |
| SHT NO | | EA | EA | EA | EA | EA | LF | EA | EA | LF | EA | EA | LF |
| 98 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 130+00 | | | | | | | | | | | | |
| 99 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 130+00 TO STA 134+00 | | | | | | | | | | | | |
| 101 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 134+00 TO STA 147+00 | | | | | | | | | | | | |
| 102 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 150+00 TO STA 157+00 | | | | | 9 | | | | | | | |
| 103 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 157+00 TO STA 161+00 | | | | | 9 | | | | | | | |
| 104 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 161+00 TO STA 165+00 | | | | | | | | | | | | |
| 105 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 165+00 TO STA 180+00 | | | | | 9 | | | | | | | |
| 106 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 607+00 TO STA 611+00 | | | | | | | | | | | | |
| 107 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 611+00 TO STA 615+00 | | | | | | | | | | | | |
| 108 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 615+00 TO STA 619+00 | | | | | | | | | | | | |
| 109 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 619+00 TO STA 623+00 | | | | | 9 | | | | | | | |
| 110 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 623+00 TO STA 627+00 | | | | | | | | | | | | |
| 111 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 633+00 TO STA 637+00 | | | | | 9 | | | | | | | |
| 112 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 637+00 TO STA 641+00 | | | | | | | | | | | | |
| 113 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 641+00 TO STA 645+00 | | | | | | | | | | | | |
| 114 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 645+00 TO STA 649+00 | | | | | | | | | | | | |
| 116 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 649+00 TO STA 653+00 | | | | | | | | | | | | |
| 117 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 653+00 TO STA 657+00 | | | | | | | | | | | | |
| 118 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 657+00 TO STA 661+00 | | | | | | | | | | | | |
| 120 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 661+00 TO END PROJECT | | | | | | | | | | | | |
| 121 | SL 13 SW MILITARY A EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO END PROJECT | | | | | | | | | | | | |
| 122 | SL 13 SW MILITARY A WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO 425+00, STA 448+00 TO 450+00 | | | | | | | | | | | | |
| 123 | SL 13 SW MILITARY A WB SIDEWALK CONSTRUCTION PLAN STA 468+00 TO END PROJECT | | | | | | | | | | | | |
| 124 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 508+00 | | | | | | | | | | | | |
| 125 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 508+00 TO STA 512+00 | | | | | | | | | | | | |
| 127 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 512+00 TO STA 516+00 | | | | | | | | | | | | |
| 129 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 516+00 TO STA 520+00 | | | | | | | | | | | | |
| 130 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 520+00 TO STA 524+00 | | | | | | | | | | | | |
| 131 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 524+00 TO STA 526+00, STA 754+00 TO STA 756+00 | | | | | | | | | | | | |
| 132 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 526+00 TO STA 529+50 | | | | | | | | | | | | |
| 133 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 529+50 TO STA 533+00 | | | | | | | | | | | | |
| 134 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 537+00 TO STA 541+00 | | | | | | | | | | | | |
| 135 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 541+00 TO STA 545+00 | | | | | | | | | | | | |
| 137 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 545+00 TO STA 548+00 | | | | | | | | | | | | |
| 138 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 548+00 TO STA 552+00 | | | | | | | | | | | | |
| 139 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 556+00 TO STA 560+00 | | | | | | | | | | | | |
| 141 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 560+00 TO STA 564+00 | | | | | | | | | | | | |
| 143 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 574+00 TO STA 576+00, STA 804+00 TO STA 806+00 | | | | | | | | | | | | |
| 144 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 583+00 TO STA 587+00 | | | | | | | | | | | | |
| 145 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 589+50 TO STA 593+50 | | | | | | | | | | | | |
| 146 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 593+50 TO STA 597+00 | | | | | 3 | | | | | | | |
| 147 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 597+00 TO STA 599+00, STA 603+00 TO STA 605+00 | | | | | | | | | | | | |
| 148 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 610+25 TO STA 614+00 | | | | | | | | | | | | |
| 149 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 629+00 TO STA 633+00 | | | | | | | | | | | | |
| 150 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 635+25 TO STA 637+25, STA 643+75 TO STA 645+75 | | | | | | | | | | | | |
| 152 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 648+00 TO STA 650+00, STA 653+00 TO STA 654+75 | | | | | | | | | | | | |
| 153 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 654+75 TO STA 656+25, STA 659+00 TO STA 661+00 | | | | | | | | | | | | |
| 154 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 661+00 TO STA 665+00 | | | | | | | | | | | | |
| 156 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 666+50 TO STA 670+00 | | | | | | | | | | | | |
| 157 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 670+00 TO STA 672+00, STA 900+00 TO STA 902+00 | | | | | | | | | | | | |
| 158 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 676+00 TO STA 680+00 | | | | | | | | | | | | |
| 159 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 680+00 TO STA 684+00 | | | | | | | | | | | | |
| 160 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 684+00 TO STA 689+00 | | | | | | | | | | 2 | | |
| 162 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 694+50 TO STA 698+55 | | | | | | | | | | | | |
| 163 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 701+00 TO STA 705+00 | | | | | | | | | | | | |
| 164 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 709+00 TO STA 711+00, STA 939+00 TO STA 941+00 | | | | | | | | | | | | |
| 165 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 711+00 TO STA 715+00 | | | | | | | | | | | | |
| 167 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 719+00 TO STA 723+00 | | | | | | | | | | | | |
| 169 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 723+00 TO END PROJECT | | | | | | | | | | | | |
| 170 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 746+00 | | | | | | | | | | | | |
| 172 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 746+00 TO STA 750+00 | | | | | | | | | | | | |
| 173 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 750+00 TO STA 754+00 | | | | | | | | | | | | |
| 175 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 756+00 TO STA 760+00 | | | | | | | | | | | | |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# SUMMARY OF ROADWAY QUANTITIES



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 30 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\111350 7+Summaries+RDWY.dgn

| | ITEM | 0528-6006 | 0529-6001 | 0529-6002 | 0529-6012 | 0529-6020 | 0529-6023 | 0530-6004 | 0530-6005 | 0531-6001 | 0531-6018 | 0531-6019 | 0531-6020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | REMOVE AND RELAY PAVERS | CONC CURB (TY I) | CONC CURB (TY II) | CONC CURB (SLOTTED) | CONC CURB & GUTTER (ARMOR CURB) | CONC CURB & GUTTER(VALLEY GUTTER)(36") | DRIVEWAYS (CONC) | DRIVEWAYS (ACP) | CONC SIDEWALKS (4") | CURB RAMPS (TY 1) | CURB RAMPS (TY 2) | CURB RAMPS (TY 3) |
| SHT NO | | SY | LF | LF | LF | LF | LF | SY | SY | SY | SY | SY | SY |
| 98 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 130+00 | | 26 | 125 | | | | 58 | 9 | 95 | | | |
| 99 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 130+00 TO STA 134+00 | | 20 | 208 | | | | 115 | 68 | 147 | | | |
| 101 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 134+00 TO STA 147+00 | | 33 | 172 | | | | 56 | 123 | 136 | | | |
| 102 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 150+00 TO STA 157+00 | | | 136 | | | | | | 89 | | | |
| 103 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 157+00 TO STA 161+00 | | | 72 | | 14 | | 135 | | 202 | | | |
| 104 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 161+00 TO STA 165+00 | | | 33 | | | | | | 228 | | | |
| 105 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 165+00 TO STA 180+00 | | | 59 | | | | | | 85 | | | |
| 106 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 607+00 TO STA 611+00 | | | 52 | | | | 30 | 135 | 168 | | | |
| 107 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 611+00 TO STA 615+00 | | | | | | | 17 | 13 | 207 | | | |
| 108 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 615+00 TO STA 619+00 | | | | | | | 14 | 7 | 184 | | | |
| 109 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 619+00 TO STA 623+00 | | | 90 | | | | 8 | 61 | 235 | | | |
| 110 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 623+00 TO STA 627+00 | | | 96 | | | | | | 237 | | | |
| 111 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 633+00 TO STA 637+00 | | | 266 | | | | 94 | 104 | 144 | | | |
| 112 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 637+00 TO STA 641+00 | | | 226 | | | | 263 | 61 | 148 | | | |
| 113 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 641+00 TO STA 645+00 | | | 203 | | | | 103 | | 131 | | | |
| 114 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 645+00 TO STA 649+00 | | 44 | 99 | | | | 182 | 245 | 83 | | | |
| 116 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 649+00 TO STA 653+00 | | | 203 | | | | 96 | 64 | 87 | | | |
| 117 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 653+00 TO STA 657+00 | | 74 | 33 | | | | 215 | 445 | 62 | | | |
| 118 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 657+00 TO STA 661+00 | | 39 | 209 | | | | 109 | 282 | 169 | | | |
| 120 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 661+00 TO END PROJECT | | | 75 | | | | 47 | 108 | 74 | | 33 | |
| 121 | SL 13 SW MILITARY A EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO END PROJECT | | | | | | | | | 11 | | | |
| 122 | SL 13 SW MILITARY A WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO 425+00, STA 448+00 TO 450+00 | | | 26 | | | | | | 29 | | | |
| 123 | SL 13 SW MILITARY A WB SIDEWALK CONSTRUCTION PLAN STA 468+00 TO END PROJECT | | | 10 | | | | | | 3 | | | |
| 124 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 508+00 | | | | | | | 127 | | 108 | | | |
| 125 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 508+00 TO STA 512+00 | | | | | | | 209 | | 175 | | | |
| 127 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 512+00 TO STA 516+00 | | | | | | | 249 | 9 | 153 | | | |
| 129 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 516+00 TO STA 520+00 | | | | | | | 42 | | 70 | | | |
| 130 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 520+00 TO STA 524+00 | | | | | | | 46 | 6 | 28 | | | |
| 131 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 524+00 TO STA 526+00, STA 754+00 TO STA 756+00 | | 21 | 56 | | | | 36 | | 60 | | | |
| 132 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 526+00 TO STA 529+50 | | 11 | 122 | | | | 183 | 67 | 93 | | | |
| 133 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 529+50 TO STA 533+00 | | 14 | 91 | | | | 88 | 147 | 73 | | | |
| 134 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 537+00 TO STA 541+00 | | 21 | 85 | | | | 32 | 29 | 90 | | | |
| 135 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 541+00 TO STA 545+00 | | | 268 | | | | 110 | 89 | 159 | | | |
| 137 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 545+00 TO STA 548+00 | | | 111 | | | | 171 | | 115 | | | |
| 138 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 548+00 TO STA 552+00 | | | 37 | | | | | | 75 | | | |
| 139 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 556+00 TO STA 560+00 | | | 251 | | | | 115 | 48 | 156 | | | |
| 141 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 560+00 TO STA 564+00 | | | 147 | | | | 125 | 56 | 93 | | | |
| 143 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 574+00 TO STA 576+00, STA 804+00 TO STA 806+00 | | | 79 | | | | | | 69 | 29 | | |
| 144 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 583+00 TO STA 587+00 | | | 48 | | | | 111 | 82 | 15 | | | |
| 145 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 589+50 TO STA 593+50 | | | 34 | | | | 106 | 48 | 40 | | | |
| 146 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 593+50 TO STA 597+00 | | | 53 | | | | 177 | | 108 | 11 | | |
| 147 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 597+00 TO STA 599+00, STA 603+00 TO STA 605+00 | | | | | | | | | 40 | | | |
| 148 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 610+25 TO STA 614+00 | | | | | | | | | 74 | | | |
| 149 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 629+00 TO STA 633+00 | | | 29 | | | | 107 | 91 | 6 | | | |
| 150 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 635+25 TO STA 637+25, STA 643+75 TO STA 645+75 | | | 263 | | | | 360 | 17 | 37 | | | |
| 152 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 648+00 TO STA 650+00, STA 653+00 TO STA 654+75 | | | 14 | | | | | | 14 | | | |
| 153 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 654+75 TO STA 656+25, STA 659+00 TO STA 661+00 | | | 69 | | | | 99 | 28 | 86 | | | |
| 154 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 661+00 TO STA 665+00 | | | 118 | | | | 247 | 151 | 147 | | | |
| 156 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 666+50 TO STA 670+00 | | | 113 | | | | 78 | 68 | 51 | | | |
| 157 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 670+00 TO STA 672+00, STA 900+00 TO STA 902+00 | | | 23 | | | | 25 | 22 | 16 | | | |
| 158 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 676+00 TO STA 680+00 | | 14 | 74 | | | | 60 | 115 | 76 | | | |
| 159 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 680+00 TO STA 684+00 | | | 103 | | | | 145 | 89 | 105 | | | |
| 160 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 684+00 TO STA 689+00 | | 37 | 134 | | | | 314 | 79 | 119 | | | |
| 162 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 694+50 TO STA 698+55 | | | 194 | | | | 102 | 190 | 93 | | | |
| 163 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 701+00 TO STA 705+00 | | | 49 | | | | 84 | 57 | 8 | | | |
| 164 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 709+00 TO STA 711+00, STA 939+00 TO STA 941+00 | | | 81 | | | | | | 61 | | 20 | |
| 165 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 711+00 TO STA 715+00 | | | 161 | | | | 161 | 82 | 29 | | | |
| 167 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 719+00 TO STA 723+00 | | | 127 | | | | 119 | 204 | | | | |
| 169 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 723+00 TO END PROJECT | | 14 | | | | | 38 | 71 | | | | |
| 170 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 746+00 | | | 153 | | | | 224 | 316 | 111 | | | |
| 172 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 746+00 TO STA 750+00 | | | 203 | | | | 153 | 7 | 167 | | | |
| 173 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 750+00 TO STA 754+00 | | | 114 | | | | 380 | 113 | 92 | | | |
| 175 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 756+00 TO STA 760+00 | | | 132 | | | | 363 | | 137 | | | |

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS

SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS

2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000

TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800




# SUMMARY OF ROADWAY QUANTITIES



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 31 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\111350?+Summaries+RDWY.dgn

| | ITEM | 0531-6022 | 0531-6023 | 0531-6024 | 0531-6027 | 0531-6029 | 0531-6030 | 0531-6031 | 0531-6033 | 0560-6014 | 0624-6009 | 0624-6010 | 0624-6028 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | CURB RAMPS (TY 5) | CURB RAMPS (TY 6) | CURB RAMPS (TY 7) | CURB RAMPS (TY 10) | CURB RAMPS (TY 20) | CURB RAMPS (TY 21) | CURB RAMPS (TY 22) | CONC SIDEWALKS (SPECIAL) (TYPE B) | MAILBOX INSTALL-S (TWG-POST) TY 4 | GROUND BOX TY D (162922) | GROUND BOX TY D (162922)W/APRON | REMOVE GROUND BOX |
| SHT NO | | SY | SY | SY | SY | SY | SY | SY | SY | EA | EA | EA | EA |
| 98 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 130+00 | | | | | | | | 8 | | | | |
| 99 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 130+00 TO STA 134+00 | | | | | | | | | | | | |
| 101 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 134+00 TO STA 147+00 | | | | 12 | | | | | | | | |
| 102 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 150+00 TO STA 157+00 | | | | | | | | | | | | |
| 103 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 157+00 TO STA 161+00 | | | | | | | | | | | | |
| 104 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 161+00 TO STA 165+00 | | | | | | | | | | | | |
| 105 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 165+00 TO STA 180+00 | | | | | | | | | | | | |
| 106 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 607+00 TO STA 611+00 | | | | | | | | | | | | |
| 107 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 611+00 TO STA 615+00 | | | | | | | | | | | | |
| 108 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 615+00 TO STA 619+00 | | | | | | | | | | | | |
| 109 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 619+00 TO STA 623+00 | | | | | | | | | | | | |
| 110 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 623+00 TO STA 627+00 | | | | | | | | | | | | |
| 111 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 633+00 TO STA 637+00 | | | | | | | | | | | | |
| 112 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 637+00 TO STA 641+00 | | | | | | | | | | | | |
| 113 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 641+00 TO STA 645+00 | | | | | | | | | 1 | | | |
| 114 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 645+00 TO STA 649+00 | | | | | | | | 7 | | | | |
| 116 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 649+00 TO STA 653+00 | | | | | | | | 43 | | | | |
| 117 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 653+00 TO STA 657+00 | | | | | | | | | | | | |
| 118 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 657+00 TO STA 661+00 | | | | | | | | | | | | |
| 120 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 661+00 TO END PROJECT | | | | | | | | | | | | |
| 121 | SL 13 SW MILITARY A EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO END PROJECT | | | | | | | | | | | | |
| 122 | SL 13 SW MILITARY A WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO 425+00, STA 448+00 TO 450+00 | | | | | | | | | | | | |
| 123 | SL 13 SW MILITARY A WB SIDEWALK CONSTRUCTION PLAN STA 468+00 TO END PROJECT | | | | | | | | 5 | | | | |
| 124 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 508+00 | | | | | | | | | | | | |
| 125 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 508+00 TO STA 512+00 | | | | | | | | | | | | |
| 127 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 512+00 TO STA 516+00 | | | | | | | | | | | | |
| 129 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 516+00 TO STA 520+00 | | | | | | | | | | | | |
| 130 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 520+00 TO STA 524+00 | | | | | | | | | | | | |
| 131 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 524+00 TO STA 526+00, STA 754+00 TO STA 756+00 | | | | | | | | | | | | |
| 132 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 526+00 TO STA 529+50 | | | | | | | | | 1 | 1 | | 1 |
| 133 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 529+50 TO STA 533+00 | | | | | | | | | | 2 | | 2 |
| 134 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 537+00 TO STA 541+00 | | | | | | | | | | | | |
| 135 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 541+00 TO STA 545+00 | | | | | | | | 17 | 2 | | | |
| 137 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 545+00 TO STA 548+00 | | | | | | | | 6 | | | | |
| 138 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 548+00 TO STA 552+00 | | | | | | | | | | | | |
| 139 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 556+00 TO STA 560+00 | | | | | | | | | | | | |
| 141 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 560+00 TO STA 564+00 | | | | | | | | | | | | |
| 143 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 574+00 TO STA 576+00, STA 804+00 TO STA 806+00 | | | | | | | | | | | | |
| 144 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 583+00 TO STA 587+00 | | | | | | | | | | | | |
| 145 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 589+50 TO STA 593+50 | | | | | | | | 4 | | | | |
| 146 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 593+50 TO STA 597+00 | | | | | | | | 3 | | | | |
| 147 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 597+00 TO STA 599+00, STA 603+00 TO STA 605+00 | | | | | | | | | | | | |
| 148 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 610+25 TO STA 614+00 | | | | | | | | | | | | |
| 149 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 629+00 TO STA 633+00 | | | | | | | | 12 | | | | |
| 150 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 635+25 TO STA 637+25, STA 643+75 TO STA 645+75 | | | | | | | | 40 | | | | |
| 152 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 648+00 TO STA 650+00, STA 653+00 TO STA 654+75 | | | | | | | | | | | | |
| 153 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 654+75 TO STA 656+25, STA 659+00 TO STA 661+00 | | | | | | | | | | | | |
| 154 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 661+00 TO STA 665+00 | | | | | | | | | | | | |
| 156 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 666+50 TO STA 670+00 | | | | | | | | 16 | | | | |
| 157 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 670+00 TO STA 672+00, STA 900+00 TO STA 902+00 | | | | | | | | | | | | |
| 158 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 676+00 TO STA 680+00 | | | | | | | | | | | | |
| 159 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 680+00 TO STA 684+00 | | | | | | | | | | | | |
| 160 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 684+00 TO STA 689+00 | | | 18 | | | | | | | | | |
| 162 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 694+50 TO STA 698+55 | | | | | | | | 38 | | | | |
| 163 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 701+00 TO STA 705+00 | | | | | | | | 32 | | | | |
| 164 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 709+00 TO STA 711+00, STA 939+00 TO STA 941+00 | | | | | | | | | | | | |
| 165 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 711+00 TO STA 715+00 | | | | | | | | 48 | | | | |
| 167 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 719+00 TO STA 723+00 | | | | | | | | 85 | | | | |
| 169 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 723+00 TO END PROJECT | | | | | | | | 9 | | | | |
| 170 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 746+00 | | | | | | | | | 2 | | | |
| 172 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 746+00 TO STA 750+00 | | | | | | | | | 3 | | | |
| 173 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 750+00 TO STA 754+00 | | | | | | | | | | | | |
| 175 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 756+00 TO STA 760+00 | | | | | | | | 26 | | | | |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



# SUMMARY OF ROADWAY QUANTITIES



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 32 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\1113507+Summaries+RDWY.dgn

| | ITEM | 0104-6009 | 0104-6017 | 0104-6024 | 0104-6029 | 0104-6036 | 0105-6037 | 0110-6002 | 0132-6003 | 0160-6003 | 0162-6002 | 0168-6001 | 0340-6066 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | REMOVING CONC (RIPRAP) | REMOVING CONC (DRIVEWAYS) | REMOVING CONC (RETAINING WALLS) | REMOVING CONC (CURB OR CURB & GUTTER) | REMOVING CONC (SIDEWALK OR RAMP) | REMOVING STAB BASE AND ASPH PAV (0"-16") | EXCAVATION (CHANNEL) | EMBANKMENT (FINAL)(ORD COMP) (TY B) | FURNISHING AND PLACING TOPSOIL (4") | BLOCK SODDING | VEGETATIVE WATERING | D-GR HMA(SQ) TY-C PG76-22 |
| SHT NO | | SY | SY | SY | LF | SY | SY | CY | CY | SY | SY | MG | TON |
| 177 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 760+00 TO STA 763+00 | | 83 | | 10 | 19 | 315 | | | | | | |
| 178 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 763+00 TO STA 765+00 | | 13 | | | | 40 | | | | | | |
| 179 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 765+00 TO STA 768+00 | | 64 | | 230 | | 3 | | | 25 | 25 | 0.39 | |
| 180 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 768+00 TO STA 772+00 | | 188 | | 159 | | 280 | | | | | | |
| 182 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 772+00 TO STA 776+00 | | 30 | | 189 | | 291 | | | | | | |
| 183 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 776+00 TO STA 780+00 | | 101 | | 105 | | 24 | | | | | | |
| 184 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 780+00 TO STA 784+00 | | 111 | | 140 | | 69 | | | | | | |
| 186 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 784+00 TO STA 788+00 | 10 | 231 | | 202 | | 136 | | | 15 | 15 | 0.23 | |
| 188 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 788+00 TO STA 792+00 | 58 | 161 | | 157 | 3 | 104 | | | 60 | 60 | 0.94 | |
| 190 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 796+50 TO STA 798+50, STA 802+00 TO STA 804+00 | | 37 | | 27 | | | | | | | | |
| 191 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 806+00 TO STA 810+00 | | 58 | | | 3 | | | | 25 | 25 | 0.39 | |
| 192 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 852+00 TO STA 856+00 | | 73 | | 62 | 5 | 89 | | | | | | |
| 193 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 856+00 TO STA 860+00 | 10 | 109 | | 79 | 18 | 119 | | | | | | |
| 195 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 863+00 TO STA 865+00, STA 879+00 TO STA 881+00 | | 177 | 2 | 155 | 20 | 177 | | | 10 | 10 | 0.16 | |
| 197 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 881+00 TO STA 885+00 | | 52 | | 69 | 15 | 57 | | | | | | |
| 198 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 885+00 TO STA 889+00 | | 156 | | 178 | 3 | 136 | | | | | | |
| 199 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 889+00 TO STA 893+00 | | 72 | | 51 | | 106 | | | | | | |
| 200 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 893+00 TO STA 895+00, STA 902+00 TO STA 904+00 | | 72 | | 172 | 4 | 88 | | | | | | |
| 201 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 904+00 TO STA 908+00 | | 54 | | 61 | 7 | 88 | | | | | | |
| 202 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 908+00 TO STA 911+50 | | 130 | | 190 | 10 | 223 | | | | | | |
| 204 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 911+50 TO STA 913+00 | | 17 | | 33 | | 59 | | | | | | |
| 205 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 915+00 TO STA 919+00 | | 55 | | 132 | | 143 | | | | | | |
| 206 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 925+00 TO STA 928+00 | | 97 | | 83 | | 11 | | | 28 | 28 | 0.44 | |
| 207 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 928+00 TO STA 931+00 | | 42 | | 103 | | 98 | | | | | | |
| 208 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 941+00 TO STA 944+00 | | 28 | | 152 | | | | | 55 | 55 | 0.86 | |
| 209 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 944+00 TO STA 948+00 | | 139 | | 281 | 4 | 42 | | | 168 | 168 | 2.62 | |
| 210 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 948+00 TO STA 952+00 | | 22 | | 238 | | 18 | | | 50 | 50 | 0.78 | |
| 211 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 952+00 TO END PROJECT | | 124 | | 204 | 10 | | | | 28 | 28 | 0.44 | |
| 213 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1040+00 TO STA 1042+00, STA 1054+50 TO STA 1056+50 | 9 | | 35 | 69 | | | | | 41 | 41 | 0.64 | |
| 214 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1095+00 TO STA 1099+00 | | | | | | | | | 162 | 162 | 2.53 | |
| 215 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1099+00 TO STA 1101+00, STA 1259+00 TO STA 1261+00 | 39 | | | 115 | | 42 | | | 44 | 44 | 0.69 | |
| 216 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1121+00 TO END PROJECT | | | | | | | | | 76 | 76 | 1.19 | |
| 217 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 1150+50, STA 1159+75 TO STA 1161+75 | | | | 15 | 7 | | | | 27 | 27 | 0.42 | |
| 218 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1183+50 TO STA 1185+50, STA 1189+50 TO STA 1191+50 | 24 | | | 56 | | | | | 43 | 43 | 0.67 | |
| 219 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1202+50 TO STA 1204+50 | 2 | | | 21 | | | | | 11 | 11 | 0.17 | |
| 220 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1227+00 TO STA 1231+00 | 51 | 79 | | 122 | | | | | | | | |
| 221 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1251+00 TO STA 1255+00 | 11 | 157 | | 37 | 15 | | | | 153 | 153 | 2.39 | |
| 223 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1255+00 TO STA 1259+00 | | 38 | | 6 | | 228 | | | 190 | 190 | 2.96 | |
| 224 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1274+00 TO STA 1276+00 | | | | 36 | | | | 2 | 108 | 108 | 1.68 | 47.0 |
| 225 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1276+00 TO STA 1280+00 | | | | | | | | 6 | 356 | 356 | 5.55 | |
| 226 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1280+00 TO END PROJECT | | | | | | | | 6 | 328 | 328 | 5.12 | |
| 227 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1320+00 TO 1322+00, STA 1329+00 TO STA 1331+00 | | | | 81 | | | | | 44 | 44 | 0.69 | |
| 228 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1335+00 TO STA 1339+00 | | | | 41 | | | 8 | | 44 | 44 | 0.69 | |
| 230 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1344+00 TO STA 1346+00 | | | | 40 | | | | | 14 | 14 | 0.22 | |
| 231 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1353+00 TO 1355+00, STA 1753+00 TO STA 1755+00 | | | | 61 | 27 | | | | 109 | 109 | 1.70 | 21.0 |
| 232 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1365+00 TO STA 1367+00 | | | | 41 | | | | 16 | 58 | 58 | 0.90 | |
| 233 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1373+00 TO STA 1376+50 | | 141 | | 53 | | | | | 45 | 45 | 0.70 | |
| 234 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1376+50 TO 1378+50, STA 1776+00 TO STA 1778+00 | 13 | | | | | | | | 3 | 3 | 0.05 | |
| 235 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1382+50 TO 1384+50, STA 1782+50 TO STA 1784+50 | 17 | | | 40 | 6 | | | | 135 | 135 | 2.11 | 33.0 |
| 236 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1390+00 TO STA 1394+00 | 35 | | | 23 | | 10 | | 3 | 54 | 54 | 0.84 | |
| 238 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1399+00 TO 1401+00, STA 1799+00 TO STA 1801+00 | | | | | | | | | 30 | 30 | 0.47 | |
| 239 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1402+00 TO STA 1406+00 | | 23 | | | | 102 | 1 | 40 | 200 | 200 | 3.12 | |
| 241 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1406+00 TO STA 1410+00 | | 603 | | 8 | | 42 | 2 | 3 | 350 | 350 | 5.46 | |
| 244 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1410+00 TO STA 1414+00 | | 20 | | | | 444 | | | 170 | 170 | 2.65 | |
| 246 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1414+00 TO 1416+00, STA 1814+00 TO STA 1816+00 | | | | 24 | | 440 | | | 220 | 220 | 3.43 | |
| 247 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1416+00 TO STA 1420+00 | | | | | | | | | 85 | 85 | 1.33 | |
| 248 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1421+00 TO STA 1423+00 | | | | 102 | 1 | 128 | | | 115 | 115 | 1.79 | 48.0 |
| 249 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1423+00 TO STA 1427+00 | | | | 14 | 9 | 109 | 191 | | 590 | 590 | 9.20 | |
| 251 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1427+00 TO STA 1430+00 | | 33 | | 44 | 15 | 27 | | | 155 | 155 | 2.42 | |
| 253 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1430+00 TO 1432+00, STA 1830+00 TO STA 1832+00 | | | | 61 | | | | | 22 | 22 | 0.34 | |
| 254 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1432+00 TO STA 1436+00 | 90 | 236 | | | | 384 | 14 | 317 | 415 | 415 | 6.47 | |
| 257 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1436+00 TO STA 1440+00 | 33 | 122 | | | | 178 | 7 | 46 | 270 | 270 | 4.21 | |
| 259 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1440+00 TO STA 1444+00 | 6 | | | | | 250 | 10 | | 200 | 200 | 3.12 | |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |


PAPE-DAWSON ENGINEERS

SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS

2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000

TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800




# SUMMARY OF ROADWAY QUANTITIES



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 33 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\1113507*Summaries*RDWY.dgn

| | ITEM | 0351-6028 | 0354-6023 | 0420-6007 | 0420-6074 | 0420-6132 | 0423-6008 | 0432-6003 | 0450-6047 | 0450-6048 | 0462-6006 | 0462-6010 | 0464-6001 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | FLEX PAVE STRUCTURE REPAIR (8"-10") | PLANE ASPH CONC PAV(0" TO 4") | CL A CONC (FLUME) | CL C CONC (MISC) | CL A CONC (STEPS) | RETAINING WALL (CAST - IN - PLACE) | RIPRAP (CONC)(6 IN) | RAIL (HANDRAIL)(TY A) | RAIL (HANDRAIL)(TY B) | CONC BOX CULV (5 FT X 2 FT) | CONC BOX CULV (6 FT X 3 FT) | RC PIPE (CL III)(12 IN) |
| SHT NO | | SY | SY | CY | CY | CY | SF | CY | LF | LF | LF | LF | LF |
| 177 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 760+00 TO STA 763+00 | | | | | | | | | | | | |
| 178 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 763+00 TO STA 765+00 | | | | | | | | | | | | |
| 179 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 765+00 TO STA 768+00 | | | | 0.9 | | | 6 | | | | | |
| 180 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 768+00 TO STA 772+00 | | | | | | | | | | | | |
| 182 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 772+00 TO STA 776+00 | | | | | | | | | | | | |
| 183 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 776+00 TO STA 780+00 | | | | 1 | | | | | | | | |
| 184 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 780+00 TO STA 784+00 | | | | | | | | | | | | |
| 186 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 784+00 TO STA 788+00 | | | | | | | 1 | | | | | |
| 188 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 788+00 TO STA 792+00 | | | | | | | 11 | | | | | |
| 190 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 796+50 TO STA 798+50, STA 802+00 TO STA 804+00 | | | | | | | 2 | | | | | |
| 191 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 806+00 TO STA 810+00 | | | | | | | | | | | | |
| 192 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 852+00 TO STA 856+00 | | | | | | | 1 | | | | | |
| 193 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 856+00 TO STA 860+00 | | | | | | | 15 | | | | | |
| 195 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 863+00 TO STA 865+00, STA 879+00 TO STA 881+00 | | | | | | | 4 | | | | | |
| 197 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 881+00 TO STA 885+00 | | | | | | | | | | | | |
| 198 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 885+00 TO STA 889+00 | | | | | | | | | | | | |
| 199 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 889+00 TO STA 893+00 | | | | | | | | | | | | |
| 200 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 893+00 TO STA 895+00, STA 902+00 TO STA 904+00 | | | | | | | | | | | | |
| 201 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 904+00 TO STA 908+00 | | | | | | | | | | | | |
| 202 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 908+00 TO STA 911+50 | | | | | | | | | | | | |
| 204 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 911+50 TO STA 913+00 | | | | | | | | | | | | |
| 205 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 915+00 TO STA 919+00 | | | | | | | | | | | | |
| 206 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 925+00 TO STA 928+00 | | | | | | | | | | | | |
| 207 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 928+00 TO STA 931+00 | | | | | | | | | | | | |
| 208 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 941+00 TO STA 944+00 | | | | | | | | | | | | |
| 209 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 944+00 TO STA 948+00 | | | | | | | 1 | | | | | |
| 210 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 948+00 TO STA 952+00 | | | | | | | | | | | | |
| 211 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 952+00 TO END PROJECT | | | | | | | 2 | | | | | |
| 213 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1040+00 TO STA 1042+00, STA 1054+50 TO STA 1056+50 | | | | 6.4 | | 315 | | | | | | |
| 214 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1095+00 TO STA 1099+00 | | | | 4.2 | | | 13 | | | | | |
| 215 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1099+00 TO STA 1101+00, STA 1259+00 TO STA 1261+00 | | | | | | | 6 | | | | | |
| 216 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1121+00 TO END PROJECT | | | | 5.5 | | 93 | | | | | | |
| 217 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 1150+50, STA 1159+75 TO STA 1161+75 | | | | 5.5 | | | | | | | | |
| 218 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1183+50 TO STA 1185+50, STA 1189+50 TO STA 1191+50 | | | | 12.8 | | | | | | | | |
| 219 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1202+50 TO STA 1204+50 | | | | 0.9 | | 110 | | | | | | |
| 220 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1227+00 TO STA 1231+00 | | | | | | | 10 | | | | | |
| 221 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1251+00 TO STA 1255+00 | | | | 7.6 | | | | | | | | |
| 223 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1255+00 TO STA 1259+00 | | | | 1.6 | | | | | | | | |
| 224 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1274+00 TO STA 1276+00 | | 401 | | | | | | | | | | |
| 225 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1276+00 TO STA 1280+00 | | | | | | | | | | | | |
| 226 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1280+00 TO END PROJECT | | | | | | | | | | | | |
| 227 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1320+00 TO 1322+00, STA 1329+00 TO STA 1331+00 | | | | 11.4 | | 207 | | | | | | |
| 228 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1335+00 TO STA 1339+00 | | | | 5.9 | | 98 | 4 | | | | | |
| 230 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1344+00 TO STA 1346+00 | | | | 5.9 | | 105 | | | 51 | | | |
| 231 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1353+00 TO 1355+00, STA 1753+00 TO STA 1755+00 | | 181 | | 5.9 | | 100 | | | 33 | | | |
| 232 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1365+00 TO STA 1367+00 | | | | 5.9 | | 183 | 15 | | 55 | | | |
| 233 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1373+00 TO STA 1376+50 | | | | 5.5 | | 68 | | | | | | |
| 234 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1376+50 TO 1378+50, STA 1776+00 TO STA 1778+00 | | | | | | | 3 | | | | | |
| 235 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1382+50 TO 1384+50, STA 1782+50 TO STA 1784+50 | | 282 | | 6.5 | | | 3 | | | | | |
| 236 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1390+00 TO STA 1394+00 | | | | 8.9 | | 330 | 11 | | 100 | | | |
| 238 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1399+00 TO 1401+00, STA 1799+00 TO STA 1801+00 | | | | | | | | | | | | |
| 239 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1402+00 TO STA 1406+00 | | | | | | | 1 | | 173 | | | |
| 241 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1406+00 TO STA 1410+00 | | | | | | | | | | | | |
| 244 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1410+00 TO STA 1414+00 | | | | 2 | | | 16 | | | | | |
| 246 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1414+00 TO 1416+00, STA 1814+00 TO STA 1816+00 | | | | 8 | | 104 | | | | | | |
| 247 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1416+00 TO STA 1420+00 | | | | | | | | | | | | |
| 248 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1421+00 TO STA 1423+00 | | 414 | | | | | | | | | | |
| 249 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1423+00 TO STA 1427+00 | | | | | | | | | | | | |
| 251 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1427+00 TO STA 1430+00 | | | | 7.5 | | 90 | | | | | | |
| 253 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1430+00 TO 1432+00, STA 1830+00 TO STA 1832+00 | | | | | | | | | | | | |
| 254 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1432+00 TO STA 1436+00 | | | | | | | 18 | | 146 | | | 227 |
| 257 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1436+00 TO STA 1440+00 | | | | 1.2 | | | 7 | | 229 | | | |
| 259 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1440+00 TO STA 1444+00 | | | | | | | 2 | | 218 | | | |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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| | | | |
| | | | |


PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




# SUMMARY OF ROADWAY QUANTITIES



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 34 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\1113507*Summaries*RDWY.dgn

| | ITEM | 0467-6134 | 0467-6168 | 0467-6324 | 0467-6326 | 0471-6003 | 0481-6029 | 0496-6001 | 0496-6004 | 0496-6007 | 0496-6030 | 0496-6041 | 0496-6099 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | SET (TY I) (S= 4 FT)(HW= 2 FT) (6:1) (P) | SET (TY I) (S= 5 FT)(HW= 2 FT) (6:1) (P) | SET (TY II) (12 IN) (RCP) (4: 1) (P) | SET (TY II) (12 IN) (RCP) (6: 1) (P) | GRATE & FRAME | PIPE (PVC) (SCH 80) (18 IN) | REMOV STR (BOX CULVERT) | REMOV STR (SET) | REMOV STR (PIPE) | REMOVE STR (BOLLARD) | REMOV STR (LARGE) | REMOVE STR (RAIL) |
| SHT NO | | EA | EA | EA | EA | EA | LF | EA | EA | LF | EA | EA | LF |
| 177 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 760+00 TO STA 763+00 | | | | | | | | | | | | |
| 178 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 763+00 TO STA 765+00 | | | | | | | | | | | | |
| 179 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 765+00 TO STA 768+00 | | | | | | | | | | | | |
| 180 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 768+00 TO STA 772+00 | | | | | | | | | | | | |
| 182 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 772+00 TO STA 776+00 | | | | | | | | | | | | |
| 183 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 776+00 TO STA 780+00 | | | | | | | | | | | | |
| 184 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 780+00 TO STA 784+00 | | | | | | | | | | | | |
| 186 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 784+00 TO STA 788+00 | | | | | | | | | | | | |
| 188 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 788+00 TO STA 792+00 | | | | | | | | | | | | |
| 190 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 796+50 TO STA 798+50, STA 802+00 TO STA 804+00 | | | | | | | | | | | | |
| 191 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 806+00 TO STA 810+00 | | | | | | | | | | | | |
| 192 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 852+00 TO STA 856+00 | | | | | | | | | | | | |
| 193 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 856+00 TO STA 860+00 | | | | | | | | | | | | |
| 195 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 863+00 TO STA 865+00, STA 879+00 TO STA 881+00 | | | | | | | | | | | | |
| 197 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 881+00 TO STA 885+00 | | | | | | | | | | | | |
| 198 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 885+00 TO STA 889+00 | | | | | | | | | | | | |
| 199 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 889+00 TO STA 893+00 | | | | | | | | | | | | |
| 200 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 893+00 TO STA 895+00, STA 902+00 TO STA 904+00 | | | | | | | | | | | | |
| 201 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 904+00 TO STA 908+00 | | | | | | | | | | | | |
| 202 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 908+00 TO STA 911+50 | | | | | | | | | | | | |
| 204 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 911+50 TO STA 913+00 | | | | | | | | | | | | |
| 205 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 915+00 TO STA 919+00 | | | | | | | | | | | | |
| 206 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 925+00 TO STA 928+00 | | | | | | | | | | | | |
| 207 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 928+00 TO STA 931+00 | | | | | | | | | | | | |
| 208 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 941+00 TO STA 944+00 | | | | | | | | | | | | |
| 209 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 944+00 TO STA 948+00 | | | | | | | | | | | | |
| 210 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 948+00 TO STA 952+00 | | | | | | | | | | | | |
| 211 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 952+00 TO END PROJECT | | | | | | | | | | | | |
| 213 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1040+00 TO STA 1042+00, STA 1054+50 TO STA 1056+50 | | | | | | | | | | | | |
| 214 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1095+00 TO STA 1099+00 | | | | | 18 | | | | | | | |
| 215 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1099+00 TO STA 1101+00, STA 1259+00 TO STA 1261+00 | | | | | | | | | | | | |
| 216 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1121+00 TO END PROJECT | | | | | | | | | | | | |
| 217 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 1150+50, STA 1159+75 TO STA 1161+75 | | | | | | | | | | | | |
| 218 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1183+50 TO STA 1185+50, STA 1189+50 TO STA 1191+50 | | | | | | | | | | | | |
| 219 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1202+50 TO STA 1204+50 | | | | | | | | | | | | |
| 220 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1227+00 TO STA 1231+00 | | | | | | | | | | | | |
| 221 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1251+00 TO STA 1255+00 | | | | | 9 | | | | | | | |
| 223 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1255+00 TO STA 1259+00 | | | | | 6 | | | | | | | |
| 224 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1274+00 TO STA 1276+00 | | | | | | | | | | | | |
| 225 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1276+00 TO STA 1280+00 | | | | | | | | | | | | |
| 226 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1280+00 TO END PROJECT | | | | | | | | | | | | |
| 227 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1320+00 TO 1322+00, STA 1329+00 TO STA 1331+00 | | | | | | | | | | | | |
| 228 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1335+00 TO STA 1339+00 | | | | | | | | | | | | |
| 230 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1344+00 TO STA 1346+00 | | | | | | | | | | | | |
| 231 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1353+00 TO 1355+00, STA 1753+00 TO STA 1755+00 | | | | | | | | | | | | 20 |
| 232 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1365+00 TO STA 1367+00 | | | | | | | | | | | | |
| 233 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1373+00 TO STA 1376+50 | | | | | | | | | | | | |
| 234 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1376+50 TO 1378+50, STA 1776+00 TO STA 1778+00 | | | | | | | | | | | | |
| 235 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1382+50 TO 1384+50, STA 1782+50 TO STA 1784+50 | | | | | 3 | | | | | | | |
| 236 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1390+00 TO STA 1394+00 | | | | | 9 | | | | | | | |
| 238 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1399+00 TO 1401+00, STA 1799+00 TO STA 1801+00 | | | | | | | | | | | | |
| 239 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1402+00 TO STA 1406+00 | | | | | | 11 | | | | | | |
| 241 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1406+00 TO STA 1410+00 | | | | | | | | | | | | |
| 244 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1410+00 TO STA 1414+00 | | | | | 7 | | | | | | | |
| 246 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1414+00 TO 1416+00, STA 1814+00 TO STA 1816+00 | | | | | 9 | | | | | | | |
| 247 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1416+00 TO STA 1420+00 | | | | | | | | | | | | |
| 248 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1421+00 TO STA 1423+00 | | | | | | | | | | | | |
| 249 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1423+00 TO STA 1427+00 | | | | | | | | | | | | 21 |
| 251 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1427+00 TO STA 1430+00 | | | | | 9 | | | | | | | |
| 253 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1430+00 TO 1432+00, STA 1830+00 TO STA 1832+00 | | | | | | | | | | | | |
| 254 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1432+00 TO STA 1436+00 | | | 2 | 3 | | | | | 206 | | | |
| 257 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1436+00 TO STA 1440+00 | | | | 1 | 4 | | | | | | | |
| 259 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1440+00 TO STA 1444+00 | | | | | | | | | | | | |

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# SUMMARY OF ROADWAY QUANTITIES



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 35 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\1113507*Summaries*RDWY.dgn

| | ITEM | 0528-6006 | 0529-6001 | 0529-6002 | 0529-6012 | 0529-6020 | 0529-6023 | 0530-6004 | 0530-6005 | 0531-6001 | 0531-6018 | 0531-6019 | 0531-6020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | REMOVE AND RELAY PAVERS | CONC CURB (TY I) | CONC CURB (TY II) | CONC CURB (SLOTTED) | CONC CURB & GUTTER (ARMOR CURB) | CONC CURB & GUTTER(VALLEY GUTTER)(36") | DRIVEWAYS (CONC) | DRIVEWAYS (ACP) | CONC SIDEWALKS (4") | CURB RAMPS (TY 1) | CURB RAMPS (TY 2) | CURB RAMPS (TY 3) |
| SHT NO | | SY | LF | LF | LF | LF | LF | SY | SY | SY | SY | SY | SY |
| 177 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 760+00 TO STA 763+00 | | | 32 | | | | 83 | 175 | 135 | | | |
| 178 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 763+00 TO STA 765+00 | | | | | | | 13 | 40 | 34 | | | |
| 179 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 765+00 TO STA 768+00 | | | 206 | | | | 65 | 3 | 125 | | | |
| 180 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 768+00 TO STA 772+00 | | 23 | 132 | | | | 188 | 280 | 146 | | | |
| 182 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 772+00 TO STA 776+00 | | | 189 | | | | 30 | 156 | 152 | | | |
| 183 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 776+00 TO STA 780+00 | | | 105 | | | | 101 | 24 | 77 | | | |
| 184 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 780+00 TO STA 784+00 | | | 140 | | | | 111 | 69 | 69 | | | |
| 186 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 784+00 TO STA 788+00 | | | 202 | | | | 231 | 136 | 101 | | | |
| 188 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 788+00 TO STA 792+00 | | 7 | 145 | | | | 161 | 104 | 103 | | | |
| 190 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 796+50 TO STA 798+50, STA 802+00 TO STA 804+00 | | | 27 | | | | 28 | | 21 | | | |
| 191 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 806+00 TO STA 810+00 | | | | | | | 58 | | 12 | | | |
| 192 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 852+00 TO STA 856+00 | | 1 | 61 | | | | 74 | 84 | 79 | 14 | | |
| 193 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 856+00 TO STA 860+00 | | | 84 | | | | 109 | 69 | 67 | | | |
| 195 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 863+00 TO STA 865+00, STA 879+00 TO STA 881+00 | | 34 | 121 | | | | 179 | 177 | 83 | | | |
| 197 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 881+00 TO STA 885+00 | | | 48 | | | | 68 | 57 | 29 | | | |
| 198 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 885+00 TO STA 889+00 | | | 159 | | | | 110 | 136 | 90 | | | |
| 199 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 889+00 TO STA 893+00 | | 15 | 34 | | | | 87 | 88 | 29 | | | |
| 200 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 893+00 TO STA 895+00, STA 902+00 TO STA 904+00 | | | 164 | | | | 93 | 69 | 80 | | | |
| 201 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 904+00 TO STA 908+00 | | | 46 | | | | 61 | 92 | 22 | | | |
| 202 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 908+00 TO STA 911+50 | | 43 | 147 | | | | 122 | 247 | 129 | | | |
| 204 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 911+50 TO STA 913+00 | | | 29 | | | | 21 | 59 | 30 | | | |
| 205 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 915+00 TO STA 919+00 | | | 124 | | | | 105 | 93 | 88 | | | |
| 206 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 925+00 TO STA 928+00 | | | 83 | | | | 97 | 11 | 58 | | | |
| 207 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 928+00 TO STA 931+00 | | 17 | 86 | | | | 42 | 98 | 82 | | | |
| 208 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 941+00 TO STA 944+00 | | | 152 | | | | 39 | | 109 | | | |
| 209 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 944+00 TO STA 948+00 | | | 274 | | | | 150 | 42 | 200 | | | |
| 210 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 948+00 TO STA 952+00 | | | 238 | | | | 22 | 18 | 142 | | | |
| 211 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 952+00 TO END PROJECT | | 19 | 185 | | | | 124 | | 156 | 10 | | |
| 213 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1040+00 TO STA 1042+00, STA 1054+50 TO STA 1056+50 | | | 69 | | | | | | 35 | | 20 | |
| 214 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1095+00 TO STA 1099+00 | | | 214 | | 14 | | | | 13 | | | |
| 215 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1099+00 TO STA 1101+00, STA 1259+00 TO STA 1261+00 | | | 148 | 10 | | | | 42 | 80 | 22 | 92 | |
| 216 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1121+00 TO END PROJECT | | | | | | | | | 136 | | | |
| 217 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 1150+50, STA 1159+75 TO STA 1161+75 | | | 15 | | | | | | 11 | | | |
| 218 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1183+50 TO STA 1185+50, STA 1189+50 TO STA 1191+50 | | | 56 | | | | | | 31 | | | |
| 219 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1202+50 TO STA 1204+50 | | | 21 | | | | | | 8 | | | |
| 220 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1227+00 TO STA 1231+00 | | | 96 | 26 | | | 79 | | 4 | | | |
| 221 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1251+00 TO STA 1255+00 | | | 75 | | | | 162 | | 102 | | | |
| 223 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1255+00 TO STA 1259+00 | | | 6 | | | | 119 | 147 | 183 | | | |
| 224 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1274+00 TO STA 1276+00 | | | 36 | | | | | | 104 | 5 | | |
| 225 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1276+00 TO STA 1280+00 | | | | | | | | | 224 | | | |
| 226 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1280+00 TO END PROJECT | | | 21 | | | | | | 212 | | | |
| 227 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1320+00 TO 1322+00, STA 1329+00 TO STA 1331+00 | | | 81 | | | | | | 46 | | | |
| 228 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1335+00 TO STA 1339+00 | | | 41 | | | | | | 23 | | | |
| 230 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1344+00 TO STA 1346+00 | | | 40 | | | | | | 12 | | | |
| 231 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1353+00 TO 1355+00, STA 1753+00 TO STA 1755+00 | | | 119 | | | | | | 33 | | 43 | |
| 232 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1365+00 TO STA 1367+00 | | | 41 | | | | | | 13 | | | |
| 233 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1373+00 TO STA 1376+50 | | | 92 | | | | 141 | | 9 | | | |
| 234 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1376+50 TO 1378+50, STA 1776+00 TO STA 1778+00 | | | | 9 | | | | | 5 | | | |
| 235 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1382+50 TO 1384+50, STA 1782+50 TO STA 1784+50 | | | 108 | 9 | | | | | 89 | 10 | 15 | |
| 236 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1390+00 TO STA 1394+00 | | | 152 | | 14 | | | 6 | 26 | | 10 | |
| 238 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1399+00 TO 1401+00, STA 1799+00 TO STA 1801+00 | | | | | | | | | 23 | | | |
| 239 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1402+00 TO STA 1406+00 | | | | | | | 57 | 67 | | | | |
| 241 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1406+00 TO STA 1410+00 | | | | | | | 589 | 26 | 93 | | | |
| 244 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1410+00 TO STA 1414+00 | | | 224 | | | 52 | 249 | 107 | 175 | | | |
| 246 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1414+00 TO 1416+00, STA 1814+00 TO STA 1816+00 | | | 108 | | 14 | | 438 | | 95 | | 21 | |
| 247 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1416+00 TO STA 1420+00 | | | | | | | | | 68 | | | |
| 248 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1421+00 TO STA 1423+00 | | | 86 | | | | 20 | 108 | 69 | 7 | 11 | |
| 249 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1423+00 TO STA 1427+00 | | | 14 | | | | 23 | 86 | 28 | | | |
| 251 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1427+00 TO STA 1430+00 | | | 69 | | | | 19 | 42 | 34 | | | |
| 253 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1430+00 TO 1432+00, STA 1830+00 TO STA 1832+00 | | | 63 | | | | | | 5 | | | |
| 254 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1432+00 TO STA 1436+00 | | | 69 | | | | 274 | 346 | 65 | | | |
| 257 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1436+00 TO STA 1440+00 | | | | | | | 167 | 133 | 10 | | | |
| 259 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1440+00 TO STA 1444+00 | | | | | | | 67 | 183 | 17 | | | |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# SUMMARY OF ROADWAY QUANTITIES



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 36 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\113507*Summaries*RDWY.dgn

| | ITEM | 0531-6022 | 0531-6023 | 0531-6024 | 0531-6027 | 0531-6029 | 0531-6030 | 0531-6031 | 0531-6033 | 0560-6014 | 0624-6009 | 0624-6010 | 0624-6028 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | CURB RAMPS (TY 5) | CURB RAMPS (TY 6) | CURB RAMPS (TY 7) | CURB RAMPS (TY 10) | CURB RAMPS (TY 20) | CURB RAMPS (TY 21) | CURB RAMPS (TY 22) | CONC SIDEWALKS (SPECIAL) (TYPE B) | MAILBOX INSTALL-S (TWG-POST) TY 4 | GROUND BOX TY D (162922) | GROUND BOX TY D (162922)W/APRON | REMOVE GROUND BOX |
| SHT NO | | SY | SY | SY | SY | SY | SY | SY | SY | EA | EA | EA | EA |
| 177 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 760+00 TO STA 763+00 | | | | | | | | | | | | |
| 178 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 763+00 TO STA 765+00 | | | | | | | | | | 1 | | 1 |
| 179 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 765+00 TO STA 768+00 | | | | | | | | 12 | | 1 | | 1 |
| 180 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 768+00 TO STA 772+00 | | | | | | | | | | | | |
| 182 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 772+00 TO STA 776+00 | | | | | | | | | | | | |
| 183 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 776+00 TO STA 780+00 | | | | | | | | 4 | | | | |
| 184 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 780+00 TO STA 784+00 | | | | | | | | | | | | |
| 186 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 784+00 TO STA 788+00 | | | | | | | | | | | | |
| 188 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 788+00 TO STA 792+00 | | | | | | | | | 1 | | | |
| 190 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 796+50 TO STA 798+50, STA 802+00 TO STA 804+00 | | | | | | | | | | | | |
| 191 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 806+00 TO STA 810+00 | | | | | | | | | | | | |
| 192 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 852+00 TO STA 856+00 | | | | | | | | | | 3 | | 3 |
| 193 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 856+00 TO STA 860+00 | | | | | | | | 4 | | | | |
| 195 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 863+00 TO STA 865+00, STA 879+00 TO STA 881+00 | | | | | | | | 10 | | | | |
| 197 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 881+00 TO STA 885+00 | | | | | | | | | | | | |
| 198 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 885+00 TO STA 889+00 | | | | | | | | 18 | | 1 | | 1 |
| 199 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 889+00 TO STA 893+00 | | | | | | | | | | | | |
| 200 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 893+00 TO STA 895+00, STA 902+00 TO STA 904+00 | | | | | | | | 8 | | | | |
| 201 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 904+00 TO STA 908+00 | | | | | | | | 20 | | | | |
| 202 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 908+00 TO STA 911+50 | | | | | | | | | | | | |
| 204 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 911+50 TO STA 913+00 | | | | | | | | | | | | |
| 205 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 915+00 TO STA 919+00 | | | | | | | | | | | | |
| 206 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 925+00 TO STA 928+00 | | | | | | | | | | | | |
| 207 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 928+00 TO STA 931+00 | | | | | | | | | | | | |
| 208 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 941+00 TO STA 944+00 | | | | | | | | | | 1 | | 1 |
| 209 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 944+00 TO STA 948+00 | | 23 | | | | | | | | 1 | | 1 |
| 210 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 948+00 TO STA 952+00 | | | | | | | | 37 | | | | |
| 211 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 952+00 TO END PROJECT | | | | | | | | 13 | | | | |
| 213 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1040+00 TO STA 1042+00, STA 1054+50 TO STA 1056+50 | | | | | | | | 13 | | 1 | | 1 |
| 214 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1095+00 TO STA 1099+00 | | | | | | | | 145 | | | 1 | 1 |
| 215 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1099+00 TO STA 1101+00, STA 1259+00 TO STA 1261+00 | | | | | | | | 36 | | 3 | | 3 |
| 216 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1121+00 TO END PROJECT | | | | | | | | | | | | |
| 217 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 1150+50, STA 1159+75 TO STA 1161+75 | | | | | | | | | | | | |
| 218 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1183+50 TO STA 1185+50, STA 1189+50 TO STA 1191+50 | | | | | | | | | | | | |
| 219 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1202+50 TO STA 1204+50 | | | | | | | | 7 | | | | |
| 220 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1227+00 TO STA 1231+00 | | | | | | | | 48 | | | | |
| 221 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1251+00 TO STA 1255+00 | | | | | | | | | | | | |
| 223 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1255+00 TO STA 1259+00 | | | | | | | | | | | | |
| 224 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1274+00 TO STA 1276+00 | | | | | | | | | | | | |
| 225 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1276+00 TO STA 1280+00 | | | | | | | | | | | | |
| 226 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1280+00 TO END PROJECT | | | | | | | | | | | | |
| 227 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1320+00 TO 1322+00, STA 1329+00 TO STA 1331+00 | | | | | | | | | | | | |
| 228 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1335+00 TO STA 1339+00 | | | | | | | | | | | | |
| 230 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1344+00 TO STA 1346+00 | | | | | | | | 15 | | | | |
| 231 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1353+00 TO 1355+00, STA 1753+00 TO STA 1755+00 | | | | | | | | 83 | | 1 | | 1 |
| 232 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1365+00 TO STA 1367+00 | | | | | | | | 16 | | | | |
| 233 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1373+00 TO STA 1376+50 | | | | | | | | 43 | | | | |
| 234 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1376+50 TO 1378+50, STA 1776+00 TO STA 1778+00 | | | | | | | | | | 1 | | 1 |
| 235 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1382+50 TO 1384+50, STA 1782+50 TO STA 1784+50 | | | | | | | | | | | | |
| 236 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1390+00 TO STA 1394+00 | | | | | | | | 58 | | | | |
| 238 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1399+00 TO 1401+00, STA 1799+00 TO STA 1801+00 | | | | | | | | | | | | |
| 239 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1402+00 TO STA 1406+00 | | | | | | | | 115 | | | | |
| 241 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1406+00 TO STA 1410+00 | | | | | | | | 35 | | | | |
| 244 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1410+00 TO STA 1414+00 | | | | | | | | | | | | |
| 246 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1414+00 TO 1416+00, STA 1814+00 TO STA 1816+00 | | | | | | | | | | 1 | | 1 |
| 247 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1416+00 TO STA 1420+00 | | | | | | | | | | | | |
| 248 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1421+00 TO STA 1423+00 | | | | | | | | | | | | |
| 249 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1423+00 TO STA 1427+00 | | | | | | | | 118 | | | | |
| 251 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1427+00 TO STA 1430+00 | | | | | | | | 57 | | | | |
| 253 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1430+00 TO 1432+00, STA 1830+00 TO STA 1832+00 | | | | | | | | 38 | | | | |
| 254 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1432+00 TO STA 1436+00 | | | | | | | | 80 | | | | |
| 257 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1436+00 TO STA 1440+00 | | | | | | | | 119 | | | | |
| 259 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1440+00 TO STA 1444+00 | | | | | | | | 122 | | | | |

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



# SUMMARY OF ROADWAY QUANTITIES



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 37 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\1113507*Summaries*RDWY.dgn

| | ITEM | 0104-6009 | 0104-6017 | 0104-6024 | 0104-6029 | 0104-6036 | 0105-6037 | 0110-6002 | 0132-6003 | 0160-6003 | 0162-6002 | 0168-6001 | 0340-6066 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | REMOVING CONC (RIPRAP) | REMOVING CONC (DRIVEWAYS) | REMOVING CONC (RETAINING WALLS) | REMOVING CONC (CURB OR CURB & GUTTER) | REMOVING CONC (SIDEWALK OR RAMP) | REMOVING STAB BASE AND ASPH PAV (0"-16") | EXCAVATION (CHANNEL) | EMBANKMENT (FINAL)(ORD COMP) (TY B) | FURNISHING AND PLACING TOPSOIL (4") | BLOCK SODDING | VEGETATIVE WATERING | D-GR HMA(SQ) TY-C PG76-22 |
| SHT NO | | SY | SY | SY | LF | SY | SY | CY | CY | SY | SY | MG | TON |
| 261 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1444+00 TO STA 1448+00 | 44 | 43 | | 6 | | 8 | 38 | | 120 | 120 | 1.87 | |
| 263 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1448+00 TO STA 1452+00 | 45 | 82 | | | | | 20 | | 397 | 397 | 6.19 | 21.0 |
| 265 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1452+00 TO STA 1456+00 | | | | | | | 19 | | 300 | 300 | 4.68 | |
| 267 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1465+50 TO 1467+50, STA 1865+50 TO STA 1867+50 | 16 | | | 42 | 6 | | 3 | 5 | 200 | 200 | 3.12 | |
| 269 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1467+50 TO 1469+50, STA 1473+00 TO STA 1475+00 | | 69 | | | | | | | 414 | 414 | 6.46 | |
| 271 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1475+00 TO STA 1479+00 | | | | | | 74 | | | 214 | 214 | 3.34 | |
| 273 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1479+00 TO STA 1483+00 | | 287 | | 109 | | 71 | 12 | 48 | 275 | 275 | 4.29 | |
| 276 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1483+00 TO 1485+00, STA 1883+00 TO STA 1885+00 | 26 | | | 111 | | | | | 122 | 122 | 1.90 | |
| 278 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1485+00 TO STA 1489+00 | | 73 | | | | 129 | | | 167 | 167 | 2.61 | |
| 280 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1489+00 TO STA 1493+00 | | | | | | 130 | 25 | 59 | 213 | 213 | 3.32 | |
| 282 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1493+00 TO STA 1497+00 | | | | | | | | 74 | 119 | 119 | 1.86 | |
| 284 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1497+00 TO STA 1500+00 | | | | | | 63 | | 43 | 93 | 93 | 1.45 | |
| 285 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1500+00 TO STA 1504+00 | | 43 | | | | | | | 110 | 110 | 1.72 | |
| 286 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1504+00 TO STA 1508+00 | | 45 | | | | 42 | | | 74 | 74 | 1.15 | |
| 287 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1510+50 TO 1512+00, STA 1910+50 TO STA 1912+50 | | | | 3 | 18 | | | | 106 | 106 | 1.65 | |
| 288 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1512+00 TO STA 1516+00 | | | | | | | 36 | 97 | 610 | 610 | 9.52 | |
| 290 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1526+00 TO STA 1528+00, STA 1530+00 TO STA 1532+00 | | | | | | | | | 50 | 50 | 0.78 | |
| 291 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1532+00 TO STA 1536+00 | | | | | | 465 | 2 | 18 | 37 | 37 | 0.58 | |
| 293 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1536+00 TO 1538+00, STA 1936+00 TO STA 1938+00 | 12 | | | 26 | 13 | | | | 66 | 66 | 1.03 | |
| 295 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1722+00 TO 1724+00 , STA 1730+00 TO STA 1732+00 | | | 96 | 49 | 12 | | | | 21 | 21 | 0.33 | |
| 296 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1741+00 TO STA 1745+00 | | | | 40 | | 26 | | | 15 | 15 | 0.23 | |
| 297 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1745+00 TO STA 1749+00 | 7 | 165 | | 58 | | 354 | 11 | | | | | |
| 299 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1749+00 TO STA 1753+00 | 10 | 176 | | 259 | 65 | 265 | | | 143 | 143 | 2.23 | |
| 304 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1755+00 TO STA 1758+50 | | | | | | | | | 12 | 12 | 0.19 | |
| 305 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1758+50 TO STA 1762+00 | | 16 | | | | 53 | | | 18 | 18 | 0.28 | |
| 306 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1762+00 TO STA 1765+00 | | 66 | | | 1 | 111 | | | 132 | 132 | 2.06 | |
| 307 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1765+00 TO STA 1769+00 | | | | 37 | | 392 | | | 225 | 225 | 3.51 | |
| 309 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1769+00 TO STA 1773+00 | | | | | | 252 | | | 250 | 250 | 3.90 | |
| 310 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1773+00 TO STA 1776+00 | | | | 21 | | 30 | 1 | 3 | 200 | 200 | 3.12 | |
| 311 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1778+00 TO STA 1782+00 | | | | 30 | 7 | 363 | | | 100 | 100 | 1.56 | |
| 312 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1784+50 TO STA 1788+50 | | | | | | 36 | | | 60 | 60 | 0.94 | |
| 313 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1788+50 TO STA 1792+50 | | | | | 2 | | | | 13 | 13 | 0.20 | |
| 314 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1792+50 TO STA 1796+00 | | | | 5 | | 139 | | | 87 | 87 | 1.36 | |
| 315 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1796+00 TO STA 1799+00 | | | | | | 173 | | | 58 | 58 | 0.90 | |
| 316 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1801+00 TO STA 1805+00 | | | | | | 465 | | | 278 | 278 | 4.34 | |
| 318 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1805+00 TO STA 1808+00 | | | | | | 269 | | | 190 | 190 | 2.96 | |
| 319 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1808+00 TO STA 1811+00 | | | | | | 156 | | | 184 | 184 | 2.87 | |
| 320 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1811+00 TO STA 1813+00 | | | | | 4 | 224 | | | 45 | 45 | 0.70 | |
| 321 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1816+00 TO STA 1820+00 | | | | | | 109 | | | 19 | 19 | 0.30 | |
| 323 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1820+00 TO STA 1824+00 | | | | | | | | | 89 | 89 | 1.39 | |
| 324 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1824+00 TO STA 1828+00 | | | | | | 131 | | | 211 | 211 | 3.29 | |
| 326 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1828+00 TO STA 1830+00 | | | | 61 | | 252 | | | 199 | 199 | 3.10 | |
| 327 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1836+00 TO STA 1840+00 | | | | | | | | | 36 | 36 | 0.56 | |
| 328 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1840+00 TO STA 1844+00 | | | | | | 144 | | | 337 | 337 | 5.26 | |
| 329 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1844+00 TO STA 1848+00 | | | | | | | | | 361 | 361 | 5.63 | |
| 330 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1848+00 TO STA 1852+00 | | | | | | | | | 692 | 692 | 10.80 | |
| 331 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1852+00 TO STA 1856+00 | | | | | | | | | 229 | 229 | 3.57 | |
| 332 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1858+00 TO STA 1862+00 | | | | | | 71 | | | 154 | 154 | 2.40 | |
| 333 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1862+00 TO STA 1865+50 | | 260 | | | 3 | 36 | | | 154 | 154 | 2.40 | |
| 335 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1867+50 TO STA 1871+50 | | 275 | | | | 251 | | | 295 | 295 | 4.60 | |
| 337 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1871+50 TO STA 1875+00 | | 516 | | | 88 | | | | 363 | 363 | 5.66 | |
| 339 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1875+00 TO STA 1879+00 | 11 | | | 49 | | 111 | | | 98 | 98 | 1.53 | 64.0 |
| 341 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1879+00 TO STA 1883+00 | | | | | | | | | 126 | 126 | 1.97 | |
| 342 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1885+00 TO STA 1889+00 | | | | | | | | | 90 | 90 | 1.40 | |
| 343 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1889+00 TO STA 1893+00 DETAILS | | | | 24 | | | 14 | 49 | 430 | 430 | 6.71 | |
| 345 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1893+00 TO STA 1897+00 | | | | 4 | | | | | 106 | 106 | 1.65 | |
| 346 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1902+00 TO 1904+00, STA 1907+00 TO STA 1909+00 | | | | | | | | | 24 | 24 | 0.37 | |
| 347 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1928+00 TO STA 1930+00, STA 1938+00 TO STA 1940+00 | 10 | | | | | | | | 40 | 40 | 0.62 | |
| 348 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 2516+00 TO STA 2518+00 | 7 | | 9 | 35 | | | | | 20 | 20 | 0.31 | |
| 349 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 2026+00 TO STA 2028+00 | | | | 64 | 53 | | | | 80 | 80 | 1.25 | |
| | TOTALS (CSJ 0915-12-576) | 689 | 11739 | 142 | 11274 | 974 | 15738 | 414 | 870 | 20227 | 20227 | 315.54 | 271.0 |

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS

SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS

2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000

TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800




# SUMMARY OF ROADWAY QUANTITIES



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 38 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\1113507+Summaries+RDWY.dgn

| | ITEM | 0351-6028 | 0354-6023 | 0420-6007 | 0420-6074 | 0420-6132 | 0423-6008 | 0432-6003 | 0450-6047 | 0450-6048 | 0462-6006 | 0462-6010 | 0464-6001 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | FLEX PAVE STRUCTURE REPAIR (8"-10") | PLANE ASPH CONC PAV(0" TO 4") | CL A CONC (FLUME) | CL C CONC (MISC) | CL A CONC (STEPS) | RETAINING WALL (CAST - IN - PLACE) | RIPRAP (CONC)(6 IN) | RAIL (HANDRAIL)(TY A) | RAIL (HANDRAIL)(TY B) | CONC BOX CULV (5 FT X 2 FT) | CONC BOX CULV (6 FT X 3 FT) | RC PIPE (CL III)(12 IN) |
| SHT NO | | SY | SY | CY | CY | CY | SF | CY | LF | LF | LF | LF | LF |
| 261 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1444+00 TO STA 1448+00 | | | | 11.1 | | 90 | 76 | | 311 | | | |
| 263 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1448+00 TO STA 1452+00 | 179 | | | | | | 19 | | 50 | | 108 | |
| 265 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1452+00 TO STA 1456+00 | | | 15 | 1 | | | | | | | | |
| 267 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1465+50 TO 1467+50, STA 1865+50 TO STA 1867+50 | | | | | | | 3 | | 40 | | | 10 |
| 269 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1467+50 TO 1469+50, STA 1473+00 TO STA 1475+00 | | | | 7.9 | | 156 | 9 | | 87 | | | |
| 271 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1475+00 TO STA 1479+00 | | | | 4 | | | | | | | | |
| 273 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1479+00 TO STA 1483+00 | | | | | | | | | 83 | 60 | | |
| 276 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1483+00 TO 1485+00, STA 1883+00 TO STA 1885+00 | | | | | | | 16 | | | | | |
| 278 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1485+00 TO STA 1489+00 | | | | 11.9 | | 346 | | | 107 | | | |
| 280 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1489+00 TO STA 1493+00 | | | | 9 | | 315 | | | 286 | | | |
| 282 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1493+00 TO STA 1497+00 | | | | 3 | | | | | 400 | | | |
| 284 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1497+00 TO STA 1500+00 | | | | | | | | | 35 | | | |
| 285 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1500+00 TO STA 1504+00 | | | | 3 | | | | | | | | |
| 286 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1504+00 TO STA 1508+00 | | | | 3 | | | | | | | | |
| 287 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1510+50 TO 1512+00, STA 1910+50 TO STA 1912+50 | | | | | | | 3 | | | | | |
| 288 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1512+00 TO STA 1516+00 | | | | 5.9 | | 100 | | | | | | |
| 290 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1526+00 TO STA 1528+00, STA 1530+00 TO STA 1532+00 | | | | 6.9 | | 195 | | | | | | |
| 291 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1532+00 TO STA 1536+00 | | | | | | | 62 | | 168 | | | |
| 293 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1536+00 TO 1538+00, STA 1936+00 TO STA 1938+00 | | | | 1 | | | 7 | | | | | |
| 295 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1722+00 TO 1724+00 , STA 1730+00 TO STA 1732+00 | | | | 6.8 | | 105 | | | | | | |
| 296 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1741+00 TO STA 1745+00 | | | | 5.5 | | | | | | | | |
| 297 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1745+00 TO STA 1749+00 | | | | 3 | | | 4 | | 197 | | | |
| 299 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1749+00 TO STA 1753+00 | | | | | 2 | 1306 | 2 | 24 | 301 | | | |
| 304 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1755+00 TO STA 1758+50 | | | | | | | | | | | | |
| 305 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1758+50 TO STA 1762+00 | | | | | | | | | | | | |
| 306 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1762+00 TO STA 1765+00 | | | | | | | | | | | | |
| 307 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1765+00 TO STA 1769+00 | | | | 5.9 | | 120 | | | | | | |
| 309 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1769+00 TO STA 1773+00 | | | | | | | | | 14 | | | |
| 310 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1773+00 TO STA 1776+00 | | | | | | | | | | | | |
| 311 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1778+00 TO STA 1782+00 | | | | 8.9 | | | 2 | | | | | |
| 312 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1784+50 TO STA 1788+50 | | | | | | | | | | | | |
| 313 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1788+50 TO STA 1792+50 | | | | | | | | | | | | |
| 314 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1792+50 TO STA 1796+00 | | | | | | | | | | | | |
| 315 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1796+00 TO STA 1799+00 | | | | | | | | | | | | |
| 316 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1801+00 TO STA 1805+00 | | | | | | | | | | | | |
| 318 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1805+00 TO STA 1808+00 | | | | | | | | | | | | |
| 319 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1808+00 TO STA 1811+00 | | | | | | | | | | | | |
| 320 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1811+00 TO STA 1813+00 | | | | | | | | | | | | |
| 321 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1816+00 TO STA 1820+00 | | | | | | | | | | | | |
| 323 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1820+00 TO STA 1824+00 | | | | | | | | | | | | |
| 324 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1824+00 TO STA 1828+00 | | | | | | | | | 122 | | | |
| 326 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1828+00 TO STA 1830+00 | | | | | | | | | 149 | | | |
| 327 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1836+00 TO STA 1840+00 | | | | | | | | | | | | |
| 328 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1840+00 TO STA 1844+00 | | | | | | | | | | | | |
| 329 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1844+00 TO STA 1848+00 | | | | | | | | | | | | |
| 330 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1848+00 TO STA 1852+00 | | | | | | | | | 10 | | | |
| 331 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1852+00 TO STA 1856+00 | | | | | | | | | 190 | | | |
| 332 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1858+00 TO STA 1862+00 | | | | | | | | | | | | |
| 333 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1862+00 TO STA 1865+50 | | | | | | | | | | | | |
| 335 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1867+50 TO STA 1871+50 | | | | | | | | | | | | |
| 337 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1871+50 TO STA 1875+00 | | | | | | | | | | | | |
| 339 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1875+00 TO STA 1879+00 | | | | 10.5 | | 120 | 4 | | 78 | | | |
| 341 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1879+00 TO STA 1883+00 | | | | | | | | | | | | |
| 342 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1885+00 TO STA 1889+00 | | | | | | | | | | | | |
| 343 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1889+00 TO STA 1893+00 DETAILS | | | | 7.2 | | 160 | 8 | | 212 | | | |
| 345 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1893+00 TO STA 1897+00 | | | | | | | | | | | | |
| 346 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1902+00 TO 1904+00, STA 1907+00 TO STA 1909+00 | | | | | | | | | | | | |
| 347 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1928+00 TO STA 1930+00, STA 1938+00 TO STA 1940+00 | | | | 5.9 | | 80 | | | | | | |
| 348 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 2516+00 TO STA 2518+00 | | | | 5.5 | | 105 | | | | | | |
| 349 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 2026+00 TO STA 2028+00 | | | | 5.5 | | 105 | | | | | | |
| | TOTALS (CSJ 0915-12-576) | 189 | 1410 | 15 | 334.1 | 2 | 5238 | 394 | 34 | 3911 | 60 | 108 | 237 |

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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# SUMMARY OF ROADWAY QUANTITIES



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 39 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\111350 7*Summaries+RDWY.dgn

| | ITEM | 0467-6134 | 0467-6168 | 0467-6324 | 0467-6326 | 0471-6003 | 0481-6029 | 0496-6001 | 0496-6004 | 0496-6007 | 0496-6030 | 0496-6041 | 0496-6099 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | SET (TY I) (S= 4 FT)(HW= 2 FT) (6:1) (P) | SET (TY I) (S= 5 FT)(HW= 2 FT) (6:1) (P) | SET (TY II) (12 IN) (RCP) (4: 1) (P) | SET (TY II) (12 IN) (RCP) (6: 1) (P) | GRATE & FRAME | PIPE (PVC) (SCH 80) (18 IN) | REMOV STR (BOX CULVERT) | REMOV STR (SET) | REMOV STR (PIPE) | REMOVE STR (BOLLARD) | REMOV STR (LARGE) | REMOVE STR (RAIL) |
| SHT NO | | EA | EA | EA | EA | EA | LF | EA | EA | LF | EA | EA | LF |
| 261 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1444+00 TO STA 1448+00 | | | | | 21 | | | | | | | |
| 263 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1448+00 TO STA 1452+00 | 2 | | | | | | 1 | | 100 | | 1 | |
| 265 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1452+00 TO STA 1456+00 | | | | | 2 | | | | | | | |
| 267 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1465+50 TO 1467+50, STA 1865+50 TO STA 1867+50 | | | | | | | | | | | | |
| 269 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1467+50 TO 1469+50, STA 1473+00 TO STA 1475+00 | | | | | 9 | | | | | | | |
| 271 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1475+00 TO STA 1479+00 | | | | | 18 | | | | | | | |
| 273 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1479+00 TO STA 1483+00 | | 2 | | | | | 2 | 2 | | | | |
| 276 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1483+00 TO 1485+00, STA 1883+00 TO STA 1885+00 | | | | | | | | | | | | |
| 278 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1485+00 TO STA 1489+00 | | | | | 18 | | | | | | | |
| 280 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1489+00 TO STA 1493+00 | | | | | 27 | | | | | | | |
| 282 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1493+00 TO STA 1497+00 | | | | | 9 | | | | | | | |
| 284 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1497+00 TO STA 1500+00 | | | | | | | | | | | | |
| 285 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1500+00 TO STA 1504+00 | | | | | 9 | | | | | | | |
| 286 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1504+00 TO STA 1508+00 | | | | | 9 | | | | | | | |
| 287 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1510+50 TO 1512+00, STA 1910+50 TO STA 1912+50 | | | | | | | | | | | | |
| 288 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1512+00 TO STA 1516+00 | | | | | | | | | | | | |
| 290 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1526+00 TO STA 1528+00, STA 1530+00 TO STA 1532+00 | | | | | 6 | | | | | | | |
| 291 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1532+00 TO STA 1536+00 | | | | | | | | | | | | |
| 293 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1536+00 TO 1538+00, STA 1936+00 TO STA 1938+00 | | | | | 3 | | | | | | | |
| 295 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1722+00 TO 1724+00 , STA 1730+00 TO STA 1732+00 | | | | | | | | | | | | |
| 296 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1741+00 TO STA 1745+00 | | | | | | | | | | | | |
| 297 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1745+00 TO STA 1749+00 | | | | | 9 | | | | | | | |
| 299 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1749+00 TO STA 1753+00 | | | | | | | | | | | | |
| 304 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1755+00 TO STA 1758+50 | | | | | | | | | | | | |
| 305 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1758+50 TO STA 1762+00 | | | | | | | | | | | | |
| 306 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1762+00 TO STA 1765+00 | | | | | | | | | | | | |
| 307 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1765+00 TO STA 1769+00 | | | | | | | | | | | | |
| 309 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1769+00 TO STA 1773+00 | | | | | | | | | | | | |
| 310 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1773+00 TO STA 1776+00 | | | | | | | | | | | | |
| 311 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1778+00 TO STA 1782+00 | | | | | 9 | | | | | | | |
| 312 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1784+50 TO STA 1788+50 | | | | | | | | | | | | |
| 313 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1788+50 TO STA 1792+50 | | | | | | | | | | | | |
| 314 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1792+50 TO STA 1796+00 | | | | | | | | | | | | |
| 315 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1796+00 TO STA 1799+00 | | | | | | | | | | | | |
| 316 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1801+00 TO STA 1805+00 | | | | | | | | | | | | |
| 318 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1805+00 TO STA 1808+00 | | | | | | | | | | | | |
| 319 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1808+00 TO STA 1811+00 | | | | | | | | | | | | |
| 320 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1811+00 TO STA 1813+00 | | | | | | | | | | | | |
| 321 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1816+00 TO STA 1820+00 | | | | | | | | | | | | |
| 323 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1820+00 TO STA 1824+00 | | | | | | | | | | | | |
| 324 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1824+00 TO STA 1828+00 | | | | | | | | | | | | |
| 326 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1828+00 TO STA 1830+00 | | | | | | | | | | | | |
| 327 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1836+00 TO STA 1840+00 | | | | | | | | | | | | |
| 328 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1840+00 TO STA 1844+00 | | | | | | | | | | | | |
| 329 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1844+00 TO STA 1848+00 | | | | | | | | | | | | |
| 330 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1848+00 TO STA 1852+00 | | | | | | | | | | | | |
| 331 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1852+00 TO STA 1856+00 | | | | | | | | | | | | |
| 332 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1858+00 TO STA 1862+00 | | | | | | | | | | | | |
| 333 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1862+00 TO STA 1865+50 | | | | | | | | | | | | |
| 335 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1867+50 TO STA 1871+50 | | | | | | | | | | | | |
| 337 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1871+50 TO STA 1875+00 | | | | | | | | | | | | |
| 339 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1875+00 TO STA 1879+00 | | | | | 18 | | | | | | | |
| 341 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1879+00 TO STA 1883+00 | | | | | | | | | | | | |
| 342 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1885+00 TO STA 1889+00 | | | | | | | | | | | | |
| 343 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1889+00 TO STA 1893+00 DETAILS | | | | | 6 | | | | | | | |
| 345 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1893+00 TO STA 1897+00 | | | | | | | | | | | | |
| 346 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1902+00 TO 1904+00, STA 1907+00 TO STA 1909+00 | | | | | | | | | | | | |
| 347 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1928+00 TO STA 1930+00, STA 1938+00 TO STA 1940+00 | | | | | | | | | | 2 | | |
| 348 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 2516+00 TO STA 2518+00 | | | | | | | | | | | | |
| 349 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 2026+00 TO STA 2028+00 | | | | | | | | | | | | |
| | TOTALS (CSJ 0915-12-576) | 2 | 2 | 2 | 4 | 295 | 11 | 3 | 2 | 306 | 4 | 1 | 41 |

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



# SUMMARY OF ROADWAY QUANTITIES



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 40 |

| | ITEM | 0528-6006 | 0529-6001 | 0529-6002 | 0529-6012 | 0529-6020 | 0529-6023 | 0530-6004 | 0530-6005 | 0531-6001 | 0531-6018 | 0531-6019 | 0531-6020 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | REMOVE AND RELAY PAVERS | CONC CURB (TY I) | CONC CURB (TY II) | CONC CURB (SLOTTED) | CONC CURB & GUTTER (ARMOR CURB) | CONC CURB & GUTTER(VALLEY GUTTER)(36") | DRIVEWAYS (CONC) | DRIVEWAYS (ACP) | CONC SIDEWALKS (4") | CURB RAMPS (TY 1) | CURB RAMPS (TY 2) | CURB RAMPS (TY 3) |
| SHT NO | | SY | LF | LF | LF | LF | LF | SY | SY | SY | SY | SY | SY |
| 261 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1444+00 TO STA 1448+00 | | | 163 | | 28 | | 43 | | 17 | | | |
| 263 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1448+00 TO STA 1452+00 | | | 291 | | | | 87 | | 164 | | | 26 |
| 265 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1452+00 TO STA 1456+00 | | | | | | | | | 52 | | | |
| 267 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1465+50 TO 1467+50, STA 1865+50 TO STA 1867+50 | | | 64 | | | | | | 59 | 13 | 20 | |
| 269 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1467+50 TO 1469+50, STA 1473+00 TO STA 1475+00 | | | 103 | | 14 | | 69 | | 84 | | | |
| 271 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1475+00 TO STA 1479+00 | | | | | | | 28 | 46 | 160 | | | |
| 273 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1479+00 TO STA 1483+00 | | | 138 | 12 | | | 364 | | 99 | | | |
| 276 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1483+00 TO 1485+00, STA 1883+00 TO STA 1885+00 | | | 377 | | | | | | 159 | 5 | | 16 |
| 278 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1485+00 TO STA 1489+00 | | | 208 | | 28 | | 162 | 72 | 72 | | | |
| 280 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1489+00 TO STA 1493+00 | | | 233 | | 42 | | 121 | 33 | | | | |
| 282 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1493+00 TO STA 1497+00 | | | 386 | | 14 | | | | | | | |
| 284 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1497+00 TO STA 1500+00 | | | 248 | | | | 66 | | 16 | | | |
| 285 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1500+00 TO STA 1504+00 | | | 282 | | 14 | | 40 | | 213 | | | 31 |
| 286 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1504+00 TO STA 1508+00 | | | 208 | | 14 | | 85 | | 149 | | | |
| 287 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1510+50 TO 1512+00, STA 1910+50 TO STA 1912+50 | | | 59 | | | | | | 13 | | 29 | 31 |
| 288 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1512+00 TO STA 1516+00 | | | 255 | | | | | | 12 | | | |
| 290 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1526+00 TO STA 1528+00, STA 1530+00 TO STA 1532+00 | | | 52 | | | | | | 56 | | | |
| 291 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1532+00 TO STA 1536+00 | | | 43 | | | | 80 | 379 | 30 | | | |
| 293 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1536+00 TO 1538+00, STA 1936+00 TO STA 1938+00 | | | 49 | 42 | | | | | 10 | | 10 | |
| 295 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1722+00 TO 1724+00 , STA 1730+00 TO STA 1732+00 | | | 49 | | | | | | 21 | | | |
| 296 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1741+00 TO STA 1745+00 | | | 40 | | | | | 26 | 70 | | | |
| 297 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1745+00 TO STA 1749+00 | | | | | 14 | | 152 | 363 | 164 | | | |
| 299 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1749+00 TO STA 1753+00 | 150 | | 149 | | | | 205 | 234 | 239 | | | |
| 304 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1755+00 TO STA 1758+50 | | | | | | | | | 14 | | | |
| 305 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1758+50 TO STA 1762+00 | | | | | | | 21 | 49 | 23 | | | |
| 306 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1762+00 TO STA 1765+00 | | | | | | | 51 | 128 | 125 | | | |
| 307 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1765+00 TO STA 1769+00 | | | 114 | | | | 49 | 342 | 175 | | | |
| 309 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1769+00 TO STA 1773+00 | | | | | | | 26 | 226 | 146 | | | |
| 310 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1773+00 TO STA 1776+00 | | | 21 | | | | 15 | 15 | 136 | | | |
| 311 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1778+00 TO STA 1782+00 | | | 73 | 8 | | | 46 | 317 | 55 | | | |
| 312 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1784+50 TO STA 1788+50 | | | | | | | | 36 | 96 | | | |
| 313 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1788+50 TO STA 1792+50 | | | | | | | | | 24 | | | |
| 314 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1792+50 TO STA 1796+00 | | 21 | 126 | | | | 57 | 88 | 4 | | | |
| 315 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1796+00 TO STA 1799+00 | | | 77 | | | | 45 | 129 | | | | |
| 316 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1801+00 TO STA 1805+00 | | | | | | | 54 | 414 | 175 | | | |
| 318 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1805+00 TO STA 1808+00 | | | | | | | 34 | 237 | 135 | | | |
| 319 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1808+00 TO STA 1811+00 | | | | | | | 18 | 139 | 135 | | | |
| 320 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1811+00 TO STA 1813+00 | | | | | | | 79 | 210 | 28 | | | |
| 321 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1816+00 TO STA 1820+00 | | | | | | | 49 | 61 | 21 | | | |
| 323 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1820+00 TO STA 1824+00 | | | | | | | | | 81 | | | |
| 324 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1824+00 TO STA 1828+00 | | | | | | | 23 | 112 | 52 | | | |
| 326 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1828+00 TO STA 1830+00 | | | 71 | | | | 56 | 200 | | | | |
| 327 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1836+00 TO STA 1840+00 | | | | | | | | | 25 | 7 | | |
| 328 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1840+00 TO STA 1844+00 | | | | | | | 17 | 128 | 209 | | | |
| 329 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1844+00 TO STA 1848+00 | | | | | | | | | 61 | | | |
| 330 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1848+00 TO STA 1852+00 | | | | | | | | | 186 | | | |
| 331 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1852+00 TO STA 1856+00 | | | | | | | | | 90 | | | |
| 332 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1858+00 TO STA 1862+00 | | | | | | | 29 | 43 | 132 | | | |
| 333 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1862+00 TO STA 1865+50 | | | 8 | | | | 274 | 22 | 109 | | | |
| 335 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1867+50 TO STA 1871+50 | | | 13 | | | | 252 | 276 | 116 | | | |
| 337 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1871+50 TO STA 1875+00 | | | | | | | 516 | | 164 | | | |
| 339 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1875+00 TO STA 1879+00 | | | 106 | | 14 | | | | 80 | 6 | 12 | |
| 341 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1879+00 TO STA 1883+00 | | | | | | | | | 92 | | | |
| 342 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1885+00 TO STA 1889+00 | | | | | | | | | 14 | | | |
| 343 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1889+00 TO STA 1893+00 DETAILS | | | 84 | | | | | | 11 | | | |
| 345 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1893+00 TO STA 1897+00 | | | 4 | | | | | | 95 | | | |
| 346 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1902+00 TO 1904+00, STA 1907+00 TO STA 1909+00 | | 19 | | | | | | | 23 | | 9 | |
| 347 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1928+00 TO STA 1930+00, STA 1938+00 TO STA 1940+00 | | | 79 | 18 | | | | | 20 | | | |
| 348 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 2516+00 TO STA 2518+00 | | | 35 | | | | | | 20 | | | |
| 349 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 2026+00 TO STA 2028+00 | | | 64 | | | | | | 60 | | | |
| | TOTALS (CSJ 0915-12-576) | 150 | 567 | 15478 | 134 | 238 | 52 | 14717 | 11951 | 15423 | 139 | 345 | 104 |

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



# SUMMARY OF ROADWAY QUANTITIES



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 41 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\1113507*Summaries*RDWY.dgn

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\1113507+Summaries+RDWY.dgn

| | ITEM | 0531-6022 | 0531-6023 | 0531-6024 | 0531-6027 | 0531-6029 | 0531-6030 | 0531-6031 | 0531-6033 | 0560-6014 | 0624-6009 | 0624-6010 | 0624-6028 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | CURB RAMPS (TY 5) | CURB RAMPS (TY 6) | CURB RAMPS (TY 7) | CURB RAMPS (TY 10) | CURB RAMPS (TY 20) | CURB RAMPS (TY 21) | CURB RAMPS (TY 22) | CONC SIDEWALKS (SPECIAL) (TYPE B) | MAILBOX INSTALL-S (TWG-POST) TY 4 | GROUND BOX TY D (162922) | GROUND BOX TY D (162922)W/APRON | REMOVE GROUND BOX |
| SHT NO | | SY | SY | SY | SY | SY | SY | SY | SY | EA | EA | EA | EA |
| 261 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1444+00 TO STA 1448+00 | | | | | | | | 197 | | | | |
| 263 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1448+00 TO STA 1452+00 | | | | | | | | 30 | | | | |
| 265 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1452+00 TO STA 1456+00 | | | | | | | | 164 | | | | |
| 267 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1465+50 TO 1467+50, STA 1865+50 TO STA 1867+50 | | 13 | 20 | | | 10 | | 22 | | 1 | | 1 |
| 269 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1467+50 TO 1469+50, STA 1473+00 TO STA 1475+00 | | | | | | | | 63 | | | | |
| 271 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1475+00 TO STA 1479+00 | | | | | | | | | | | | |
| 273 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1479+00 TO STA 1483+00 | | | | | | | | 45 | | | | |
| 276 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1483+00 TO 1485+00, STA 1883+00 TO STA 1885+00 | | 25 | | | 11 | 12 | 17 | | | | | |
| 278 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1485+00 TO STA 1489+00 | | | | | | | | 70 | | | | |
| 280 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1489+00 TO STA 1493+00 | | | | | | | | 156 | | | | |
| 282 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1493+00 TO STA 1497+00 | | | | | | | | 258 | | | | |
| 284 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1497+00 TO STA 1500+00 | | | | | | | | 152 | 1 | | | |
| 285 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1500+00 TO STA 1504+00 | | | | | | | | 42 | | | | |
| 286 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1504+00 TO STA 1508+00 | | | | | | | | | | | | |
| 287 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1510+50 TO 1512+00, STA 1910+50 TO STA 1912+50 | | | | | 8 | | | 18 | | | | |
| 288 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1512+00 TO STA 1516+00 | | | | | | | | 160 | | | | |
| 290 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1526+00 TO STA 1528+00, STA 1530+00 TO STA 1532+00 | | | | | | | | 13 | | | | |
| 291 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1532+00 TO STA 1536+00 | | | | | | | | 75 | | | | |
| 293 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1536+00 TO 1538+00, STA 1936+00 TO STA 1938+00 | 32 | | 10 | | | | | 8 | | 1 | | 1 |
| 295 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1722+00 TO 1724+00 , STA 1730+00 TO STA 1732+00 | | | | | | | | | | | | |
| 296 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1741+00 TO STA 1745+00 | | | | | | | | | | | | |
| 297 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1745+00 TO STA 1749+00 | | | | | | | | 48 | | | | |
| 299 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1749+00 TO STA 1753+00 | | | | | | | | 51 | | | | |
| 304 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1755+00 TO STA 1758+50 | | | | | | | | | | | | |
| 305 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1758+50 TO STA 1762+00 | | | | | | | | | | | | |
| 306 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1762+00 TO STA 1765+00 | | | | | | | | | | | | |
| 307 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1765+00 TO STA 1769+00 | | 23 | | | | | | 45 | | | | |
| 309 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1769+00 TO STA 1773+00 | | | | | | | | 39 | | | | |
| 310 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1773+00 TO STA 1776+00 | | | | | | | | 23 | | | | |
| 311 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1778+00 TO STA 1782+00 | | | | | | | | | | | | |
| 312 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1784+50 TO STA 1788+50 | | | | | | | | | | | | |
| 313 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1788+50 TO STA 1792+50 | | | | | | | | | | | | |
| 314 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1792+50 TO STA 1796+00 | | | | 31 | | | | 96 | | | | |
| 315 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1796+00 TO STA 1799+00 | | | | | | | | 57 | | | | |
| 316 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1801+00 TO STA 1805+00 | | | | | | | | | | | | |
| 318 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1805+00 TO STA 1808+00 | | | | | | | | | | | | |
| 319 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1808+00 TO STA 1811+00 | | | | | | | | | | | | |
| 320 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1811+00 TO STA 1813+00 | | | | | | | | | | | | |
| 321 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1816+00 TO STA 1820+00 | | | | | | | | | | | | |
| 323 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1820+00 TO STA 1824+00 | | | | | | | | | | | | |
| 324 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1824+00 TO STA 1828+00 | | | | | | | | 67 | | | | |
| 326 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1828+00 TO STA 1830+00 | | | | | | | | 89 | | | | |
| 327 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1836+00 TO STA 1840+00 | | | 8 | | | | | | | | | |
| 328 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1840+00 TO STA 1844+00 | | | | | | | | | | | | |
| 329 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1844+00 TO STA 1848+00 | | | | | | | | 162 | | | | |
| 330 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1848+00 TO STA 1852+00 | | | | | | | | 37 | | | | |
| 331 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1852+00 TO STA 1856+00 | | | | | | | | 106 | | | | |
| 332 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1858+00 TO STA 1862+00 | | | | | | | | | | | | |
| 333 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1862+00 TO STA 1865+50 | | | | | | | | | | | | |
| 335 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1867+50 TO STA 1871+50 | | | | | | | | 48 | | | | |
| 337 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1871+50 TO STA 1875+00 | | | | | | | | | | | | |
| 339 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1875+00 TO STA 1879+00 | | | | | | | | 45 | | | | |
| 341 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1879+00 TO STA 1883+00 | | | | | | | | | | | | |
| 342 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1885+00 TO STA 1889+00 | | | | | | | | 83 | | | | |
| 343 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1889+00 TO STA 1893+00 DETAILS | | | | | | | | 197 | | | | |
| 345 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1893+00 TO STA 1897+00 | | | | | | | | | | | | |
| 346 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1902+00 TO 1904+00, STA 1907+00 TO STA 1909+00 | | | 7 | | | 7 | | | | | | |
| 347 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1928+00 TO STA 1930+00, STA 1938+00 TO STA 1940+00 | 4 | | | | | | | 26 | | | | |
| 348 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 2516+00 TO STA 2518+00 | | | | | | | | | | | | |
| 349 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 2026+00 TO STA 2028+00 | | | | | | | | | | | | |
| | TOTALS (CSJ 0915-12-576) | 36 | 84 | 63 | 43 | 19 | 29 | 17 | 4365 | 11 | 20 | 1 | 21 |

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



# SUMMARY OF ROADWAY QUANTITIES

SHEET 15 OF 15

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 42 |

Plotted on: 4/10/2019

| SHT NO | ITEM | 0644-6070 | 0644-6076 | 0658-6050 | 0658-6060 | 0666-6036 | 0666-6048 | 0666-6054 | 0666-6057 | 0666-6224 | 0666-6226 | 0666-6230 | 0666-6231 | 0666-6234 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | RELOCATE SM RD SN SUP&AM TY S80 | REMOVE SM RD SN SUP&AM | INSTL OM ASSM (OM-22)(FLX)SRF | REMOVE DELIN & OBJECT MARKER ASSMS | REFL PAV MRK TY I (W)18"(SLD)(100MIL) | REFL PAV MRK TY I (W)24"(SLD)(100MIL) | REFL PAV MRK TY I (W)(ARROW)(100MIL) | REFL PAV MRK TY I(W)(DBL ARROW)(100MIL) | PAVEMENT SEALER 4" | PAVEMENT SEALER 8" | PAVEMENT SEALER 24" | PAVEMENT SEALER (ARROW) | PAVEMENT SEALER (DBL ARROW) |
| | | EA | EA | EA | EA | LF | LF | EA | EA | LF | LF | LF | EA | EA |
| 98 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 130+00 | 1 | | | | | | | | | | | | |
| 99 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 130+00 TO STA 134+00 | | | 1 | 1 | | | | | | | | | |
| 101 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 134+00 TO STA 147+00 | 2 | | | | | 40 | | | | | 40 | | |
| 112 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 637+00 TO STA 641+00 | 1 | | | | | | | | | | | | |
| 117 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 653+00 TO STA 657+00 | 1 | | | | | | | | | | | | |
| 118 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 657+00 TO STA 661+00 | 1 | | | | | | | | | | | | |
| 120 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 661+00 TO END PROJECT | 1 | | | | | 164 | | | | | 164 | | |
| 131 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 524+00 TO STA 526+00, STA 754+00 TO STA 756+00 | | 1 | | | | | | | | | | | |
| 132 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 526+00 TO STA 529+50 | 1 | | | | | | | | | | | | |
| 133 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 529+50 TO STA 533+00 | 1 | | | | | | | | | | | | |
| 134 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 537+00 TO STA 541+00 | 1 | | | | | | | | | | | | |
| 149 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 629+00 TO STA 633+00 | | | | | | | | | 132 | | | | |
| 156 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 666+50 TO STA 670+00 | 1 | | | | | | | | | | | | |
| 158 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 676+00 TO STA 680+00 | | | | | | | | | 155 | | | | |
| 159 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 680+00 TO STA 684+00 | | | | | | | | | 119 | | | | |
| 160 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 684+00 TO STA 689+00 | 1 | | | | | | | | | | | | |
| 162 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 694+50 TO STA 698+55 | | | | | | | | | 117 | | | | |
| 165 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 711+00 TO STA 715+00 | | | | | | | 1 | | | | | 1 | |
| 167 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 719+00 TO STA 723+00 | | | | | | | | | 120 | | | | |
| 170 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 746+00 | | | | | | 187 | 1 | | | | 187 | 1 | |
| 192 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 852+00 TO STA 856+00 | | | | | | | | | | | | | |
| 198 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 885+00 TO STA 889+00 | | | | | | | | 2 | | | | | 2 |
| 200 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 893+00 TO STA 895+00, STA 902+00 TO STA 904+00 | | 1 | | | | | | | | | | | |
| 201 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 904+00 TO STA 908+00 | | | | | | | | | 60 | | | | |
| 202 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 908+00 TO STA 911+50 | | | | | | | | | 250 | | | | |
| 204 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 911+50 TO STA 913+00 | 1 | | | | | | | | 40 | | | | |
| 205 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 915+00 TO STA 919+00 | 1 | | | | | | | | 149 | | | | |
| 207 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 928+00 TO STA 931+00 | | | | | | | | | 79 | | | | |
| 209 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 944+00 TO STA 948+00 | | | | | | | | | | | | | |
| 211 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 952+00 TO END PROJECT | | | | | | | 2 | | | | | 2 | |
| 215 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1099+00 TO STA 1101+00, STA 1259+00 TO STA 1261+00 | 6 | | | | | 114 | | | | | 114 | | |
| 231 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1353+00 TO 1355+00, STA 1753+00 TO STA 1755+00 | 2 | | | | 8 | 99 | | | 16 | 8 | 99 | | |
| 235 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1382+50 TO 1384+50, STA 1782+50 TO STA 1784+50 | 1 | | | | | 203 | | | 24 | | 203 | | |
| 239 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1402+00 TO STA 1406+00 | 1 | | | | | | | | | | | | |
| 246 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1414+00 TO 1416+00, STA 1814+00 TO STA 1816+00 | | | | | | | | | | | | | |
| 248 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1421+00 TO STA 1423+00 | 1 | | | | | | | | 74 | | | | |
| 263 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1448+00 TO STA 1452+00 | 2 | | | | | | | | | | | | |
| 267 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1465+50 TO 1467+50, STA 1865+50 TO STA 1867+50 | | | | | | 150 | | | | | 150 | | |
| 269 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1467+50 TO 1469+50, STA 1473+00 TO STA 1475+00 | | | | | | | | | 12 | | | | |
| 271 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1475+00 TO STA 1479+00 | 1 | | | | | | | | | | | | |
| 273 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1479+00 TO STA 1483+00 | | | | | | | 2 | | | | | 2 | |
| 276 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1483+00 TO 1485+00, STA 1883+00 TO STA 1885+00 | 1 | 2 | | | | 475 | | | | | 475 | | |
| 278 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1485+00 TO STA 1489+00 | 1 | | | | | | | | | | | | |
| 280 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1489+00 TO STA 1493+00 | 1 | | | | | | | | | | | | |
| 285 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1500+00 TO STA 1504+00 | 2 | | | | | | | | | | | | |
| 287 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1510+50 TO 1512+00, STA 1910+50 TO STA 1912+50 | 1 | | | | | | | | | | | | |
| 288 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1512+00 TO STA 1516+00 | 1 | | | | | | | | | | | | |
| 291 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1532+00 TO STA 1536+00 | 2 | | | | | | | | | | | | |
| 293 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1536+00 TO 1538+00, STA 1936+00 TO STA 1938+00 | | 2 | | | | 311 | | | | | 311 | | |
| 296 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1741+00 TO STA 1745+00 | | | | | | | | | 16 | | | | |
| 297 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1745+00 TO STA 1749+00 | | | | | | | | | 96 | | | | |
| 299 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1749+00 TO STA 1753+00 | | | | | | | | | 211 | | | | |
| 307 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1765+00 TO STA 1769+00 | 1 | | | | | 70 | | | | | 70 | | |
| 309 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1769+00 TO STA 1773+00 | 1 | | | | | | | | | | | | |
| 310 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1773+00 TO STA 1776+00 | 1 | | | | | | | | | | | | |
| 314 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1792+50 TO STA 1796+00 | 1 | | | | | | | | | | | | |
| 315 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1796+00 TO STA 1799+00 | 1 | | | | | | | | | | | | |
| 339 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1875+00 TO STA 1879+00 | 1 | | | | | | | | | | | | |
| 341 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1879+00 TO STA 1883+00 | 1 | | | | | | | | | | | | |
| 346 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1902+00 TO 1904+00, STA 1907+00 TO STA 1909+00 | 1 | | | | | | | | | | | | |
| 347 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1928+00 TO STA 1930+00, STA 1938+00 TO STA 1940+00 | 1 | | | | | | | | | | | | |
| | TOTALS (CSJ 0915-12-576) | 46 | 6 | 1 | 1 | 8 | 1813 | 6 | 2 | 1670 | 8 | 1813 | 6 | 2 |

Design Filename: P:\111\35\07\design\Civil\Summaries\113507*Summaries*SPM.dgn

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




# SUMMARY OF SIGNING AND PAVEMENT MARKINGS QUANTITIES

SHEET 1 OF 2

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 43 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\113507*Summaries*SPM.dgn

| SHT NO | ITEM / CSJ 0915-12-576 | 0666-6303 RE PM W/RET REQ TY I (W)4" (SLD) (100M IL) LF | 0666-6315 RE PM W/RET REQ TY I (Y)4" (SLD) (100M IL) LF | 0677-6001 ELIM EXT PAV MRK & MRKS (4") LF | 0677-6007 ELIM EXT PAV MRK & MRKS (24") LF | 0677-6008 ELIM EXT PAV MRK & MRKS (ARROW) EA | 0678-6001 PAV SURF PREP FOR MRK (4") LF | 0678-6004 PAV SURF PREP FOR MRK (8") LF | 0678-6008 PAV SURF PREP FOR MRK (24") LF | 0678-6009 PAV SURF PREP FOR MRK (ARROW) EA | 0678-6010 PAV SURF PREP FOR MRK (DBL ARROW) EA | 0688-6001 PED DETECT PUSH BUTTON (APS) EA | 0688-6002 PED DETECT PUSH BUTTON (STANDARD) EA | 0690-6030 REMOVAL OF PEDESTRIAN PUSH BUTTONS EA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 98 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 130+00 | | | | | | | | | | | | | |
| 99 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 130+00 TO STA 134+00 | | | | | | | | | | | | | |
| 101 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 134+00 TO STA 147+00 | | | | 70 | | | | 40 | | | | | |
| 112 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 637+00 TO STA 641+00 | | | | | | | | | | | | | |
| 117 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 653+00 TO STA 657+00 | | | | | | | | | | | | | |
| 118 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 657+00 TO STA 661+00 | | | | | | | | | | | | | |
| 120 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 661+00 TO END PROJECT | | | 132 | | | | | 164 | | | | | |
| 131 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 524+00 TO STA 526+00, STA 754+00 TO STA 756+00 | | | | | | | | | | | | | |
| 132 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 526+00 TO STA 529+50 | | | | | | | | | | | | | |
| 133 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 529+50 TO STA 533+00 | | | | | | | | | | | | | |
| 134 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 537+00 TO STA 541+00 | | | | | | | | | | | | | |
| 149 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 629+00 TO STA 633+00 | | 132 | | | | 132 | | | | | | | |
| 156 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 666+50 TO STA 670+00 | | | | | | | | | | | | | |
| 158 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 676+00 TO STA 680+00 | 155 | | 82 | | | 155 | | | | | | | |
| 159 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 680+00 TO STA 684+00 | 119 | | 82 | | | 119 | | | | | | | |
| 160 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 684+00 TO STA 689+00 | | | | | | | | | | | | | |
| 162 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 694+50 TO STA 698+55 | | 117 | 58 | | | 117 | | | | | | | |
| 165 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 711+00 TO STA 715+00 | | | | | 1 | | | | 1 | | | | |
| 167 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 719+00 TO STA 723+00 | | 120 | | | | 120 | | | | | | | |
| 170 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 746+00 | | | | | | | | 187 | 1 | | | | |
| 192 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 852+00 TO STA 856+00 | | | | | | | | | | | | 1 | 1 |
| 198 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 885+00 TO STA 889+00 | | | | | | | | | | 2 | | | |
| 200 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 893+00 TO STA 895+00, STA 902+00 TO STA 904+00 | | | | | | | | | | | | | |
| 201 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 904+00 TO STA 908+00 | 60 | | 35 | | | 60 | | | | | | | |
| 202 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 908+00 TO STA 911+50 | 150 | 100 | 190 | | | 250 | | | | | | | |
| 204 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 911+50 TO STA 913+00 | | 40 | 30 | | | 40 | | | | | | | |
| 205 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 915+00 TO STA 919+00 | | 149 | 81 | | | 149 | | | | | | | |
| 207 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 928+00 TO STA 931+00 | | 79 | 62 | | | 79 | | | | | | | |
| 209 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 944+00 TO STA 948+00 | | | | | | | | | | | | 2 | 2 |
| 211 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 952+00 TO END PROJECT | | | | | 2 | | | | 2 | | | | |
| 215 | SL 13 MILITARY DRIVE EB SIDEWALK CONSTRUCTION PLAN STA 1099+00 TO STA 1101+00, STA 1259+00 TO STA 1261+00 | | | | 114 | | | | 114 | | | | 6 | 6 |
| 231 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1353+00 TO 1355+00, STA 1753+00 TO STA 1755+00 | | 16 | | | | 16 | 8 | 99 | | | | 2 | 2 |
| 235 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1382+50 TO 1384+50, STA 1782+50 TO STA 1784+50 | 16 | 8 | | 70 | | 24 | | 203 | | | | | |
| 239 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1402+00 TO STA 1406+00 | | | | | | | | | | | | | |
| 246 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1414+00 TO 1416+00, STA 1814+00 TO STA 1816+00 | | | | | | | | | | | 1 | | 1 |
| 248 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1421+00 TO STA 1423+00 | | 74 | | | | 74 | | | | | | | |
| 263 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1448+00 TO STA 1452+00 | | | | | | | | | | | | | |
| 267 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1465+50 TO 1467+50, STA 1865+50 TO STA 1867+50 | | | | 150 | | | | 150 | | | | 5 | 5 |
| 269 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1467+50 TO 1469+50, STA 1473+00 TO STA 1475+00 | | 12 | | | | 12 | | | | | | | |
| 271 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1475+00 TO STA 1479+00 | | | | | | | | | | | | | |
| 273 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1479+00 TO STA 1483+00 | | | | | | | | | 2 | | | | |
| 276 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1483+00 TO 1485+00, STA 1883+00 TO STA 1885+00 | | | | 235 | | | | 475 | | | | 1 | 1 |
| 278 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1485+00 TO STA 1489+00 | | | | | | | | | | | | | |
| 280 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1489+00 TO STA 1493+00 | | | | | | | | | | | | | |
| 285 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1500+00 TO STA 1504+00 | | | | | | | | | | | | | |
| 287 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1510+50 TO 1512+00, STA 1910+50 TO STA 1912+50 | | | | | | | | | | | | 1 | 1 |
| 288 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1512+00 TO STA 1516+00 | | | | | | | | | | | | | |
| 291 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1532+00 TO STA 1536+00 | | | | | | | | | | | | | |
| 293 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1536+00 TO 1538+00, STA 1936+00 TO STA 1938+00 | | | | 311 | | | | 311 | | | | 4 | 4 |
| 296 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1741+00 TO STA 1745+00 | | 16 | 10 | | | 16 | | | | | | | |
| 297 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1745+00 TO STA 1749+00 | | 96 | 30 | | | 96 | | | | | | | |
| 299 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1749+00 TO STA 1753+00 | | 211 | 158 | | | 211 | | | | | | | |
| 307 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1765+00 TO STA 1769+00 | | | | 80 | | | | 70 | | | | 2 | 2 |
| 309 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1769+00 TO STA 1773+00 | | | | | | | | | | | | | |
| 310 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1773+00 TO STA 1776+00 | | | | | | | | | | | | | |
| 314 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1792+50 TO STA 1796+00 | | | | | | | | | | | | | |
| 315 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1796+00 TO STA 1799+00 | | | | | | | | | | | | | |
| 339 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1875+00 TO STA 1879+00 | | | | | | | | | | | | | |
| 341 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1879+00 TO STA 1883+00 | | | | | | | | | | | | | |
| 346 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1902+00 TO 1904+00, STA 1907+00 TO STA 1909+00 | | | | | | | | | | | | | |
| 347 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1928+00 TO STA 1930+00, STA 1938+00 TO STA 1940+00 | | | | | | | | | | | | | |
| | TOTALS (CSJ 0915-12-576) | 500 | 1170 | 950 | 1030 | 3 | 1670 | 8 | 1813 | 6 | 2 | 1 | 24 | 25 |

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| | | | |


PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




# SUMMARY OF SIGNING AND PAVEMENT MARKINGS QUANTITIES

SHEET 2 OF 2

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 44 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\1113507*Summaries*UTIL.dgn

| | ITEM | 7027-6001 | 7194-6001 | 7194-6002 | 7196-6001 | 7196-6003 | 7196-6004 |
|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | ADJUST GAS FACILITY ACCESS COVER | SANITARY SEWER (ADJUST MANHOLE) | SANITARY SEWER (ADJUST CLEANOUT) | ADJUST EXISTING VALVE BOX | ADJUST EXISTING METER AND NEW METER BOX | RELOCATE FIRE HYDRANT |
| SHT NO | | EA | EA | EA | EA | EA | EA |
| 98 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 130+00 | | | | | 1 | |
| 99 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 130+00 TO STA 134+00 | | 1 | | | 3 | |
| 101 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 134+00 TO STA 147+00 | | | | 1 | 1 | |
| 102 | US 87 RIGSBY AVE EB SIDEWALK CONSTRUCTION PLAN STA 150+00 TO STA 157+00 | | | | 1 | | |
| 111 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 633+00 TO STA 637+00 | 2 | | | | | |
| 117 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 653+00 TO STA 657+00 | | | | | 3 | |
| 118 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 657+00 TO STA 661+00 | | | | | 4 | |
| 124 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 508+00 | 1 | | | | | |
| 133 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 529+50 TO STA 533+00 | | | | 1 | | |
| 134 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 537+00 TO STA 541+00 | | 1 | | 2 | | |
| 135 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 541+00 TO STA 545+00 | | 1 | | | 3 | 1 |
| 137 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 545+00 TO STA 548+00 | | | | 2 | 1 | |
| 139 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 556+00 TO STA 560+00 | | 1 | | | | |
| 145 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 589+50 TO STA 593+50 | 1 | | | | | |
| 150 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 635+25 TO STA 637+25, STA 643+75 TO STA 645+75 | | 1 | | 2 | | |
| 153 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 654+75 TO STA 656+25, STA 659+00 TO STA 661+00 | | | | 1 | 1 | |
| 154 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 661+00 TO STA 665+00 | | | | 1 | 3 | |
| 156 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 666+50 TO STA 670+00 | | | | 1 | | |
| 157 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 670+00 TO STA 672+00, STA 900+00 TO STA 902+00 | | | | | 3 | |
| 158 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 676+00 TO STA 680+00 | | | | 1 | | |
| 160 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 684+00 TO STA 689+00 | | 1 | | 2 | | |
| 162 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 694+50 TO STA 698+55 | | 1 | | | | |
| 165 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 711+00 TO STA 715+00 | | | | 1 | | |
| 167 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 719+00 TO STA 723+00 | | | | 1 | | |
| 180 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 768+00 TO STA 772+00 | | 1 | | | | |
| 184 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 780+00 TO STA 784+00 | | 1 | | | | |
| 186 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 784+00 TO STA 788+00 | | 1 | | 1 | 5 | |
| 188 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 788+00 TO STA 792+00 | | 1 | | | 3 | |
| 192 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 852+00 TO STA 856+00 | 1 | | | 2 | 1 | |
| 193 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 856+00 TO STA 860+00 | | | | 1 | 2 | |
| 195 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 863+00 TO STA 865+00, STA 879+00 TO STA 881+00 | | | 2 | 1 | 1 | |
| 197 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 881+00 TO STA 885+00 | | | | 1 | | |
| 198 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 885+00 TO STA 889+00 | 1 | | | | 3 | |
| 199 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 889+00 TO STA 893+00 | | | | | 1 | |
| 200 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 893+00 TO STA 895+00, STA 902+00 TO STA 904+00 | | 1 | | 1 | | |
| 202 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 908+00 TO STA 911+50 | | | | | 1 | |
| 204 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 911+50 TO STA 913+00 | | | | 1 | 1 | |
| 206 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 925+00 TO STA 928+00 | | 1 | | | | |
| 207 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 928+00 TO STA 931+00 | | 1 | | | | |
| 209 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 944+00 TO STA 948+00 | | 1 | | | | |
| 210 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 948+00 TO STA 952+00 | | 2 | | 1 | | |
| 211 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 952+00 TO END PROJECT | | 1 | | 4 | 1 | |
| 221 | SL 13 MILITARY DRIVE WB SIDEWALK CONSTRUCTION PLAN STA 1251+00 TO STA 1255+00 | | 1 | | | | |
| 231 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1353+00 TO 1355+00, STA 1753+00 TO STA 1755+00 | 2 | | | | | |
| 254 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1432+00 TO STA 1436+00 | | | | 3 | | |
| 257 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1436+00 TO STA 1440+00 | | | | | 1 | |
| 259 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1440+00 TO STA 1444+00 | | | | 1 | 1 | |
| 267 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1465+50 TO 1467+50, STA 1865+50 TO STA 1867+50 | | | | 1 | | |
| 276 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1483+00 TO 1485+00, STA 1883+00 TO STA 1885+00 | 2 | | | 1 | | |
| 296 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1741+00 TO STA 1745+00 | | | | 1 | | |
| 299 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1749+00 TO STA 1753+00 | | | | 1 | | |
| 346 | BANDERA RD EB SIDEWALK CONSTRUCTION PLAN STA 1902+00 TO 1904+00, STA 1907+00 TO STA 1909+00 | | | | 1 | | |
| 349 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 2026+00 TO STA 2028+00 | | | | 1 | | |
| | TOTALS (CSJ 0915-12-576) | 10 | 19 | 2 | 40 | 44 | 1 |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



# SUMMARY OF UTILITY QUANTITIES

SHEET 1 OF 1

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 45 |

| | ITEM | 0100-6001 | 0110-6002 | 0132-6003 | 0160-6003 | 0162-6002 | 0168-6001 | 0420-6074 | 0450-6047 | 0450-6048 | 0500-6001 | 0502-6001 | 0506-6035 | 0506-6041 | 0506-6043 | 0690-6005 | 6001-6002 | 6185-6002 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | INDEFINITE QUANTITIES | PREPARING ROW | EXCAVATION (CHANNEL) | EMBANKMENT (FINAL)(ORD COMP)(TY B) | FURNISHING AND PLACING TOPSOIL (4") | BLOCK SODDING | VEGETATIVE WATERING | CL C CONC (MISC) | RAIL (HANDRAIL)(TY A) | RAIL (HANDRAIL)(TY B) | MOBILIZATION | BARRICADES, SIGNS AND TRAFFIC HANDLING | SANDBAGS FOR EROSION CONTROL | BIODEG EROSN CONT LOGS (INSTL) (12") | BIODEG EROSN CONT LOGS (REMOVE) | INSTALL OF VEHICLE DETECTORS | PORTABLE CHANGEABLE MESSAGE SIGN | TMA (STATIONARY) |
| SHT NO | | AC | CY | CY | SY | SY | MG | CY | LF | LF | LS | MO | EA | LF | LF | LF | EA | DAY |
| x | FORCE ACCOUNT | 1.000 | 500 | 500 | 500 | 500 | 7.80 | 5 | 50 | 50 | 1.0 | 16 | 2400 | 2400 | 2400 | 4000 | 2 | 10 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\Summaries\1113507*Summaries*INDEF.dgn

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# SUMMARY OF INDEFINITE QUANTITIES

SHEET 1 OF 1

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 46 |

① OBEY WARNING SIGNS STATE LAW
R20-3T (48x42)

② STAY ALERT — TALK OR TEXT LATER
G20-10T (48x60)

③ WORK ZONE / TRAFFIC FINES DOUBLE / WHEN WORKERS ARE PRESENT
G20-9TP (24x24)
R20-5T (24x30)
R20-5aTP PLAQUE (24x12)

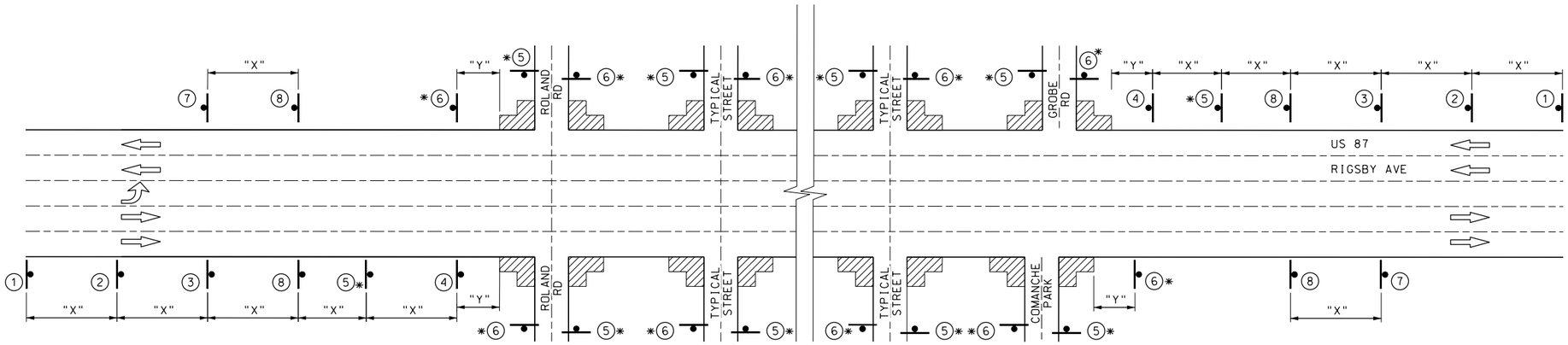
④ BEGIN ROAD WORK NEXT X MILES / NAME ADDRESS CITY STATE / CONTRACTOR
G20-5T (48x24)
G20-6T (48x30)

⑤ ✳ ROAD WORK AHEAD
CW20-1D (36x36)

⑥ ✳ END ROAD WORK
G20-2 (48x24)

⑦ END WORK ZONE
G20-2bT (48x24)

⑧ SPEED LIMIT XX
R2-1 (24x30 - SINGLE LANE) (30x36 - MULTI-LANE) SEE NOTE 7




RIGSBY AVE FROM ROLAND RD TO GROBE RD

SHEETS 98 - 120 - REFER TO TCP (1-4a) FOR ADDITIONAL INFORMATION

NOTE:

1. CONTRACTOR SHALL PLACE ADVANCE WARNING SIGNS ACCORDING TO DISTANCE "X" ON STANDARD BC(2)-14
2. CONTRACTOR SHALL FIELD VERIFY POSTED SPEED FOR "X" SPACING
3. SIGN LOCATIONS MAY BE ADJUSTED DUE TO CONDITIONS AS APPROVED BY THE ENGINEER
4. CONFLICTING SIGNS SHALL BE COVERED BY CONTRACTOR OR AS DIRECTED BY THE ENGINEER
5. SIGNS SHOWN SHALL BE COORDINATED WITH SPECIFIC WORK TRAFFIC CONTROL DETAILS INCLUDED IN THE PLANS
6. SIGNS 5 & 6 TO BE MOVED AND PLACED ONLY IN ADVANCE OF WHERE WORK IS BEING PERFORMED
7. SIGN 8 SHALL DISPLAY APPROPRIATE SPEED LIMIT IN PLACE OF "XX"

LEGEND
- CONSTRUCTION WARNING SIGN
- TRAFFIC FLOW
- WORK ZONE

| POSTED SPEED | LONGITUDINAL BUFFER SPACE "Y" DISTANCE |
|---|---|
| MPH | FT (APPROX) |
| 30 | 90 |
| 35 | 120 |
| 40 | 155 |
| 45 | 195 |
| 50 | 240 |
| 55 | 295 |
| 60 | 350 |
| 65 | 410 |
| 70 | 475 |

✳ SEE NOTE 6 FOR TYPICAL USE OF SIGNS 5 & 6

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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# TRAFFIC CONTROL PLAN ADVANCE WARNING DEVICES

SHEET 1 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 47 |

Plotted on: 4/10/2019

Design Filename: P:\111\3507\design\Civil\TCP\1113507*TCP*LINEDIAGRAMS02.dgn

① OBEY WARNING SIGNS STATE LAW — R20-3T (48x42)

② STAY ALERT / TALK OR TEXT LATER — G20-10T (48x60)

③ WORK ZONE / TRAFFIC FINES DOUBLE / WHEN WORKERS ARE PRESENT — G20-9TP (24x24); R20-5T (24x30); R20-5aTP PLAQUE (24x12)

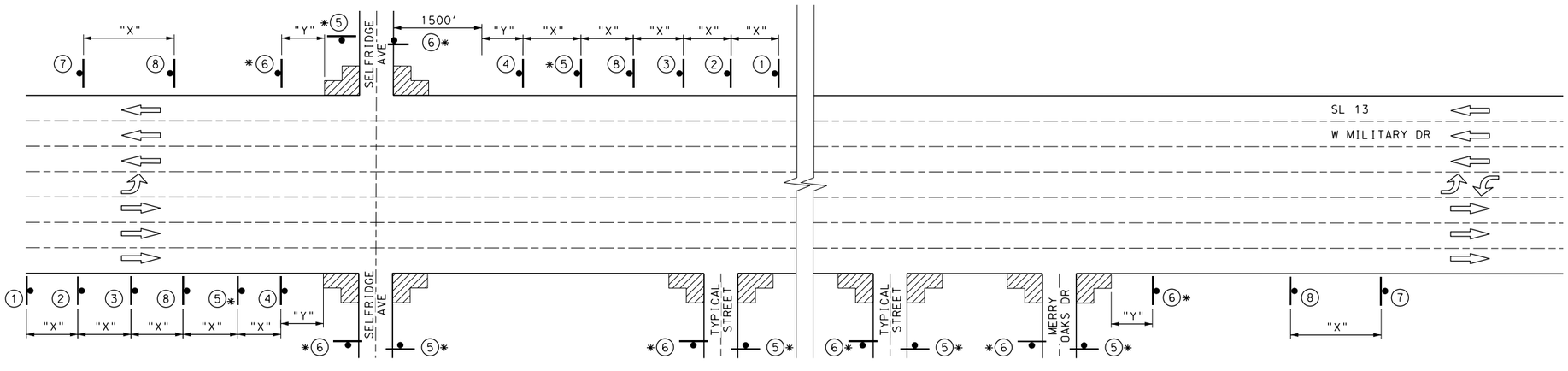
④ BEGIN ROAD WORK NEXT X MILES / NAME ADDRESS CITY STATE / CONTRACTOR — G20-5T (48x24); G20-6T (48x30)

⑤ * ROAD WORK AHEAD — CW20-1D (36x36)

⑥ * END ROAD WORK — G20-2 (48x24)

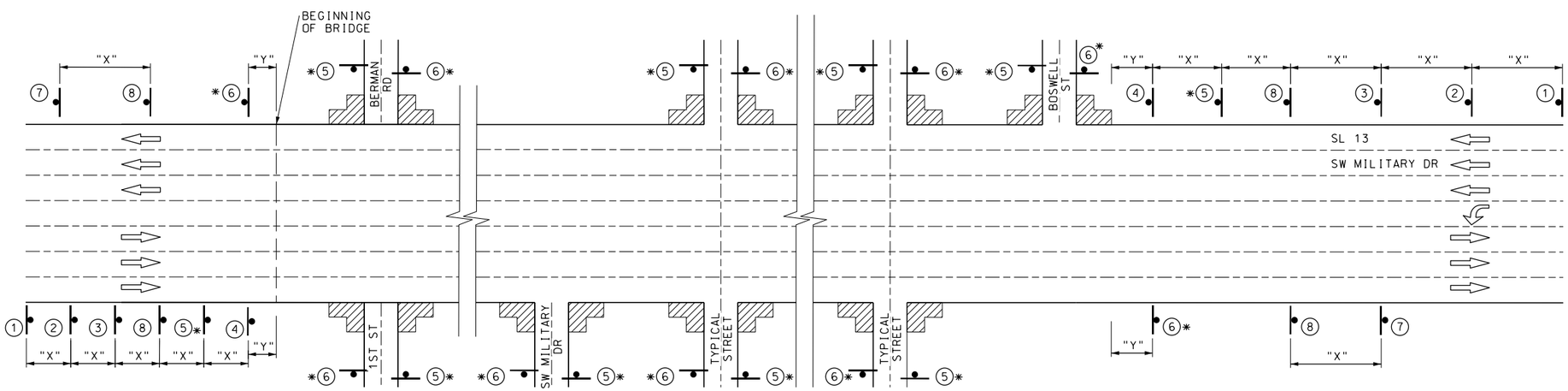
⑦ END WORK ZONE — G20-2bT (48x24)

⑧ SPEED LIMIT XX — R2-1 (24x30 - SINGLE LANE) (30x36 - MULTI-LANE) SEE NOTE 7




## SW MILITARY DR FROM SELFRIDGE AVE TO MERRY OAKS DR

SHEETS 121 - 123 - REFER TO TCP (1-1a) FOR ADDITIONAL INFORMATION




## SW MILITARY DR FROM 1ST ST/ BERMAN RD TO BOSWELL ST

SHEETS 124 - 210 - REFER TO TCP (1-4a) FOR ADDITIONAL INFORMATION

NOTE:

1. CONTRACTOR SHALL PLACE ADVANCE WARNING SIGNS ACCORDING TO DISTANCE "X" ON STANDARD BC(2)-14
2. CONTRACTOR SHALL FIELD VERIFY POSTED SPEED FOR "X" SPACING
3. SIGN LOCATIONS MAY BE ADJUSTED DUE TO CONDITIONS AS APPROVED BY THE ENGINEER
4. CONFLICTING SIGNS SHALL BE COVERED BY CONTRACTOR OR AS DIRECTED BY THE ENGINEER
5. SIGNS SHOWN SHALL BE COORDINATED WITH SPECIFIC WORK TRAFFIC CONTROL DETAILS INCLUDED IN THE PLANS
6. SIGNS 5 & 6 TO BE MOVED AND PLACED ONLY IN ADVANCE OF WHERE WORK IS BEING PERFORMED
7. SIGN 8 SHALL DISPLAY APPROPRIATE SPEED LIMIT IN PLACE OF "XX"

LEGEND
- CONSTRUCTION WARNING SIGN
- TRAFFIC FLOW
- WORK ZONE

| POSTED SPEED | LONGITUDINAL BUFFER SPACE "Y" DISTANCE |
|---|---|
| MPH | FT (APPROX) |
| 30 | 90 |
| 35 | 120 |
| 40 | 155 |
| 45 | 195 |
| 50 | 240 |
| 55 | 295 |
| 60 | 350 |
| 65 | 410 |
| 70 | 475 |

* SEE NOTE 6 FOR TYPICAL USE OF SIGNS 5 & 6

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
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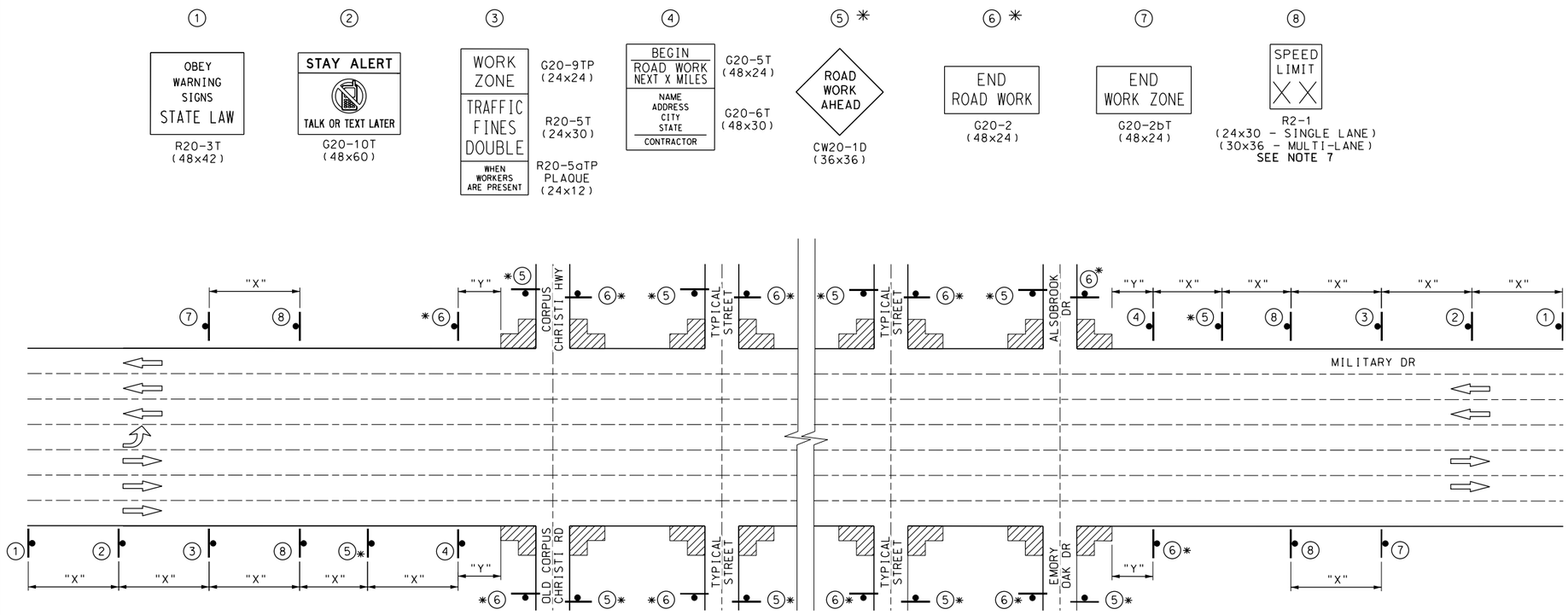
# TRAFFIC CONTROL PLAN ADVANCE WARNING DEVICES

SHEET 2 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 48 |




NOTE:

1. CONTRACTOR SHALL PLACE ADVANCE WARNING SIGNS ACCORDING TO DISTANCE "X" ON STANDARD BC(2)-14
2. CONTRACTOR SHALL FIELD VERIFY POSTED SPEED FOR "X" SPACING
3. SIGN LOCATIONS MAY BE ADJUSTED DUE TO CONDITIONS AS APPROVED BY THE ENGINEER
4. CONFLICTING SIGNS SHALL BE COVERED BY CONTRACTOR OR AS DIRECTED BY THE ENGINEER
5. SIGNS SHOWN SHALL BE COORDINATED WITH SPECIFIC WORK TRAFFIC CONTROL DETAILS INCLUDED IN THE PLANS
6. SIGNS 5 & 6 TO BE MOVED AND PLACED ONLY IN ADVANCE OF WHERE WORK IS BEING PERFORMED
7. SIGN 8 SHALL DISPLAY APPROPRIATE SPEED LIMIT IN PLACE OF "XX"

LEGEND

- CONSTRUCTION WARNING SIGN
- TRAFFIC FLOW
- WORK ZONE

| POSTED SPEED | LONGITUDINAL BUFFER SPACE "Y" DISTANCE |
|---|---|
| MPH | FT (APPROX) |
| 30 | 90 |
| 35 | 120 |
| 40 | 155 |
| 45 | 195 |
| 50 | 240 |
| 55 | 295 |
| 60 | 350 |
| 65 | 410 |
| 70 | 475 |

* SEE NOTE 6 FOR TYPICAL USE OF SIGNS 5 & 6

## MILITARY DR FROM OLD CORPUS CHRISTI RD TO ALSOBROOK DR/ EMORY OAK DR

SHEETS 211 - 225 - REFER TO TCP (1-4a) FOR ADDITIONAL INFORMATION

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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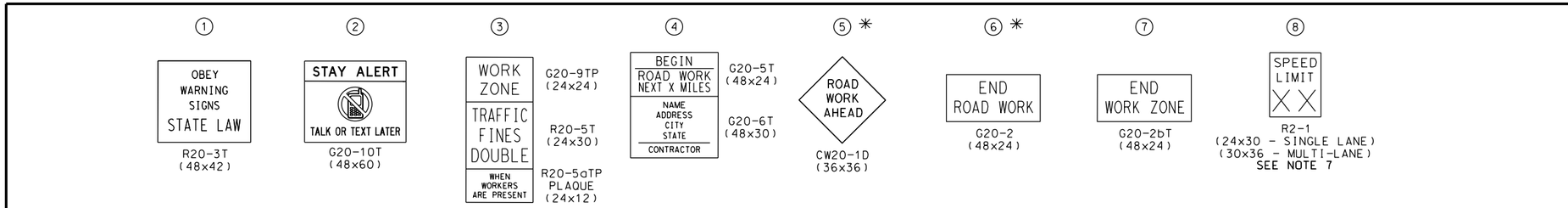
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

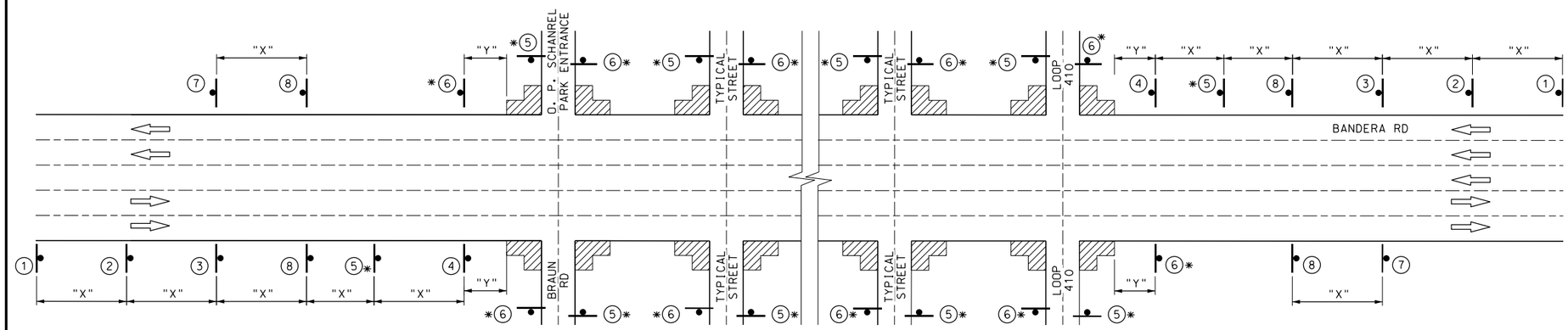


# TRAFFIC CONTROL PLAN ADVANCE WARNING DEVICES

SHEET 3 OF 4

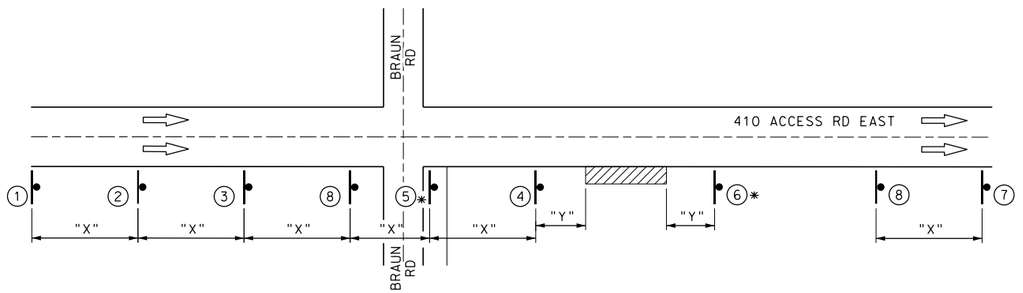
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 49 |



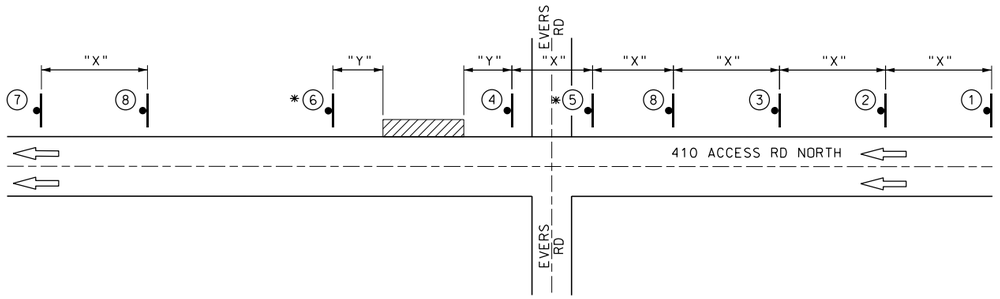

## BANDERA RD FROM BRAUN RD TO LOOP 410

SHEETS 226 - 345 - REFER TO TCP (1-4a) FOR ADDITIONAL INFORMATION




## 410 ACCESS RD EASTBOUND FROM BANDERA RD TO DAUGHTRY RD

SHEET 346 - REFER TO TCP (1-4a) FOR ADDITIONAL INFORMATION




## 410 ACCESS RD WESTBOUND FROM KENWICK ST TO EVERS RD

SHEET 347 - REFER TO TCP (1-4a) FOR ADDITIONAL INFORMATION

NOTE:

1. CONTRACTOR SHALL PLACE ADVANCE WARNING SIGNS ACCORDING TO DISTANCE "X" ON STANDARD BC(2)-14
2. CONTRACTOR SHALL FIELD VERIFY POSTED SPEED FOR "X" SPACING
3. SIGN LOCATIONS MAY BE ADJUSTED DUE TO CONDITIONS AS APPROVED BY THE ENGINEER
4. CONFLICTING SIGNS SHALL BE COVERED BY CONTRACTOR OR AS DIRECTED BY THE ENGINEER
5. SIGNS SHOWN SHALL BE COORDINATED WITH SPECIFIC WORK TRAFFIC CONTROL DETAILS INCLUDED IN THE PLANS
6. SIGNS 5 & 6 TO BE MOVED AND PLACED ONLY IN ADVANCE OF WHERE WORK IS BEING PERFORMED
7. SIGN 8 SHALL DISPLAY APPROPRIATE SPEED LIMIT IN PLACE OF "XX"

LEGEND

- CONSTRUCTION WARNING SIGN
- TRAFFIC FLOW
- WORK ZONE

| POSTED SPEED | LONGITUDINAL BUFFER SPACE "Y" DISTANCE |
|---|---|
| MPH | FT (APPROX) |
| 30 | 90 |
| 35 | 120 |
| 40 | 155 |
| 45 | 195 |
| 50 | 240 |
| 55 | 295 |
| 60 | 350 |
| 65 | 410 |
| 70 | 475 |

✳ SEE NOTE 6 FOR TYPICAL USE OF SIGNS 5 & 6

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# TRAFFIC CONTROL PLAN ADVANCE WARNING DEVICES

SHEET 4 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 50 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\TCP\111507*TCP*NARRATIVE.dgn

## DETOURS, BARRICADES, WARNING SIGNS, SEQUENCE OF WORK, ETC.

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE REQUIREMENTS OF ITEM 7, "LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC", OF THE STANDARD SPECIFICATIONS. IN ADDITION TO THESE REQUIREMENTS, THE FOLLOWING PROVISIONS SHALL ALSO GOVERN ON THIS CONTRACT:

### 1. GENERAL

1. TRAFFIC MUST BE HANDLED THROUGHOUT THE PROJECT DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A SAFE AND COMFORTABLE PASSAGE FOR VEHICULAR AND PEDESTRIAN TRAFFIC WITH MINIMALINCONVENIENCE TO THE PUBLIC, AS SHOWN IN THE PLANS OR AS DIRECTED/APPROVED BY THE ENGINEER.

2. THE CONTRACTOR MAY PROPOSE/RECOMMEND MODIFICATIONS TO THE SEQUENCE OF WORK FOR CONSIDERATION BY THE ENGINEER. ANY MAJOR RECOMMENDED MODIFICATION BY THE CONTRACTOR SHALL INCLUDE ANY CHANGES TO THE VARIOUS BID ITEMS, IMPACT TO TRAFFIC, EFFECT OF OVERALL PROJECT IN TIME AND COST, ETC. IF THIS PROPOSAL IS IMPLEMENTED, THE CONTRACTOR WILL BE RESPONSIBLE FOR DEVELOPING DETAILED PLAN SHEETS TO BE SEALED BY A LICENSED PROFESSIONAL ENGINEER FOR INCLUSION WITH THE CHANGE ORDER. THE CONTRACTOR CANNOT PROCEED WITH ANY CONSTRUCTION OPERATIONS BASED ON A REVISED PHASE/SEQUENCE UNTIL WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. IF AT ANY TIME DURING CONSTRUCTION THE CONTRACTOR'S PROPOSED PLAN OF OPERATION FOR HANDLING TRAFFIC DOES NOT PROVIDE FOR SAFE AND COMFORTABLE MOVEMENT, THE CONTRACTOR WILL IMMEDIATELY CHANGE THEIR OPERATION TO CORRECT THE UNSATISFACTORY CONDITION.

3. DO NOT STORE ANY CONSTRUCTION MATERIAL OR EQUIPMENT AT ANY LOCATION THAT WILL CONSTITUTE A HAZARD AND WILL ENDANGER TRAFFIC..

4. THE CONTRACTOR WILL PROVIDE ADVANCE NOTIFICATION TO THE ENGINEER OF IMPENDING / UPCOMING LANE CLOSURES FOR ALL TEMPORARY AND / OR PERMANENT LANE, RAMP, CONNECTOR, FRONTAGE, SHOULDER, ETC. CLOSURES OR DETOURS. SEE GENERAL NOTES FOR NOTIFICATION REQUIREMENTS.

5. ACCESS TO ADJOINING PROPERTY MUST BE MAINTAINED AT ALL TIMES.

6. TEMPORARY DRAINAGE IS THE RESPONSIBILITY OF THE CONTRACTOR.

7. AT NO TIME SHALL TWO CONSEQUTIVE INTERSECTING ROADWAYS BE CLOSED AT ONE TIME DURING CONSTRUCTION.

8. AT NO TIME SHALL TWO CONSEQUTIVE RAMPS BE CLOSED AT ONE TIME DURING CONSTRUCTION OR OVERLAY OPERATIONS.

9. UNLESS OTHERWISE NOTED IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER, DAILY LANE CLOSURES SHALL BE LIMITED ACCORDING TO THE FOLLOWING RESTRICTIONS:

NIGHTTIME : ASK AREA ENGINEER AND CONSTRUCTION ENGINEER. (WITH UNIFORMED OFF DUTY LAW ENFORCEMENT OFFICERS)

WEEKEND CLOSURES WHEN APPROVED BY THE ENGINEER: ASK AREA ENGINEER AND CONSTRUCTION ENGINEER.

NO LANE CLOSURES OR ROADWAY CLOSURES WILL BE PERMITTED FOR THE FOLLOWING KEY DATES AND/OR SPECIAL EVENTS:

BETWEEN DECEMBER 15 AND JANUARY 1.
FIESTA WEEK AND TAX FREE WEEKEND. (BEXAR COUNTY ONLY)
WEDNESDAY BEFORE THANKSGIVING THRU THE SUNDAY AFTER THANKSGIVING
SATURDAY AND SUNDAY BEFORE MEMORIAL DAY AND LABOR DAY.
SATURDAY OR SUNDAY WHEN JULY 4 FALLS ON A FRIDAY OR MONDAY.
ELECTION DAYS (BEXAR COUNTY ONLY)
DURING MAJOR EVENTS AT THE AT&T CENTER (SPURS HOME GAMES, RODEO, CONCERTS, ETC.), ALAMODOME AND OR CONVENTION CENTER

10. REMOVAL AND DISPOSAL OF EXISTING ABANDONED UTILITIES (EITHER PREVIOUSLY ABANDONED OR ABANDONED DURING THIS PROJECT) REQUIRED TO SUPPORT THIS PROJECT'S CONSTRUCTION SHALL BE PERFORMED UNDER THE OVERALL PREPARE RIGHT-OF-WAY ITEM (ITEM 100).

11. COORDINATE WITH ADJACENT PROJECTS.

12. COVER PERMANENT SIGNS IF NOT USED. THIS IS SUBSIDARY TO ITEM 502.

13. EXCAVATION WITHIN 5 FEET OF AN EXISTING CPS ENERGY POLE WILL REQUIRE POLE BRACING. CONTACT CPS ENERGY UTILTY COORDINATION TO REQUEST POLE BRACING (JOHN OFFER, JFOFFER@CPSENERGY.COM). THE ESTIMATED DURATION FOR THE POLE BRACING PROCESS IS APPROXIMATELY 6 TO 8 WEEKS.

14. COORDINATE WITH THE CITY OF SAN ANTONIO OR TXDOT FOR SIGNAL TIMING REVISIONS, AS NECESSARY.

15. ADVANCE WARNING SIGNS AND LANE CLOSURES MUST BE MOVED UP PERIODICALLY IN ORDER TO KEEP UP WITH THE MOVING WORK ZONE. AS WORK PROGRESSES, THE LANE CLOSURE SIGNING AND APPROPRIATE BARRICADES MUST FOLLOW APPLICABLE STANDARDS.

16. CONTRACTOR SHALL NOT REMOVE OR ADJUST ANY VIA ASSETS.

17. CONTRACTOR SHALL CONTACT VIA THIRTY (30) DAYS PRIOR, FOR:

(A) THE REMOVAL OF BENCHES, STOP POLES AND ANY OTHER VIA AMENITIES WITHIN THE PROJECT LIMITS.

(B) THE REMOVAL OF SHELTERS.

(C) THE COORDINATION OF TEMPORARY BUS STOPS.

18. THE CONTRACTOR WILL BE LIABLE FOR ANY DAMAGES TO VIA FACILITIES NOT REMOVED BY VIA.

19. THE CONTRACTOR IS REQUIRED TO REPLACE ALL FLATWORK REMOVED OR DAMAGED IN THE COURSE OF EXECUTING THE CONTRACT UNLESS OTHERWISE NOTED BY VIA.

20. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING VIA FACILITIES IF ADJACENT TO WORK AREA.

21. CONCERNING NEW VIA RELATED FLATWORK: THE CONTRACTOR SHALL SCHEDULE WITH VIA A PRE-POUR INSPECTION FOR ANY SHELTER SLAB, PAD, ADA CONNECTOR OR OTHER REPLACEMENT THAT DIRECTLY AFFECTS VIA AMENITIES NOT TO INCLUDE SIDEWALKS.

### 2. SEQUENCE OF WORK

1. THIS PROJECT WILL BE CONSTRUCTED IN 11 PHASES. BEFORE THE COMMENCEMENT OF EACH PHASE, INSTALL ADVANCE WARNING SIGNS, TEMPORARY SIGNS AND BARRICADES AS SHOWN ON THE PLANS AND/OR AS DIRECTED/APPROVED BY THE ENGINEER. DAILY LANE CLOSURES WILL BE USED IN ACCORDANCE WITH STATE TCP STANDARDS. DROP OFF CONDITIONS OF GREATER THAN 2" MUST HAVE A 3:1 SLOPE AT THE END OF EACH DAY, AS WELL AS THROUGHOUT THE PROJECT WHERE ACCESS TO ADJACENT PROPERTIES IS ALLOWED TO DRIVEWAYS AND SIDE STREETS.

2. PREPARING ROW / REMOVAL OF EXISTING ITEMS TO BE DONE ONLY IN AREAS WHERE WORK IS OCCURING, AS PER THE PHASES NOTED BELOW.

3. PLANING, SURFACE TREATMENTS AND OVERLAYS SHALL BE PERFORMED IN THE DIRECTION OF TRAFFIC. BEGIN SURFACE CONSTRUCTION ON HIGH SIDE OF ROAD TO AVOID WATER PONDING ISSUES.

4. THE SEQUENCE OF CONSTRUCTION SHALL BE IN PHASE ORDER AS FOLLOWS:

CULEBRA; BANDERA; FREDERICKSBURG; LOOP 410-B; RIGSBY; MILITARY DR; SW MILITARY B; IH 35 ACCESS RD; NOGALITOS; SW MILITARY A; SW LOOP 410

A BRIEF DESCRIPTION OF THESE PHASES ARE AS FOLLOWS:

1. NOTIFY AFFECTED BUSINESS OWNERS 2 WEEKS PRIOR TO CONSTRUCTION, MAINTAIN TEMPORARY ACCESS AT ALL TIMES.

2. CLOSE SIDEWALK TO PEDESTRIAN TRAFFIC, DETOUR PEDESTRIANS PER TxDOT STANDARD WZ(BTS-2)-13. SEE ADVANCE WARNING SIGN LAYOUT SHEETS FOR THE INITIAL ADVANCE WARNING SIGN SETUP.

3. INSTALL SW3P IN ACCORDANCE WITH STORM WATER POLLUTION PREVENTION PLAN.

4. REMOVE EXISTING SIDEWALK, DRAINAGE STRUCTURES, AND EXISTING ROAD MATERIAL, SEE TYPICAL SECTIONS, PAVEMENT DETAILS AND PLAN LAYOUT SHEETS FOR ADDITIONAL INFORMATION. ENSURE POSITIVE DRAINAGE AROUND INTERSECTION RETURNS. CONTRACTOR SHALL INSTALL METAL PLATE OVER OPEN TRENCHES, UNCOVERED MANHOLES AND INLETS ADJACENT TO TRAFFIC OVER NIGHT OR WHEN NO WORK IS BEING PERFORMED. INSTALL TEMPORARY PAVEMENT MARKINGS AS NEEDED OR AS DIRECTED BY THE ENGINEER.

5. CONSTRUCT RETAINING WALL FOOTINGS AND WALLS, INSTALL DRAINAGE ELEMENTS FROM DOWNSTREAM TO UPSTREAM. ENSURE POSITIVE DRAINAGE FROM EXISTING TO PROPOSED DRAINAGE STRUCTURES. WORK AT EACH LOCATION MUST BE COMPLETED PER THE GENERAL NOTES WITHIN OFF-PEAK HOURS.

6. FORM SIDEWALKS, CURB RAMPS AND STEPS.

7. CONSTRUCT SIDEWALKS, CURB RAMPS, STEPS, AND INSTALL PEDESTRIAN RAILS.

8. OPEN COMPLETED SIDEWALK TO PEDESTRIANS AS SOON AS POSSIBLE, WITH THE APPROVAL OF THE ENGINEER.

9. ADJUST PEDESTRIAN PUSH BUTTONS.

10. AFTER ALL SIDEWALK AND DRAINAGE IMPROVEMENTS ARE COMPLETE FOR ALL CORNERS, PLANE ASPHALT AS INDICATED AND INSTALL TEMPORARY PAVEMENT MARKINGS AS NEEDED OR AS DIRECTED BY THE ENGINEER.

11. INSTALL PERMANENT PAVEMENT MARKINGS.

12. INSTALL/RELOCATE PERMANENT SIGNING.

13. REMOVE SW3P ITEMS.

### 3. SAFETY

1. THE CONTRACTOR WILL PROVIDE, CONSTRUCT AND MAINTAIN BARRICADES AND SIGNS IN ACCORDANCE WITH STATE STANDARDS BC (1 - 12)-14. ANY SIGNS REQUIRED THAT ARE NOT DETAILED IN THE STANDARD SHEETS SHALL BE IN CONFORMANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AND THE "STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS."

2. BARRICADES AND WARNING SIGNS SHALL BE PLACED AS INDICATED ON THE PLANS. THIS SHALL BE CONSIDERED THE MINIMUM REQUIRED TO PROVIDE FOR THE SAFETY OF TRAFFIC DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN OTHER SUCH BARRICADES AND SIGNS DEEMED NECESSARY BY THE ENGINEER OR AS DIRECTED BY FIELD CONDITIONS, TO PROVIDE FOR THE PASSAGE OF TRAFFIC IN SAFETY AT ALL TIMES.

3. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN FLAGGERS AS DIRECTED/APPROVED BY THE ENGINEER, AT SUCH POINTS, AND FOR SUCH PERIODS OF TIME AS MAY BE REQUIRED, TO PROVIDE FOR THE SAFETY OF THE TRAVELING PUBLIC AND THE CONTRACTOR'S PERSONNEL.

4. THE CONTRACTOR SHALL KEEP THE ROADWAY CLEAN AND FREE OF DIRT OR OTHER MATERIALS DURING HAULING OPERATIONS. IF THE CONTRACTOR DOES NOT MAINTAIN A CLEAN ROADWAY, THEY SHALL CEASE ALL CONSTRUCTION OPERATIONS, WHEN DIRECTED BY THE ENGINEER, TO CLEAN THE ROADWAY TO THE SATISFACTION OF THE ENGINEER.

### 4. HAULING EQUIPMENT

1. THE USE OF RUBBER-TIRED EQUIPMENT WILL BE REQUIRED FOR MOVING DIRT OR OTHER MATERIALS ALONG OR ACROSS PAVEMENTED SURFACES. WHERE THE CONTRACTOR DESIRES TO MOVE ANY EQUIPMENT NOT LICENSED FOR OPERATION ON PUBLIC HIGHWAYS, ON OR ACROSS PAVEMENT. THEY SHALL PROTECT THE PAVEMENT FROM DAMAGE AS DIRECTED / APPROVED BY THE ENGINEER.

2. THROUGHOUT CONSTRUCTION OPERATIONS, THE CONTRACTOR WILL BE REQUIRED TO CONDUCT THEIR HAULING OPERATIONS IN A MANNER SUCH THAT VEHICLES WILL NOT HAUL OVER PREVIOUSLY RECOMPACTED SUBGRADE OR COMPACTED BASE MATERIAL, EXCEPT IN SHORT SECTIONS FOR DUMPING MANIPULATIONS.

### 5. FINAL CLEAN UP

UPON COMPLETION OF THE WORK AND BEFORE FINAL ACCEPTANCE AND FINAL PAYMENT IS MADE, THE CONTRACTOR SHALL CLEAR AND REMOVE FROM THE SITE ALL SURPLUS AND DISCARDED MATERIALS AND DEBRIS OF EVERY KIND AND LEAVE THE ENTIRE PROJECT IN A SMOOTH, NEAT AND SIGHTLY CONDITION.

### 6. PAYMENT

ALL BARRICADES, SIGNS, AND FLAGGERS SHALL BE SUBSIDIARY TO ITEM 502 BARRICADES, SIGNS AND TRAFFIC HANDLING. ALL EROSION AND SEDIMENT CONTROL DEVICES WILL BE PAID FOR UNDER ITEM 506 TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL CONTROLS. ALL WORK ZONE PAVEMENT MARKINGS WILL BE PAID FOR UNDER ITEM 662 WORK ZONE PAVEMENT MARKINGS. ALL OTHER WORK AND MATERIALS SHALL BE SUBSIDIARY TO THE VARIOUS BID ITEMS UNLESS OTHERWISE INDICATED IN THE PLANS.

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# TRAFFIC CONTROL PLAN NARRATIVE

SHEET 1 OF 1

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 51 |

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## BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

1. The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).

2. The development and design of the Traffic Control Plan (TCP)is the responsibility of the Engineer.

3. The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.

4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.

5. Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets," the TxDOT "Roadway Design Manual" or engineering judgment.

6. When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.

7. The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.

8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.

9. The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.

10. As shown on BC(2), the OBEY WARNING SIGNS STATE LAW sign, STAY ALERT TALK OR TEXT LATER (see Sign Detail G20-10T) and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. However, the TRAFFIC FINES DOUBLE sign will not be required on projects consisting solely of mobile operation work, such as striping or milling edgeline rumble strips. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits.

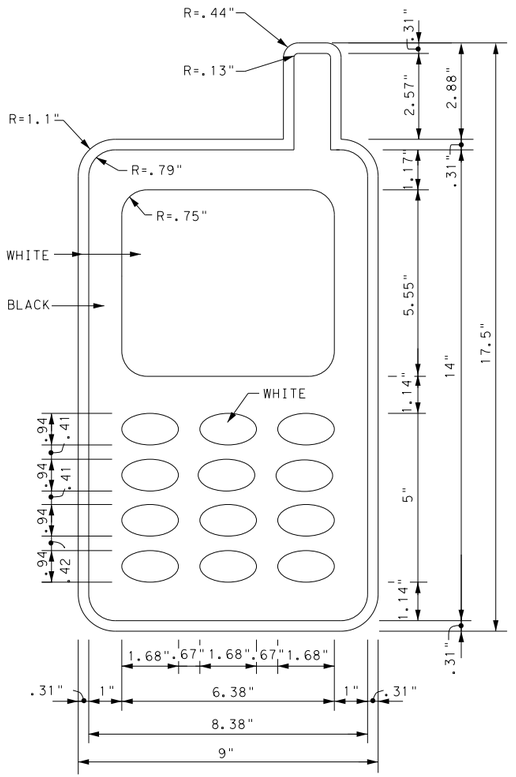
11. Except for devices required by Note 10, traffic control devices should be in place only while work is actually in progress or a definite need exists.

12. The Engineer has the final decision on the location of all traffic control devices.

13. Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

## WORKER SAFETY APPAREL NOTES:

1. Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear high-visibility safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel," or equivalent revisions, and labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.




SIGN DETAIL (G20-10T)


3.0" Radius, 1.25" Border, 0.75" Indent, Black on Yellow;
[STAY ALERT] Font: D
3.0" Radius, 1.25" Border, 0.75" Indent, Black on Orange;
[TALK OR TEXT LATER] Font: C specified length;

Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be found on-line at the web address given below or by contacting:

Texas Department of Transportation
Traffic Operations Division - TE
Phone (512) 416-3118

| THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT http://www.txdot.gov |
|---|
| COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICES LIST (CWZTCD) |
| DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS) |
| MATERIAL PRODUCER LIST (MPL) |
| ROADWAY DESIGN MANUAL - SEE "MANUALS (ONLINE MANUALS)" |
| STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS (SHSD) |
| TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) |
| TRAFFIC ENGINEERING STANDARD SHEETS |



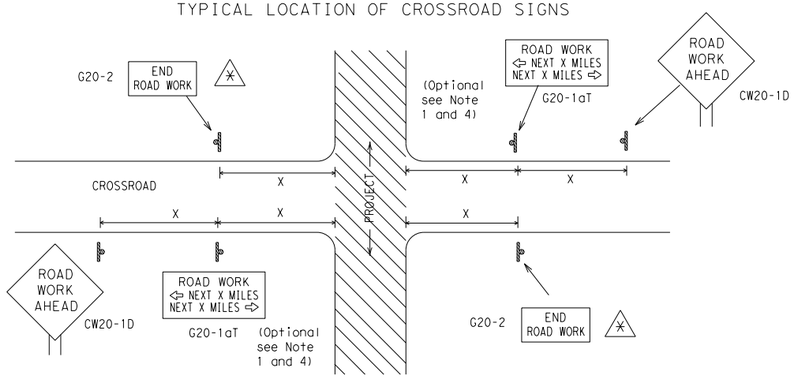
Texas Department of Transportation | Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

# BC(1)-14

| FILE: bc-14.dgn | DN: TxDOT | CK: TxDOT | DW: TxDOT | CK: TxDOT |
|---|---|---|---|---|
| ©TxDOT November 2002 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 576 | VARIES |
| 4-03 5-10 8-14 | DIST | COUNTY | | SHEET NO. |
| 9-07 7-13 | SAT | BEXAR | | 52 |

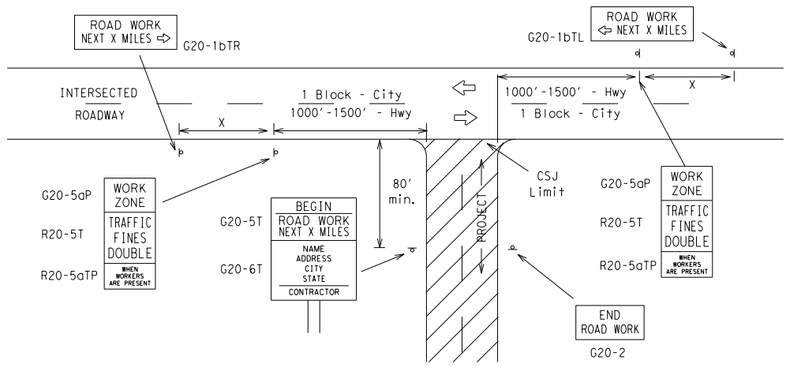
## TYPICAL LOCATION OF CROSSROAD SIGNS




✳ May be mounted on back of "ROAD WORK AHEAD"(CW20-1D) sign with approval of Engineer. (See note 2 below)

1. The typical minimum signing on a crossroad approach should be a "ROAD WORK AHEAD" (CW20-1D)sign and a (G20-2) "END ROAD WORK" sign, unless noted otherwise in plans.
2. The Engineer may use the reduced size 36" x 36" ROAD WORK AHEAD (CW20-1D) sign mounted back to back with the reduced size 36" x 18" "END ROAD WORK"(G20-2) sign on low volume crossroads (see Note 4 under "Typical Construction Warning Sign Size and Spacing"). See the "Standard Highway Sign Designs for Texas" manual for sign details. The Engineer may omit the advance warning signs on low volume crossroads. The Engineer will determine whether a road is low volume. This information shall be shown in the plans.
3. Based on existing field conditions, the Engineer/Inspector may require additional signs such as FLAGGER AHEAD, LOOSE GRAVEL, or other appropriate signs. When additional signs are required, these signs will be considered part of the minimum requirements. The Engineer/Inspector will determine the proper location and spacing of any sign not shown on the BC sheets, Traffic Control Plan sheets or the Work Zone Standard Sheets.
4. The "ROAD WORK NEXT X MILES"(G20-1aT)sign shall be required at high volume crossroads to advise motorists of the length of construction in either direction from the intersection. The Engineer will determine whether a roadway is considered high volume.
5. Additional traffic control devices may be shown elsewhere in the plans for higher volume crossroads.
6. When work occurs in the intersection area, appropriate traffic control devices, as shown elsewhere in the plans or as determined by the Engineer/Inspector, shall be in place.

## T-INTERSECTION




## CSJ LIMITS AT T-INTERSECTION

1. The Engineer will determine the types and location of any additional traffic control devices, such as a flagger and accompanying signs, or other signs, that should be used when work is being performed at or near an intersection.
2. If construction closes the road at a T-intersection the Contractor shall place the "CONTRACTOR NAME"(G20-6T) sign behind the Type 3 Barricades for the road closure (see BC(10) also). The "ROAD WORK NEXT X MILES" left arrow(G20-1bTL) and "ROAD WORK NEXT X MILES" right arrow (G20-1bTR)" signs shall be replaced by the detour signing called for in the plans.

## TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING[1,5,6]

| Sign Number or Series | Conventional Road (SIZE) | Expressway/ Freeway (SIZE) | Posted Speed (SPACING) | Sign Spacing "X" △ (SPACING) |
|---|---|---|---|---|
| | | | MPH | Feet (Apprx.) |
| CW20[4], CW21, CW22, CW23, CW25 | 48" x 48" | 48" x 48" | 30 | 120 |
| | | | 35 | 160 |
| | | | 40 | 240 |
| CW1, CW2, CW7, CW8, CW9, CW11, CW14 | 36" x 36" | 48" x 48" | 45 | 320 |
| | | | 50 | 400 |
| | | | 55 | 500[2] |
| | | | 60 | 600[2] |
| CW3, CW4, CW5, CW6, CW8-3, CW10, CW12 | 48" x 48" | 48" x 48" | 65 | 700[2] |
| | | | 70 | 800[2] |
| | | | 75 | 900[2] |
| | | | 80 | 1000[2] |
| | | | ✳ | ✳ [3] |

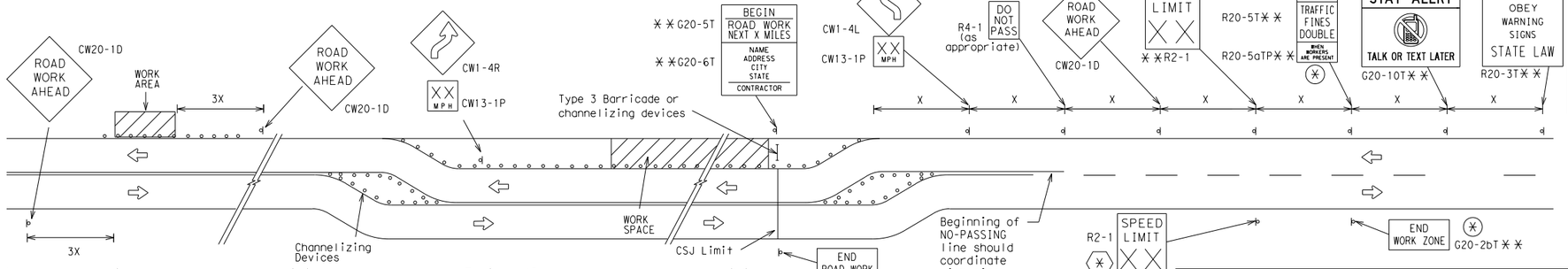
✳ For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

△ Minimum distance from work area to first Advance Warning sign nearest the work area and/or distance between each additional sign.

## GENERAL NOTES

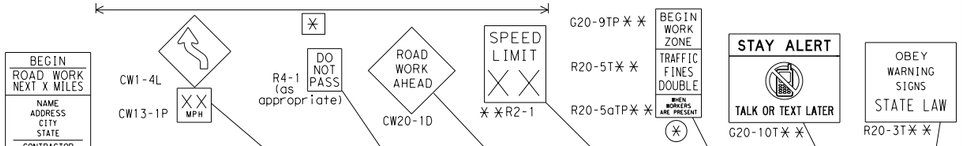
1. Special or larger size signs may be used as necessary.
2. Distance between signs should be increased as required to have 1500 feet advance warning.
3. Distance between signs should be increased as required to have 1/2 mile or more advance warning.
4. 36" x 36" "ROAD WORK AHEAD" (CW20-1D)signs may be used on low volume crossroads at the discretion of the Engineer. See Note 2 under "Typical Location of Crossroad Signs".
5. Only diamond shaped warning sign sizes are indicated.
6. See sign size listing in "TMUTCD", Sign Appendix or the "Standard Highway Sign Designs for Texas" manual for complete list of available sign design sizes.

## WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS

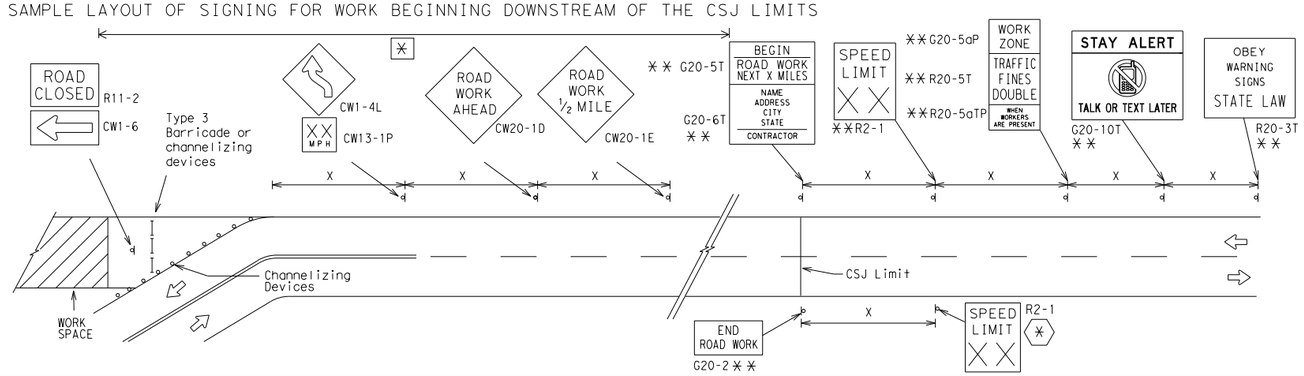



When extended distances occur between minimal work spaces, the Engineer/Inspector should ensure additional "ROAD WORK AHEAD"(CW20-1D)signs are placed in advance of these work areas to remind drivers they are still within the project limits. See the applicable TCP sheets for exact location and spacing of signs and channelizing devices.

## SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT THE CSJ LIMITS




## SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING DOWNSTREAM OF THE CSJ LIMITS




## NOTES

The Contractor shall determine the appropriate distance to be placed on the G20-1 series signs and "BEGIN ROAD WORK NEXT X MILES"(G20-5T)sign for each specific project. This distance shall replace the "X" and shall be rounded to the nearest whole mile with the approval of the Engineer. No decimals shall be used.

(✳) The "BEGIN WORK ZONE"(G20-9TP) and "END WORK ZONE" (G20-2bT) shall be used as shown on the sample layout when advance signs are required outside the CSJ Limits. They inform the motorist of entering or leaving a part of the work zone lying outside the CSJ Limits where traffic fines may double if workers are present.

✳✳ Required CSJ Limit signing. See Note 10 on BC(1). TRAFFIC FINES DOUBLE signs will not be required on projects consisting solely of mobile operations work.

[✳] Area for placement of "ROAD WORK AHEAD" (CW20-1D)sign and other signs or devices as called for on the Traffic Control Plan.

(✳) Contractor will install a regulatory speed limit sign at the end of the work zone.

| LEGEND | |
|---|---|
| ⊢⊣ | Type 3 Barricade |
| ○ ○ ○ | Channelizing Devices |
| ▬ | Sign |
| X | See Typical Construction Warning Sign Size and Spacing chart or the TMUTCD for sign spacing requirements. |



Texas Department of Transportation

Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION PROJECT LIMIT

## BC(2)-14

| FILE: bc-14.dgn | DN: TxDOT | CK: TxDOT | DW: TxDOT | CK: TxDOT |
|---|---|---|---|---|
| ©TxDOT November 2002 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 576 | VARIES |
| 9-07 8-14 | DIST | COUNTY | | SHEET NO. |
| 7-13 | SAT | BEXAR | | 53 |

96

DATE: 4/10/2019 8:08:17 AM
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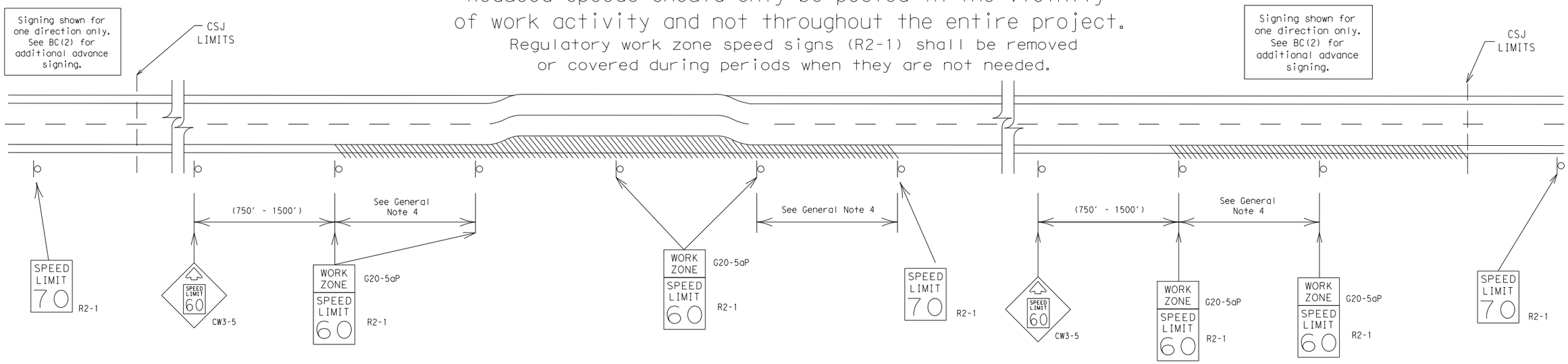
# TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

Work zone speed limits shall be regulatory, established in accordance with the "Procedures for Establishing Speed Zones," and approved by the Texas Transportation Commission, or by City Ordinance when within Incorporated City Limits.

Reduced speeds should only be posted in the vicinity of work activity and not throughout the entire project.

Regulatory work zone speed signs (R2-1) shall be removed or covered during periods when they are not needed.




## GUIDANCE FOR USE:

### LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed are present in the work zone and modification of the geometrics to a higher design speed is not feasible.

Long/Intermediate Term Work Zone Speed Limit signs, when approved as described above, should be posted and visible to the motorist when work activity is present. Work activity may also be defined as a change in the roadway that requires a reduced speed for motorists to safely negotiate the work area, including:

a) rough road or damaged pavement surface
b) substantial alteration of roadway geometrics (diversions)
c) construction detours
d) grade
e) width
f) other conditions readily apparent to the driver

As long as any of these conditions exist, the work zone speed limit signs should remain in place.

### SHORT TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit may be included on the design of the traffic control plans when workers or equipment are not behind concrete barrier, when work activity is within 10 feet of the traveled way or actually in the travelled way.

Short Term Work Zone Speed Limit signs should be posted and visible to the motorists only when work activity is present. When work activity is not present, signs shall be removed or covered.
(See Removing or Covering on BC(4)).

### GENERAL NOTES

1. Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.
2. Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height.
3. Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
4. Frequency of work zone speed limit signs should be:
   40 mph and greater 0.2 to 2 miles
   35 mph and less 0.2 to 1 mile
5. Regulatory speed limit signs shall have black legend and border on a white reflective background (See "Reflective Sheeting" on BC(4)).
6. Fabrication, erection and maintenance of the"ADVANCE SPEED LIMIT"(CW3-5)sign, "WORK ZONE"(G20-5aP) plaque and the "SPEED LIMIT"(R2-1)signs shall not be paid for directly, but shall be considered subsidiary to Item 502.
7. Turning signs from view, laying signs over or down will not be allowed, unless as otherwise noted under "REMOVING OR COVERING" on BC(4).
8. Techniques that may help reduce traffic speeds include but are not limited to:
   A. Law enforcement.
   B. Flagger stationed next to sign.
   C. Portable changeable message sign (PCMS).
   D. Low-power (drone) radar transmitter.
   E. Speed monitor trailers or signs.
9. Speeds shown on details above are for illustration only. Work Zone Speed Limits should only be posted as approved for each project.
10. For more specific guidance concerning the type of work, work zone conditions and factors impacting allowable regulatory construction speed zone reduction see TxDOT form #1204 in the TxDOT e-form system.



Texas Department of Transportation

Traffic Operations Division Standard

## BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT

## BC(3)-14

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|---|---|---|---|---|
| ©TxDOT November 2002 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS 9-07 8-14 7-13 | 0915 | 12 | 576 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 54 |



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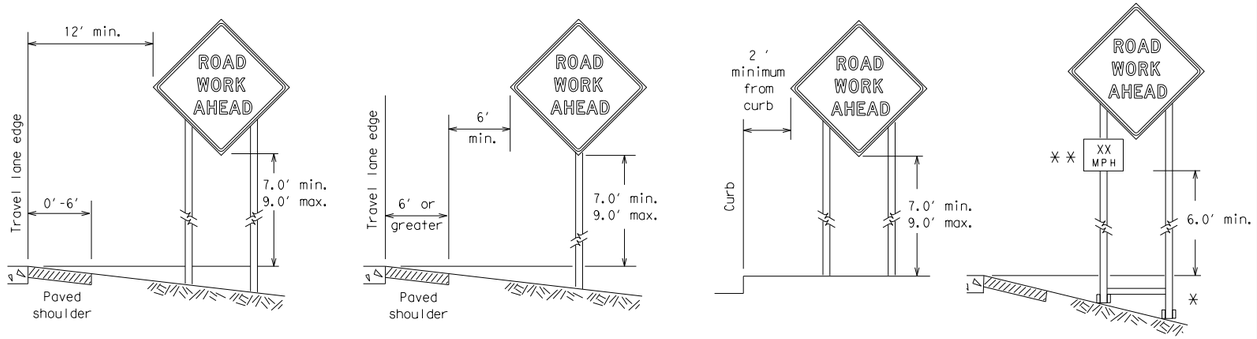
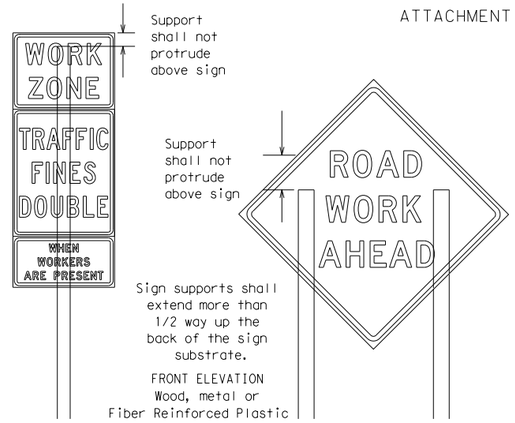
## TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS




⁎ When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

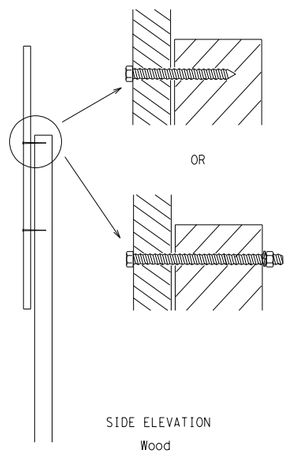
⁎⁎ When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.

## ATTACHMENT FOR SIGN SUPPORTS




FRONT ELEVATION
Wood, metal or Fiber Reinforced Plastic

Splicing embedded perforated square metal tubing in order to extend post height will only be allowed when the splice is made using four bolts, two above and two below the spice point. Splice must be located entirely behind the sign substrate, not near the base of the support. Splice insert lengths should be at least 5 times nominal post size, centered on the splice and of at least the same gauge material.



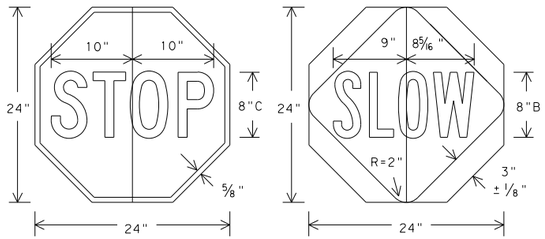

SIDE ELEVATION
Wood

Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

Nails shall NOT be allowed. Each sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Wood supports shall not be extended or repaired by splicing or other means.

## STOP/SLOW PADDLES

1. STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24" as detailed below.
2. When used at night, the STOP/SLOW paddle shall be retroreflectorized.
3. STOP/SLOW paddles may be attached to a staff with a minimum length of 6′ to the bottom of the sign.
4. Any lights incorporated into the STOP or SLOW paddle faces shall only be as specifically described in Section 6E.03 Hand Signaling Devices in the TMUTCD.




Background - Red
Legend & Border - White

Background - Orange
Legend & Border - Black

## CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.
2. When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition.
3. When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
4. If existing signs are to be relocated on their original supports, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
5. If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC sheets or the CWZTCD. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
6. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

## GENERAL NOTES FOR WORK ZONE SIGNS

1. Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
5. The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
6. The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD). The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
7. The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
8. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1 inch.
9. The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.

## DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part 6)

1. The types of sign supports, sign mounting height, the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations in regard to crashworthiness and duration of work requirements.
   a. Long-term stationary - work that occupies a location more than 3 days.
   b. Intermediate-term stationary - work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than one hour.
   c. Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
   d. Short, duration - work that occupies a location up to 1 hour.
   e. Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

## SIGN MOUNTING HEIGHT

1. The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface, except as shown for supplemental plaques mounted below other signs.
2. The bottom of Short-term/Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above the ground.
3. Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
4. Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the workday or raised to appropriate Long-term/Intermediate sign height.
5. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

## SIZE OF SIGNS

1. The Contractor shall furnish the sign sizes shown on BC (2) unless otherwise shown in the plans or as directed by the Engineer.

## SIGN SUBSTRATES

1. The Contractor shall ensure the sign substrate is installed in accordance with the manufacturer's recommendations for the type of sign support that is being used. The CWZTCD lists each substrate that can be used on the different types and models of sign supports.
2. "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
3. All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleat, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods of splicing the sign face.

## REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 for rigid signs or DMS-8310 for roll-up signs. The web address for DMS specifications is shown on BC(1).
2. White sheeting, meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
3. Orange sheeting, meeting the requirements of DMS-8300 Type $B_{FL}$ or Type $C_{FL}$, shall be used for rigid signs with orange backgrounds.

## SIGN LETTERS

1. All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration (FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

## REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
2. Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This technique may not be used for signs installed in the median of divided highways or near any intersections where the sign may be seen from approaching traffic.
3. Signs installed on wooden skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
4. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night, without damaging the sign sheeting.
5. Burlap shall NOT be used to cover signs.
6. Duct tape or other adhesive material shall NOT be affixed to a sign face.
7. Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

## SIGN SUPPORT WEIGHTS

1. Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall NOT be used.
6. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

## FLAGS ON SIGNS

1. Flags may be used to draw attention to warning signs. When used the flag shall be 16 inches square or larger and shall be orange or fluorescent red-orange in color. Flags shall not be allowed to cover any portion of the sign face.



Texas Department of Transportation

Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

# BC(4)-14

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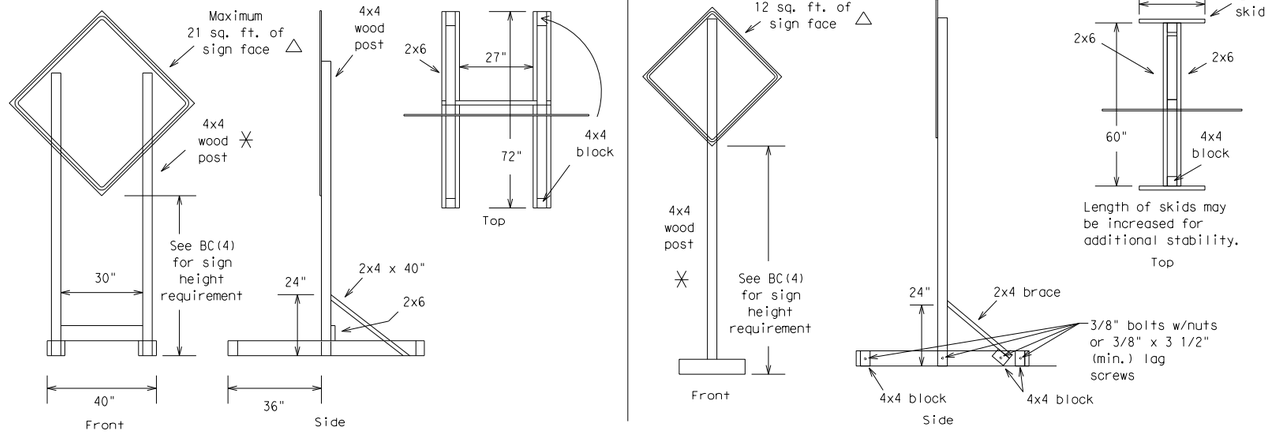
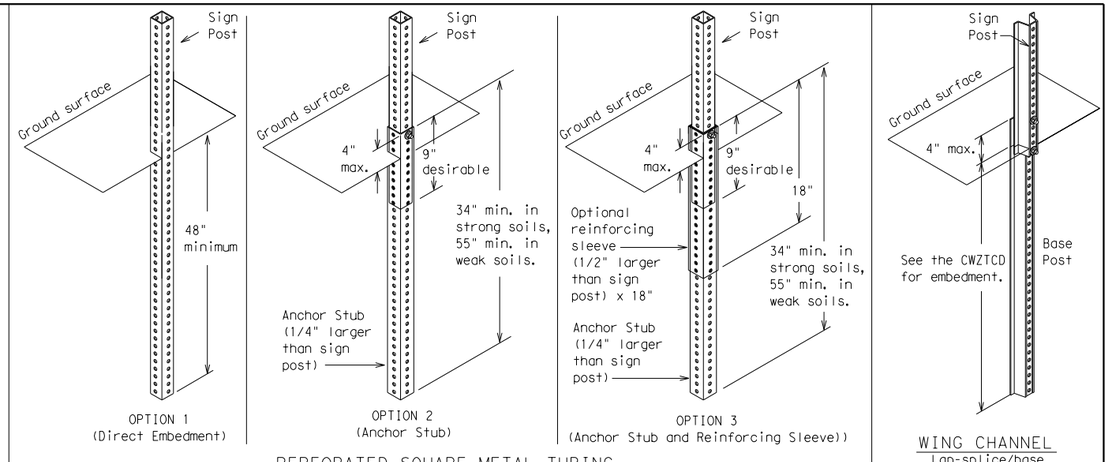



## SKID MOUNTED WOOD SIGN SUPPORTS

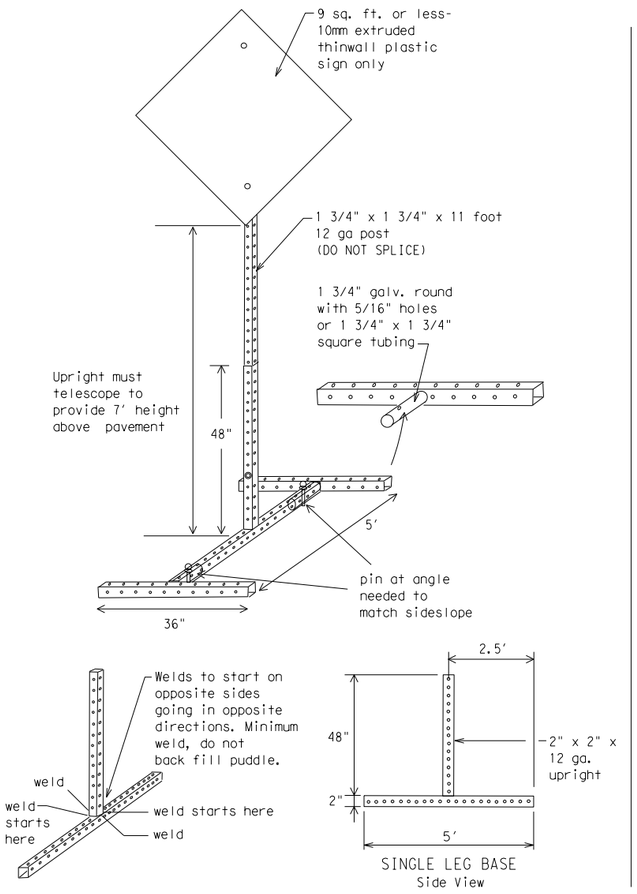
LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS □

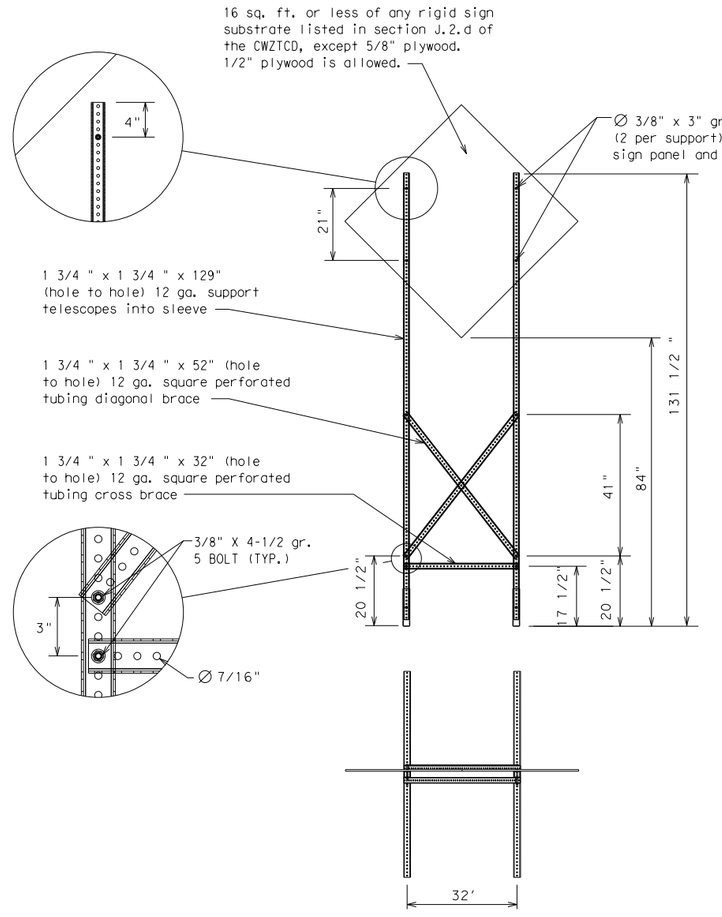


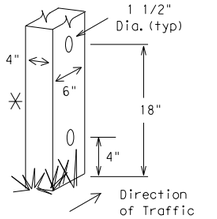

PERFORATED SQUARE METAL TUBING

## GROUND MOUNTED SIGN SUPPORTS

Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support.
The maximum sign square footage shall adhere to the manufacturer's recommendation.
Two post installations can be used for larger signs.

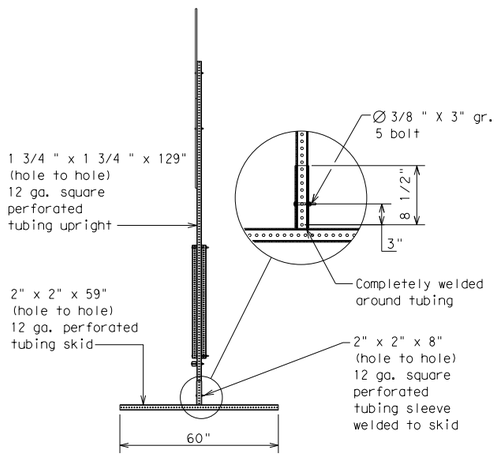



| Nominal Post Size | Number of Posts | Maximum Sq. feet of Sign Face | Minimum Soil Embedment | Drilled Hole(s) Required |
|---|---|---|---|---|
| 4 x 4 | 1 | 12 | 36" | NO |
| 4 x 4 | 2 | 21 | 36" | NO |
| 4 x 6 | 1 | 21 | 36" | YES |
| 4 x 6 | 2 | 36 | 36" | YES |

WOOD POST SYSTEM FOR GROUND MOUNTED SIGN SUPPORTS




## WEDGE ANCHORS

Both steel and plastic Wedge Anchor Systems as shown on the SMD Standard Sheets may be used as temporary sign supports for signs up to 10 square feet of sign face. They may be set in concrete or in sturdy soils if approved by the Engineer. (See web address for "Traffic Engineering Standard Sheets" on BC(1)).

## OTHER DESIGNS

MORE DETAILS OF APPROVED LONG/INTERMEDIATE AND SHORT TERM SUPPORTS CAN BE FOUND ON THE CWZTCD LIST. SEE BC(1) FOR WEBSITE LOCATION.

### GENERAL NOTES

1. Nails may be used in the assembly of wooden sign supports, but 3/8" bolts with nuts or 3/8" x 3 1/2" lag screws must be used on every joint for final connection.
2. No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on the CWZTCD List.
3. When project is completed, all sign supports and foundations shall be removed from the project site. This will be considered subsidiary to Item 502.

□ See BC(4) for definition of "Work Duration."

✳ Wood sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.

△ See the CWZTCD for the type of sign substrate that can be used for each approved sign support.

SHEET 5 OF 12

Texas Department of Transportation | Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

# BC(5)-14

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99

WHEN NOT IN USE, REMOVE THE PCMS FROM THE RIGHT-OF-WAY OR PLACE THE PCMS BEHIND BARRIER OR GUARDRAIL WITH SIGN PANEL TURNED PARALLEL TO TRAFFIC

## PORTABLE CHANGEABLE MESSAGE SIGNS

1. The Engineer/Inspector shall approve all messages used on portable changeable message signs (PCMS).
2. Messages on PCMS should contain no more than 8 words (about four to eight characters per word), not including simple words such as "TO," "FOR," "AT," etc.
3. Messages should consist of a single phase, or two phases that alternate. Three-phase messages are not allowed. Each phase of the message should convey a single thought, and must be understood by itself.
4. Use the word "EXIT" to refer to an exit ramp on a freeway; i.e., "EXIT CLOSED." Do not use the term "RAMP."
5. Always use the route or interstate designation (IH, US, SH, FM) along with the number when referring to a roadway.
6. When in use the bottom of a stationary PCMS message panel should be a minimum 7 feet above the roadway, where possible.
7. The message term "WEEKEND" should be used only if the work is to start on Saturday morning and end by Sunday evening at midnight. Actual days and hours of work should be displayed on the PCMS if work is to begin on Friday evening and/or continue into Monday morning.
8. The Engineer/Inspector may select one of two options which are available for displaying a two-phase message on a PCMS. Each phase may be displayed for either four seconds each or for three seconds each.
9. Do not "flash" messages or words included in a message. The message should be steady burn or continuous while displayed.
10. Do not present redundant information on a two-phase message; i.e., keeping two lines of the message the same and changing the third line.
11. Do not use the word "Danger" in message.
12. Do not display the message "LANES SHIFT LEFT" or "LANES SHIFT RIGHT" on a PCMS. Drivers do not understand the message.
13. Do not display messages that scroll horizontally or vertically across the face of the sign.
14. The following table lists abbreviated words and two-word phrases that are acceptable for use on a PCMS. Both words in a phrase must be displayed together. Words or phrases not on this list should not be abbreviated, unless shown in the TMUTCD.
15. PCMS character height should be at least 18 inches for trailer mounted units. They should be visible from at least 1/2 (.5) mile and the text should be legible from at least 600 feet at night and 800 feet in daylight. Truck mounted units must have a character height of 10 inches and must be legible from at least 400 feet.
16. Each line of text should be centered on the message board rather than left or right justified.
17. If disabled, the PCMS should default to an illegible display that will not alarm motorists and will only be used to alert workers that the PCMS has malfunctioned. A pattern such as a series of horizontal solid bars is appropriate.

| WORD OR PHRASE | ABBREVIATION |
|---|---|
| Access Road | ACCS RD |
| Alternate | ALT |
| Avenue | AVE |
| Best Route | BEST RTE |
| Boulevard | BLVD |
| Bridge | BRDG |
| Cannot | CANT |
| Center | CTR |
| Construction Ahead | CONST AHD |
| CROSSING | XING |
| Detour Route | DETOUR RTE |
| Do Not | DONT |
| East | E |
| Eastbound | (route) E |
| Emergency | EMER |
| Emergency Vehicle | EMER VEH |
| Entrance, Enter | ENT |
| Express Lane | EXP LN |
| Expressway | EXPWY |
| XXXX Feet | XXXX FT |
| Fog Ahead | FOG AHD |
| Freeway | FRWY, FWY |
| Freeway Blocked | FWY BLKD |
| Friday | FRI |
| Hazardous Driving | HAZ DRIVING |
| Hazardous Material | HAZMAT |
| High-Occupancy | HOV |
| Vehicle Highway | HWY |
| Hour(s) | HR, HRS |
| Information | INFO |
| It Is | ITS |
| Junction | JCT |
| Left | LFT |
| Left Lane | LFT LN |
| Lane Closed | LN CLOSED |
| Lower Level | LWR LEVEL |
| Maintenance | MAINT |

| WORD OR PHRASE | ABBREVIATION |
|---|---|
| Major | MAJ |
| Miles | MI |
| Miles Per Hour | MPH |
| Minor | MNR |
| Monday | MON |
| Normal | NORM |
| North | N |
| Northbound | (route) N |
| Parking | PKING |
| Road | RD |
| Right Lane | RT LN |
| Saturday | SAT |
| Service Road | SERV RD |
| Shoulder | SHLDR |
| Slippery | SLIP |
| South | S |
| Southbound | (route) S |
| Speed | SPD |
| Street | ST |
| Sunday | SUN |
| Telephone | PHONE |
| Temporary | TEMP |
| Thursday | THURS |
| To Downtown | TO DWNTN |
| Traffic | TRAF |
| Travelers | TRVLRS |
| Tuesday | TUES |
| Time Minutes | TIME MIN |
| Upper Level | UPR LEVEL |
| Vehicles (s) | VEH, VEHS |
| Warning | WARN |
| Wednesday | WED |
| Weight Limit | WT LIMIT |
| West | W |
| Westbound | (route) W |
| Wet Pavement | WET PVMT |
| Will Not | WONT |

Roadway designation # IH-number, US-number, SH-number, FM-number

# RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

(The Engineer may approve other messages not specifically covered here.)

## Phase 1: Condition Lists

### Road/Lane/Ramp Closure List

| | |
|---|---|
| FREEWAY CLOSED X MILE | FRONTAGE ROAD CLOSED |
| ROAD CLOSED AT SH XXX | SHOULDER CLOSED XXX FT |
| ROAD CLSD AT FM XXXX | RIGHT LN CLOSED XXX FT |
| RIGHT X LANES CLOSED | RIGHT X LANES OPEN |
| CENTER LANE CLOSED | DAYTIME LANE CLOSURES |
| NIGHT LANE CLOSURES | I-XX SOUTH EXIT CLOSED |
| VARIOUS LANES CLOSED | EXIT XXX CLOSED X MILE |
| EXIT CLOSED | RIGHT LN TO BE CLOSED |
| MALL DRIVEWAY CLOSED | X LANES CLOSED TUE - FRI |
| XXXXXXXX BLVD CLOSED | |

### Other Condition List

| | |
|---|---|
| ROADWORK XXX FT | ROAD REPAIRS XXXX FT |
| FLAGGER XXXX FT | LANE NARROWS XXXX FT |
| RIGHT LN NARROWS XXXX FT | TWO-WAY TRAFFIC XX MILE |
| MERGING TRAFFIC XXXX FT | CONST TRAFFIC XXX FT |
| LOOSE GRAVEL XXXX FT | UNEVEN LANES XXXX FT |
| DETOUR X MILE | ROUGH ROAD XXXX FT |
| ROADWORK PAST SH XXXX | ROADWORK NEXT FRI-SUN |
| BUMP XXXX FT | US XXX EXIT X MILES |
| TRAFFIC SIGNAL XXXX FT | LANES SHIFT * |

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

## Phase 2: Possible Component Lists

### Action to Take/Effect on Travel List

| | |
|---|---|
| MERGE RIGHT | FORM X LINES RIGHT |
| DETOUR NEXT X EXITS | USE XXXXX RD EXIT |
| USE EXIT XXX | USE EXIT I-XX NORTH |
| STAY ON US XXX SOUTH | USE I-XX E TO I-XX N |
| TRUCKS USE US XXX N | WATCH FOR TRUCKS |
| WATCH FOR TRUCKS | EXPECT DELAYS |
| EXPECT DELAYS | PREPARE TO STOP |
| REDUCE SPEED XXX FT | END SHOULDER USE |
| USE OTHER ROUTES | WATCH FOR WORKERS |
| STAY IN LANE * | |

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

### Location List

| |
|---|
| AT FM XXXX |
| BEFORE RAILROAD CROSSING |
| NEXT X MILES |
| PAST US XXX EXIT |
| XXXXXXX TO XXXXXXX |
| US XXX TO FM XXXX |

### Warning List

| |
|---|
| SPEED LIMIT XX MPH |
| MAXIMUM SPEED XX MPH |
| MINIMUM SPEED XX MPH |
| ADVISORY SPEED XX MPH |
| RIGHT LANE EXIT |
| USE CAUTION |
| DRIVE SAFELY |
| DRIVE WITH CARE |

### ** Advance Notice List

| |
|---|
| TUE-FRI XX AM- X PM |
| APR XX-XX X PM-X AM |
| BEGINS MONDAY |
| BEGINS MAY XX |
| MAY X-X XX PM - XX AM |
| NEXT FRI-SUN |
| XX AM TO XX PM |
| NEXT TUE AUG XX |
| TONIGHT XX PM- XX AM |

** See Application Guidelines Note 6.

## APPLICATION GUIDELINES

1. Only 1 or 2 phases are to be used on a PCMS.
2. The 1st phase (or both) should be selected from the "Road/Lane/Ramp Closure List" and the "Other Condition List".
3. A 2nd phase can be selected from the "Action to Take/Effect on Travel, Location, General Warning, or Advance Notice Phase Lists".
4. A Location Phase is necessary only if a distance or location is not included in the first phase selected.
5. If two PCMS are used in sequence, they must be separated by a minimum of 1000 ft. Each PCMS shall be limited to two phases, and should be understandable by themselves.
6. For advance notice, when the current date is within seven days of the actual work date, calendar days should be replaced with days of the week. Advance notification should typically be for no more than one week prior to the work.

## WORDING ALTERNATIVES

1. The words RIGHT, LEFT and ALL can be interchanged as appropriate.
2. Roadway designations IH, US, SH, FM and LP can be interchanged as appropriate.
3. EAST, WEST, NORTH and SOUTH (or abbreviations E, W, N and S) can be interchanged as appropriate.
4. Highway names and numbers replaced as appropriate.
5. ROAD, HIGHWAY and FREEWAY can be interchanged as needed.
6. AHEAD may be used instead of distances if necessary.
7. FT and MI, MILE and MILES interchanged as appropriate.
8. AT, BEFORE and PAST interchanged as needed.
9. Distances or AHEAD can be eliminated from the message if a location phase is used.

PCMS SIGNS WITHIN THE R.O.W. SHALL BE BEHIND GUARDRAIL OR CONCRETE BARRIER OR SHALL HAVE A MINIMUM OF FOUR (4) PLASTIC DRUMS PLACED PERPENDICULAR TO TRAFFIC ON THE UPSTREAM SIDE OF THE PCMS, WHEN EXPOSED TO ONE DIRECTION OF TRAFFIC. WHEN EXPOSED TO TWO WAY TRAFFIC, THE FOUR DRUMS SHOULD BE PLACED WITH ONE DRUM AT EACH OF THE FOUR CORNERS OF THE UNIT.

## FULL MATRIX PCMS SIGNS

1. When Full Matrix PCMS signs are used, the character height and legibility/visibility requirements shall be maintained as listed in Note 15 under "PORTABLE CHANGEABLE MESSAGE SIGNS" above.
2. When symbol signs, such as the "Flagger Symbol"(CW20-7) are represented graphically on the Full Matrix PCMS sign and, with the approval of the Engineer, it shall maintain the legibility/visibility requirement listed above.
3. When symbol signs are represented graphically on the Full Matrix PCMS, they shall only supplement the use of the static sign represented, and shall not substitute for, or replace that sign.
4. A full matrix PCMS may be used to simulate a flashing arrow board provided it meets the visibility, flash rate and dimming requirements on BC(7), for the same size arrow.



Texas Department of Transportation

Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

# BC(6)-14

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|---|---|---|---|---|
| ©TxDOT November 2002 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 576 | VARIES |
| 9-07 8-14 | DIST | COUNTY | | SHEET NO. |
| 7-13 | SAT | BEXAR | | 57 |

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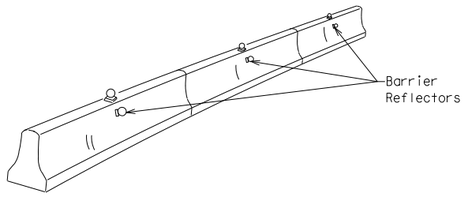
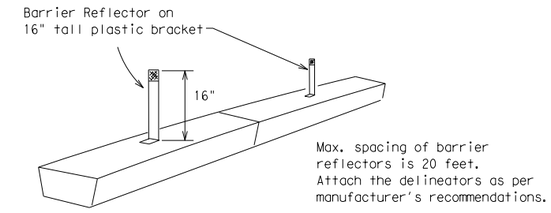
1. Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
2. Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 512.

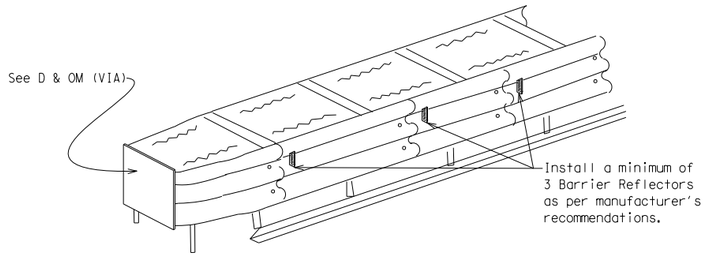



CONCRETE TRAFFIC BARRIER (CTB)

3. Where traffic is on one side of the CTB, two (2) Barrier Reflectors shall be mounted in approximately the midsection of each section of CTB. An alternate mounting location is uniformly spaced at one end of each CTB. This will allow for attachment of a barrier grapple without damaging the reflector. The Barrier Reflector mounted on the side of the CTB shall be located directly below the reflector mounted on top of the barrier, as shown in the detail above.
4. Where CTB separates two-way traffic, three barrier reflectors shall be mounted on each section of CTB. The reflector unit on top shall have two yellow reflective faces (Bi-Directional)while the reflectors on each side of the barrier shall have one yellow reflective face, as shown in the detail above.
5. When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
6. Barrier Reflector units shall be yellow or white in color to match the edgeline being supplemented.
7. Maximum spacing of Barrier Reflectors is forty (40) feet.
8. Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
9. Attachment of Barrier Reflectors to CTB shall be per manufacturer's recommendations.
10. Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer.
11. Single slope barriers shall be delineated as shown on the above detail.




LOW PROFILE CONCRETE BARRIER (LPCB)

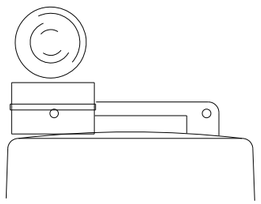



DELINEATION OF END TREATMENTS

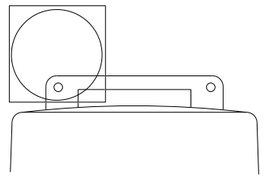
END TREATMENTS FOR
CTB'S USED
IN WORK ZONES

End treatments used on CTB's in work zones shall meet crashworthy standards as defined in the National Cooperative Highway Research Report 350. Refer to the CWZTCD List for approved end treatments and manufacturers.

# BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS



Type C Warning Light or approved substitute mounted on a drum adjacent to the travel way.



Warning reflector may be round or square.Must have a yellow reflective surface area of at least 30 square inches

## WARNING LIGHTS

1. Warning lights shall meet the requirements of the TMUTCD.
2. Warning lights shall NOT be installed on barricades.
3. Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type $B_{FL}$ or $C_{FL}$ Sheeting meeting the requirements of Departmental Material Specification DMS-8300.
4. Type-C and Type D 360 degree Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
5. The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
6. When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights.
7. When used to delineate curves, Type-C and Type D Steady Burn Lights should only be placed on the outside of the curve, not the inside.
8. The location of warning lights and warning reflectors on drums shall be as shown elsewhere in the plans.

## WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

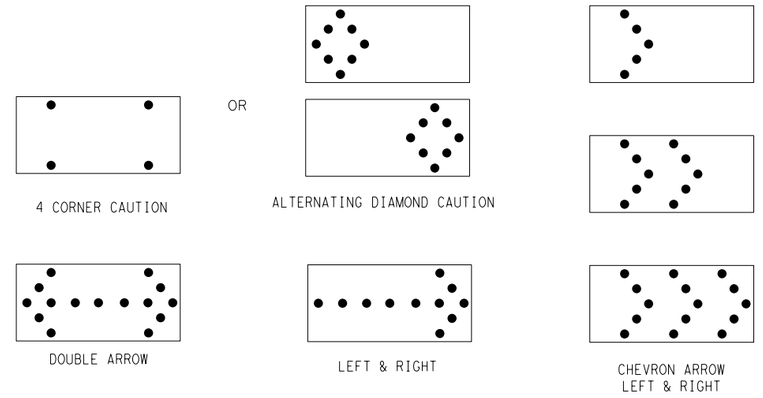
1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing devices to form a merging taper may be used for delineation. If used, the successive flashing of the sequential warning lights should occur from the beginning of the taper to the end of the merging taper in order to identify the desired vehicle path. The rate of flashing for each light shall be 65 flashes per minute, plus or minus 10 flashes.
4. Type C and D steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
5. Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
6. Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
7. The maximum spacing for warning lights on drums should be identical to the channelizing device spacing.

## WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C (STEADY BURN) WARNING LIGHTS

1. A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
2. The warning reflector shall be yellow in color and shall be manufactured using a sign substrate approved for use with plastic drums listed on the CWZTCD.
3. The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
4. Round reflectors shall be fully reflectorized, including the area where attached to the drum.
5. Square substrates must have a minimum of 30 square inches of reflectorized sheeting. They do not have to be reflectorized where it attaches to the drum.
6. The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type B or Type C.
7. When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
8. The warning reflector should be mounted on the side of the handle nearest approaching traffic.
9. The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.

Arrow Boards may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

1. The Flashing Arrow Board should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
2. Flashing Arrow Boards should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
3. The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Board.
4. The Flashing Arrow Board should be able to display the following symbols:




4 CORNER CAUTION

ALTERNATING DIAMOND CAUTION

DOUBLE ARROW

LEFT & RIGHT

CHEVRON ARROW
LEFT & RIGHT

5. The "CAUTION" display consists of four corner lamps flashing simultaneously, or the Alternating Diamond Caution mode as shown.
6. The straight line caution display is NOT ALLOWED.
7. The Flashing Arrow Board shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
8. Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
9. The sequential arrow display is NOT ALLOWED.
10. The flashing arrow display is the TxDOT standard; however, the sequential Chevron display may be used during daylight operations.
11. The Flashing Arrow Board shall be mounted on a vehicle, trailer or other suitable support.
12. A Flashing Arrow Board SHALL NOT BE USED to laterally shift traffic.
13. A full matrix PCMS may be used to simulate a Flashing Arrow Board provided it meets visibility, flash rate and dimming requirements on this sheet for the same size arrow.
14. Minimum mounting height of trailer mounted Arrow Boards should be 7 feet from roadway to bottom of panel.

| REQUIREMENTS | | | |
|---|---|---|---|
| TYPE | MINIMUM SIZE | MINIMUM NUMBER OF PANEL LAMPS | MINIMUM VISIBILITY DISTANCE |
| B | 30 x 60 | 13 | 3/4 mile |
| C | 48 x 96 | 15 | 1 mile |

| ATTENTION |
|---|
| Flashing Arrow Boards shall be equipped with automatic dimming devices. |

WHEN NOT IN USE, REMOVE THE ARROW BOARD FROM THE RIGHT-OF-WAY OR PLACE THE ARROW BOARD BEHIND CONCRETE TRAFFIC BARRIER OR GUARDRAIL.

# FLASHING ARROW BOARDS

## TRUCK-MOUNTED ATTENUATORS

1. Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the National Cooperative Highway Research Report No. 350 (NCHRP 350) or the Manual for Assessing Safety Hardware (MASH).
2. Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
3. Refer to the CWZTCD for a list of approved TMAs.
4. TMAs are required on freeways unless otherwise noted in the plans.
5. A TMA should be used anytime that it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
6. The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is an extended distance from the TMA.



Texas Department of Transportation

Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR

# BC(7)-14

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| © TxDOT November 2002 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 576 | VARIES |
| 9-07 8-14 | DIST | COUNTY | | SHEET NO. |
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## GENERAL NOTES

1. For long term stationary work zones on freeways, drums shall be used as the primary channelizing device.
2. For intermediate term stationary work zones on freeways, drums should be used as the primary channelizing device but may be replaced in tangent sections by vertical panels, or 42" two-piece cones. In tangent sections one-piece cones may be used with the approval of the Engineer but only if personnel are present on the project at all times to maintain the cones in proper position and location.
3. For short term stationary work zones on freeways, drums are the preferred channelizing device but may be replaced in tapers, transitions and tangent sections by vertical panels, two-piece cones or one-piece cones as approved by the Engineer.
4. Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
5. Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
6. The Contractor shall have a maximum of 24 hours to replace any plastic drums identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

## GENERAL DESIGN REQUIREMENTS

Pre-qualified plastic drums shall meet the following requirements:

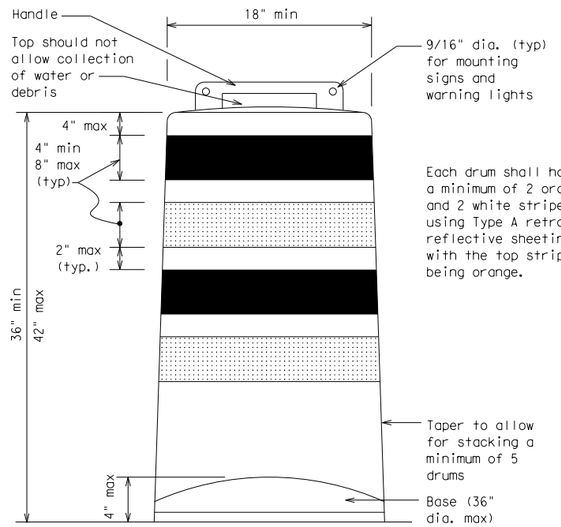
1. Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles.
3. Plastic drums shall be constructed of lightweight flexible, and deformable materials. The Contractor shall NOT use metal drums or single piece plastic drums as channelization devices or sign supports.
4. Drums shall present a profile that is a minimum of 18 inches in width at the 36 inch height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.
5. The top of the drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 9/16 inch diameter holes to allow attachment of a warning light, warning reflector unit or approved compliant sign.
6. The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectorized space between any two adjacent stripes shall not exceed 2 inches in width.
7. Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.
8. Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
9. Drum body shall have a maximum unballasted weight of 11 lbs.
10. Drum and base shall be marked with manufacturer's name and model number.

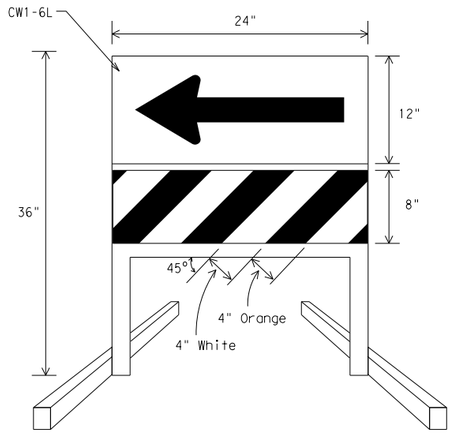
## RETROREFLECTIVE SHEETING

1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials." Type A reflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, cracking, or loss of retroreflectivity other than that loss due to abrasion of the sheeting surface.

## BALLAST

1. Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of sandbags will be allowed, however height of sandbags above pavement surface may not exceed 12 inches.
2. Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs. Built-in ballast can be constructed of an integral crumb rubber base or a solid rubber base.
3. Recycled truck tire sidewalls may be used for ballast on drums approved for this type of ballast on the CWZTCD list.
4. The ballast shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle.
5. When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle.
6. Ballast shall not be placed on top of drums.
7. Adhesives may be used to secure base of drums to pavement.

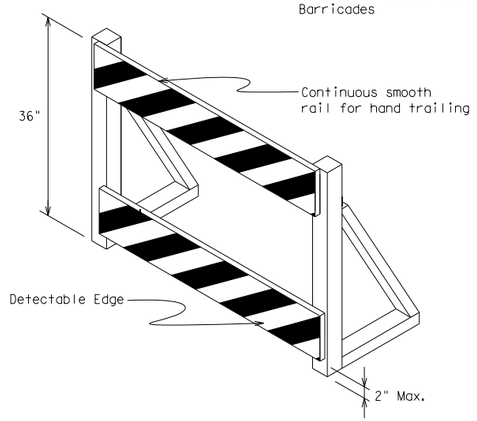



## DIRECTION INDICATOR BARRICADE

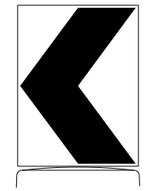
1. The Direction Indicator Barricade may be used in tapers, transitions, and other areas where specific directional guidance to drivers is necessary.
2. If used, the Direction Indicator Barricade should be used in series to direct the driver through the transition and into the intended travel lane.
3. The Direction Indicator Barricade shall consist of One-Direction Large Arrow (CW1-6) sign in the size shown with a black arrow on a background of Type $B_{FL}$ or Type $C_{FL}$ Orange retroreflective sheeting above a rail with Type A retroreflective sheeting in alternating 4" white and orange stripes sloping downward at an angle of 45 degrees in the direction road users are to pass. Sheeting types shall be as per DMS 8300.
4. Double arrows on the Direction Indicator Barricade will not be allowed.
5. Approved manufacturers are shown on the CWZTCD List. Ballast shall be as approved by the manufacturers instructions.

This detail is not intended for fabrication. See note 3 and the CWZTCD list for providers of approved Detectable Pedestrian Barricades

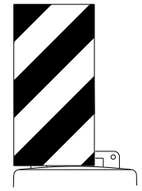



## DETECTABLE PEDESTRIAN BARRICADES

1. When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility.
2. Where pedestrians with visual disabilities normally use the closed sidewalk, a device that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.
3. Detectable pedestrian barricades similar to the one pictured above, longitudinal channelizing devices, some concrete barriers, and wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.
4. Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)" and should not be used as a control for pedestrian movements.
5. Warning lights shall not be attached to detectable pedestrian barricades.
6. Detectable pedestrian barricades may use 8" nominal barricade rails as shown on BC(10) provided that the top rail provides a smooth continuous rail suitable for hand trailing with no splinters, burrs, or sharp edges.



18" x 24" Sign
(Maximum Sign Dimension)
Chevron CW1-8, Opposing Traffic Lane Divider, Driveway sign D70a, Keep Right R4 series or other signs as approved by Engineer



12" x 24"
Vertical Panel
mount with diagonals sloping down towards travel way

Plywood, Aluminum or Metal sign substrates shall NOT be used on plastic drums

## SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

1. Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
2. Chevrons and other work zone signs with an orange background shall be manufactured with Type $B_{FL}$ or Type $C_{FL}$ Orange sheeting meeting the color and retroreflectivity requirements of DMS-8300, "Sign Face Material," unless otherwise specified in the plans.
3. Vertical Panels shall be manufactured with orange and white sheeting meeting the requirements of DMS-8300 Type A Diagonal stripes on Vertical Panels shall slope down toward the intended traveled lane.
4. Other sign messages (text or symbolic) may be used as approved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height, except for the R9 series signs discussed in note 8 below.
5. Signs shall be installed using a 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection.
6. Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.
7. Chevrons may be placed on drums on the outside of curves, on merging tapers or on shifting tapers. When used in these locations they may be placed on every drum or spaced not more than on every third drum. A minimum of three (3) should be used at each location called for in the plans.
8. R9-9, R9-10, R9-11 and R9-11a Sidewalk Closed signs which are 24 inches wide may be mounted on plastic drums, with approval of the Engineer.



Texas Department of Transportation

Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

# BC(8)-14

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| ©TxDOT November 2002 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 576 | VARIES |
| 4-03 7-13 | DIST | COUNTY | | SHEET NO. |
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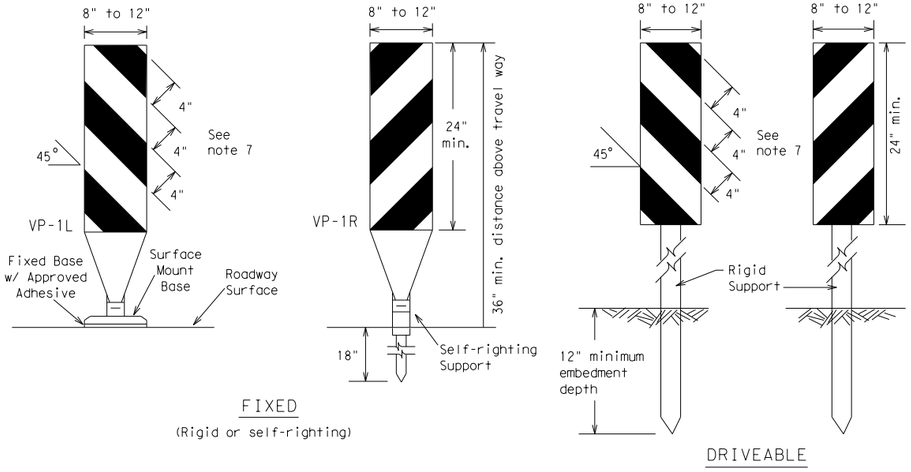
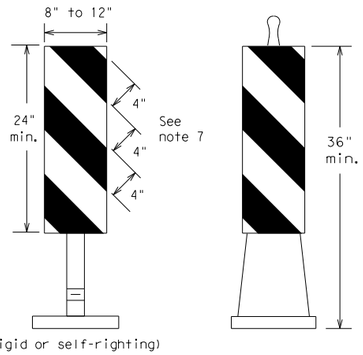



FIXED

(Rigid or self-righting)

DRIVEABLE

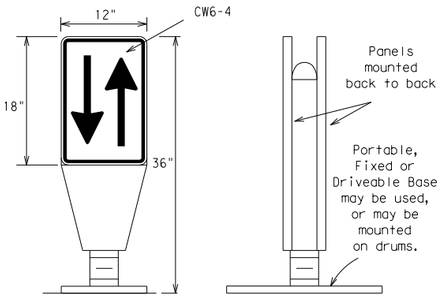



(Rigid or self-righting)

PORTABLE

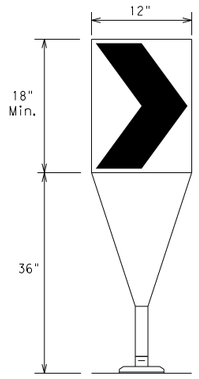
1. Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual Appendix B "Treatment of Pavement Drop-offs in Work Zones" for additional guidelines on the use of VP's for drop-offs.
3. VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.
4. VP's used on expressways and freeways or other high speed roadways, may have more than 270 square inches of retroreflective area facing traffic.
5. Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
6. Sheeting for the VP's shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
7. Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.

## VERTICAL PANELS (VPs)




1. Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust.
2. The OTLD may be used in combination with 42" cones or VPs.
3. Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
4. The OTLD shall be orange with a black non-reflective legend. Sheeting for the OTLD shall be retroreflective Type $B_{FL}$ or Type $C_{FL}$ conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.

## OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



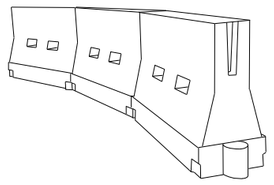

Fixed Base w/ Approved Adhesive (Driveable Base, or Flexible Support can be used)

1. The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
2. Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
3. Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates its need.
4. To be effective, the chevron should be visible for at least 500 feet.
5. Chevrons shall be orange with a black nonreflective legend. Sheeting for the chevron shall be retroreflective Type $B_{FL}$ or Type $C_{FL}$ conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.
6. For Long Term Stationary use on tapers or transitions on freeways and divided highways self-righting chevrons may be used to supplement plastic drums but not to replace plastic drums.

## CHEVRONS

## GENERAL NOTES

1. Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Engineer/Inspector shall ensure that spacing and placement is uniform and in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
2. Channelizing devices shown on this sheet may have a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other plan sheets.
3. Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles or vehicle related wind gusts making alignment of the channelizing devices difficult to maintain. Locations of these devices shall be detailed elsewhere in the plans. These devices shall conform to the TMUTCD and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
4. The Contractor shall maintain devices in a clean condition and replace damaged, nonreflective, faded, or broken devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
5. Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh a minimum of 30 lbs.
6. Pavement surfaces shall be prepared in a manner that ensures proper bonding between the adhesives, the fixed mount bases and the pavement surface. Adhesives shall be prepared and applied according to the manufacturer's recommendations.
7. The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveable bases shall not be permitted on final pavement surfaces. The Engineer/Inspector shall approve all application and removal procedures of fixed bases.



## LONGITUDINAL CHANNELIZING DEVICES (LCD)

1. LCDs are crashworthy, lightweight, deformable devices that are highly visible, have good target value and can be connected together. They are not designed to contain or redirect a vehicle on impact.
2. LCDs may be used instead of a line of cones or drums.
3. LCDs shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. LCDs should not be used to provide positive protection for obstacles, pedestrians or workers.
5. LCDs shall be supplemented with retroreflective delineation as required for temporary barriers on BC(7) when placed roughly parallel to the travel lanes.
6. LCDs used as barricades placed perpendicular to traffic should have at least one row of reflective sheeting meeting the requirements for barricade rails as shown on BC(10) placed near the top of the LCD along the full length of the device.

## WATER BALLASTED SYSTEMS USED AS BARRIERS

1. Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the work space per the appropriate NCHRP 350 crashworthiness requirements based on roadway speed and barrier application.
2. Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
3. Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
5. When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flared to a point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long canes and the top of the unit shall not be less than 32 inches in height.

## HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS

| Posted Speed * | Formula | Minimum Desirable Taper Lengths * * 10' Offset | 11' Offset | 12' Offset | Suggested Maximum Spacing of Channelizing Devices On a Taper | On a Tangent |
|---|---|---|---|---|---|---|
| 30 | $L = \frac{WS^2}{60}$ | 150' | 165' | 180' | 30' | 60' |
| 35 | | 205' | 225' | 245' | 35' | 70' |
| 40 | | 265' | 295' | 320' | 40' | 80' |
| 45 | L = WS | 450' | 495' | 540' | 45' | 90' |
| 50 | | 500' | 550' | 600' | 50' | 100' |
| 55 | | 550' | 605' | 660' | 55' | 110' |
| 60 | | 600' | 660' | 720' | 60' | 120' |
| 65 | | 650' | 715' | 780' | 65' | 130' |
| 70 | | 700' | 770' | 840' | 70' | 140' |
| 75 | | 750' | 825' | 900' | 75' | 150' |
| 80 | | 800' | 880' | 960' | 80' | 160' |

* * Taper lengths have been rounded off.
L=Length of Taper (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

## SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

SHEET 9 OF 12

Texas Department of Transportation

Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

## BC(9)-14

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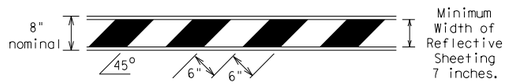
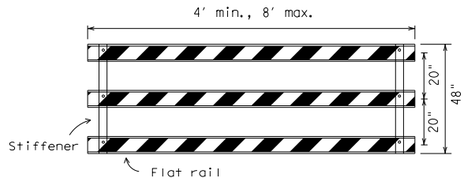
## TYPE 3 BARRICADES

1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type 3 Barricades and a list of all materials used in the construction of Type 3 Barricades.
2. Type 3 Barricades shall be used at each end of construction projects closed to all traffic.
3. Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed road striping should slope downward in both directions toward the center of roadway.
4. Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
5. Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
6. Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Sand bags shall not be stacked in a manner that covers any portion of a barricade rails reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.
9. Sheeting for barricades shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.



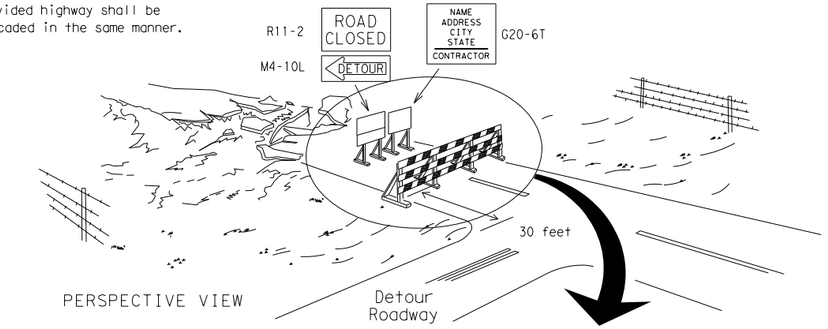

TYPICAL STRIPING DETAIL FOR BARRICADE RAIL




Stiffener may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

TYPICAL PANEL DETAIL
FOR SKID OR POST TYPE BARRICADES

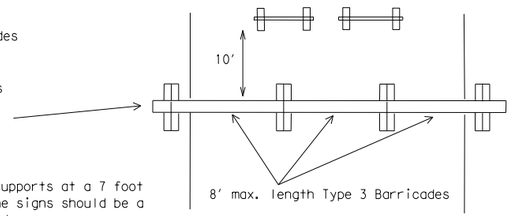
Each roadway of a divided highway shall be barricaded in the same manner.




PERSPECTIVE VIEW

The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.

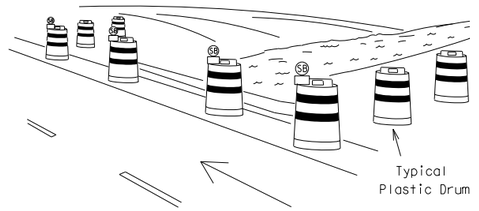
Barricade striping should slant downward in the direction of detour.




PLAN VIEW

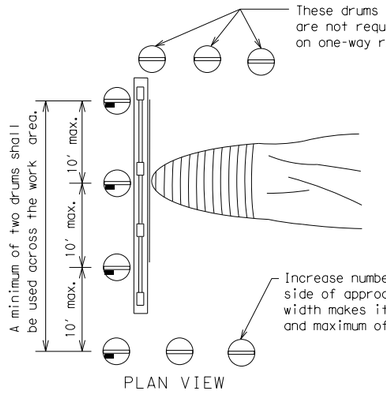
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION




PERSPECTIVE VIEW

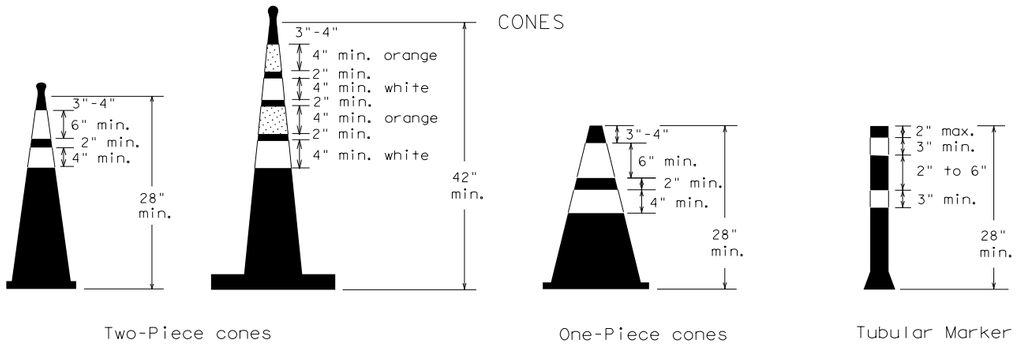
1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
5. Drums must extend the length of the culvert widening.




| LEGEND | |
|---|---|
| | Plastic drum |
| | Plastic drum with steady burn light or yellow warning reflector |
| SB | Steady burn warning light or yellow warning reflector |

PLAN VIEW

CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS




Two-Piece cones

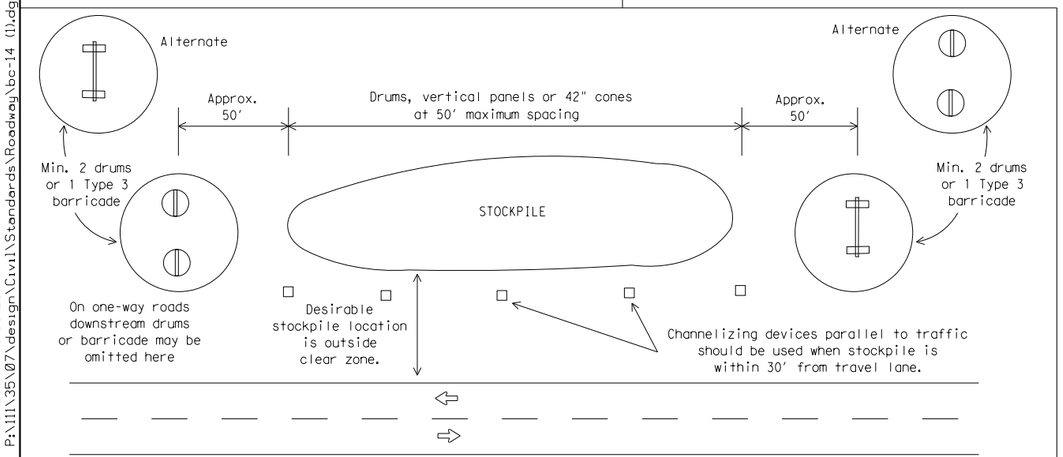
One-Piece cones

Tubular Marker

28" Cones shall have a minimum weight of 9 1/2 lbs.

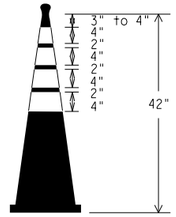
42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

1. Traffic cones and tubular markers shall be predominantly orange, and meet the height and weight requirements shown above.
2. One-piece cones have the body and base of the cone molded in one consolidated unit. Two-piece cones have a cone shaped body and a separate rubber base, or ballast, that is added to keep the device upright and in place.
3. Two-piece cones may have a handle or loop extending up to 8" above the minimum height shown, in order to aid in retrieving the device.
4. Cones or tubular markers used at night shall have white or white and orange reflective bands as shown above. The reflective bands shall have a smooth, sealed outer surface and meet the requirements of Departmental Material Specification DMS-8300 Type A.
5. 28" cones and tubular markers are generally suitable for short duration and short-term stationary work as defined on BC(4). These should not be used for intermediate-term or long-term stationary work unless personnel is on-site to maintain them in their proper upright position.
6. 42" two-piece cones, vertical panels or drums are suitable for all work zone durations.
7. Cones or tubular markers used on each project should be of the same size and shape.




TRAFFIC CONTROL FOR MATERIAL STOCKPILES

THIS DEVICE SHALL NOT BE USED ON PROJECTS LET AFTER MARCH 2014.




1. This device is intended only for use in place of a vertical panel to channelize traffic by indicating the edge of the travel lane. It is not intended to be used in transitions or tapers.
2. This device shall not be used to separate lanes of traffic (opposing or otherwise) or warn of objects.
3. This device is based on a 42 inch, two-piece cone with an alternate striping pattern: four 4 inch retroreflective bands, with an approximate 2 inch gap between bands. The color of the band should correspond to the color of the edgeline (yellow for left edgeline, white for right edgeline) for which the device is substituted or for which it supplements. The reflectorized bands shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
4. The base must weigh a minimum of 30 lbs.



Texas Department of Transportation

Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

## BC(10)-14

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# WORK ZONE PAVEMENT MARKINGS

## GENERAL

1. The Contractor shall be responsible for maintaining work zone and existing pavement markings, in accordance with the standard specifications and special provisions, on all roadways open to traffic within the CSJ limits unless otherwise stated in the plans.
2. Color, patterns and dimensions shall be in conformance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
3. Additional supplemental pavement marking details may be found in the plans or specifications.
4. Pavement markings shall be installed in accordance with the TMUTCD and as shown on the plans.
5. When short term markings are required on the plans, short term markings shall conform with the TMUTCD, the plans and details as shown on the Standard Plan Sheet WZ(STPM).
6. When standard pavement markings are not in place and the roadway is opened to traffic, DO NOT PASS signs shall be erected to mark the beginning of the sections where passing is prohibited and PASS WITH CARE signs at the beginning of sections where passing is permitted.
7. All work zone pavement markings shall be installed in accordance with Item 662, "Work Zone Pavement Markings."

## RAISED PAVEMENT MARKERS

1. Raised pavement markers are to be placed according to the patterns on BC(12).
2. All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and Departmental Material Specification DMS-4200 or DMS-4300.

## PREFABRICATED PAVEMENT MARKINGS

1. Removable prefabricated pavement markings shall meet the requirements of DMS-8241.
2. Non-removable prefabricated pavement markings (foil back) shall meet the requirements of DMS-8240.

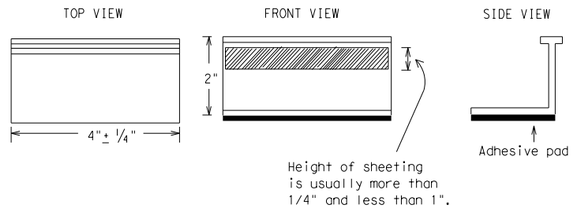
## MAINTAINING WORK ZONE PAVEMENT MARKINGS

1. The Contractor will be responsible for maintaining work zone pavement markings within the work limits.
2. Work zone pavement markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspections as required by Form 599.
3. The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 160 feet when illuminated by automobile low-beam headlights at night, unless sight distance is restricted by roadway geometrics.
4. Markings failing to meet this criteria within the first 30 days after placement shall be replaced at the expense of the Contractor as per Specification Item 662.

## REMOVAL OF PAVEMENT MARKINGS

1. Pavement markings that are no longer applicable, could create confusion or direct a motorist toward or into the closed portion of the roadway shall be removed or obliterated before the roadway is opened to traffic.
2. The above shall not apply to detours in place for less than three days, where flaggers and/or sufficient channelizing devices are used in lieu of markings to outline the detour route.
3. Pavement markings shall be removed to the fullest extent possible, so as not to leave a discernable marking. This shall be by any method approved by TxDOT Specification Item 677 for "Eliminating Existing Pavement Markings and Markers".
4. The removal of pavement markings may require resurfacing or seal coating portions of the roadway as described in Item 677.
5. Subject to the approval of the Engineer, any method that proves to be successful on a particular type pavement may be used.
6. Blast cleaning may be used but will not be required unless specifically shown in the plans.
7. Over-painting of the markings SHALL NOT BE permitted.
8. Removal of raised pavement markers shall be as directed by the Engineer.
9. Removal of existing pavement markings and markers will be paid for directly in accordance with Item 677, "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS," unless otherwise stated in the plans.
10. Black-out marking tape may be used to cover conflicting existing markings for periods less than two weeks when approved by the Engineer.

# Temporary Flexible-Reflective Roadway Marker Tabs




STAPLES OR NAILS SHALL NOT BE USED TO SECURE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS TO THE PAVEMENT SURFACE

1. Temporary flexible-reflective roadway marker tabs used as guidemarks shall meet the requirements of DMS-8242.
2. Tabs detailed on this sheet are to be inspected and accepted by the Engineer or designated representative. Sampling and testing is not normally required, however at the option of the Engineer, either "A" or "B" below may be imposed to assure quality before placement on the roadway.
   A. Select five (5) or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Pavement Section to determine specification compliance.
   B. Select five (5) tabs and perform the following test. Affix five (5) tabs at 24 inch intervals on an asphaltic pavement in a straight line. Using a medium size passenger vehicle or pickup, run over the markers with the front and rear tires at a speed of 35 to 40 miles per hour, four (4) times in each direction. No more than one (1) out of the five (5) reflective surfaces shall be lost or displaced as a result of this test.
3. Small design variances may be noted between tab manufacturers.
4. See Standard Sheet WZ(STPM) for tab placement on new pavements. See Standard Sheet TCP(7-1) for tab placement on seal coat work.

## RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

1. Raised pavement markers used as guidemarks shall be from the approved product list, and meet the requirements of DMS-4200.
2. All temporary construction raised pavement markers provided on a project shall be of the same manufacturer.
3. Adhesive for guidemarks shall be bituminous material hot applied or butyl rubber pad for all surfaces, or thermoplastic for concrete surfaces.

Guidemarks shall be designated as:
YELLOW - (two amber reflective surfaces with yellow body).
WHITE - (one silver reflective surface with white body).

| DEPARTMENTAL MATERIAL SPECIFICATIONS | |
|---|---|
| PAVEMENT MARKERS (REFLECTORIZED) | DMS-4200 |
| TRAFFIC BUTTONS | DMS-4300 |
| EPOXY AND ADHESIVES | DMS-6100 |
| BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS | DMS-6130 |
| PERMANENT PREFABRICATED PAVEMENT MARKINGS | DMS-8240 |
| TEMPORARY REMOVABLE, PREFABRICATED PAVEMENT MARKINGS | DMS-8241 |
| TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS | DMS-8242 |

A list of prequalified reflective raised pavement markers, non-reflective traffic buttons, roadway marker tabs and other pavement markings can be found at the Material Producer List web address shown on BC(1).



Texas Department of Transportation

Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

## BC(11)-14

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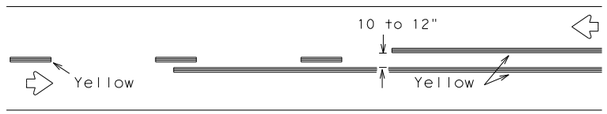
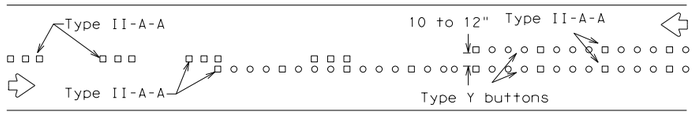
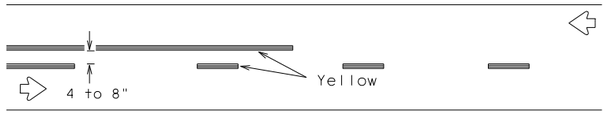
# PAVEMENT MARKING PATTERNS



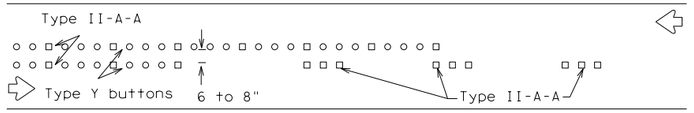

REFLECTORIZED PAVEMENT MARKINGS - PATTERN A




RAISED PAVEMENT MARKERS - PATTERN A



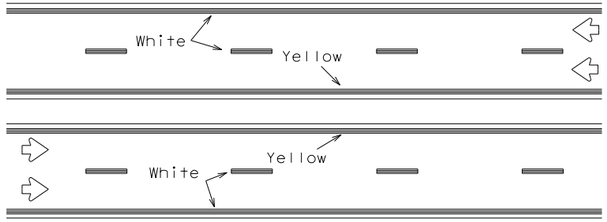

REFLECTORIZED PAVEMENT MARKINGS - PATTERN B



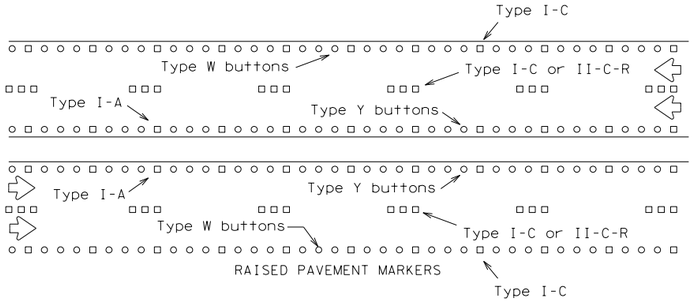

RAISED PAVEMENT MARKERS - PATTERN B

Pattern A is the TXDOT Standard, however Pattern B may be used if approved by the Engineer.
Prefabricated markings may be substituted for reflectorized pavement markings.

## CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO-LANE, TWO-WAY HIGHWAYS



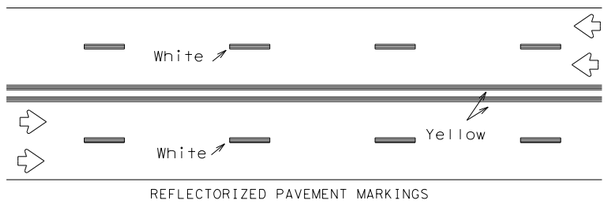

REFLECTORIZED PAVEMENT MARKINGS



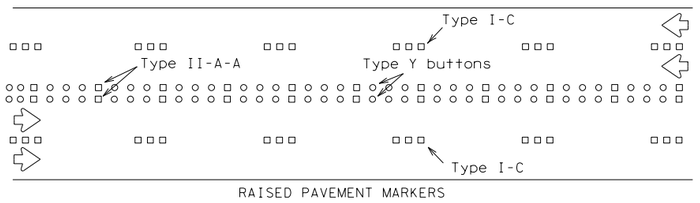

RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

## EDGE & LANE LINES FOR DIVIDED HIGHWAY



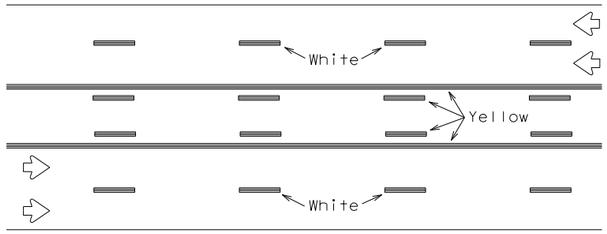

REFLECTORIZED PAVEMENT MARKINGS



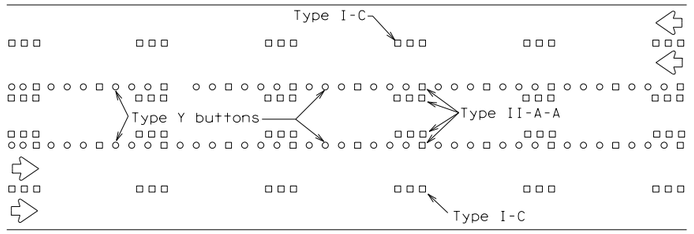

RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

## LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS




REFLECTORIZED PAVEMENT MARKINGS




RAISED PAVEMENT MARKERS

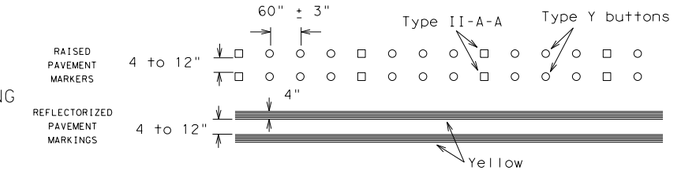
Prefabricated markings may be substituted for reflectorized pavement markings.

## TWO-WAY LEFT TURN LANE

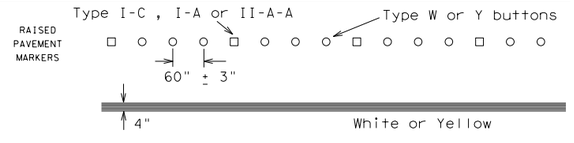
# STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS

## SOLID LINES

### DOUBLE NO-PASSING LINE

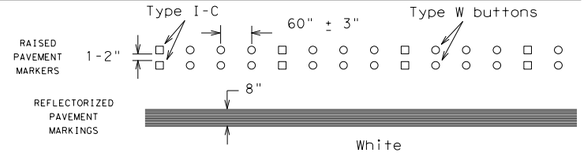



### EDGE LINE OR SINGLE NO-PASSING LINE



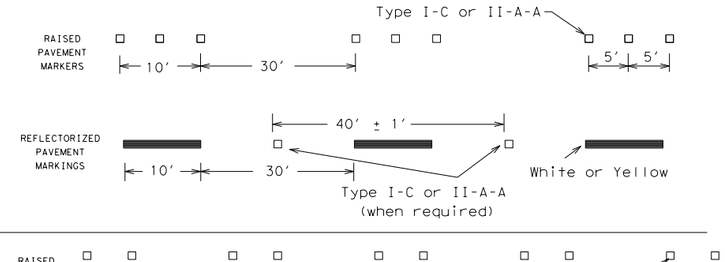

### WIDE LINE

(FOR LEFT TURN CHANNELIZING LINE OR CHANNELIZING LINE USED TO DISCOURAGE LANE CHANGING.)

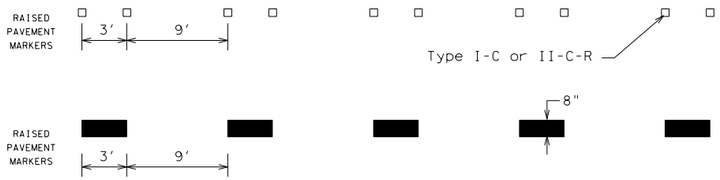



## BROKEN LINES

### CENTER LINE OR LANE LINE

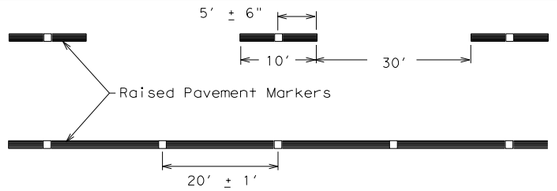



### AUXILIARY OR LANEDROP LINE




### REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

If raised pavement markers are used to supplement REMOVABLE markings, the markers shall be applied to the top of the tape at the approximate mid length of tape used for broken lines or at 20 foot spacing for solid lines. This allows an easier removal of raised pavement markers and tape.




Centerline only - not to be used on edge lines

Raised pavement markers used as standard pavement markings shall be from the approved products list and meet the requirements of Item 672 "RAISED PAVEMENT MARKERS."



Texas Department of Transportation

Traffic Operations Division Standard

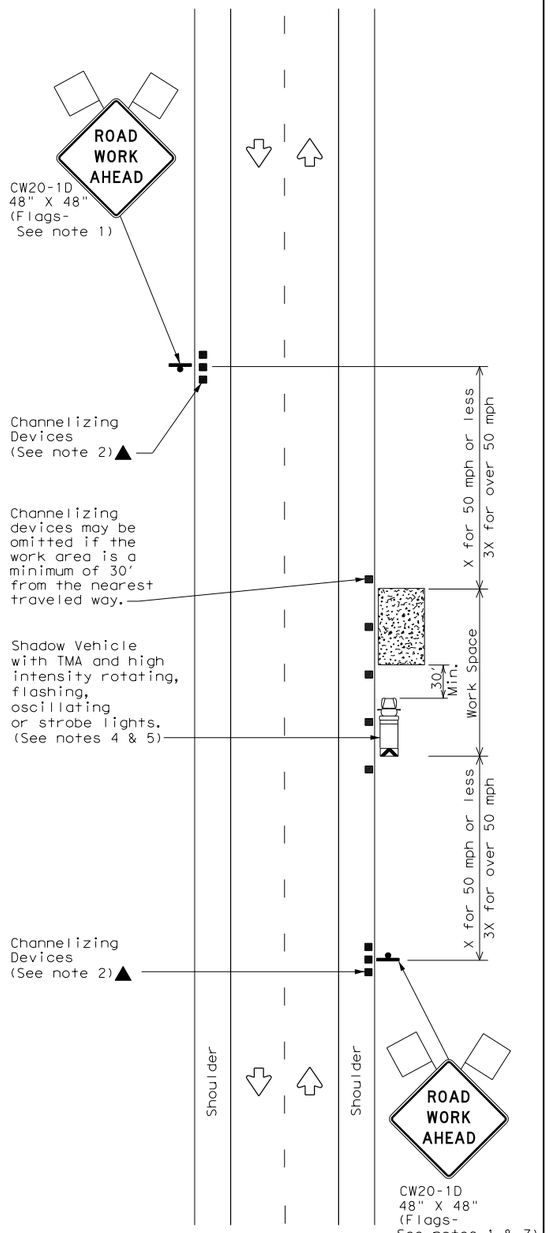
# BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

## BC(12)-14

| FILE: bc-14.dgn | DN: TxDOT | CK: TxDOT | DW: TxDOT | CK: TxDOT |
|---|---|---|---|---|
| ©TxDOT February 1998 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 576 | VARIES |
| 1-97 9-07 | DIST | COUNTY | | SHEET NO. |
| 2-98 7-13 | SAT | BEXAR | | 63 |
| 11-02 8-14 | | | | |

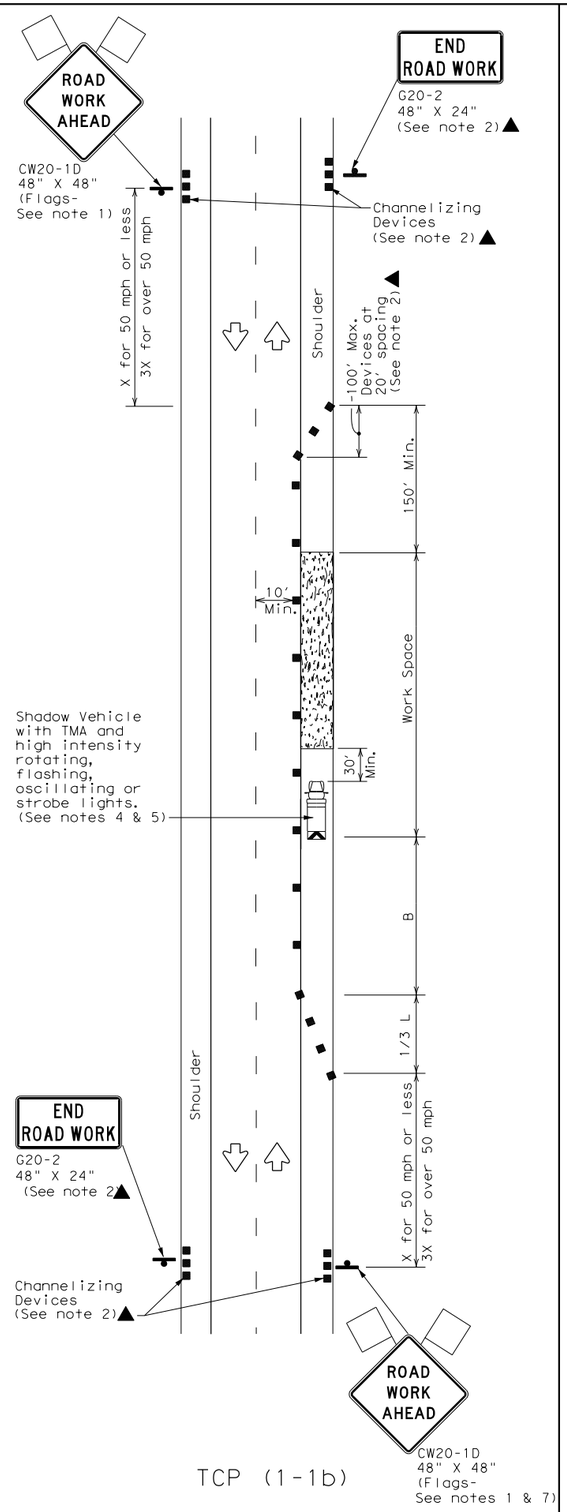
106

DATE:
FILE:



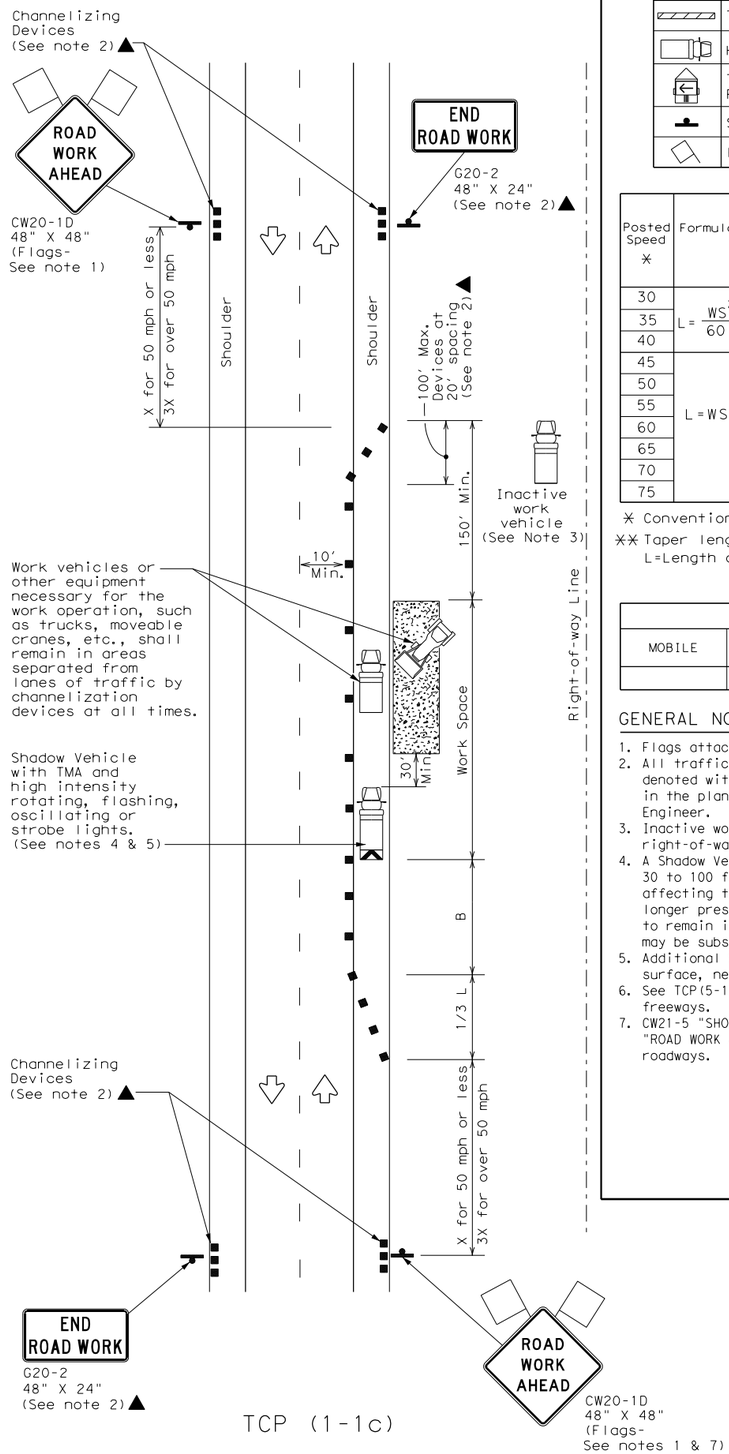

TCP (1-1a)

## WORK SPACE NEAR SHOULDER
Conventional Roads




TCP (1-1b)

## WORK SPACE ON SHOULDER
Conventional Roads




TCP (1-1c)

## WORK VEHICLES ON SHOULDER
Conventional Roads

| LEGEND | | | |
|---|---|---|---|
| | Type 3 Barricade | | Channelizing Devices |
| | Heavy Work Vehicle | | Truck Mounted Attenuator (TMA) |
| | Trailer Mounted Flashing Arrow Board | M | Portable Changeable Message Sign (PCMS) |
| | Sign | | Traffic Flow |
| | Flag | | Flagger |

| Posted Speed * | Formula | Minimum Desirable Taper Lengths ** 10' Offset | 11' Offset | 12' Offset | Suggested Maximum Spacing of Channelizing Devices On a Taper | On a Tangent | Minimum Sign Spacing "X" Distance | Suggested Longitudinal Buffer Space "B" |
|---|---|---|---|---|---|---|---|---|
| 30 | $L=\frac{WS^2}{60}$ | 150' | 165' | 180' | 30' | 60' | 120' | 90' |
| 35 | | 205' | 225' | 245' | 35' | 70' | 160' | 120' |
| 40 | | 265' | 295' | 320' | 40' | 80' | 240' | 155' |
| 45 | L=WS | 450' | 495' | 540' | 45' | 90' | 320' | 195' |
| 50 | | 500' | 550' | 600' | 50' | 100' | 400' | 240' |
| 55 | | 550' | 605' | 660' | 55' | 110' | 500' | 295' |
| 60 | | 600' | 660' | 720' | 60' | 120' | 600' | 350' |
| 65 | | 650' | 715' | 780' | 65' | 130' | 700' | 410' |
| 70 | | 700' | 770' | 840' | 70' | 140' | 800' | 475' |
| 75 | | 750' | 825' | 900' | 75' | 150' | 900' | 540' |

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

| TYPICAL USAGE | | | | |
|---|---|---|---|---|
| MOBILE | SHORT DURATION | SHORT TERM STATIONARY | INTERMEDIATE TERM STATIONARY | LONG TERM STATIONARY |
| | ✓ | ✓ | | |

## GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
4. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
6. See TCP(5-1)for shoulder work on divided highways, expressways and freeways.
7. CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

Texas Department of Transportation

Traffic Operations Division Standard

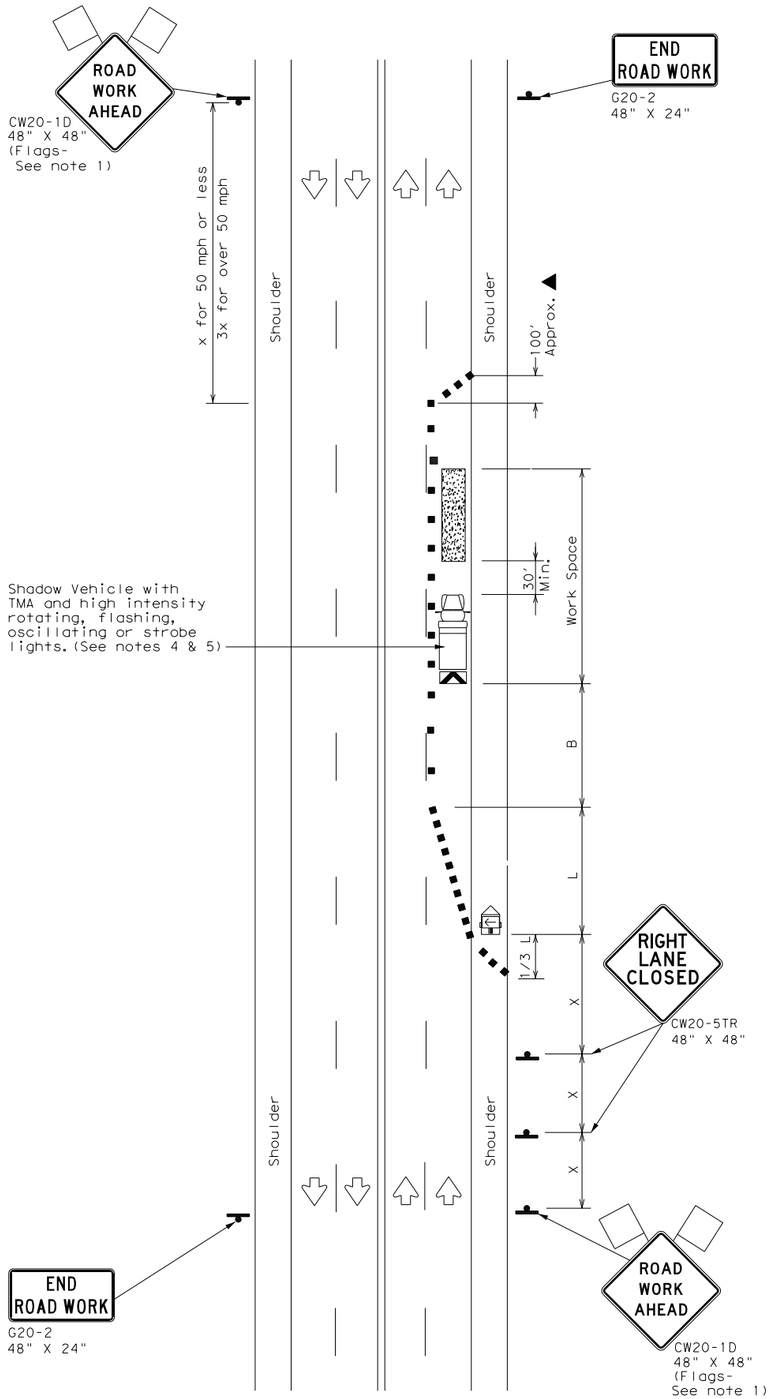
# TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

# TCP(1-1)-18

| FILE: tcp1-1-18.dgn | DN: | CK: | DW: | CK: |
|---|---|---|---|---|
| © TxDOT December 1985 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 576 | VARIES |
| 2-94 4-98 | DIST | COUNTY | | SHEET NO. |
| 8-95 2-12 | SAT | BEXAR | | 64 |
| 1-97 2-18 | | | | |

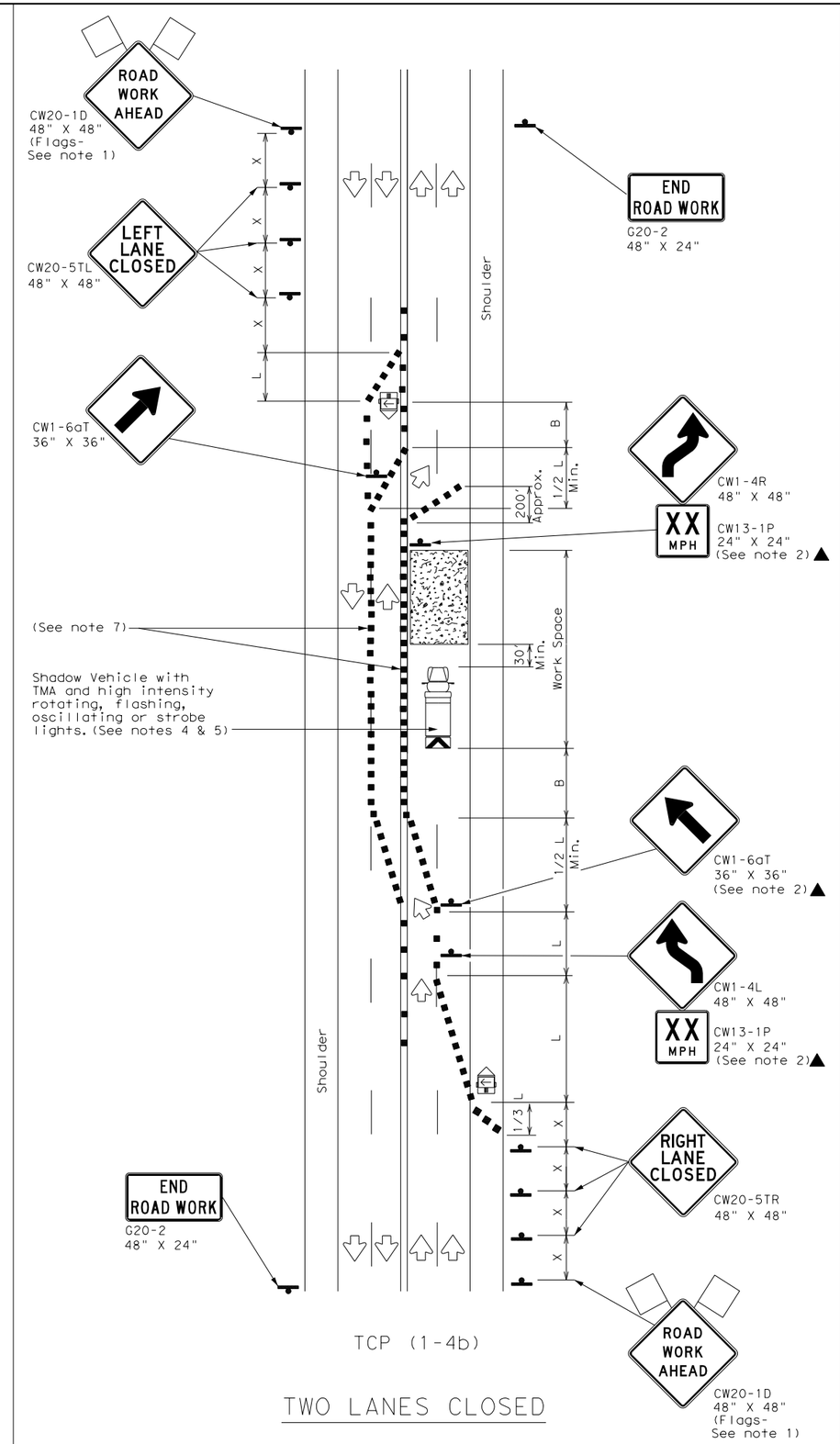
151

DATE:
FILE:




TCP (1-4a)

## ONE LANE CLOSED




TCP (1-4b)

## TWO LANES CLOSED

| LEGEND | | | |
|---|---|---|---|
| | Type 3 Barricade | | Channelizing Devices |
| | Heavy Work Vehicle | | Truck Mounted Attenuator (TMA) |
| | Trailer Mounted Flashing Arrow Board | M | Portable Changeable Message Sign (PCMS) |
| | Sign | | Traffic Flow |
| | Flag | | Flagger |

| Posted Speed * | Formula | Minimum Desirable Taper Lengths ** 10' Offset | 11' Offset | 12' Offset | Suggested Maximum Spacing of Channelizing Devices On a Taper | On a Tangent | Minimum Sign Spacing "X" Distance | Suggested Longitudinal Buffer Space "B" |
|---|---|---|---|---|---|---|---|---|
| 30 | $L=\frac{WS^2}{60}$ | 150' | 165' | 180' | 30' | 60' | 120' | 90' |
| 35 | | 205' | 225' | 245' | 35' | 70' | 160' | 120' |
| 40 | | 265' | 295' | 320' | 40' | 80' | 240' | 155' |
| 45 | L=WS | 450' | 495' | 540' | 45' | 90' | 320' | 195' |
| 50 | | 500' | 550' | 600' | 50' | 100' | 400' | 240' |
| 55 | | 550' | 605' | 660' | 55' | 110' | 500' | 295' |
| 60 | | 600' | 660' | 720' | 60' | 120' | 600' | 350' |
| 65 | | 650' | 715' | 780' | 65' | 130' | 700' | 410' |
| 70 | | 700' | 770' | 840' | 70' | 140' | 800' | 475' |
| 75 | | 750' | 825' | 900' | 75' | 150' | 900' | 540' |

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

| TYPICAL USAGE | | | | |
|---|---|---|---|---|
| MOBILE | SHORT DURATION | SHORT TERM STATIONARY | INTERMEDIATE TERM STATIONARY | LONG TERM STATIONARY |
| | ✓ | ✓ | | |

### GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW20-1D "ROAD WORK AHEAD" sign may be repeated if the visibility of the work zone is less than 1500 feet.
4. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

### TCP (1-4a)

6. If this TCP is used for a left lane closure , CW20-5TL "LEFT LANE CLOSED" signs shall be used and channelizing devices shall be placed on the centerline where needed to protect the work space from opposing traffic with the arrow panel placed in the closed lane near the end of the merging taper.

### TCP (1-4b)

7. Where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2S where S is the speed in mph. This tighter device spacing is intended for the areas of conflicting markings, not the entire work zone.

Texas Department of Transportation

Traffic Operations Division Standard

# TRAFFIC CONTROL PLAN LANE CLOSURES ON MULTILANE CONVENTIONAL ROADS

## TCP(1-4)-18

| FILE: tcp1-4-18.dgn | DN: | CK: | DW: | CK: |
|---|---|---|---|---|
| ©TxDOT December 1985 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 576 | VARIES |
| 2-94 4-98 | DIST | COUNTY | | SHEET NO. |
| 8-95 2-12 | SAT | BEXAR | | 65 |
| 1-97 2-18 | | | | |

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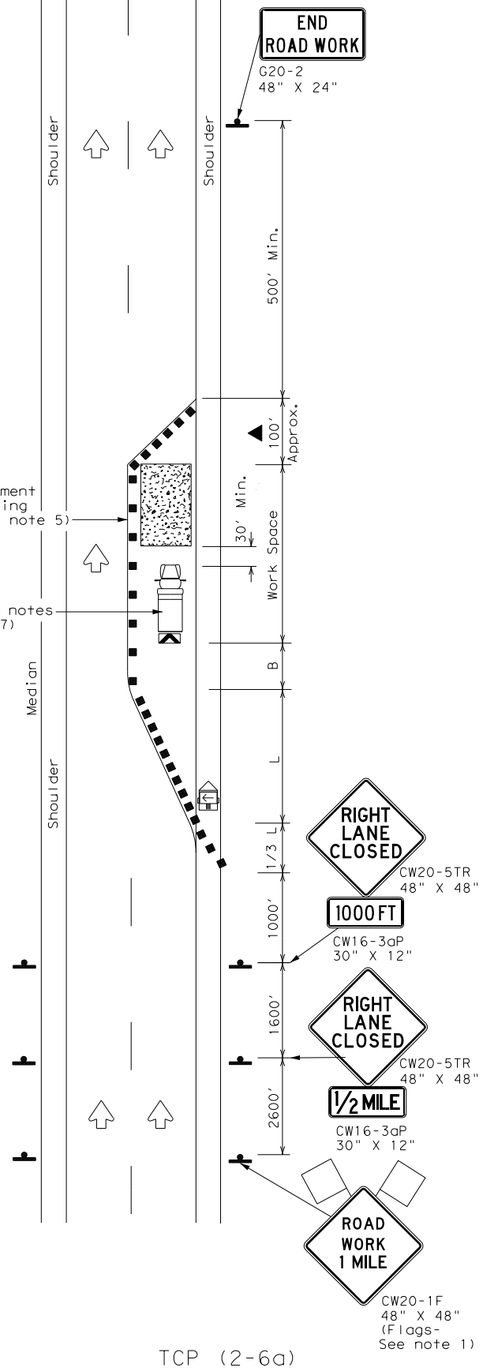
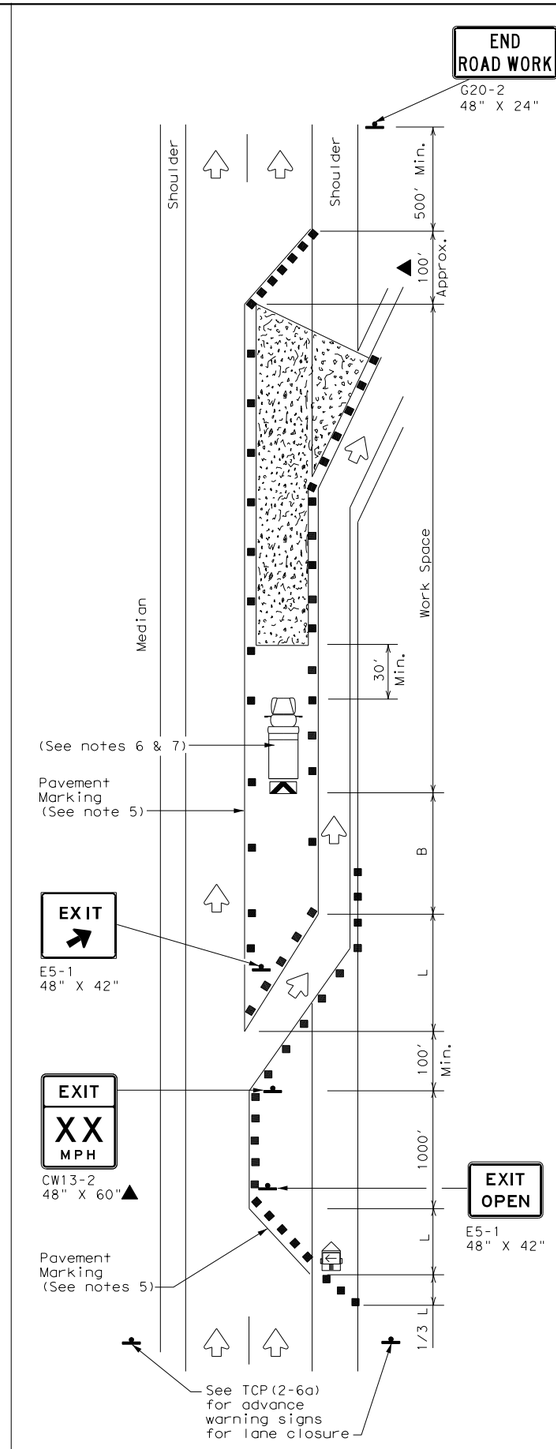
DATE:
FILE:



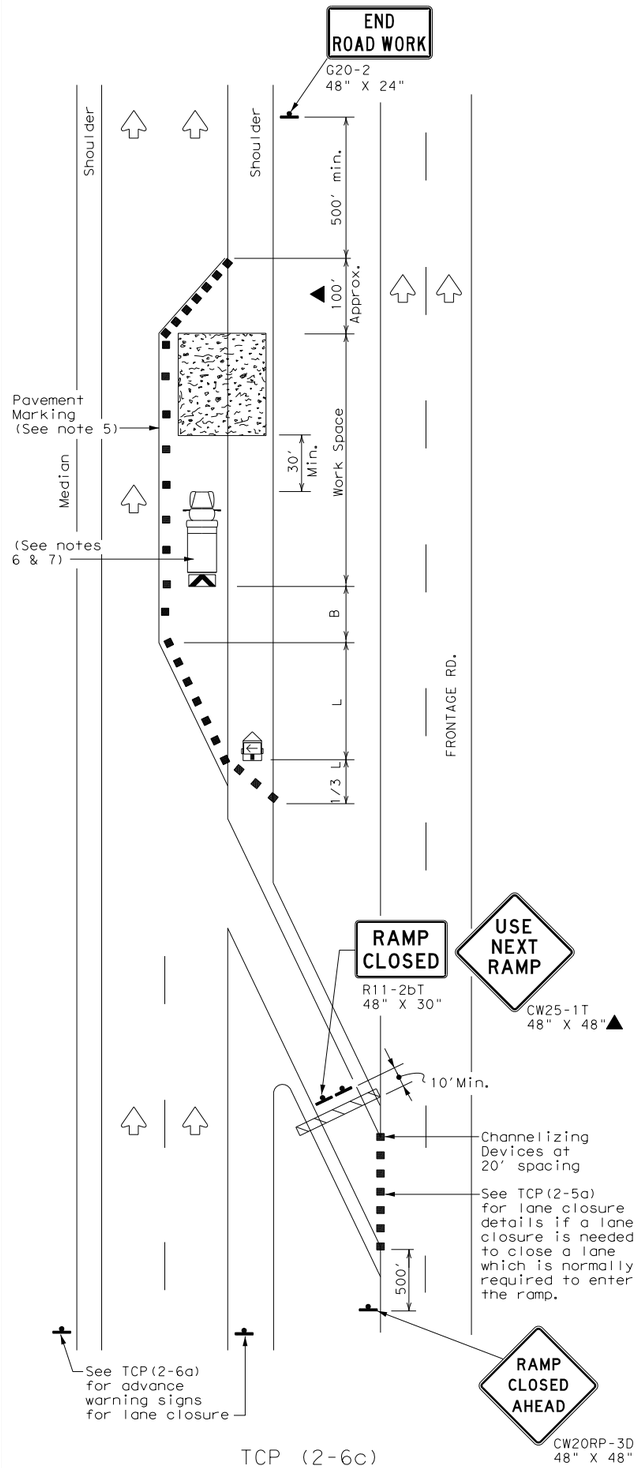

TCP (2-6a)

ONE LANE CLOSURE




TCP (2-6b)

LANE CLOSURE NEAR EXIT RAMPS




TCP (2-6c)

LANE CLOSURE NEAR ENTRANCE RAMPS

| LEGEND | | | |
|---|---|---|---|
| | Type 3 Barricade | | Channelizing Devices |
| | Heavy Work Vehicle | | Truck Mounted Attenuator (TMA) |
| | Trailer Mounted Flashing Arrow Board | M | Portable Changeable Message Sign (PCMS) |
| | Sign | | Traffic Flow |
| | Flag | | Flagger |

| Posted Speed * | Formula | Minimum Desirable Taper Lengths ** 10' Offset | 11' Offset | 12' Offset | Suggested Maximum Spacing of Channelizing Devices: On a Taper | On a Tangent | Minimum Sign Spacing "X" Distance | Suggested Longitudinal Buffer Space "B" |
|---|---|---|---|---|---|---|---|---|
| 30 | $L=\frac{WS^2}{60}$ | 150' | 165' | 180' | 30' | 60' | 120' | 90' |
| 35 | | 205' | 225' | 245' | 35' | 70' | 160' | 120' |
| 40 | | 265' | 295' | 320' | 40' | 80' | 240' | 155' |
| 45 | L=WS | 450' | 495' | 540' | 45' | 90' | 320' | 195' |
| 50 | | 500' | 550' | 600' | 50' | 100' | 400' | 240' |
| 55 | | 550' | 605' | 660' | 55' | 110' | 500' | 295' |
| 60 | | 600' | 660' | 720' | 60' | 120' | 600' | 350' |
| 65 | | 650' | 715' | 780' | 65' | 130' | 700' | 410' |
| 70 | | 700' | 770' | 840' | 70' | 140' | 800' | 475' |
| 75 | | 750' | 825' | 900' | 75' | 150' | 900' | 540' |

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

| TYPICAL USAGE | | | | |
|---|---|---|---|---|
| MOBILE | SHORT DURATION | SHORT TERM STATIONARY | INTERMEDIATE TERM STATIONARY | LONG TERM STATIONARY |
| | | | ✓ | ✓ |

## GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Channelizing devices used to close lanes may be supplemented with the Chevron Alignment Sign placed on every other channelizing device. Chevrons may be attached to plastic drums as per BC Standards.
4. Channelizing devices used along the work space or along tangent sections may be supplemented with vertical panels (VP) placed on everyother channelizing device. If night time conditions make it difficult to see at least two VPs, the VPs may be placed on each channelizing device.
5. The placement of pavement markings may be omitted on Intermediate-term stationary work zones with the approval of the Engineer.
6. Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
7. Additional Shadow Vehicles with TMAs may be positioned in each closed lane, on the shoulder or off the paved surface, next to those shown in order to protect a wider work space.

Texas Department of Transportation

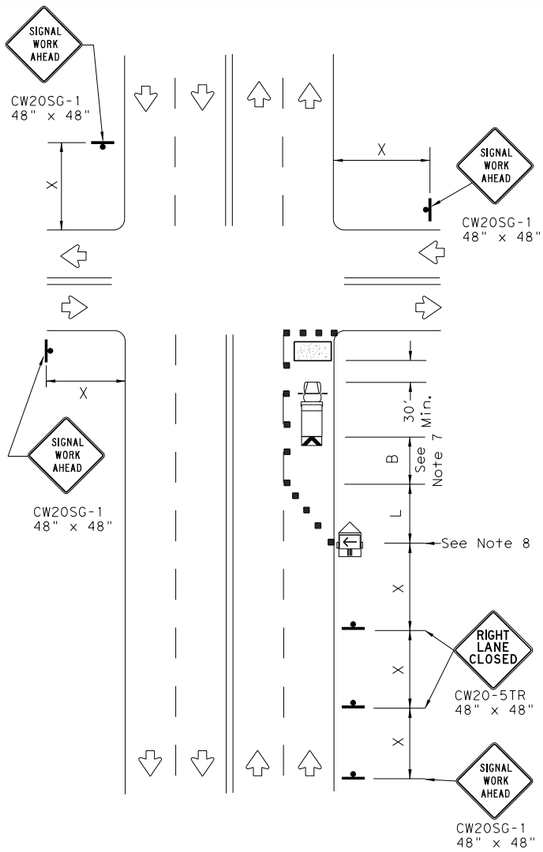
*Traffic Operations Division Standard*

# TRAFFIC CONTROL PLAN LANE CLOSURES ON DIVIDED HIGHWAYS

## TCP(2-6)-18

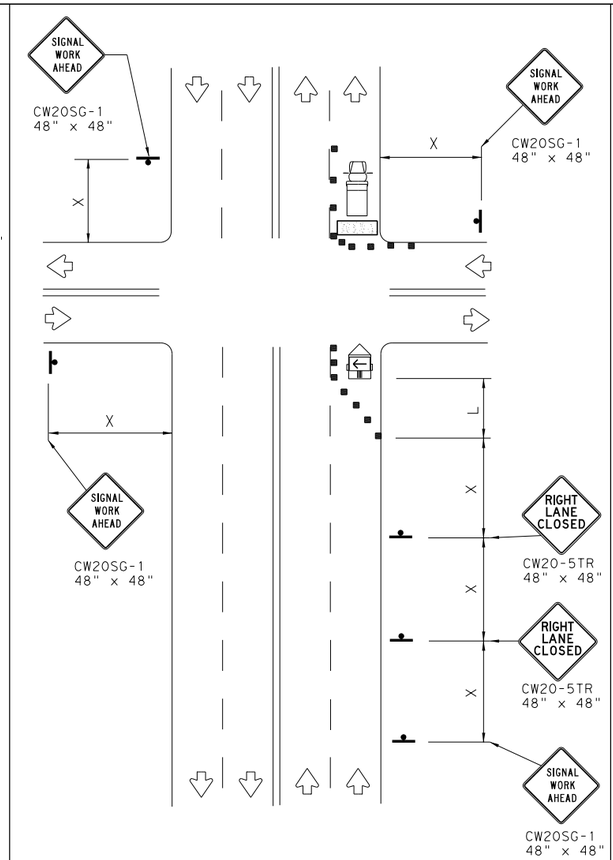
| FILE: tcp2-6-18.dgn | DN: | CK: | DW: | CK: |
|---|---|---|---|---|
| © TxDOT December 1985 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS 2-94 4-98 8-95 2-12 1-97 2-18 | 0915 | 12 | 576 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 66 |

166



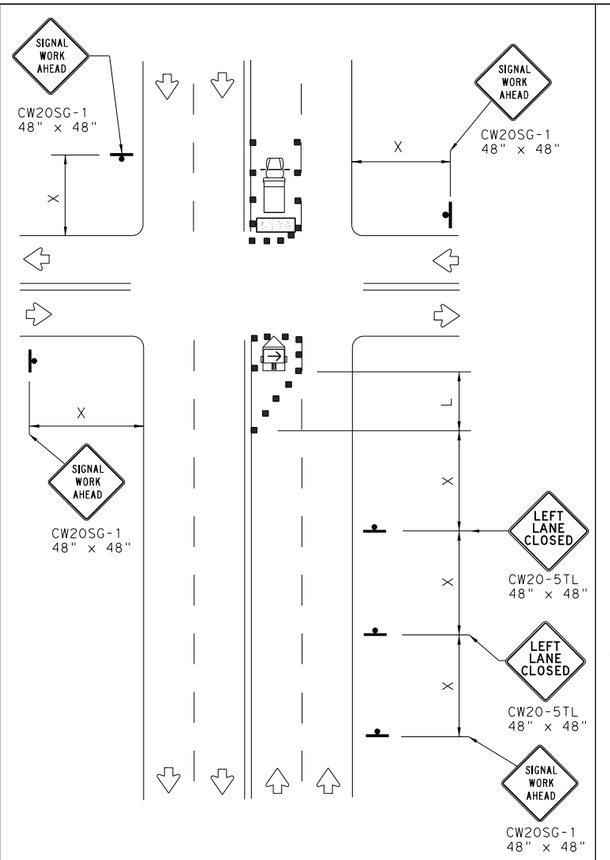

## NEAR SIDE LANE CLOSURE

SHORT DURATION OR SHORT TERM STATIONARY




## FAR SIDE RIGHT LANE CLOSURE

SHORT DURATION OR SHORT TERM STATIONARY




## FAR SIDE LEFT LANE CLOSURE

SHORT DURATION OR SHORT TERM STATIONARY

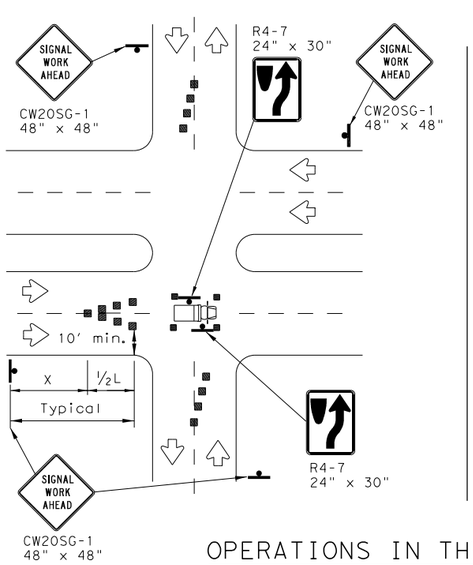
| LEGEND | | | |
|---|---|---|---|
| | Type 3 Barricade | | Channelizing Devices |
| | Heavy Work Vehicle | | Truck Mounted Attenuator (TMA) |
| | Trailer Mounted Flashing Arrow Board | M | Portable Changeable Message Sign (PCMS) |
| | Sign | | Traffic Flow |
| | Flag | | Flagger |

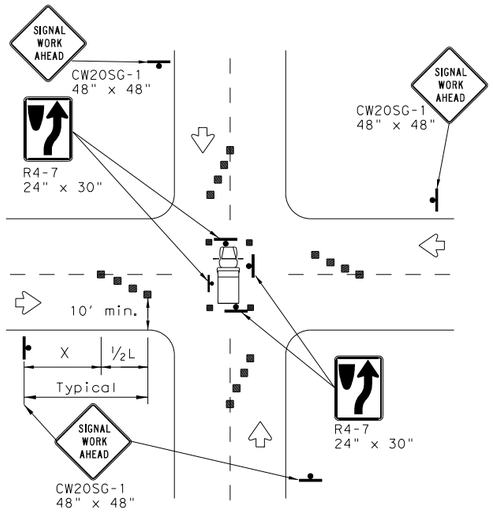
| Posted Speed * | Formula | Minimum Desirable Taper Lengths ** 10' Offset | 11' Offset | 12' Offset | Suggested Maximum Spacing of Channelizing Devices On a Taper | On a Tangent | Minimum Sign Spacing "X" Distance | Suggested Longitudinal Buffer Space "B" |
|---|---|---|---|---|---|---|---|---|
| 30 | $L = \frac{WS^2}{60}$ | 150' | 165' | 180' | 30' | 60' | 120' | 90' |
| 35 | | 205' | 225' | 245' | 35' | 70' | 160' | 120' |
| 40 | | 265' | 295' | 320' | 40' | 80' | 240' | 155' |
| 45 | L = WS | 450' | 495' | 540' | 45' | 90' | 320' | 195' |
| 50 | | 500' | 550' | 600' | 50' | 100' | 400' | 240' |
| 55 | | 550' | 605' | 660' | 55' | 110' | 500' | 295' |
| 60 | | 600' | 660' | 720' | 60' | 120' | 600' | 350' |
| 65 | | 650' | 715' | 780' | 65' | 130' | 700' | 410' |
| 70 | | 700' | 770' | 840' | 70' | 140' | 800' | 475' |
| 75 | | 750' | 825' | 900' | 75' | 150' | 900' | 540' |

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

WORKERS IN BUCKET TRUCKS SHALL NOT WORK ABOVE OPEN LANES OF TRAFFIC.




## OPERATIONS IN THE INTERSECTION

SHORT DURATION

## GENERAL NOTES

1. The minimum size channelizing device is the 28" cone. 42" Two-piece cones, drums, vertical panels or barricades will be required when the device must be left unattended at night.
2. Obstructions or hazards at the work area shall be clearly marked and delineated at all times.
3. Flaggers and Flagger Symbol (CW20-7) signs may be required according to field conditions.
4. Vehicles parked in roadway shall be equipped with at least two high intensity rotating, flashing, oscillating or strobe type lights.
5. High level warning devices (flag trees) may be used at corners of the vehicle.
6. When work operations are performed on existing signals, the signals may be placed in flashing red mode when approved by the engineer. If existing signals do not have power, All-Way Stop (R1-1 and R1-3P) signs may be implemented when approved by the engineer.
7. For Short-Term Stationary work the buffer space "B" from the above table should be used if field conditions permit. For Short Duration (less than 1 hour) any buffer space provided will enhance the safety of the setup.
8. The arrow board at this location may be omitted for Short Duration work if the work vehicle has an arrow board in operation. As an option, the arrow board may be placed at the end of the taper in the closed lane if space is not available at the beginning of the taper.
9. Signs and devices for the NEAR SIDE LANE CLOSURE may be altered for a left lane closure by using a LEFT LANE CLOSED (CW20-5TL) and adding channelizing devices on the centerline to protect the work space from opposing traffic.



Texas Department of Transportation | Traffic Operations Division Standard

# TRAFFIC SIGNAL WORK TYPICAL DETAILS

## WZ(BTS-1)-13

| FILE: wzbts-13.dgn | DN: TxDOT | CK: TxDOT | DW: TxDOT | CK: TxDOT |
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| ©TxDOT April 1992 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 576 | VARIES |
| 2-98 10-99 7-13 | DIST | COUNTY | | SHEET NO. |
| 4-98 3-03 | SAT | BEXAR | | 67 |

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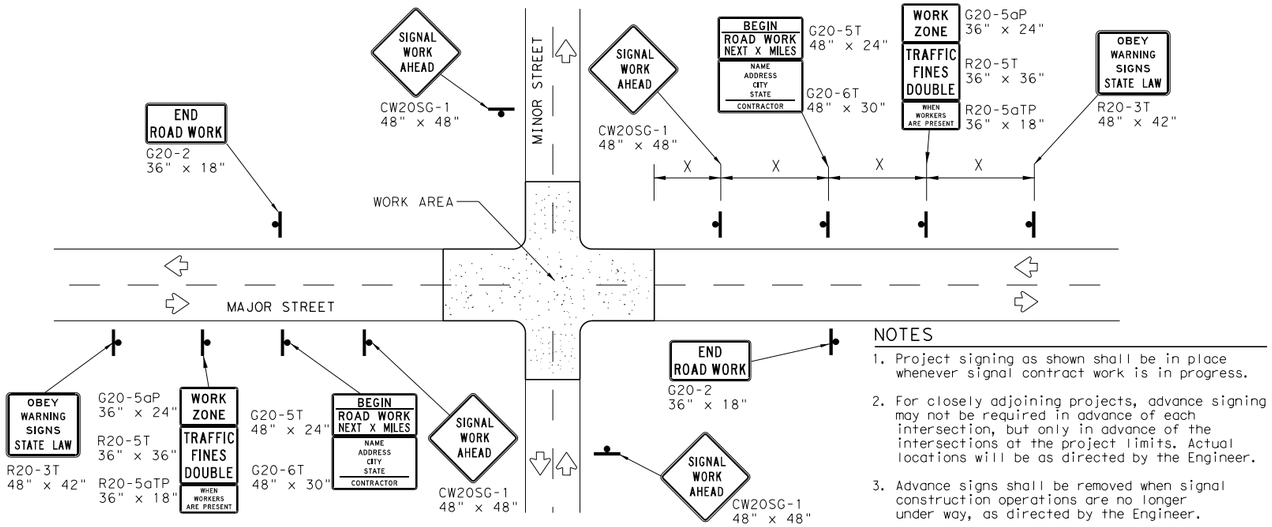



## TYPICAL ADVANCE SIGNAL PROJECT SIGNING

FOR LONG TERM and INTERMEDIATE-TERM STATIONARY WORK OPERATIONS

### NOTES

1. Project signing as shown shall be in place whenever signal contract work is in progress.
2. For closely adjoining projects, advance signing may not be required in advance of each intersection, but only in advance of the intersections at the project limits. Actual locations will be as directed by the Engineer.
3. Advance signs shall be removed when signal construction operations are no longer under way, as directed by the Engineer.
4. Warning sign spacing shown is typical for both directions.
5. See the Table on sheet 1 of 2 for Typical warning sign spacing.

### GENERAL NOTES FOR WORK ZONE SIGNS

1. Signs shall be installed and maintained in a straight and plumb condition.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. Nails shall NOT be used to attach signs to any support.
5. All signs shall be installed in accordance with the plans or as directed by the Engineer.
6. The Contractor shall furnish the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD).
7. The Contractor shall furnish sign supports and substrates listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD), installed as per the manufacturer's recommendations.
8. Temporary signs that have damaged or cracked substrates and/or damaged or marred reflective sheeting shall be replaced as directed by the Engineer.
9. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1".
10. Damaged wood posts shall be replaced. Splicing wood posts will not be allowed.

### DURATION OF WORK

1. Work zone durations are defined in Part 6, Section 6G.02 of the Texas Manual on Uniform Traffic Control Devices (TMUTCD).

### SIGN MOUNTING HEIGHT

1. Sign height of Long-term/Intermediate-term warning signs shall be as shown on Figure 6F-1 of the TMUTCD.
2. Sign height of Short-term/Short Duration warning signs shall be as shown on Figure 6F-2 of the TMUTCD.
3. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

### REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered, unless otherwise approved by the Engineer.
2. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night without damaging the sign sheeting. Burlap, or heavy materials such as plywood or aluminum shall not be used to cover signs.
3. Duct tape or other adhesive material shall NOT be affixed to a sign face.
4. Signs and anchor stubs shall be removed and holes back filled upon completion of the work.

### REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the requirements of the DMS and color usage table shown on this sheet.

### SIGN SUPPORT WEIGHTS

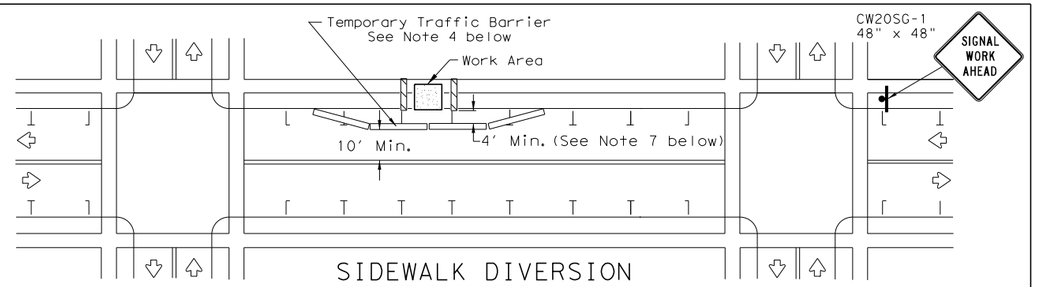
1. Weights used to keep signs from turning over should be sandbags filled with dry, cohesionless material.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects will not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber, such as tire inner tubes, shall not be used.
6. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fastners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

| LEGEND | |
|---|---|
| | Sign |
| | Channelizing Devices |
| | Type 3 Barricade |

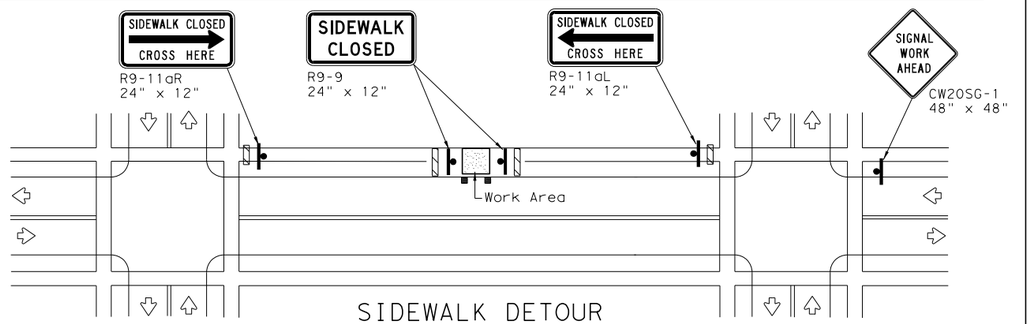
| DEPARTMENTAL MATERIAL SPECIFICATIONS | |
|---|---|
| SIGN FACE MATERIALS | DMS-8300 |
| FLEXIBLE ROLL-UP REFLECTIVE SIGNS | DMS-8310 |

| COLOR | USAGE | SHEETING MATERIAL |
|---|---|---|
| ORANGE | BACKGROUND | TYPE $B_{FL}$ OR TYPE $C_{FL}$ SHEETING |
| WHITE | BACKGROUND | TYPE A SHEETING |
| BLACK | LEGEND & BORDERS | ACRYLIC NON-REFLECTIVE SHEETING |

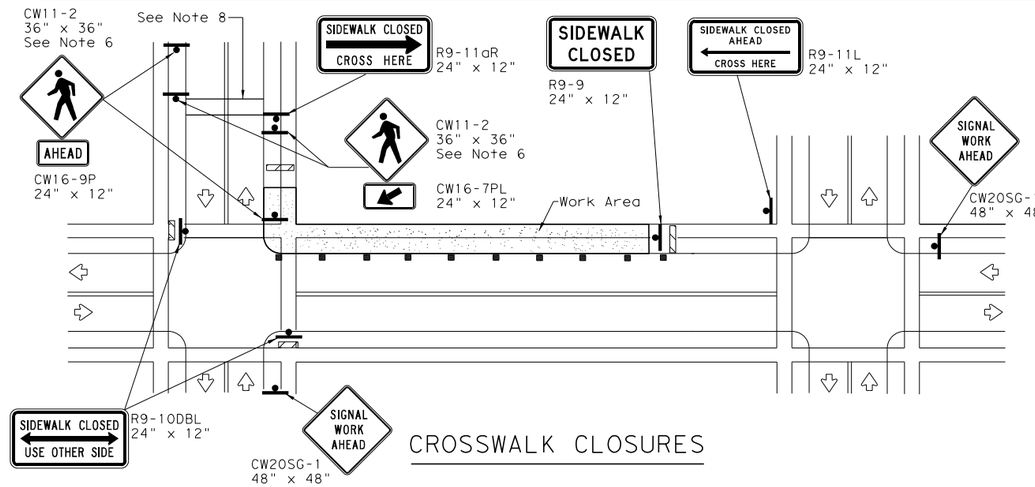
Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be found at the following web address:
http://www.txdot.gov/txdot_library/publications/construction.htm




## SIDEWALK DIVERSION




## SIDEWALK DETOUR




## CROSSWALK CLOSURES

### PEDESTRIAN CONTROL

1. Holes, trenches or other hazards shall be adequately protected by covering, delineating or surrounding the hazard with orange plastic pedestrian fencing or longitudinal channelizing devices, or as directed by the Engineer.
2. "CROSSWALK CLOSURES" as detailed above will require the Engineer's approval prior to installation.
3. R9 series signs shown may be placed on supports detailed on the BC standards or CWZTCD list, or when fabricated from approved lightweight plastic substrates, they may be mounted on top of a plastic drum at or near the location shown.
4. For speeds less than 45 mph longitudinal channelizing devices may be used instead of traffic barriers when approved by the Engineer. Attenuation of blunt ends and installation of water filled devices shall be as per BC(9) and manufacturer's recommendations.
5. Location of devices are for general guidance. Actual device spacing and location must be field adjusted to meet actual conditions.
6. Where pedestrians with visual disabilities normally use the closed sidewalk Detectable Pedestrian Barricades should be used instead of the Type 3 Barricades shown.
7. The width of existing sidewalk should be maintained if practical.
8. Pavement markings for mid-block crosswalks shall be paid for under the appropriate bid items.
9. When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.



Texas Department of Transportation

Traffic Operations Division Standard

# TRAFFIC SIGNAL WORK BARRICADES AND SIGNS

## WZ(BTS-2)-13

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|---|---|---|---|---|
| ©TxDOT April 1992 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 576 | VARIES |
| 2-98 10-99 7-13 | DIST | COUNTY | | SHEET NO. |
| 4-98 3-03 | SAT | BEXAR | | 68 |



DATE: 4/10/2019 8:08:24 AM
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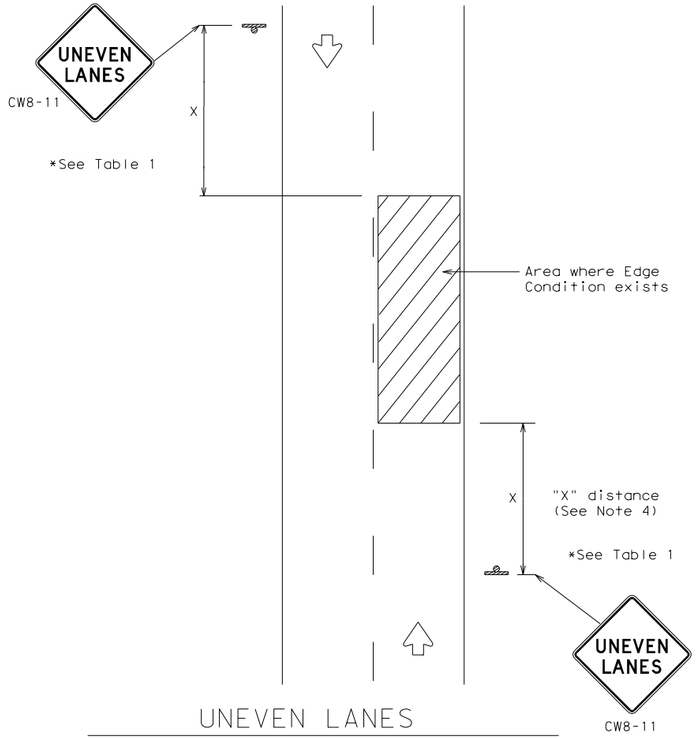
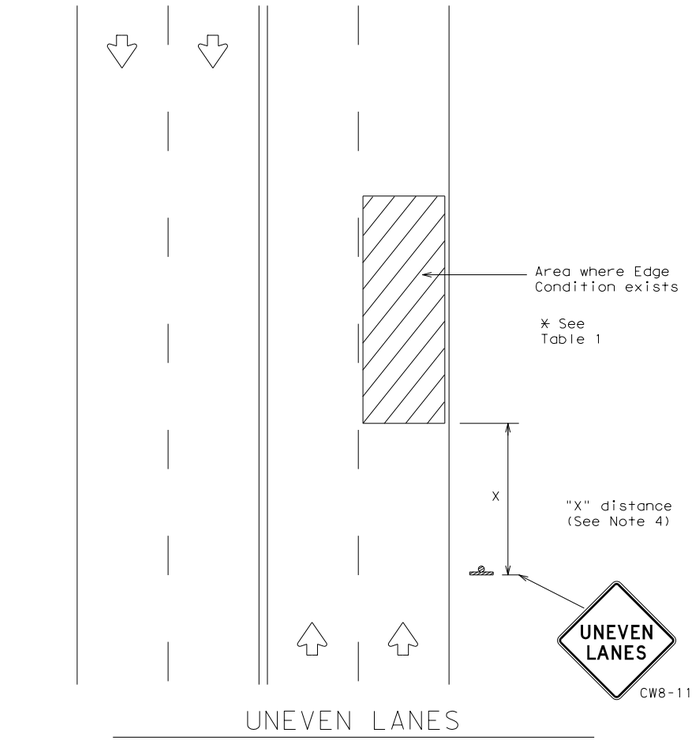
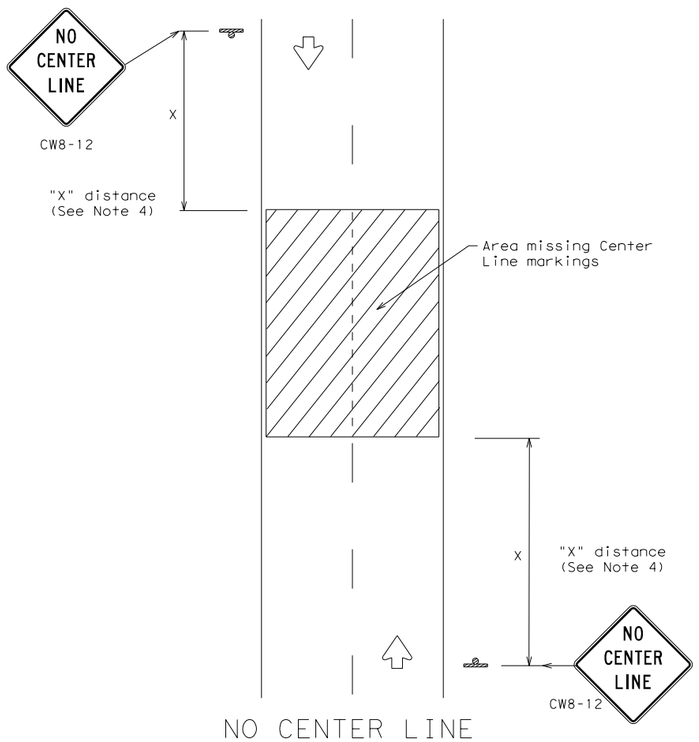


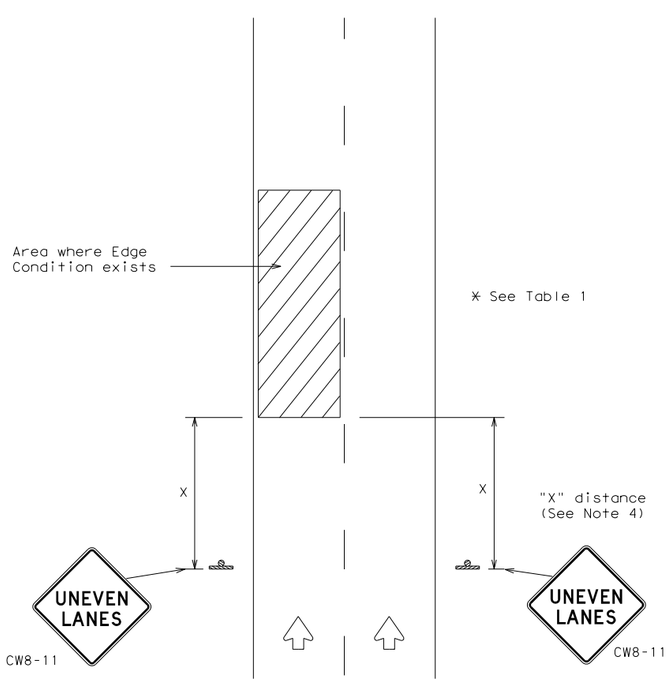

## UNEVEN LANES
## TWO LANE CONVENTIONAL ROAD




## UNEVEN LANES
## FOUR LANE CONVENTIONAL ROAD




## NO CENTER LINE
## TWO LANE CONVENTIONAL ROAD




## UNEVEN LANES
## DIVIDED ROADWAY

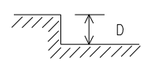
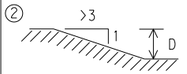
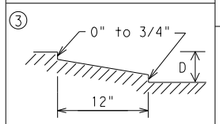
| DEPARTMENTAL MATERIAL SPECIFICATIONS | |
|---|---|
| PERMANENT PREFABRICATED PAVEMENT MARKINGS | DMS-8240 |
| TEMPORARY (REMOVABLE) PREFABRICATED PAVEMENT MARKINGS | DMS-8241 |
| SIGN FACE MATERIALS | DMS-8300 |

| COLOR | USAGE | SHEETING MATERIAL |
|---|---|---|
| ORANGE | BACKGROUND | TYPE $B_{FL}$ OR TYPE $C_{FL}$ SHEETING |
| BLACK | LEGEND & BORDERS | ACRYLIC NON-REFLECTIVE SHEETING |

## GENERAL NOTES

1. If spalling or holes occur, ROUGH ROAD (CW8-8) signs should be placed in advance of the condition and be repeated every two miles where the condition persists.
2. UNEVEN LANES (CW8-11) signs shall be installed in advance of the condition and repeated every mile. Signs installed along the uneven lane condition may be supplemented with the NEXT XX MILES (CW7-3aP) plaque or Advisory Speed (CW13-1P) plaque.
3. NO CENTER LINE (CW8-12) signs and temporary pavement markings as per the WZ(STPM) standard shall be installed if yellow centerlines separating two way traffic are obscured or obliterated. Repeat NO CENTER LINE signs every two miles where the center line markings are not in place. The signs and markings shall remain in place until permanent pavement markings are installed.
4. Signs shall be spaced at the distances recommended as per BC standards.
5. Additional signs may be required as directed by the Engineer. Signs shall remain in place until final surface is applied. Signs shall be considered subsidiary to Item 502 "BARRICADES, SIGNS AND TRAFFIC HANDLING."
6. Signs shall be fabricated and mounted on supports as shown on the BC standards and/or listed on the "Compliant Work Zone Traffic Control Devices" list.
7. Short term markings shall not be used to simulate edge lines.
8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition.

**TABLE 1**

| Edge Condition | Edge Height (D) | * Warning Devices |
|---|---|---|
| ①   | Less than or equal to: 1¼" (maximum-planing) 1½" (typical-overlay) | Sign: CW8-11 |
| | Distance "D" may be a maximum of 1 1/4 " for planing operations and 2" for overlay operations if uneven lanes with edge condition 1 are open to traffic after work operations cease. | |
| ②   | Less than or equal to 3" | Sign: CW8-11 |
| ③   Notched Wedge Joint | Distance "D" may be a maximum of 3" if uneven lanes with edge condition 2 or 3 are open to traffic after work operations cease. Uneven lanes should not be open to traffic when "D" is greater than 3". | |

TRAFFIC CONTROL DURING PLANING, OVERLAY AND LEVELING OPERATIONS ARE SHOWN ELSEWHERE IN THE PLANS.

| MINIMUM WARNING SIGN SIZE | |
|---|---|
| Conventional roads | 36" x 36" |
| Freeways/expressways, divided roadways | 48" x 48" |

Texas Department of Transportation

Traffic Operations Division Standard

# SIGNING FOR UNEVEN LANES

## WZ(UL)-13

| FILE: wzul-13.dgn | DN: TxDOT | CK: TxDOT | DW: TxDOT | CK: TxDOT |
|---|---|---|---|---|
| ©TxDOT April 1992 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 576 | VARIES |
| 8-95 2-98 7-13 | DIST | COUNTY | | SHEET NO. |
| 1-97 3-03 | SAT | BEXAR | | 69 |

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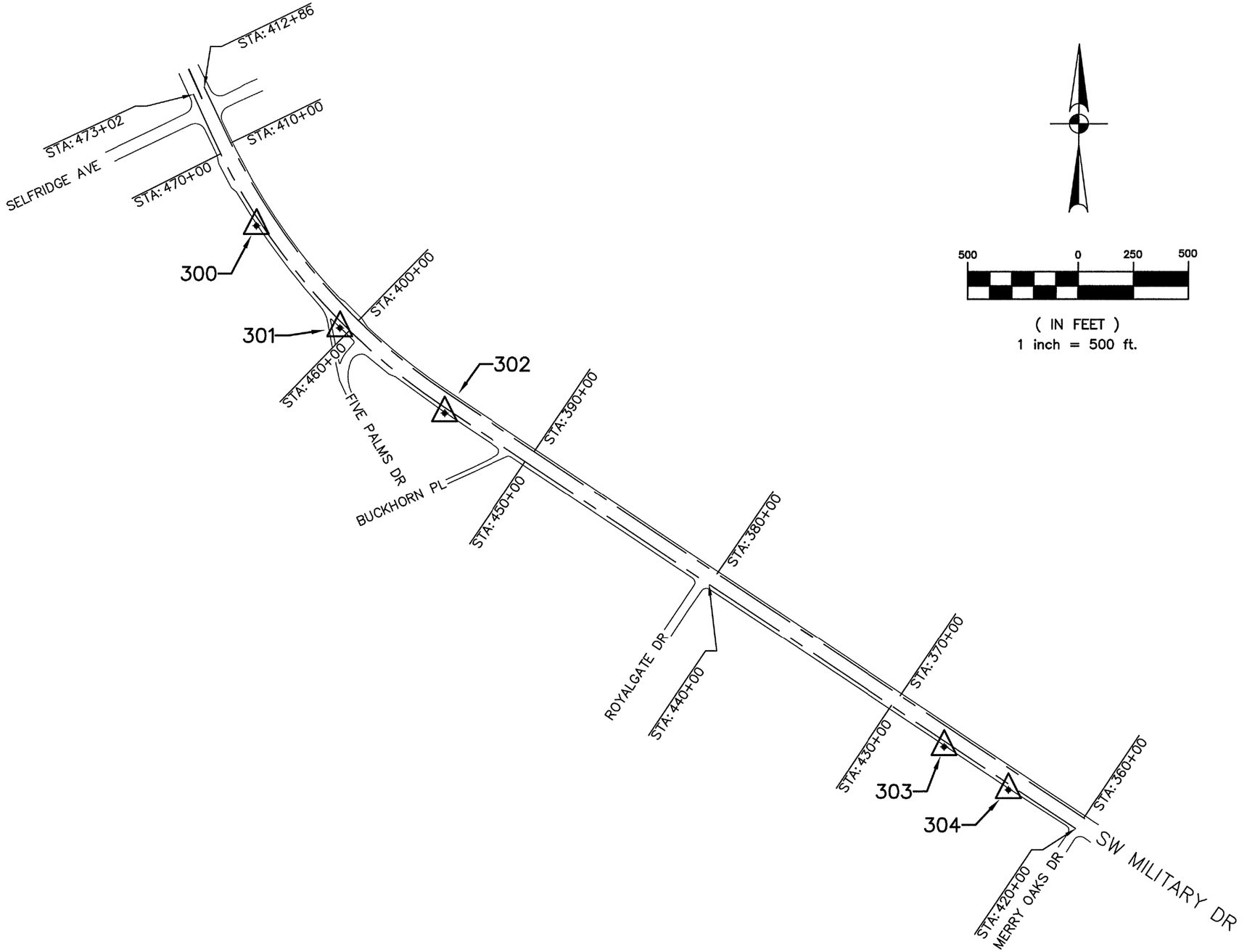





( IN FEET )
1 inch = 500 ft.

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS S0150014, Z0150603 AND Z0152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.


07/19/2018

LEGEND

| | |
|---|---|
| ◬ | CONTROL POINT |
| — - — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# SW MILITARY DRIVE (LOOP 13)

## HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 1 OF 2

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SL 13 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 70 |

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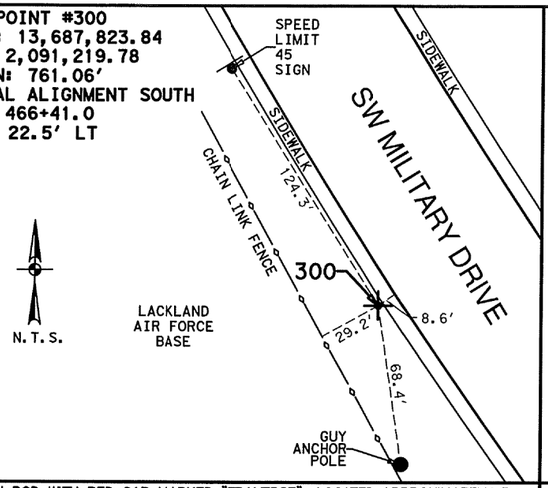
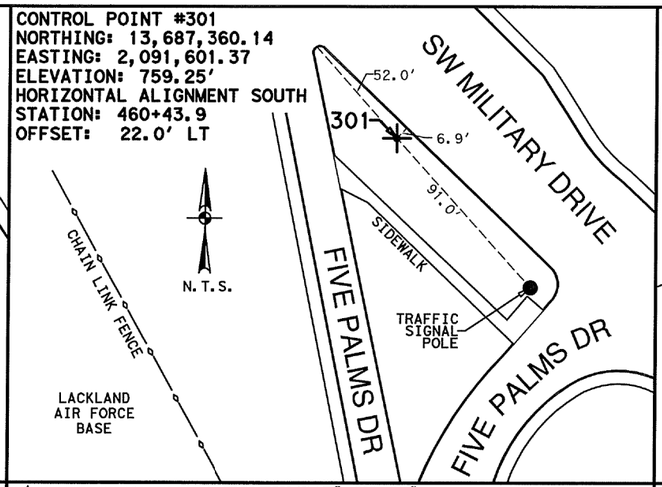
**CONTROL POINT #300**
**NORTHING: 13,687,823.84**
**EASTING: 2,091,219.78**
**ELEVATION: 761.06'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 466+41.0**
**OFFSET: 22.5' LT**



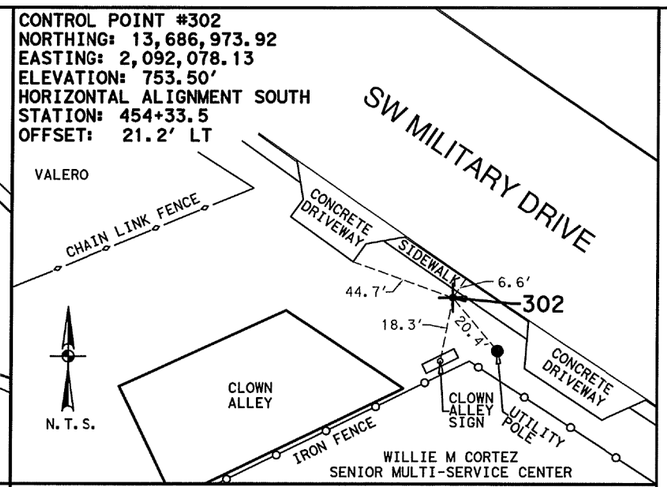

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 580 FEET SOUTHEAST FROM THE INTERSECTION OF SW MILITARY DRIVE AND SELFRIDGE AVENUE, ON THE SOUTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #301**
**NORTHING: 13,687,360.14**
**EASTING: 2,091,601.37**
**ELEVATION: 759.25'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 460+43.9**
**OFFSET: 22.0' LT**



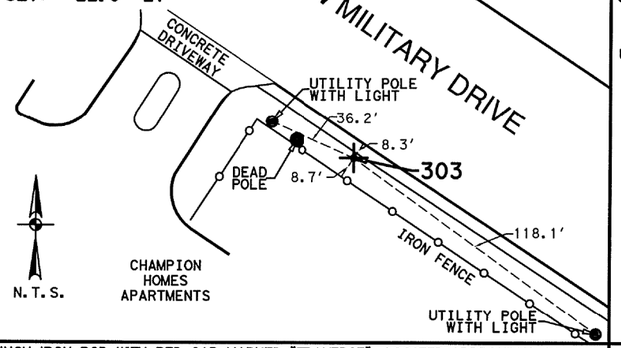

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED AT THE INTERSECTION OF SW MILITARY DRIVE AND FIVE PALMS DRIVE

**CONTROL POINT #302**
**NORTHING: 13,686,973.92**
**EASTING: 2,092,078.13**
**ELEVATION: 753.50'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 454+33.5**
**OFFSET: 21.2' LT**



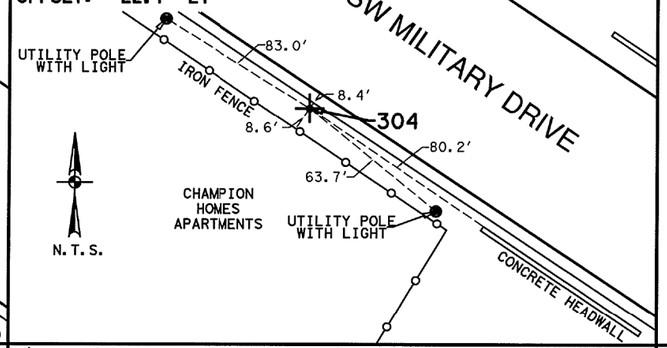

MAG NAIL WITH WASHER IN ASPHALT LOCATED APPROXIMATELY 330 FEET NORTHWEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND BUCKHORN PLACE, ON THE SOUTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #303**
**NORTHING: 13,685,456.07**
**EASTING: 2,094,348.66**
**ELEVATION: 723.10'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 427+02.4**
**OFFSET: 22.0' LT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 700 FEET NORTHWEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND MERRY OAKS DRIVE, ON THE SOUTH SIDE OF SW MILITARY DRIVE

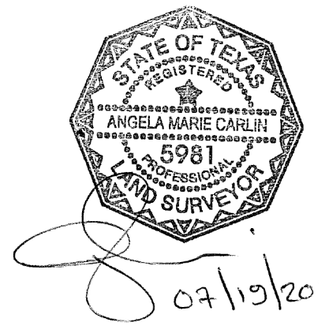
**CONTROL POINT #304**
**NORTHING: 13,685,260.73**
**EASTING: 2,094,640.77**
**ELEVATION: 714.63'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 423+51.0**
**OFFSET: 22.1' LT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 360 FEET NORTHWEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND MERRY OAKS DRIVE, ON THE SOUTH SIDE OF SW MILITARY DRIVE

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS SO150014, Z0150603 AND Z0152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.




LEGEND

| | |
|---|---|
| + | CONTROL POINT |
| — — — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




**SW MILITARY DRIVE (LOOP 13)**

# HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 2 OF 2

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SL 13 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 71 |

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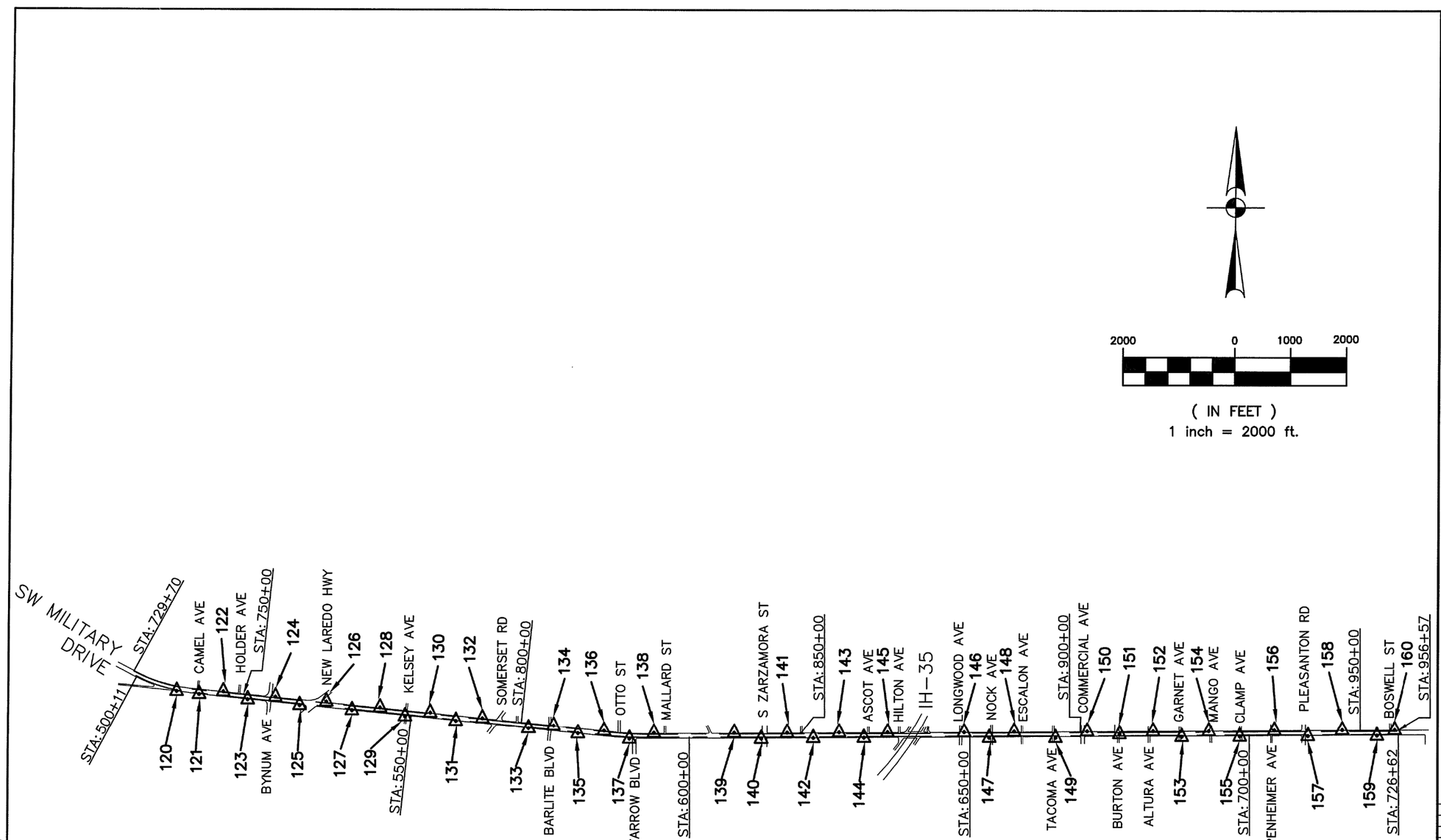



2000 0 1000 2000

( IN FEET )
1 inch = 2000 ft.

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS S0150014, Z0150603 AND Z0152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.

STATE OF TEXAS
REGISTERED
ANGELA MARIE CARLIN
5981
PROFESSIONAL
LAND SURVEYOR

7/16/2018

LEGEND

| | |
|---|---|
| ◬ | CONTROL POINT |
| — — — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SW MILITARY DRIVE
(LOOP 13)

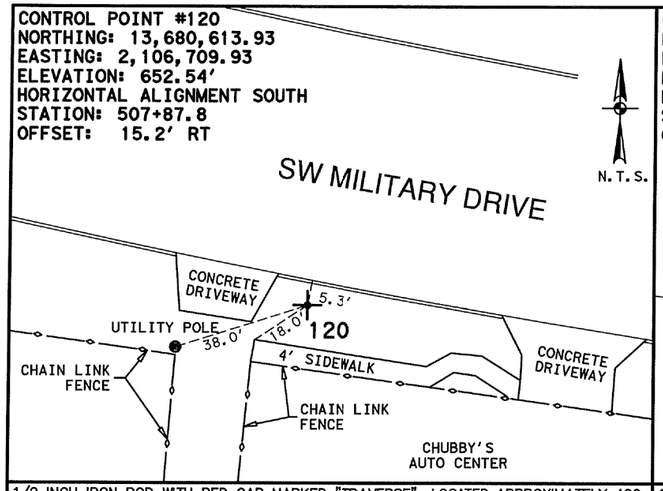
# HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 1 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SL 13 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 72 |

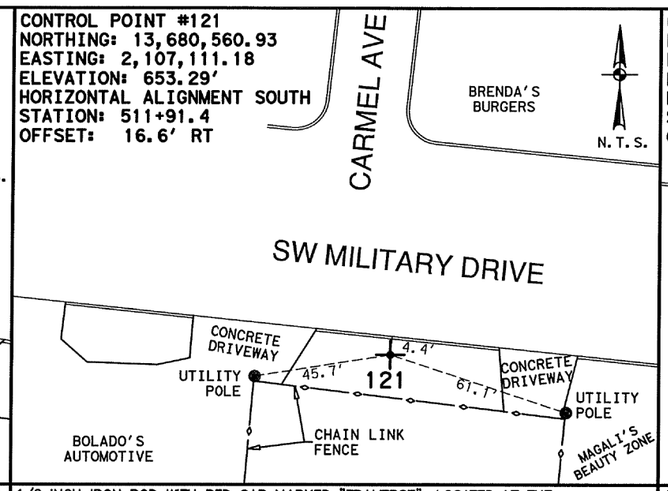
File: N:\Transpo\Civil\11135-01\dwg\CP - 11135-07.dwg

**CONTROL POINT #120**
**NORTHING: 13,680,613.93**
**EASTING: 2,106,709.93**
**ELEVATION: 652.54'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 507+87.8**
**OFFSET: 15.2' RT**



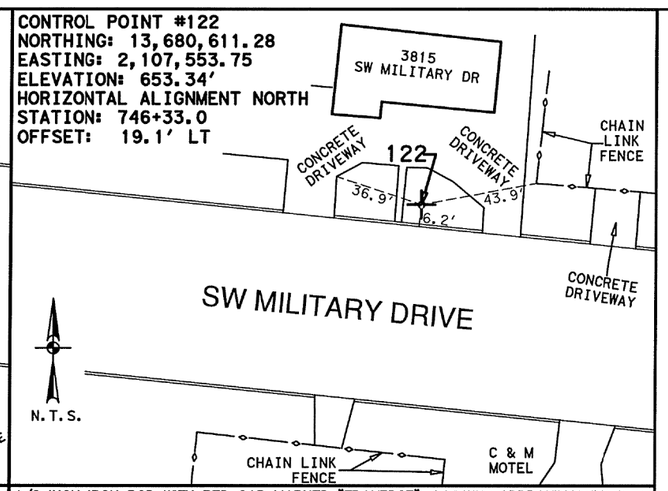

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 400 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND CARMEL AVENUE, ON THE SOUTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #121**
**NORTHING: 13,680,560.93**
**EASTING: 2,107,111.18**
**ELEVATION: 653.29'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 511+91.4**
**OFFSET: 16.6' RT**



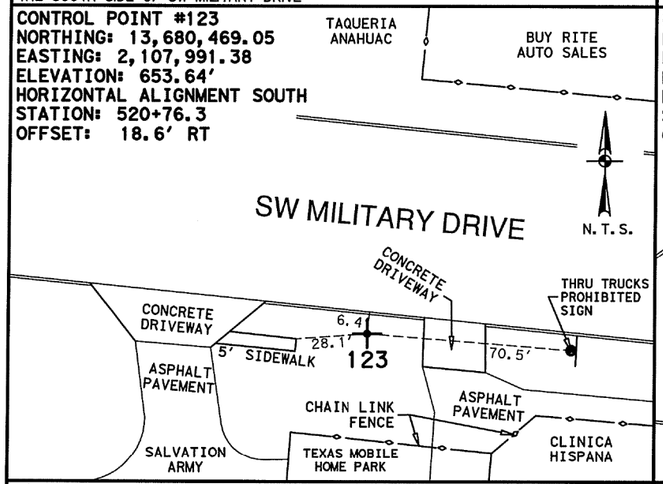

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED AT THE INTERSECTION OF SW MILITARY DRIVE AND CARMEL AVENUE

**CONTROL POINT #122**
**NORTHING: 13,680,611.28**
**EASTING: 2,107,553.75**
**ELEVATION: 653.34'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 746+33.0**
**OFFSET: 19.1' LT**



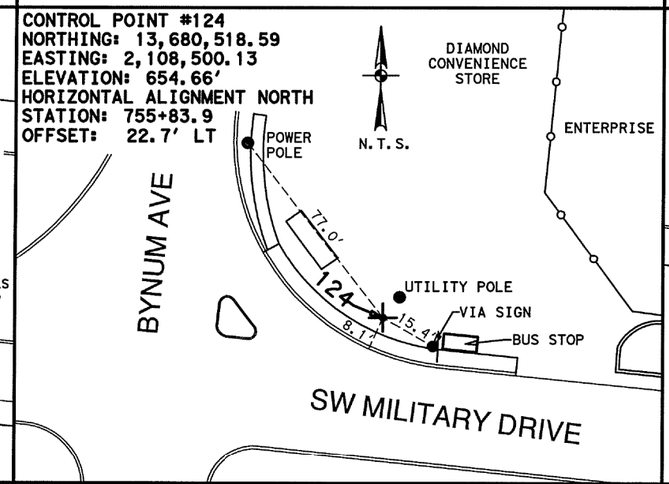

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 300 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND HOLDER AVENUE, ON THE NORTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #123**
**NORTHING: 13,680,469.05**
**EASTING: 2,107,991.38**
**ELEVATION: 653.64'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 520+76.3**
**OFFSET: 18.6' RT**



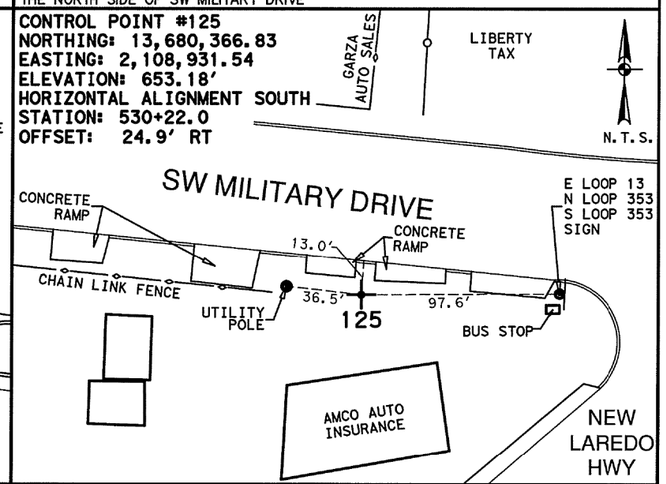

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 410 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND BYNUM AVENUE, ON THE SOUTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #124**
**NORTHING: 13,680,518.59**
**EASTING: 2,108,500.13**
**ELEVATION: 654.66'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 755+83.9**
**OFFSET: 22.7' LT**



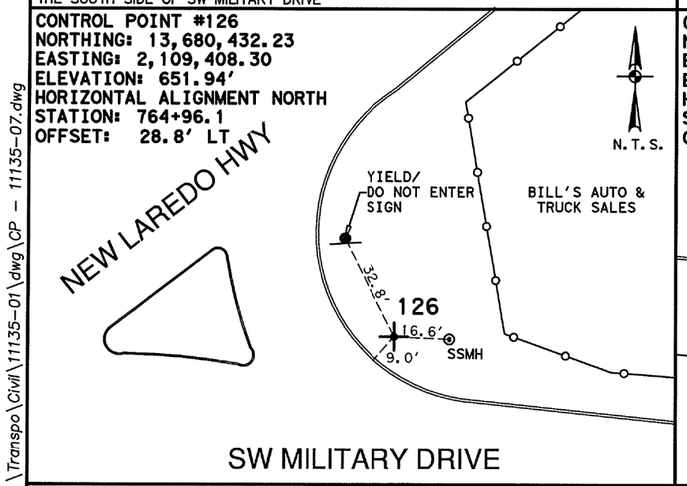

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED AT THE INTERSECTION OF SW MILITARY DRIVE AND BYNUM AVENUE

**CONTROL POINT #125**
**NORTHING: 13,680,366.83**
**EASTING: 2,108,931.54**
**ELEVATION: 653.18'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 530+22.0**
**OFFSET: 24.9' RT**



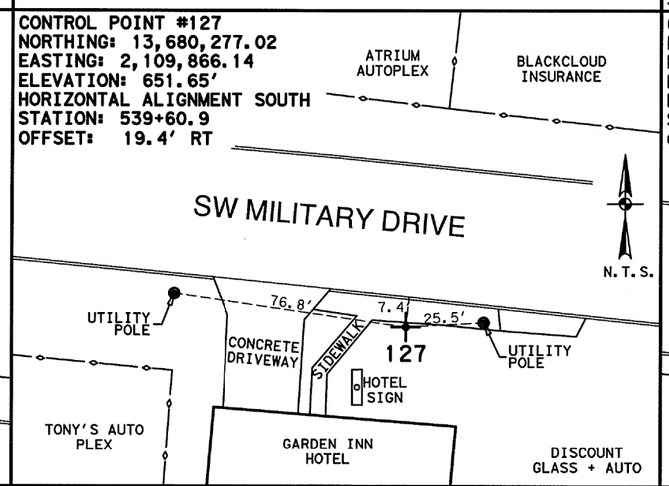

MAG NAIL WITH WASHER IN ASPHALT, LOCATED APPROXIMATELY 200 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND NEW LAREDO HIGHWAY, ON THE SOUTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #126**
**NORTHING: 13,680,432.23**
**EASTING: 2,109,408.30**
**ELEVATION: 651.94'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 764+96.1**
**OFFSET: 28.8' LT**



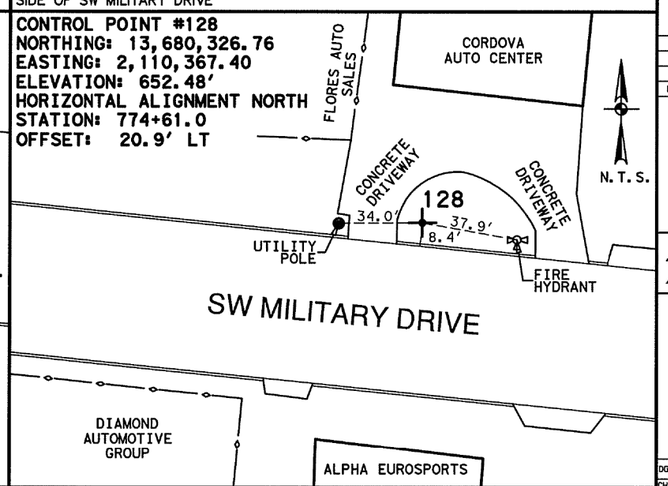

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED AT THE INTERSECTION OF SW MILITARY DRIVE AND NEW LAREDO HIGHWAY

**CONTROL POINT #127**
**NORTHING: 13,680,277.02**
**EASTING: 2,109,866.14**
**ELEVATION: 651.65'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 539+60.9**
**OFFSET: 19.4' RT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 730 FEET EAST FROM THE INTERSECTION OF SW MILITARY DRIVE AND NEW LAREDO HIGHWAY, ON THE SOUTH SIDE OF SW MILITARY DRIVE

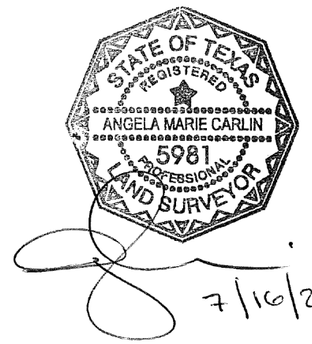
**CONTROL POINT #128**
**NORTHING: 13,680,326.76**
**EASTING: 2,110,367.40**
**ELEVATION: 652.48'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 774+61.0**
**OFFSET: 20.9' LT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 480 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND KELSEY AVENUE, ON THE NORTH SIDE OF SW MILITARY DRIVE

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS S0150014, Z0150603 AND Z0152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.




LEGEND

| | |
|---|---|
| + | CONTROL POINT |
| — — — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




**SW MILITARY DRIVE (LOOP 13)**

# HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 2 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SL 13 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 73 |

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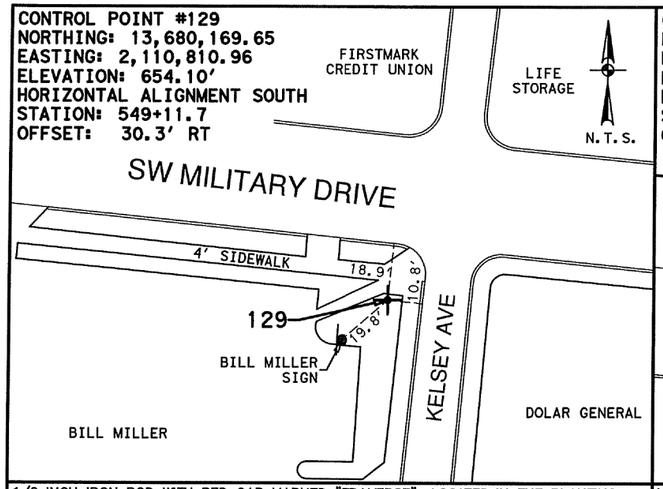
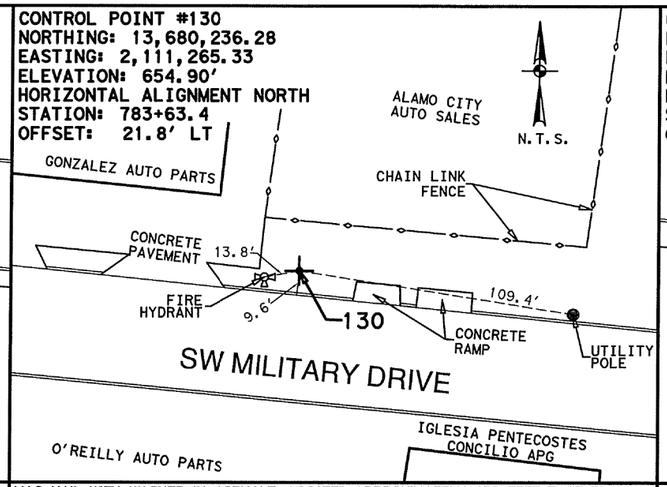
**CONTROL POINT #129**
**NORTHING: 13,680,169.65**
**EASTING: 2,110,810.96**
**ELEVATION: 654.10'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 549+11.7**
**OFFSET: 30.3' RT**



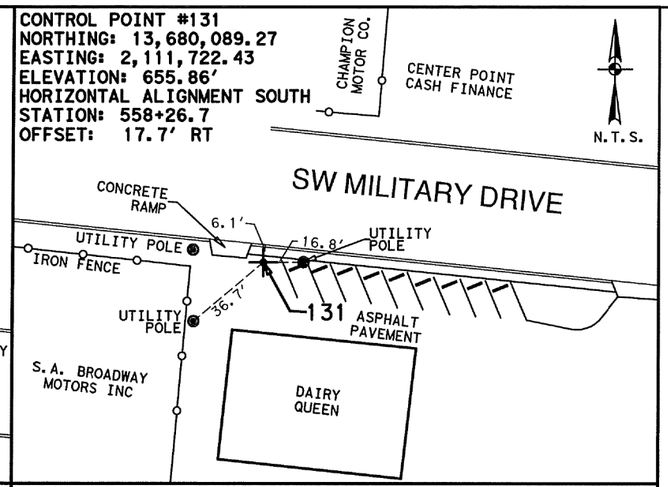

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED IN THE PLANTING STRIP AT THE INTERSECTION OF SW MILITARY DRIVE AND KELSEY AVENUE

**CONTROL POINT #130**
**NORTHING: 13,680,236.28**
**EASTING: 2,111,265.33**
**ELEVATION: 654.90'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 783+63.4**
**OFFSET: 21.8' LT**




MAG NAIL WITH WASHER IN ASPHALT, LOCATED APPROXIMATELY 430 FEET EAST FROM THE INTERSECTION OF SW MILITARY DRIVE AND KELSEY AVENUE, ON THE NORTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #131**
**NORTHING: 13,680,089.27**
**EASTING: 2,111,722.43**
**ELEVATION: 655.86'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 558+26.7**
**OFFSET: 17.7' RT**




MAG NAIL WITH WASHER IN ASPHALT, LOCATED APPROXIMATELY 700 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND SOMERSET ROAD, ON THE SOUTH SIDE OF SW MILITARY DRIVE

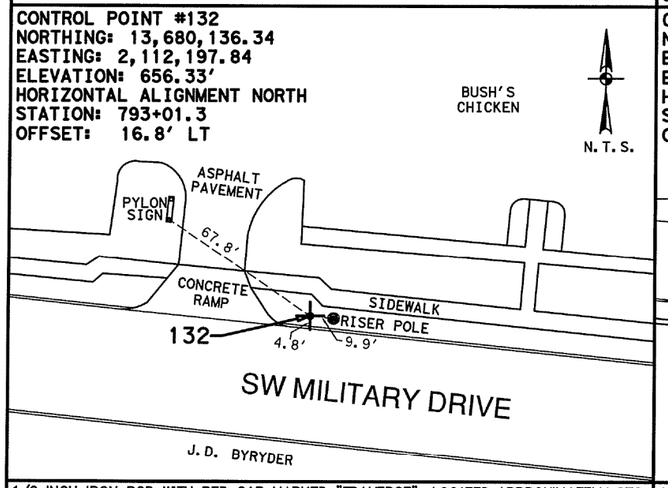
NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS S0150014, Z0150603 AND Z0152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.

STATE OF TEXAS
REGISTERED
ANGELA MARIE CARLIN
5981
PROFESSIONAL
LAND SURVEYOR

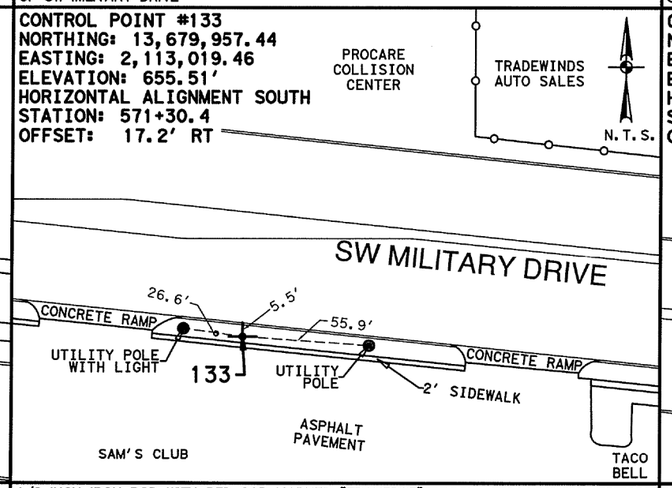
07/16/2018

**CONTROL POINT #132**
**NORTHING: 13,680,136.34**
**EASTING: 2,112,197.84**
**ELEVATION: 656.33'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 793+01.3**
**OFFSET: 16.8' LT**



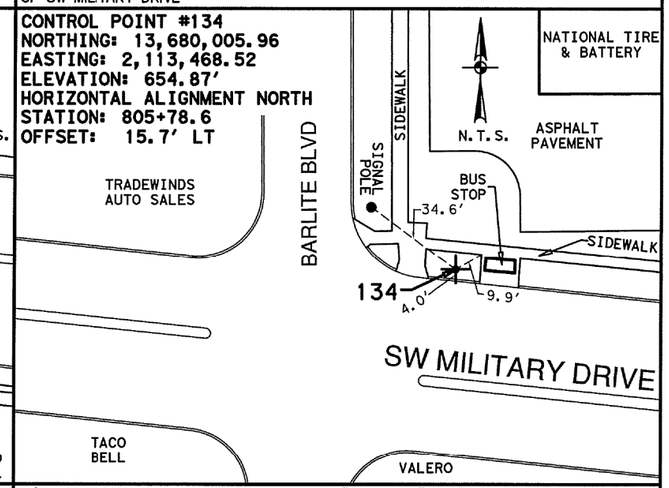

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 270 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND SOMERSET ROAD, ON THE NORTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #133**
**NORTHING: 13,679,957.44**
**EASTING: 2,113,019.46**
**ELEVATION: 655.51'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 571+30.4**
**OFFSET: 17.2' RT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 400 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND BARLITE BOULEVARD, ON THE SOUTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #134**
**NORTHING: 13,680,005.96**
**EASTING: 2,113,468.52**
**ELEVATION: 654.87'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 805+78.6**
**OFFSET: 15.7' LT**

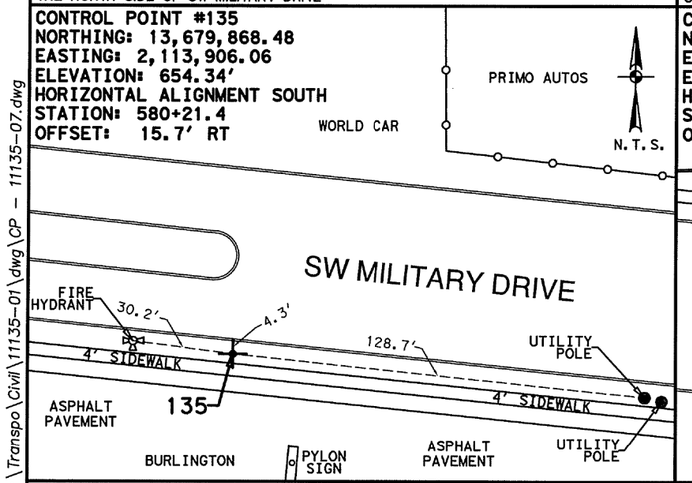



1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED IN THE PLANTING STRIP AT THE INTERSECTION OF SW MILITARY DRIVE AND BARLITE BOULEVARD

LEGEND

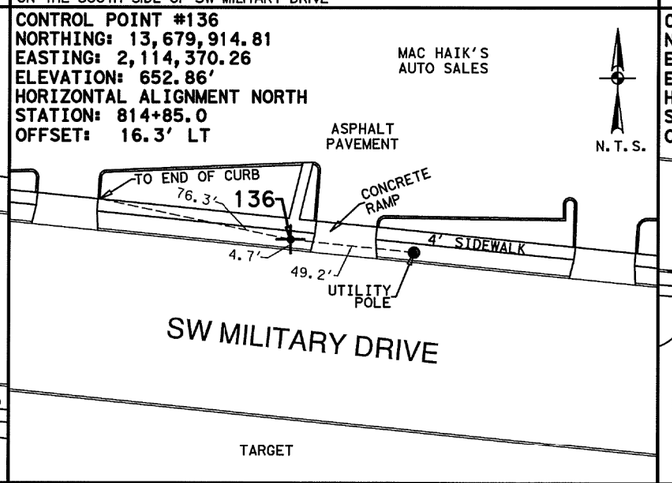
| | |
|---|---|
| + | CONTROL POINT |
| — — — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

**CONTROL POINT #135**
**NORTHING: 13,679,868.48**
**EASTING: 2,113,906.06**
**ELEVATION: 654.34'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 580+21.4**
**OFFSET: 15.7' RT**



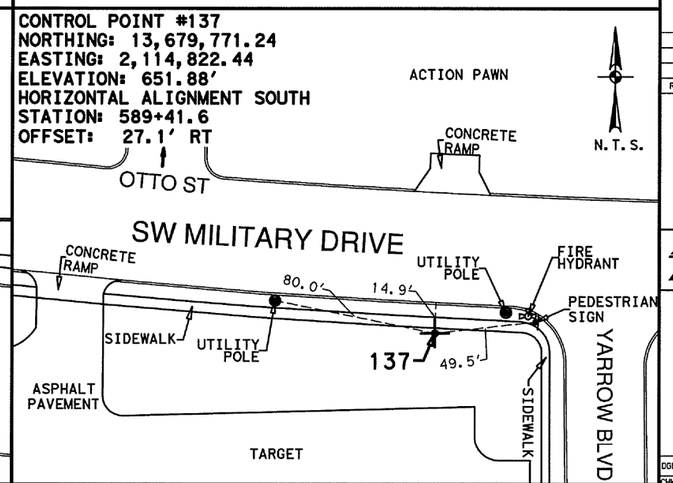

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED ON THE PLANTING STRIP APPROXIMATELY 500 FEET EAST FROM THE INTERSECTION OF SW MILITARY DRIVE AND BARLITE BOULEVARD, ON THE SOUTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #136**
**NORTHING: 13,679,914.81**
**EASTING: 2,114,370.26**
**ELEVATION: 652.86'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 814+85.0**
**OFFSET: 16.3' LT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED ON THE PLANTING STRIP APPROXIMATELY 280 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND OTTO STREET, ON THE NORTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #137**
**NORTHING: 13,679,771.24**
**EASTING: 2,114,822.44**
**ELEVATION: 651.88'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 589+41.6**
**OFFSET: 27.1' RT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 100 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND YARROW BOULEVARD, ON THE SOUTH SIDE OF SW MILITARY DRIVE

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




# SW MILITARY DRIVE (LOOP 13)
# HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 3 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK: DGN: | 6 | TEXAS | | | | SL 13 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK: DWG: | 15 | BEXAR | 0017 | 10 | 280 | 74 |

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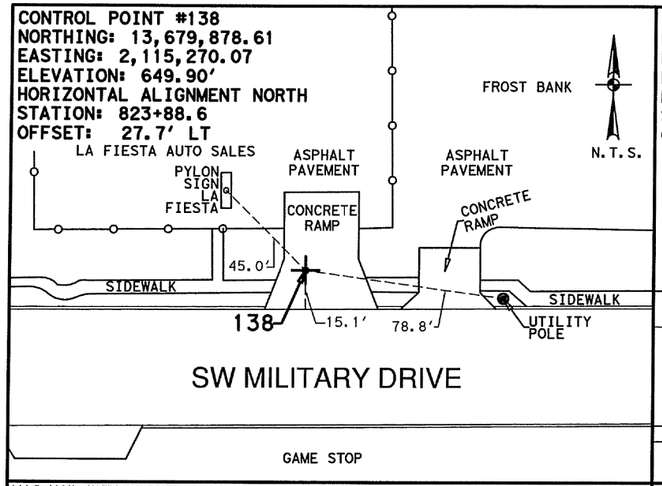
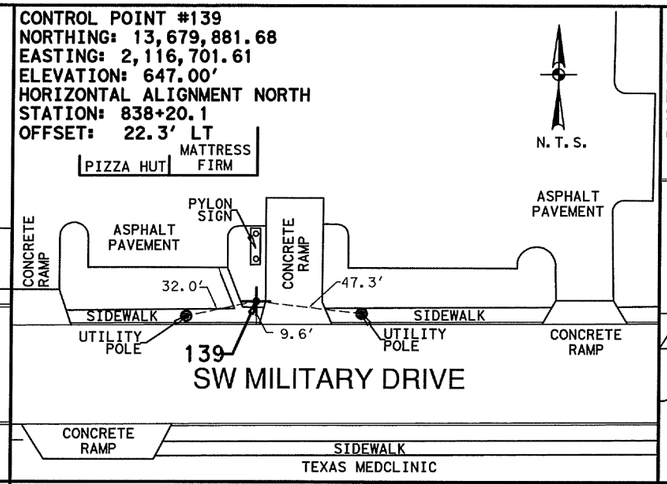
**CONTROL POINT #138**
**NORTHING: 13,679,878.61**
**EASTING: 2,115,270.07**
**ELEVATION: 649.90'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 823+88.6**
**OFFSET: 27.7' LT**



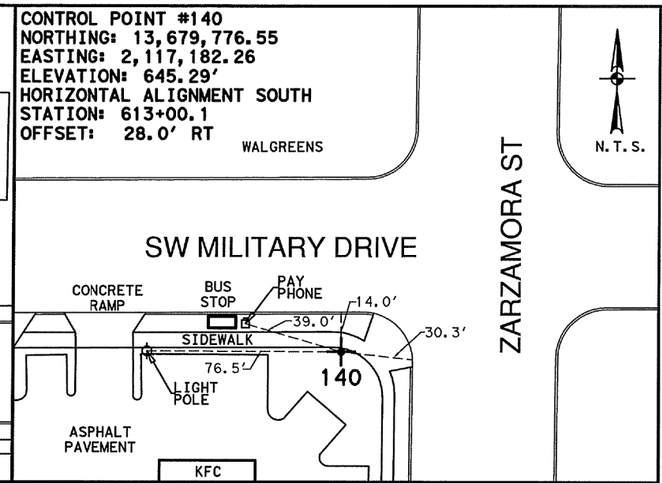

MAG NAIL WITH WASHER IN CONCRETE, LOCATED APPROXIMATELY 200 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND MALLARD STREET, ON THE NORTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #139**
**NORTHING: 13,679,881.68**
**EASTING: 2,116,701.61**
**ELEVATION: 647.00'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 838+20.1**
**OFFSET: 22.3' LT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 550 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND ZARZAMORA STREET, ON THE NORTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #140**
**NORTHING: 13,679,776.55**
**EASTING: 2,117,182.26**
**ELEVATION: 645.29'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 613+00.1**
**OFFSET: 28.0' RT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED IN THE SOUTHWEST CORNER OF THE INTERSECTION OF SW MILITARY DRIVE AND ZARZAMORA STREET

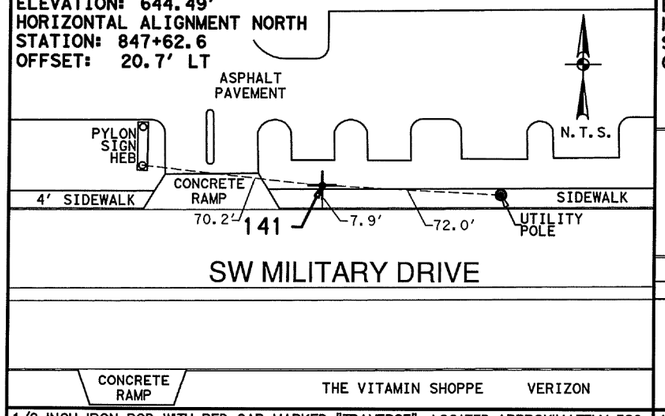
NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS SO150014, ZO150603 AND ZO152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.

STATE OF TEXAS REGISTERED ANGELA MARIE CARLIN 5981 PROFESSIONAL LAND SURVEYOR

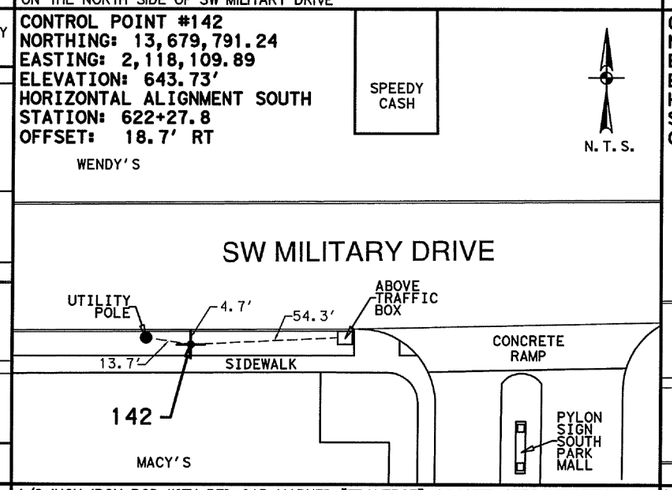
7/16/2018

**CONTROL POINT #141**
**NORTHING: 13,679,885.66**
**EASTING: 2,117,644.06**
**ELEVATION: 644.49'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 847+62.6**
**OFFSET: 20.7' LT**



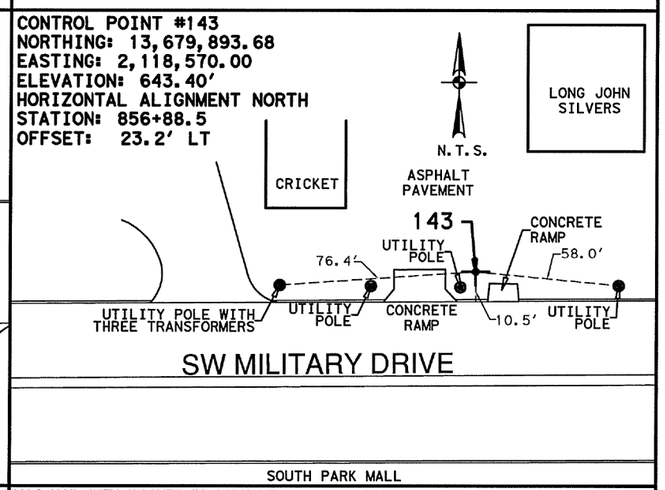

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 380 FEET EAST FROM THE INTERSECTION OF SW MILITARY DRIVE AND ZARZAMORA STREET, ON THE NORTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #142**
**NORTHING: 13,679,791.24**
**EASTING: 2,118,109.89**
**ELEVATION: 643.73'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 622+27.8**
**OFFSET: 18.7' RT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 850 FEET EAST FROM THE INTERSECTION OF SW MILITARY DRIVE AND ZARZAMORA STREET, ON THE SOUTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #143**
**NORTHING: 13,679,893.68**
**EASTING: 2,118,570.00**
**ELEVATION: 643.40'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 856+88.5**
**OFFSET: 23.2' LT**

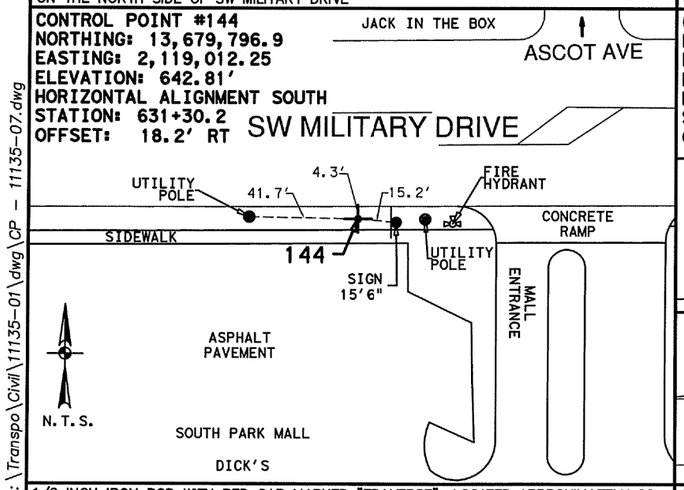



MAG NAIL WITH WASHER IN ASPHALT, LOCATED APPROXIMATELY 530 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND ASCOT AVENUE, ON THE NORTH SIDE OF SW MILITARY DRIVE

LEGEND

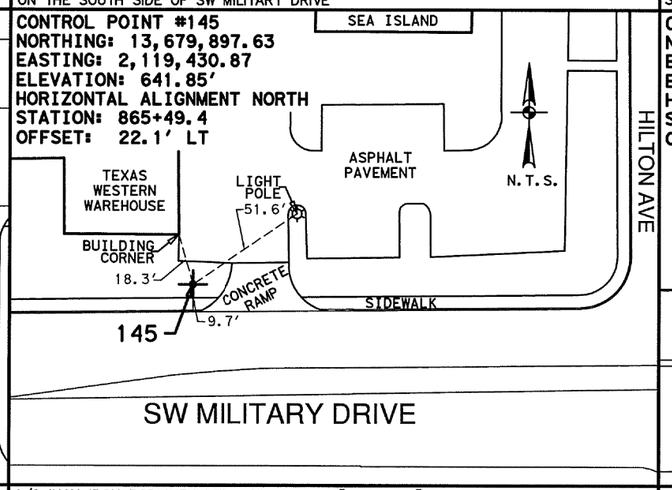
| | |
|---|---|
| + | CONTROL POINT |
| - - - | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

**CONTROL POINT #144**
**NORTHING: 13,679,796.9**
**EASTING: 2,119,012.25**
**ELEVATION: 642.81'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 631+30.2**
**OFFSET: 18.2' RT**



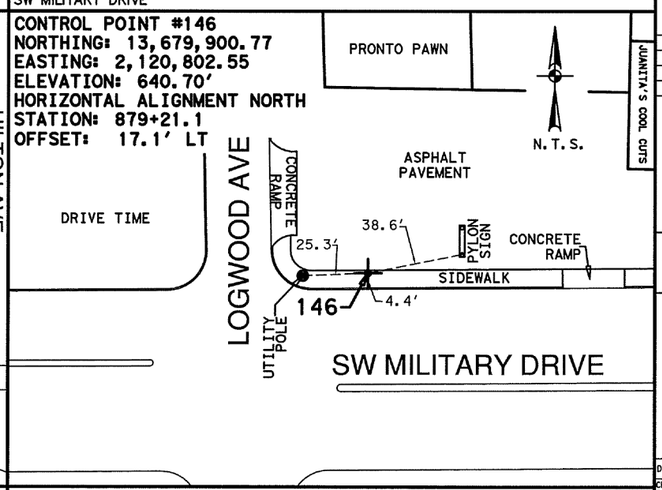

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 90 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND ASCOT AVENUE, ON THE SOUTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #145**
**NORTHING: 13,679,897.63**
**EASTING: 2,119,430.87**
**ELEVATION: 641.85'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 865+49.4**
**OFFSET: 22.1' LT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 220 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND HILTON AVENUE, ON THE NORTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #146**
**NORTHING: 13,679,900.77**
**EASTING: 2,120,802.55**
**ELEVATION: 640.70'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 879+21.1**
**OFFSET: 17.1' LT**




MAG NAIL WITH WASHER IN CONCRETE, LOCATED APPROXIMATELY 50 FEET EAST FROM THE INTERSECTION OF SW MILITARY DRIVE AND LONGWOOD AVENUE, ON THE NORTH SIDE OF SW MILITARY DRIVE

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




**SW MILITARY DRIVE (LOOP 13)**

# HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 4 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SL 13 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 75 |

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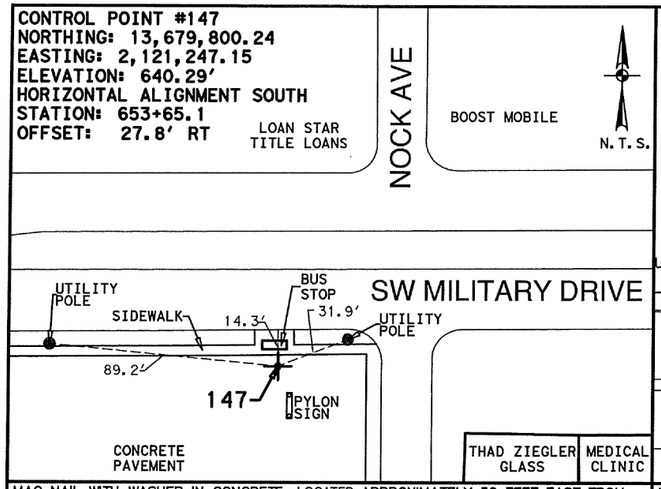
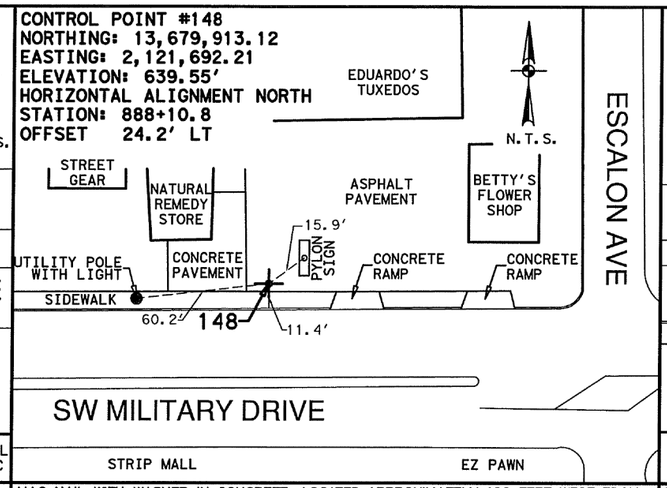
CONTROL POINT #147
NORTHING: 13,679,800.24
EASTING: 2,121,247.15
ELEVATION: 640.29'
HORIZONTAL ALIGNMENT SOUTH
STATION: 653+65.1
OFFSET: 27.8' RT



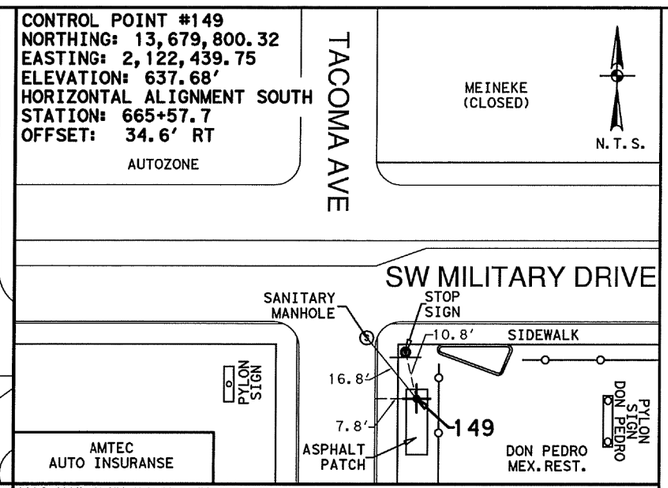

MAG NAIL WITH WASHER IN CONCRETE, LOCATED APPROXIMATELY 50 FEET EAST FROM THE INTERSECTION OF SW MILITARY DRIVE AND NOCK AVENUE, ON THE SOUTH SIDE OF SW MILITARY DRIVE

CONTROL POINT #148
NORTHING: 13,679,913.12
EASTING: 2,121,692.21
ELEVATION: 639.55'
HORIZONTAL ALIGNMENT NORTH
STATION: 888+10.8
OFFSET 24.2' LT



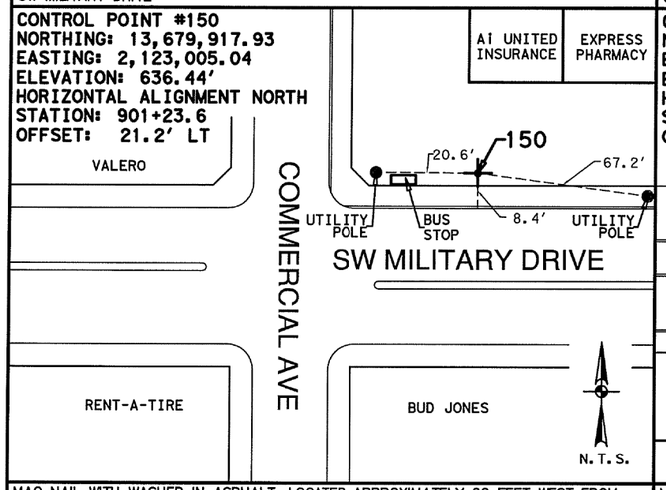

MAG NAIL WITH WASHER IN CONCRETE, LOCATED APPROXIMATELY 160 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND ESCALONE AVENUE, ON THE NORTH SIDE OF SW MILITARY DRIVE

CONTROL POINT #149
NORTHING: 13,679,800.32
EASTING: 2,122,439.75
ELEVATION: 637.68'
HORIZONTAL ALIGNMENT SOUTH
STATION: 665+57.7
OFFSET: 34.6' RT



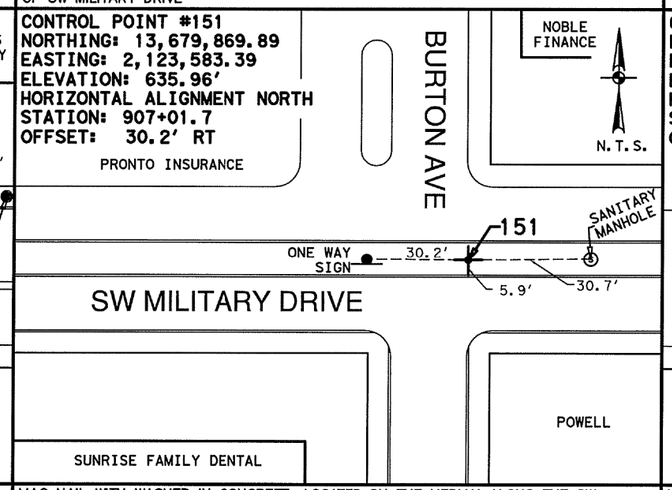

MAG NAIL WITH WASHER IN A PATCH OF ASPHALT, LOCATED AT THE INTERSECTION OF SW MILITARY DRIVE AND TACOMA AVENUE

CONTROL POINT #150
NORTHING: 13,679,917.93
EASTING: 2,123,005.04
ELEVATION: 636.44'
HORIZONTAL ALIGNMENT NORTH
STATION: 901+23.6
OFFSET: 21.2' LT



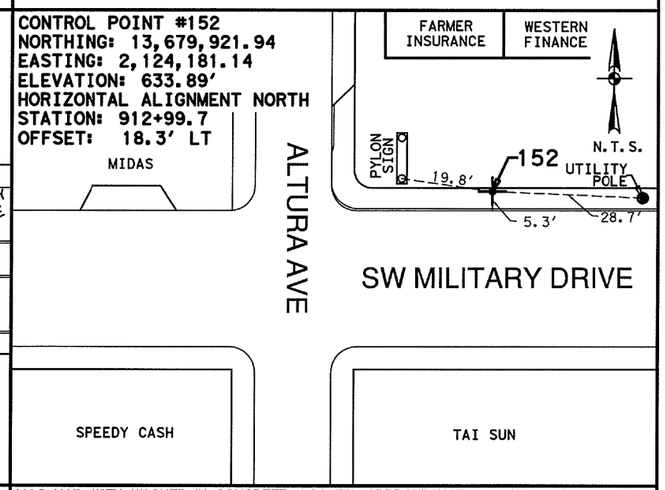

MAG NAIL WITH WASHER IN ASPHALT, LOCATED APPROXIMATELY 60 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND COMMERCIAL AVENUE, ON THE NORTH SIDE OF SW MILITARY DRIVE

CONTROL POINT #151
NORTHING: 13,679,869.89
EASTING: 2,123,583.39
ELEVATION: 635.96'
HORIZONTAL ALIGNMENT NORTH
STATION: 907+01.7
OFFSET: 30.2' RT



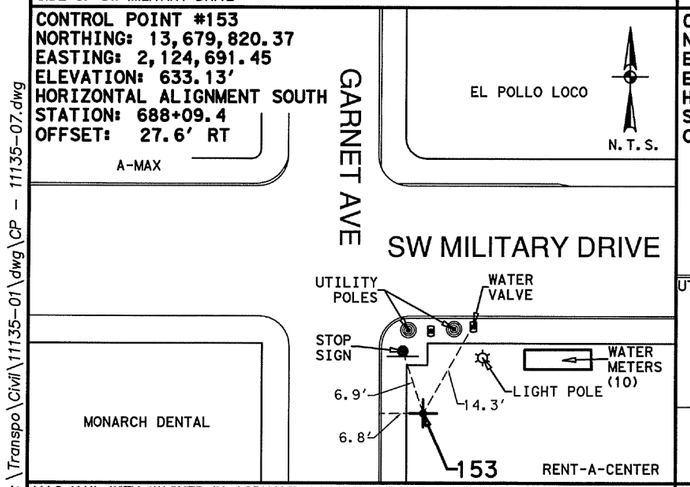

MAG NAIL WITH WASHER IN CONCRETE, LOCATED ON THE MEDIAN ALONG THE SW MILITARY DRIVE, AT THE INTERSECTION OF SW MILITARY DRIVE AND BURTON AVENUE

CONTROL POINT #152
NORTHING: 13,679,921.94
EASTING: 2,124,181.14
ELEVATION: 633.89'
HORIZONTAL ALIGNMENT NORTH
STATION: 912+99.7
OFFSET: 18.3' LT



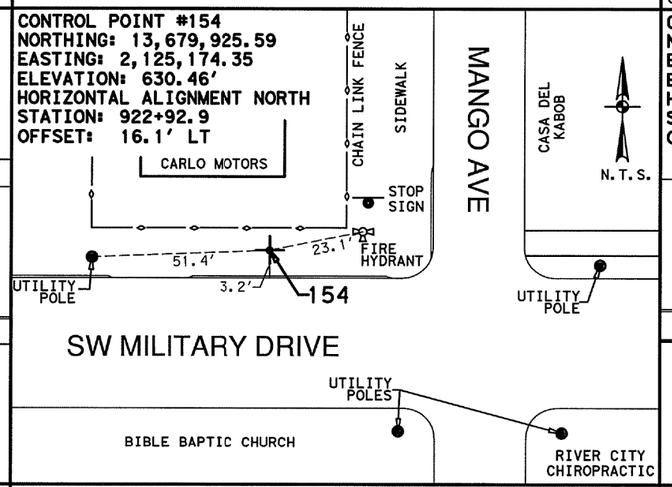

MAG NAIL WITH WASHER IN CONCRETE, LOCATED APPROXIMATELY 60 FEET EAST FROM THE INTERSECTION OF SW MILITARY DRIVE AND ALTURA AVENUE, ON THE NORTH SIDE OF SW MILITARY DRIVE

CONTROL POINT #153
NORTHING: 13,679,820.37
EASTING: 2,124,691.45
ELEVATION: 633.13'
HORIZONTAL ALIGNMENT SOUTH
STATION: 688+09.4
OFFSET: 27.6' RT



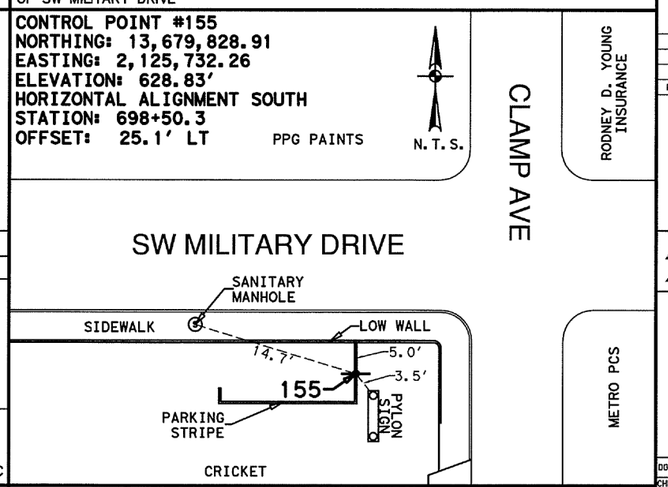

MAG NAIL WITH WASHER IN ASPHALT, LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF SW MILITARY DRIVE AND GARNET AVENUE

CONTROL POINT #154
NORTHING: 13,679,925.59
EASTING: 2,125,174.35
ELEVATION: 630.46'
HORIZONTAL ALIGNMENT NORTH
STATION: 922+92.9
OFFSET: 16.1' LT




MAG NAIL WITH WASHER IN CONCRETE, LOCATED APPROXIMATELY 50 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND MANGO AVENUE, ON THE NORTH SIDE OF SW MILITARY DRIVE

CONTROL POINT #155
NORTHING: 13,679,828.91
EASTING: 2,125,732.26
ELEVATION: 628.83'
HORIZONTAL ALIGNMENT SOUTH
STATION: 698+50.3
OFFSET: 25.1' LT




MAG NAIL WITH WASHER IN ASPHALT, LOCATED APPROXIMATELY 35 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND CLAMP AVENUE, ON THE SOUTH SIDE OF SW MILITARY DRIVE

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS SO150014, Z0150603 AND Z0152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.

STATE OF TEXAS
REGISTERED
ANGELA MARIE CARLIN
5981
PROFESSIONAL
LAND SURVEYOR

7/16/2018

LEGEND

| | |
|---|---|
| + | CONTROL POINT |
| — — — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




SW MILITARY DRIVE
(LOOP 13)

HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 5 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SL 13 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 76 |

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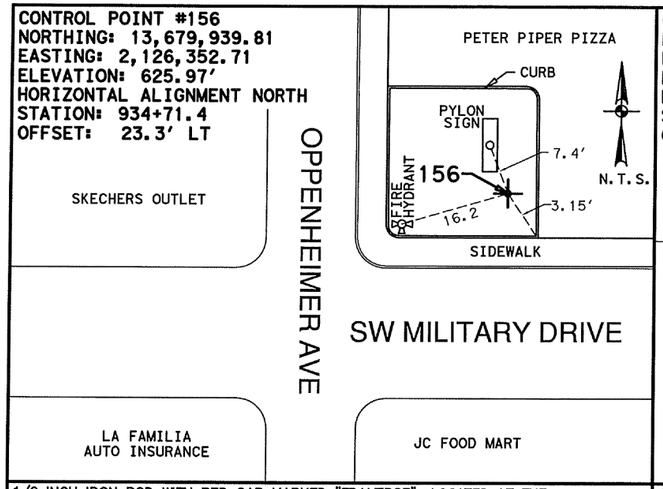
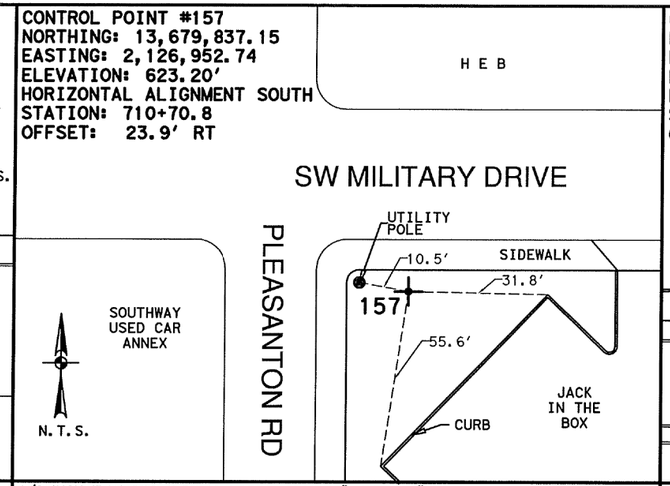
**CONTROL POINT #156**
**NORTHING: 13,679,939.81**
**EASTING: 2,126,352.71**
**ELEVATION: 625.97'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 934+71.4**
**OFFSET: 23.3' LT**



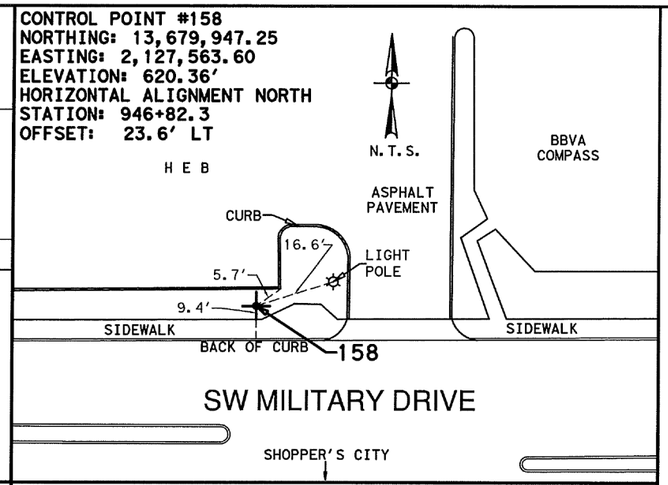

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED AT THE INTERSECTION OF SW MILITARY DRIVE AND OPPENHEIMER AVENUE

**CONTROL POINT #157**
**NORTHING: 13,679,837.15**
**EASTING: 2,126,952.74**
**ELEVATION: 623.20'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 710+70.8**
**OFFSET: 23.9' RT**



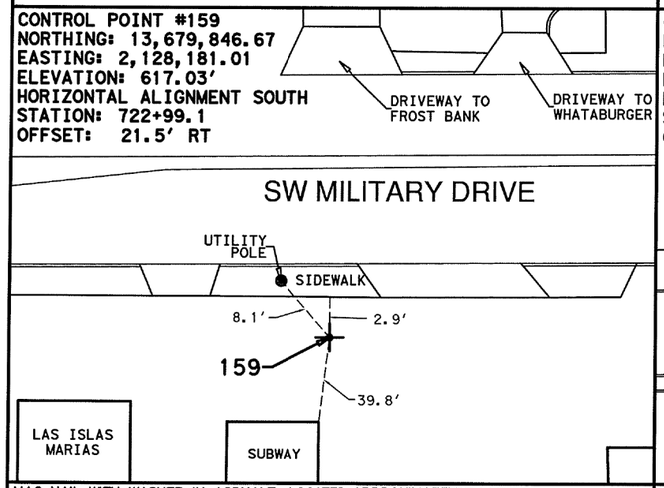

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED AT THE INTERSECTION OF SW MILITARY DRIVE AND PLEASANTON ROAD

**CONTROL POINT #158**
**NORTHING: 13,679,947.25**
**EASTING: 2,127,563.60**
**ELEVATION: 620.36'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 946+82.3**
**OFFSET: 23.6' LT**



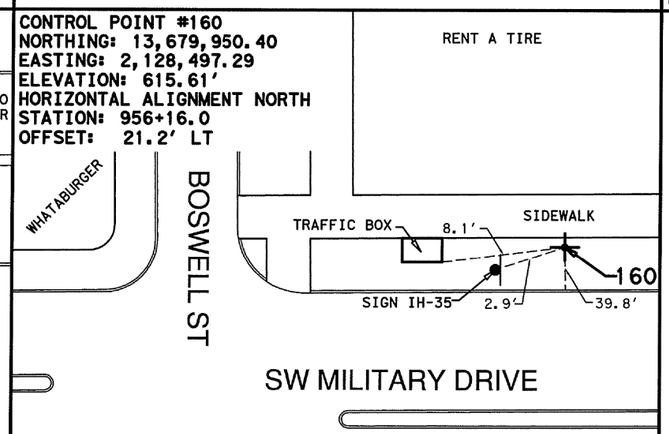

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 670 FEET EAST FROM THE INTERSECTION OF SW MILITARY DRIVE AND PLEASANTON ROAD, ON THE NORTH SIDE OF SW MILITARY DRIVE

**CONTROL POINT #159**
**NORTHING: 13,679,846.67**
**EASTING: 2,128,181.01**
**ELEVATION: 617.03'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 722+99.1**
**OFFSET: 21.5' RT**




MAG NAIL WITH WASHER IN ASPHALT, LOCATED APPROXIMATELY 250 FEET WEST FROM THE INTERSECTION OF SW MILITARY DRIVE AND BOSWELL STREET, ON THE SOUTH SIDE OF SW MILITARY DRIVE

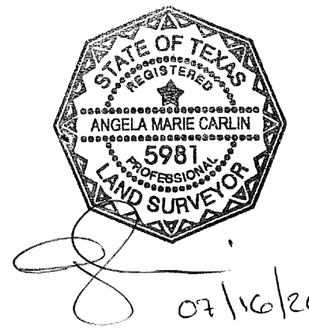
**CONTROL POINT #160**
**NORTHING: 13,679,950.40**
**EASTING: 2,128,497.29**
**ELEVATION: 615.61'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 956+16.0**
**OFFSET: 21.2' LT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 60 FEET EAST FROM THE INTERSECTION OF SW MILITARY DRIVE AND BOSWELL STREET, ON THE NORTH SIDE OF SW MILITARY DRIVE

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS SO150014, ZO150603 AND ZO152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.




LEGEND

| | |
|---|---|
| + | CONTROL POINT |
| — — — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




**SW MILITARY DRIVE (LOOP 13)**

# HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 6 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SL 13 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 77 |

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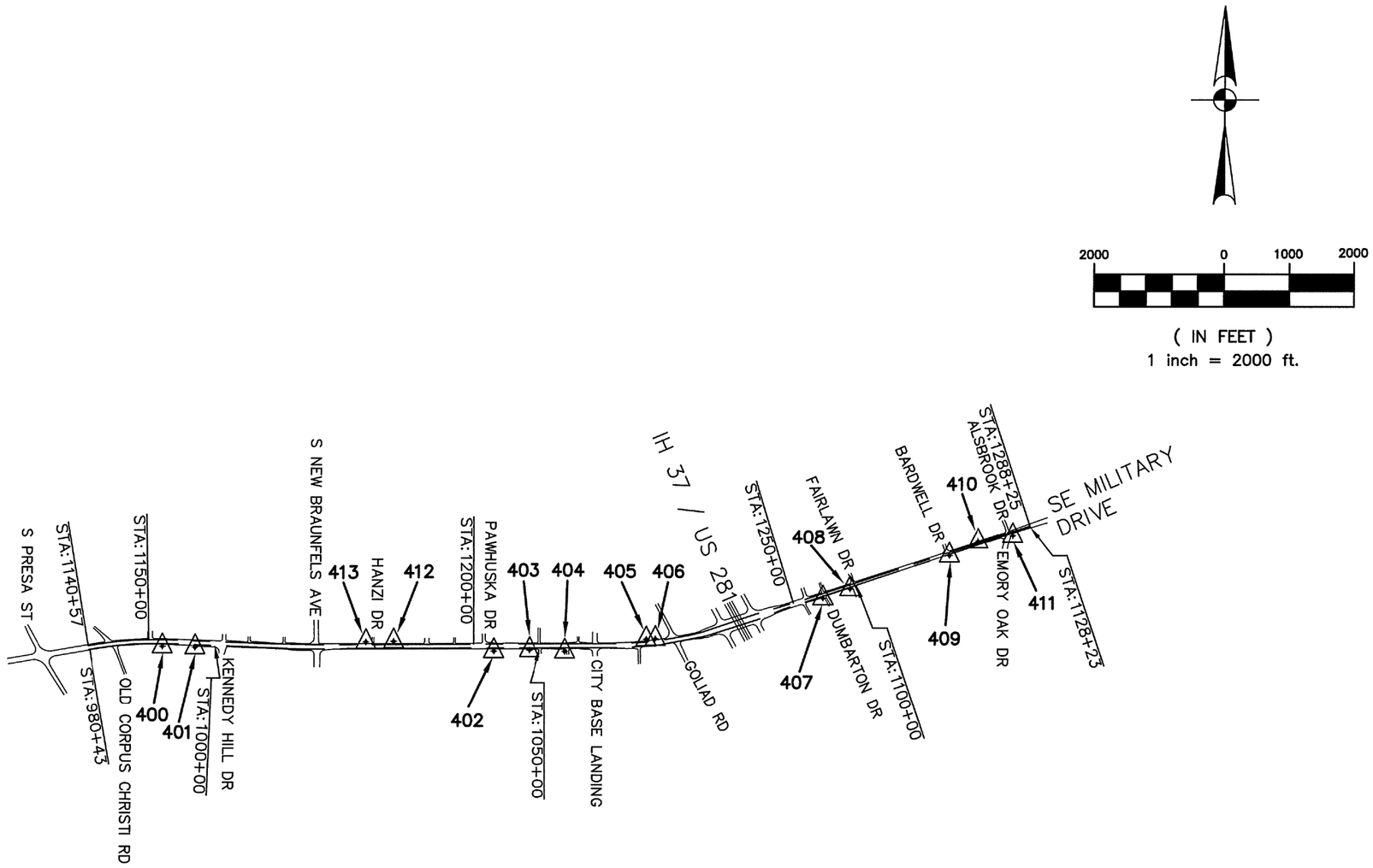


NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS S0150014, Z0150603 AND Z0152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.

STATE OF TEXAS
REGISTERED
ANGELA MARIE CARLIN
5981
PROFESSIONAL
LAND SURVEYOR

07/26/2018

LEGEND

| | |
|---|---|
| △ | CONTROL POINT |
| — - — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# SE MILITARY DRIVE (LOOP 13)

## HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 1 OF 3

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SL 13 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 78 |

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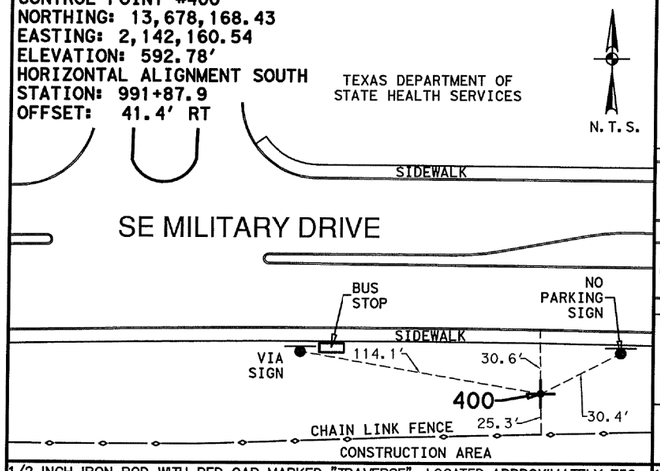
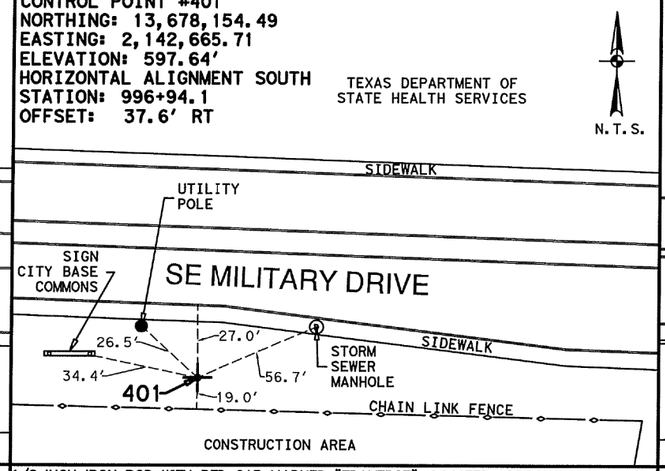
**CONTROL POINT #400**
**NORTHING: 13,678,168.43**
**EASTING: 2,142,160.54**
**ELEVATION: 592.78'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 991+87.9**
**OFFSET: 41.4' RT**



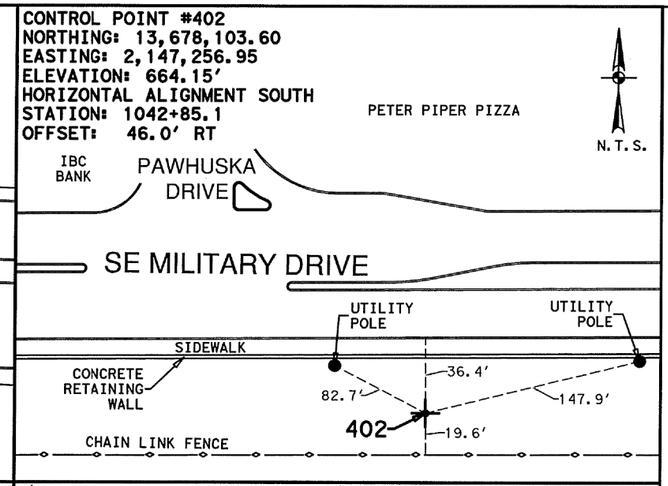

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 750 FEET EAST FROM THE INTERSECTION OF SE MILITARY DRIVE AND OLD CORPUS CHRISTI ROAD, ON THE SOUTH SIDE OF SE MILITARY DRIVE

**CONTROL POINT #401**
**NORTHING: 13,678,154.49**
**EASTING: 2,142,665.71**
**ELEVATION: 597.64'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 996+94.1**
**OFFSET: 37.6' RT**



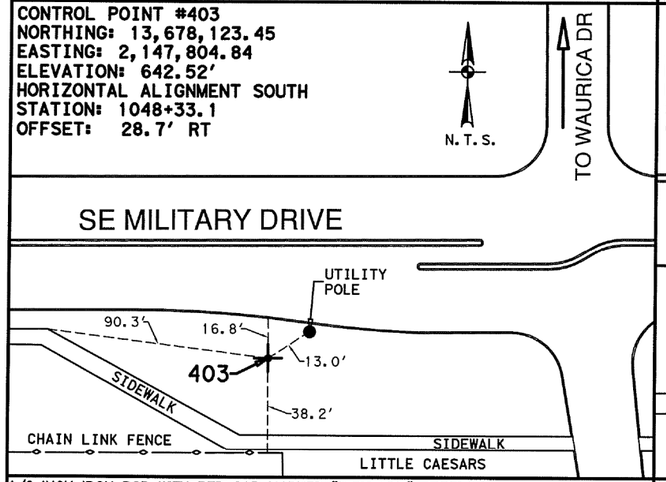

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 1,200 FEET EAST FROM THE INTERSECTION OF SE MILITARY DRIVE AND OLD CORPUS CHRISTI ROAD, ON THE SOUTH SIDE OF SE MILITARY DRIVE

**CONTROL POINT #402**
**NORTHING: 13,678,103.60**
**EASTING: 2,147,256.95**
**ELEVATION: 664.15'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 1042+85.1**
**OFFSET: 46.0' RT**



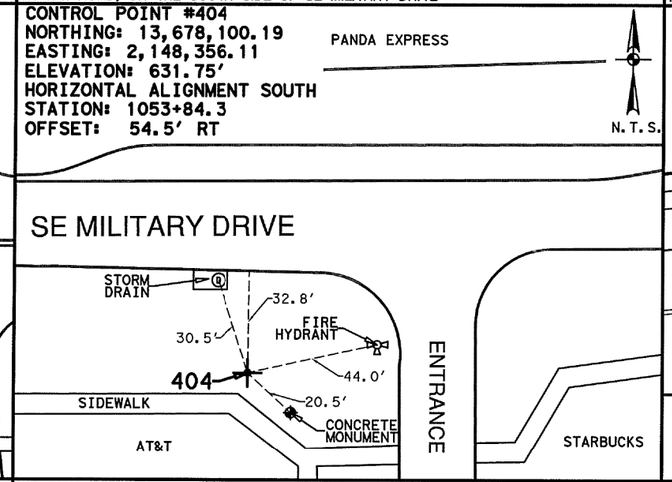

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 130 FEET EAST FROM THE INTERSECTION OF SE MILITARY DRIVE AND PAWHUSKA DRIVE, ON THE SOUTH SIDE OF SE MILITARY DRIVE

**CONTROL POINT #403**
**NORTHING: 13,678,123.45**
**EASTING: 2,147,804.84**
**ELEVATION: 642.52'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 1048+33.1**
**OFFSET: 28.7' RT**



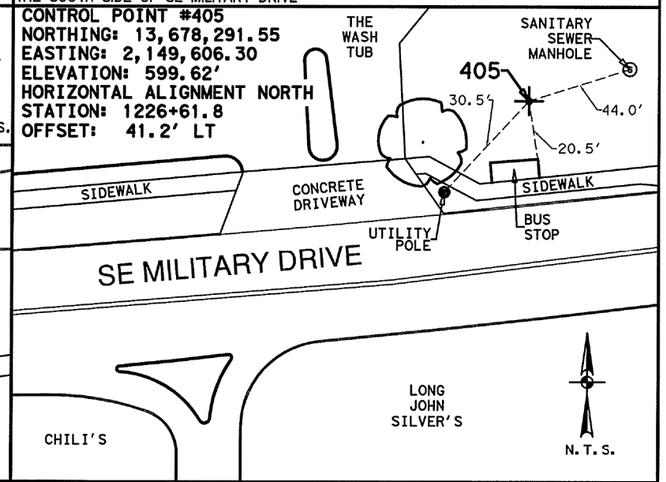

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 680 FEET EAST FROM THE INTERSECTION OF SE MILITARY DRIVE AND PAWHUSKA DRIVE, ON THE SOUTH SIDE OF SE MILITARY DRIVE

**CONTROL POINT #404**
**NORTHING: 13,678,100.19**
**EASTING: 2,148,356.11**
**ELEVATION: 631.75'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 1053+84.3**
**OFFSET: 54.5' RT**



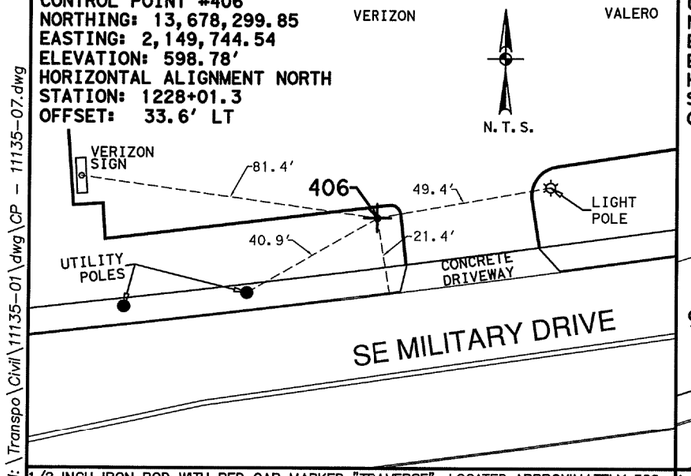

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 420 FEET WEST FROM THE INTERSECTION OF SE MILITARY DRIVE AND CITY BASE LANDING, ON THE SOUTH SIDE OF SE MILITARY DRIVE

**CONTROL POINT #405**
**NORTHING: 13,678,291.55**
**EASTING: 2,149,606.30**
**ELEVATION: 599.62'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 1226+61.8**
**OFFSET: 41.2' LT**



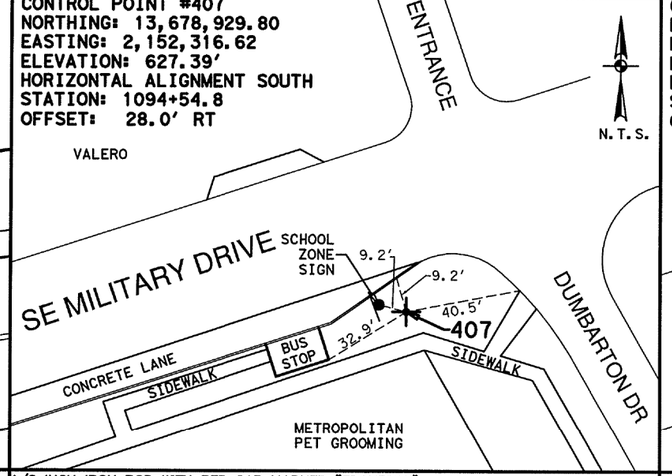

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 460 FEET WEST FROM THE INTERSECTION OF SE MILITARY DRIVE AND GOLIAD ROAD, ON THE NORTH SIDE OF SE MILITARY DRIVE

**CONTROL POINT #406**
**NORTHING: 13,678,299.85**
**EASTING: 2,149,744.54**
**ELEVATION: 598.78'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 1228+01.3**
**OFFSET: 33.6' LT**



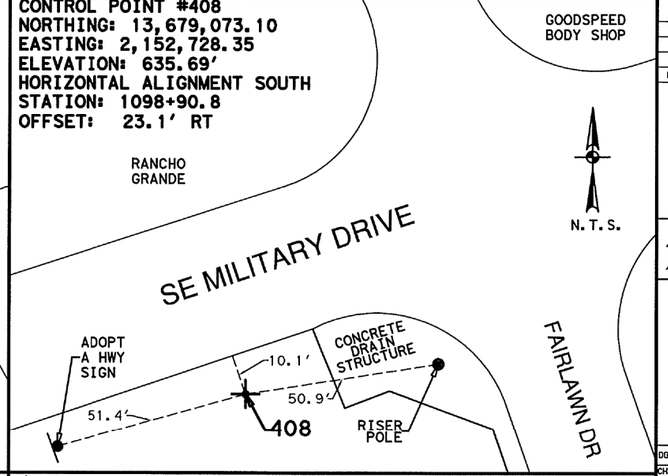

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 320 FEET WEST FROM THE INTERSECTION OF SE MILITARY DRIVE AND GOLIAD ROAD, ON THE NORTH SIDE OF SE MILITARY DRIVE

**CONTROL POINT #407**
**NORTHING: 13,678,929.80**
**EASTING: 2,152,316.62**
**ELEVATION: 627.39'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 1094+54.8**
**OFFSET: 28.0' RT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 50 FEET WEST FROM THE INTERSECTION OF SE MILITARY DRIVE AND DUMBARTON DRIVE, ON THE SOUTH SIDE OF SE MILITARY DRIVE

**CONTROL POINT #408**
**NORTHING: 13,679,073.10**
**EASTING: 2,152,728.35**
**ELEVATION: 635.69'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 1098+90.8**
**OFFSET: 23.1' RT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 90 FEET WEST FROM THE INTERSECTION OF SE MILITARY DRIVE AND FAIRLAWN DRIVE, ON THE SOUTH SIDE OF SE MILITARY DRIVE

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS S0150014, Z0150603 AND Z0152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.

STATE OF TEXAS
REGISTERED
ANGELA MARIE CARLIN
5981
PROFESSIONAL
LAND SURVEYOR

07/26/2018

LEGEND

| | |
|---|---|
| + | CONTROL POINT |
| — — — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




# SE MILITARY DRIVE (LOOP 13)
# HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 2 OF 3

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SL 13 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 79 |

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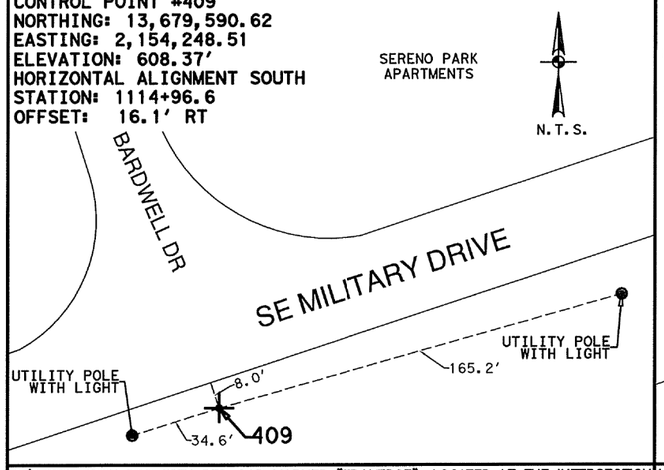
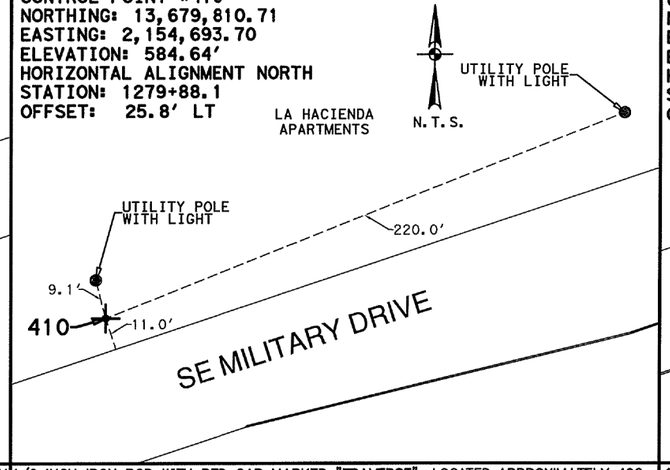
**CONTROL POINT #409**
**NORTHING: 13,679,590.62**
**EASTING: 2,154,248.51**
**ELEVATION: 608.37'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 1114+96.6**
**OFFSET: 16.1' RT**



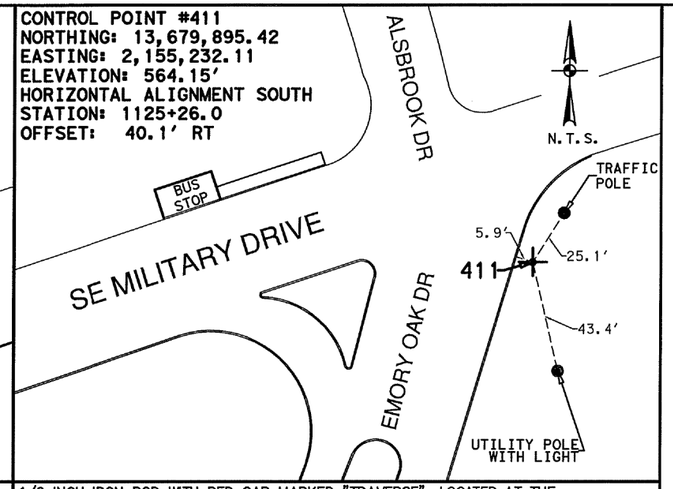

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED AT THE INTERSECTION OF SE MILITARY DRIVE AND BARDWELL DRIVE, ON THE SOUTH SIDE OF SE MILITARY DRIVE

**CONTROL POINT #410**
**NORTHING: 13,679,810.71**
**EASTING: 2,154,693.70**
**ELEVATION: 584.64'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 1279+88.1**
**OFFSET: 25.8' LT**



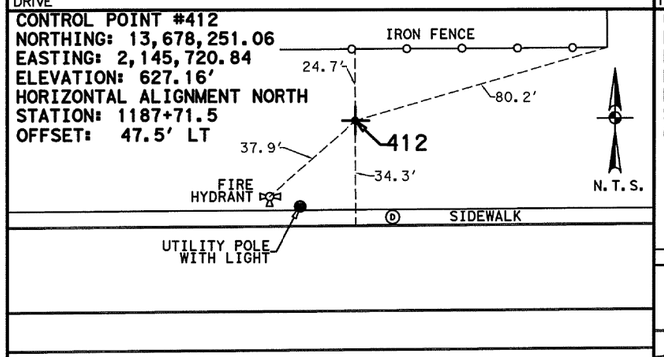

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 490 FEET EAST FROM THE INTERSECTION OF SE MILITARY DRIVE AND BARDWELL DRIVE, ON THE NORTH SIDE OF SE MILITARY DRIVE

**CONTROL POINT #411**
**NORTHING: 13,679,895.42**
**EASTING: 2,155,232.11**
**ELEVATION: 564.15'**
**HORIZONTAL ALIGNMENT SOUTH**
**STATION: 1125+26.0**
**OFFSET: 40.1' RT**



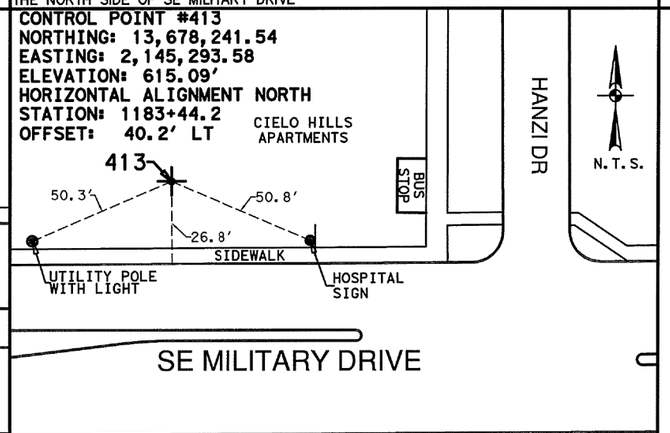

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED AT THE INTERSECTION OF SE MILITARY DRIVE, ALSBROOK DRIVE AND EMORY OAK DRIVE

**CONTROL POINT #412**
**NORTHING: 13,678,251.06**
**EASTING: 2,145,720.84**
**ELEVATION: 627.16'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 1187+71.5**
**OFFSET: 47.5' LT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 300 FEET EAST FROM THE INTERSECTION OF SE MILITARY DRIVE AND HANZI DRIVE, ON THE NORTH SIDE OF SE MILITARY DRIVE

**CONTROL POINT #413**
**NORTHING: 13,678,241.54**
**EASTING: 2,145,293.58**
**ELEVATION: 615.09'**
**HORIZONTAL ALIGNMENT NORTH**
**STATION: 1183+44.2**
**OFFSET: 40.2' LT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 130 FEET WEST FROM THE INTERSECTION OF SE MILITARY DRIVE AND HANZI DRIVE, ON THE NORTH SIDE OF SE MILITARY DRIVE

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS SO150014, ZO150603 AND ZO152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.

STATE OF TEXAS
REGISTERED
ANGELA MARIE CARLIN
5981
PROFESSIONAL
LAND SURVEYOR

07/26/2018

LEGEND

| | |
|---|---|
| + | CONTROL POINT |
| — — — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




SE MILITARY DRIVE
(LOOP 13)

# HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 3 OF 3

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SL 13 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 80 |

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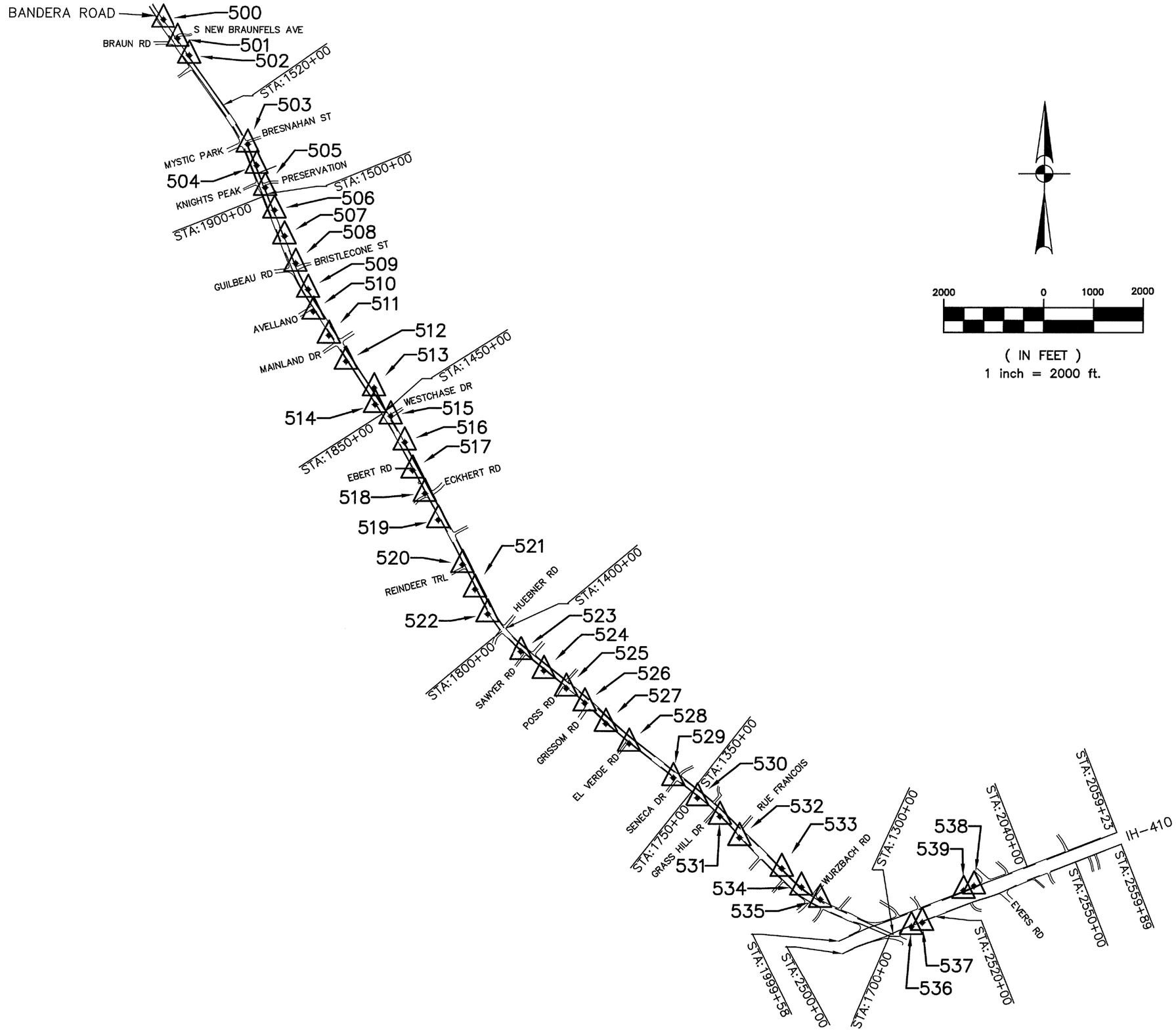


2000 0 1000 2000

( IN FEET )
1 inch = 2000 ft.

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS S0150014, Z0150603 AND Z0152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.

STATE OF TEXAS
REGISTERED
ANGELA MARIE CARLIN
5981
PROFESSIONAL
LAND SURVEYOR

10/08/2018

LEGEND

| | |
|---|---|
| △ | CONTROL POINT |
| — - — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# BANDERA ROAD (SH 16)

## HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 1 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SH 16 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 81 |

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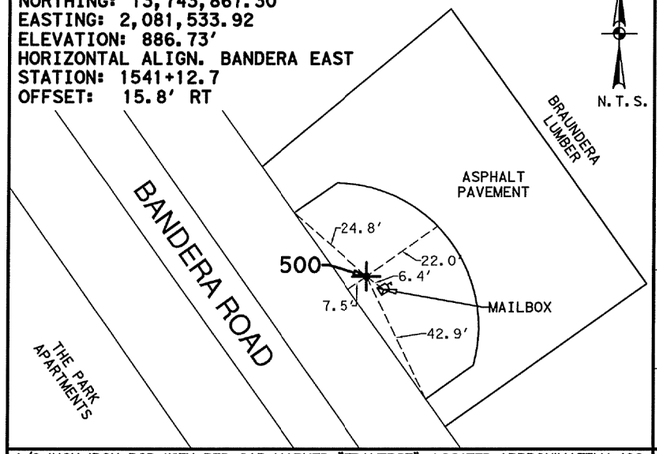
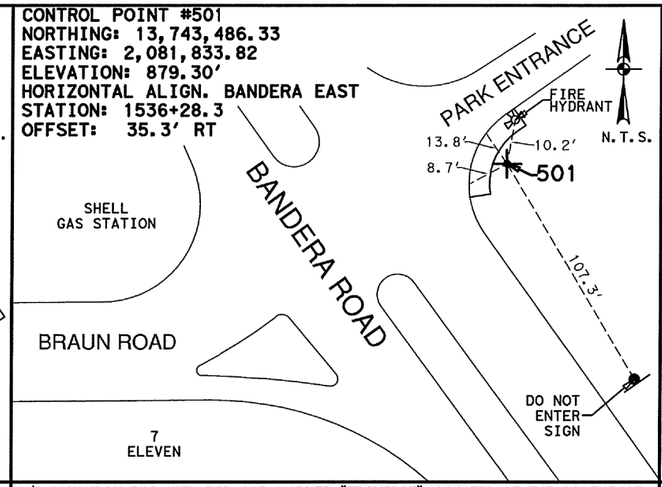
**CONTROL POINT #500**
**NORTHING: 13,743,867.30**
**EASTING: 2,081,533.92**
**ELEVATION: 886.73'**
**HORIZONTAL ALIGN. BANDERA EAST**
**STATION: 1541+12.7**
**OFFSET: 15.8' RT**



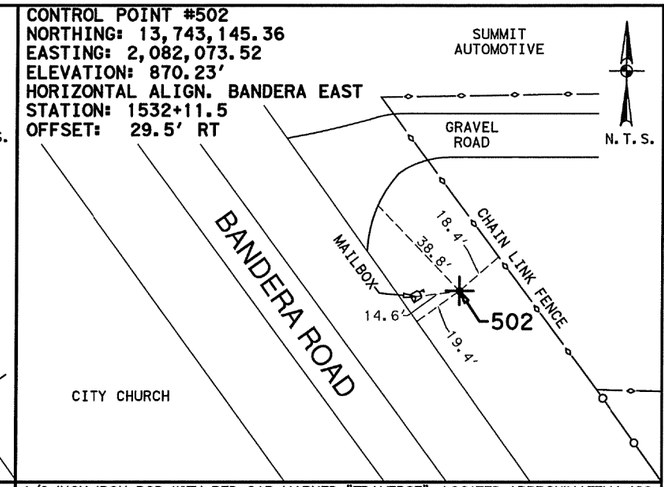

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 490 FEET NORTH FROM THE INTERSECTION OF BANDERA ROAD AND BRAUN ROAD, ON THE EAST SIDE OF BANDERA ROAD

**CONTROL POINT #501**
**NORTHING: 13,743,486.33**
**EASTING: 2,081,833.82**
**ELEVATION: 879.30'**
**HORIZONTAL ALIGN. BANDERA EAST**
**STATION: 1536+28.3**
**OFFSET: 35.3' RT**



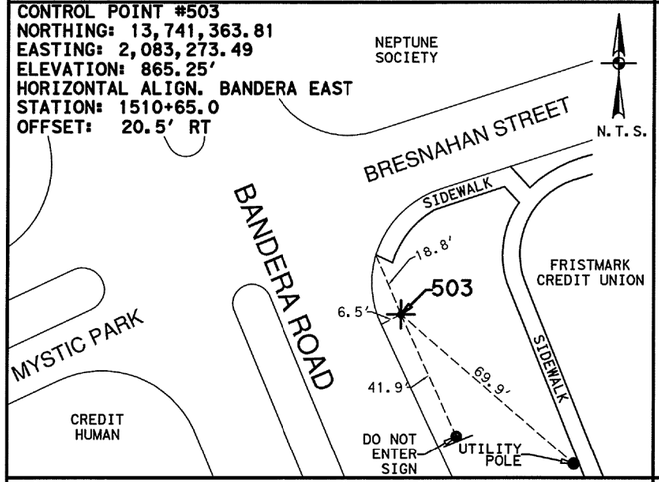

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF BANDERA ROAD, BRAUN ROAD AND O.P. SCHNABEL PARK ENTRANCE

**CONTROL POINT #502**
**NORTHING: 13,743,145.36**
**EASTING: 2,082,073.52**
**ELEVATION: 870.23'**
**HORIZONTAL ALIGN. BANDERA EAST**
**STATION: 1532+11.5**
**OFFSET: 29.5' RT**



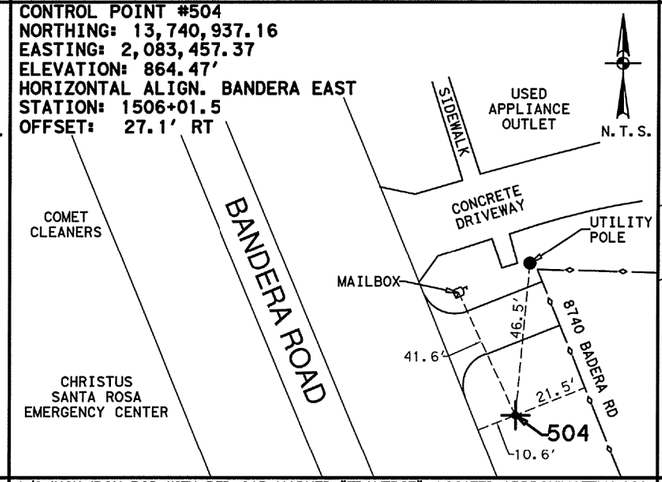

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 420 FEET SOUTH FROM THE INTERSECTION OF BANDERA ROAD AND BRAUN ROAD, ON THE EAST SIDE OF BANDERA ROAD

**CONTROL POINT #503**
**NORTHING: 13,741,363.81**
**EASTING: 2,083,273.49**
**ELEVATION: 865.25'**
**HORIZONTAL ALIGN. BANDERA EAST**
**STATION: 1510+65.0**
**OFFSET: 20.5' RT**



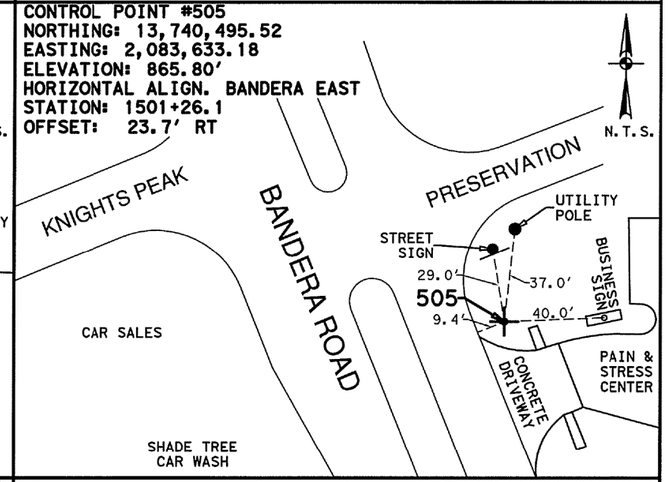

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF BANDERA ROAD, BRESNAHAN STREET AND MYSTIC PARK

**CONTROL POINT #504**
**NORTHING: 13,740,937.16**
**EASTING: 2,083,457.37**
**ELEVATION: 864.47'**
**HORIZONTAL ALIGN. BANDERA EAST**
**STATION: 1506+01.5**
**OFFSET: 27.1' RT**



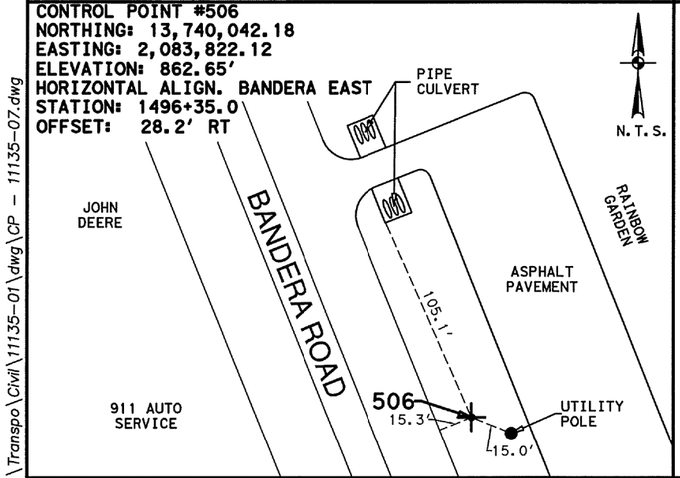

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 660 FEET SOUTH FROM THE INTERSECTION OF BANDERA ROAD AND BRESNAHAN STREET, ON THE EAST SIDE OF BANDERA ROAD

**CONTROL POINT #505**
**NORTHING: 13,740,495.52**
**EASTING: 2,083,633.18**
**ELEVATION: 865.80'**
**HORIZONTAL ALIGN. BANDERA EAST**
**STATION: 1501+26.1**
**OFFSET: 23.7' RT**



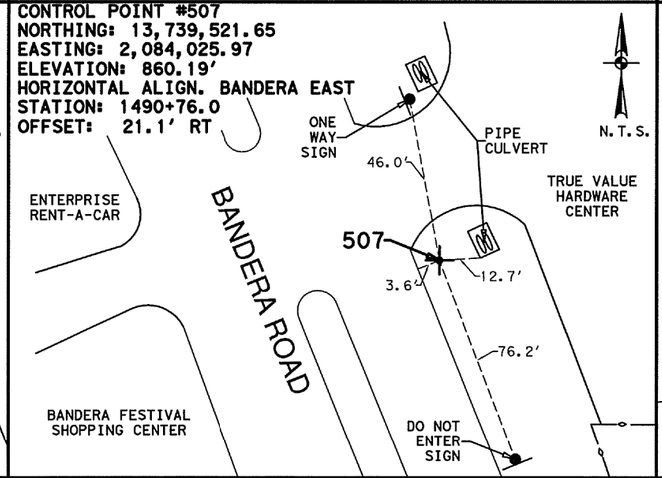

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED AT THE SOUTHEAST CORNER OF THE INTERSECTION OF BANDERA ROAD AND PRESERVATION

**CONTROL POINT #506**
**NORTHING: 13,740,042.18**
**EASTING: 2,083,822.12**
**ELEVATION: 862.65'**
**HORIZONTAL ALIGN. BANDERA EAST**
**STATION: 1496+35.0**
**OFFSET: 28.2' RT**



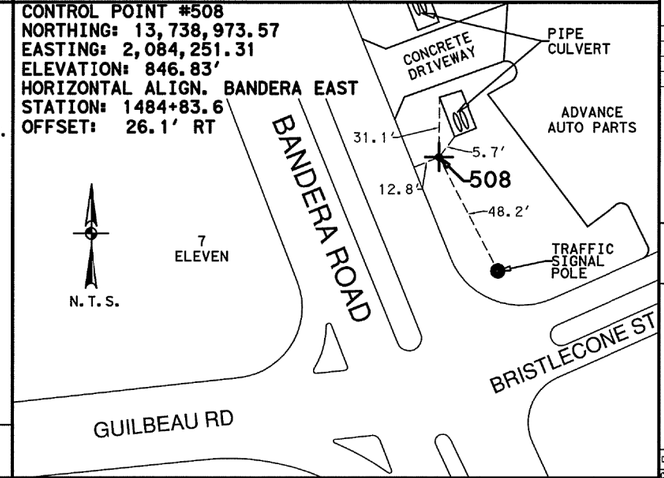

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 570 FEET SOUTH FROM THE INTERSECTION OF BANDERA ROAD AND PRESERVATION, ON THE EAST SIDE OF BANDERA ROAD

**CONTROL POINT #507**
**NORTHING: 13,739,521.65**
**EASTING: 2,084,025.97**
**ELEVATION: 860.19'**
**HORIZONTAL ALIGN. BANDERA EAST**
**STATION: 1490+76.0**
**OFFSET: 21.1' RT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 690 FEET NORTH FROM THE INTERSECTION OF BANDERA ROAD AND BRISTLECONE STREET, ON THE EAST SIDE OF BANDERA ROAD

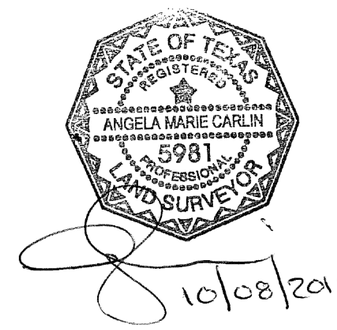
**CONTROL POINT #508**
**NORTHING: 13,738,973.57**
**EASTING: 2,084,251.31**
**ELEVATION: 846.83'**
**HORIZONTAL ALIGN. BANDERA EAST**
**STATION: 1484+83.6**
**OFFSET: 26.1' RT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 110 FEET NORTH FROM THE INTERSECTION OF BANDERA ROAD AND BRISTLECONE STREET, ON THE EAST SIDE OF BANDERA ROAD

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS S0150014, Z0150603 AND Z0152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.




LEGEND

| | |
|---|---|
| + | CONTROL POINT |
| — — — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




**BANDERA ROAD (SH-16)**

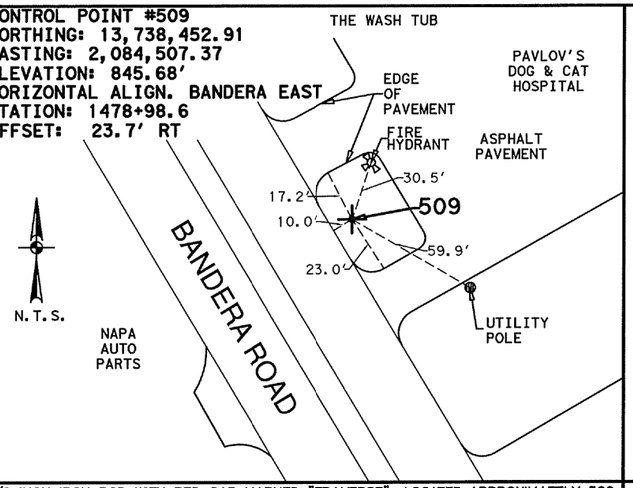
# HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 2 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SH 16 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 82 |

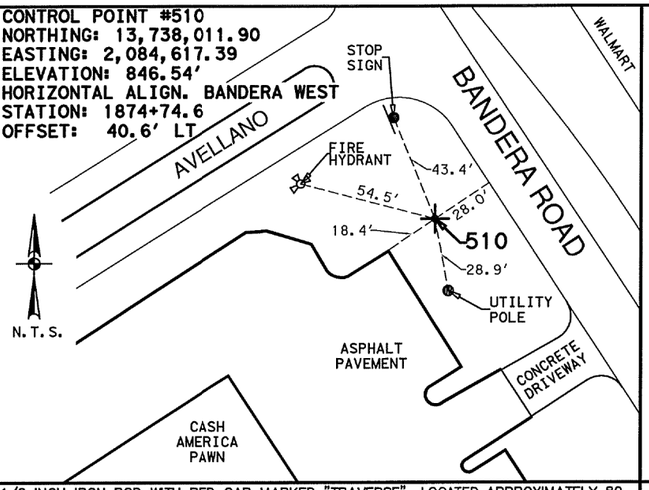
File: N:\Transpo\Civil\11135-01\dwg\CP - 11135-07.dwg

**CONTROL POINT #509**
**NORTHING: 13,738,452.91**
**EASTING: 2,084,507.37**
**ELEVATION: 845.68′**
**HORIZONTAL ALIGN. BANDERA EAST**
**STATION: 1478+98.6**
**OFFSET: 23.7′ RT**



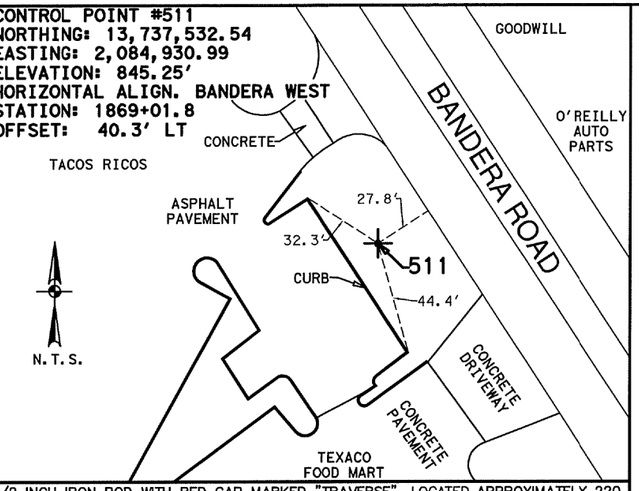

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 500 FEET SOUTH FROM THE INTERSECTION OF BANDERA ROAD AND BRISTLECONE STREET, ON THE EAST SIDE OF BANDERA ROAD

**CONTROL POINT #510**
**NORTHING: 13,738,011.90**
**EASTING: 2,084,617.39**
**ELEVATION: 846.54′**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1874+74.6**
**OFFSET: 40.6′ LT**



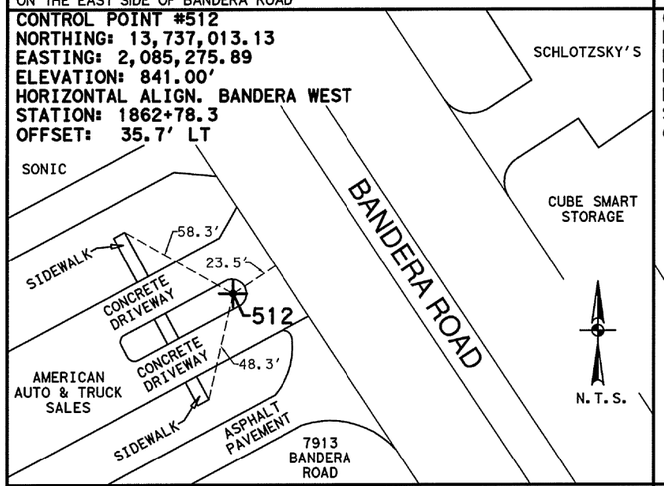

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 80 FEET SOUTH FROM THE INTERSECTION OF BANDERA ROAD AND AVELLANO, ON THE WEST SIDE OF BANDERA ROAD

**CONTROL POINT #511**
**NORTHING: 13,737,532.54**
**EASTING: 2,084,930.99**
**ELEVATION: 845.25′**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1869+01.8**
**OFFSET: 40.3′ LT**



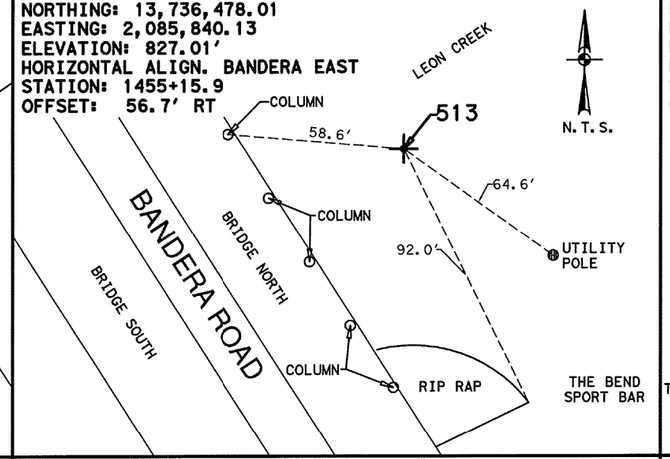

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 220 FEET NORTH FROM THE INTERSECTION OF BANDERA ROAD AND MAINLAND DRIVE, ON THE WEST SIDE OF BANDERA ROAD

**CONTROL POINT #512**
**NORTHING: 13,737,013.13**
**EASTING: 2,085,275.89**
**ELEVATION: 841.00′**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1862+78.3**
**OFFSET: 35.7′ LT**



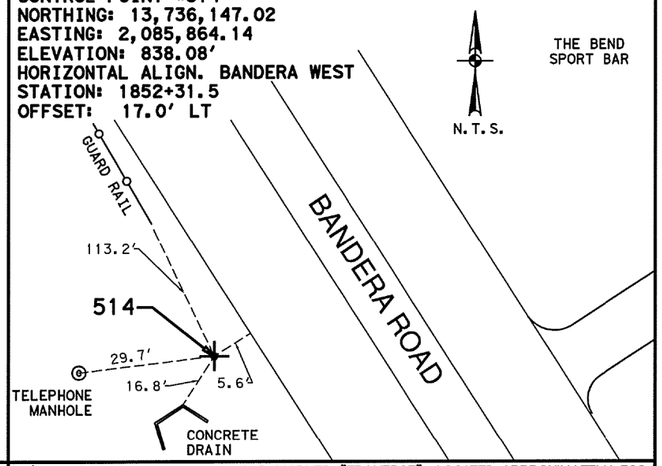

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 410 FEET SOUTH FROM THE INTERSECTION OF BANDERA ROAD AND MAINLAND DRIVE, ON THE WEST SIDE OF BANDERA ROAD

**CONTROL POINT #513**
**NORTHING: 13,736,478.01**
**EASTING: 2,085,840.13**
**ELEVATION: 827.01′**
**HORIZONTAL ALIGN. BANDERA EAST**
**STATION: 1455+15.9**
**OFFSET: 56.7′ RT**



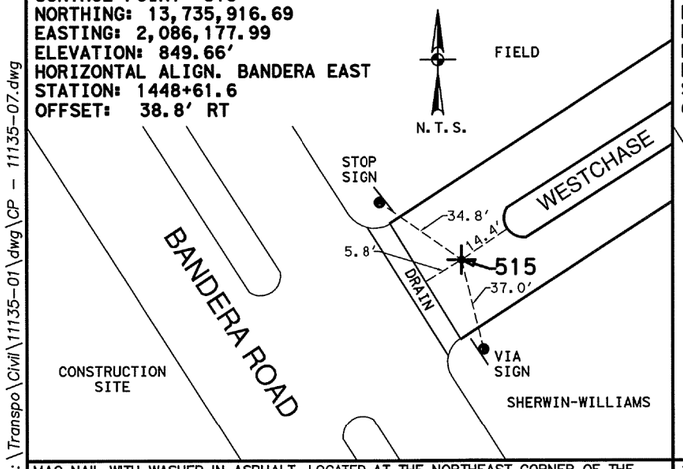

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 660 FEET NORTH FROM THE INTERSECTION OF BANDERA ROAD AND WESTCHASE DRIVE, ON THE EAST SIDE OF THE BRIDGE ON BANDERA ROAD

**CONTROL POINT #514**
**NORTHING: 13,736,147.02**
**EASTING: 2,085,864.14**
**ELEVATION: 838.08′**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1852+31.5**
**OFFSET: 17.0′ LT**



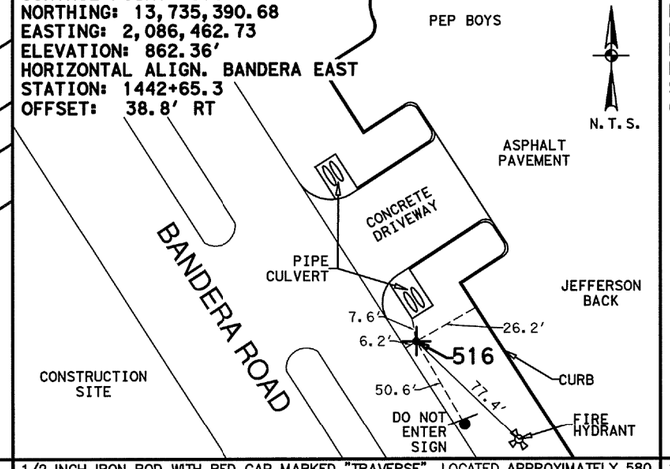

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 360 FEET NORTH FROM THE INTERSECTION OF BANDERA ROAD AND WESTCHASE DRIVE, ON THE WEST SIDE OF BANDERA ROAD

**CONTROL POINT #515**
**NORTHING: 13,735,916.69**
**EASTING: 2,086,177.99**
**ELEVATION: 849.66′**
**HORIZONTAL ALIGN. BANDERA EAST**
**STATION: 1448+61.6**
**OFFSET: 38.8′ RT**



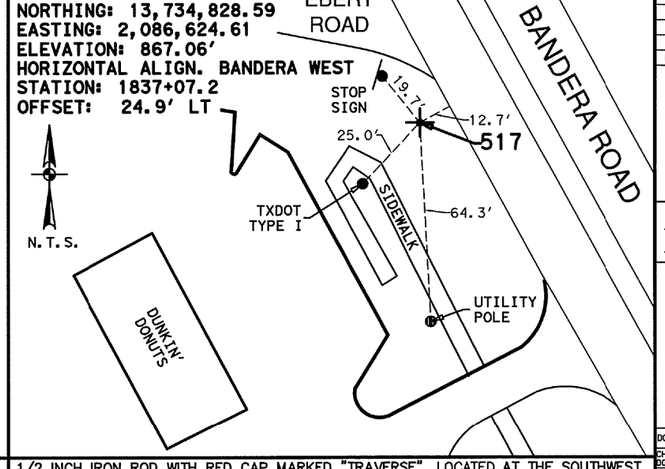

MAG NAIL WITH WASHER IN ASPHALT, LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF BANDERA ROAD AND WESTCHASE DRIVE

**CONTROL POINT #516**
**NORTHING: 13,735,390.68**
**EASTING: 2,086,462.73**
**ELEVATION: 862.36′**
**HORIZONTAL ALIGN. BANDERA EAST**
**STATION: 1442+65.3**
**OFFSET: 38.8′ RT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 580 FEET SOUTH FROM THE INTERSECTION OF BANDERA ROAD AND WESTCHASE DRIVE, ON THE EAST SIDE OF BANDERA ROAD

**CONTROL POINT #517**
**NORTHING: 13,734,828.59**
**EASTING: 2,086,624.61**
**ELEVATION: 867.06′**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1837+07.2**
**OFFSET: 24.9′ LT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED AT THE SOUTHWEST CORNER OF THE INTERSECTION OF BANDERA ROAD AND EBERT ROAD, ON THE WEST SIDE OF BANDERA ROAD

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS SO150014, ZO150603 AND ZO152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.

STATE OF TEXAS
REGISTERED
ANGELA MARIE CARLIN
5981
PROFESSIONAL
LAND SURVEYOR

10/08/2018

LEGEND

| | |
|---|---|
| + | CONTROL POINT |
| — — — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




# BANDERA ROAD (SH-16)

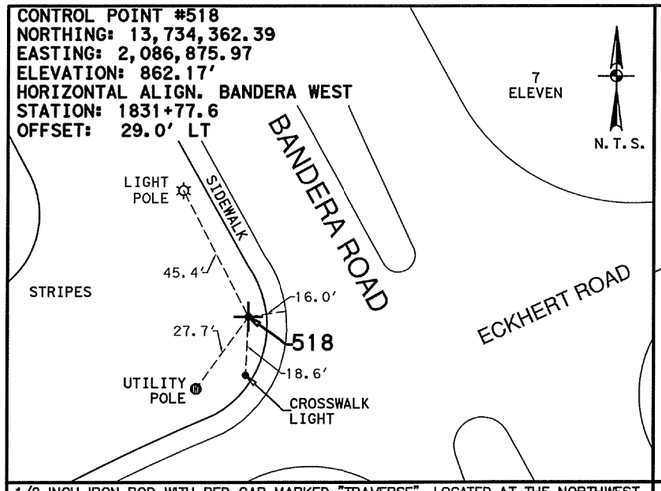
## HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 3 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SH 16 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 83 |

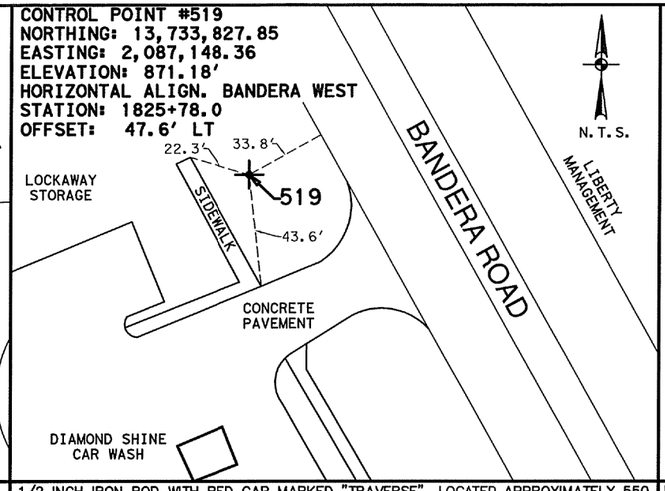
File: N:\Transpo\Civil\11135-01\dwg\CP - 11135-07.dwg

**CONTROL POINT #518**
**NORTHING: 13,734,362.39**
**EASTING: 2,086,875.97**
**ELEVATION: 862.17'**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1831+77.6**
**OFFSET: 29.0' LT**



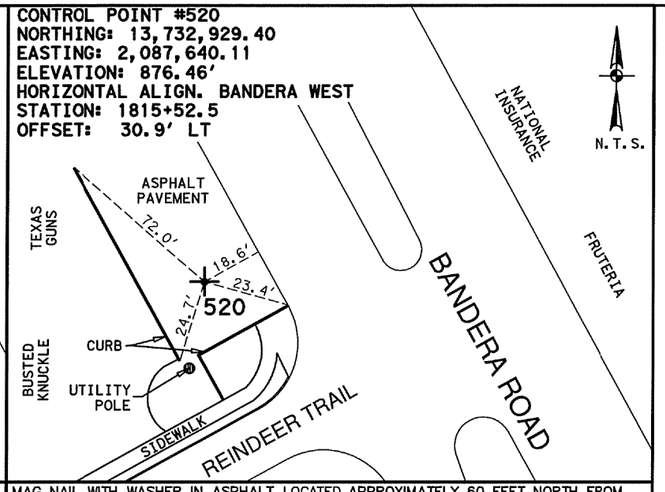

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED AT THE NORTHWEST CORNER OF THE INTERSECTION OF BANDERA ROAD AND ECKHERT ROAD, ON THE WEST SIDE OF BANDERA ROAD

**CONTROL POINT #519**
**NORTHING: 13,733,827.85**
**EASTING: 2,087,148.36**
**ELEVATION: 871.18'**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1825+78.0**
**OFFSET: 47.6' LT**



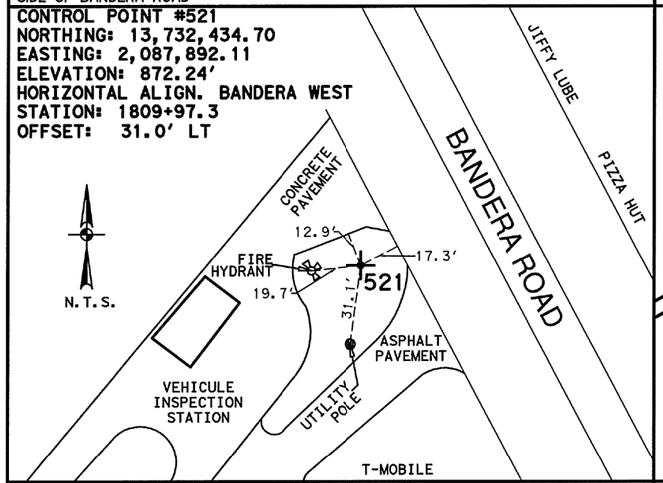

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 550 FEET SOUTH FROM THE INTERSECTION OF BANDERA ROAD AND ECKHERT ROAD, ON THE WEST SIDE OF BANDERA ROAD

**CONTROL POINT #520**
**NORTHING: 13,732,929.40**
**EASTING: 2,087,640.11**
**ELEVATION: 876.46'**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1815+52.5**
**OFFSET: 30.9' LT**



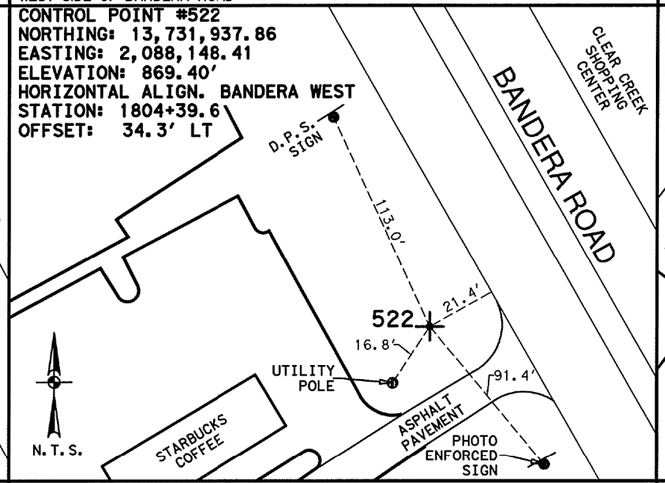

MAG NAIL WITH WASHER IN ASPHALT LOCATED APPROXIMATELY 60 FEET NORTH FROM THE INTERSECTION OF BANDERA ROAD AND REINDEER TRAIL, ON THE WEST SIDE OF BANDERA ROAD

**CONTROL POINT #521**
**NORTHING: 13,732,434.70**
**EASTING: 2,087,892.11**
**ELEVATION: 872.24'**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1809+97.3**
**OFFSET: 31.0' LT**



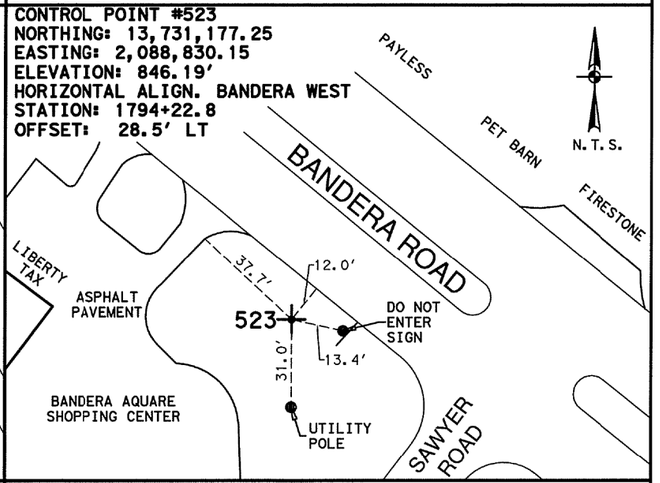

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 480 FEET SOUTH FROM THE INTERSECTION OF BANDERA ROAD AND REINDEER TRAIL, ON THE WEST SIDE OF BANDERA ROAD

**CONTROL POINT #522**
**NORTHING: 13,731,937.86**
**EASTING: 2,088,148.41**
**ELEVATION: 869.40'**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1804+39.6**
**OFFSET: 34.3' LT**



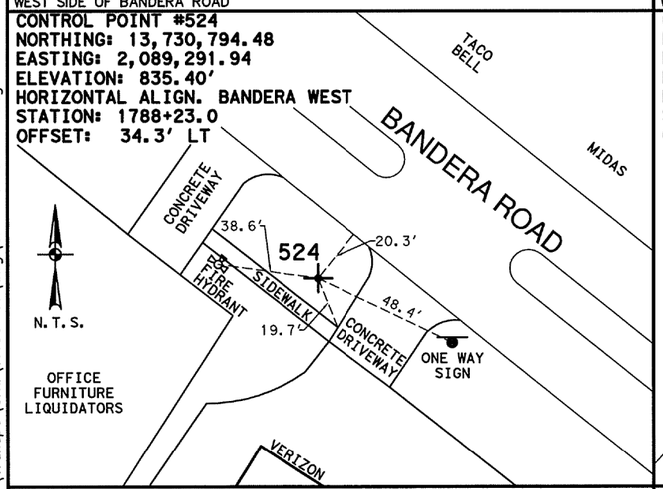

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 410 FEET NORTH FROM THE INTERSECTION OF BANDERA ROAD AND HUEBNER ROAD, ON THE WEST SIDE OF BANDERA ROAD

**CONTROL POINT #523**
**NORTHING: 13,731,177.25**
**EASTING: 2,088,830.15**
**ELEVATION: 846.19'**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1794+22.8**
**OFFSET: 28.5' LT**



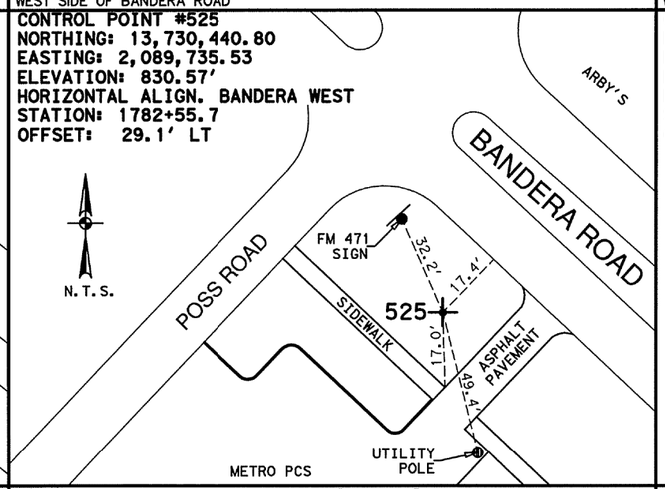

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 100 FEET NORTH FROM THE INTERSECTION OF BANDERA ROAD AND SAWYER ROAD, ON THE WEST SIDE OF BANDERA ROAD

**CONTROL POINT #524**
**NORTHING: 13,730,794.48**
**EASTING: 2,089,291.94**
**ELEVATION: 835.40'**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1788+23.0**
**OFFSET: 34.3' LT**



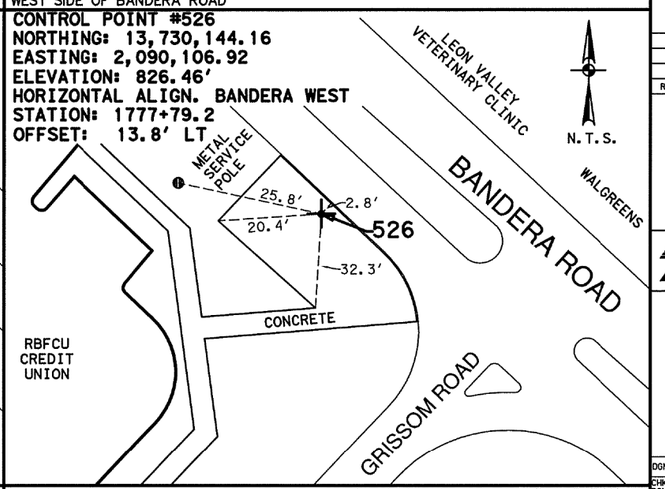

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 500 FEET SOUTH FROM THE INTERSECTION OF BANDERA ROAD AND SAWYER ROAD, ON THE WEST SIDE OF BANDERA ROAD

**CONTROL POINT #525**
**NORTHING: 13,730,440.80**
**EASTING: 2,089,735.53**
**ELEVATION: 830.57'**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1782+55.7**
**OFFSET: 29.1' LT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 90 FEET SOUTH FROM THE INTERSECTION OF BANDERA ROAD AND POSS ROAD, ON THE WEST SIDE OF BANDERA ROAD

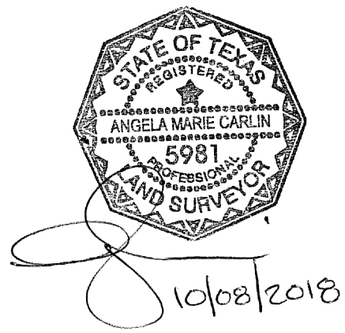
**CONTROL POINT #526**
**NORTHING: 13,730,144.16**
**EASTING: 2,090,106.92**
**ELEVATION: 826.46'**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1777+79.2**
**OFFSET: 13.8' LT**




MAG NAIL WITH WASHER LOCATED AT THE NORTHWEST CORNER OF THE INTERSECTION OF BANDERA ROAD AND GRISSOM ROAD, ON THE WEST SIDE OF BANDERA ROAD

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS SO150014, ZO150603 AND ZO152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.




LEGEND

| | |
|---|---|
| + | CONTROL POINT |
| — — — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




# BANDERA ROAD (SH-16)

# HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 4 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SH 16 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 84 |

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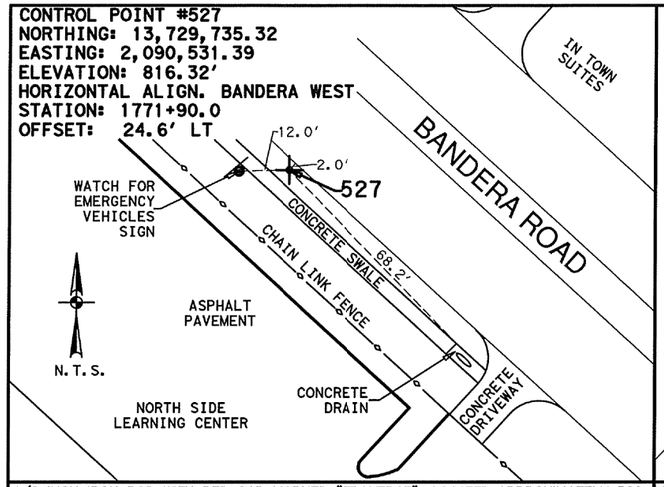
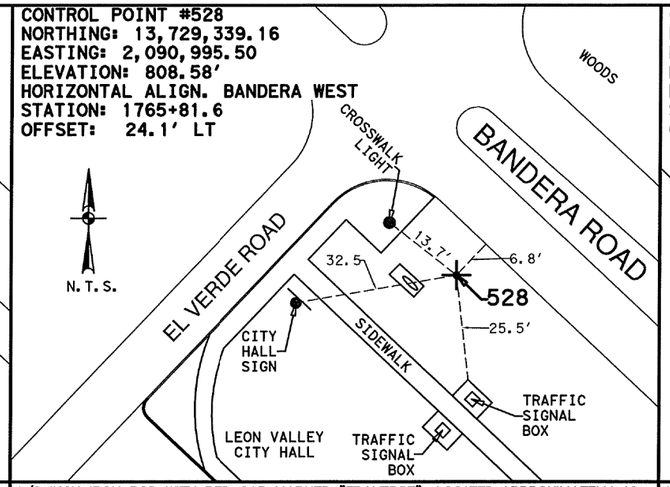
**CONTROL POINT #527**
**NORTHING: 13,729,735.32**
**EASTING: 2,090,531.39**
**ELEVATION: 816.32'**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1771+90.0**
**OFFSET: 24.6' LT**



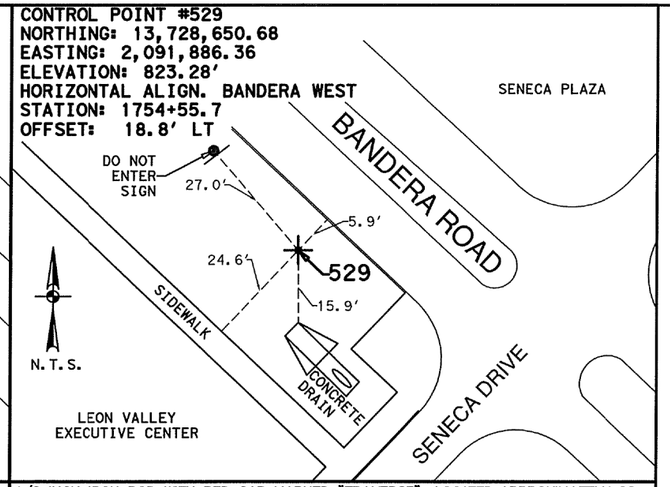

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 500 FEET SOUTH FROM THE INTERSECTION OF BANDERA ROAD AND GRISSOM ROAD, ON THE WEST SIDE OF BANDERA ROAD

**CONTROL POINT #528**
**NORTHING: 13,729,339.16**
**EASTING: 2,090,995.50**
**ELEVATION: 808.58'**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1765+81.6**
**OFFSET: 24.1' LT**



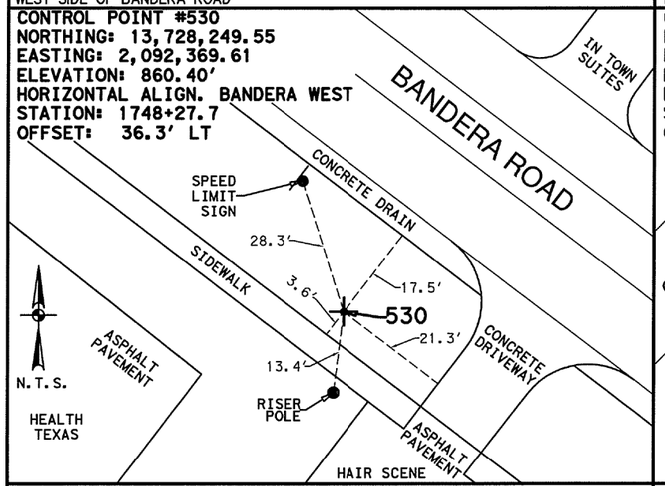

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 40 FEET SOUTH FROM THE INTERSECTION OF BANDERA ROAD AND EL VERDE ROAD, ON THE WEST SIDE OF BANDERA ROAD

**CONTROL POINT #529**
**NORTHING: 13,728,650.68**
**EASTING: 2,091,886.36**
**ELEVATION: 823.28'**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1754+55.7**
**OFFSET: 18.8' LT**



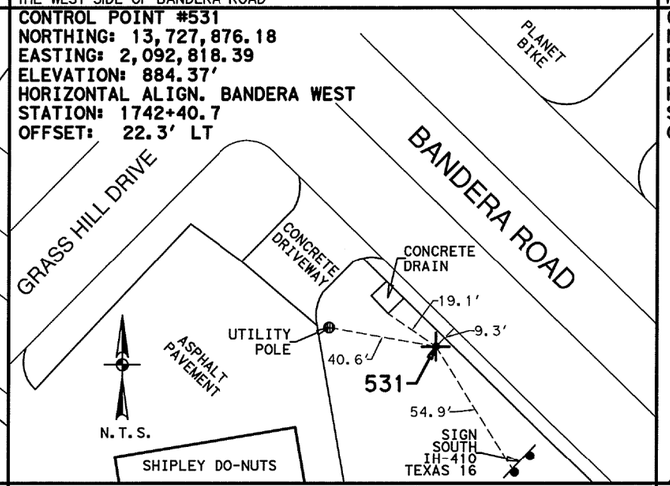

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 60 FEET NORTH FROM THE INTERSECTION OF BANDERA ROAD AND SENECA DRIVE, ON THE WEST SIDE OF BANDERA ROAD

**CONTROL POINT #530**
**NORTHING: 13,728,249.55**
**EASTING: 2,092,369.61**
**ELEVATION: 860.40'**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1748+27.7**
**OFFSET: 36.3' LT**



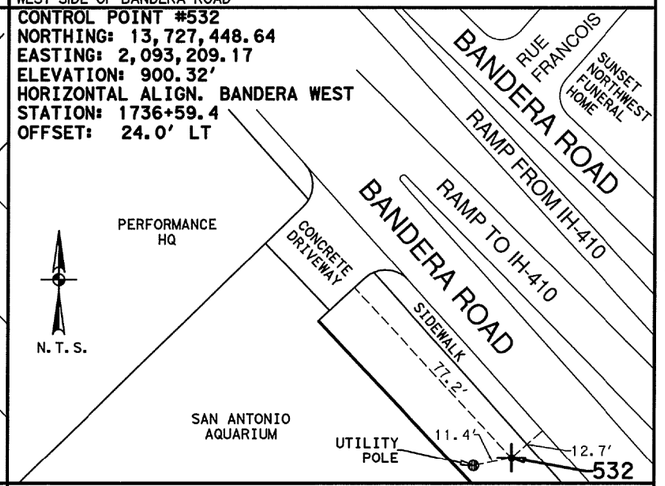

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 560 FEET SOUTH FROM THE INTERSECTION OF BANDERA ROAD AND SENECA DRIVE, ON THE WEST SIDE OF BANDERA ROAD

**CONTROL POINT #531**
**NORTHING: 13,727,876.18**
**EASTING: 2,092,818.39**
**ELEVATION: 884.37'**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1742+40.7**
**OFFSET: 22.3' LT**



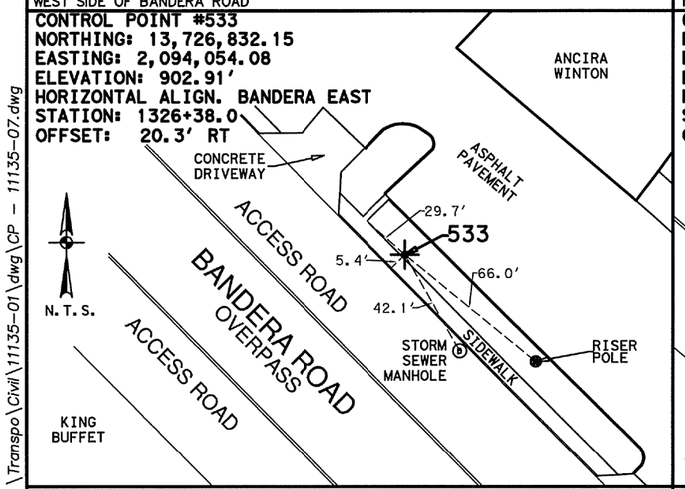

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 140 FEET SOUTH FROM THE INTERSECTION OF BANDERA ROAD AND GRASS HILL DRIVE, ON THE WEST SIDE OF BANDERA ROAD

**CONTROL POINT #532**
**NORTHING: 13,727,448.64**
**EASTING: 2,093,209.17**
**ELEVATION: 900.32'**
**HORIZONTAL ALIGN. BANDERA WEST**
**STATION: 1736+59.4**
**OFFSET: 24.0' LT**



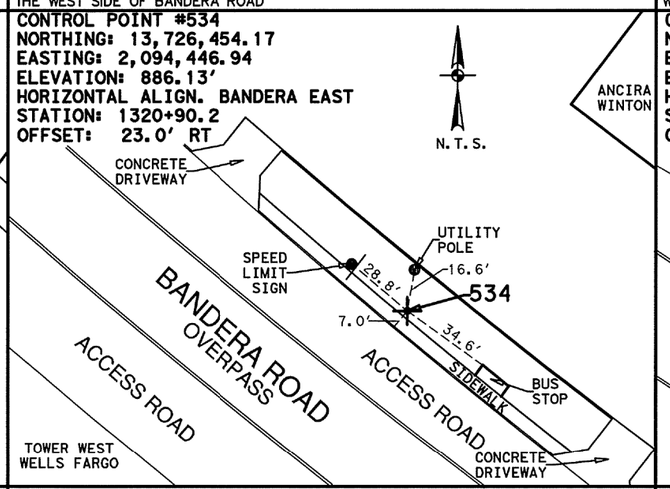

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 150 FEET SOUTH FROM THE INTERSECTION OF BANDERA ROAD AND RUE FRANCOIS, ON THE WEST SIDE OF BANDERA ROAD

**CONTROL POINT #533**
**NORTHING: 13,726,832.15**
**EASTING: 2,094,054.08**
**ELEVATION: 902.91'**
**HORIZONTAL ALIGN. BANDERA EAST**
**STATION: 1326+38.0**
**OFFSET: 20.3' RT**



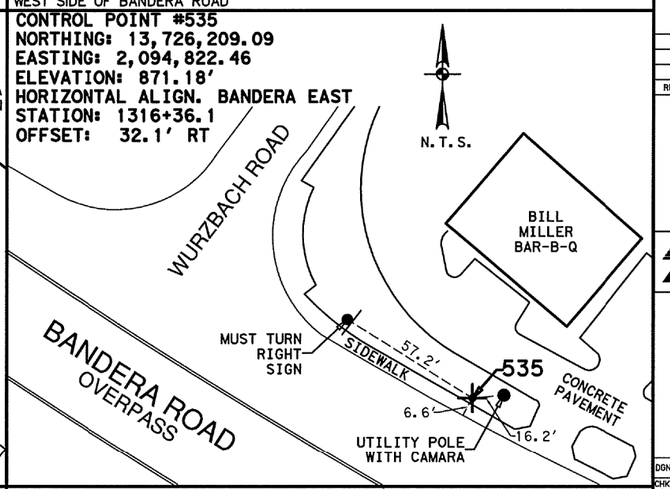

MAG NAIL WITH WASHER IN CONCRETE LOCATED APPROXIMATELY 850 FEET NORTH FROM THE INTERSECTION OF BANDERA ROAD AND WURZBACH ROAD, ON THE EAST SIDE OF BANDERA ROAD

**CONTROL POINT #534**
**NORTHING: 13,726,454.17**
**EASTING: 2,094,446.94**
**ELEVATION: 886.13'**
**HORIZONTAL ALIGN. BANDERA EAST**
**STATION: 1320+90.2**
**OFFSET: 23.0' RT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 310 FEET NORTH FROM THE INTERSECTION OF BANDERA ROAD AND WURZBACH ROAD, ON THE EAST SIDE OF BANDERA ROAD

**CONTROL POINT #535**
**NORTHING: 13,726,209.09**
**EASTING: 2,094,822.46**
**ELEVATION: 871.18'**
**HORIZONTAL ALIGN. BANDERA EAST**
**STATION: 1316+36.1**
**OFFSET: 32.1' RT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 130 FEET SOUTH FROM THE INTERSECTION OF BANDERA ROAD AND WURZBACH ROAD, ON THE EAST SIDE OF BANDERA ROAD

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS S0150014, Z0150603 AND Z0152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.

STATE OF TEXAS
REGISTERED
ANGELA MARIE CARLIN
5981
PROFESSIONAL
LAND SURVEYOR

16/08/2018

LEGEND

| | |
|---|---|
| + | CONTROL POINT |
| — — — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




**BANDERA ROAD (SH-16)**

# HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 5 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SH 16 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 85 |

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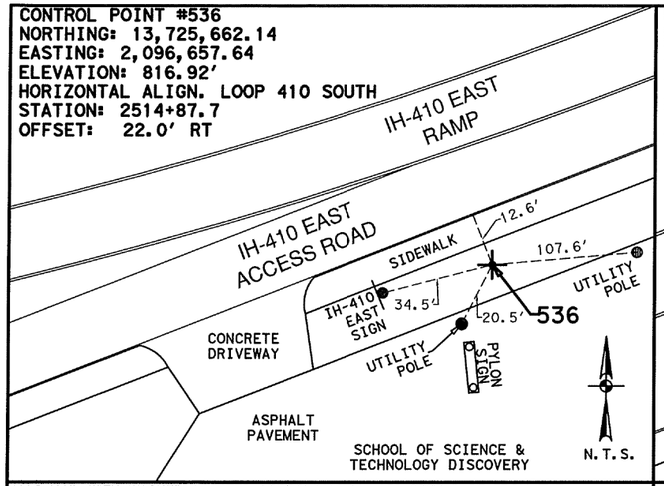
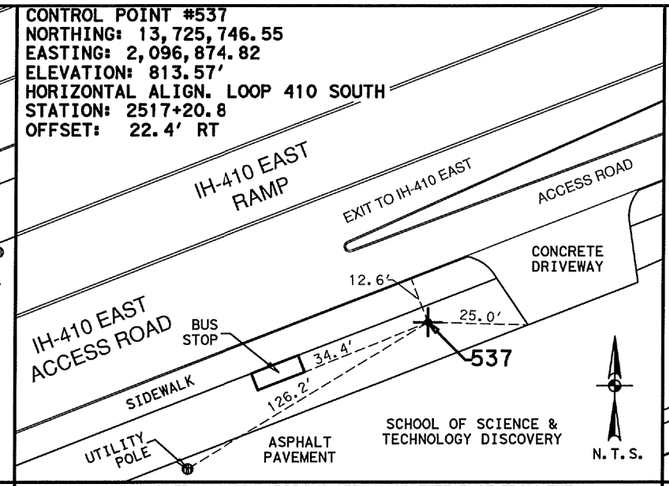
**CONTROL POINT #536**
**NORTHING: 13,725,662.14**
**EASTING: 2,096,657.64**
**ELEVATION: 816.92'**
**HORIZONTAL ALIGN. LOOP 410 SOUTH**
**STATION: 2514+87.7**
**OFFSET: 22.0' RT**



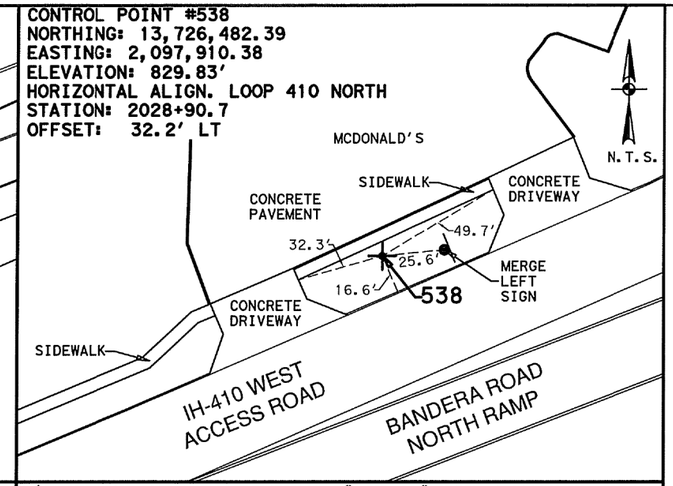

MAG NAIL WITH WASHER LOCATED APPROXIMATELY 430 FEET EAST FROM THE INTERSECTION OF BANDERA ROAD AND IH-410, ON THE SOUTH SIDE OF IH-410

**CONTROL POINT #537**
**NORTHING: 13,725,746.55**
**EASTING: 2,096,874.82**
**ELEVATION: 813.57'**
**HORIZONTAL ALIGN. LOOP 410 SOUTH**
**STATION: 2517+20.8**
**OFFSET: 22.4' RT**



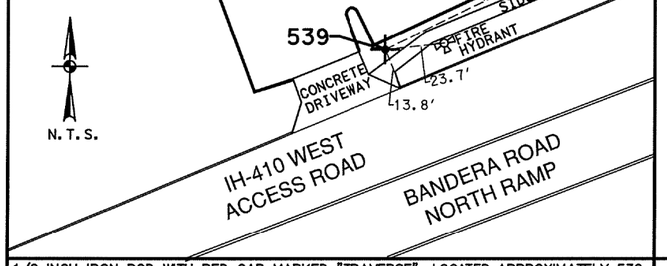

MAG NAIL WITH WASHER LOCATED APPROXIMATELY 660 FEET EAST FROM THE INTERSECTION OF BANDERA ROAD AND IH-410, ON THE SOUTH SIDE OF IH-410

**CONTROL POINT #538**
**NORTHING: 13,726,482.39**
**EASTING: 2,097,910.38**
**ELEVATION: 829.83'**
**HORIZONTAL ALIGN. LOOP 410 NORTH**
**STATION: 2028+90.7**
**OFFSET: 32.2' LT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 300 FEET WEST FROM THE INTERSECTION OF IH-410 AND EVERS ROAD, ON THE NORTH SIDE OF IH-410

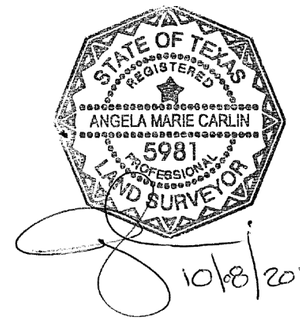
**CONTROL POINT #539**
**NORTHING: 13,726,392.01**
**EASTING: 2,097,703.64**
**ELEVATION: 824.25'**
**HORIZONTAL ALIGN. LOOP 410 NORTH**
**STATION: 2026+63.2**
**OFFSET: 28.2' LT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", LOCATED APPROXIMATELY 530 FEET WEST FROM THE INTERSECTION OF IH-410 AND EVERS ROAD, ON THE NORTH SIDE OF IH-410

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS SO150014, ZO150603 AND ZO152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.




LEGEND

| | |
|---|---|
| + | CONTROL POINT |
| — - — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




**BANDERA ROAD (SH-16)**

# HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 6 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SH 16 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 86 |

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Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\General\11135507*HALN*Data01.dgn

# RIGSBY EB HORIZONTAL ALIGNMENT

Beginning chain RIG EB description

Point RIG01 N 13,695,500.07 E 2,152,682.43 Sta 166+24.52

Course from PT RIG01 to PC RIG C3 N 88° 23′ 16″ E Dist 1,677.87

| Curve Data | | | | |
|---|---|---|---|---|
| Curve RIG C3 | | | | |
| P.I. Station | 186+74.82 | N | 13,695,557.75 | E 2,154,731.93 |
| Delta = | 16° 56′ 47″ (RT) | | | |
| Degree = | 2° 17′ 31″ | | | |
| Tangent = | 372.43 | | | |
| Length = | 739.42 | | | |
| Radius = | 2,500.00 | | | |
| External = | 27.59 | | | |
| Long Chord = | 736.73 | | | |
| Mid. Ord. = | 27.29 | | | |
| P.C. Station | 183+02.39 | N | 13,695,547.27 | E 2,154,359.64 |
| P.T. Station | 190+41.82 | N | 13,695,459.26 | E 2,155,091.10 |
| C.C. | | N | 13,693,048.26 | E 2,154,429.98 |

Back = N 88° 23′ 16″ E
Ahead = S 74° 39′ 57″ E
Chord Bear = S 83° 08′ 20″ E

Course from PT RIG C3 to PC RIG C4 S 74° 39′ 57″ E Dist 721.70

| Curve Data | | | | |
|---|---|---|---|---|
| Curve RIG C4 | | | | |
| P.I. Station | 201+06.64 | N | 13,695,177.67 | E 2,156,118.01 |
| Delta = | 12° 57′ 51″ (LT) | | | |
| Degree = | 1° 53′ 50″ | | | |
| Tangent = | 343.13 | | | |
| Length = | 683.33 | | | |
| Radius = | 3,020.00 | | | |
| External = | 19.43 | | | |
| Long Chord = | 681.87 | | | |
| Mid. Ord. = | 19.31 | | | |
| P.C. Station | 197+63.51 | N | 13,695,268.41 | E 2,155,787.10 |
| P.T. Station | 204+46.84 | N | 13,695,163.48 | E 2,156,460.85 |
| C.C. | | N | 13,698,180.90 | E 2,156,585.74 |

Back = S 74° 39′ 57″ E
Ahead = S 87° 37′ 48″ E
Chord Bear = S 81° 08′ 52″ E

Course from PT RIG C4 to RIG06 S 87° 37′ 48″ E Dist 363.40

Point RIG06 N 13,695,148.45 E 2,156,823.94 Sta 208+10.24

Course from RIG06 to RIG07 S 89° 38′ 50″ E Dist 1,626.03

Point RIG07 N 13,695,138.44 E 2,158,449.94 Sta 224+36.27

Course from RIG07 to RIG08 N 89° 45′ 25″ E Dist 672.92

Point RIG08 N 13,695,141.29 E 2,159,122.86 Sta 231+09.19

Course from RIG08 to RIG09 N 89° 49′ 44″ E Dist 5,361.43

Point RIG09 N 13,695,157.31 E 2,164,484.26 Sta 284+70.62

Ending chain RIG EB description

# RIGSBY WB HORIZONTAL ALIGNMENT

Beginning chain RIG WB description

Point RIG10 N 13,695,206.23 E 2,164,484.11 Sta 500+00.00

Course from RIG10 to RIG11 S 89° 49′ 44″ W Dist 5,361.44

Point RIG11 N 13,695,190.22 E 2,159,122.70 Sta 553+61.44

Course from RIG11 to RIG12 S 88° 38′ 38″ W Dist 672.64

Point RIG12 N 13,695,174.30 E 2,158,450.25 Sta 560+34.08

Course from RIG12 to RIG13 N 89° 38′ 50″ W Dist 1,626.59

Point RIG13 N 13,695,184.32 E 2,156,823.69 Sta 576+60.67

Course from RIG13 to PC RIG C5 N 88° 17′ 57″ W Dist 327.42

| Curve Data | | | | |
|---|---|---|---|---|
| Curve RIG C5 | | | | |
| P.I. Station | 583+45.51 | N | 13,695,204.64 | E 2,156,139.15 |
| Delta = | 13° 38′ 00″ (RT) | | | |
| Degree = | 1° 54′ 58″ | | | |
| Tangent = | 357.42 | | | |
| Length = | 711.46 | | | |
| Radius = | 2,990.00 | | | |
| External = | 21.29 | | | |
| Long Chord = | 709.78 | | | |
| Mid. Ord. = | 21.14 | | | |
| P.C. Station | 579+88.09 | N | 13,695,194.03 | E 2,156,496.41 |
| P.T. Station | 586+99.55 | N | 13,695,299.16 | E 2,155,794.46 |
| C.C. | | N | 13,698,182.72 | E 2,156,585.16 |

Back = N 88° 17′ 57″ W
Ahead = N 74° 39′ 57″ W
Chord Bear = N 81° 28′ 57″ W

Course from PT RIG C5 to PC RIG C6 N 74° 39′ 57″ W Dist 740.79

| Curve Data | | | | |
|---|---|---|---|---|
| Curve RIG C6 | | | | |
| P.I. Station | 598+14.85 | N | 13,695,594.10 | E 2,154,718.86 |
| Delta = | 16° 56′ 47″ (LT) | | | |
| Degree = | 2° 16′ 45″ | | | |
| Tangent = | 374.52 | | | |
| Length = | 743.56 | | | |
| Radius = | 2,514.00 | | | |
| External = | 27.74 | | | |
| Long Chord = | 740.86 | | | |
| Mid. Ord. = | 27.44 | | | |
| P.C. Station | 594+40.34 | N | 13,695,495.06 | E 2,155,080.04 |
| P.T. Station | 601+83.90 | N | 13,695,583.56 | E 2,154,344.49 |
| C.C. | | N | 13,693,070.56 | E 2,154,415.22 |

Back = N 74° 39′ 57″ W
Ahead = S 88° 23′ 16″ W
Chord Bear = N 83° 08′ 20″ W

Course from PT RIG C6 to PC RIG C7 S 88° 23′ 16″ W Dist 1,672.13

Ending chain RIG WB description

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# HORIZONTAL ALIGNMENT DATA SHEET

SHEET 1 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 87 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\General\111350?*HALN*Data01.dgn

## SW MILITARY A EB HORIZONTAL ALIGNMENT

Beginning chain SWMILITARYA_1 description

Point RDCL1321 N 13,685,129.7135 E 2,094,984.8461 Sta 360+00.00

Course from RDCL1321 to PC RDCL132_3 N 56° 14′ 32.57″ W Dist 3,475.0093

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve RDCL132_3 | | | | | |
| P.I. Station | 402+57.26 | N | 13,687,495.3920 | E | 2,091,445.3771 |
| Delta = | 30° 11′ 29.79″ (RT) | | | | |
| Degree = | 1° 58′ 32.58″ | | | | |
| Tangent = | 782.2522 | | | | |
| Length = | 1,528.1346 | | | | |
| Radius = | 2,900.0000 | | | | |
| External = | 103.6509 | | | | |
| Long Chord = | 1,510.5160 | | | | |
| Mid. Ord. = | 100.0740 | | | | |
| P.C. Station | 394+75.01 | N | 13,687,060.7095 | E | 2,092,095.7382 |
| P.T. Station | 410+03.14 | N | 13,688,198.1714 | E | 2,091,101.8374 |
| C.C. | | N | 13,689,471.7571 | E | 2,093,707.2125 |
| Back = N | 56° 14′ 32.57″ W | | | | |
| Ahead = N | 26° 03′ 02.78″ W | | | | |
| Chord Bear = N | 41° 08′ 47.68″ W | | | | |

Course from PT RDCL132_3 to RDCL1325 N 26° 03′ 02.78″ W Dist 282.7376

Point RDCL1325 N 13,688,452.1844 E 2,090,977.6682 Sta 412+85.88

Ending chain SWMILITARYA_1 description

## SW MILITARY A WB HORIZONTAL ALIGNMENT

Beginning chain SWMILITARYA_2 description

Point RDCL1331 N 13,685,084.1796 E 2,094,944.8920 Sta 420+00.00

Course from RDCL1331 to PC RDCL133_3 N 56° 15′ 11.10″ W Dist 3,460.2931

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve RDCL133_3 | | | | | |
| P.I. Station | 462+98.55 | N | 13,687,472.1351 | E | 2,091,370.6476 |
| Delta = | 31° 13′ 22.21″ (RT) | | | | |
| Degree = | 1° 54′ 35.49″ | | | | |
| Tangent = | 838.2595 | | | | |
| Length = | 1,634.8238 | | | | |
| Radius = | 3,000.0000 | | | | |
| External = | 114.9124 | | | | |
| Long Chord = | 1,614.6705 | | | | |
| Mid. Ord. = | 110.6731 | | | | |
| P.C. Station | 454+60.29 | N | 13,687,006.4606 | E | 2,092,067.6600 |
| P.T. Station | 470+95.12 | N | 13,688,231.6691 | E | 2,091,015.9828 |
| C.C. | | N | 13,689,500.9591 | E | 2,093,734.2364 |
| Back = N | 56° 15′ 11.10″ W | | | | |
| Ahead = N | 25° 01′ 48.89″ W | | | | |
| Chord Bear = N | 40° 38′ 30.00″ W | | | | |

Course from PT RDCL133_3 to RDCL1335 N 25° 01′ 48.89″ W Dist 207.2546

Point RDCL1335 N 13,688,419.4594 E 2,090,928.2940 Sta 473+02.37

Ending chain SWMILITARYA_2 description

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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| | | | |

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# HORIZONTAL ALIGNMENT DATA SHEET

SHEET 2 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 88 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\General\1113507*HALN*Data01.dgn

# SW MILITARY B EB HORIZONTAL ALIGNMENT

Beginning chain SWMILITARYB_2 description

| | | | | | |
|---|---|---|---|---|---|
| | | Curve Data | | | |
| Curve RDCL134_1 | | | | | |
| P.I. Station | 505+24.09 | N | 13,680,646.4378 | E | 2,106,436.5662 |
| Delta = | 21° 54′ 57.78″ (LT) | | | | |
| Degree = | 2° 09′ 43.58″ | | | | |
| Tangent = | 513.0933 | | | | |
| Length = | 1,013.6441 | | | | |
| Radius = | 2,650.0000 | | | | |
| External = | 49.2156 | | | | |
| Long Chord = | 1,007.4759 | | | | |
| Mid. Ord. = | 48.3182 | | | | |
| P.C. Station | 500+11.00 | N | 13,680,885.2809 | E | 2,105,982.4530 |
| P.T. Station | 510+24.64 | N | 13,680,594.3522 | E | 2,106,947.0090 |
| C.C. | | N | 13,683,230.6628 | E | 2,107,216.0185 |
| Back = S | 62° 15′ 27.53″ E | | | | |
| Ahead = S | 84° 10′ 25.31″ E | | | | |
| Chord Bear = S | 73° 12′ 56.42″ E | | | | |

Course from PT RDCL134_1 to PC RDCL134_4 S 84° 10′ 25.31″ E Dist 7,634.9877

| | | | | | |
|---|---|---|---|---|---|
| | | Curve Data | | | |
| Curve RDCL134_4 | | | | | |
| P.I. Station | 589+39.32 | N | 13,679,790.9094 | E | 2,114,820.7999 |
| Delta = | 6° 09′ 27.09″ (LT) | | | | |
| Degree = | 1° 06′ 06.63″ | | | | |
| Tangent = | 279.6888 | | | | |
| Length = | 558.8391 | | | | |
| Radius = | 5,200.0000 | | | | |
| External = | 7.5163 | | | | |
| Long Chord = | 558.5702 | | | | |
| Mid. Ord. = | 7.5054 | | | | |
| P.C. Station | 586+59.63 | N | 13,679,819.3015 | E | 2,114,542.5559 |
| P.T. Station | 592+18.47 | N | 13,679,792.5262 | E | 2,115,100.4840 |
| C.C. | | N | 13,684,992.4393 | E | 2,115,070.4236 |
| Back = S | 84° 10′ 25.31″ E | | | | |
| Ahead = N | 89° 40′ 07.61″ E | | | | |
| Chord Bear = S | 87° 15′ 08.85″ E | | | | |

Course from PT RDCL134_4 to RDCL1346 N 89° 40′ 07.61″ E Dist 13,443.1671

Point RDCL1346 N 13,679,870.2390 E 2,128,543.4265 Sta 726+61.64

Ending chain SWMILITARYB_2 description

# SW MILITARY B WB HORIZONTAL ALIGNMENT

Beginning chain SWMILITARYB_1 description

| | | | | | |
|---|---|---|---|---|---|
| | | Curve Data | | | |
| Curve RDCL10_1 | | | | | |
| P.I. Station | 735+24.90 | N | 13,680,705.8502 | E | 2,106,435.2943 |
| Delta = | 22° 26′ 00.03″ (LT) | | | | |
| Degree = | 2° 02′ 46.60″ | | | | |
| Tangent = | 555.2616 | | | | |
| Length = | 1,096.2998 | | | | |
| Radius = | 2,800.0000 | | | | |
| External = | 54.5254 | | | | |
| Long Chord = | 1,089.3106 | | | | |
| Mid. Ord. = | 53.4839 | | | | |
| P.C. Station | 729+69.64 | N | 13,680,968.6110 | E | 2,105,946.1397 |
| P.T. Station | 740+65.94 | N | 13,680,649.6394 | E | 2,106,987.7033 |
| C.C. | | N | 13,683,435.2552 | E | 2,107,271.1555 |
| Back = S | 61° 45′ 23.35″ E | | | | |
| Ahead = S | 84° 11′ 23.38″ E | | | | |
| Chord Bear = S | 72° 58′ 23.37″ E | | | | |

Course from PT RDCL10_1 to PC RDCL10_4 S 84° 11′ 23.38″ E Dist 7,618.1629

| | | | | | |
|---|---|---|---|---|---|
| | | Curve Data | | | |
| Curve RDCL10_4 | | | | | |
| P.I. Station | 819+79.52 | N | 13,679,848.5242 | E | 2,114,860.6327 |
| Delta = | 6° 08′ 56.86″ (LT) | | | | |
| Degree = | 1° 02′ 30.27″ | | | | |
| Tangent = | 295.4205 | | | | |
| Length = | 590.2738 | | | | |
| Radius = | 5,500.0000 | | | | |
| External = | 7.9282 | | | | |
| Long Chord = | 589.9906 | | | | |
| Mid. Ord. = | 7.9168 | | | | |
| P.C. Station | 816+84.10 | N | 13,679,878.4305 | E | 2,114,566.7298 |
| P.T. Station | 822+74.38 | N | 13,679,850.2719 | E | 2,115,156.0480 |
| C.C. | | N | 13,685,350.1757 | E | 2,115,123.5109 |
| Back = S | 84° 11′ 23.38″ E | | | | |
| Ahead = N | 89° 39′ 39.76″ E | | | | |
| Chord Bear = S | 87° 15′ 51.81″ E | | | | |

Course from PT RDCL10_4 to RDCL106 N 89° 39′ 39.76″ E Dist 13,382.8280

Point RDCL106 N 13,679,929.4426 E 2,128,538.6419 Sta 956+57.20

Ending chain SWMILITARYB_1 description

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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## HORIZONTAL ALIGNMENT DATA SHEET

SHEET 3 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 89 |

# MILITARY DR EB HORIZONTAL ALIGNMENT

Beginning chain MILITARYDR_1 description

Point RDCL1351 N 13,678,112.3569 E 2,141,022.2358 Sta 980+42.80

Course from RDCL1351 to PC RDCL135_3 N 80° 02′ 56.85″ E Dist 80.9468

Curve Data

| Curve RDCL135_3 | | | |
|---|---|---|---|
| P.I. Station | 987+17.26 | N 13,678,228.9067 | E 2,141,686.5531 |
| Delta = | 12° 05′ 59.41″ (RT) | | |
| Degree = | 1° 01′ 23.30″ | | |
| Tangent = | 593.5169 | | |
| Length = | 1,182.6190 | | |
| Radius = | 5,600.0000 | | |
| External = | 31.3642 | | |
| Long Chord = | 1,180.4226 | | |
| Mid. Ord. = | 31.1895 | | |
| P.C. Station | 981+23.74 | N 13,678,126.3448 | E 2,141,101.9649 |
| P.T. Station | 993+06.36 | N 13,678,206.6513 | E 2,142,279.6527 |
| C.C. | | N 13,672,610.5897 | E 2,142,069.6659 |
| Back = N | 80° 02′ 56.85″ E | | |
| Ahead = S | 87° 51′ 03.74″ E | | |
| Chord Bear = N | 86° 05′ 56.55″ E | | |

Course from PT RDCL135_3 to PC RDCL135_6 S 87° 51′ 03.74″ E Dist 1,242.5952

Curve Data

| Curve RDCL135_6 | | | |
|---|---|---|---|
| P.I. Station | 1008+14.55 | N 13,678,150.0979 | E 2,143,786.7780 |
| Delta = | 0° 28′ 31.93″ (RT) | | |
| Degree = | 0° 05′ 22.29″ | | |
| Tangent = | 265.5908 | | |
| Length = | 531.1785 | | |
| Radius = | 64,000.0000 | | |
| External = | 0.5511 | | |
| Long Chord = | 531.1770 | | |
| Mid. Ord. = | 0.5511 | | |
| P.C. Station | 1005+48.96 | N 13,678,160.0569 | E 2,143,521.3740 |
| P.T. Station | 1010+80.14 | N 13,678,137.9364 | E 2,144,052.0902 |
| C.C. | | N 13,614,205.0670 | E 2,141,121.5256 |
| Back = S | 87° 51′ 03.74″ E | | |
| Ahead = S | 87° 22′ 31.82″ E | | |
| Chord Bear = S | 87° 36′ 47.78″ E | | |

Course from PT RDCL135_6 to PC RDCL135_9 S 87° 22′ 31.82″ E Dist 60.6668

Curve Data

| Curve RDCL135_9 | | | |
|---|---|---|---|
| P.I. Station | 1012+94.89 | N 13,678,128.1029 | E 2,144,266.6179 |
| Delta = | 2° 50′ 50.33″ (LT) | | |
| Degree = | 0° 55′ 26.85″ | | |
| Tangent = | 154.0862 | | |
| Length = | 308.1089 | | |
| Radius = | 6,200.0000 | | |
| External = | 1.9144 | | |
| Long Chord = | 308.0772 | | |
| Mid. Ord. = | 1.9138 | | |
| P.C. Station | 1011+40.80 | N 13,678,135.1585 | E 2,144,112.6934 |
| P.T. Station | 1014+48.91 | N 13,678,128.7021 | E 2,144,420.7029 |
| C.C. | | N 13,684,328.6552 | E 2,144,396.5918 |
| Back = S | 87° 22′ 31.82″ E | | |
| Ahead = N | 89° 46′ 37.86″ E | | |
| Chord Bear = S | 88° 47′ 56.98″ E | | |

Course from PT RDCL135_9 to RDCL13512 N 89° 46′ 37.86″ E Dist 256.0788

Point RDCL13512 N 13,678,129.6980 E 2,144,676.7798 Sta 1017+04.99

Course from RDCL13512 to RDCL13514 N 88° 24′ 48.27″ E Dist 352.9090

Point RDCL13514 N 13,678,139.4692 E 2,145,029.5535 Sta 1020+57.90

Course from RDCL13514 to RDCL13516 N 89° 44′ 18.99″ E Dist 3,867.1725

Point RDCL13516 N 13,678,157.1118 E 2,148,896.6857 Sta 1059+25.07

Course from RDCL13516 to PC RDCL135_18 N 89° 43′ 10.29″ E Dist 161.8788

Curve Data

| Curve RDCL135_18 | | | |
|---|---|---|---|
| P.I. Station | 1064+77.26 | N 13,678,159.8149 | E 2,149,448.8682 |
| Delta = | 8° 07′ 06.37″ (LT) | | |
| Degree = | 1° 02′ 30.27″ | | |
| Tangent = | 390.3103 | | |
| Length = | 779.3141 | | |
| Radius = | 5,500.0000 | | |
| External = | 13.8319 | | |
| Long Chord = | 778.6623 | | |
| Mid. Ord. = | 13.7972 | | |
| P.C. Station | 1060+86.95 | N 13,678,157.9042 | E 2,149,058.5626 |
| P.T. Station | 1068+66.27 | N 13,678,216.8253 | E 2,149,834.9924 |
| C.C. | | N 13,683,657.8383 | E 2,149,031.6389 |
| Back = N | 89° 43′ 10.29″ E | | |
| Ahead = N | 81° 36′ 03.91″ E | | |
| Chord Bear = N | 85° 39′ 37.10″ E | | |

Course from PT RDCL135_18 to RDCL13521 N 81° 36′ 03.91″ E Dist 190.1680

Point RDCL13521 N 13,678,244.6020 E 2,150,023.1208 Sta 1070+56.43

Course from RDCL13521 to PC RDCL135_23 N 78° 31′ 26.87″ E Dist 225.0534

Curve Data

| Curve RDCL135_23 | | | |
|---|---|---|---|
| P.I. Station | 1073+70.26 | N 13,678,307.0402 | E 2,150,330.6770 |
| Delta = | 1° 27′ 11.58″ (RT) | | |
| Degree = | 0° 49′ 06.64″ | | |
| Tangent = | 88.7766 | | |
| Length = | 177.5438 | | |
| Radius = | 7,000.0000 | | |
| External = | 0.5629 | | |
| Long Chord = | 177.5390 | | |
| Mid. Ord. = | 0.5629 | | |
| P.C. Station | 1072+81.49 | N 13,678,289.3776 | E 2,150,243.6751 |
| P.T. Station | 1074+59.03 | N 13,678,322.4906 | E 2,150,418.0988 |
| C.C. | | N 13,671,429.3175 | E 2,151,636.3617 |
| Back = N | 78° 31′ 26.87″ E | | |
| Ahead = N | 79° 58′ 38.44″ E | | |
| Chord Bear = N | 79° 15′ 02.66″ E | | |

Course from PT RDCL135_23 to PC RDCL135_26 N 79° 58′ 38.44″ E Dist 55.2527

Curve Data

| Curve RDCL135_26 | | | |
|---|---|---|---|
| P.I. Station | 1075+65.99 | N 13,678,341.1061 | E 2,150,523.4290 |
| Delta = | 7° 53′ 17.48″ (LT) | | |
| Degree = | 7° 38′ 21.97″ | | |
| Tangent = | 51.7098 | | |
| Length = | 103.2561 | | |
| Radius = | 750.0000 | | |
| External = | 1.7805 | | |
| Long Chord = | 103.1746 | | |
| Mid. Ord. = | 1.7763 | | |
| P.C. Station | 1075+14.28 | N 13,678,332.1067 | E 2,150,472.5084 |
| P.T. Station | 1076+17.54 | N 13,678,357.0088 | E 2,150,572.6327 |
| C.C. | | N 13,679,070.6609 | E 2,150,341.9802 |
| Back = N | 79° 58′ 38.44″ E | | |
| Ahead = N | 72° 05′ 20.97″ E | | |
| Chord Bear = N | 76° 01′ 59.71″ E | | |

Course from PT RDCL135_26 to PC RDCL135_29 N 72° 05′ 20.97″ E Dist 892.1433

Curve Data

| Curve RDCL135_29 | | | |
|---|---|---|---|
| P.I. Station | 1085+78.88 | N 13,678,652.6564 | E 2,151,487.3834 |
| Delta = | 10° 32′ 33.92″ (LT) | | |
| Degree = | 7° 38′ 21.97″ | | |
| Tangent = | 69.1975 | | |
| Length = | 138.0043 | | |
| Radius = | 750.0000 | | |
| External = | 3.1854 | | |
| Long Chord = | 137.8097 | | |
| Mid. Ord. = | 3.1720 | | |
| P.C. Station | 1085+09.68 | N 13,678,631.3756 | E 2,151,421.5394 |
| P.T. Station | 1086+47.69 | N 13,678,685.6253 | E 2,151,548.2220 |
| C.C. | | N 13,679,345.0277 | E 2,151,190.8869 |
| Back = N | 72° 05′ 20.97″ E | | |
| Ahead = N | 61° 32′ 47.05″ E | | |
| Chord Bear = N | 66° 49′ 04.01″ E | | |

Course from PT RDCL135_29 to PC RDCL135_30 N 61° 32′ 47.05″ E Dist 22.5663

Curve Data

| Curve RDCL135_30 | | | |
|---|---|---|---|
| P.I. Station | 1087+35.24 | N 13,678,727.3373 | E 2,151,625.1946 |
| Delta = | 9° 54′ 13.46″ (RT) | | |
| Degree = | 7° 38′ 21.97″ | | |
| Tangent = | 64.9817 | | |
| Length = | 129.6397 | | |
| Radius = | 750.0000 | | |
| External = | 2.8098 | | |
| Long Chord = | 129.4783 | | |
| Mid. Ord. = | 2.7993 | | |
| P.C. Station | 1086+70.25 | N 13,678,696.3770 | E 2,151,568.0624 |
| P.T. Station | 1087+99.89 | N 13,678,748.0099 | E 2,151,686.8003 |
| C.C. | | N 13,678,036.9745 | E 2,151,925.3976 |
| Back = N | 61° 32′ 47.05″ E | | |
| Ahead = N | 71° 27′ 00.52″ E | | |
| Chord Bear = N | 66° 29′ 53.78″ E | | |

Point RDCL13533 N 13,678,748.0099 E 2,151,686.8003 Sta 1087+99.89

Course from RDCL13533 to RDCL13534 N 71° 27′ 00.52″ E Dist 4,023.5077

Point RDCL13534 N 13,680,028.0073 E 2,155,501.2755 Sta 1128+23.40

Ending chain MILITARYDR_1 description

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



## HORIZONTAL ALIGNMENT DATA SHEET

SHEET 4 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 90 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\General\113507*HALN*Data01.dgn

# MILITARY DR WB HORIZONTAL ALIGNMENT

Beginning chain MILITARYDR_2 description

Point RDCL1391 N 13,678,172.3947 E 2,141,014.1314 Sta 1140+57.30

Course from RDCL1391 to PC RDCL139_3 N 80° 28′ 23.45″ E Dist 106.7771

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve RDCL139_3 | | | | | |
| P.I. Station | 1147+56.47 | N | 13,678,288.1141 | E | 2,141,703.6608 |
| Delta = | 11° 39′ 48.97″ (RT) | | | | |
| Degree = | 0° 59′ 16.29″ | | | | |
| Tangent = | 592.3951 | | | | |
| Length = | 1,180.6959 | | | | |
| Radius = | 5,800.0000 | | | | |
| External = | 30.1743 | | | | |
| Long Chord = | 1,178.6583 | | | | |
| Mid. Ord. = | 30.0181 | | | | |
| P.C. Station | 1141+64.08 | N | 13,678,190.0673 | E | 2,141,119.4359 |
| P.T. Station | 1153+44.77 | N | 13,678,266.0265 | E | 2,142,295.6440 |
| C.C. | | N | 13,672,470.0595 | E | 2,142,079.3895 |
| Back = N | 80° 28′ 23.45″ E | | | | |
| Ahead = S | 87° 51′ 47.58″ E | | | | |
| Chord Bear = N | 86° 18′ 17.94″ E | | | | |

Course from PT RDCL139_3 to PC RDCL139_6 S 87° 51′ 47.58″ E Dist 1,554.0576

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve RDCL139_6 | | | | | |
| P.I. Station | 1172+40.31 | N | 13,678,195.3509 | E | 2,144,189.8637 |
| Delta = | 2° 26′ 43.08″ (LT) | | | | |
| Degree = | 0° 21′ 29.16″ | | | | |
| Tangent = | 341.4802 | | | | |
| Length = | 682.8567 | | | | |
| Radius = | 16,000.0000 | | | | |
| External = | 3.6436 | | | | |
| Long Chord = | 682.8049 | | | | |
| Mid. Ord. = | 3.6428 | | | | |
| P.C. Station | 1168+98.83 | N | 13,678,208.0831 | E | 2,143,848.6210 |
| P.T. Station | 1175+81.69 | N | 13,678,197.1897 | E | 2,144,531.3390 |
| C.C. | | N | 13,694,196.9577 | E | 2,144,445.1851 |
| Back = S | 87° 51′ 47.58″ E | | | | |
| Ahead = N | 89° 41′ 29.34″ E | | | | |
| Chord Bear = S | 89° 05′ 09.12″ E | | | | |

Course from PT RDCL139_6 to PC RDCL139_9 N 89° 41′ 29.34″ E Dist 4,600.1044

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve RDCL139_9 | | | | | |
| P.I. Station | 1223+44.93 | N | 13,678,222.8379 | E | 2,149,294.5081 |
| Delta = | 4° 40′ 15.06″ (LT) | | | | |
| Degree = | 1° 25′ 56.62″ | | | | |
| Tangent = | 163.1338 | | | | |
| Length = | 326.0868 | | | | |
| Radius = | 4,000.0000 | | | | |
| External = | 3.3252 | | | | |
| Long Chord = | 325.9965 | | | | |
| Mid. Ord. = | 3.3224 | | | | |
| P.C. Station | 1221+81.79 | N | 13,678,221.9595 | E | 2,149,131.3767 |
| P.T. Station | 1225+07.88 | N | 13,678,236.9974 | E | 2,149,457.0262 |
| C.C. | | N | 13,682,221.9015 | E | 2,149,109.8382 |
| Back = N | 89° 41′ 29.34″ E | | | | |
| Ahead = N | 85° 01′ 14.28″ E | | | | |
| Chord Bear = N | 87° 21′ 21.81″ E | | | | |

Course from PT RDCL139_9 to PC RDCL139_12 N 85° 01′ 14.28″ E Dist 112.4392

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve RDCL139_12 | | | | | |
| P.I. Station | 1227+97.10 | N | 13,678,262.1014 | E | 2,149,745.1607 |
| Delta = | 5° 03′ 40.59″ (LT) | | | | |
| Degree = | 1° 25′ 56.62″ | | | | |
| Tangent = | 176.7868 | | | | |
| Length = | 353.3437 | | | | |
| Radius = | 4,000.0000 | | | | |
| External = | 3.9048 | | | | |
| Long Chord = | 353.2289 | | | | |
| Mid. Ord. = | 3.9010 | | | | |
| P.C. Station | 1226+20.32 | N | 13,678,246.7568 | E | 2,149,569.0411 |
| P.T. Station | 1229+73.66 | N | 13,678,292.9236 | E | 2,149,919.2399 |
| C.C. | | N | 13,682,231.6609 | E | 2,149,221.8531 |
| Back = N | 85° 01′ 14.28″ E | | | | |
| Ahead = N | 79° 57′ 33.68″ E | | | | |
| Chord Bear = N | 82° 29′ 23.98″ E | | | | |

Course from PT RDCL139_12 to PC RDCL139_15 N 79° 57′ 33.68″ E Dist 364.1914

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve RDCL139_15 | | | | | |
| P.I. Station | 1234+26.43 | N | 13,678,371.8623 | E | 2,150,365.0741 |
| Delta = | 8° 26′ 35.51″ (LT) | | | | |
| Degree = | 4° 46′ 28.73″ | | | | |
| Tangent = | 88.5773 | | | | |
| Length = | 176.8339 | | | | |
| Radius = | 1,200.0000 | | | | |
| External = | 3.2647 | | | | |
| Long Chord = | 176.6740 | | | | |
| Mid. Ord. = | 3.2558 | | | | |
| P.C. Station | 1233+37.85 | N | 13,678,356.4191 | E | 2,150,277.8535 |
| P.T. Station | 1235+14.69 | N | 13,678,399.9446 | E | 2,150,449.0820 |
| C.C. | | N | 13,679,538.0403 | E | 2,150,068.6374 |
| Back = N | 79° 57′ 33.68″ E | | | | |
| Ahead = N | 71° 30′ 58.17″ E | | | | |
| Chord Bear = N | 75° 44′ 15.93″ E | | | | |

Course from PT RDCL139_15 to RDCL13918 N 71° 30′ 58.17″ E Dist 1,064.2291

Point RDCL13918 N 13,678,737.3448 E 2,151,458.4109 Sta 1245+78.92

Course from RDCL13918 to RDCL13920 N 75° 24′ 08.25″ E Dist 161.5891

Point RDCL13920 N 13,678,778.0702 E 2,151,614.7837 Sta 1247+40.50

Course from RDCL13920 to RDCL13922 N 72° 59′ 28.68″ E Dist 531.8133

Point RDCL13922 N 13,678,933.6346 E 2,152,123.3357 Sta 1252+72.32

Course from RDCL13922 to RDCL13923 N 71° 42′ 10.69″ E Dist 3,552.2292

Point RDCL13923 N 13,680,048.8330 E 2,155,495.9704 Sta 1288+24.55

Ending chain MILITARYDR_2 description

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




## HORIZONTAL ALIGNMENT DATA SHEET

SHEET 5 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 91 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\General\1113507*HALN*Data01.dgn

# BANDERA WB HORIZONTAL ALIGNMENT

Beginning chain RDCL_BANDERA description
Feature: Road_Centerline

Point 258 N 13,725,506.2700 E 2,096,297.0238 Sta 1300+00.00

Course from 258 to 259 N 65° 35′ 12.90″ W Dist 1,105.4692

Point 259 N 13,725,963.1741 E 2,095,290.3954 Sta 1311+05.47

Course from 259 to PC RDCL_BANDERA_5 N 67° 26′ 24.83″ W Dist 251.5404

Curve Data

| Curve RDCL_BANDERA_5 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1318+62.71 | N | 13,726,253.6855 | E | 2,094,591.1030 |
| Delta = | 23° 05′ 44.28″ (RT) | | | | |
| Degree = | 2° 18′ 53.93″ | | | | |
| Tangent = | 505.6958 | | | | |
| Length = | 997.6597 | | | | |
| Radius = | 2,475.0000 | | | | |
| External = | 51.1341 | | | | |
| Long Chord = | 990.9190 | | | | |
| Mid. Ord. = | 50.0990 | | | | |
| P.C. Station | 1313+57.01 | N | 13,726,059.6768 | E | 2,095,058.1029 |
| P.T. Station | 1323+54.67 | N | 13,726,615.3333 | E | 2,094,237.6357 |
| C.C. | | N | 13,728,345.2894 | E | 2,096,007.6292 |
| Back = N | 67° 26′ 24.83″ W | | | | |
| Ahead = N | 44° 20′ 40.55″ W | | | | |
| Chord Bear = N | 55° 53′ 32.69″ W | | | | |

Course from PT RDCL_BANDERA_5 to 260 N 44° 20′ 40.55″ W Dist 926.5840

Point 260 N 13,727,277.9788 E 2,093,589.9793 Sta 1332+81.25

Course from 260 to 261 N 46° 12′ 39.27″ W Dist 542.3376

Point 261 N 13,727,653.2795 E 2,093,198.4701 Sta 1338+23.59

Course from 261 to PC RDCL_BANDERA_12 N 44° 45′ 06.39″ W Dist 374.7307

Curve Data

| Curve RDCL_BANDERA_12 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1345+13.00 | N | 13,728,142.8711 | E | 2,092,713.1024 |
| Delta = | 7° 30′ 05.77″ (LT) | | | | |
| Degree = | 1° 11′ 37.18″ | | | | |
| Tangent = | 314.6761 | | | | |
| Length = | 628.4529 | | | | |
| Radius = | 4,800.0000 | | | | |
| External = | 10.3036 | | | | |
| Long Chord = | 628.0041 | | | | |
| Mid. Ord. = | 10.2816 | | | | |
| P.C. Station | 1341+98.32 | N | 13,727,919.3996 | E | 2,092,934.6460 |
| P.T. Station | 1348+26.77 | N | 13,728,335.5066 | E | 2,092,464.2800 |
| C.C. | | N | 13,724,540.0234 | E | 2,089,525.8608 |
| Back = N | 44° 45′ 06.39″ W | | | | |
| Ahead = N | 52° 15′ 12.16″ W | | | | |
| Chord Bear = N | 48° 30′ 09.28″ W | | | | |

Course from PT RDCL_BANDERA_12 to 262 N 52° 15′ 12.16″ W Dist 1,843.4396

Point 262 N 13,729,464.0062 E 2,091,006.6249 Sta 1366+70.21

Course from 262 to 263 N 49° 16′ 01.61″ W Dist 432.8245

Point 263 N 13,729,746.4387 E 2,090,678.6479 Sta 1371+03.04

Course from 263 to 264 N 47° 07′ 51.52″ W Dist 798.6939

Point 264 N 13,730,289.8099 E 2,090,093.2765 Sta 1379+01.73

Course from 264 to 265 N 50° 43′ 50.35″ W Dist 748.0455

Point 265 N 13,730,763.2979 E 2,089,514.1554 Sta 1386+49.78

Course from 265 to PC RDCL_BANDERA_23 N 51° 07′ 32.93″ W Dist 871.3067

Curve Data

| Curve RDCLBANDERA2_11 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1719+62.14 | N | 13,726,254.8973 | E | 2,094,423.8363 |
| Delta = | 17° 55′ 20.71″ (RT) | | | | |
| Degree = | 3° 23′ 25.02″ | | | | |
| Tangent = | 266.4969 | | | | |
| Length = | 528.6408 | | | | |
| Radius = | 1,690.0000 | | | | |
| External = | 20.8830 | | | | |
| Long Chord = | 526.4882 | | | | |
| Mid. Ord. = | 20.6281 | | | | |
| P.C. Station | 1716+95.64 | N | 13,726,134.9525 | E | 2,094,661.8150 |
| P.T. Station | 1722+24.28 | N | 13,726,442.2546 | E | 2,094,234.3162 |
| C.C. | | N | 13,727,644.1031 | E | 2,095,422.4493 |
| Back = N | 63° 15′ 04.39″ W | | | | |
| Ahead = N | 45° 19′ 43.69″ W | | | | |
| Chord Bear = N | 54° 17′ 24.04″ W | | | | |

Course from PT RDCLBANDERA2_11 to RDCLBANDERA214 N 45° 19′ 43.69″ W Dist 848.1984

Point RDCLBANDERA214 N 13,727,038.5696 E 2,093,631.1174 Sta 1730+72.48

Course from RDCLBANDERA214 to RDCLBANDERA216 N 43° 52′ 26.02″ W Dist 510.1989

Point RDCLBANDERA216 N 13,727,406.3552 E 2,093,277.5121 Sta 1735+82.68

Course from RDCLBANDERA216 to PC RDCLBANDERA2_18 N 40° 54′ 49.88″ W Dist 241.5316

Curve Data

| Curve RDCLBANDERA2_18 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1743+04.82 | N | 13,727,952.0694 | E | 2,092,804.5686 |
| Delta = | 10° 46′ 00.69″ (LT) | | | | |
| Degree = | 1° 07′ 24.41″ | | | | |
| Tangent = | 480.6038 | | | | |
| Length = | 958.3773 | | | | |
| Radius = | 5,100.0000 | | | | |
| External = | 22.5950 | | | | |
| Long Chord = | 956.9678 | | | | |
| Mid. Ord. = | 22.4954 | | | | |
| P.C. Station | 1738+24.21 | N | 13,727,588.8795 | E | 2,093,119.3273 |
| P.T. Station | 1747+82.59 | N | 13,728,250.0644 | E | 2,092,427.5024 |
| C.C. | | N | 13,724,248.7691 | E | 2,089,265.2823 |
| Back = N | 40° 54′ 49.88″ W | | | | |
| Ahead = N | 51° 40′ 50.57″ W | | | | |
| Chord Bear = N | 46° 17′ 50.23″ W | | | | |

Course from PT RDCLBANDERA2_18 to RDCLBANDERA221 N 51° 40′ 50.57″ W Dist 285.3810

Point RDCLBANDERA221 N 13,728,427.0130 E 2,092,203.6017 Sta 1750+67.97

Course from RDCLBANDERA221 to PC RDCLBANDERA2_23 N 52° 01′ 57.74″ W Dist 1,585.9166

Curve Data

| Curve RDCLBANDERA2_23 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1768+72.43 | N | 13,729,537.1399 | E | 2,090,781.0310 |
| Delta = | 4° 54′ 27.07″ (RT) | | | | |
| Degree = | 1° 07′ 24.41″ | | | | |
| Tangent = | 218.5471 | | | | |
| Length = | 436.8270 | | | | |
| Radius = | 5,100.0000 | | | | |
| External = | 4.6805 | | | | |
| Long Chord = | 436.6935 | | | | |
| Mid. Ord. = | 4.6762 | | | | |
| P.C. Station | 1766+53.89 | N | 13,729,402.6872 | E | 2,090,953.3252 |
| P.T. Station | 1770+90.71 | N | 13,729,685.8392 | E | 2,090,620.8704 |
| C.C. | | N | 13,733,423.3337 | E | 2,094,090.9043 |
| Back = N | 52° 01′ 57.74″ W | | | | |
| Ahead = N | 47° 07′ 30.67″ W | | | | |
| Chord Bear = N | 49° 34′ 44.20″ W | | | | |

Course from PT RDCLBANDERA2_23 to PC RDCLBANDERA2_26 N 47° 07′ 30.67″ W Dist 763.9709

Curve Data

| Curve RDCLBANDERA2_26 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1779+50.29 | N | 13,730,270.6967 | E | 2,089,990.9337 |
| Delta = | 3° 46′ 35.69″ (LT) | | | | |
| Degree = | 1° 58′ 32.58″ | | | | |
| Tangent = | 95.6096 | | | | |
| Length = | 191.1500 | | | | |
| Radius = | 2,900.0000 | | | | |
| External = | 1.5756 | | | | |
| Long Chord = | 191.1154 | | | | |
| Mid. Ord. = | 1.5748 | | | | |
| P.C. Station | 1778+54.68 | N | 13,730,205.6440 | E | 2,090,061.0004 |
| P.T. Station | 1780+45.83 | N | 13,730,330.9931 | E | 2,089,916.7343 |
| C.C. | | N | 13,728,080.4021 | E | 2,088,087.8439 |
| Back = N | 47° 07′ 30.67″ W | | | | |
| Ahead = N | 50° 54′ 06.37″ W | | | | |
| Chord Bear = N | 49° 00′ 48.52″ W | | | | |

Course from PT RDCLBANDERA2_26 to PC RDCLBANDERA2_29 N 50° 54′ 06.37″ W Dist 1,515.1331

Curve Data

| Curve RDCLBANDERA2_29 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1800+42.58 | N | 13,731,590.2433 | E | 2,088,367.1295 |
| Delta = | 23° 21′ 25.67″ (RT) | | | | |
| Degree = | 2° 27′ 32.57″ | | | | |
| Tangent = | 481.6108 | | | | |
| Length = | 949.8451 | | | | |
| Radius = | 2,330.0000 | | | | |
| External = | 49.2539 | | | | |
| Long Chord = | 943.2816 | | | | |
| Mid. Ord. = | 48.2342 | | | | |
| P.C. Station | 1795+60.97 | N | 13,731,286.5146 | E | 2,088,740.8912 |
| P.T. Station | 1805+10.81 | N | 13,732,017.2640 | E | 2,088,144.4136 |
| C.C. | | N | 13,733,094.7481 | E | 2,090,210.3101 |
| Back = N | 50° 54′ 06.37″ W | | | | |
| Ahead = N | 27° 32′ 40.70″ W | | | | |
| Chord Bear = N | 39° 13′ 23.53″ W | | | | |

Course from PT RDCLBANDERA2_29 to RDCLBANDERA232 N 27° 32′ 40.70″ W Dist 454.0851

Point RDCLBANDERA232 N 13,732,419.8789 E 2,087,934.4267 Sta 1809+64.90

Course from RDCLBANDERA232 to PC RDCLBANDERA2_34 N 26° 59′ 55.19″ W Dist 1,071.3331

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



## HORIZONTAL ALIGNMENT DATA SHEET

SHEET 6 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 92 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\General\1113507*HALN*Data01.dgn

# BANDERA WB HORIZONTAL ALIGNMENT (CONT.)

Curve Data

Curve RDCLBANDERA2_34
P.I. Station 1821+39.20 N 13,733,466.2051 E 2,087,401.3276
Delta = 1° 46′ 46.60″ (LT)
Degree = 0° 51′ 51.08″
Tangent = 102.9724
Length = 205.9281
Radius = 6,630.0000
External = 0.7996
Long Chord = 205.9199
Mid. Ord. = 0.7995
P.C. Station 1820+36.23 N 13,733,374.4550 E 2,087,448.0740
P.T. Station 1822+42.16 N 13,733,556.4593 E 2,087,351.7546
C.C. N 13,730,364.6358 E 2,081,540.6305
Back = N 26° 59′ 55.19″ W
Ahead = N 28° 46′ 41.78″ W
Chord Bear = N 27° 53′ 18.49″ W

Course from PT RDCLBANDERA2_34 to PC RDCLBANDERA2_37 N 28° 46′ 41.78″ W Dist 2,205.6002

Curve Data

Curve RDCLBANDERA2_37
P.I. Station 1847+10.98 N 13,735,720.3564 E 2,086,163.2104
Delta = 4° 22′ 55.34″ (LT)
Degree = 0° 49′ 58.03″
Tangent = 263.2230
Length = 526.1893
Radius = 6,880.0000
External = 5.0335
Long Chord = 526.0610
Mid. Ord. = 5.0298
P.C. Station 1844+47.76 N 13,735,489.6443 E 2,086,289.9315
P.T. Station 1849+73.95 N 13,735,940.7118 E 2,086,019.2318
C.C. N 13,732,177.4655 E 2,080,259.6851
Back = N 28° 46′ 41.78″ W
Ahead = N 33° 09′ 37.12″ W
Chord Bear = N 30° 58′ 09.45″ W

Course from PT RDCLBANDERA2_37 to PC RDCLBANDERA2_40 N 33° 09′ 37.12″ W Dist 2,842.5901

Curve Data

Curve RDCLBANDERA2_40
P.I. Station 1881+45.12 N 13,738,595.4363 E 2,084,284.6539
Delta = 11° 24′ 24.19″ (RT)
Degree = 1° 44′ 29.45″
Tangent = 328.5805
Length = 654.9890
Radius = 3,290.0000
External = 16.3674
Long Chord = 653.9078
Mid. Ord. = 16.2863
P.C. Station 1878+16.54 N 13,738,320.3674 E 2,084,464.3820
P.T. Station 1884+71.53 N 13,738,900.6174 E 2,084,162.8768
C.C. N 13,740,119.9430 E 2,087,218.5838
Back = N 33° 09′ 37.12″ W
Ahead = N 21° 45′ 12.93″ W
Chord Bear = N 27° 27′ 25.03″ W

Course from PT RDCLBANDERA2_40 to PC RDCLBANDERA2_43 N 21° 45′ 12.93″ W Dist 2,395.7425

Curve Data

Curve RDCLBANDERA2_43
P.I. Station 1912+98.13 N 13,741,525.9299 E 2,083,115.2925
Delta = 14° 02′ 09.69″ (LT)
Degree = 1° 38′ 13.28″
Tangent = 430.8629
Length = 857.4120
Radius = 3,500.0000
External = 26.4207
Long Chord = 855.2696
Mid. Ord. = 26.2227
P.C. Station 1908+67.27 N 13,741,125.7503 E 2,083,274.9771
P.T. Station 1917+24.68 N 13,741,875.4329 E 2,082,863.3193
C.C. N 13,739,828.5954 E 2,080,024.2250
Back = N 21° 45′ 12.93″ W
Ahead = N 35° 47′ 22.63″ W
Chord Bear = N 28° 46′ 17.78″ W

Course from PT RDCLBANDERA2_43 to RDCLBANDERA246 N 35° 47′ 22.63″ W Dist 825.8339

Point RDCLBANDERA246 N 13,742,545.3244 E 2,082,380.3627 Sta 1925+50.52

Course from RDCLBANDERA246 to PC RDCLBANDERA2_48 N 36° 14′ 38.12″ W Dist 1,367.3704

Curve Data

Curve RDCLBANDERA2_48
P.I. Station 1943+15.31 N 13,743,968.6406 E 2,081,336.9762
Delta = 6° 44′ 56.41″ (RT)
Degree = 0° 51′ 00.31″
Tangent = 397.4198
Length = 793.9203
Radius = 6,740.0000
External = 11.7066
Long Chord = 793.4614
Mid. Ord. = 11.6863
P.C. Station 1939+17.89 N 13,743,648.1187 E 2,081,571.9404
P.T. Station 1947+11.81 N 13,744,314.5545 E 2,081,141.3081
C.C. N 13,747,632.9691 E 2,087,007.7998
Back = N 36° 14′ 38.12″ W
Ahead = N 29° 29′ 41.71″ W
Chord Bear = N 32° 52′ 09.91″ W

Course from PT RDCLBANDERA2_48 to PC RDCLBANDERA2_51 N 29° 29′ 41.71″ W Dist 904.4544

Curve Data

Curve RDCLBANDERA2_51
P.I. Station 1962+21.88 N 13,745,628.9178 E 2,080,397.8310
Delta = 27° 29′ 57.83″ (LT)
Degree = 2° 18′ 53.93″
Tangent = 605.6148
Length = 1,187.8886
Radius = 2,475.0000
External = 73.0177
Long Chord = 1,176.5198
Mid. Ord. = 70.9253
P.C. Station 1956+16.26 N 13,745,101.7911 E 2,080,696.0032
P.T. Station 1968+04.15 N 13,745,958.8097 E 2,079,889.9523
C.C. N 13,743,883.2338 E 2,078,541.7648
Back = N 29° 29′ 41.71″ W
Ahead = N 56° 59′ 39.54″ W
Chord Bear = N 43° 14′ 40.62″ W

Course from PT RDCLBANDERA2_51 to RDCLBANDERA253 N 56° 59′ 39.54″ W Dist 260.3818

Point RDCLBANDERA253 N 13,746,100.6454 E 2,079,671.5919 Sta 1970+64.53

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Ending chain RDCLBANDERA2 description

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



## HORIZONTAL ALIGNMENT DATA SHEET

SHEET 7 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 93 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\General\111350 7#HALN#Data01.dgn

# BANDERA EB HORIZONTAL ALIGNMENT

Beginning chain RDCL_BANDERA description
Feature: Road_Centerline

Point 258 N 13,725,506.2700 E 2,096,297.0238 Sta 1300+00.00

Course from 258 to 259 N 65° 35′ 12.90″ W Dist 1,105.4692

Point 259 N 13,725,963.1741 E 2,095,290.3954 Sta 1311+05.47

Course from 259 to PC RDCL_BANDERA_5 N 67° 26′ 24.83″ W Dist 251.5404

Curve Data

Curve RDCL_BANDERA_5
P.I. Station 1318+62.71 N 13,726,253.6855 E 2,094,591.1030
Delta = 23° 05′ 44.28″ (RT)
Degree = 2° 18′ 53.93″
Tangent = 505.6958
Length = 997.6597
Radius = 2,475.0000
External = 51.1341
Long Chord = 990.9190
Mid. Ord. = 50.0990
P.C. Station 1313+57.01 N 13,726,059.6768 E 2,095,058.1029
P.T. Station 1323+54.67 N 13,726,615.3333 E 2,094,237.6357
C.C. N 13,728,345.2894 E 2,096,007.6292
Back = N 67° 26′ 24.83″ W
Ahead = N 44° 20′ 40.55″ W
Chord Bear = N 55° 53′ 32.69″ W

Course from PT RDCL_BANDERA_5 to 260 N 44° 20′ 40.55″ W Dist 926.5840

Point 260 N 13,727,277.9788 E 2,093,589.9793 Sta 1332+81.25

Course from 260 to 261 N 46° 12′ 39.27″ W Dist 542.3376

Point 261 N 13,727,653.2795 E 2,093,198.4701 Sta 1338+23.59

Course from 261 to PC RDCL_BANDERA_12 N 44° 45′ 06.39″ W Dist 374.7307

Curve Data

Curve RDCL_BANDERA_12
P.I. Station 1345+13.00 N 13,728,142.8711 E 2,092,713.1024
Delta = 7° 30′ 05.77″ (LT)
Degree = 1° 11′ 37.18″
Tangent = 314.6761
Length = 628.4529
Radius = 4,800.0000
External = 10.3036
Long Chord = 628.0041
Mid. Ord. = 10.2816
P.C. Station 1341+98.32 N 13,727,919.3996 E 2,092,934.6460
P.T. Station 1348+26.77 N 13,728,335.5066 E 2,092,464.2800
C.C. N 13,724,540.0234 E 2,089,525.8608
Back = N 44° 45′ 06.39″ W
Ahead = N 52° 15′ 12.16″ W
Chord Bear = N 48° 30′ 09.28″ W

Course from PT RDCL_BANDERA_12 to 262 N 52° 15′ 12.16″ W Dist 1,843.4396

Point 262 N 13,729,464.0062 E 2,091,006.6249 Sta 1366+70.21

Course from 262 to 263 N 49° 16′ 01.61″ W Dist 432.8245

Point 263 N 13,729,746.4387 E 2,090,678.6479 Sta 1371+03.04

Course from 263 to 264 N 47° 07′ 51.52″ W Dist 798.6939

Point 264 N 13,730,289.8099 E 2,090,093.2765 Sta 1379+01.73

Course from 264 to 265 N 50° 43′ 50.35″ W Dist 748.0455

Point 265 N 13,730,763.2979 E 2,089,514.1554 Sta 1386+49.78

Course from 265 to PC RDCL_BANDERA_23 N 51° 07′ 32.93″ W Dist 871.3067

Curve Data

Curve RDCL_BANDERA_23
P.I. Station 1400+54.67 N 13,731,645.0241 E 2,088,420.4121
Delta = 24° 11′ 24.12″ (RT)
Degree = 2° 18′ 03.73″
Tangent = 533.5832
Length = 1,051.2673
Radius = 2,490.0000
External = 56.5292
Long Chord = 1,043.4769
Mid. Ord. = 55.2743
P.C. Station 1395+21.08 N 13,731,310.1407 E 2,088,835.8205
P.T. Station 1405+72.35 N 13,732,120.7214 E 2,088,178.7034
C.C. N 13,733,248.6704 E 2,090,398.5753
Back = N 51° 07′ 32.93″ W
Ahead = N 26° 56′ 08.82″ W
Chord Bear = N 39° 01′ 50.87″ W

Course from PT RDCL_BANDERA_23 to 266 N 26° 56′ 08.82″ W Dist 1,435.7586

Point 266 N 13,733,400.7215 E 2,087,528.3169 Sta 1420+08.11

Course from 266 to 267 N 28° 31′ 01.78″ W Dist 1,035.9702

Point 267 N 13,734,311.0017 E 2,087,033.7220 Sta 1430+44.08

Course from 267 to 268 N 28° 53′ 11.18″ W Dist 741.2075

Point 268 N 13,734,959.9873 E 2,086,675.6631 Sta 1437+85.29

Course from 268 to PC RDCL_BANDERA_32 N 28° 45′ 07.17″ W Dist 519.1924

Curve Data

Curve RDCL_BANDERA_32
P.I. Station 1446+67.60 N 13,735,733.5170 E 2,086,251.2551
Delta = 3° 58′ 48.84″ (LT)
Degree = 0° 32′ 53.83″
Tangent = 363.1172
Length = 725.9423
Radius = 10,450.0000
External = 6.3069
Long Chord = 725.7963
Mid. Ord. = 6.3031
P.C. Station 1443+04.48 N 13,735,415.1685 E 2,086,425.9215
P.T. Station 1450+30.42 N 13,736,038.9737 E 2,086,054.9128
C.C. N 13,730,388.5174 E 2,077,264.3016
Back = N 28° 45′ 07.17″ W
Ahead = N 32° 43′ 56.01″ W
Chord Bear = N 30° 44′ 31.59″ W

Course from PT RDCL_BANDERA_32 to 269 N 32° 43′ 56.01″ W Dist 487.0570

Point 269 N 13,736,448.6893 E 2,085,791.5545 Sta 1455+17.48

Course from 269 to 270 N 33° 38′ 02.03″ W Dist 601.7195

Point 270 N 13,736,949.6771 E 2,085,458.2716 Sta 1461+19.20

Course from 270 to PC RDCL_BANDERA_39 N 33° 08′ 15.46″ W Dist 1,666.3666

Curve Data

Curve RDCL_BANDERA_39
P.I. Station 1481+30.60 N 13,738,633.9455 E 2,084,358.7341
Delta = 11° 23′ 22.54″ (RT)
Degree = 1° 39′ 21.41″
Tangent = 345.0366
Length = 687.7993
Radius = 3,460.0000
External = 17.1612
Long Chord = 686.6674
Mid. Ord. = 17.0765
P.C. Station 1477+85.57 N 13,738,345.0257 E 2,084,547.3490
P.T. Station 1484+73.37 N 13,738,954.4232 E 2,084,230.8892
C.C. N 13,740,236.4415 E 2,087,444.6143
Back = N 33° 08′ 15.46″ W
Ahead = N 21° 44′ 52.91″ W
Chord Bear = N 27° 26′ 34.19″ W

Course from PT RDCL_BANDERA_39 to 271 N 21° 44′ 52.91″ W Dist 399.6714

Point 271 N 13,739,325.6469 E 2,084,082.8007 Sta 1488+73.04

Course from 271 to PC RDCL_BANDERA_44 N 22° 06′ 28.57″ W Dist 2,052.1779

Curve Data

Curve RDCL_BANDERA_44
P.I. Station 1512+67.31 N 13,741,543.8808 E 2,083,181.7114
Delta = 13° 00′ 38.59″ (LT)
Degree = 1° 54′ 35.49″
Tangent = 342.0911
Length = 681.2397
Radius = 3,000.0000
External = 19.4414
Long Chord = 679.7769
Mid. Ord. = 19.3162
P.C. Station 1509+25.21 N 13,741,226.9415 E 2,083,310.4583
P.T. Station 1516+06.45 N 13,741,823.6985 E 2,082,984.9161
C.C. N 13,740,097.8837 E 2,080,531.0287
Back = N 22° 06′ 28.57″ W
Ahead = N 35° 07′ 07.16″ W
Chord Bear = N 28° 36′ 47.86″ W

Course from PT RDCL_BANDERA_44 to 272 N 35° 07′ 07.16″ W Dist 538.8423

Point 272 N 13,742,264.4513 E 2,082,674.9354 Sta 1521+45.30

Course from 272 to PC RDCL_BANDERA_49 N 35° 54′ 19.34″ W Dist 2,016.1757

Curve Data

Curve RDCL_BANDERA_49
P.I. Station 1543+77.05 N 13,744,072.1447 E 2,081,366.1253
Delta = 6° 35′ 21.12″ (RT)
Degree = 1° 31′ 47.74″
Tangent = 215.5812
Length = 430.6871
Radius = 3,745.0000
External = 6.1998
Long Chord = 430.4498
Mid. Ord. = 6.1896
P.C. Station 1541+61.47 N 13,743,897.5268 E 2,081,492.5525
P.T. Station 1545+92.16 N 13,744,260.1166 E 2,081,260.5706
C.C. N 13,746,093.7757 E 2,084,525.9526
Back = N 35° 54′ 19.34″ W
Ahead = N 29° 18′ 58.22″ W
Chord Bear = N 32° 36′ 38.78″ W

Course from PT RDCL_BANDERA_49 to PC RDCL_BANDERA_52 N 29° 18′ 58.22″ W Dist 1,059.7556

Curve Data

Curve RDCL_BANDERA_52
P.I. Station 1561+95.47 N 13,745,658.0903 E 2,080,475.5454
Delta = 26° 42′ 18.48″ (LT)
Degree = 2° 30′ 07.20″
Tangent = 543.5519
Length = 1,067.3518
Radius = 2,290.0000
External = 63.6246
Long Chord = 1,057.7166
Mid. Ord. = 61.9046
P.C. Station 1556+51.92 N 13,745,184.1505 E 2,080,741.6839
P.T. Station 1567+19.27 N 13,745,961.8731 E 2,080,024.8074
C.C. N 13,744,062.9011 E 2,078,744.9617
Back = N 29° 18′ 58.22″ W
Ahead = N 56° 01′ 16.70″ W
Chord Bear = N 42° 40′ 07.46″ W

Course from PT RDCL_BANDERA_52 to 273 N 56° 01′ 16.70″ W Dist 348.8877

Point 273 N 13,746,156.8611 E 2,079,735.4939 Sta 1570+68.15

Ending chain RDCL_BANDERA description

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



## HORIZONTAL ALIGNMENT DATA SHEET

SHEET 8 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 94 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\General\1113507*HALN*Dat001.dgn

# BANDERA EB HORIZONTAL ALIGNMENT (CONT.)

Beginning chain EB410 description
Feature: Road_Centerline

Point EB4101 N 13,725,119.2117 E 2,095,274.8890 Sta 2500+00.00

Course from EB4101 to PC EB410_3 N 61° 15′ 51.98″ E Dist 34.3435

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve EB410_3 | | | | | |
| P.I. Station | 2502+93.66 | N | 13,725,260.3939 | E | 2,095,532.3840 |
| Delta = | 11° 23′ 28.86″ (RT) | | | | |
| Degree = | 2° 12′ 13.26″ | | | | |
| Tangent = | 259.3163 | | | | |
| Length = | 516.9230 | | | | |
| Radius = | 2,600.0000 | | | | |
| External = | 12.8997 | | | | |
| Long Chord = | 516.0721 | | | | |
| Mid. Ord. = | 12.8360 | | | | |
| P.C. Station | 2500+34.34 | N | 13,725,135.7230 | E | 2,095,305.0030 |
| P.T. Station | 2505+51.27 | N | 13,725,337.6991 | E | 2,095,779.9094 |
| C.C. | | N | 13,722,855.9184 | E | 2,096,554.9993 |
| Back = N | 61° 15′ 51.98″ E | | | | |
| Ahead = N | 72° 39′ 20.84″ E | | | | |
| Chord Bear = N | 66° 57′ 36.41″ E | | | | |

Course from PT EB410_3 to PC EB410_6 N 72° 39′ 20.84″ E Dist 47.9432

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve EB410_6 | | | | | |
| P.I. Station | 2507+44.92 | N | 13,725,395.4306 | E | 2,095,964.7613 |
| Delta = | 3° 59′ 40.56″ (LT) | | | | |
| Degree = | 1° 22′ 16.51″ | | | | |
| Tangent = | 145.7141 | | | | |
| Length = | 291.3102 | | | | |
| Radius = | 4,178.3521 | | | | |
| External = | 2.5400 | | | | |
| Long Chord = | 291.2512 | | | | |
| Mid. Ord. = | 2.5385 | | | | |
| P.C. Station | 2505+99.21 | N | 13,725,351.9915 | E | 2,095,825.6727 |
| P.T. Station | 2508+90.52 | N | 13,725,448.4534 | E | 2,096,100.4860 |
| C.C. | | N | 13,729,340.3583 | E | 2,094,580.0578 |
| Back = N | 72° 39′ 20.84″ E | | | | |
| Ahead = N | 68° 39′ 40.28″ E | | | | |
| Chord Bear = N | 70° 39′ 30.56″ E | | | | |

Course from PT EB410_6 to PC EB410_9 N 68° 39′ 40.28″ E Dist 33.0318

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve EB410_9 | | | | | |
| P.I. Station | 2509+63.13 | N | 13,725,474.8763 | E | 2,096,168.1219 |
| Delta = | 3° 36′ 36.25″ (LT) | | | | |
| Degree = | 4° 33′ 42.22″ | | | | |
| Tangent = | 39.5822 | | | | |
| Length = | 79.1382 | | | | |
| Radius = | 1,256.0102 | | | | |
| External = | 0.6235 | | | | |
| Long Chord = | 79.1251 | | | | |
| Mid. Ord. = | 0.6232 | | | | |
| P.C. Station | 2509+23.55 | N | 13,725,460.4730 | E | 2,096,131.2533 |
| P.T. Station | 2510+02.69 | N | 13,725,491.5724 | E | 2,096,204.0105 |
| C.C. | | N | 13,726,630.3774 | E | 2,095,674.2135 |
| Back = N | 68° 39′ 40.28″ E | | | | |
| Ahead = N | 65° 03′ 04.03″ E | | | | |
| Chord Bear = N | 66° 51′ 22.15″ E | | | | |

Course from PT EB410_9 to PC EB410_12 N 65° 03′ 04.03″ E Dist 184.9129

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve EB410_12 | | | | | |
| P.I. Station | 2512+53.40 | N | 13,725,597.3223 | E | 2,096,431.3212 |
| Delta = | 3° 36′ 36.25″ (RT) | | | | |
| Degree = | 2° 44′ 39.97″ | | | | |
| Tangent = | 65.7924 | | | | |
| Length = | 131.5413 | | | | |
| Radius = | 2,087.7061 | | | | |
| External = | 1.0364 | | | | |
| Long Chord = | 131.5196 | | | | |
| Mid. Ord. = | 1.0359 | | | | |
| P.C. Station | 2511+87.60 | N | 13,725,569.5705 | E | 2,096,371.6682 |
| P.T. Station | 2513+19.14 | N | 13,725,621.2630 | E | 2,096,492.6032 |
| C.C. | | N | 13,723,676.6798 | E | 2,097,252.2824 |
| Back = N | 65° 03′ 04.03″ E | | | | |
| Ahead = N | 68° 39′ 40.28″ E | | | | |
| Chord Bear = N | 66° 51′ 22.15″ E | | | | |

Course from PT EB410_12 to PC EB410_15 N 68° 39′ 40.28″ E Dist 1,380.7903

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve EB410_15 | | | | | |
| P.I. Station | 2528+26.80 | N | 13,726,169.8737 | E | 2,097,896.9053 |
| Delta = | 4° 28′ 15.66″ (RT) | | | | |
| Degree = | 1° 45′ 46.61″ | | | | |
| Tangent = | 126.8696 | | | | |
| Length = | 253.6103 | | | | |
| Radius = | 3,250.0000 | | | | |
| External = | 2.4753 | | | | |
| Long Chord = | 253.5460 | | | | |
| Mid. Ord. = | 2.4735 | | | | |
| P.C. Station | 2526+99.93 | N | 13,726,123.7081 | E | 2,097,778.7333 |
| P.T. Station | 2529+53.54 | N | 13,726,206.6867 | E | 2,098,018.3165 |
| C.C. | | N | 13,723,096.5120 | E | 2,098,961.3507 |
| Back = N | 68° 39′ 40.28″ E | | | | |
| Ahead = N | 73° 07′ 55.94″ E | | | | |
| Chord Bear = N | 70° 53′ 48.11″ E | | | | |

Course from PT EB410_15 to PC EB410_18 N 73° 07′ 55.94″ E Dist 226.6753

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve EB410_18 | | | | | |
| P.I. Station | 2532+51.84 | N | 13,726,293.2406 | E | 2,098,303.7758 |
| Delta = | 5° 17′ 27.31″ (LT) | | | | |
| Degree = | 3° 41′ 47.41″ | | | | |
| Tangent = | 71.6175 | | | | |
| Length = | 143.1331 | | | | |
| Radius = | 1,550.0000 | | | | |
| External = | 1.6537 | | | | |
| Long Chord = | 143.0823 | | | | |
| Mid. Ord. = | 1.6519 | | | | |
| P.C. Station | 2531+80.22 | N | 13,726,272.4598 | E | 2,098,235.2395 |
| P.T. Station | 2533+23.35 | N | 13,726,320.2529 | E | 2,098,370.1038 |
| C.C. | | N | 13,727,755.7739 | E | 2,097,785.4848 |
| Back = N | 73° 07′ 55.94″ E | | | | |
| Ahead = N | 67° 50′ 28.63″ E | | | | |
| Chord Bear = N | 70° 29′ 12.28″ E | | | | |

Course from PT EB410_18 to PC EB410_21 N 67° 50′ 28.63″ E Dist 130.2817

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve EB410_21 | | | | | |
| P.I. Station | 2535+27.65 | N | 13,726,397.3077 | E | 2,098,559.3104 |
| Delta = | 5° 28′ 03.65″ (LT) | | | | |
| Degree = | 3° 41′ 47.41″ | | | | |
| Tangent = | 74.0137 | | | | |
| Length = | 147.9150 | | | | |
| Radius = | 1,550.0000 | | | | |
| External = | 1.7661 | | | | |
| Long Chord = | 147.8589 | | | | |
| Mid. Ord. = | 1.7641 | | | | |
| P.C. Station | 2534+53.63 | N | 13,726,369.3917 | E | 2,098,490.7632 |
| P.T. Station | 2536+01.55 | N | 13,726,431.6281 | E | 2,098,624.8858 |
| C.C. | | N | 13,727,804.9127 | E | 2,097,906.1442 |
| Back = N | 67° 50′ 28.63″ E | | | | |
| Ahead = N | 62° 22′ 24.98″ E | | | | |
| Chord Bear = N | 65° 06′ 26.80″ E | | | | |

Course from PT EB410_21 to PC EB410_24 N 62° 22′ 24.98″ E Dist 53.4495

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve EB410_24 | | | | | |
| P.I. Station | 2538+34.32 | N | 13,726,539.5640 | E | 2,098,831.1167 |
| Delta = | 6° 18′ 58.35″ (RT) | | | | |
| Degree = | 1° 45′ 46.61″ | | | | |
| Tangent = | 179.3194 | | | | |
| Length = | 358.2756 | | | | |
| Radius = | 3,250.0000 | | | | |
| External = | 4.9432 | | | | |
| Long Chord = | 358.0942 | | | | |
| Mid. Ord. = | 4.9357 | | | | |
| P.C. Station | 2536+55.00 | N | 13,726,456.4128 | E | 2,098,672.2414 |
| P.T. Station | 2540+13.27 | N | 13,726,604.7317 | E | 2,098,998.1755 |
| C.C. | | N | 13,723,576.9452 | E | 2,100,179.2802 |
| Back = N | 62° 22′ 24.98″ E | | | | |
| Ahead = N | 68° 41′ 23.33″ E | | | | |
| Chord Bear = N | 65° 31′ 54.16″ E | | | | |

Course from PT EB410_24 to EB41026 N 68° 41′ 23.33″ E Dist 1,975.6567

Point EB41026 N 13,727,322.7187 E 2,100,838.7498 Sta 2559+88.93

Ending chain EB410 description

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



## HORIZONTAL ALIGNMENT DATA SHEET



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 95 |

# BANDERA EB HORIZONTAL ALIGNMENT (CONT.)

Beginning chain WB412 description
Feature: Road_Centerline

Point WB4121 N 13,725,373.1350 E 2,095,199.0514 Sta 1999+58.38

Course from WB4121 to PC WB412_3 N 64° 12′ 58.72″ E Dist 30.5268

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve WB412_3 | | | | | |
| P.I. Station | 2002+57.41 | N | 13,725,503.2083 | E | 2,095,468.3164 |
| Delta = | 3° 08′ 20.04″ (RT) | | | | |
| Degree = | 0° 35′ 04.74″ | | | | |
| Tangent = | 268.5095 | | | | |
| Length = | 536.8846 | | | | |
| Radius = | 9,800.0000 | | | | |
| External = | 3.6777 | | | | |
| Long Chord = | 536.8175 | | | | |
| Mid. Ord. = | 3.6764 | | | | |
| P.C. Station | 1999+88.90 | N | 13,725,386.4134 | E | 2,095,226.5391 |
| P.T. Station | 2005+25.79 | N | 13,725,606.5890 | E | 2,095,716.1264 |
| C.C. | | N | 13,716,562.0756 | E | 2,099,489.2920 |
| Back = N | 64° 12′ 58.72″ E | | | | |
| Ahead = N | 67° 21′ 18.76″ E | | | | |
| Chord Bear = N | 65° 47′ 08.74″ E | | | | |

Course from PT WB412_3 to PC WB412_6 N 67° 21′ 18.76″ E Dist 55.2691

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve WB412_6 | | | | | |
| P.I. Station | 2006+13.69 | N | 13,725,640.4312 | E | 2,095,797.2485 |
| Delta = | 3° 44′ 15.70″ (RT) | | | | |
| Degree = | 5° 43′ 46.48″ | | | | |
| Tangent = | 32.6291 | | | | |
| Length = | 65.2351 | | | | |
| Radius = | 1,000.0000 | | | | |
| External = | 0.5322 | | | | |
| Long Chord = | 65.2235 | | | | |
| Mid. Ord. = | 0.5319 | | | | |
| P.C. Station | 2005+81.06 | N | 13,725,627.8685 | E | 2,095,767.1348 |
| P.T. Station | 2006+46.29 | N | 13,725,651.0042 | E | 2,095,828.1171 |
| C.C. | | N | 13,724,704.9590 | E | 2,096,152.1517 |
| Back = N | 67° 21′ 18.76″ E | | | | |
| Ahead = N | 71° 05′ 34.46″ E | | | | |
| Chord Bear = N | 69° 13′ 26.61″ E | | | | |

Course from PT WB412_6 to PC WB412_9 N 71° 05′ 34.46″ E Dist 228.0206

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve WB412_9 | | | | | |
| P.I. Station | 2011+29.00 | N | 13,725,807.4182 | E | 2,096,284.7804 |
| Delta = | 2° 25′ 54.18″ (LT) | | | | |
| Degree = | 0° 28′ 38.87″ | | | | |
| Tangent = | 254.6870 | | | | |
| Length = | 509.2975 | | | | |
| Radius = | 12,000.0000 | | | | |
| External = | 2.7024 | | | | |
| Long Chord = | 509.2593 | | | | |
| Mid. Ord. = | 2.7018 | | | | |
| P.C. Station | 2008+74.31 | N | 13,725,724.8908 | E | 2,096,043.8349 |
| P.T. Station | 2013+83.61 | N | 13,725,900.0942 | E | 2,096,522.0073 |
| C.C. | | N | 13,737,077.4337 | E | 2,092,155.4201 |
| Back = N | 71° 05′ 34.46″ E | | | | |
| Ahead = N | 68° 39′ 40.28″ E | | | | |
| Chord Bear = N | 69° 52′ 37.37″ E | | | | |

Course from PT WB412_9 to PC WB412_12 N 68° 39′ 40.28″ E Dist 1,333.1502

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve WB412_12 | | | | | |
| P.I. Station | 2028+10.75 | N | 13,726,419.4039 | E | 2,097,851.3094 |
| Delta = | 3° 36′ 07.72″ (LT) | | | | |
| Degree = | 1° 55′ 00.80″ | | | | |
| Tangent = | 93.9891 | | | | |
| Length = | 187.9163 | | | | |
| Radius = | 2,989.0000 | | | | |
| External = | 1.4774 | | | | |
| Long Chord = | 187.8854 | | | | |
| Mid. Ord. = | 1.4766 | | | | |
| P.C. Station | 2027+16.76 | N | 13,726,385.2040 | E | 2,097,763.7633 |
| P.T. Station | 2029+04.68 | N | 13,726,459.0366 | E | 2,097,936.5339 |
| C.C. | | N | 13,729,169.3060 | E | 2,096,676.1527 |
| Back = N | 68° 39′ 42.76″ E | | | | |
| Ahead = N | 65° 03′ 35.03″ E | | | | |
| Chord Bear = N | 66° 51′ 38.89″ E | | | | |

Course from PT WB412_12 to PC WB412_15 N 65° 03′ 35.03″ E Dist 116.8864

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve WB412_15 | | | | | |
| P.I. Station | 2030+97.95 | N | 13,726,540.5353 | E | 2,098,111.7851 |
| Delta = | 5° 08′ 44.21″ (RT) | | | | |
| Degree = | 3° 22′ 13.22″ | | | | |
| Tangent = | 76.3881 | | | | |
| Length = | 152.6735 | | | | |
| Radius = | 1,700.0000 | | | | |
| External = | 1.7154 | | | | |
| Long Chord = | 152.6222 | | | | |
| Mid. Ord. = | 1.7136 | | | | |
| P.C. Station | 2030+21.56 | N | 13,726,508.3245 | E | 2,098,042.5204 |
| P.T. Station | 2031+74.24 | N | 13,726,566.4041 | E | 2,098,183.6596 |
| C.C. | | N | 13,724,966.8531 | E | 2,098,759.3649 |
| Back = N | 65° 03′ 35.03″ E | | | | |
| Ahead = N | 70° 12′ 19.24″ E | | | | |
| Chord Bear = N | 67° 37′ 57.14″ E | | | | |

Course from PT WB412_15 to PC WB412_18 N 70° 12′ 19.24″ E Dist 248.8259

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve WB412_18 | | | | | |
| P.I. Station | 2035+64.75 | N | 13,726,698.6515 | E | 2,098,551.0984 |
| Delta = | 1° 28′ 33.36″ (LT) | | | | |
| Degree = | 0° 31′ 15.13″ | | | | |
| Tangent = | 141.6874 | | | | |
| Length = | 283.3591 | | | | |
| Radius = | 11,000.0000 | | | | |
| External = | 0.9125 | | | | |
| Long Chord = | 283.3512 | | | | |
| Mid. Ord. = | 0.9124 | | | | |
| P.C. Station | 2034+23.06 | N | 13,726,650.6690 | E | 2,098,417.7830 |
| P.T. Station | 2037+06.42 | N | 13,726,750.0518 | E | 2,098,683.1337 |
| C.C. | | N | 13,737,000.7051 | E | 2,094,692.6314 |
| Back = N | 70° 12′ 19.24″ E | | | | |
| Ahead = N | 68° 43′ 45.88″ E | | | | |
| Chord Bear = N | 69° 28′ 02.56″ E | | | | |

Course from PT WB412_18 to WB41221 N 68° 43′ 45.88″ E Dist 225.8682

Point WB41221 N 13,726,831.9907 E 2,098,893.6152 Sta 2039+32.29

Course from WB41221 to WB41223 N 68° 41′ 23.33″ E Dist 14.8214

Point WB41223 N 13,726,837.3770 E 2,098,907.4232 Sta 2039+47.11

Course from WB41223 to WB41224 N 68° 43′ 48.01″ E Dist 1,975.6572

Point WB41224 N 13,727,554.0730 E 2,100,748.5012 Sta 2059+22.77

Ending chain WB412 description

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

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## HORIZONTAL ALIGNMENT DATA SHEET

SHEET 10 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 96 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\07\design\Civil\General\1113507*HALN*Dat001.dgn

Plotted on: 4/10/2019

# SAMPLE POINT TABLE

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 09801 | 13709412.82 | 2137561.60 | -- | ME |
| 09802 | 13709407.82 | 2137561.65 | -- | ME |
| 09803 | 13709413.09 | 2137591.40 | -- | ME |
| 09804 | 13709408.09 | 2137591.44 | -- | ME |
| 09805 | 13709413.50 | 2137635.48 | -- | ME |
| 09806 | 13709408.50 | 2137635.53 | -- | ME |
| 09807 | 13709413.54 | 2137640.48 | -- | ME |
| 09808 | 13709408.54 | 2137640.53 | -- | ME |
| 09809 | 13709413.66 | 2137653.71 | 702.34 | PROP |
| 09810 | 13709408.66 | 2137653.75 | 702.26 | PROP |
| 09811 | 13709413.74 | 2137662.57 | 702.51 | PROP |
| 09812 | 13709408.74 | 2137662.62 | 702.44 | PROP |
| 09813 | 13709413.78 | 2137666.57 | 702.54 | PROP |
| 09814 | 13709408.78 | 2137666.62 | 702.46 | PROP |
| 09815 | 13709413.87 | 2137676.16 | 702.63 | PROP |
| 09816 | 13709408.87 | 2137676.21 | 702.70 | PROP |

POINTS ARE PROVIDED FOR HORIZONTAL CONTROL ONLY

MATCH ELEVATION FLUSH WITH ADJACENT SURFACE OR AS DIRECTED

POINTS ARE PROVIDED FOR HORIZONTAL AND VERTICAL CONTROL

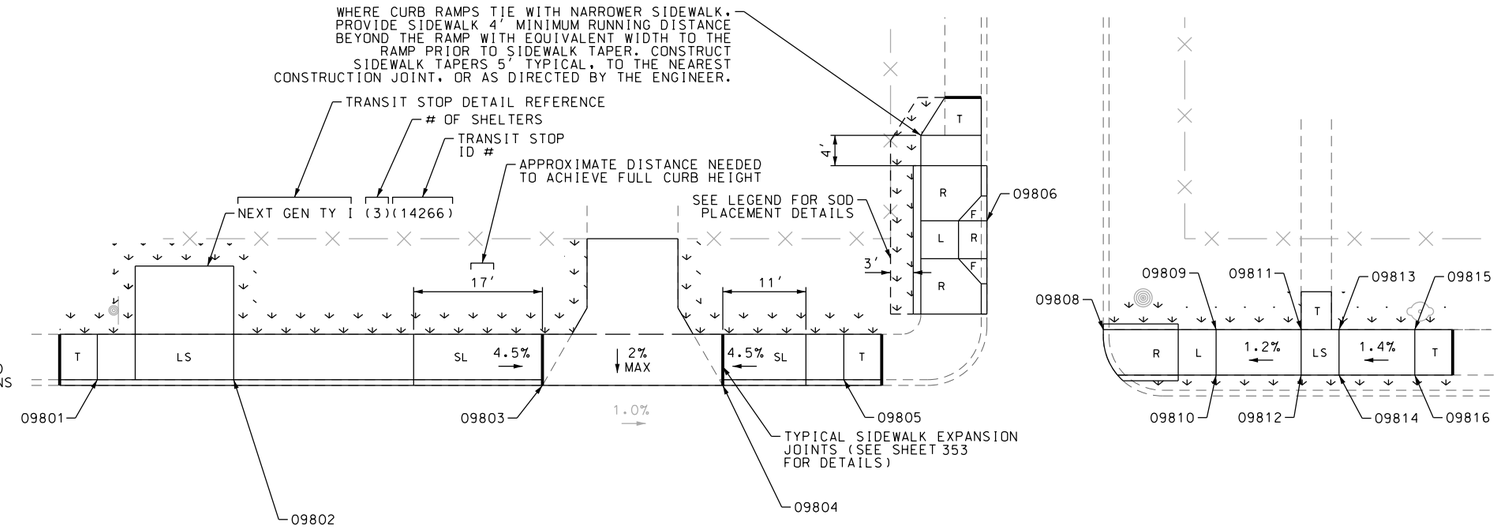
ELEVATIONS ESTABLISH DESIGN INTENT, HOWEVER, PLANAR SLOPE DESIGNATIONS (LS/SL/R/ETC.) SHALL CONTROL IN THE EVENT OF DISCREPANCIES BETWEEN PROVIDED ELEVATIONS AND FIELD CONDITIONS

SEE SURVEY CONTROL SHEETS FOR ADDITIONAL INFORMATION

PROP = PROPOSED ELEVATION

ME = CONTRACTOR SHALL MATCH PROPOSED IMPROVEMENTS FLUSH WITH SURROUNDINGS

# SAMPLE PLAN LAYOUT




# LEGEND OF SYMBOLS

- CAMERA POSITION
- DRAINAGE FLOW DIRECTION
- FIRE HYDRANT
- GAS METER
- GAS VALVE (GV)
- GROUND BOX
- GUY ANCHOR
- IRRIGATION
- JUNCTION BOX (J)
- LIGHT POLE
- LUMINAIRE STANDARD
- MAIL BOX
- MANHOLE
- NSPI NO SEPARATE PAY ITEM
- PEDESTAL SIGNAL POLE
- PI POINT
- POWER/UTILITY POLE
- SEWER CLEANOUT (S)
- SIGN
- TRAFFIC SIGNAL BOX (TB)
- TRAFFIC SIGNAL CONTROLLER
- TRAFFIC SIGNAL POLE
- TRANSFORMER (T)
- TREE/BUSHES
- UTILITY PEDESTAL/MARKER (U)
- UTILITY VAULT
- WATER METER (W)
- WATER VALVE (WV)
- X.X% EXISTING ROADWAY OR DRIVEWAY SLOPE
- X.X% PROPOSED ROADWAY, SIDEWALK OR DRIVEWAY SLOPE

PLANAR SLOPE DESIGNATIONS

- F = FLARE (10:1 OR LESS) MEASURED AT FACE OF CURB
- R = RAMP (CROSS SLOPE NOT TO EXCEED 2 PERCENT; LONGITUDINAL NOT TO EXCEED 8.3 PERCENT)
- L = LANDING (SHALL NOT EXCEED 2 PERCENT SLOPE IN ANY DIRECTION)
- L1 = SHARED LANDING (SHALL NOT EXCEED 2 PERCENT SLOPE IN ANY DIRECTION)
- LS = LEVEL SIDEWALK (SHALL NOT EXCEED 2 PERCENT SLOPE IN ANY DIRECTION)
- SL = SLOPED SIDEWALK. IF INDICATED, CONSTRUCT SLOPED SIDEWALK AT LONGITUDINAL SLOPE SHOWN ON THE PLANS. OTHERWISE LONGITUDINAL SLOPES MAY NOT EXCEED 5 PERCENT, CROSS SLOPES MAY NOT EXCEED 2 PERCENT
- T = TAPER SIDEWALK WIDTH TO NEAREST EXISTING PANEL JOINT (5' TYP)

TOC = TOP OF CURB

FOC = FACE OF CURB

= BLOCK SOD; PLACED ADJACENT TO IMPROVEMENTS WHERE EXISTING VEGETATION IS DISTURBED, PLACED FULL LIMITS BETWEEN BACK OF CURB AND IMPROVEMENTS IF DIVORCED OR AS SHOWN ON THE PLANS

— X — = EXISTING FENCE

## NOTES

1. FLARE (F), RAMP (R), AND LANDING (L), DIRECTLY IN CONTACT WITH THE CURB RAMP ARE PAID FOR UNDER ITEM 531 "CURB RAMPS"
2. LEVEL SIDEWALK (LS) AND RAMPS (R) NOT DIRECTLY IN CONTACT WITH THE CURB RAMP ARE PAID FOR UNDER ITEM 531 "SIDEWALK"

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

| REV. NO. | DATE | DESCRIPTION | BY |
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SAMPLE PLAN LAYOUT AND LEGEND OF SYMBOLS

SHEET 1 OF 1

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 97 |

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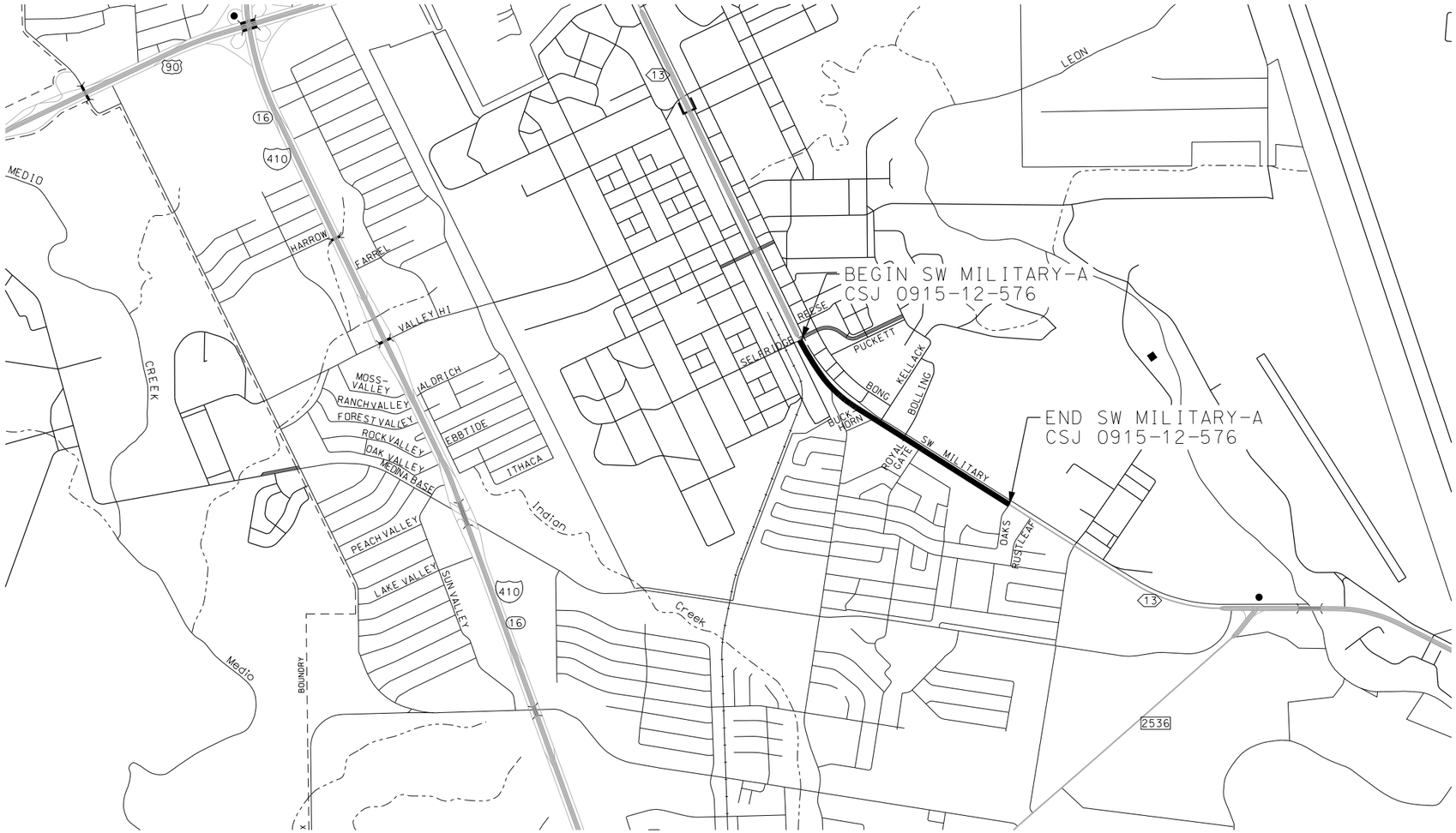


SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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# PROJECT LAYOUT MAPS

SHEET 1 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 5 |


SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800




# PROJECT LAYOUT MAPS

SHEET 2 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 6 |

Plotted on: 3/27/2019

Design Filename: P:\111\35\07\design\Civil\General\1113507*ProjLayout.dgn

Plotted on: 3/27/2019

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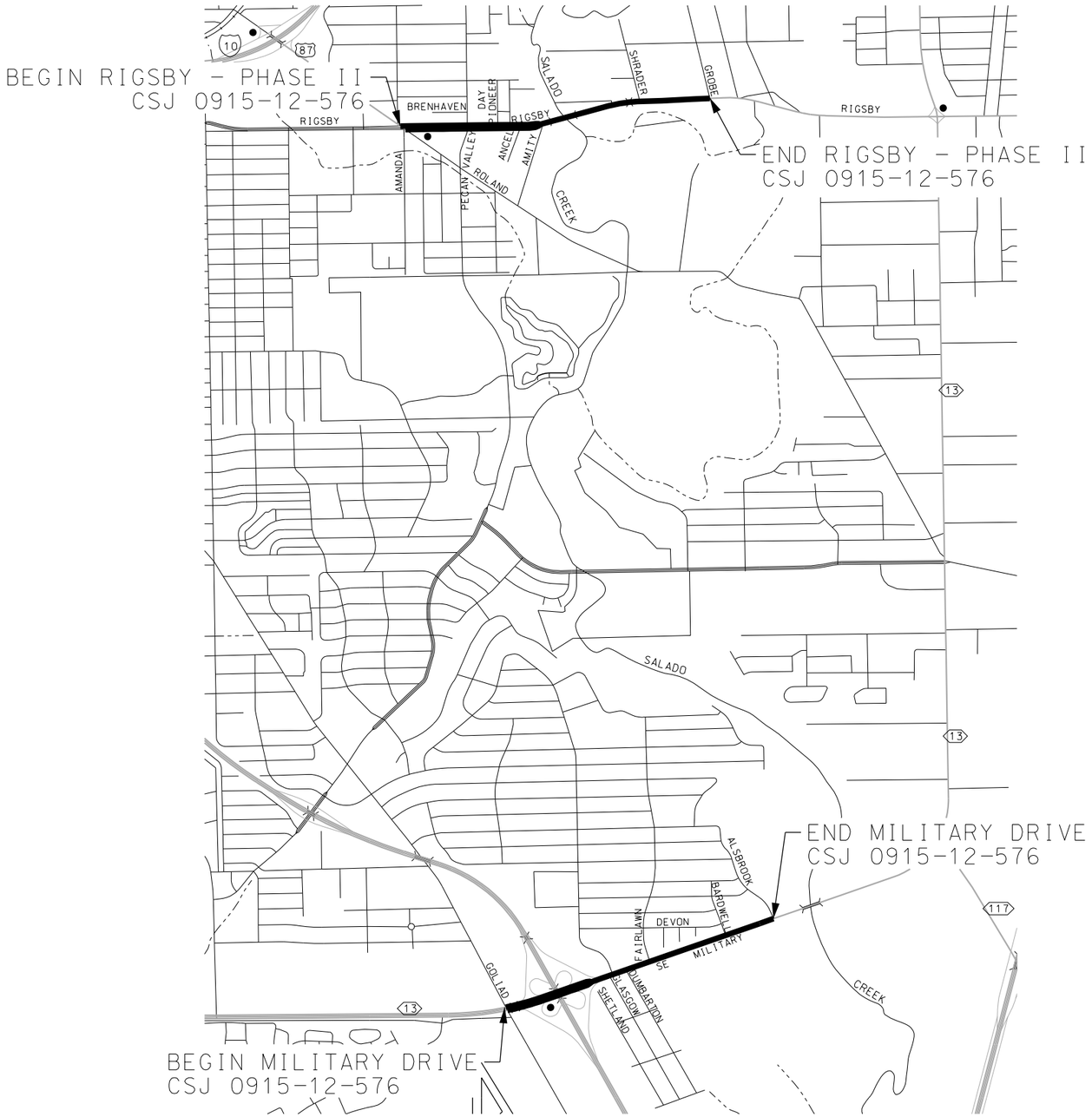


SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS

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# PROJECT LAYOUT MAPS

SHEET 3 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 7 |


SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800




# PROJECT LAYOUT MAPS

SHEET 4 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 8 |

Plotted on: 3/27/2019

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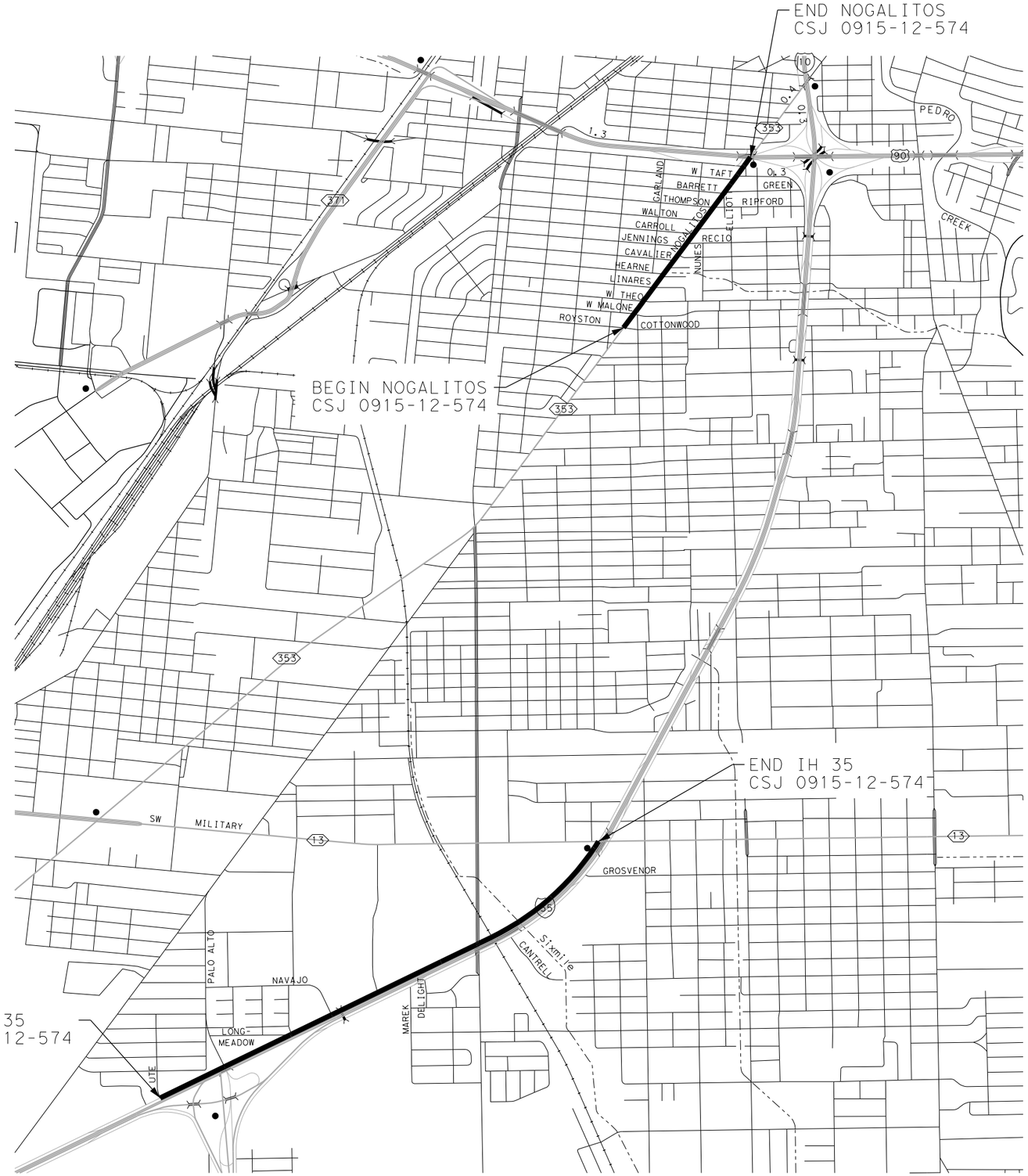


SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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# PROJECT LAYOUT MAPS

SHEET 1 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 5 |

Plotted on: 3/27/2019

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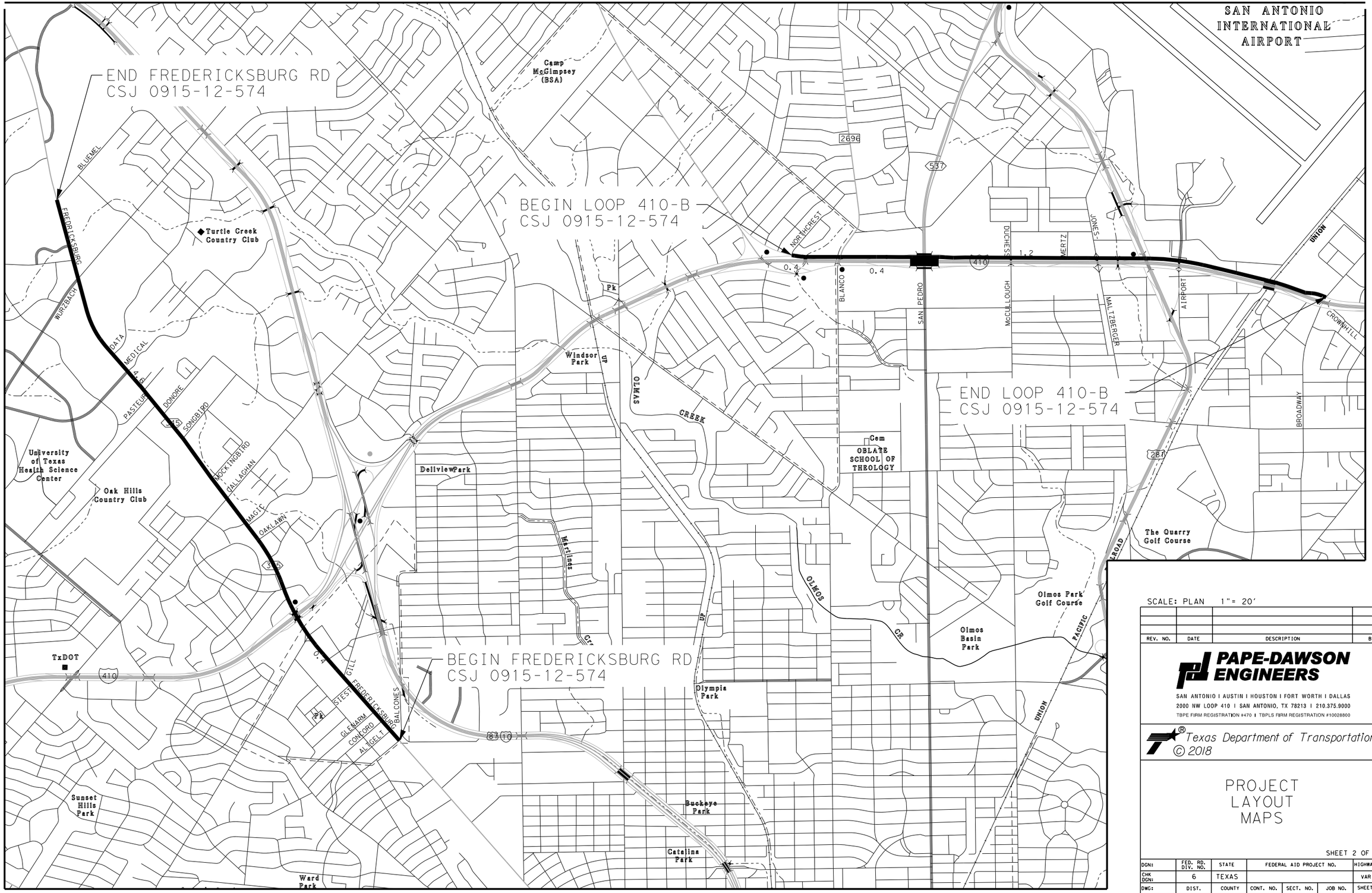


SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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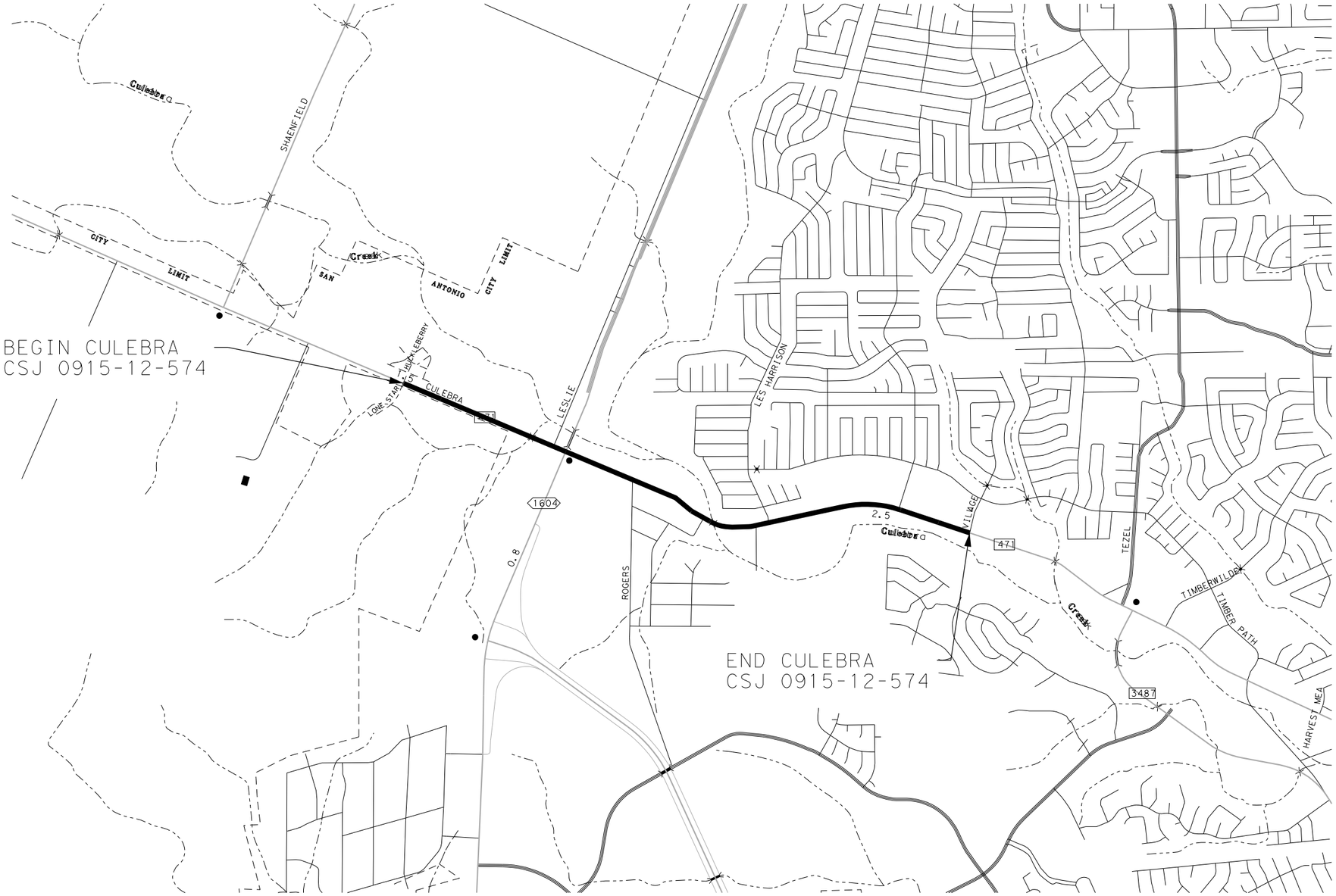
# PROJECT LAYOUT MAPS

SHEET 2 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 6 |

Plotted on: 3/27/2019

Design Filename: P:\111\35\08\Design\Civil\General\1113508_ProjLayout.dgn




SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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# PROJECT LAYOUT MAPS

SHEET 3 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 7 |


SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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# PROJECT LAYOUT MAPS

SHEET 4 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 8 |

Plotted on: 3/27/2019

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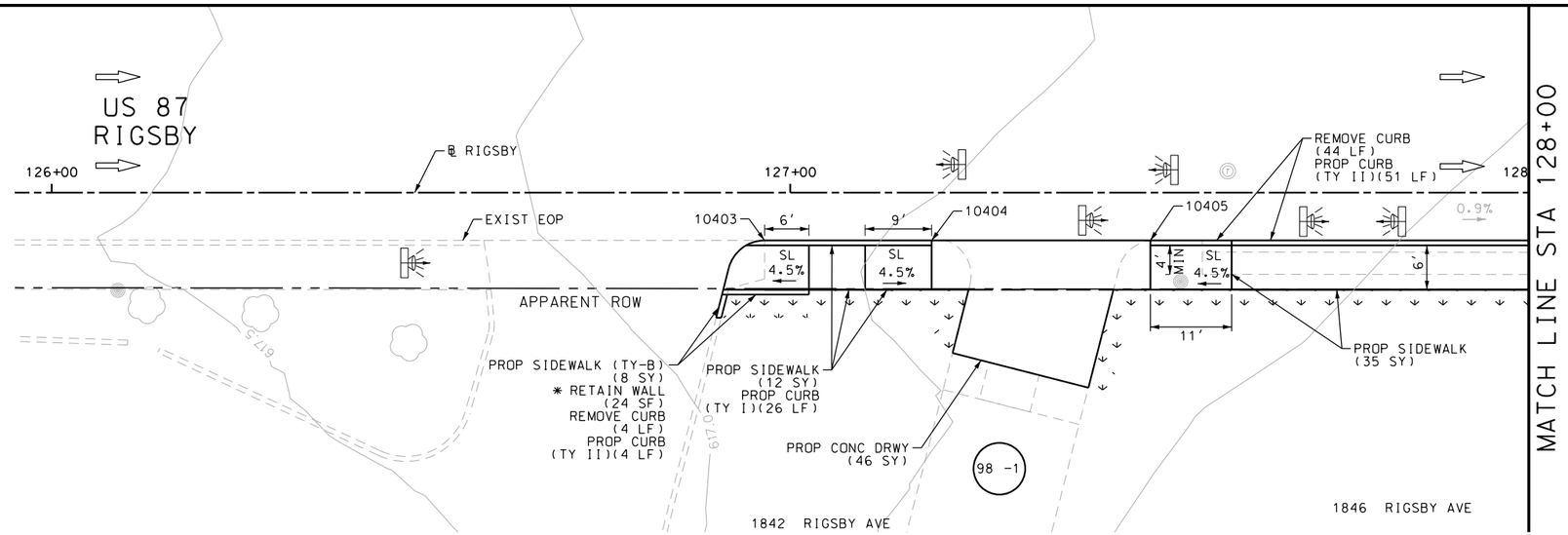
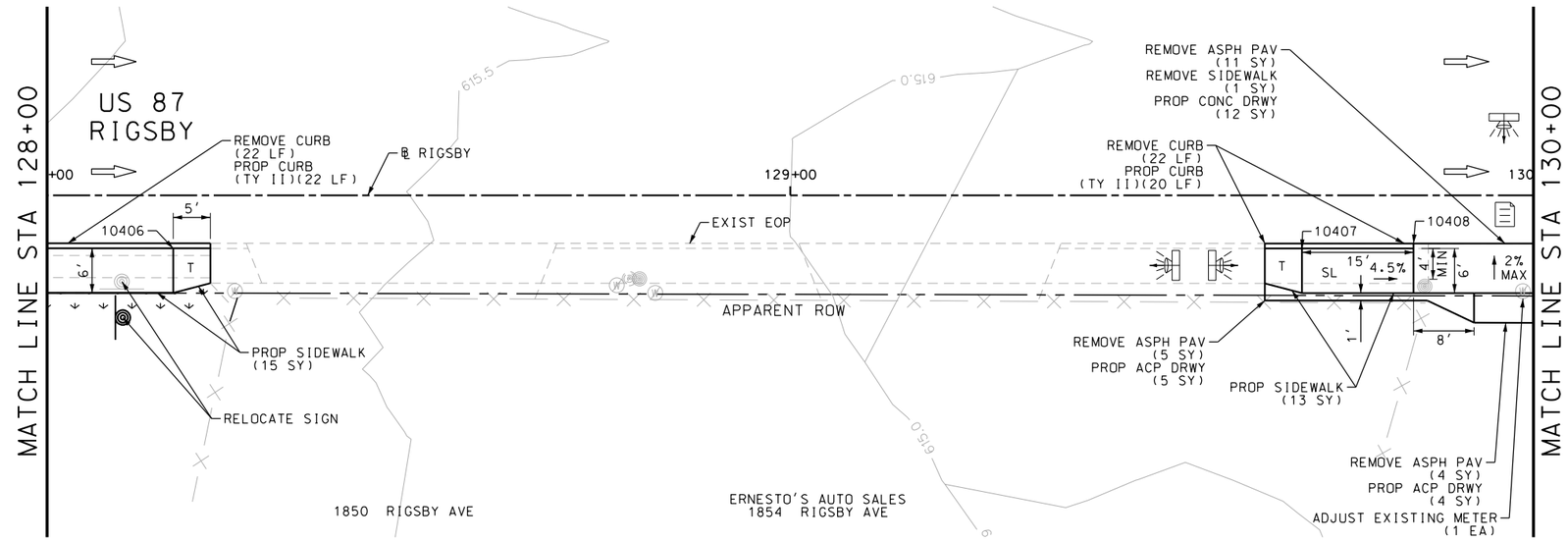
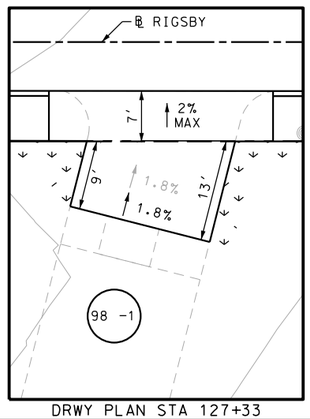



| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 10401 | 13695003.62 | 2148736.51 | -- | ME |
| 10402 | 13695003.61 | 2148754.51 | -- | ME |
| 10403 | 13695003.61 | 2148811.08 | -- | ME |
| 10404 | 13695003.62 | 2148833.71 | -- | ME |
| 10405 | 13695003.63 | 2148863.31 | -- | ME |
| 10406 | 13695002.98 | 2148931.53 | -- | ME |
| 10407 | 13695003.03 | 2149083.42 | -- | ME |
| 10408 | 13695003.70 | 2149098.42 | -- | ME |




DRWY PLAN STA 127+33

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 120 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 1 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 20 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 56 |
| 0162-6002 | BLOCK SODDING | SY | 56 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.87 |
| 0420-6074 | CL C CONC (MISC) | CY | 1.5 |
| 0529-6001 | CONC CURB (TY I) | LF | 26 |
| 0529-6002 | CONC CURB (TY II) | LF | 125 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 58 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 9 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 95 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 8 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE EB

# SIDEWALK CONSTRUCTION PLAN

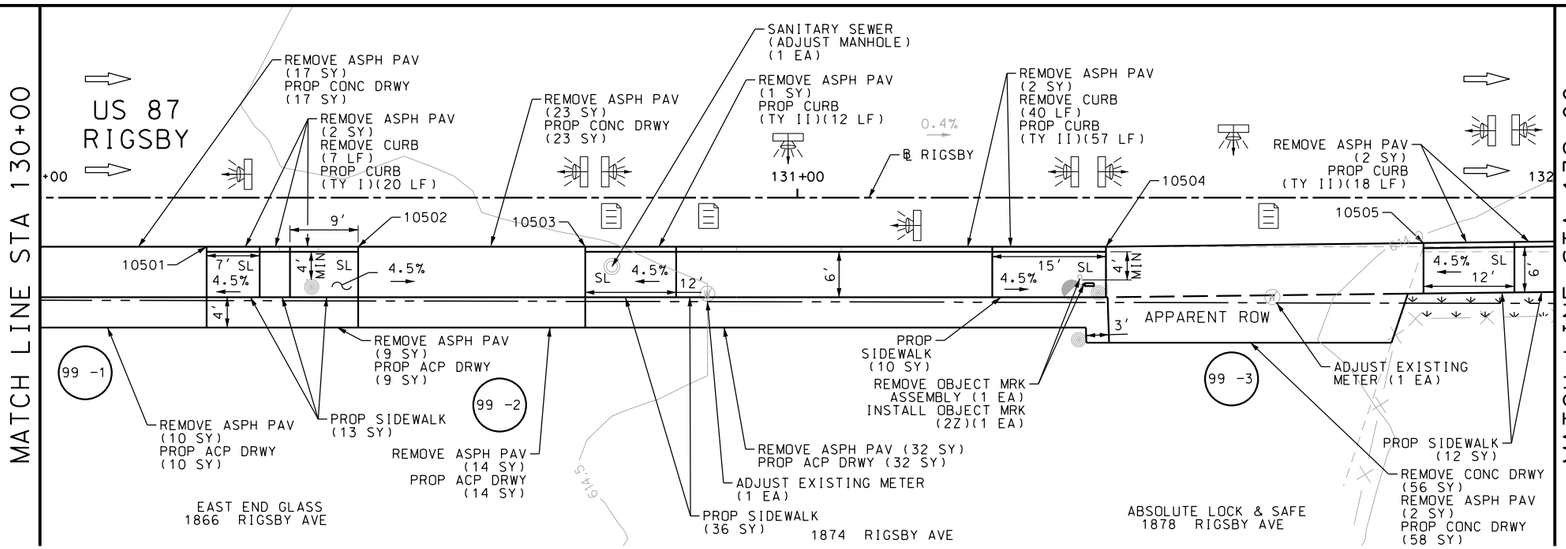
BEGIN PROJECT TO STA 130+00

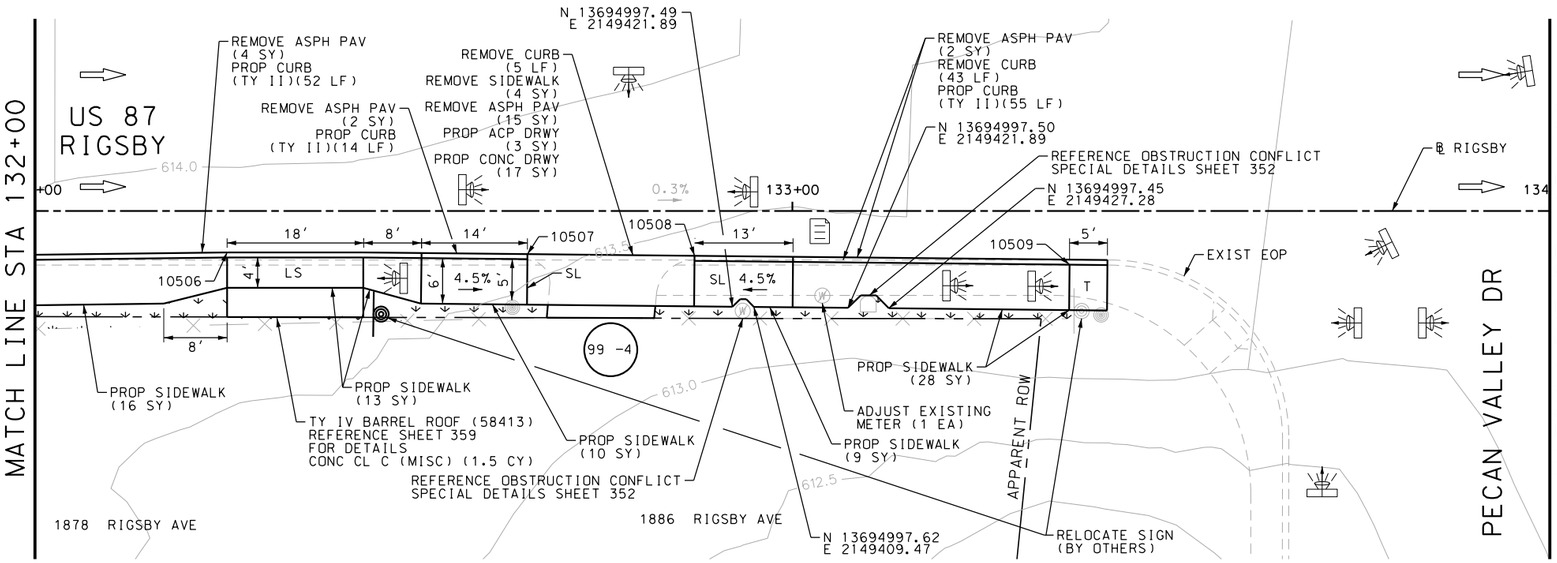
SHEET 1 OF 23

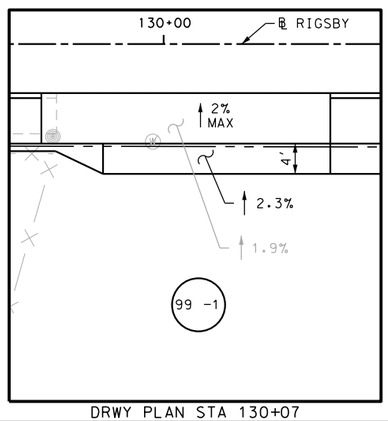
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 98 |

Plotted on: 4/1/2019

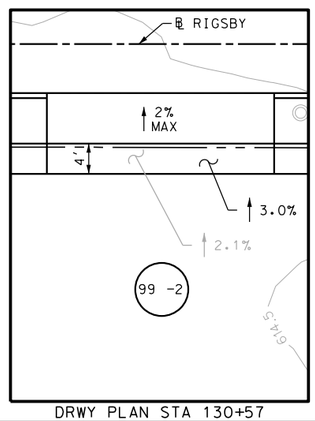
Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\1113507*Rigsby*07.dgn



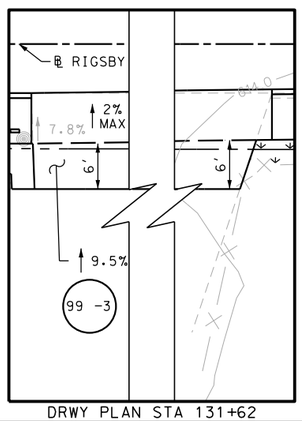



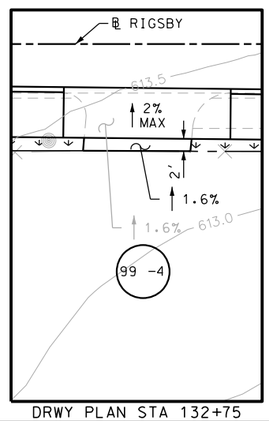

DRWY PLAN STA 130+07




DRWY PLAN STA 130+57




DRWY PLAN STA 131+62




DRWY PLAN STA 132+75

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 56 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 95 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 4 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 137 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 35 |
| 0162-6002 | BLOCK SODDING | SY | 35 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.55 |
| 0420-6074 | CL C CONC (MISC) | CY | 1.5 |
| 0529-6001 | CONC CURB (TY I) | LF | 20 |
| 0529-6002 | CONC CURB (TY II) | LF | 208 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 115 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 68 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 147 |
| 0658-6050 | INSTL OM ASSM (OM-2Z)(FLX)SRF | EA | 1 |
| 0658-6060 | REMOVE DELIN & OBJECT MARKER ASSMS | EA | 1 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 3 |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE EB

# SIDEWALK CONSTRUCTION PLAN
STA 130+00 TO STA 134+00

SHEET 2 OF 23

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 99 |

SEE SHEET 100 FOR POINT TABLE

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\1113507*Rigsby*08.dgn

SEE SHEET 99

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 10501 | 13695003.72 | 2149136.55 | -- | ME |
| 10502 | 13695003.72 | 2149156.55 | -- | ME |
| 10503 | 13695003.73 | 2149186.55 | -- | ME |
| 10504 | 13695003.76 | 2149255.29 | -- | ME |
| 10505 | 13695004.27 | 2149297.22 | -- | ME |
| 10506 | 13695004.79 | 2149339.92 | -- | ME |
| 10507 | 13695004.58 | 2149379.58 | -- | ME |
| 10508 | 13695004.36 | 2149401.64 | -- | ME |
| 10509 | 13695003.21 | 2149451.15 | -- | ME |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\1113507*Rigsby*08a.dgn

DESIGN

INTERIM REVIEW
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

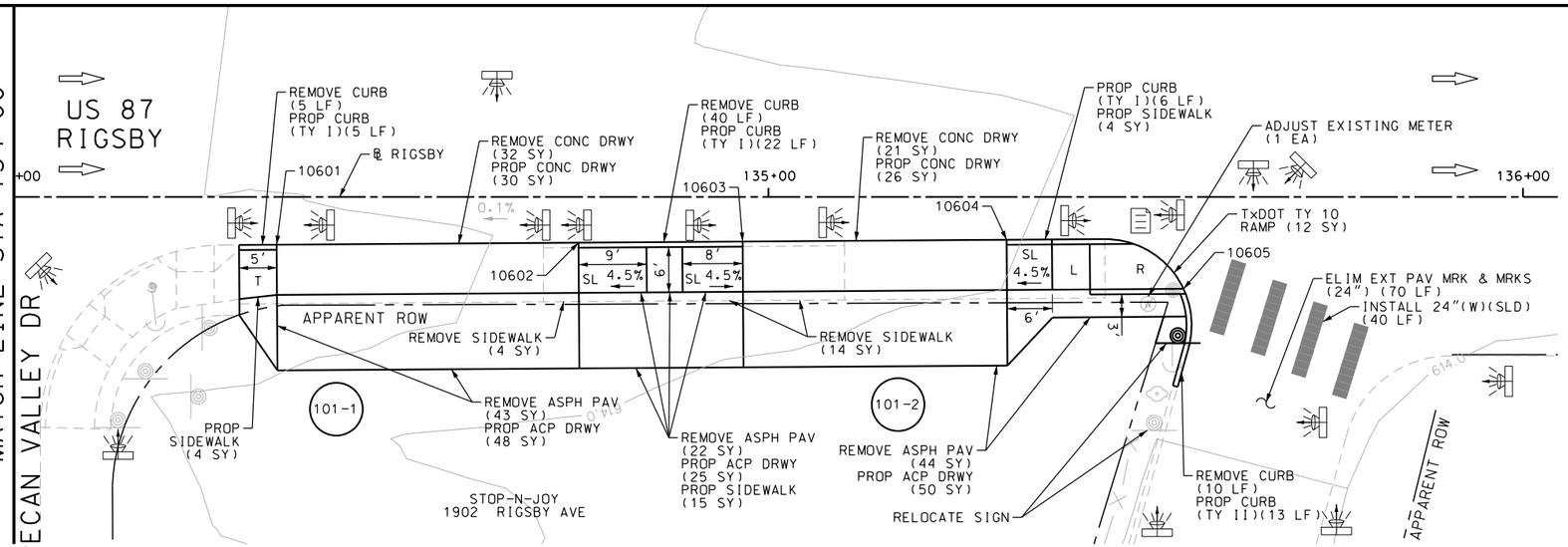


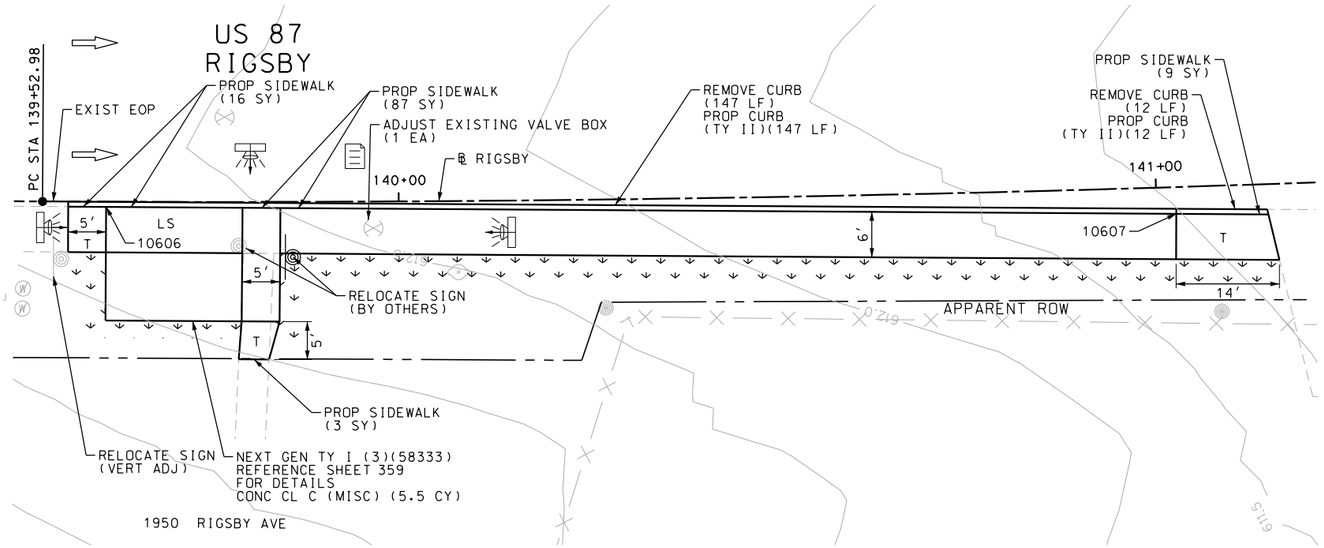
US 87
RIGSBY AVE EB

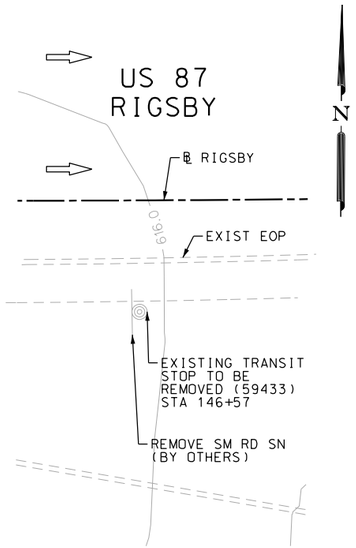
# SIDEWALK CONSTRUCTION PLAN
STA 130+00 TO STA 134+00
POINT TABLES



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 100 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 53 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 214 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 18 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 109 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 61 |
| 0162-6002 | BLOCK SODDING | SY | 61 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.95 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0529-6001 | CONC CURB (TY I) | LF | 33 |
| 0529-6002 | CONC CURB (TY II) | LF | 172 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 56 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 123 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 136 |
| 0531-6027 | CURB RAMPS (TY 10) | SY | 12 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 2 |
| 0666-6048 | REFL PAV MRK TY I (W)24"(SLD)(100MIL) | LF | 40 |
| 0666-6230 | PAVEMENT SEALER 24" | LF | 40 |
| 0677-6007 | ELIM EXT PAV MRK & MRKS (24") | LF | 70 |
| 0678-6008 | PAV SURF PREP FOR MRK (24") | LF | 40 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

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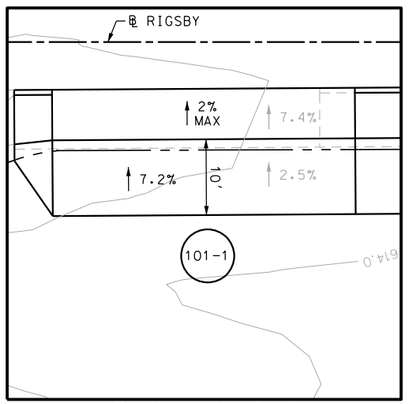
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

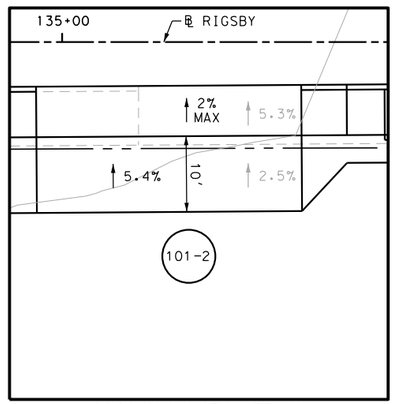
INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 10601 | 13695004.03 | 2149549.38 | -- | ME |
| 10602 | 13695004.31 | 2149589.38 | -- | ME |
| 10603 | 13695004.47 | 2149611.13 | -- | ME |
| 10604 | 13695004.72 | 2149646.13 | -- | ME |
| 10605 | 13694998.22 | 2149669.57 | -- | ME |
| 10606 | 13695010.54 | 2150075.94 | -- | ME |
| 10607 | 13695009.82 | 2150217.24 | -- | ME |



DRWY PLAN STA 134+55



DRWY PLAN STA 135+18

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



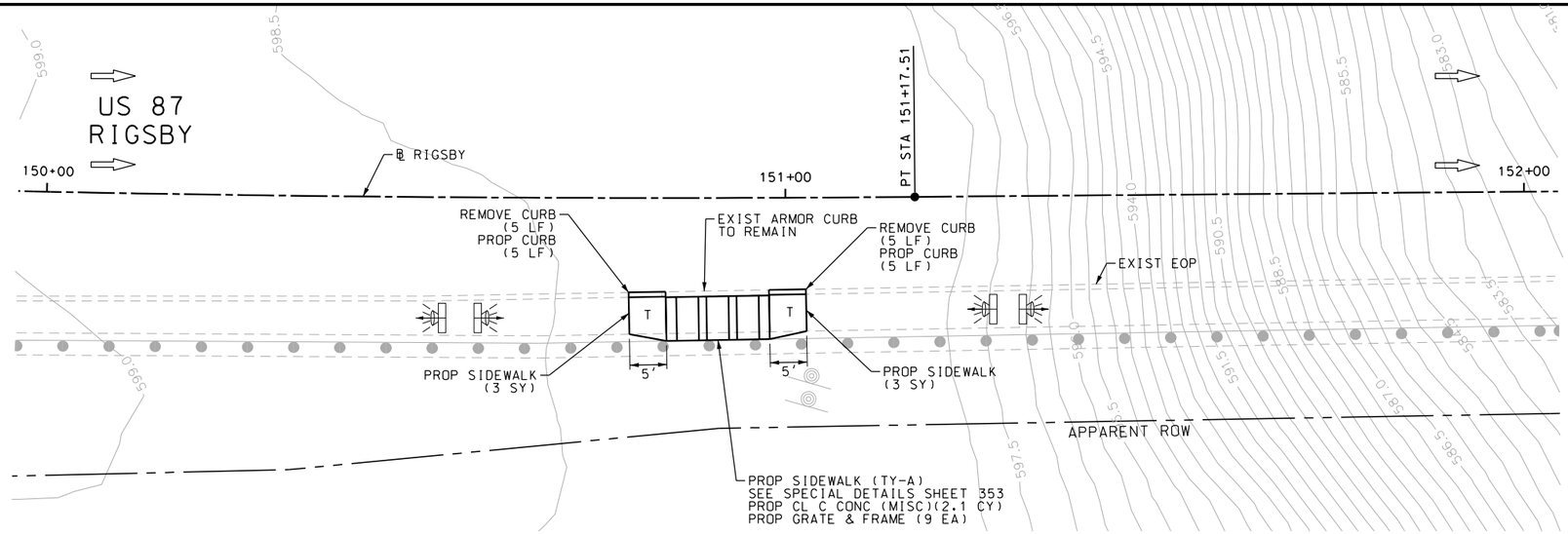
US 87
RIGSBY AVE EB

# SIDEWALK CONSTRUCTION PLAN
STA 134+00 TO STA 147+00

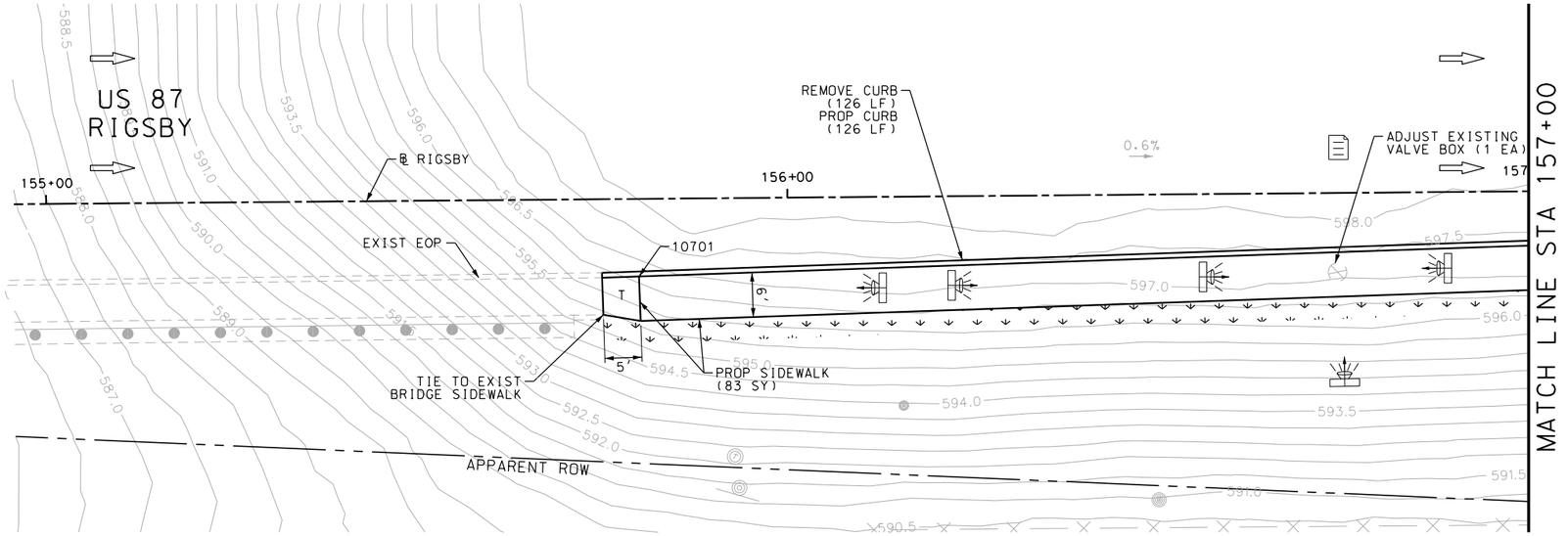
SHEET 4 OF 23

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 101 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\1113507*Rigsby*09.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 136 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 42 |
| 0162-6002 | BLOCK SODDING | SY | 42 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.66 |
| 0420-6074 | CL C CONC (MISC) | CY | 2.1 |
| 0471-6003 | GRATE & FRAME | EA | 9 |
| 0529-6002 | CONC CURB (TY II) | LF | 136 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 89 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |




| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 10701 | 13695298.91 | 2151662.27 | -- | ME |

NOTES:
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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE EB

# SIDEWALK CONSTRUCTION PLAN

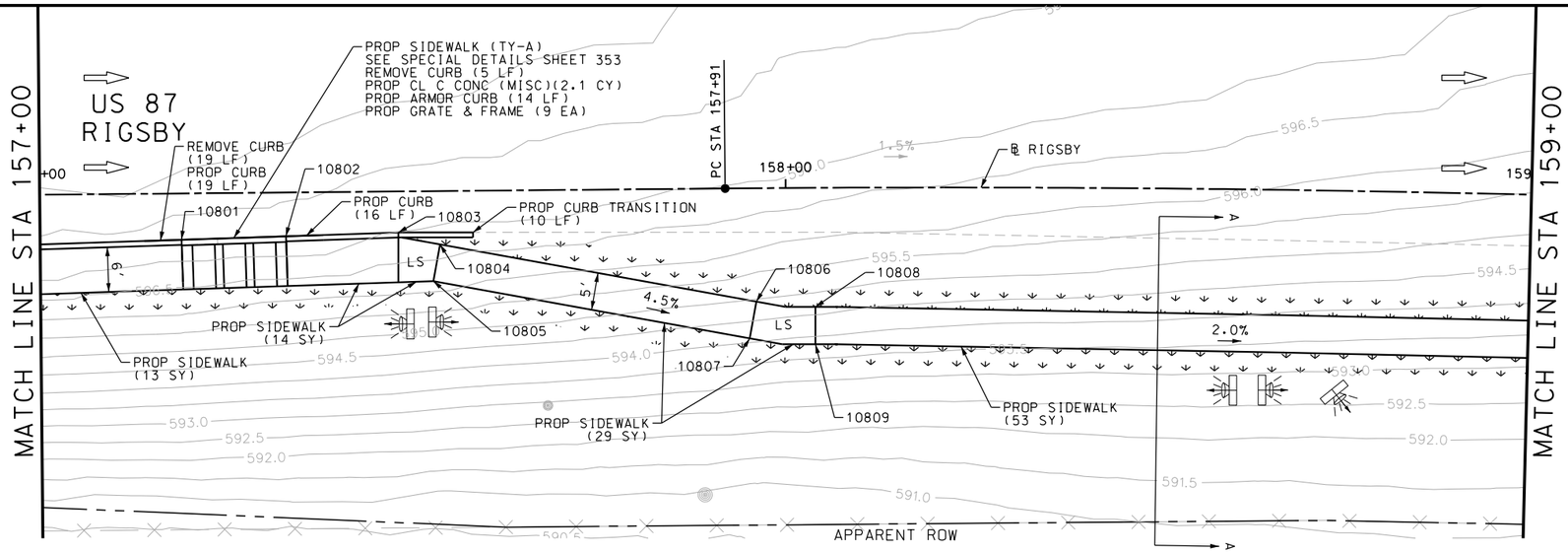
STA 150+00 TO STA 157+00

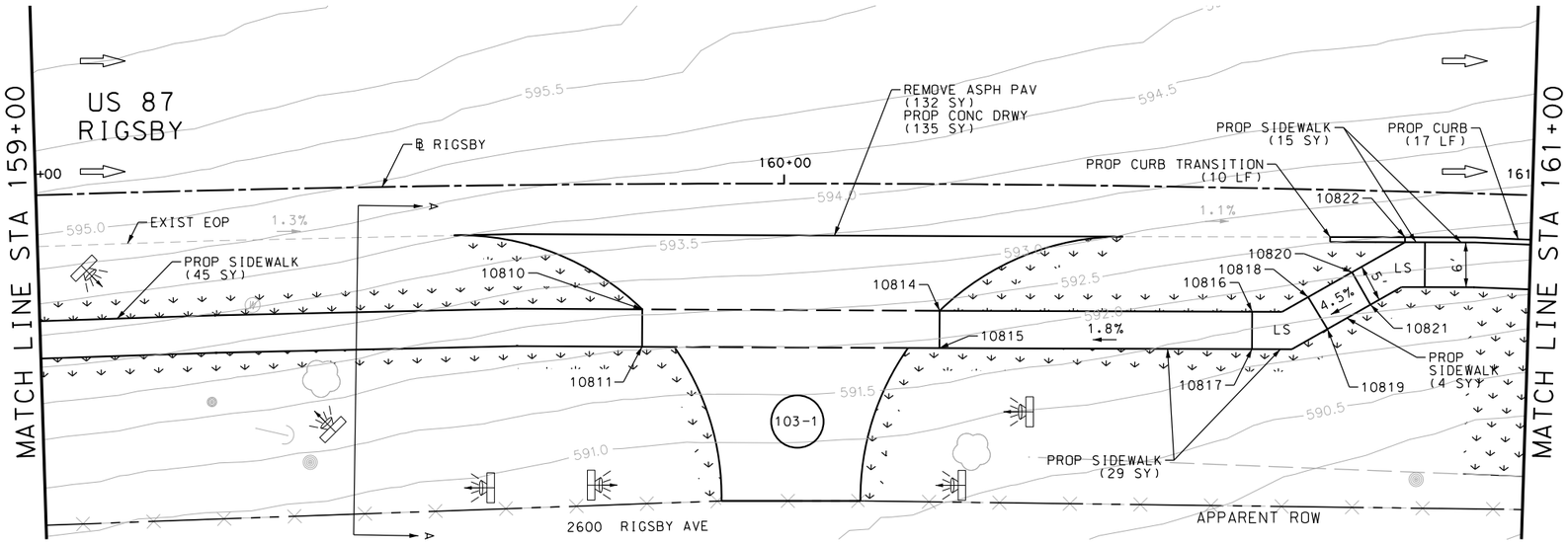
SHEET 5 OF 23

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 102 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\1113507*Rigsby*10.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 24 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 132 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 35 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 254 |
| 0162-6002 | BLOCK SODDING | SY | 254 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.96 |
| 0420-6074 | CL C CONC (MISC) | CY | 2.1 |
| 0471-6003 | GRATE & FRAME | EA | 9 |
| 0529-6002 | CONC CURB (TY II) | LF | 72 |
| 0529-6020 | CONC CURB & GUTTER (ARMOR CURB) | LF | 14 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 135 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 202 |

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
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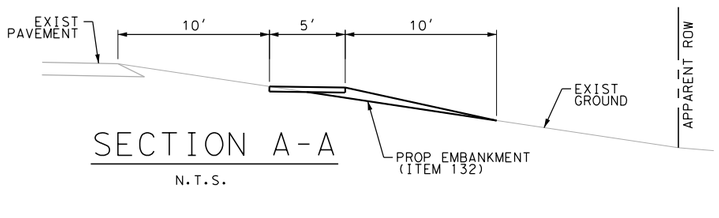
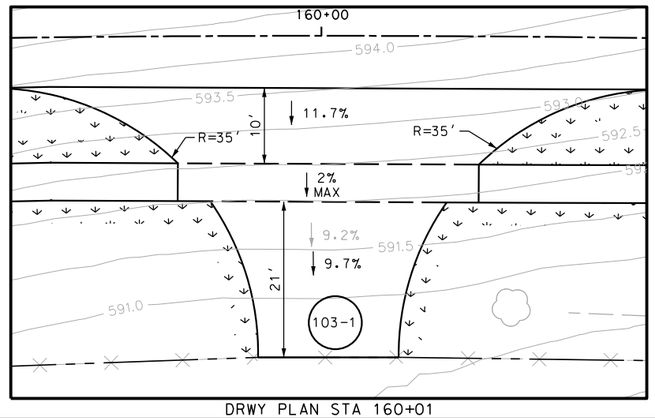
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 10801 | 13695342.55 | 2151794.38 | -- | ME |
| 10802 | 13695346.85 | 2151807.70 | -- | ME |
| 10803 | 13695351.48 | 2151822.01 | -- | ME |
| 10804 | 13695351.50 | 2151827.85 | -- | ME |
| 10805 | 13695346.52 | 2151828.35 | -- | ME |
| 10806 | 13695355.82 | 2151870.72 | -- | ME |
| 10807 | 13695350.84 | 2151871.22 | -- | ME |
| 10808 | 13695357.32 | 2151878.54 | -- | ME |
| 10809 | 13695352.52 | 2151879.92 | -- | ME |
| 10810 | 13695401.28 | 2152049.08 | -- | ME |
| 10811 | 13695396.40 | 2152050.16 | -- | ME |
| 10814 | 13695409.90 | 2152087.88 | -- | ME |
| 10815 | 13695405.02 | 2152088.96 | -- | ME |
| 10816 | 13695419.03 | 2152128.61 | -- | ME |
| 10817 | 13695414.15 | 2152129.71 | -- | ME |
| 10818 | 13695422.59 | 2152135.47 | -- | ME |
| 10819 | 13695419.00 | 2152138.95 | -- | ME |
| 10820 | 13695427.13 | 2152140.47 | -- | ME |
| 10821 | 13695423.43 | 2152143.83 | -- | ME |
| 10822 | 13695433.25 | 2152146.33 | -- | ME |




SECTION A-A
N.T.S.




DRWY PLAN STA 160+01

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE EB

# SIDEWALK CONSTRUCTION PLAN

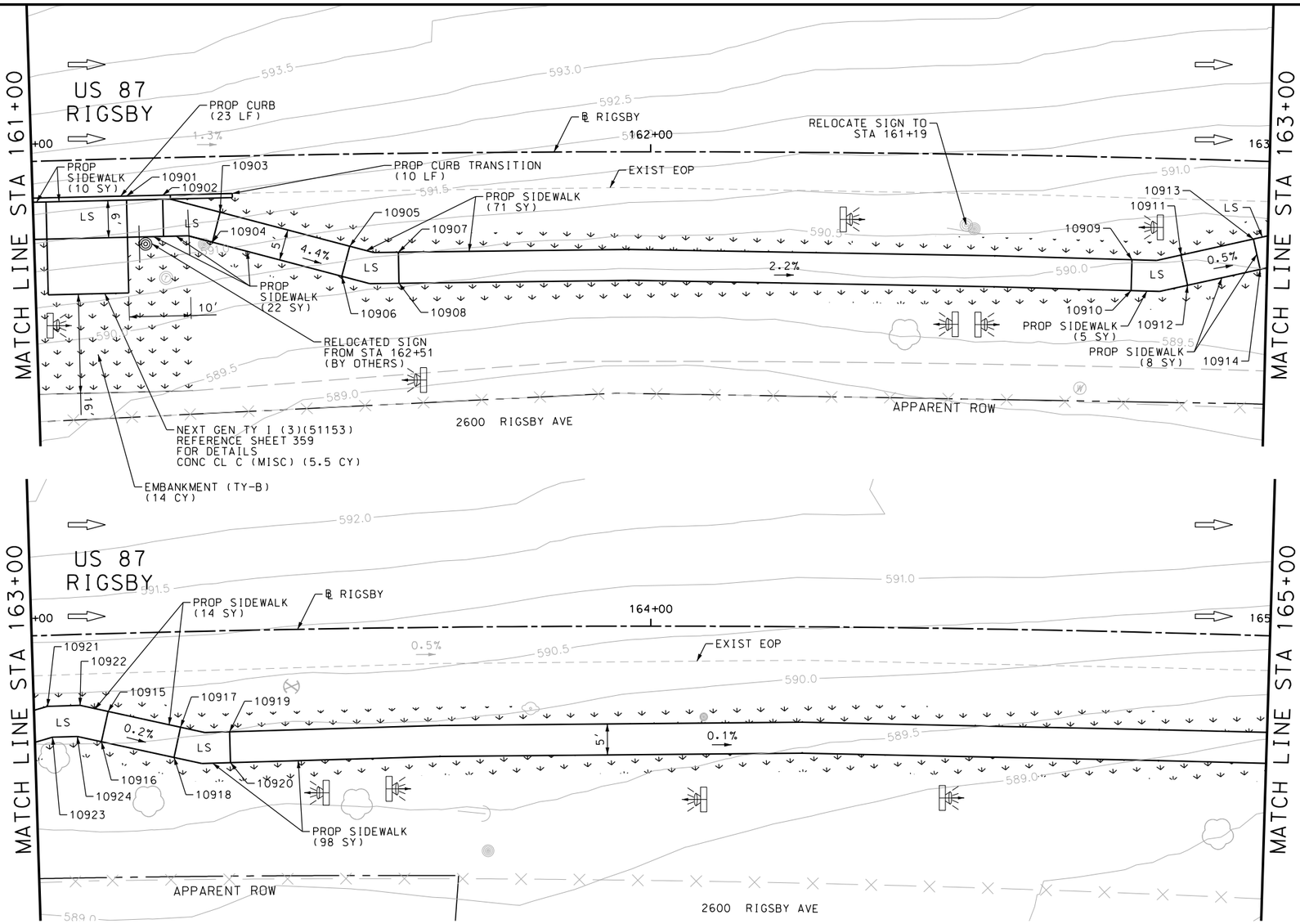
STA 157+00 TO STA 161+00

SHEET 6 OF 23

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 103 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\1113507*Rigsby*11.dgn







| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 14 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 325 |
| 0162-6002 | BLOCK SODDING | SY | 325 |
| 0168-6001 | VEGETATIVE WATERING | MG | 5.07 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0529-6002 | CONC CURB (TY II) | LF | 33 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 228 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 10901 | 13695439.45 | 2152177.70 | -- | ME |
| 10902 | 13695440.52 | 2152183.44 | -- | ME |
| 10903 | 13695439.29 | 2152193.06 | -- | ME |
| 10904 | 13695434.31 | 2152192.58 | -- | ME |
| 10905 | 13695437.21 | 2152214.59 | -- | ME |
| 10906 | 13695432.23 | 2152214.11 | -- | ME |
| 10907 | 13695437.51 | 2152222.51 | -- | ME |
| 10908 | 13695432.59 | 2152223.37 | -- | ME |
| 10909 | 13695455.30 | 2152339.62 | -- | ME |
| 10910 | 13695450.34 | 2152340.28 | -- | ME |
| 10911 | 13695457.30 | 2152347.30 | -- | ME |
| 10912 | 13695452.65 | 2152349.14 | -- | ME |
| 10913 | 13695461.72 | 2152358.46 | -- | ME |
| 10914 | 13695457.08 | 2152360.30 | -- | ME |
| 10915 | 13695463.58 | 2152372.53 | -- | ME |
| 10916 | 13695458.62 | 2152371.95 | -- | ME |
| 10917 | 13695462.20 | 2152384.45 | -- | ME |
| 10918 | 13695457.23 | 2152383.87 | -- | ME |
| 10919 | 13695462.24 | 2152392.39 | -- | ME |
| 10920 | 13695457.28 | 2152393.03 | -- | ME |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 10921 | 13695463.43 | 2152362.75 | -- | ME |
| 10922 | 13695464.12 | 2152367.94 | -- | ME |
| 10923 | 13695463.43 | 2152362.75 | -- | ME |
| 10924 | 13695459.08 | 2152367.98 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE EB

# SIDEWALK CONSTRUCTION PLAN

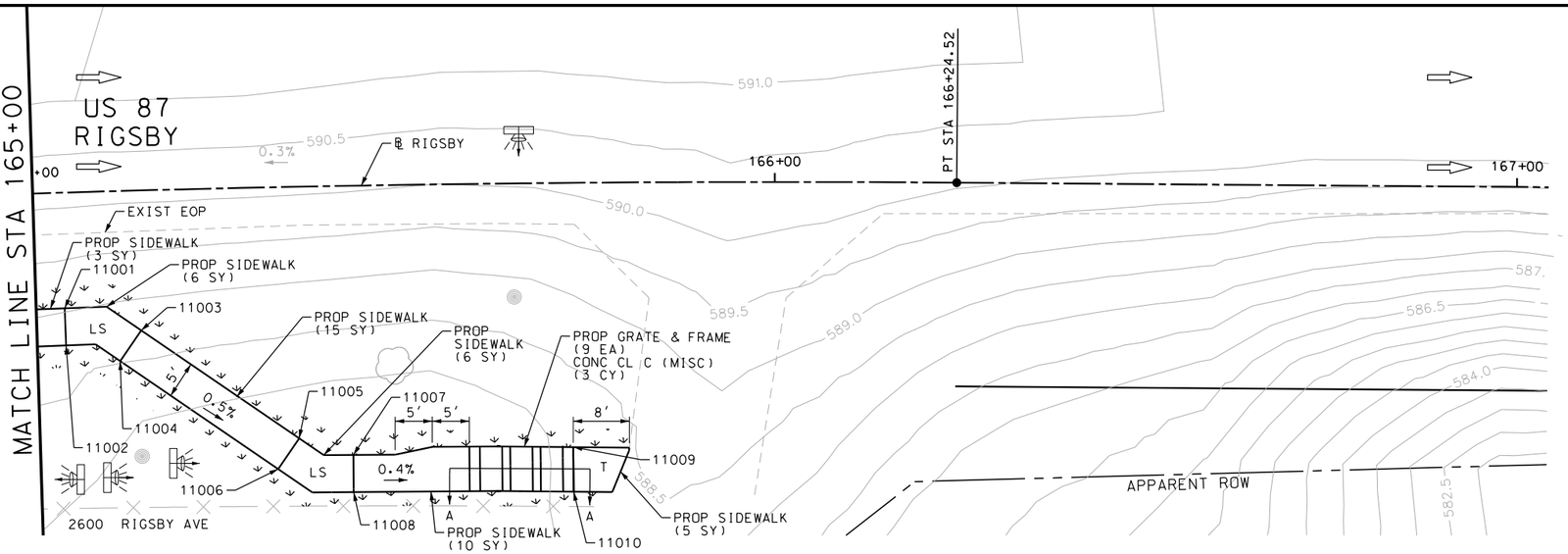
STA 161+00 TO STA 165+00

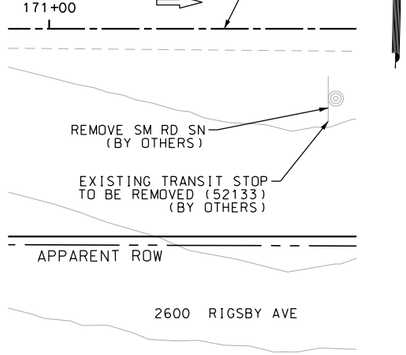
SHEET 7 OF 23

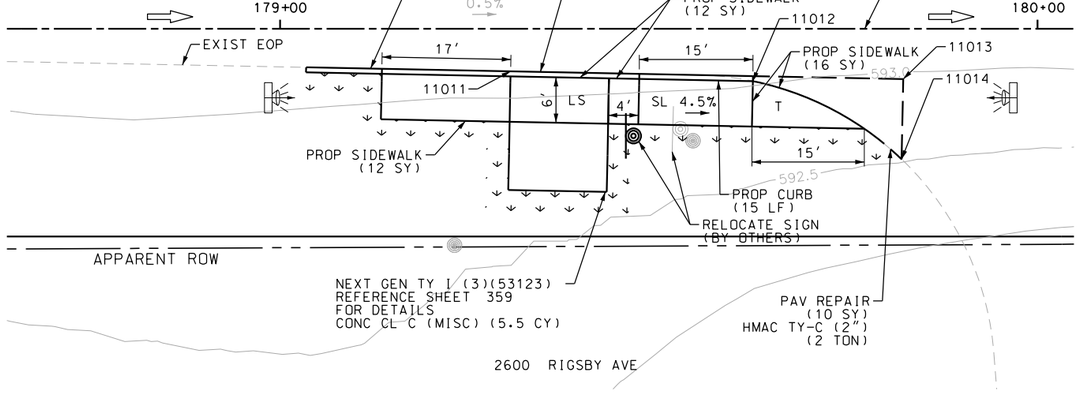
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 104 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\1113507*Rigsby*12.dgn



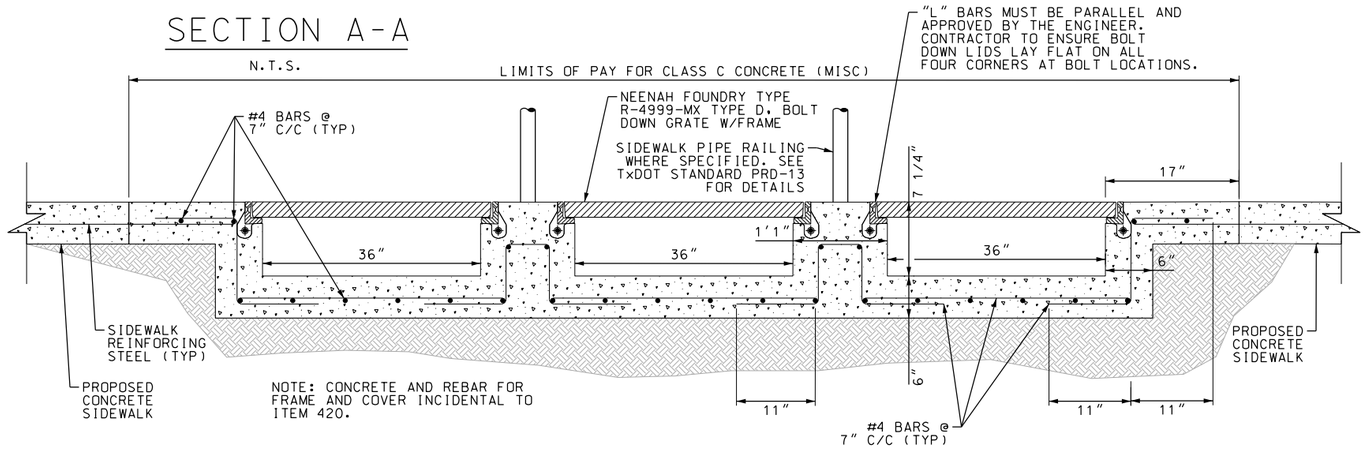




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 86 |
| 0162-6002 | BLOCK SODDING | SY | 86 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.34 |
| 0340-6066 | D-GR HMA(SQ) TY-C PG76-22 | TON | 2.0 |
| 0351-6028 | FLEX PAVE STRUCTURE REPAIR (8"-10") | SY | 10 |
| 0420-6074 | CL C CONC (MISC) | CY | 8.5 |
| 0471-6003 | GRATE & FRAME | EA | 9 |
| 0529-6002 | CONC CURB (TY II) | LF | 59 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 85 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 11001 | 13695478.85 | 2152562.94 | -- | ME |
| 11002 | 13695473.87 | 2152563.30 | -- | ME |
| 11003 | 13695476.25 | 2152573.34 | -- | ME |
| 11004 | 13695472.02 | 2152570.67 | -- | ME |
| 11005 | 13695462.49 | 2152595.13 | -- | ME |
| 11006 | 13695458.26 | 2152592.46 | -- | ME |
| 11007 | 13695460.53 | 2152602.51 | -- | ME |
| 11008 | 13695455.53 | 2152602.73 | -- | ME |
| 11009 | 13695462.63 | 2152632.08 | -- | ME |
| 11010 | 13695456.64 | 2152632.34 | -- | ME |
| 11011 | 13695531.18 | 2153987.98 | -- | ME |
| 11012 | 13695530.79 | 2154019.99 | -- | ME |
| 11013 | 13695531.63 | 2154039.82 | -- | ME |
| 11014 | 13695521.04 | 2154039.91 | -- | ME |

## SECTION A-A

N.T.S.




NOTE: CONCRETE AND REBAR FOR FRAME AND COVER INCIDENTAL TO ITEM 420.

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE EB

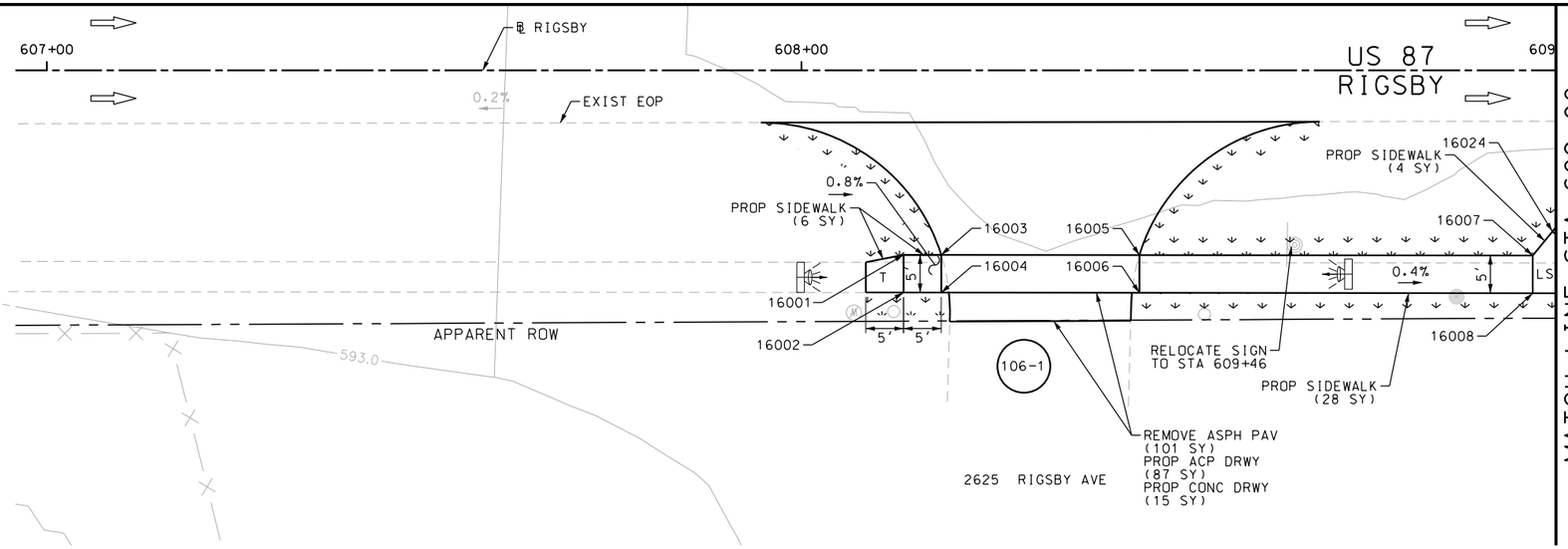
# SIDEWALK CONSTRUCTION PLAN
STA 165+00 TO STA 180+00

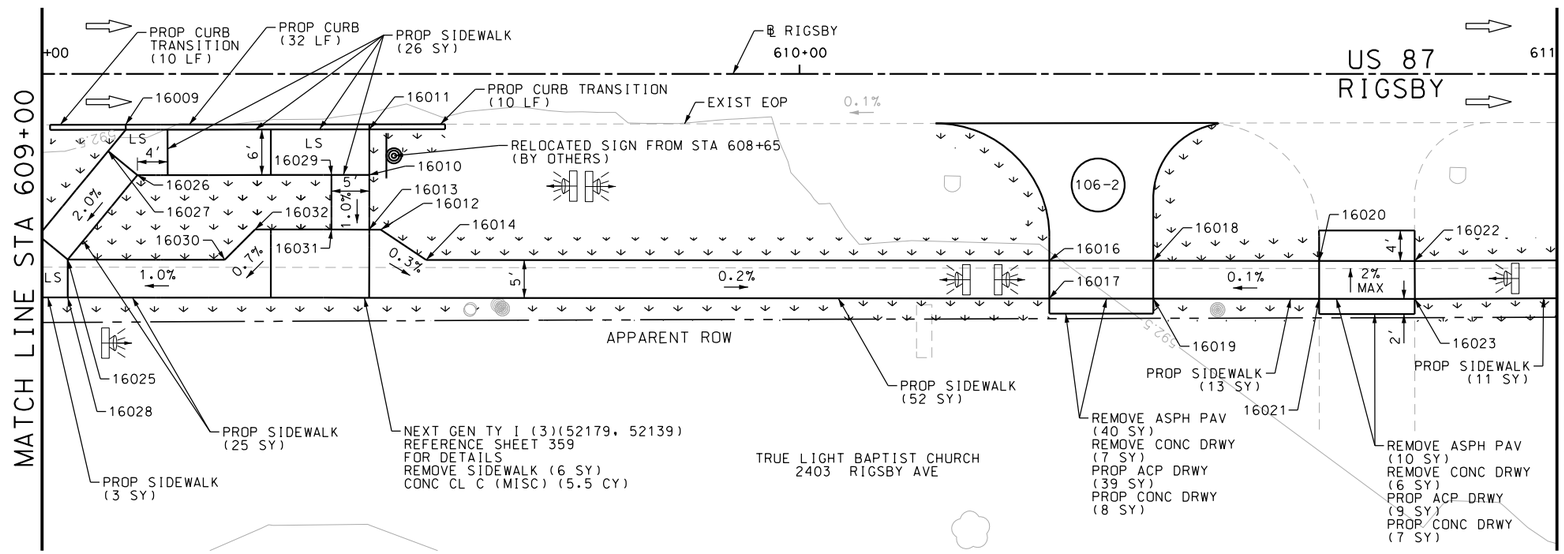
SHEET 8 OF 23

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 105 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\1113507*Rigsby*13.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 13 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 6 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 151 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 268 |
| 0162-6002 | BLOCK SODDING | SY | 268 |
| 0168-6001 | VEGETATIVE WATERING | MG | 4.18 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0529-6002 | CONC CURB (TY II) | LF | 52 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 30 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 135 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 168 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE WB

# SIDEWALK CONSTRUCTION PLAN

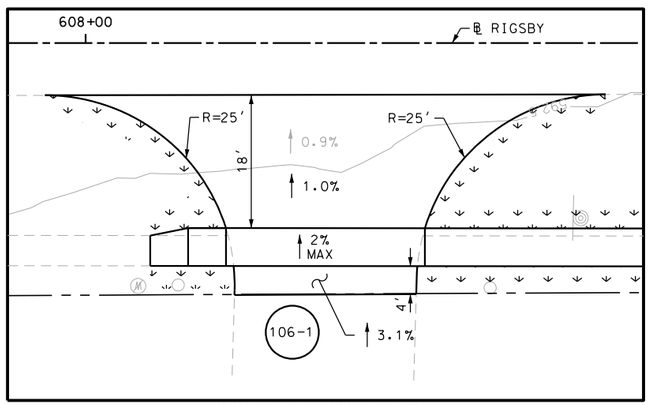
STA 607+00 TO STA 611+00

SHEET 9 OF 23

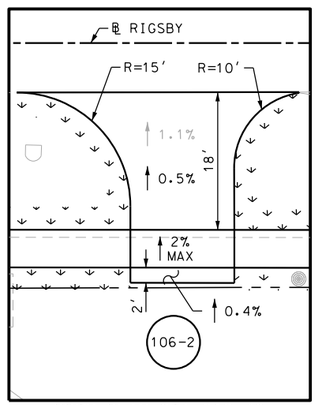
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 106 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 16001 | 13695590.27 | 2153714.43 | -- | ME |
| 16002 | 13695595.27 | 2153714.28 | -- | ME |
| 16003 | 13695590.14 | 2153709.43 | -- | ME |
| 16004 | 13695595.14 | 2153709.28 | -- | ME |
| 16005 | 13695589.43 | 2153683.17 | -- | ME |
| 16006 | 13695594.42 | 2153683.03 | -- | ME |
| 16007 | 13695588.01 | 2153631.07 | -- | ME |
| 16008 | 13695593.01 | 2153630.92 | -- | ME |
| 16009 | 13695570.49 | 2153617.43 | -- | ME |
| 16010 | 13695575.53 | 2153585.11 | -- | ME |
| 16011 | 13695569.54 | 2153585.27 | -- | ME |
| 16012 | 13695582.72 | 2153583.41 | -- | ME |
| 16013 | 13695582.76 | 2153584.92 | -- | ME |
| 16014 | 13695586.56 | 2153577.29 | -- | ME |
| 16016 | 13695584.32 | 2153495.05 | -- | ME |
| 16017 | 13695589.32 | 2153494.92 | -- | ME |
| 16018 | 13695583.95 | 2153481.33 | -- | ME |
| 16019 | 13695588.95 | 2153481.19 | -- | ME |
| 16020 | 13695583.36 | 2153459.45 | -- | ME |
| 16021 | 13695588.36 | 2153459.31 | -- | ME |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 16022 | 13695583.02 | 2153446.84 | -- | ME |
| 16023 | 13695588.02 | 2153446.67 | -- | ME |
| 16024 | 13695584.77 | 2153628.54 | -- | ME |
| 16025 | 13695587.84 | 2153624.59 | -- | ME |
| 16026 | 13695576.44 | 2153615.73 | -- | ME |
| 16027 | 13695573.37 | 2153619.67 | -- | ME |
| 16029 | 13695575.68 | 2153590.11 | -- | ME |
| 16030 | 13695587.27 | 2153603.87 | -- | ME |
| 16031 | 13695582.89 | 2153589.91 | -- | ME |
| 16032 | 13695583.17 | 2153599.98 | -- | ME |



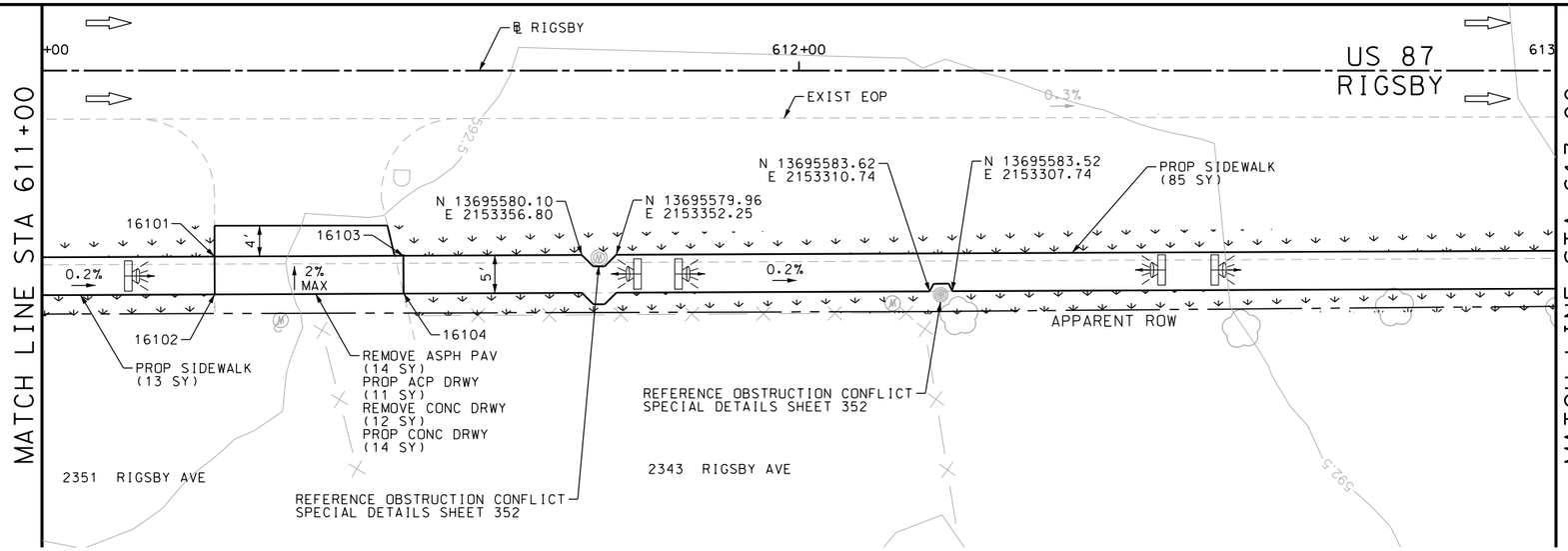

DRWY PLAN STA 608+32

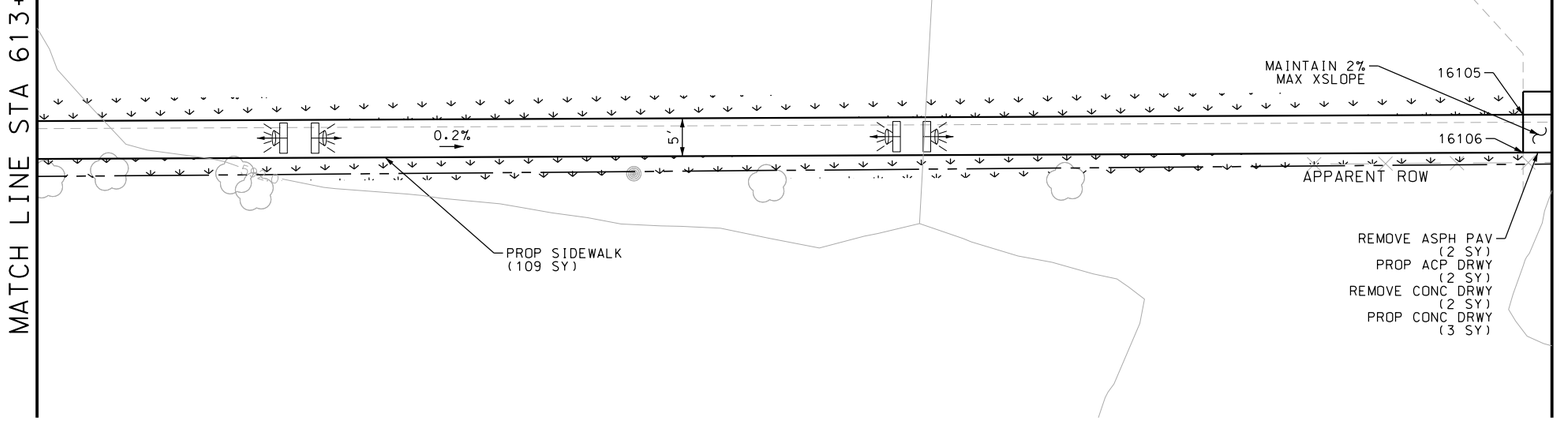



DRWY PLAN STA 610+40

Plotted on: 4/1/2019

Design Filename: P:\111\3507\design\Civil\Roadway\Rigsby\111507*Rigsby*63.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 14 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 16 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 243 |
| 0162-6002 | BLOCK SODDING | SY | 243 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.79 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 17 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 13 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 207 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 16101 | 13695581.67 | 2153405.29 | -- | ME |
| 16102 | 13695586.67 | 2153405.13 | -- | ME |
| 16103 | 13695580.87 | 2153380.35 | -- | ME |
| 16104 | 13695585.86 | 2153380.19 | -- | ME |
| 16105 | 13695569.60 | 2153032.08 | -- | ME |
| 16106 | 13695574.60 | 2153031.92 | -- | ME |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



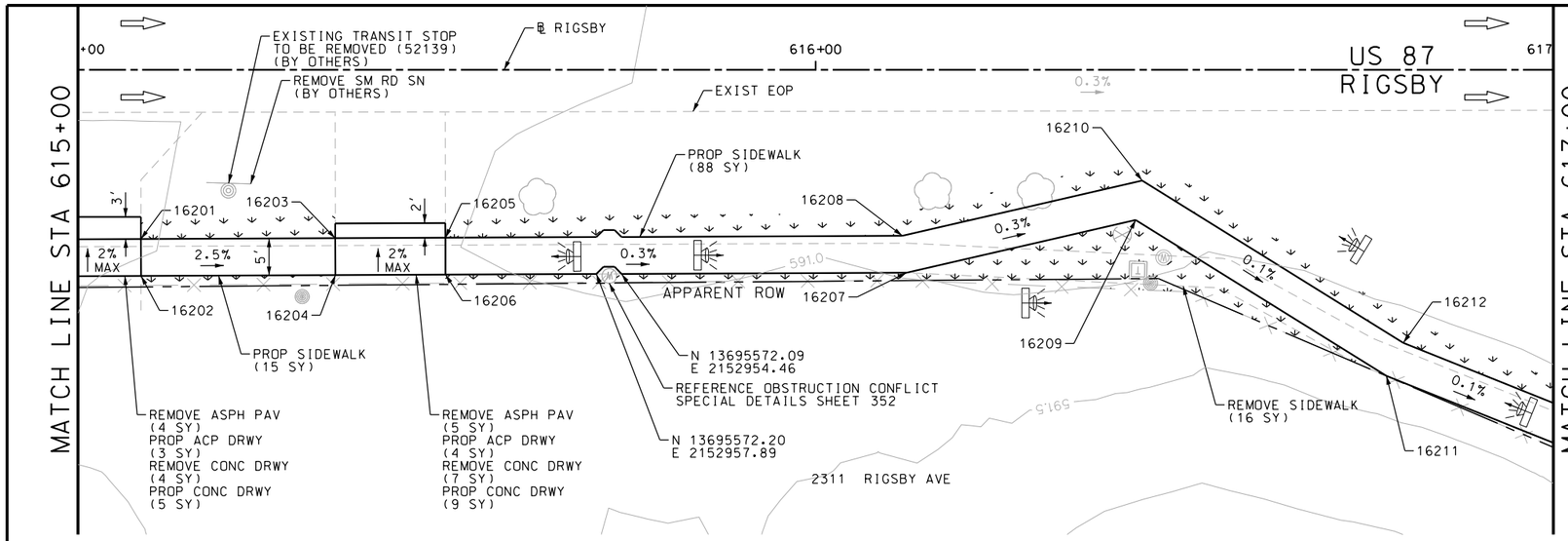
US 87
RIGSBY AVE WB

# SIDEWALK CONSTRUCTION PLAN
STA 611+00 TO STA 615+00

SHEET 10 OF 23

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 107 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\111507*Rigsby*64.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 11 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 28 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 9 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 199 |
| 0162-6002 | BLOCK SODDING | SY | 199 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.10 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 14 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 7 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 184 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE WB

# SIDEWALK CONSTRUCTION PLAN
STA 615+00 TO STA 619+00

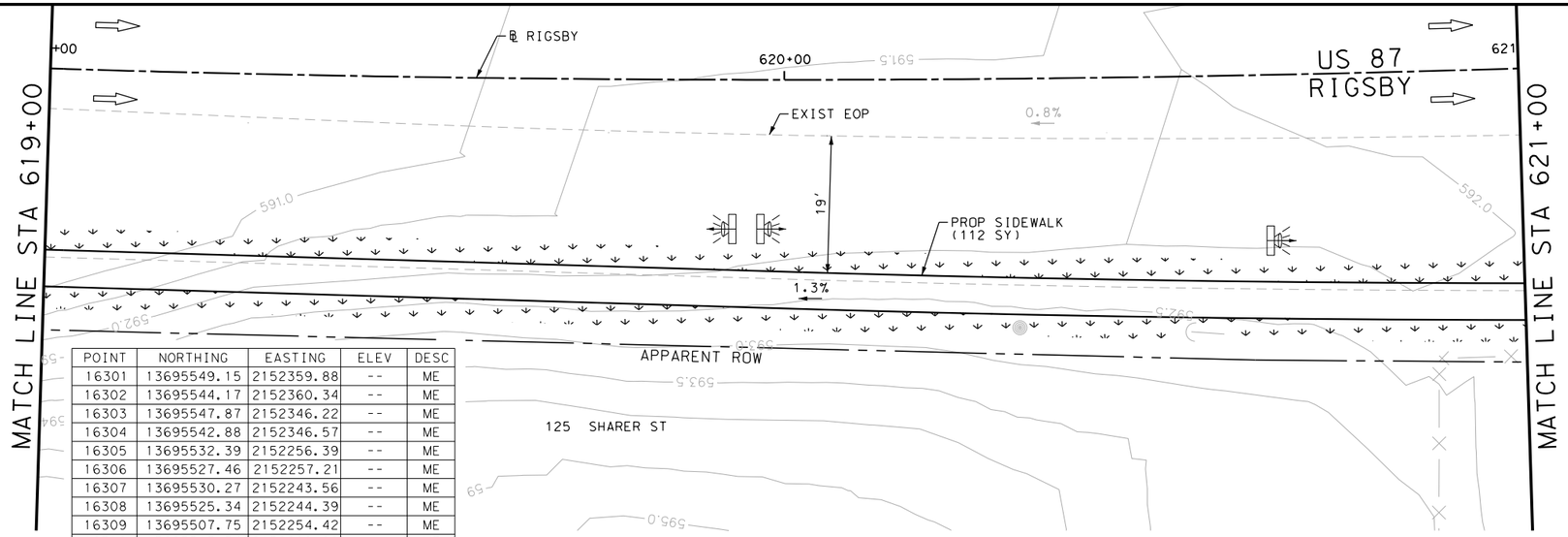
SHEET 11 OF 23

| | | | | | | |
|---|---|---|---|---|---|---|
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 108 |

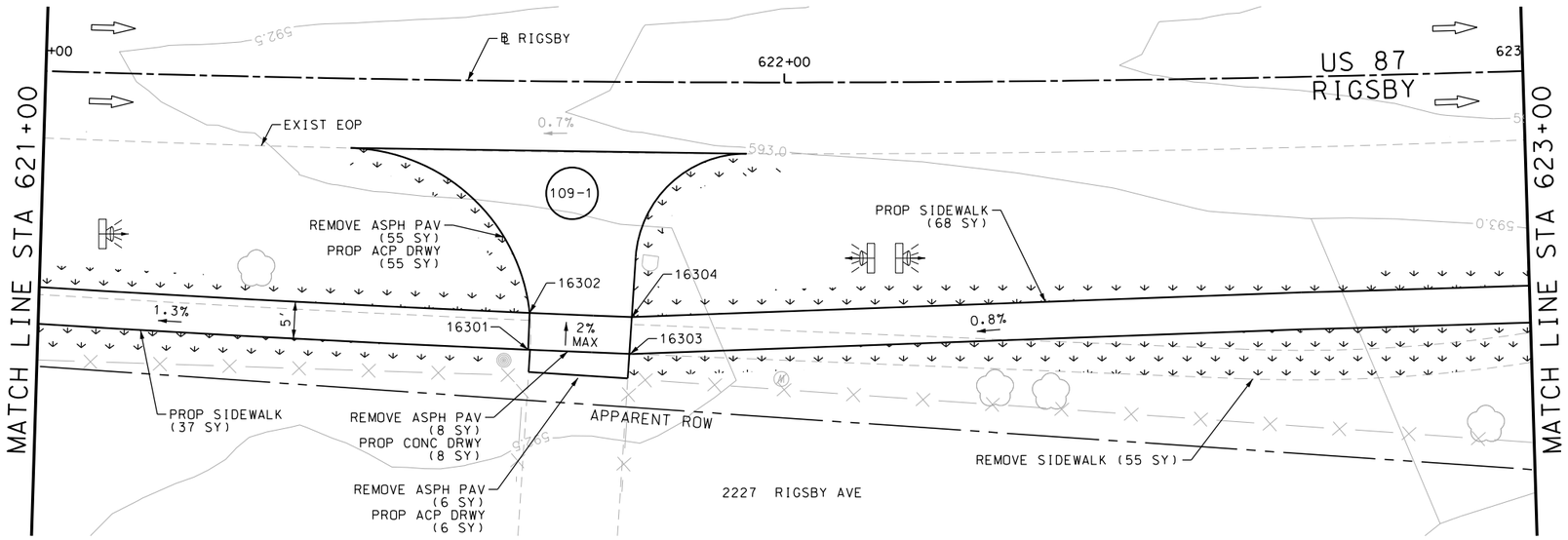
| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 16201 | 13695569.20 | 2153019.74 | -- | ME |
| 16202 | 13695574.20 | 2153019.58 | -- | ME |
| 16203 | 13695568.35 | 2152993.42 | -- | ME |
| 16204 | 13695573.34 | 2152993.26 | -- | ME |
| 16205 | 13695567.86 | 2152978.49 | -- | ME |
| 16206 | 13695572.86 | 2152978.33 | -- | ME |
| 16207 | 13695570.84 | 2152915.85 | -- | ME |
| 16208 | 13695565.86 | 2152916.57 | -- | ME |
| 16209 | 13695557.46 | 2152884.28 | -- | ME |
| 16210 | 13695562.82 | 2152885.02 | -- | ME |
| 16211 | 13695582.97 | 2152850.42 | -- | ME |
| 16212 | 13695578.43 | 2152848.28 | -- | ME |
| 16213 | 13695599.76 | 2152804.94 | -- | ME |
| 16214 | 13695595.07 | 2152803.21 | -- | ME |
| 16215 | 13695586.22 | 2152737.43 | -- | ME |
| 16216 | 13695591.05 | 2152736.12 | -- | ME |
| 16217 | 13695561.46 | 2152655.77 | -- | ME |
| 16218 | 13695566.27 | 2152654.31 | -- | ME |
| 16219 | 13695560.61 | 2152650.61 | -- | ME |
| 16220 | 13695565.60 | 2152650.40 | -- | ME |

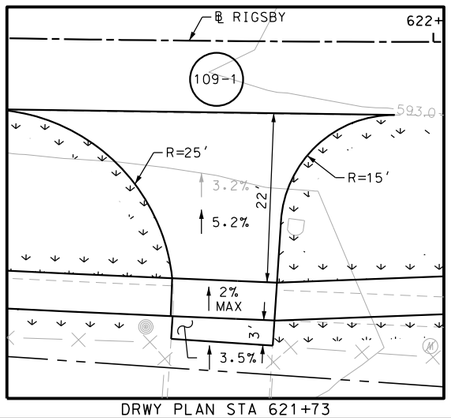
Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\111307*Rigsby*65.dgn




| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 16301 | 13695549.15 | 2152359.88 | -- | ME |
| 16302 | 13695544.17 | 2152360.34 | -- | ME |
| 16303 | 13695547.87 | 2152346.22 | -- | ME |
| 16304 | 13695542.88 | 2152346.57 | -- | ME |
| 16305 | 13695532.39 | 2152256.39 | -- | ME |
| 16306 | 13695527.46 | 2152257.21 | -- | ME |
| 16307 | 13695530.27 | 2152243.56 | -- | ME |
| 16308 | 13695525.34 | 2152244.39 | -- | ME |
| 16309 | 13695507.75 | 2152254.42 | -- | ME |
| 16310 | 13695513.34 | 2152289.99 | -- | ME |




DRWY PLAN STA 621+73

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 42 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 69 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 21 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 340 |
| 0162-6002 | BLOCK SODDING | SY | 340 |
| 0168-6001 | VEGETATIVE WATERING | MG | 5.30 |
| 0420-6074 | CL C CONC (MISC) | CY | 9.0 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 2 |
| 0471-6003 | GRATE & FRAME | EA | 9 |
| 0529-6002 | CONC CURB (TY II) | LF | 90 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 8 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 61 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 235 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE WB

# SIDEWALK CONSTRUCTION PLAN

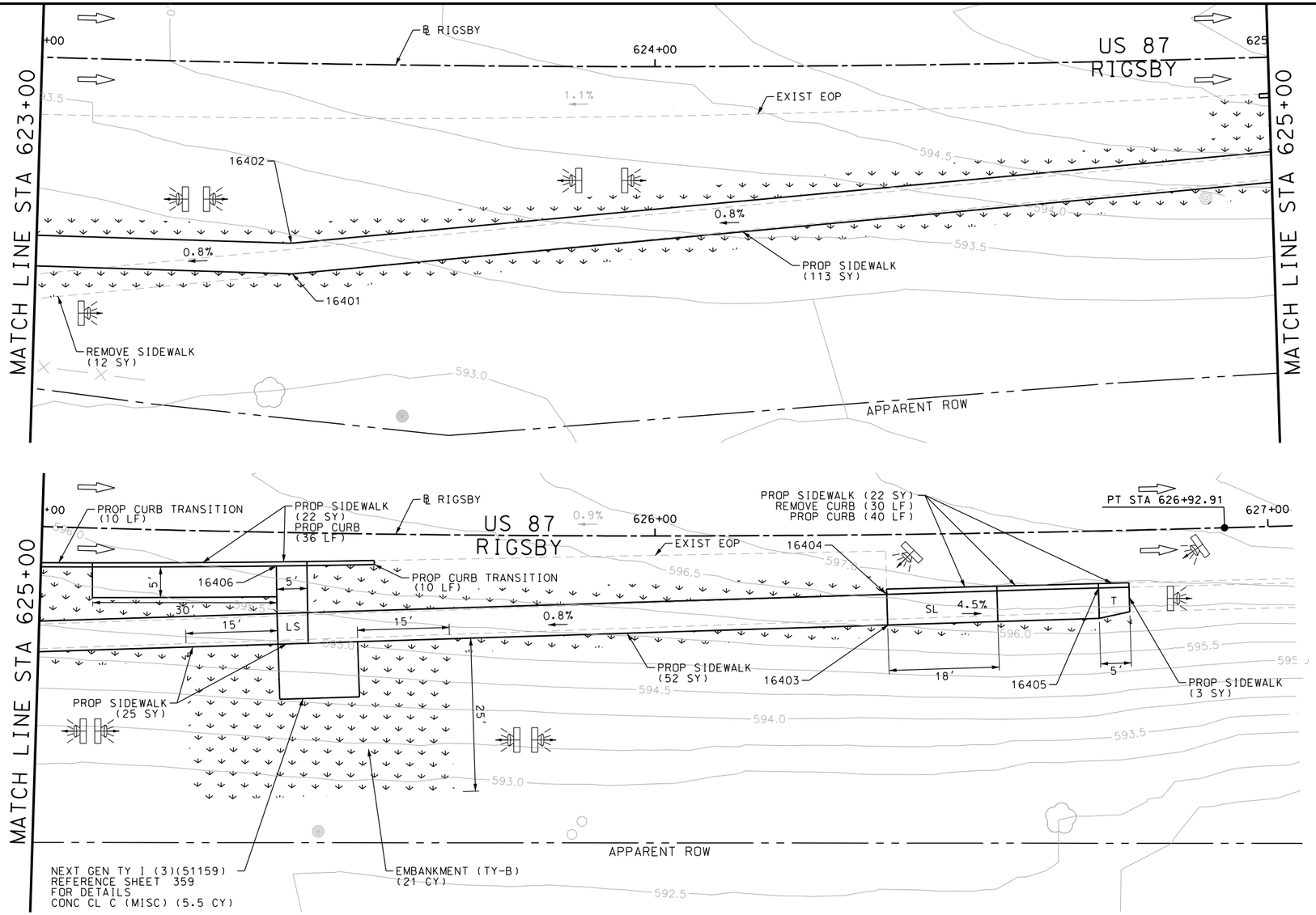
STA 619+00 TO STA 623+00

SHEET 12 OF 23

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 109 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\1113507*Rigsby*66.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 30 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 12 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 327 |
| 0162-6002 | BLOCK SODDING | SY | 327 |
| 0168-6001 | VEGETATIVE WATERING | MG | 5.10 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0529-6002 | CONC CURB (TY II) | LF | 96 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 237 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 16401 | 13695520.44 | 2152184.55 | -- | ME |
| 16402 | 13695515.56 | 2152185.68 | -- | ME |
| 16403 | 13695435.14 | 2151897.87 | -- | ME |
| 16404 | 13695430.35 | 2151899.30 | -- | ME |
| 16405 | 13695420.54 | 2151866.15 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



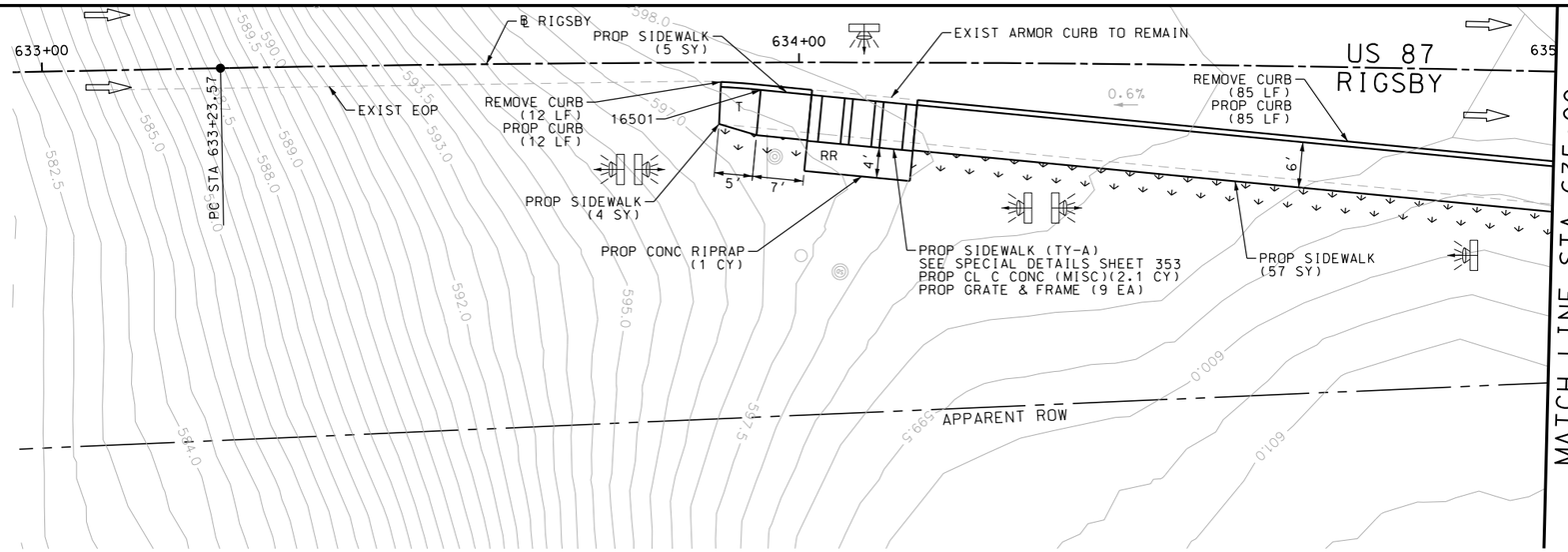
US 87
RIGSBY AVE WB

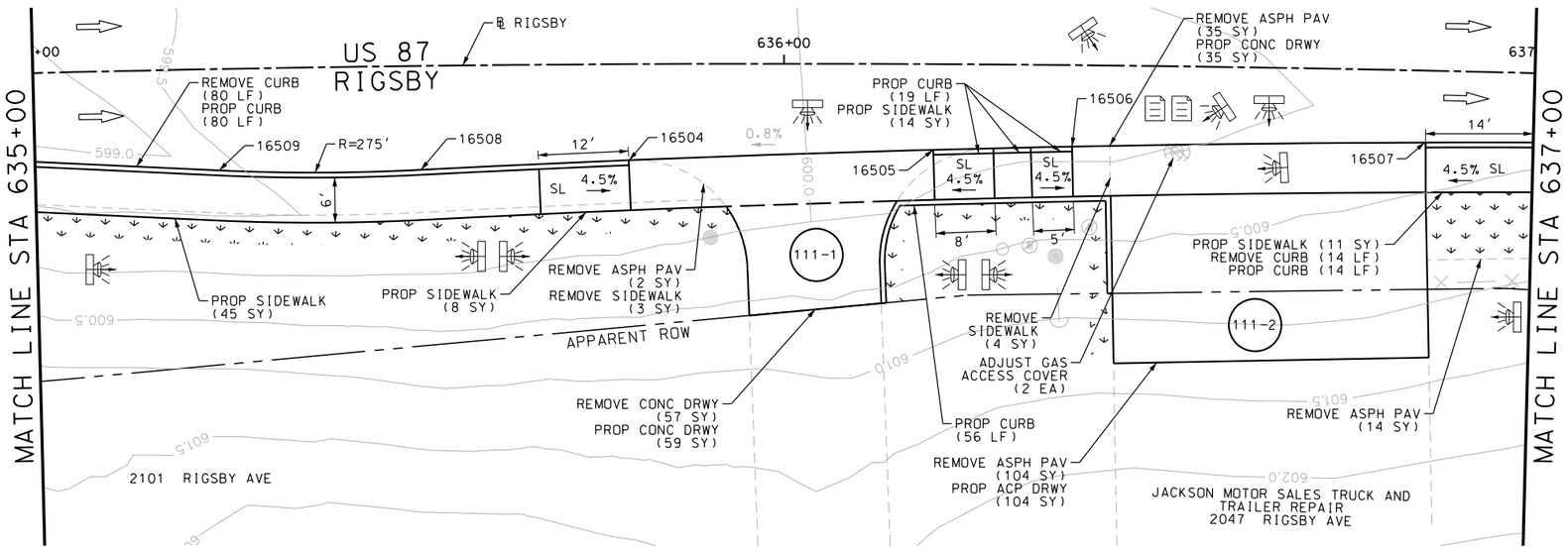
# SIDEWALK CONSTRUCTION PLAN
STA 623+00 TO STA 627+00

SHEET 13 OF 23

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 110 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\1113507*Rigsby*67.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 57 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 191 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 7 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 155 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 100 |
| 0162-6002 | BLOCK SODDING | SY | 100 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.56 |
| 0420-6074 | CL C CONC (MISC) | CY | 2.1 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 1 |
| 0471-6003 | GRATE & FRAME | EA | 9 |
| 0529-6002 | CONC CURB (TY II) | LF | 266 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 94 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 104 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 144 |
| 7027-6001 | ADJUST GAS FACILITY ACCESS COVER | EA | 2 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
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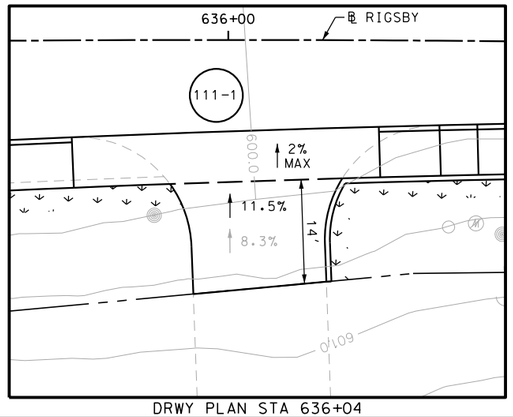
DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

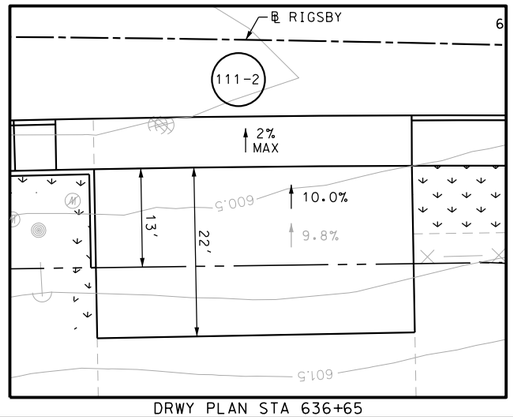
REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 16501 | 13695211.56 | 2151174.18 | -- | ME |
| 16504 | 13695175.76 | 2150993.55 | -- | ME |
| 16505 | 13695165.67 | 2150954.27 | -- | ME |
| 16506 | 13695161.26 | 2150936.30 | -- | ME |
| 16507 | 13695150.59 | 2150890.47 | -- | ME |
| 16508 | 13695182.97 | 2151020.27 | -- | ME |
| 16509 | 13695188.84 | 2151046.51 | -- | ME |



DRWY PLAN STA 636+04



DRWY PLAN STA 636+65

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE WB

# SIDEWALK CONSTRUCTION PLAN

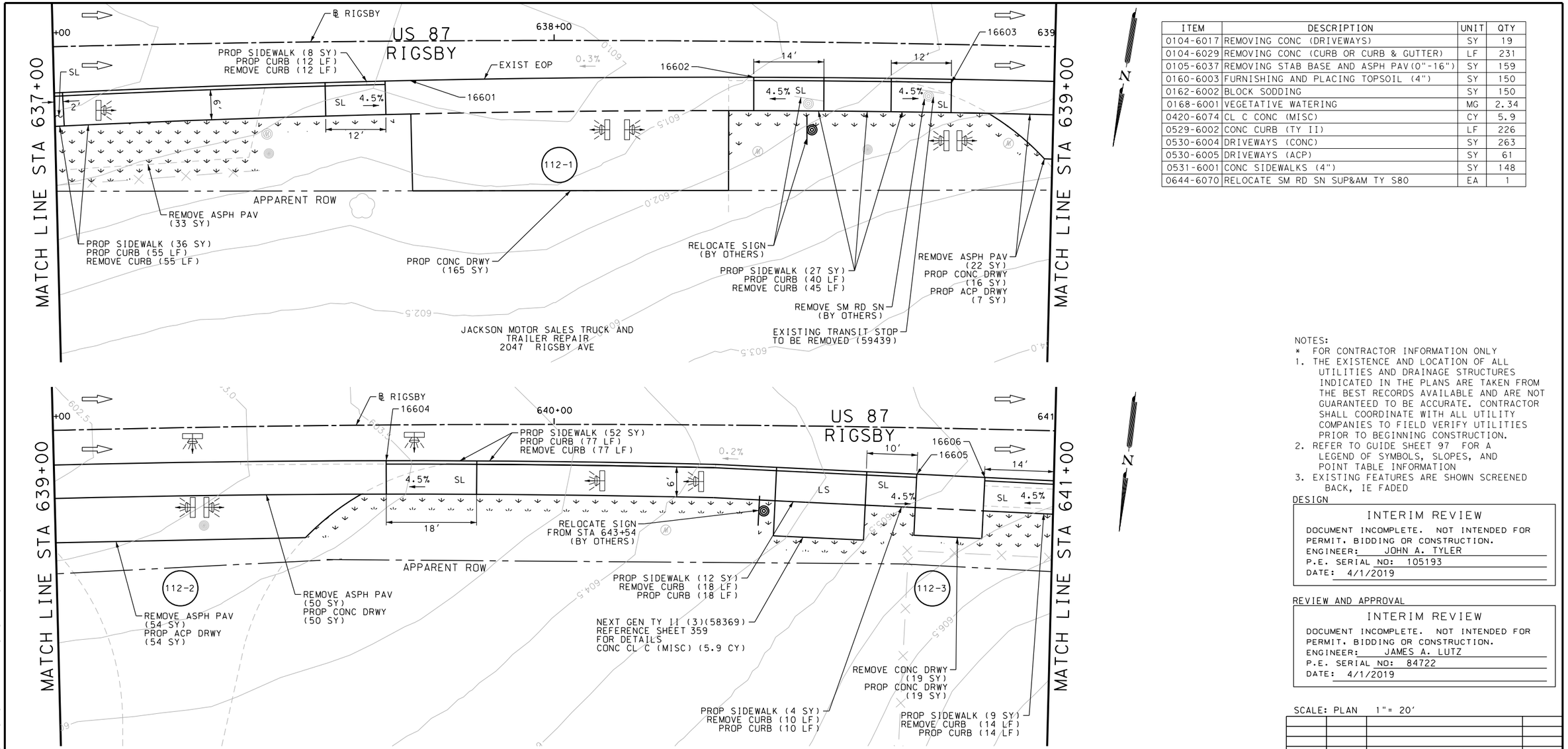
STA 633+00 TO STA 637+00

SHEET 14 OF 23

| DGNs | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGNs | 6 | TEXAS | | | | VARIES |
| DWGs | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWGs | SAT | BEXAR | 0915 | 12 | 576 | 111 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\111507*Rigsby*68.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 19 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 231 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 159 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 150 |
| 0162-6002 | BLOCK SODDING | SY | 150 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.34 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0529-6002 | CONC CURB (TY II) | LF | 226 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 263 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 61 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 148 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

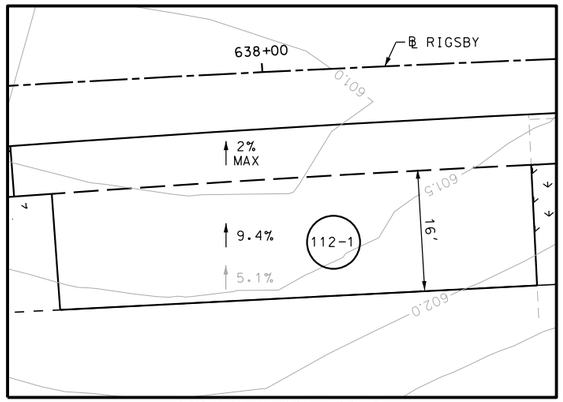
INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

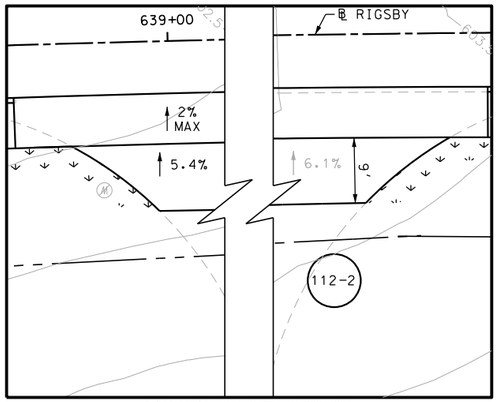
INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

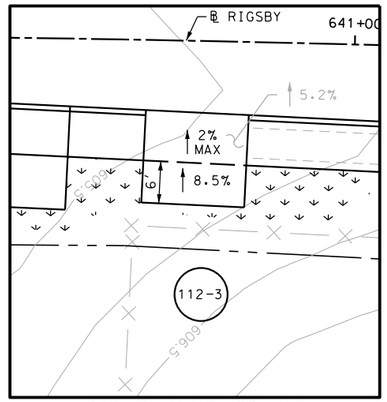
| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 16601 | 13695134.18 | 2150811.74 | -- | ME |
| 16602 | 13695121.19 | 2150739.33 | -- | ME |
| 16603 | 13695115.02 | 2150700.35 | -- | ME |
| 16604 | 13695103.42 | 2150614.29 | -- | ME |
| 16605 | 13695093.69 | 2150508.82 | -- | ME |
| 16606 | 13695092.76 | 2150495.25 | -- | ME |



DRWY PLAN STA 637+96



DRWY PLAN STA 639+24



DRWY PLAN STA 639+24

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

Texas Department of Transportation

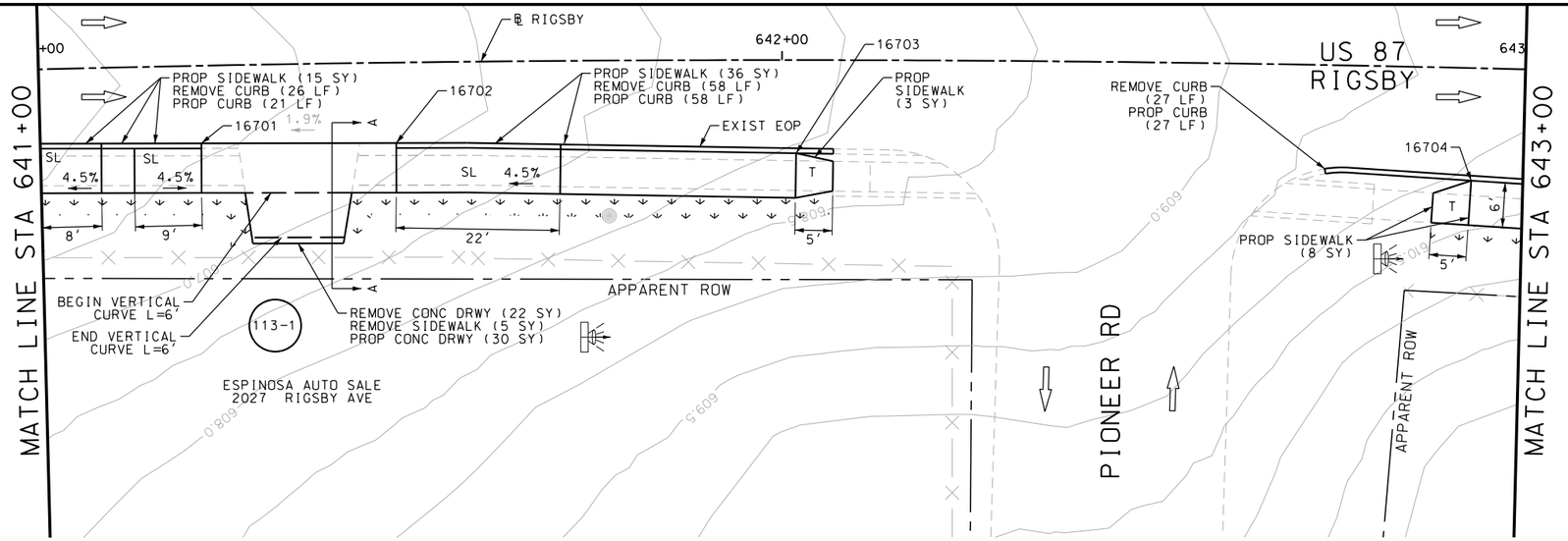

US 87
RIGSBY AVE WB

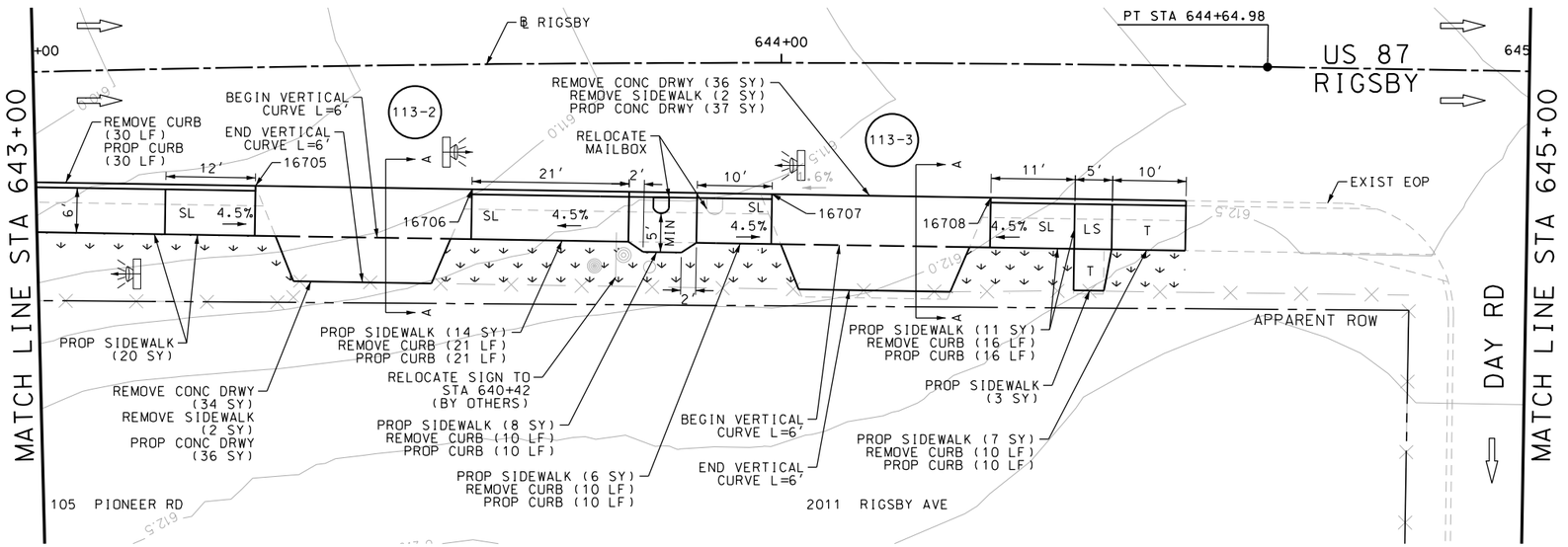
# SIDEWALK CONSTRUCTION PLAN
STA 637+00 TO STA 641+00

SHEET 15 OF 23

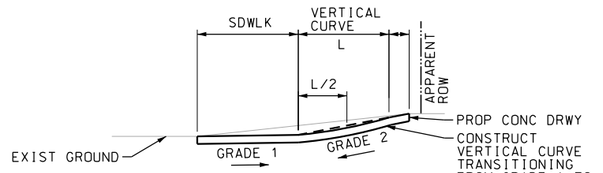
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 112 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\1113507*Rigsby*69.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 92 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 208 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 9 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 95 |
| 0162-6002 | BLOCK SODDING | SY | 95 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.48 |
| 0529-6002 | CONC CURB (TY II) | LF | 203 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 103 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 131 |
| 0560-6014 | MAILBOX INSTALL-S (TWG-POST) TY 4 | EA | 1 |




SECTION A-A
N.T.S

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

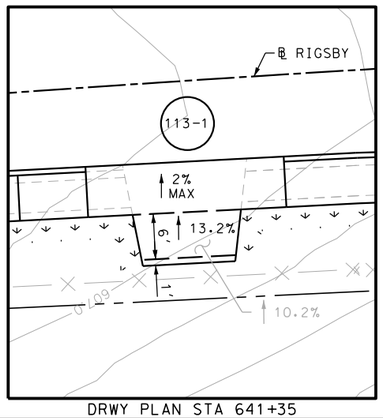
INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

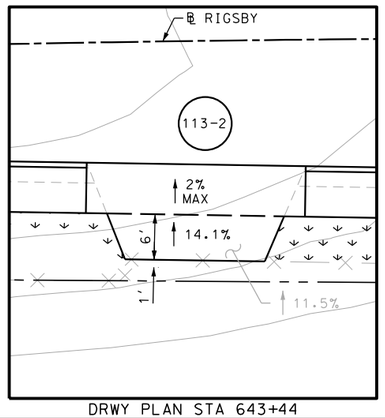
INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

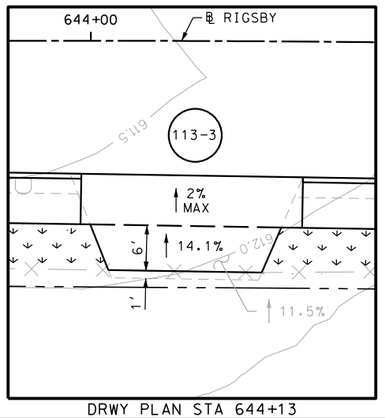
| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 16701 | 13695090.34 | 2150459.88 | -- | ME |
| 16702 | 13695088.54 | 2150433.74 | -- | ME |
| 16703 | 13695086.33 | 2150380.00 | -- | ME |
| 16704 | 13695083.94 | 2150289.19 | -- | ME |
| 16705 | 13695083.24 | 2150252.92 | -- | ME |
| 16706 | 13695083.21 | 2150223.98 | -- | ME |
| 16707 | 13695083.18 | 2150183.88 | -- | ME |
| 16708 | 13695083.15 | 2150154.63 | -- | ME |




DRWY PLAN STA 641+35




DRWY PLAN STA 643+44




DRWY PLAN STA 644+13

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE WB

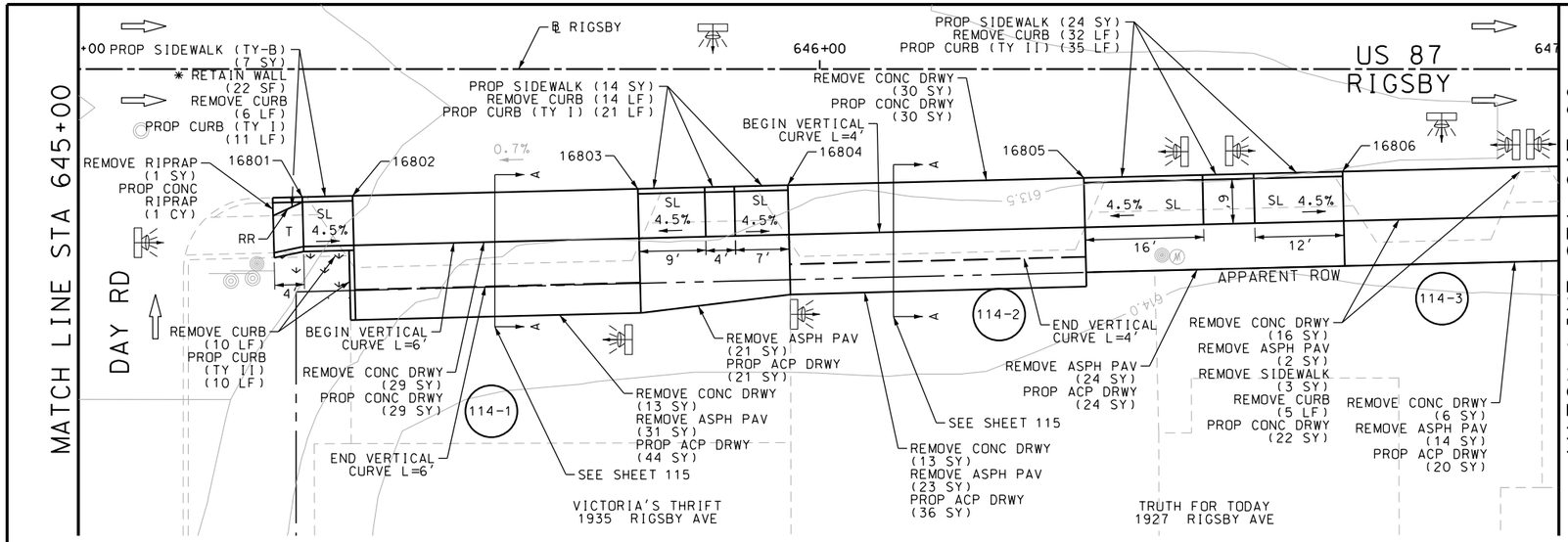
# SIDEWALK CONSTRUCTION PLAN
STA 641+00 TO STA 645+00

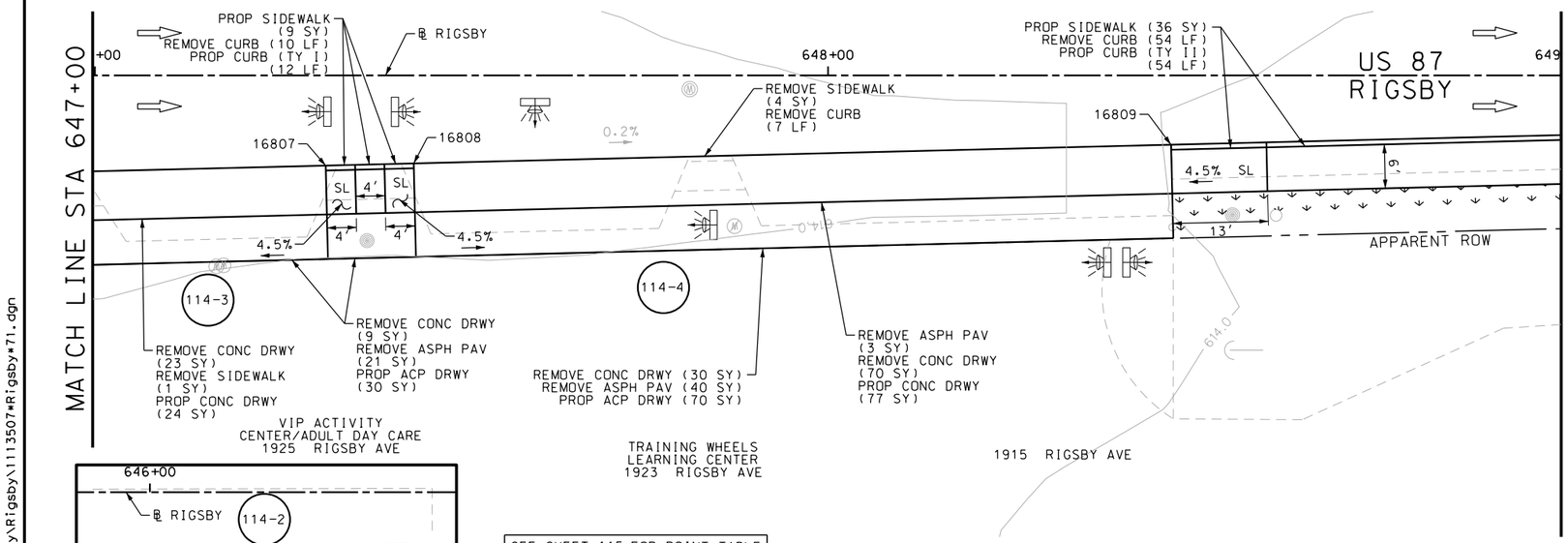
SHEET 16 OF 23

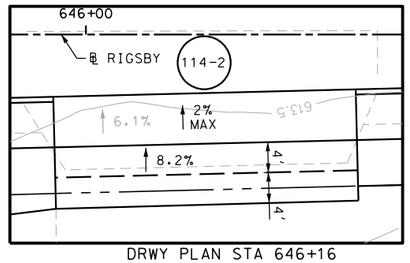
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 113 |

Plotted on: 4/1/2019

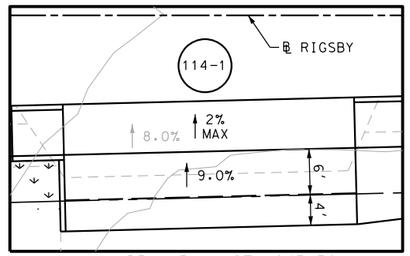
Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\111507*Rigsby*70.dgn



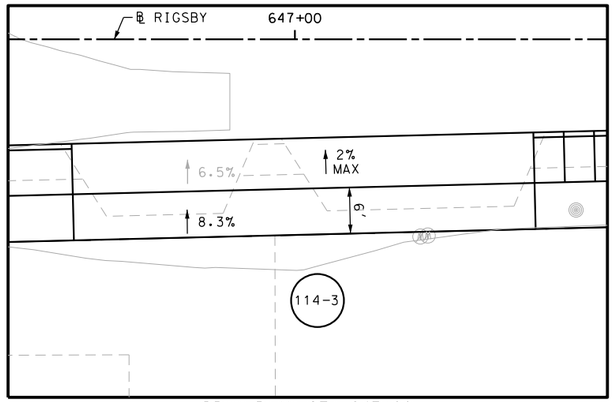




DRWY PLAN STA 646+16

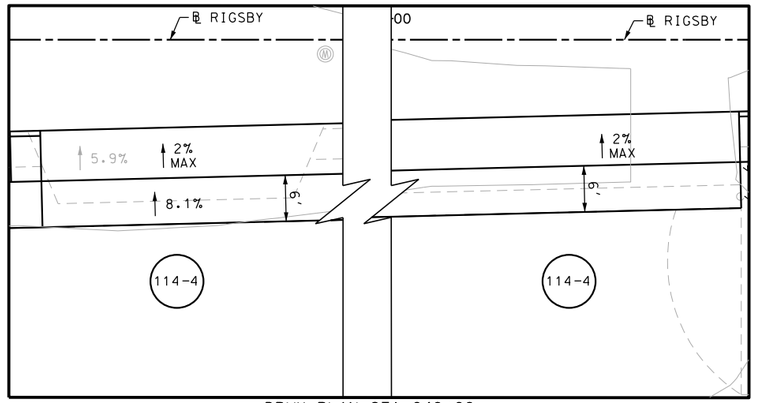



DRWY PLAN STA 645+56

SEE SHEET 115 FOR POINT TABLE




DRWY PLAN STA 647+00




DRWY PLAN STA 648+00

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 1 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 239 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 138 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 8 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 179 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 26 |
| 0162-6002 | BLOCK SODDING | SY | 26 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.41 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 1 |
| 0529-6001 | CONC CURB (TY I) | LF | 44 |
| 0529-6002 | CONC CURB (TY II) | LF | 99 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 182 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 245 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 83 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 7 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE WB

# SIDEWALK CONSTRUCTION PLAN
STA 645+00 TO STA 649+00

SHEET 17 OF 23

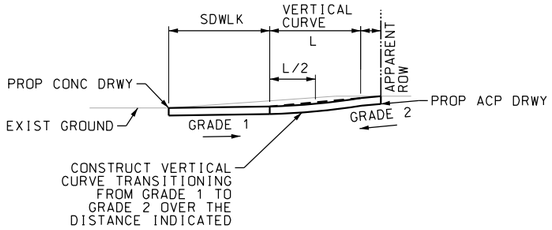
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 114 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\1113507*Rigsby*71.dgn

SEE SHEET 114

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 16801 | 13695082.30 | 2150052.72 | -- | ME |
| 16802 | 13695082.13 | 2150045.94 | -- | ME |
| 16803 | 13695081.17 | 2150007.47 | -- | ME |
| 16804 | 13695080.66 | 2149987.25 | -- | ME |
| 16805 | 13695079.66 | 2149947.31 | -- | ME |
| 16806 | 13695078.79 | 2149912.42 | -- | ME |
| 16807 | 13695077.27 | 2149851.46 | -- | ME |
| 16808 | 13695076.97 | 2149839.46 | -- | ME |
| 16809 | 13695074.39 | 2149736.15 | -- | ME |

SEE SHEET 114




SECTION A-A
N.T.S

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE WB

# SIDEWALK CONSTRUCTION PLAN

STA 645+00 TO STA 649+00
POINT TABLES



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 115 |

Plotted on: 4/1/2019
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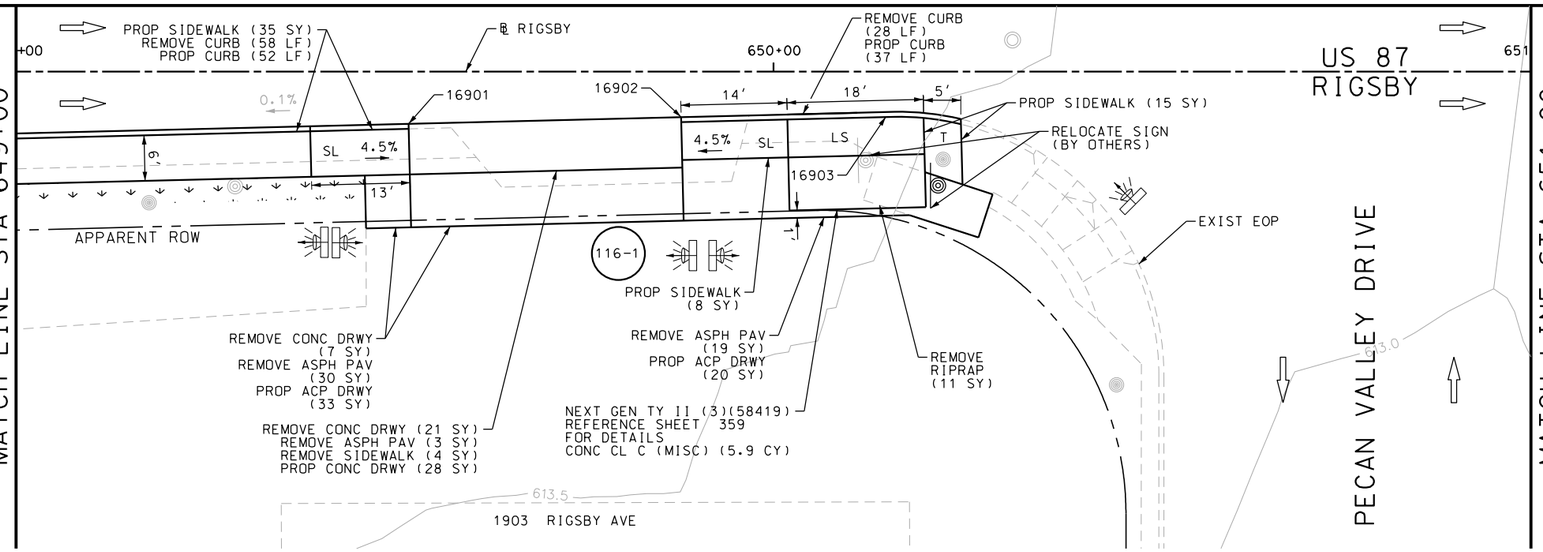
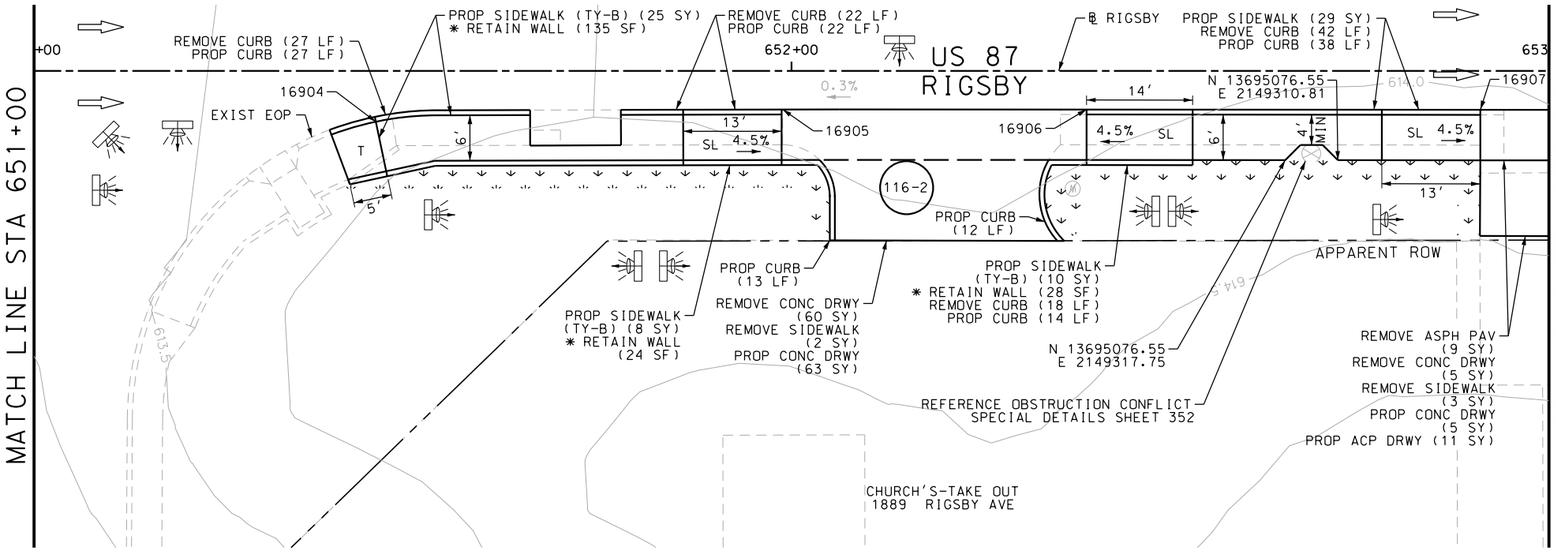
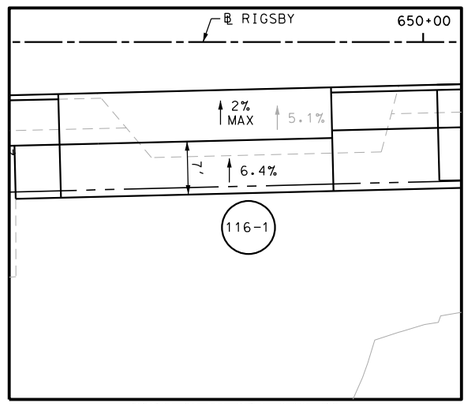
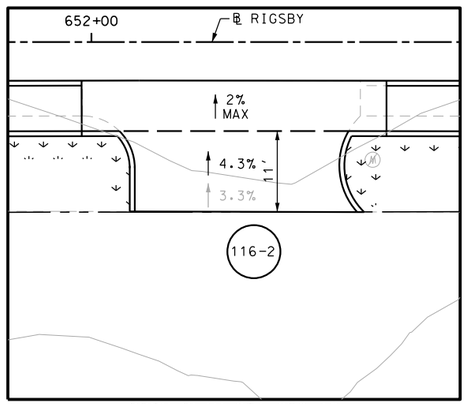



| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 16901 | 13695071.76 | 2149631.11 | -- | ME |
| 16902 | 13695070.86 | 2149595.12 | -- | ME |
| 16903 | 13695070.86 | 2149568.11 | -- | ME |
| 16904 | 13695071.53 | 2149437.81 | -- | ME |
| 16905 | 13695069.89 | 2149384.24 | -- | ME |
| 16906 | 13695069.88 | 2149343.98 | -- | ME |
| 16907 | 13695069.89 | 2149292.00 | -- | ME |




DRWY PLAN STA 649+75




DRWY PLAN STA 652+19

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 11 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 93 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 195 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 9 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 61 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 70 |
| 0162-6002 | BLOCK SODDING | SY | 70 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.09 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0529-6002 | CONC CURB (TY II) | LF | 203 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 96 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 64 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 87 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 43 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE WB

# SIDEWALK CONSTRUCTION PLAN
STA 649+00 TO STA 653+00

SHEET 19 OF 23

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 116 |

Plotted on: 4/1/2019

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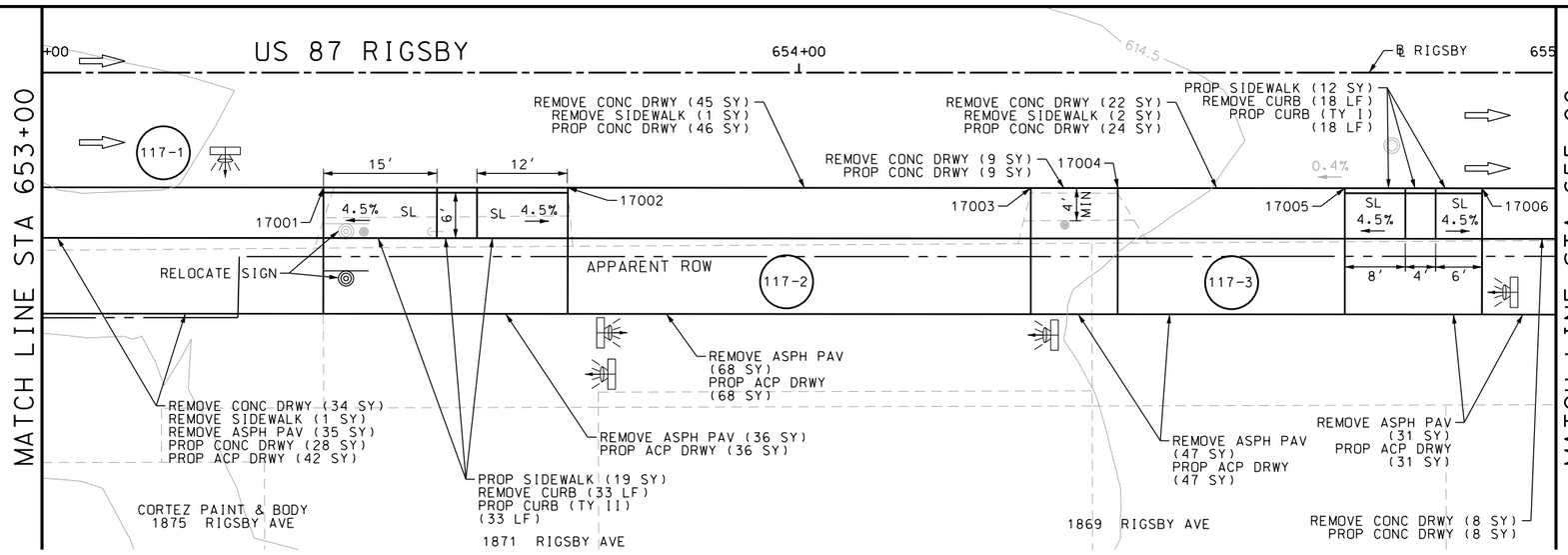
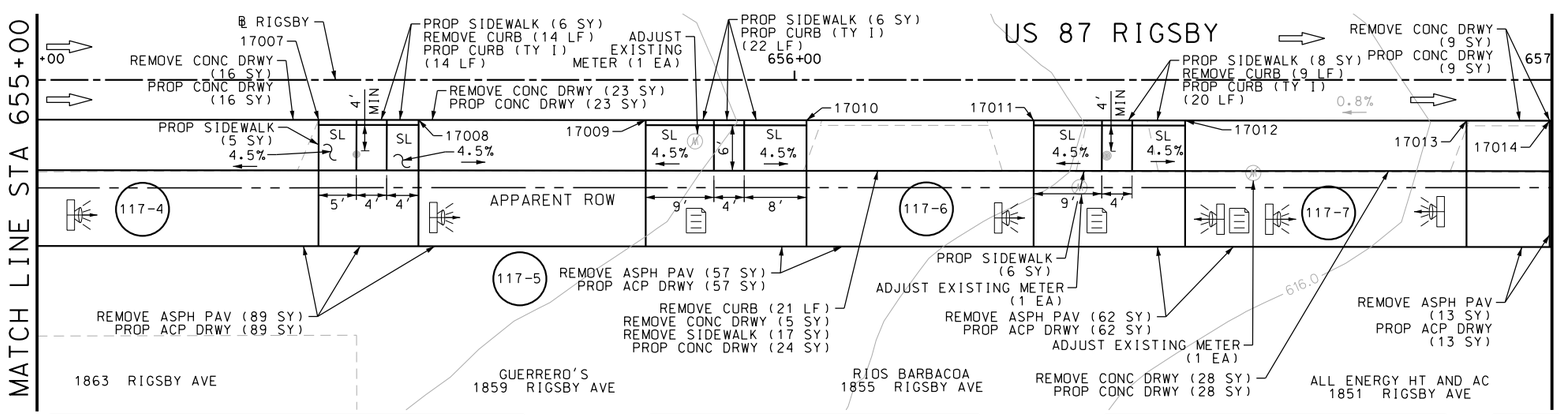
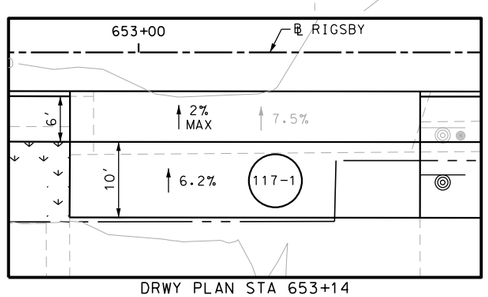
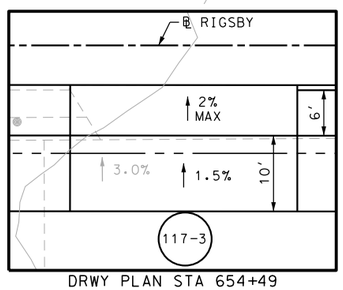



DRWY PLAN STA 653+14

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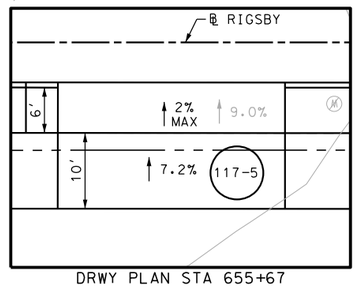
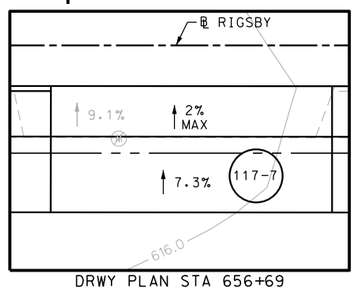



DRWY PLAN STA 655+67

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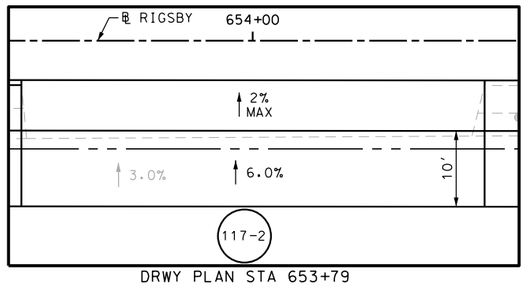
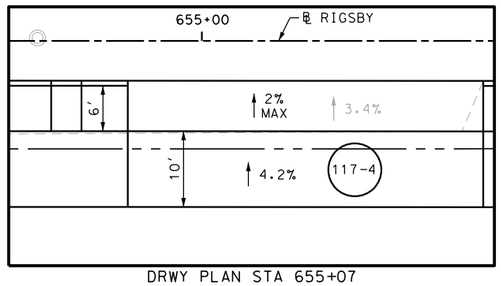
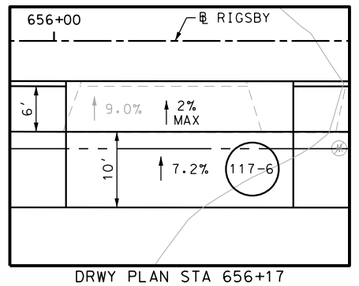



DRWY PLAN STA 653+79




DRWY PLAN STA 655+07




DRWY PLAN STA 656+17

SEE SHEET 119 FOR POINT TABLE

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 199 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 95 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 21 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 438 |
| 0529-6001 | CONC CURB (TY I) | LF | 74 |
| 0529-6002 | CONC CURB (TY II) | LF | 33 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 215 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 445 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 62 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 3 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE WB

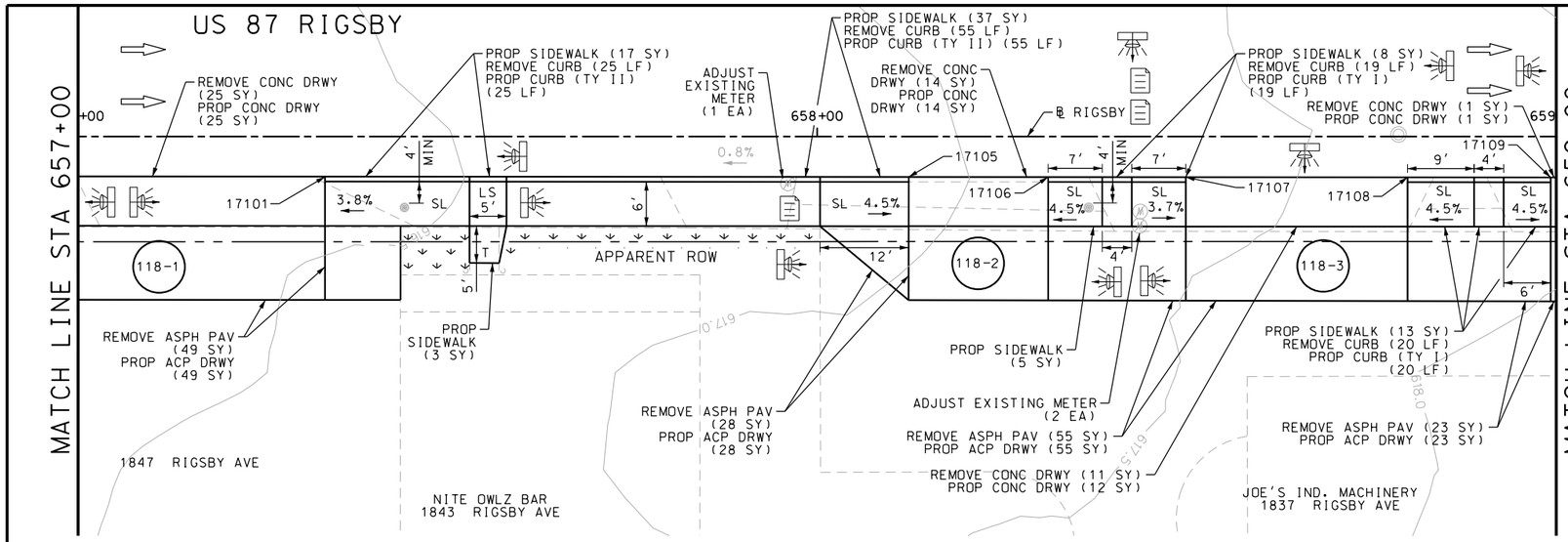
# SIDEWALK CONSTRUCTION PLAN
STA 653+00 TO STA 657+00

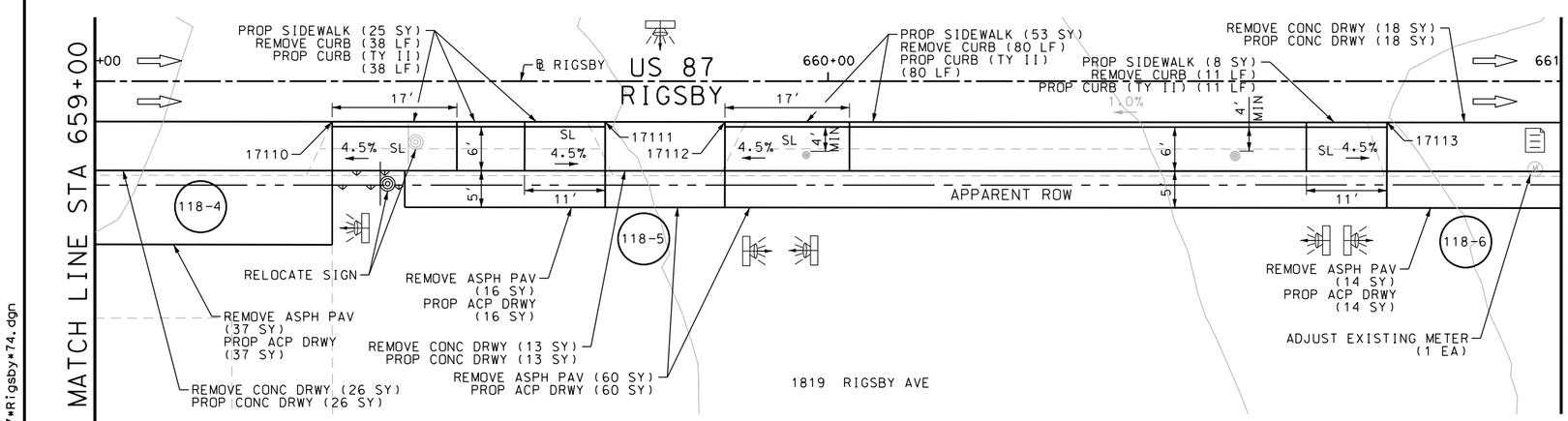
SHEET 20 OF 23

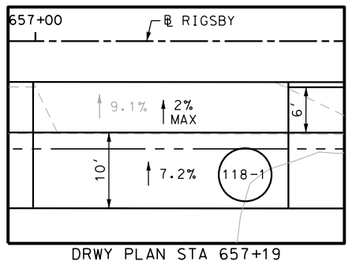
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 117 |

Plotted on: 4/1/2019

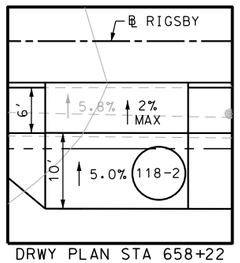
Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\1113507*Rigsby*73.dgn



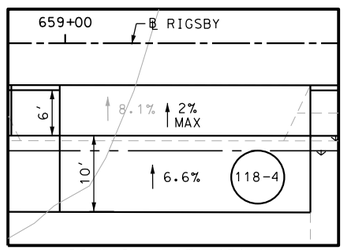



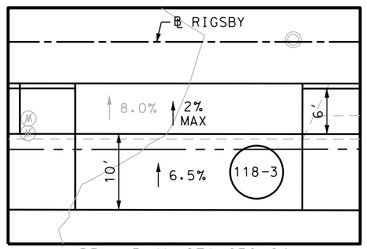
DRWY PLAN STA 657+19



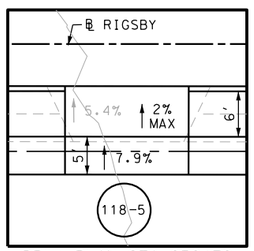
DRWY PLAN STA 658+22



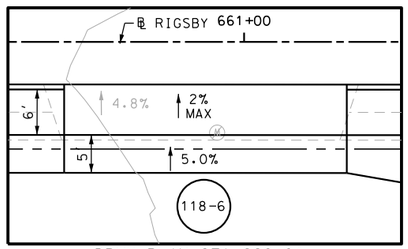
DRWY PLAN STA 659+14



DRWY PLAN STA 658+64



DRWY PLAN STA 659+78



DRWY PLAN STA 660+91

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 108 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 248 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 282 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 28 |
| 0162-6002 | BLOCK SODDING | SY | 28 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.44 |
| 0529-6001 | CONC CURB (TY I) | LF | 39 |
| 0529-6002 | CONC CURB (TY II) | LF | 209 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 109 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 282 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 169 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 4 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

SEE SHEET 119 FOR POINT TABLE

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE WB

# SIDEWALK CONSTRUCTION PLAN
STA 657+00 TO STA 661+00

SHEET 21 OF 23

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 118 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\1113507*Rigsby*74.dgn

SEE SHEET 117

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 17001 | 13695069.90 | 2149245.77 | -- | ME |
| 17002 | 13695069.91 | 2149213.48 | -- | ME |
| 17003 | 13695069.93 | 2149152.31 | -- | ME |
| 17004 | 13695069.93 | 2149140.82 | -- | ME |
| 17005 | 13695069.94 | 2149110.82 | -- | ME |
| 17006 | 13695069.94 | 2149092.69 | -- | ME |
| 17007 | 13695069.96 | 2149045.77 | -- | ME |
| 17008 | 13695069.96 | 2149032.57 | -- | ME |
| 17009 | 13695069.97 | 2149002.57 | -- | ME |
| 17010 | 13695069.97 | 2148981.35 | -- | ME |
| 17011 | 13695069.98 | 2148951.35 | -- | ME |
| 17012 | 13695069.99 | 2148931.35 | -- | ME |
| 17013 | 13695070.00 | 2148894.21 | -- | ME |
| 17014 | 13695070.00 | 2148883.24 | -- | ME |

SEE SHEET 118

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 17101 | 13695070.01 | 2148849.54 | -- | ME |
| 17106 | 13695070.03 | 2148751.68 | -- | ME |
| 17107 | 13695070.04 | 2148733.05 | -- | ME |
| 17108 | 13695070.05 | 2148703.05 | -- | ME |
| 17109 | 13695070.05 | 2148683.67 | -- | ME |
| 17110 | 13695070.06 | 2148650.56 | -- | ME |
| 17111 | 13695070.07 | 2148613.32 | -- | ME |
| 17112 | 13695070.07 | 2148597.01 | -- | ME |
| 17113 | 13695070.10 | 2148506.70 | -- | ME |

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE WB

# SIDEWALK CONSTRUCTION PLAN

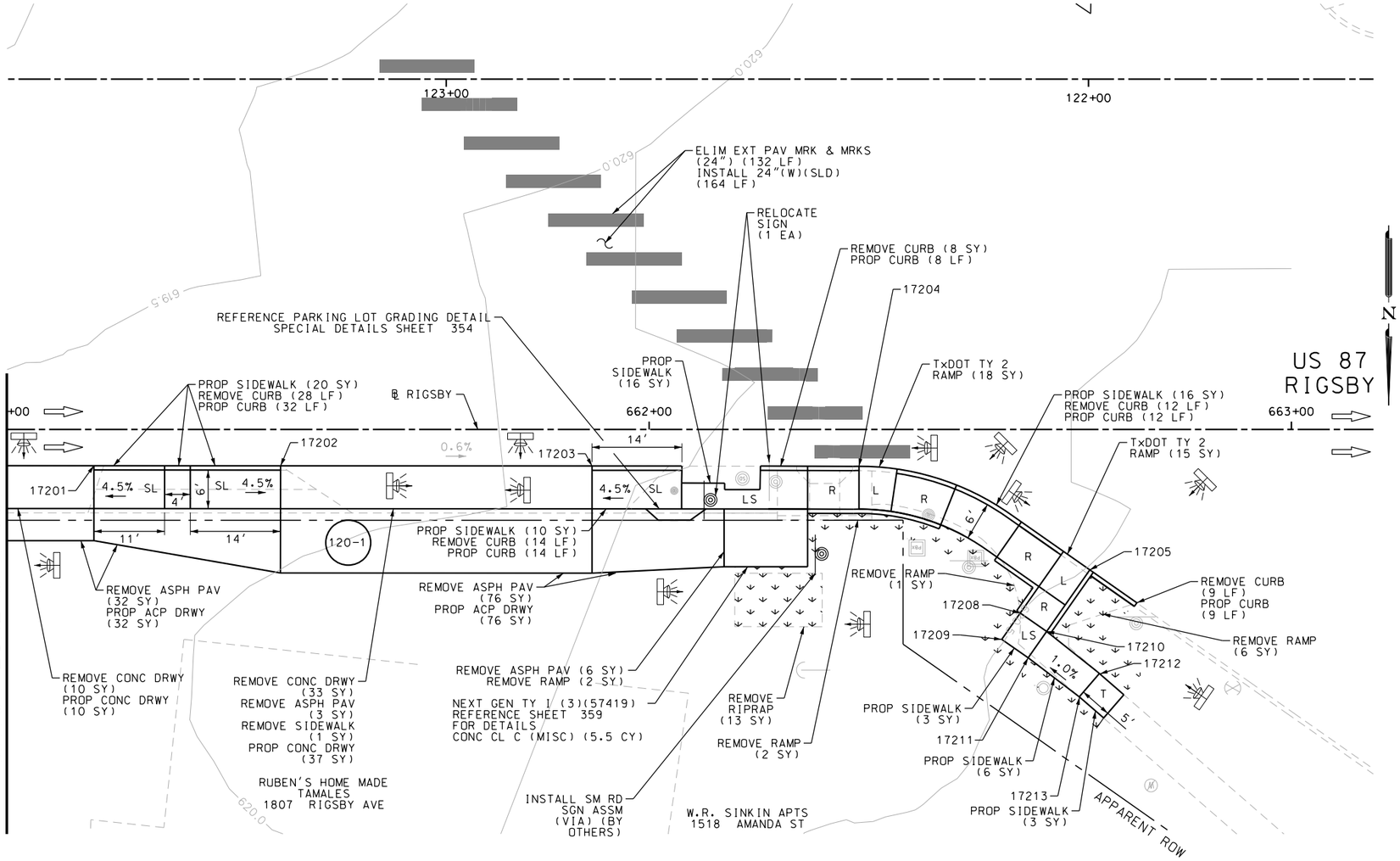
STA 653+00 TO STA 661+00
POINT TABLES



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 119 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\111307*Rigsby*74a.dgn




| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 17201 | 13695070.11 | 2148469.37 | -- | ME |
| 17202 | 13695070.11 | 2148440.32 | -- | ME |
| 17203 | 13695070.13 | 2148391.82 | -- | ME |
| 17204 | 13695070.16 | 2148350.25 | -- | ME |
| 17205 | 13695086.26 | 2148314.32 | -- | ME |
| 17208 | 13695093.00 | 2148325.15 | -- | ME |
| 17209 | 13695097.09 | 2148328.02 | -- | ME |
| 17210 | 13695095.84 | 2148321.04 | -- | ME |
| 17211 | 13695099.94 | 2148323.91 | -- | ME |
| 17212 | 13695102.38 | 2148312.82 | -- | ME |
| 17213 | 13695106.02 | 2148315.96 | -- | ME |

NOTES:
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1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
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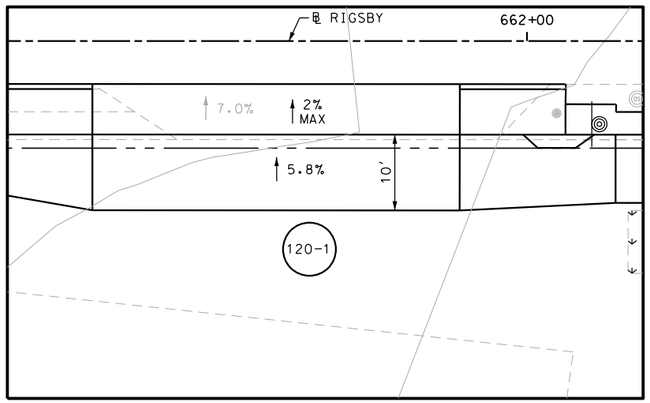
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED




DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



US 87
RIGSBY AVE WB

# SIDEWALK CONSTRUCTION PLAN

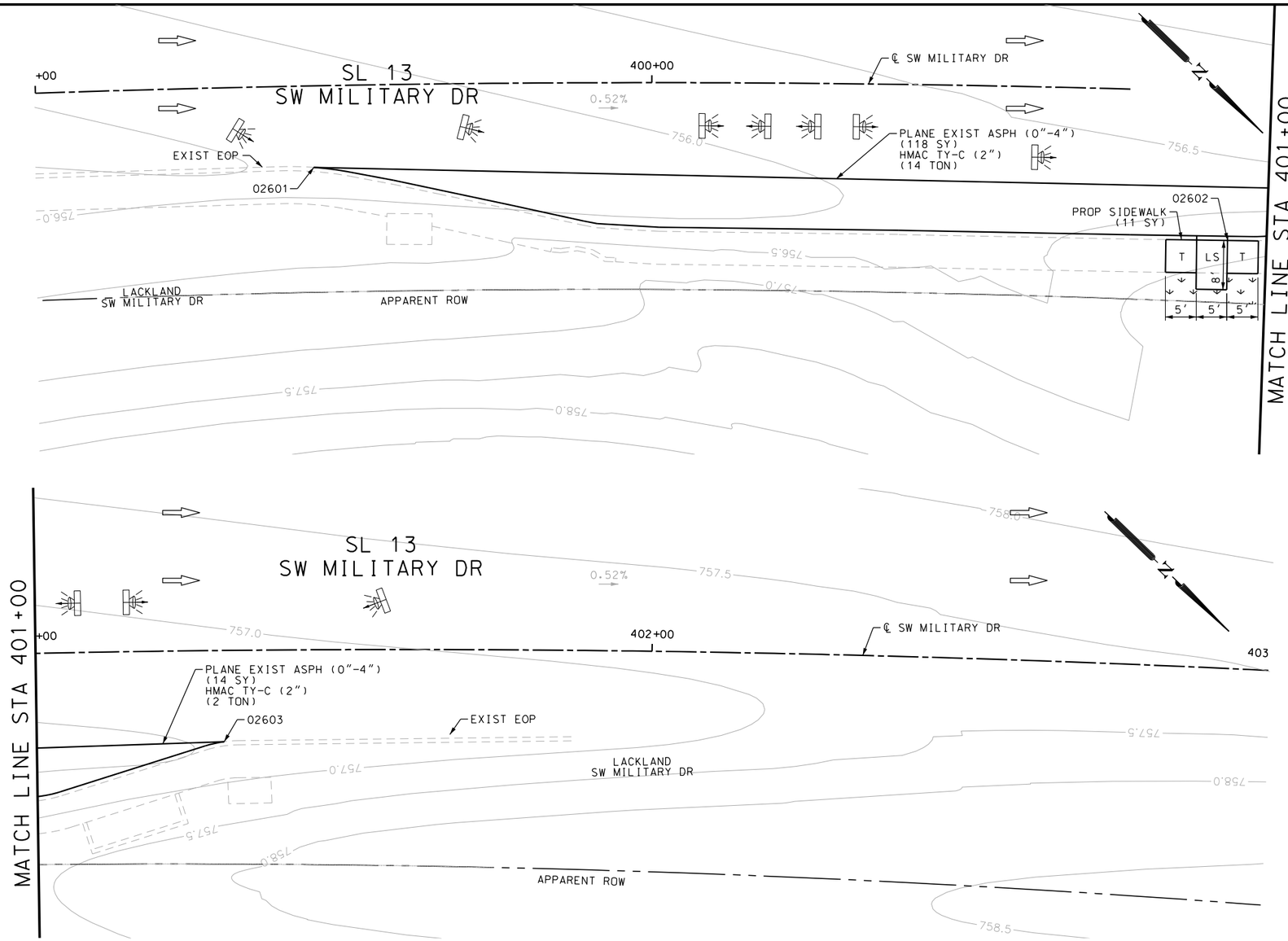
STA 661+00 TO END PROJECT

SHEET 23 OF 23

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 120 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Rigsby\111507*Rigsby*75.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 7 |
| 0162-6002 | BLOCK SODDING | SY | 7 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.11 |
| 0340-6066 | D-GR HMA(SQ) TY-C PG76-22 | TON | 16.0 |
| 0354-6023 | PLANE ASPH CONC PAV(0" TO 4") | SY | 132 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 11 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 02601 | 13687361.93 | 2091736.91 | -- | ME |
| 02602 | 13687473.60 | 2091638.79 | -- | ME |
| 02603 | 13687493.30 | 2091607.18 | -- | ME |

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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY A

# SIDEWALK CONSTRUCTION PLAN

BEGIN PROJECT TO END PROJECT

SHEET 1 OF 1

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 121 |

Plotted on: 4/1/2019

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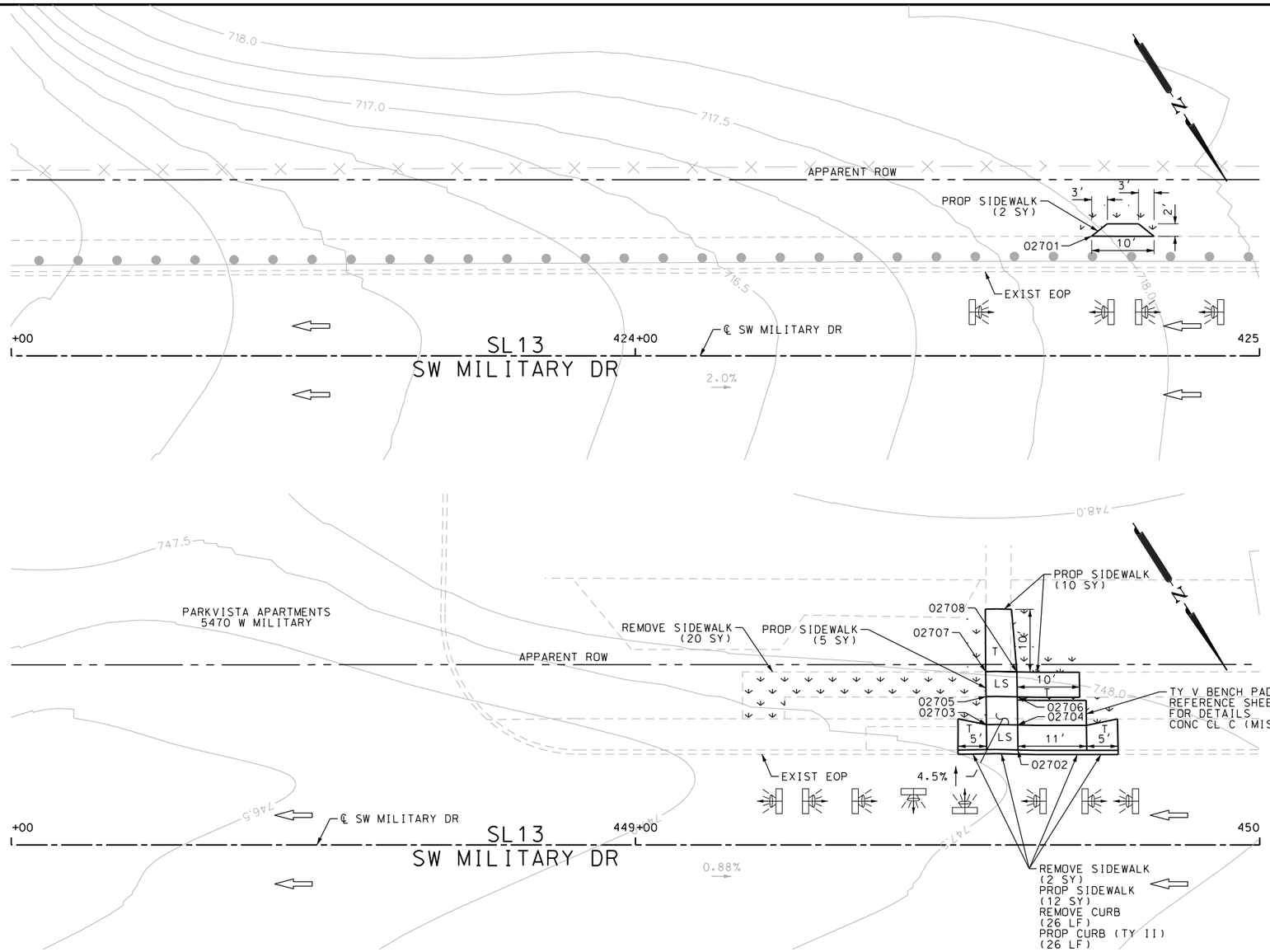


| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 26 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 22 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 41 |
| 0162-6002 | BLOCK SODDING | SY | 41 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.64 |
| 0420-6074 | CL C CONC (MISC) | CY | 0.9 |
| 0529-6002 | CONC CURB (TY II) | LF | 26 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 29 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 02701 | 13685331.08 | 2094540.87 | -- | ME |
| 02702 | 13686716.60 | 2092474.15 | -- | ME |
| 02703 | 13686710.44 | 2092476.09 | -- | ME |
| 02704 | 13686713.26 | 2092471.96 | -- | ME |
| 02705 | 13686706.66 | 2092473.64 | 747.49 | PROP |
| 02706 | 13686709.48 | 2092469.51 | 747.56 | PROP |
| 02707 | 13686703.30 | 2092471.47 | 747.55 | PROP |
| 02708 | 13686706.11 | 2092467.34 | 747.50 | PROP |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY A

# SIDEWALK CONSTRUCTION PLAN

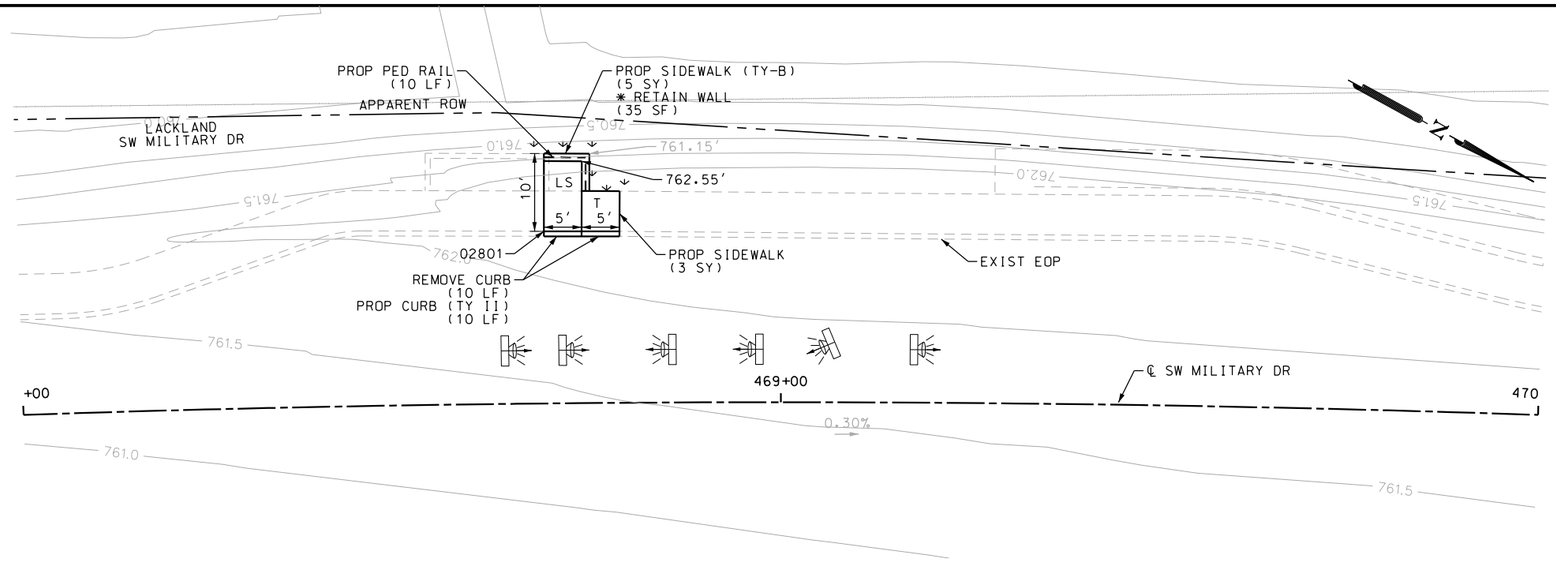
BEGIN PROJECT TO 425+00
STA 448+00 TO 450+00

SHEET 1 OF 2

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 122 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryA\1113507*SMMilitaryA*WB01.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 10 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 5 |
| 0162-6002 | BLOCK SODDING | SY | 5 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.08 |
| 0450-6047 | RAIL (HANDRAIL)(TY A) | LF | 10 |
| 0529-6002 | CONC CURB (TY II) | LF | 10 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 3 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 5 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 02801 | 13688019.39 | 2091099.49 | -- | ME |

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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY A

# SIDEWALK CONSTRUCTION PLAN

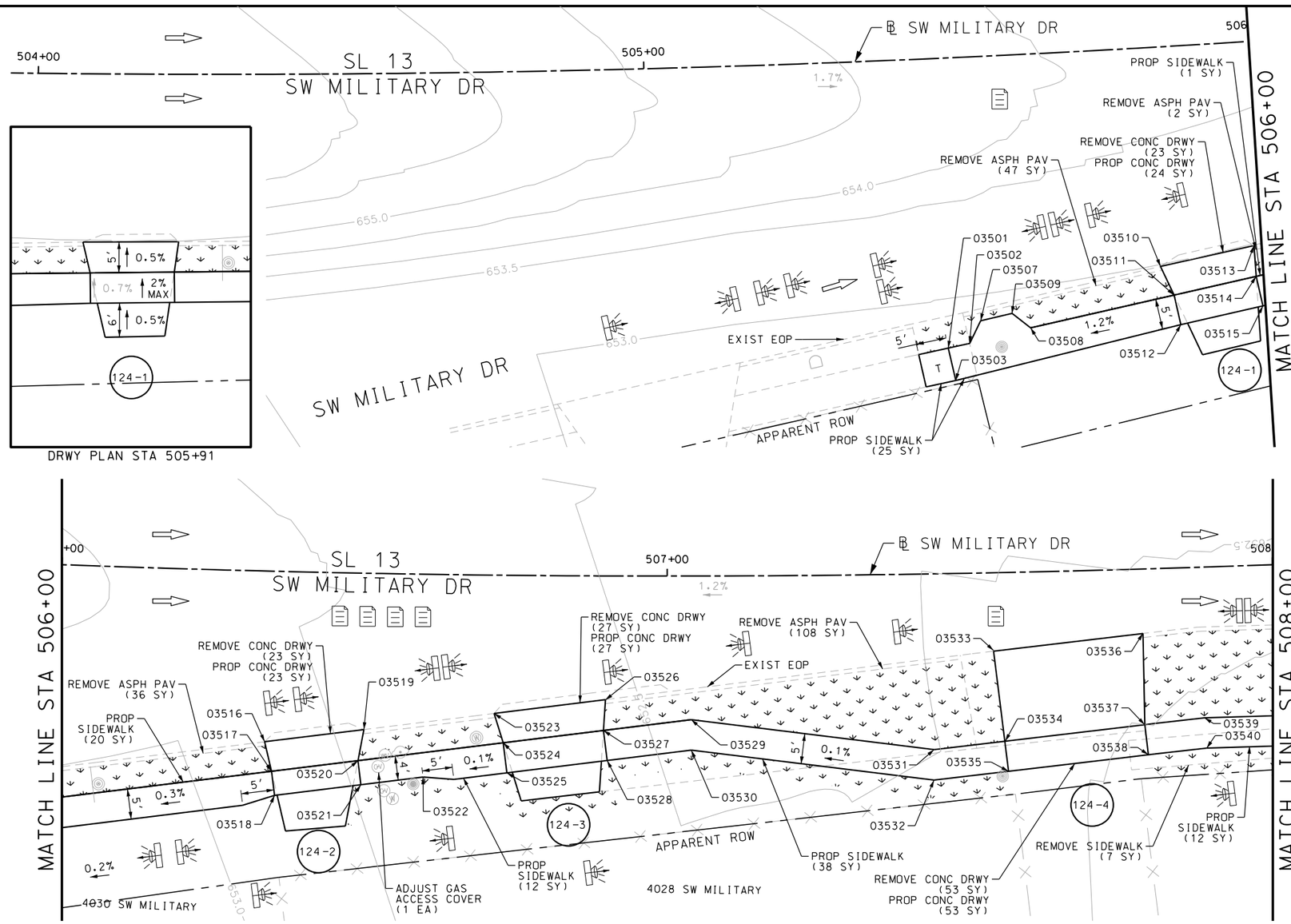
STA 468+00 TO END PROJECT

SHEET 2 OF 2

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 123 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryA\1113507*SMMilitaryA*WB02.dgn




DRWY PLAN STA 505+91

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 126 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 7 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 193 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 216 |
| 0162-6002 | BLOCK SODDING | SY | 216 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.37 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 127 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 108 |
| 7027-6001 | ADJUST GAS FACILITY ACCESS COVER | EA | 1 |

NOTES:
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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

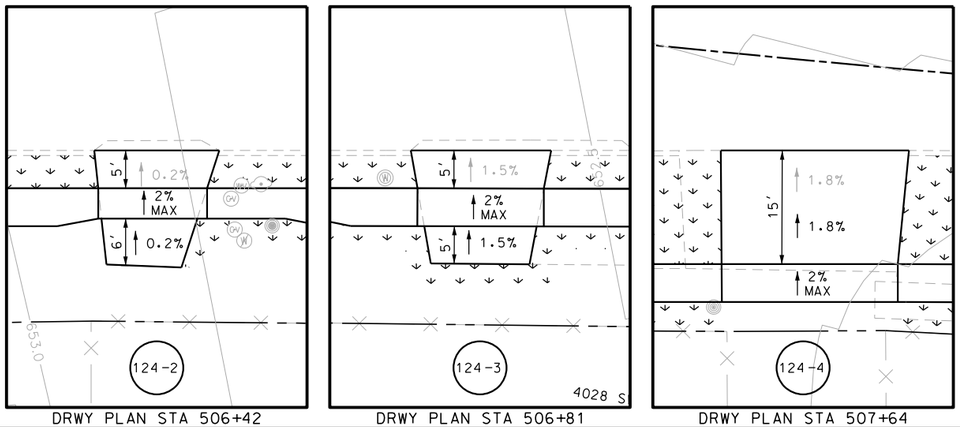
DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'




DRWY PLAN STA 506+42 DRWY PLAN STA 506+81 DRWY PLAN STA 507+64

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 03501 | 13680638.95 | 2106466.61 | 652.52 | PROP |
| 03502 | 13680638.55 | 2106470.20 | 652.48 | PROP |
| 03503 | 13680633.48 | 2106466.05 | 652.60 | PROP |
| 03507 | 13680641.53 | 2106473.11 | 652.44 | PROP |
| 03508 | 13680637.77 | 2106480.56 | 652.38 | PROP |
| 03509 | 13680641.02 | 2106478.41 | 652.41 | PROP |
| 03510 | 13680640.51 | 2106504.13 | -- | ME |
| 03511 | 13680635.30 | 2106504.75 | 652.00 | PROP |
| 03512 | 13680630.33 | 2106504.24 | 652.07 | PROP |
| 03513 | 13680638.81 | 2106519.86 | -- | ME |
| 03514 | 13680633.89 | 2106518.57 | 652.03 | PROP |
| 03515 | 13680628.92 | 2106518.06 | 652.10 | PROP |
| 03516 | 13680635.09 | 2106555.95 | -- | ME |
| 03517 | 13680630.07 | 2106555.98 | 652.14 | PROP |
| 03518 | 13680626.10 | 2106555.57 | 652.20 | PROP |
| 03519 | 13680633.41 | 2106572.38 | -- | ME |
| 03520 | 13680628.62 | 2106570.27 | 652.19 | PROP |
| 03521 | 13680624.64 | 2106569.87 | 652.26 | PROP |
| 03523 | 13680631.22 | 2106593.93 | -- | ME |
| 03524 | 13680626.16 | 2106594.31 | 652.26 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 03525 | 13680621.19 | 2106593.80 | 652.33 | PROP |
| 03526 | 13680629.37 | 2106612.37 | -- | ME |
| 03527 | 13680624.47 | 2106610.92 | 652.19 | PROP |
| 03528 | 13680619.50 | 2106610.41 | 652.26 | PROP |
| 03529 | 13680622.99 | 2106625.45 | 652.26 | PROP |
| 03530 | 13680618.08 | 2106624.33 | 652.33 | PROP |
| 03531 | 13680609.23 | 2106663.47 | 652.49 | PROP |
| 03532 | 13680604.33 | 2106662.34 | 652.56 | PROP |
| 03533 | 13680622.90 | 2106676.66 | -- | ME |
| 03534 | 13680607.99 | 2106675.16 | 652.55 | PROP |
| 03535 | 13680603.01 | 2106674.66 | -- | ME |
| 03536 | 13680620.28 | 2106701.36 | -- | ME |
| 03537 | 13680605.52 | 2106698.31 | 652.46 | PROP |
| 03538 | 13680600.55 | 2106697.78 | -- | ME |
| 03539 | 13680604.42 | 2106708.17 | 652.70 | PROP |
| 03540 | 13680599.48 | 2106707.41 | 652.77 | PROP |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

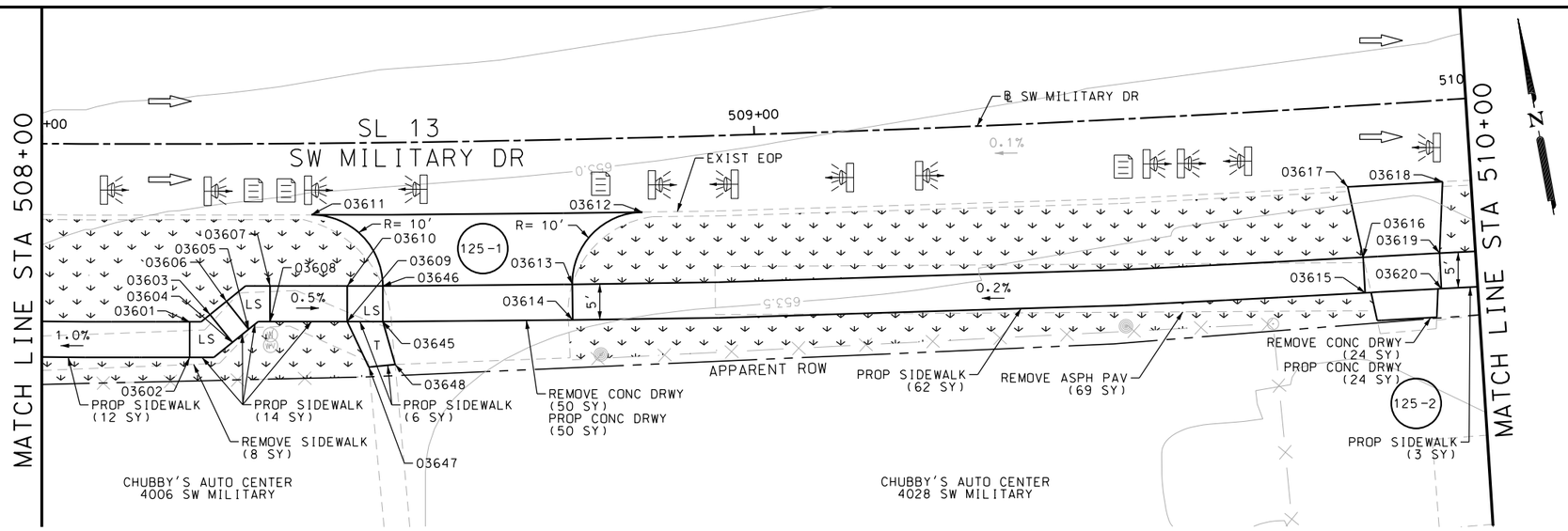
BEGIN PROJECT TO STA 508+00

SHEET 1 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 124 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*01.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 205 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 21 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 16 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 69 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 398 |
| 0162-6002 | BLOCK SODDING | SY | 398 |
| 0168-6001 | VEGETATIVE WATERING | MG | 6.21 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 209 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 175 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 508+00 TO STA 512+00

SHEET 2 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 125 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 03601 | 13680598.27 | 2106740.68 | 652.89 | PROP |
| 03602 | 13680593.35 | 2106739.79 | 652.96 | PROP |
| 03603 | 13680598.74 | 2106743.67 | 652.92 | PROP |
| 03604 | 13680594.34 | 2106746.05 | 652.99 | PROP |
| 03605 | 13680595.75 | 2106748.65 | 653.01 | PROP |
| 03606 | 13680600.14 | 2106746.26 | 652.94 | PROP |
| 03607 | 13680601.18 | 2106752.67 | 652.96 | PROP |
| 03608 | 13680596.26 | 2106751.78 | 653.03 | PROP |
| 03609 | 13680594.32 | 2106762.44 | 652.98 | PROP |
| 03610 | 13680599.24 | 2106763.33 | 652.91 | PROP |
| 03611 | 13680609.97 | 2106760.19 | -- | ME |
| 03612 | 13680602.00 | 2106805.97 | -- | ME |
| 03613 | 13680593.80 | 2106794.45 | 653.01 | PROP |
| 03614 | 13680588.87 | 2106793.62 | -- | ME |
| 03615 | 13680572.65 | 2106903.73 | 653.32 | PROP |
| 03616 | 13680577.61 | 2106904.36 | 653.25 | PROP |
| 03617 | 13680587.73 | 2106903.98 | -- | ME |
| 03618 | 13680586.05 | 2106917.22 | -- | ME |
| 03619 | 13680576.25 | 2106914.99 | 653.22 | PROP |
| 03620 | 13680571.30 | 2106914.34 | 653.29 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 03621 | 13680568.14 | 2106939.62 | 653.87 | PROP |
| 03622 | 13680573.10 | 2106940.18 | 653.80 | PROP |
| 03623 | 13680583.14 | 2106940.48 | -- | ME |
| 03624 | 13680581.57 | 2106954.17 | -- | ME |
| 03625 | 13680571.81 | 2106951.46 | 653.28 | PROP |
| 03626 | 13680566.85 | 2106950.89 | 653.35 | PROP |
| 03627 | 13680563.61 | 2106980.28 | 653.30 | PROP |
| 03628 | 13680568.58 | 2106980.81 | 653.23 | PROP |
| 03629 | 13680578.61 | 2106981.04 | -- | ME |
| 03630 | 13680576.37 | 2107002.25 | -- | ME |
| 03631 | 13680566.54 | 2107000.13 | 653.24 | PROP |
| 03632 | 13680561.56 | 2106999.60 | 653.31 | PROP |
| 03633 | 13680556.89 | 2107044.96 | 653.49 | PROP |
| 03634 | 13680561.87 | 2107045.45 | 653.42 | PROP |
| 03635 | 13680571.91 | 2107045.57 | -- | ME |
| 03636 | 13680569.81 | 2107066.85 | -- | ME |
| 03637 | 13680559.97 | 2107064.67 | 652.44 | PROP |
| 03638 | 13680555.00 | 2107064.17 | 652.51 | PROP |
| 03639 | 13680554.60 | 2107068.21 | 653.53 | PROP |
| 03640 | 13680559.57 | 2107068.71 | 653.46 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 03641 | 13680569.53 | 2107069.69 | -- | ME |
| 03642 | 13680567.75 | 2107086.26 | -- | ME |
| 03643 | 13680557.89 | 2107084.29 | 653.55 | PROP |
| 03644 | 13680552.92 | 2107083.79 | 653.62 | PROP |
| 03645 | 13680593.43 | 2106767.36 | -- | ME |
| 03646 | 13680598.35 | 2106768.25 | 652.95 | PROP |
| 03647 | 13680587.49 | 2106764.29 | -- | ME |
| 03648 | 13680587.17 | 2106767.98 | -- | ME |

Plotted on: 4/1/2019

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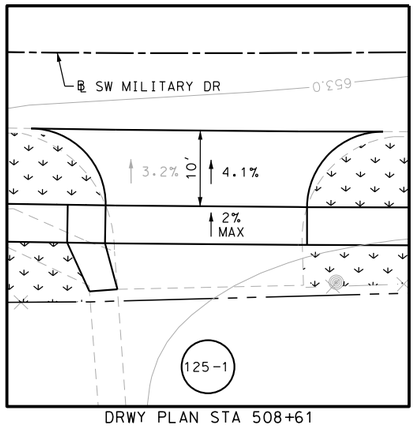
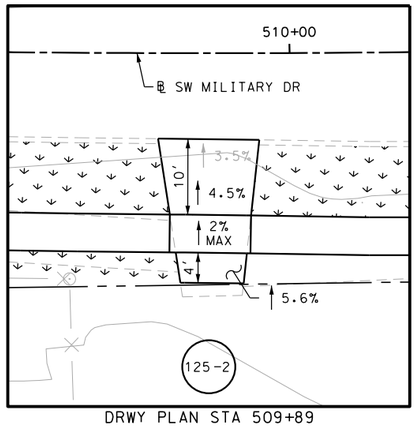
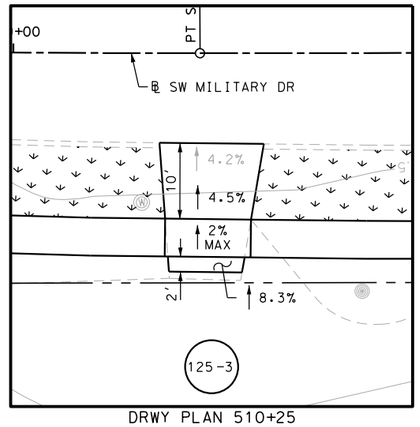


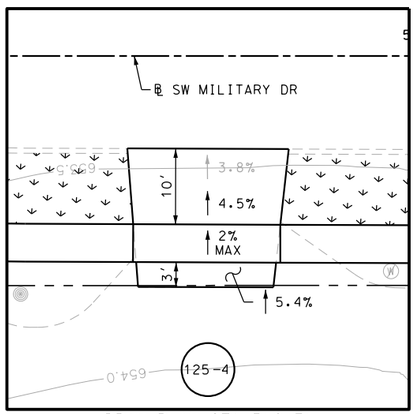

DRWY PLAN STA 508+61



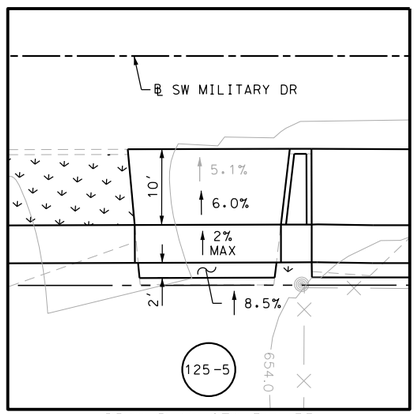

DRWY PLAN STA 509+89



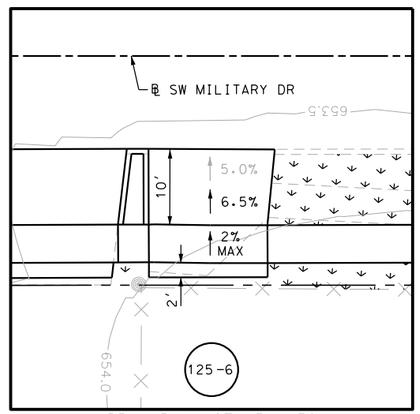

DRWY PLAN 510+25




DRWY PLAN STA 510+71




DRWY PLAN STA 511+35




DRWY PLAN STA 511+58

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

STA 508+00 TO STA 512+00

SHEET 3 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 126 |

Plotted on: 4/1/2019
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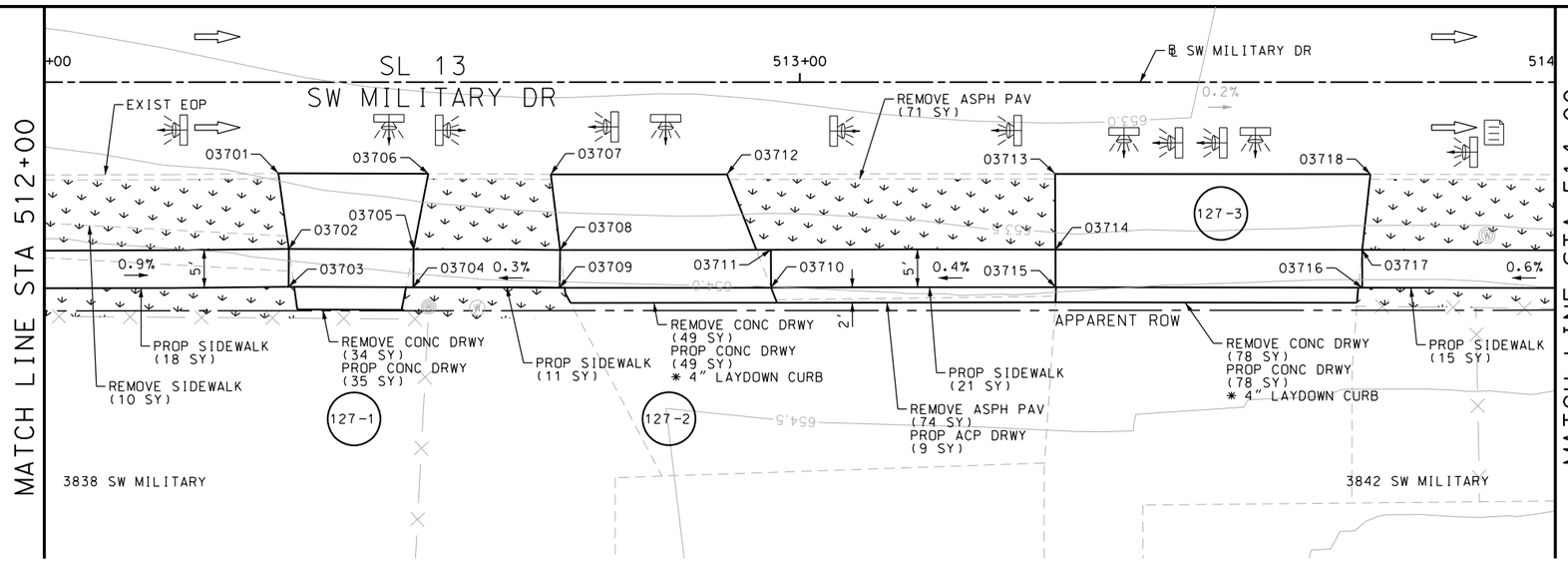


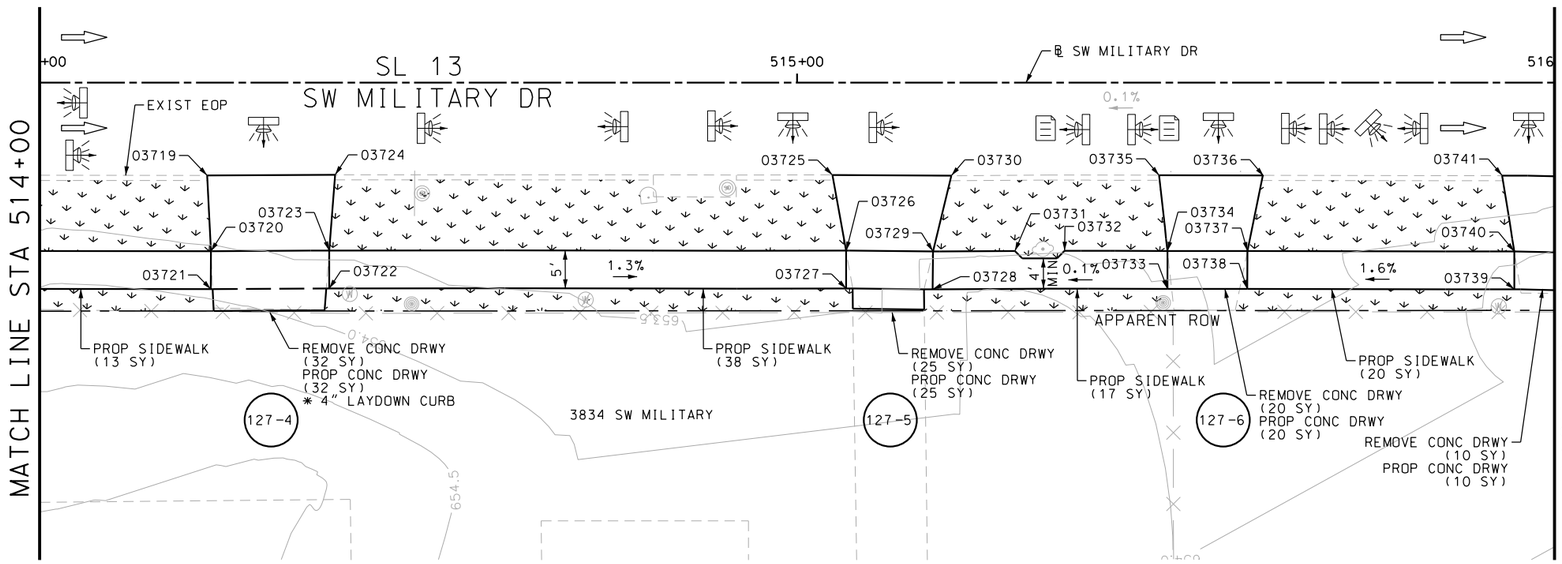


| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 248 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 10 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 145 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 361 |
| 0162-6002 | BLOCK SODDING | SY | 361 |
| 0168-6001 | VEGETATIVE WATERING | MG | 5.63 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 249 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 9 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 153 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 512+00 TO STA 516+00

SHEET 4 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 127 |

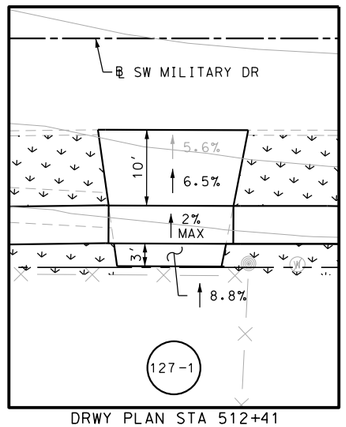
| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 03701 | 13680561.41 | 2107151.04 | -- | ME |
| 03702 | 13680551.33 | 2107151.42 | 653.34 | PROP |
| 03703 | 13680546.36 | 2107150.89 | 653.41 | PROP |
| 03704 | 13680544.62 | 2107167.29 | 653.37 | PROP |
| 03705 | 13680549.59 | 2107167.82 | 653.30 | PROP |
| 03706 | 13680559.34 | 2107170.77 | -- | ME |
| 03707 | 13680557.63 | 2107186.93 | -- | ME |
| 03708 | 13680547.54 | 2107187.12 | 653.68 | PROP |
| 03709 | 13680542.57 | 2107186.56 | 653.75 | PROP |
| 03710 | 13680539.76 | 2107214.39 | 653.82 | PROP |
| 03711 | 13680544.74 | 2107214.88 | 653.75 | PROP |
| 03712 | 13680555.26 | 2107210.10 | -- | ME |
| 03713 | 13680550.91 | 2107253.31 | -- | ME |
| 03714 | 13680540.95 | 2107252.37 | 653.83 | PROP |
| 03715 | 13680535.98 | 2107251.86 | 653.90 | PROP |
| 03716 | 13680531.82 | 2107292.22 | 653.83 | PROP |
| 03717 | 13680536.79 | 2107292.74 | 653.76 | PROP |
| 03718 | 13680546.63 | 2107294.82 | -- | ME |
| 03719 | 13680541.82 | 2107341.20 | -- | ME |
| 03720 | 13680531.82 | 2107340.66 | 654.13 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 03721 | 13680526.85 | 2107340.14 | 654.20 | PROP |
| 03722 | 13680525.36 | 2107355.70 | 654.19 | PROP |
| 03723 | 13680530.33 | 2107356.20 | 654.12 | PROP |
| 03724 | 13680540.20 | 2107357.99 | -- | ME |
| 03725 | 13680533.51 | 2107423.32 | -- | ME |
| 03726 | 13680523.39 | 2107424.09 | 652.89 | PROP |
| 03727 | 13680518.41 | 2107423.59 | 652.96 | PROP |
| 03728 | 13680517.15 | 2107434.95 | 652.99 | PROP |
| 03729 | 13680522.12 | 2107435.51 | 652.92 | PROP |
| 03730 | 13680531.82 | 2107438.92 | -- | ME |
| 03731 | 13680521.08 | 2107446.26 | 652.93 | PROP |
| 03732 | 13680520.44 | 2107452.80 | 652.93 | PROP |
| 03733 | 13680514.06 | 2107465.79 | -- | ME |
| 03734 | 13680519.04 | 2107466.30 | 652.95 | PROP |
| 03735 | 13680529.10 | 2107466.22 | -- | ME |
| 03736 | 13680527.69 | 2107479.83 | -- | ME |
| 03737 | 13680517.95 | 2107476.80 | 653.04 | PROP |
| 03738 | 13680512.98 | 2107476.29 | -- | ME |
| 03739 | 13680509.35 | 2107511.35 | -- | ME |
| 03740 | 13680514.32 | 2107511.86 | 653.60 | PROP |

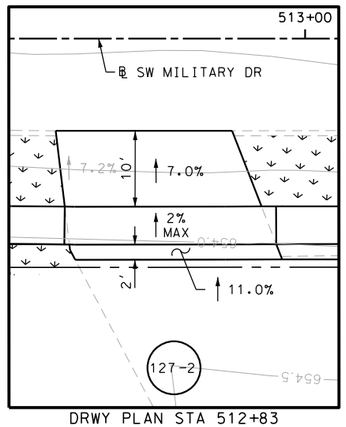
| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 03741 | 13680524.44 | 2107511.28 | -- | ME |

Plotted on: 4/1/2019

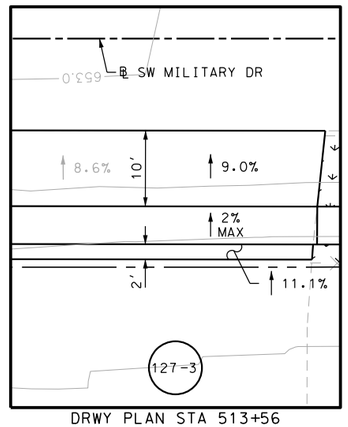
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*03.dgn



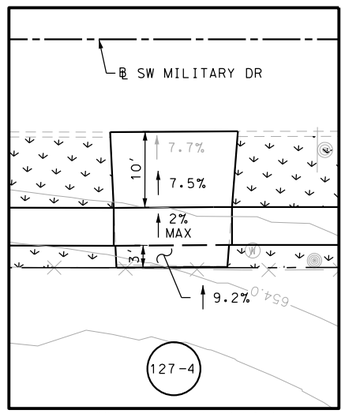

DRWY PLAN STA 512+41



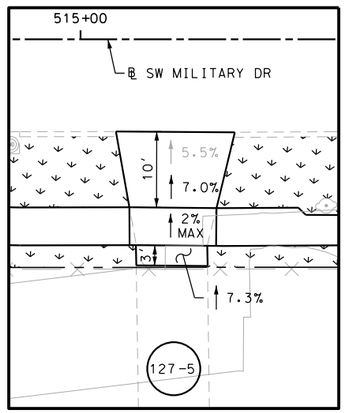

DRWY PLAN STA 512+83



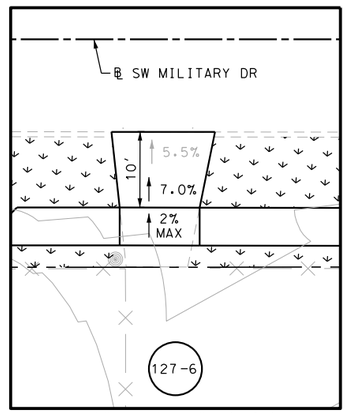

DRWY PLAN STA 513+56




DRWY PLAN STA 514+31




DRWY PLAN STA 515+12




DRWY PLAN STA 515+56

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

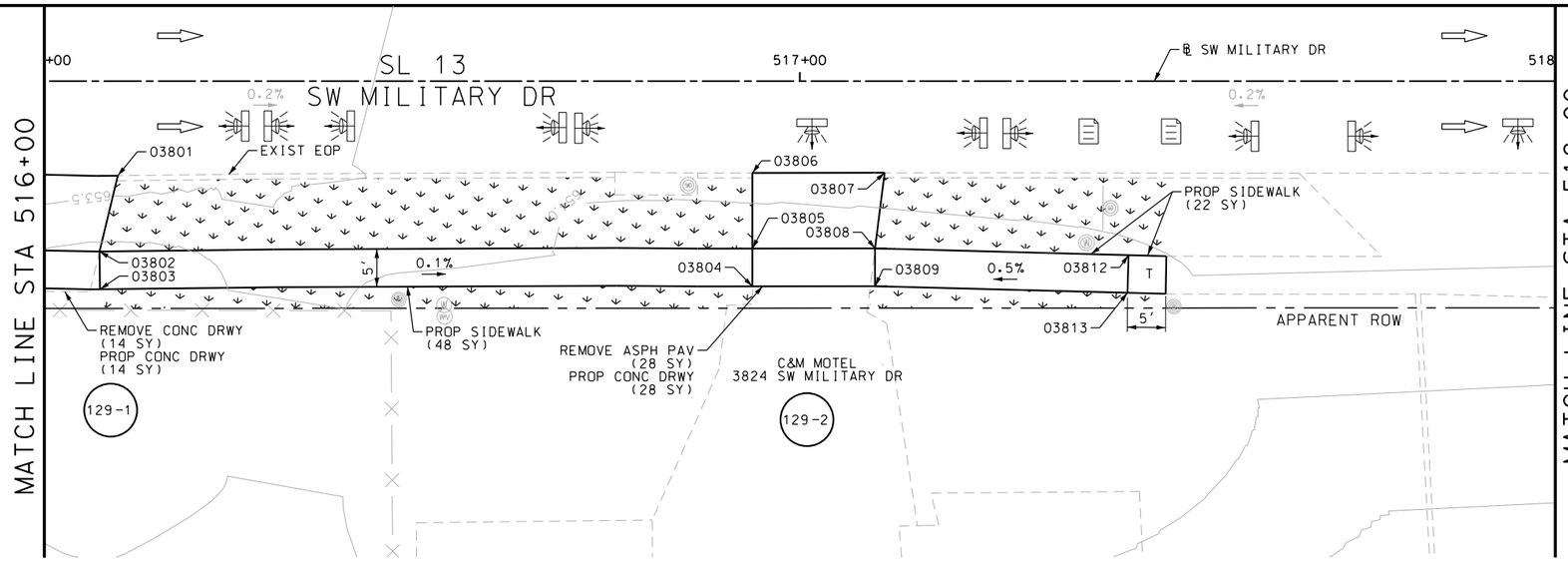
STA 512+00 TO STA 516+00

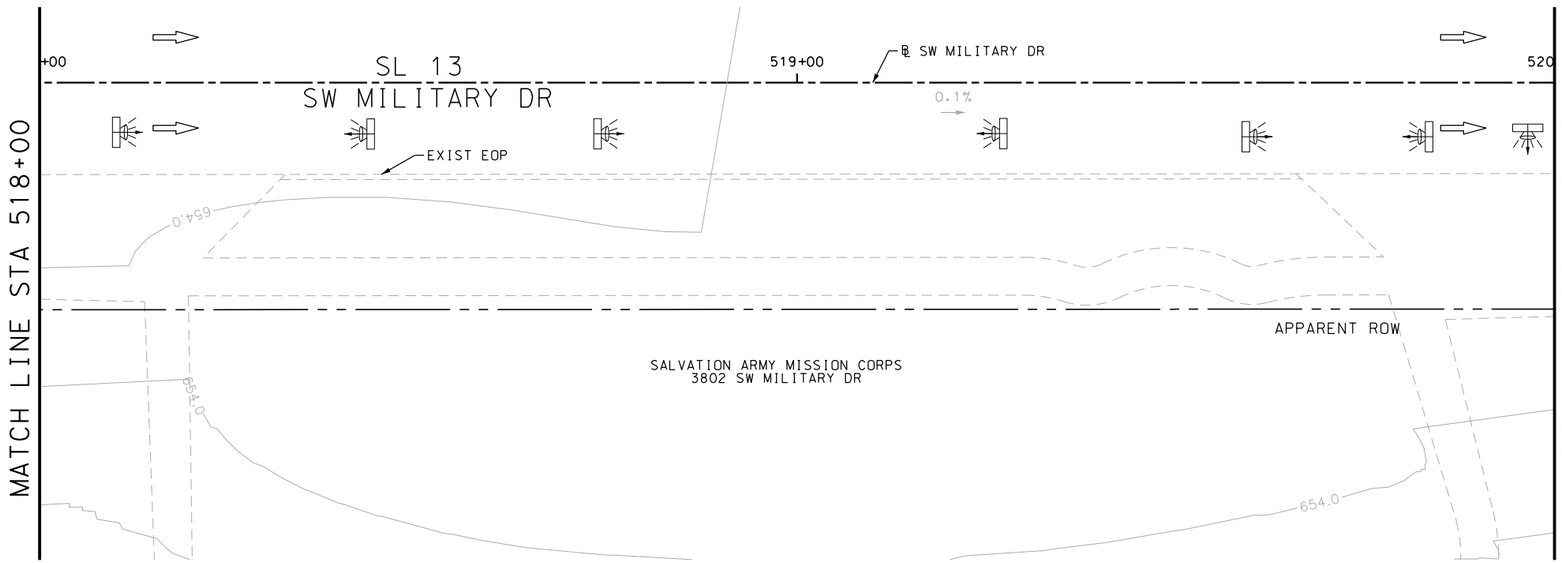
SHEET 5 OF 45

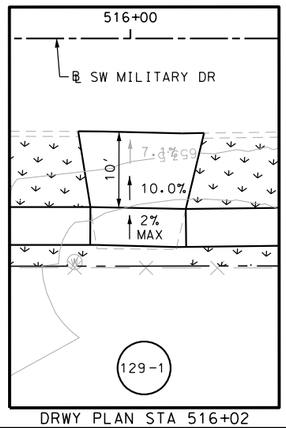
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 128 |

Plotted on: 4/1/2019

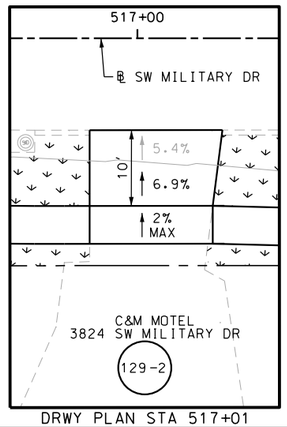
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*03A.dgn




DRWY PLAN STA 516+02




DRWY PLAN STA 517+01

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 14 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 28 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 165 |
| 0162-6002 | BLOCK SODDING | SY | 165 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.57 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 42 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 70 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 03801 | 13680522.53 | 2107527.80 | -- | ME |
| 03802 | 13680512.80 | 2107524.37 | 653.64 | PROP |
| 03803 | 13680507.82 | 2107523.92 | -- | ME |
| 03804 | 13680499.45 | 2107609.86 | -- | ME |
| 03805 | 13680504.42 | 2107610.36 | 653.52 | PROP |
| 03806 | 13680514.37 | 2107611.38 | -- | ME |
| 03807 | 13680512.60 | 2107628.81 | -- | ME |
| 03808 | 13680502.78 | 2107626.53 | 653.55 | PROP |
| 03809 | 13680497.81 | 2107626.02 | -- | ME |
| 03812 | 13680498.49 | 2107659.82 | 653.72 | PROP |
| 03813 | 13680493.55 | 2107659.18 | -- | ME |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



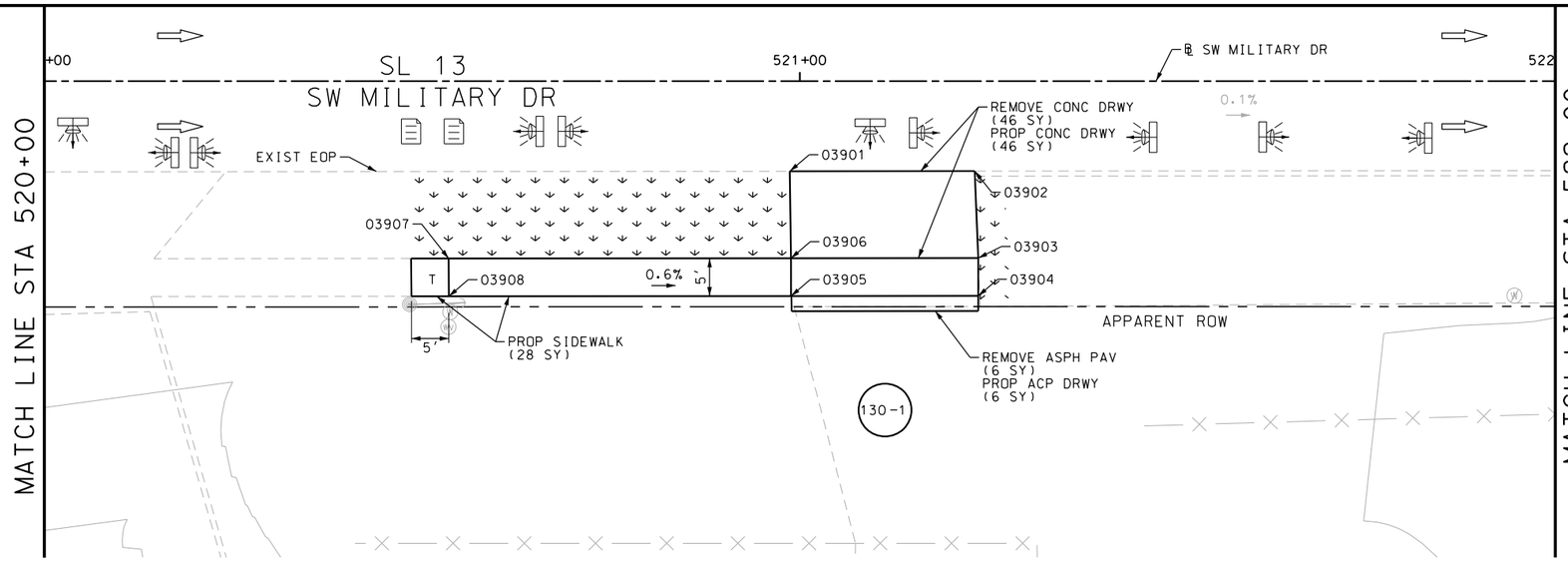
SL 13
SW MILITARY B

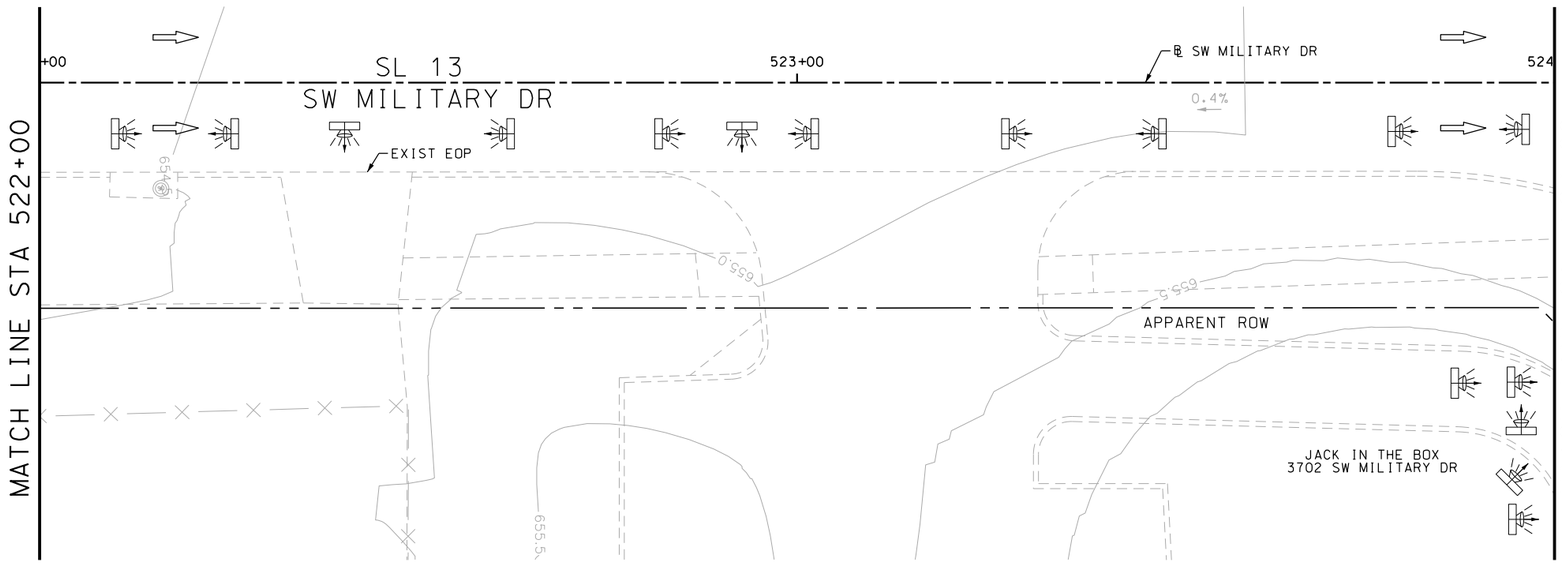
# SIDEWALK CONSTRUCTION PLAN
STA 516+00 TO STA 520+00

SHEET 6 OF 45

| | | | | | | |
|---|---|---|---|---|---|---|
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 129 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*04.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 46 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 6 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 85 |
| 0162-6002 | BLOCK SODDING | SY | 85 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.33 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 46 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 6 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 28 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
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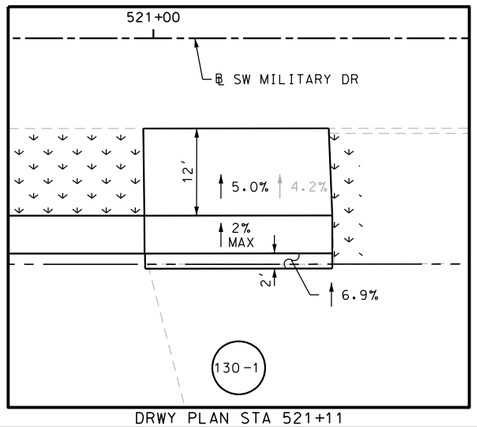
DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019



DRWY PLAN STA 521+11

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 03901 | 13680473.48 | 2108014.27 | -- | ME |
| 03902 | 13680471.01 | 2108038.61 | -- | ME |
| 03903 | 13680459.52 | 2108037.92 | 653.91 | PROP |
| 03904 | 13680454.55 | 2108037.42 | 653.98 | PROP |
| 03905 | 13680457.05 | 2108012.75 | 653.98 | PROP |
| 03906 | 13680462.02 | 2108013.25 | 653.91 | PROP |
| 03907 | 13680466.58 | 2107968.19 | 654.24 | PROP |
| 03908 | 13680461.61 | 2107967.69 | 654.31 | PROP |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



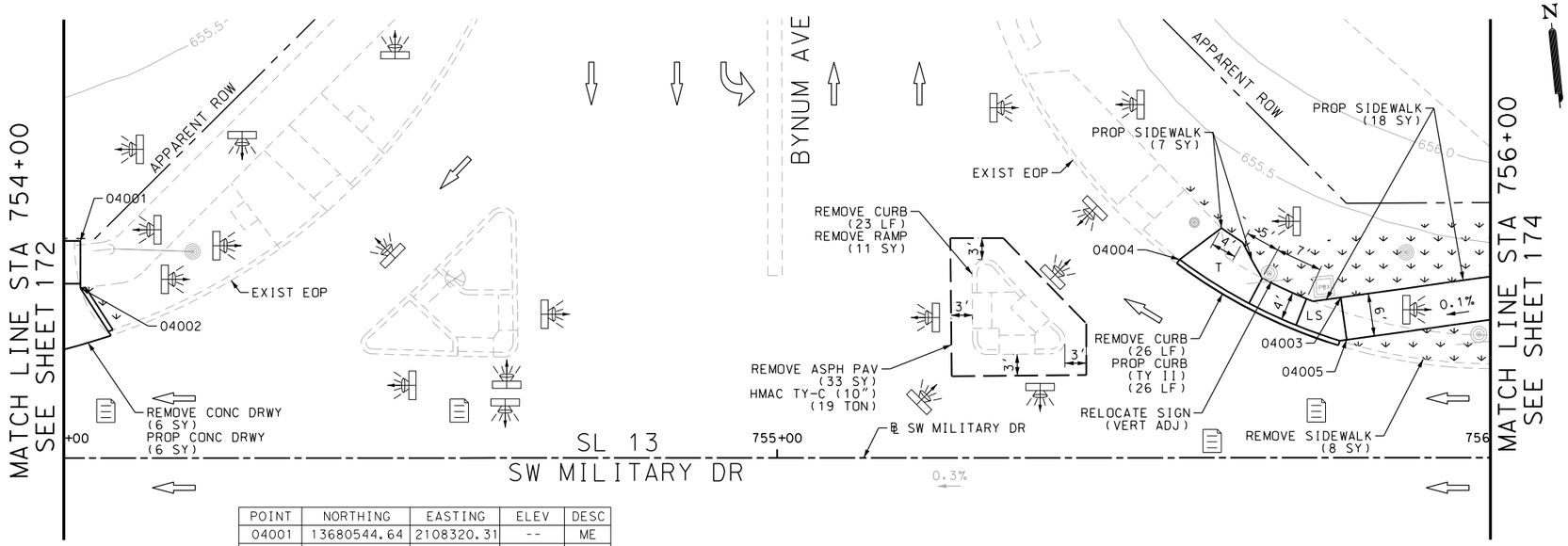
SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 520+00 TO STA 524+00

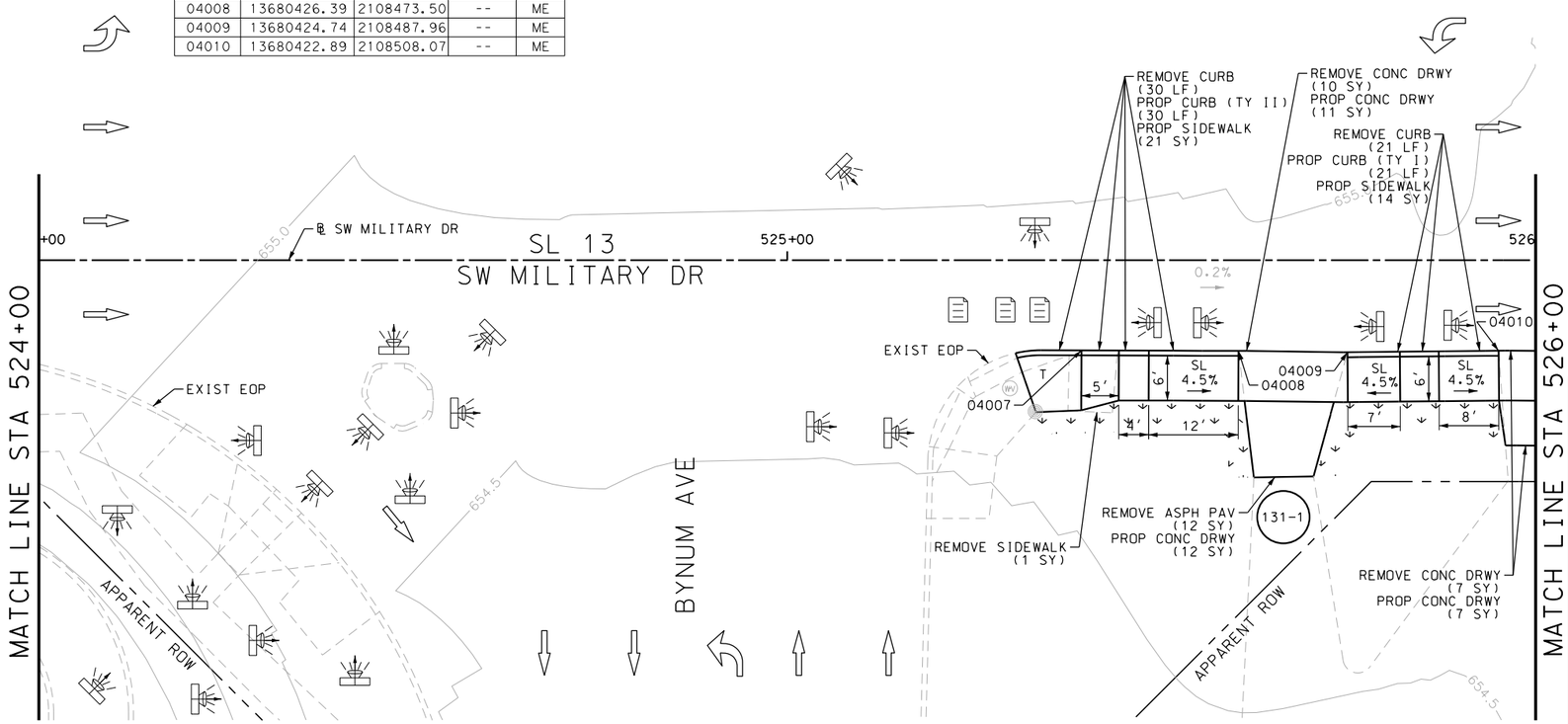
SHEET 7 OF 45

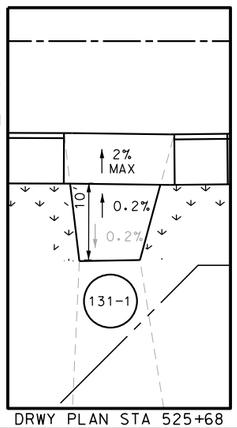
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 130 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*05.dgn




| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 04001 | 13680544.64 | 2108320.31 | -- | ME |
| 04002 | 13680538.07 | 2108319.64 | -- | ME |
| 04003 | 13680518.82 | 2108495.30 | -- | ME |
| 04004 | 13680525.92 | 2108472.92 | -- | ME |
| 04005 | 13680512.82 | 2108495.53 | -- | ME |
| 04007 | 13680428.59 | 2108452.62 | -- | ME |
| 04008 | 13680426.39 | 2108473.50 | -- | ME |
| 04009 | 13680424.74 | 2108487.96 | -- | ME |
| 04010 | 13680422.89 | 2108508.07 | -- | ME |




DRWY PLAN STA 525+68

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 23 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 100 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 20 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 45 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 70 |
| 0162-6002 | BLOCK SODDING | SY | 70 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.09 |
| 0340-6066 | D-GR HMA(SQ) TY-C PG76-22 | TON | 19.0 |
| 0529-6001 | CONC CURB (TY I) | LF | 21 |
| 0529-6002 | CONC CURB (TY II) | LF | 56 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 36 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 60 |
| 0644-6076 | REMOVE SM RD SN SUP&AM | EA | 1 |

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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

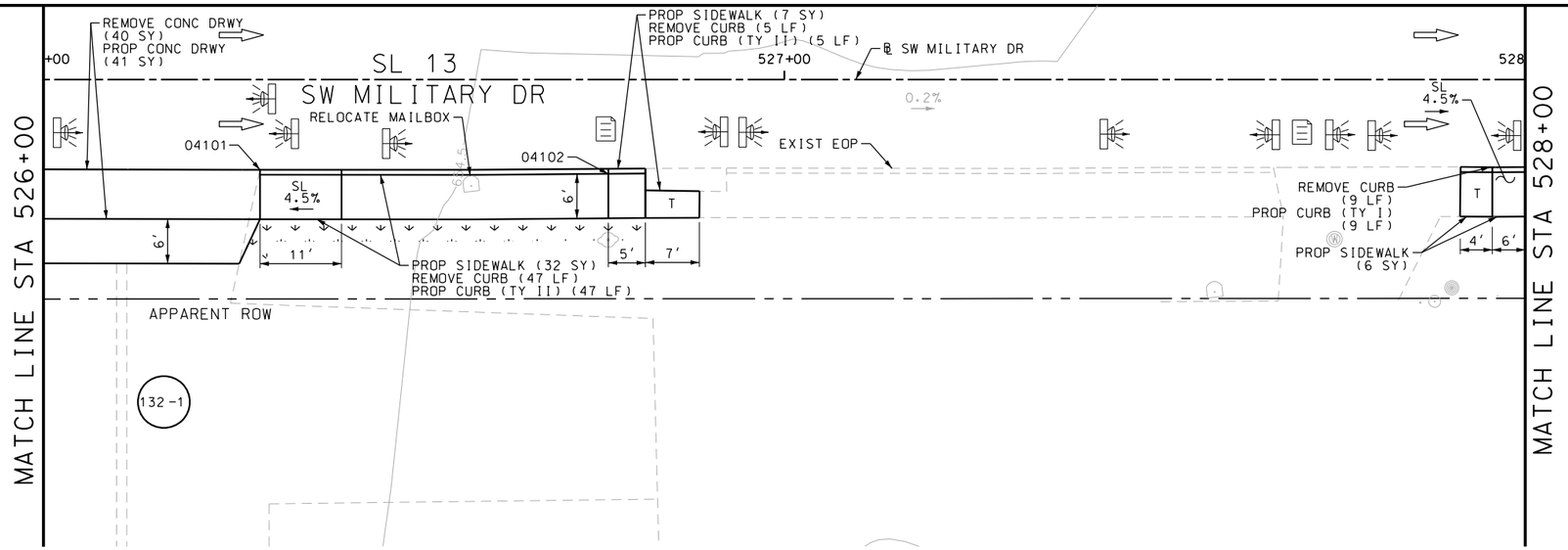
STA 524+00 TO STA 526+00
STA 754+00 TO STA 756+00

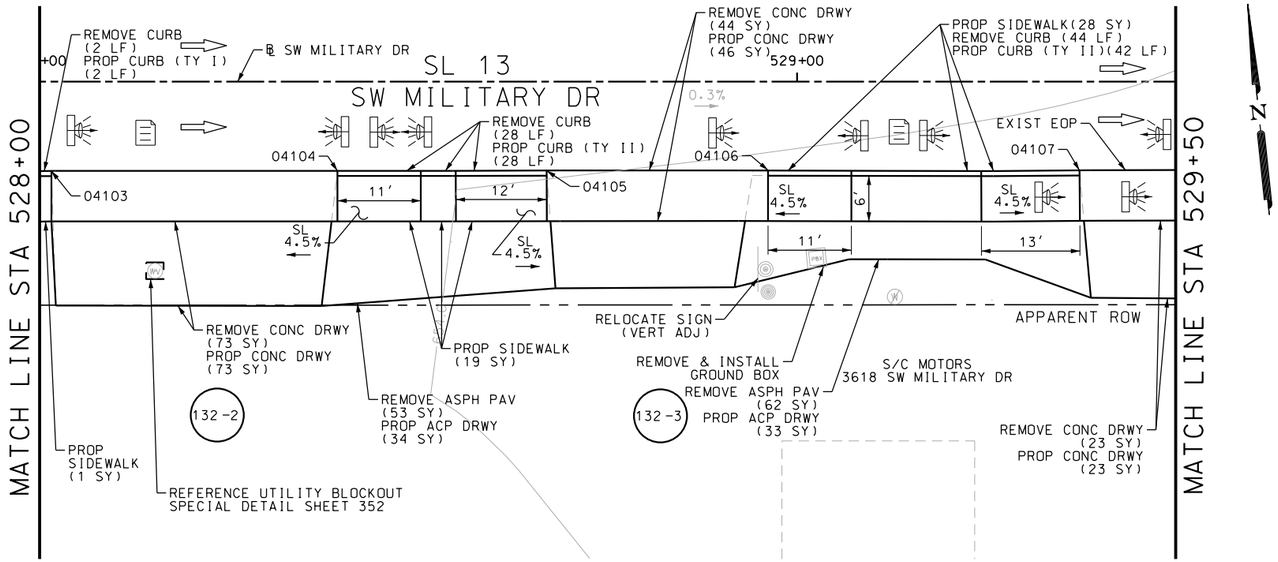


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 131 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\113507+SWMilitaryB+06.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 180 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 135 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 115 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 19 |
| 0162-6002 | BLOCK SODDING | SY | 19 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.30 |
| 0529-6001 | CONC CURB (TY I) | LF | 11 |
| 0529-6002 | CONC CURB (TY II) | LF | 122 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 183 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 67 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 93 |
| 0560-6014 | MAILBOX INSTALL-S (TWG-POST) TY 4 | EA | 1 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 1 |
| 0624-6028 | REMOVE GROUND BOX | EA | 1 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

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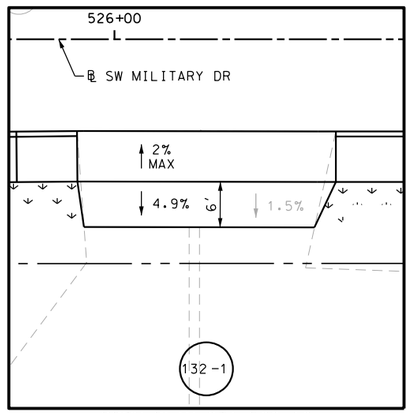
DESIGN

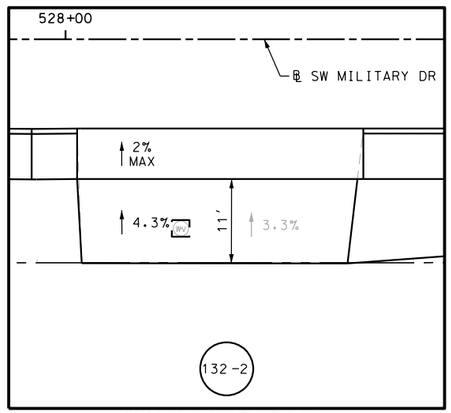
INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

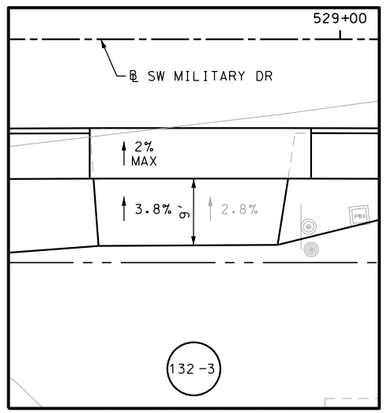
INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019



DRWY PLAN STA 526+12



DRWY PLAN STA 528+21



DRWY PLAN STA 528+80

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 04101 | 13680419.36 | 2108542.07 | -- | ME |
| 04102 | 13680414.05 | 2108588.77 | -- | ME |
| 04103 | 13680402.25 | 2108713.53 | -- | ME |
| 04104 | 13680398.43 | 2108751.12 | -- | ME |
| 04105 | 13680395.67 | 2108778.59 | -- | ME |
| 04106 | 13680392.70 | 2108807.68 | -- | ME |
| 04107 | 13680388.55 | 2108848.60 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



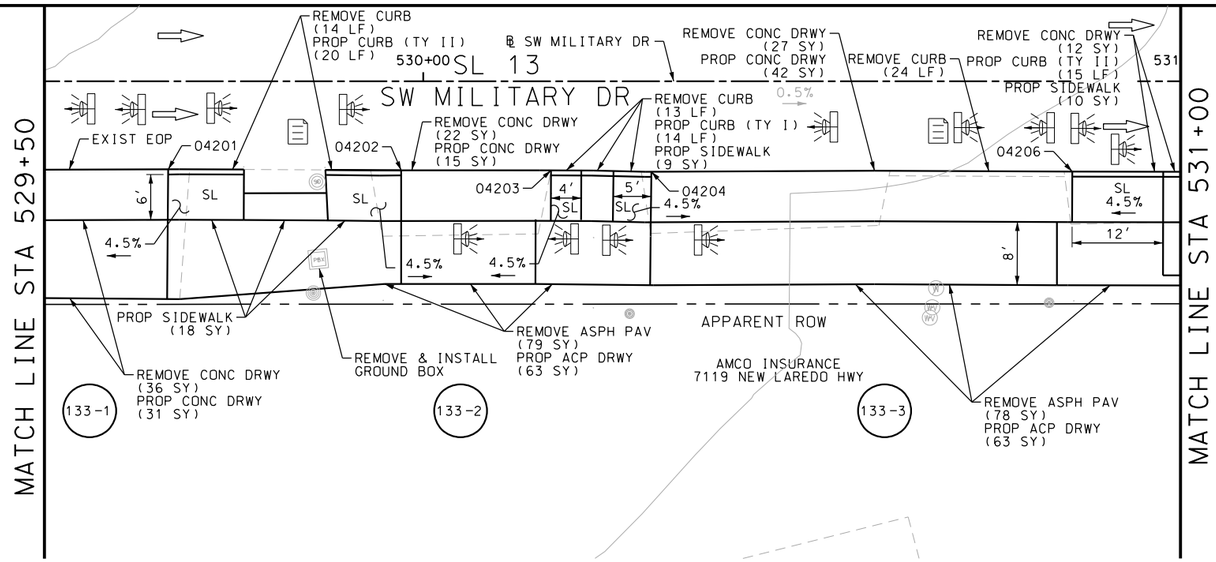
SL 13
SW MILITARY B

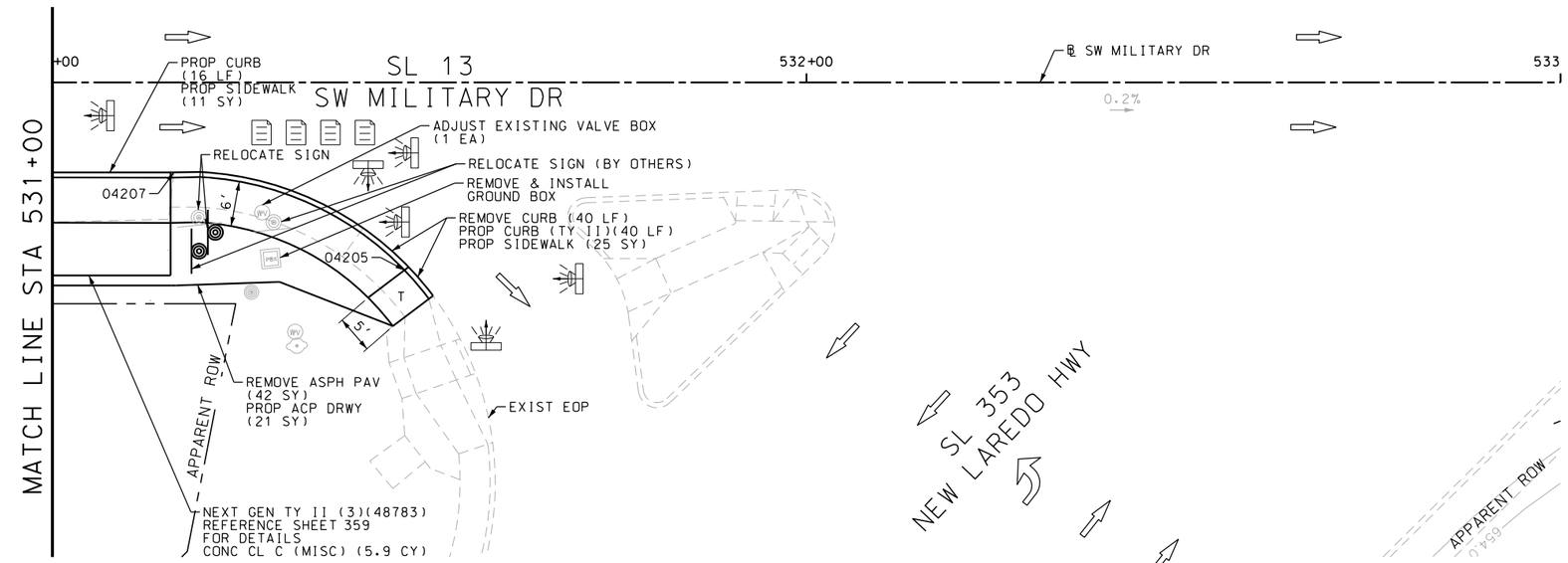
# SIDEWALK CONSTRUCTION PLAN
STA 526+00 TO STA 529+50

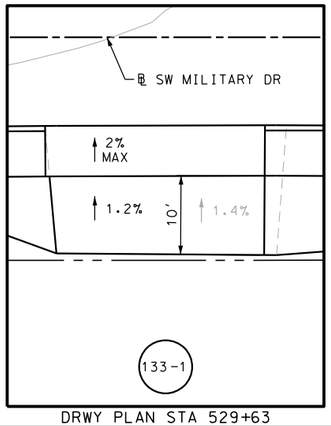


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 132 |

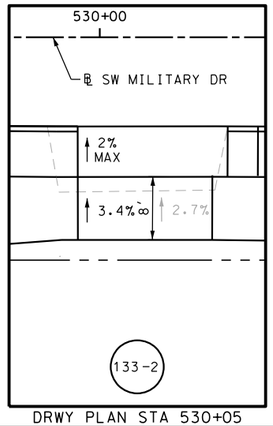
Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*07.dgn



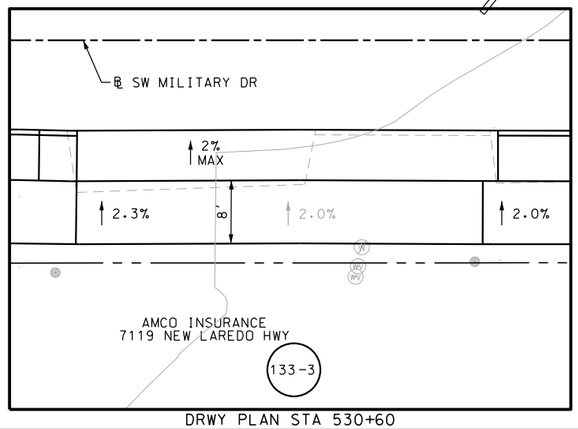




DRWY PLAN STA 529+63




DRWY PLAN STA 530+05




DRWY PLAN STA 530+60

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 97 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 91 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 199 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0529-6001 | CONC CURB (TY I) | LF | 14 |
| 0529-6002 | CONC CURB (TY II) | LF | 91 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 88 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 147 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 73 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 2 |
| 0624-6028 | REMOVE GROUND BOX | EA | 2 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 04201 | 13680385.68 | 2108877.48 | -- | ME |
| 04202 | 13680382.43 | 2108908.06 | -- | ME |
| 04203 | 13680380.43 | 2108927.76 | -- | ME |
| 04204 | 13680378.90 | 2108940.93 | -- | ME |
| 04205 | 13680354.15 | 2109055.57 | -- | ME |
| 04206 | 13680373.28 | 2108996.20 | -- | ME |
| 04207 | 13680370.19 | 2109026.04 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

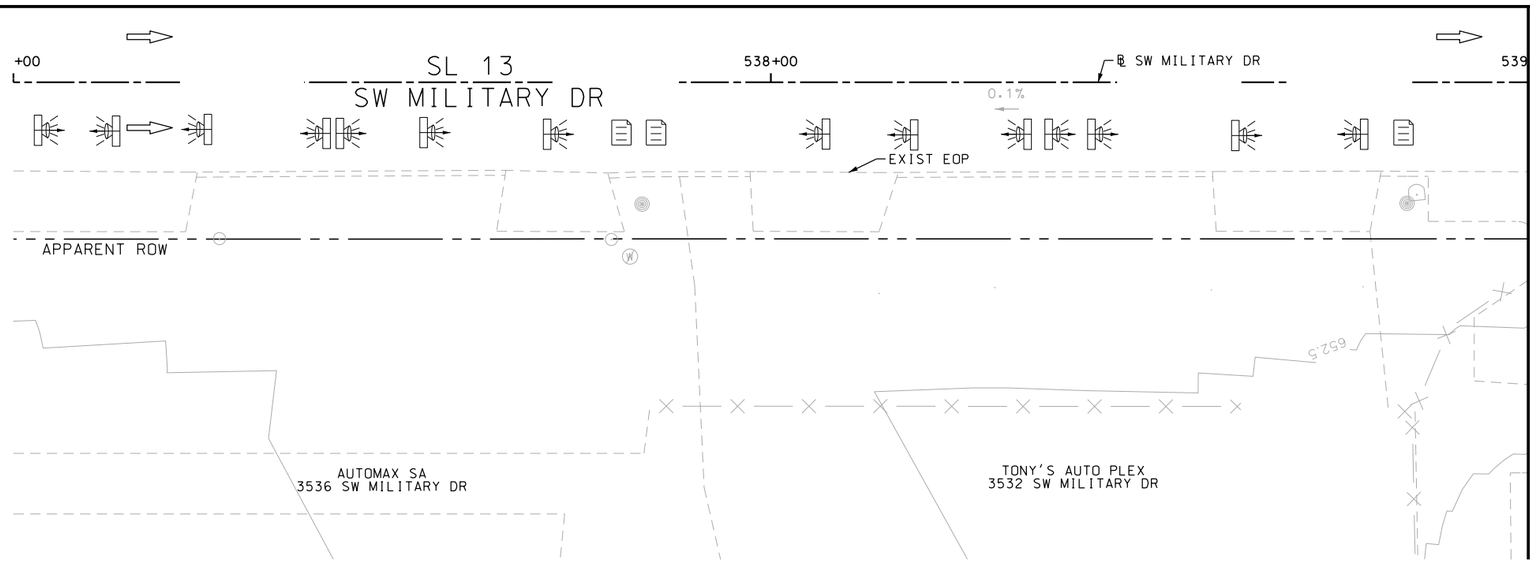
# SIDEWALK CONSTRUCTION PLAN
STA 529+50 TO STA 533+00

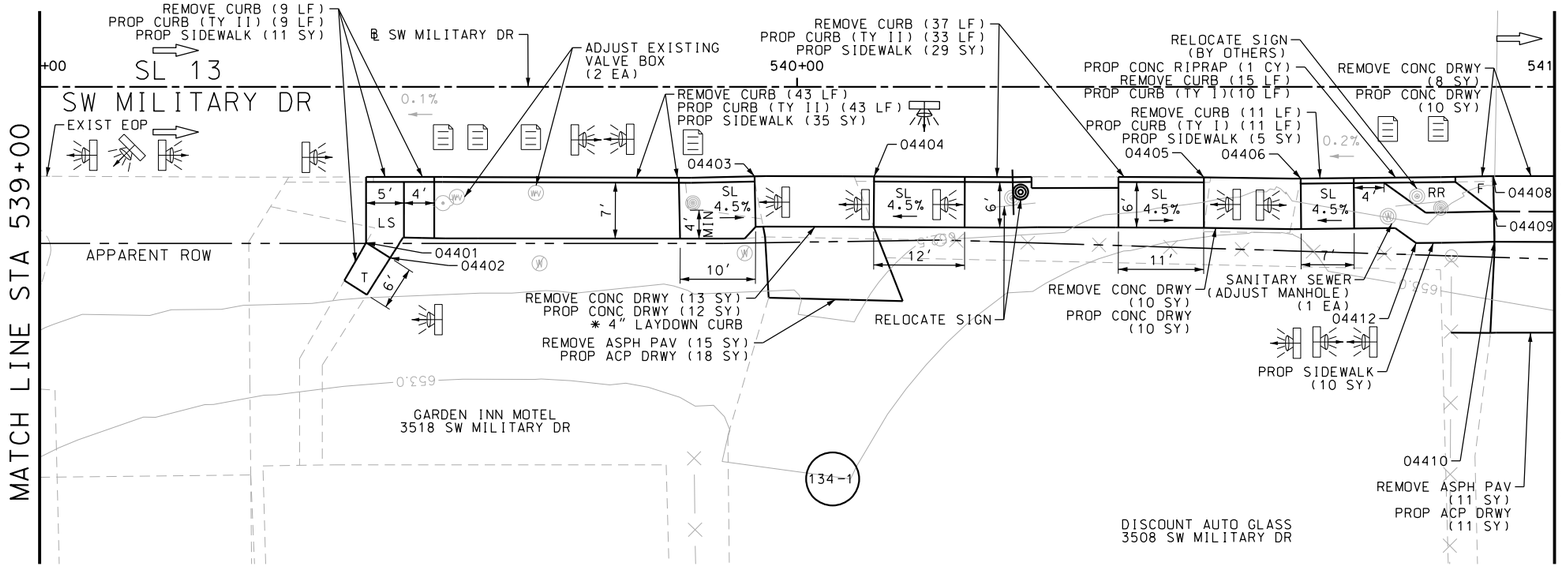
SHEET 10 OF 45

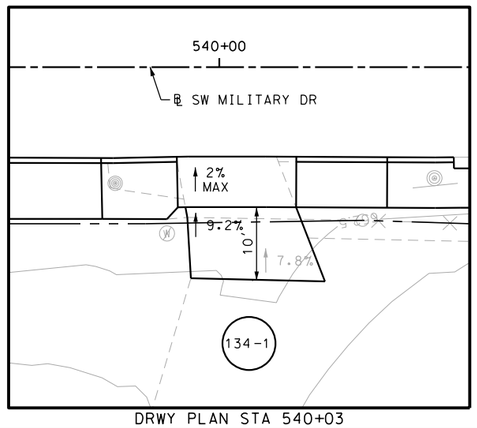
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 133 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*08.dgn




DRWY PLAN STA 540+03

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 04401 | 13680277.63 | 2109848.31 | -- | ME |
| 04402 | 13680275.31 | 2109851.27 | -- | ME |
| 04403 | 13680281.13 | 2109900.21 | -- | ME |
| 04404 | 13680279.52 | 2109915.91 | -- | ME |
| 04405 | 13680274.99 | 2109959.23 | -- | ME |
| 04406 | 13680273.53 | 2109971.93 | -- | ME |
| 04408 | 13680271.26 | 2109997.24 | -- | ME |
| 04409 | 13680266.60 | 2109996.86 | 651.65 | PROP |
| 04410 | 13680262.62 | 2109996.53 | 651.72 | PROP |
| 04412 | 13680263.50 | 2109986.22 | 651.89 | PROP |

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 31 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 115 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 26 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 56 |
| 0162-6002 | BLOCK SODDING | SY | 56 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.87 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 1 |
| 0529-6001 | CONC CURB (TY I) | LF | 21 |
| 0529-6002 | CONC CURB (TY II) | LF | 85 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 32 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 29 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 90 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 2 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



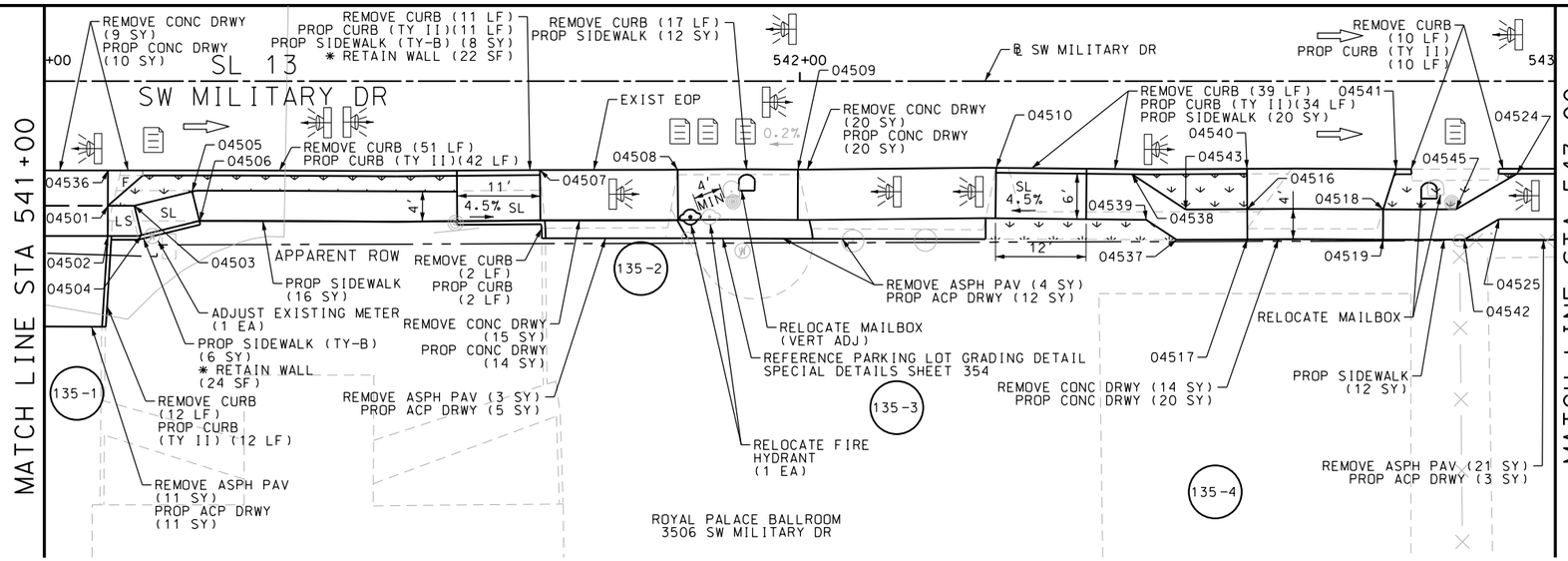
SL 13
SW MILITARY B

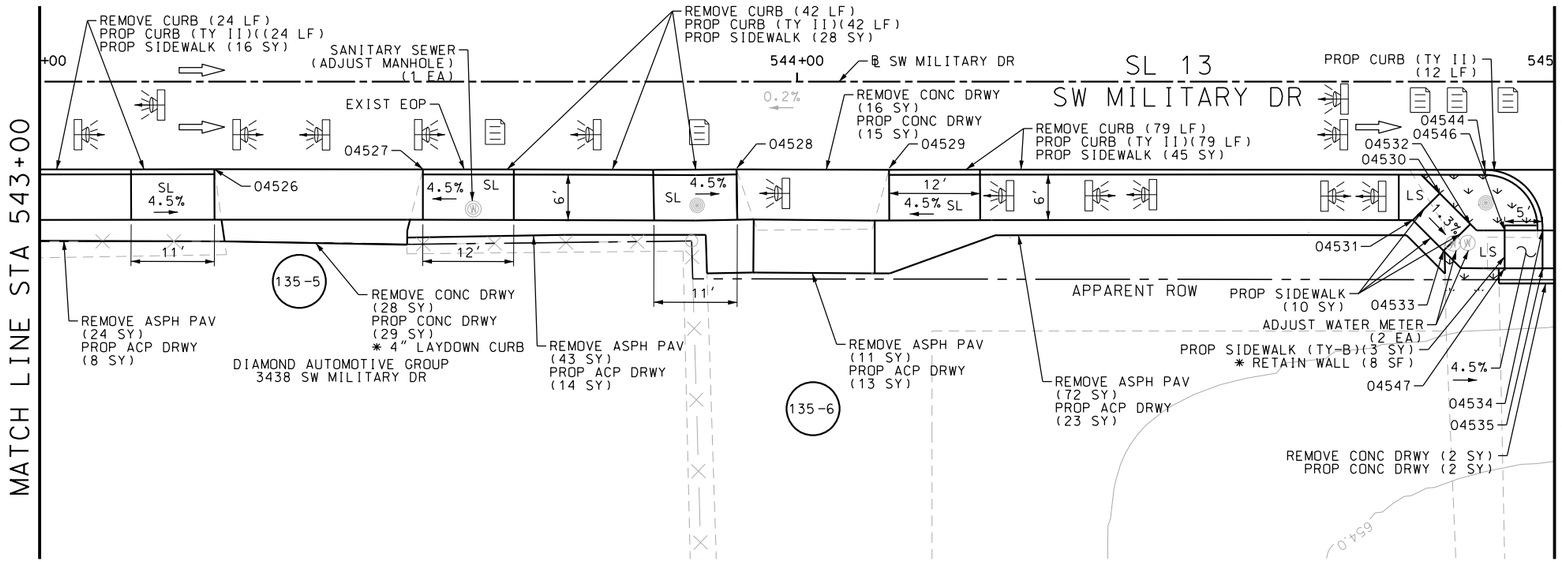
# SIDEWALK CONSTRUCTION PLAN
STA 537+00 TO STA 541+00

SHEET 11 OF 45

| DGNs | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGNs | 6 | TEXAS | | | | VARIES |
| DWGs | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWGs | SAT | BEXAR | 0915 | 12 | 576 | 134 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\113507*SWMilitaryB*10.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 104 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 287 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 189 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 67 |
| 0162-6002 | BLOCK SODDING | SY | 67 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.05 |
| 0529-6002 | CONC CURB (TY II) | LF | 268 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 110 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 89 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 159 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 17 |
| 0560-6014 | MAILBOX INSTALL-S (TWG-POST) TY 4 | EA | 2 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 3 |
| 7196-6004 | RELOCATE FIRE HYDRANT | EA | 1 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 541+00 TO STA 545+00

SHEET 12 OF 45

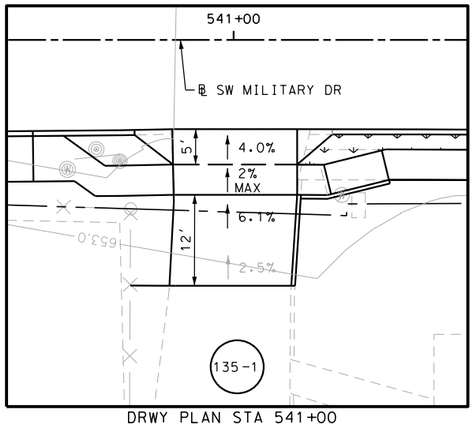
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 135 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 04501 | 13680264.93 | 2110013.16 | 651.70 | PROP |
| 04502 | 13680260.95 | 2110012.75 | 651.77 | PROP |
| 04503 | 13680264.57 | 2110016.66 | 651.75 | PROP |
| 04504 | 13680260.61 | 2110017.21 | 651.82 | PROP |
| 04505 | 13680265.66 | 2110024.45 | 652.10 | PROP |
| 04506 | 13680261.70 | 2110025.01 | 652.12 | PROP |
| 04507 | 13680263.82 | 2110070.54 | -- | ME |
| 04508 | 13680262.01 | 2110088.68 | -- | ME |
| 04509 | 13680260.42 | 2110104.51 | -- | ME |
| 04510 | 13680257.99 | 2110130.63 | -- | ME |
| 04516 | 13680249.17 | 2110163.14 | 652.25 | PROP |
| 04517 | 13680245.19 | 2110162.75 | -- | ME |
| 04518 | 13680247.31 | 2110181.05 | 652.23 | PROP |
| 04519 | 13680243.34 | 2110180.63 | -- | ME |
| 04524 | 13680250.18 | 2110199.14 | -- | ME |
| 04525 | 13680244.45 | 2110196.18 | -- | ME |
| 04526 | 13680248.03 | 2110227.22 | -- | ME |
| 04527 | 13680245.22 | 2110254.62 | -- | ME |
| 04528 | 13680241.02 | 2110295.80 | -- | ME |
| 04529 | 13680238.90 | 2110315.83 | -- | ME |

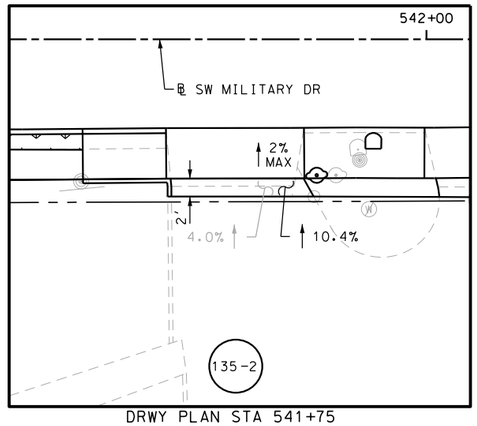
| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 04530 | 13680228.43 | 2110387.84 | 652.63 | PROP |
| 04531 | 13680225.28 | 2110383.96 | 652.70 | PROP |
| 04532 | 13680224.00 | 2110391.45 | 652.48 | PROP |
| 04533 | 13680220.84 | 2110387.57 | 652.55 | PROP |
| 04534 | 13680222.19 | 2110400.85 | 652.30 | PROP |
| 04535 | 13680217.22 | 2110400.34 | 652.37 | PROP |
| 04536 | 13680269.58 | 2110013.64 | -- | ME |
| 04537 | 13680246.09 | 2110153.44 | 652.23 | PROP |
| 04538 | 13680255.31 | 2110148.44 | -- | ME |
| 04539 | 13680249.13 | 2110149.70 | -- | ME |
| 04540 | 13680254.48 | 2110163.65 | -- | ME |
| 04541 | 13680252.44 | 2110183.27 | -- | ME |
| 04542 | 13680242.26 | 2110191.33 | -- | ME |
| 04543 | 13680249.95 | 2110155.03 | 652.16 | PROP |
| 04544 | 13680230.93 | 2110394.11 | -- | ME |
| 04545 | 13680246.34 | 2110190.66 | 652.21 | PROP |
| 04546 | 13680222.70 | 2110395.88 | 652.39 | PROP |
| 04547 | 13680217.73 | 2110395.37 | 652.46 | PROP |

Plotted on: 4/1/2019

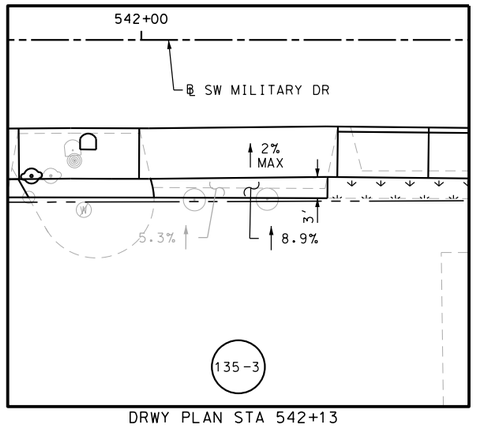
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*11.dgn



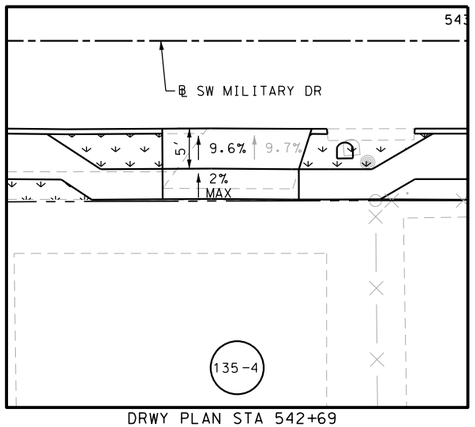
DRWY PLAN STA 541+00



DRWY PLAN STA 541+75



DRWY PLAN STA 542+13



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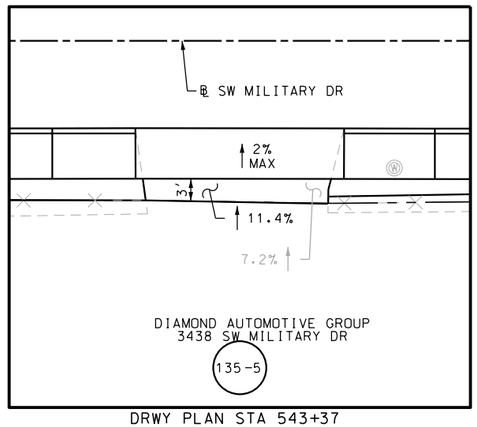

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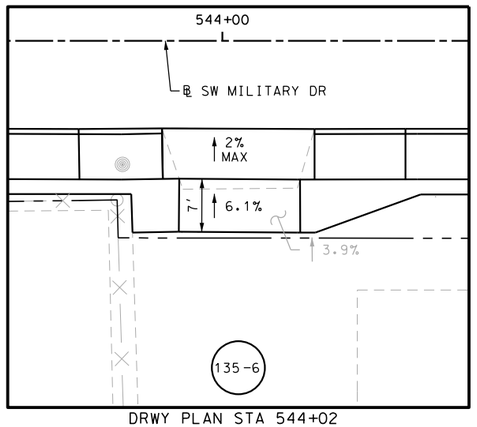

DRWY PLAN STA 544+02

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 541+00 TO STA 545+00

SHEET 13 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 136 |

Plotted on: 4/1/2019

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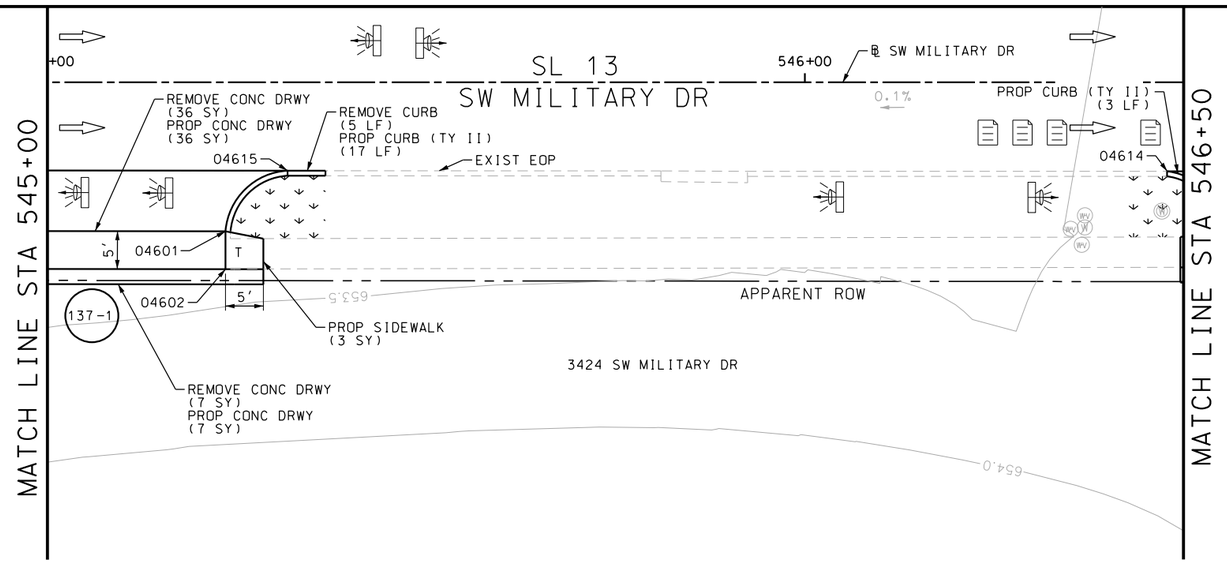
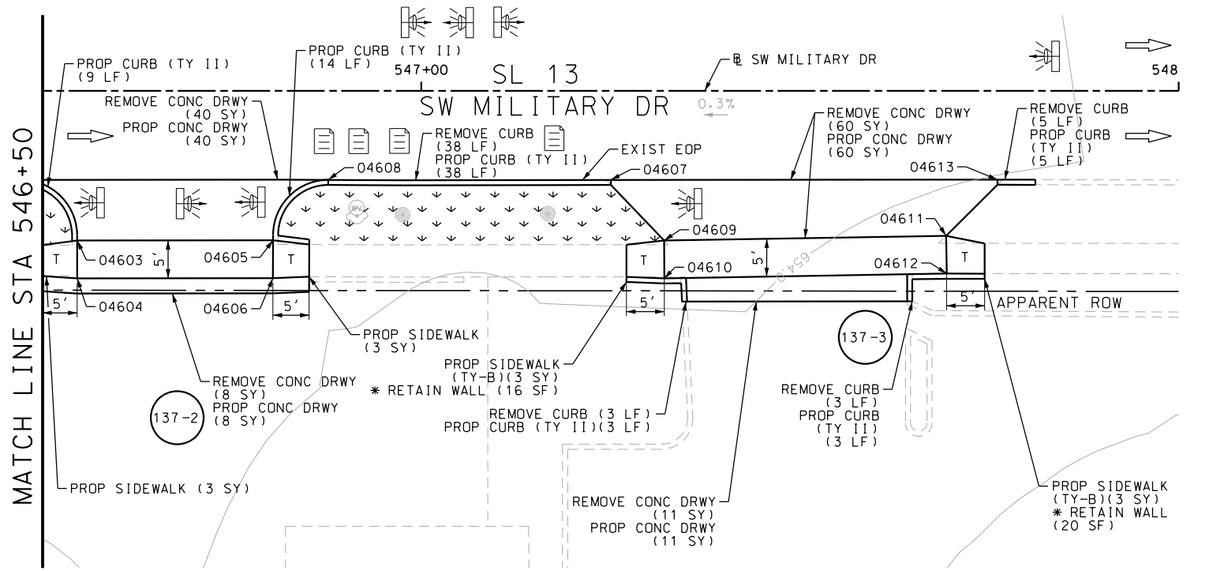
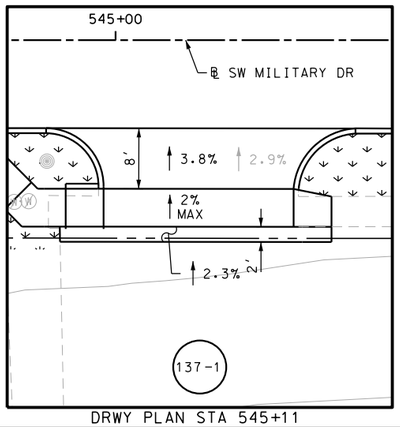
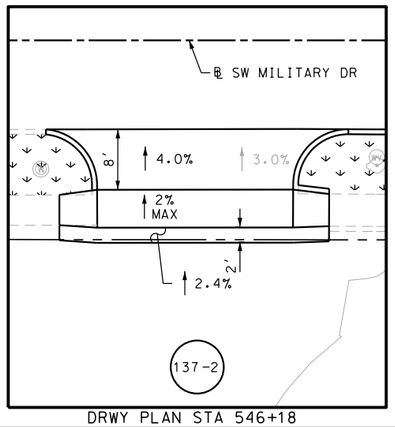


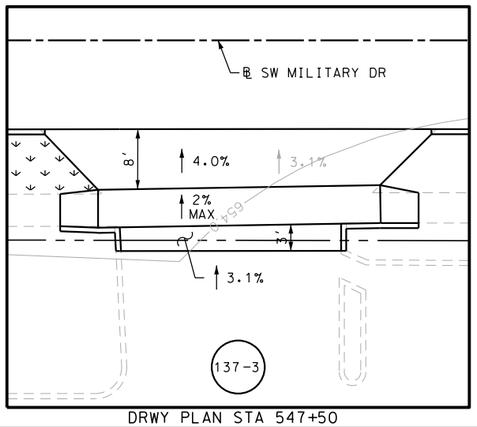




DRWY PLAN STA 545+11




DRWY PLAN STA 546+18




DRWY PLAN STA 547+50

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 162 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 54 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 59 |
| 0162-6002 | BLOCK SODDING | SY | 59 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.92 |
| 0529-6002 | CONC CURB (TY II) | LF | 92 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 162 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 9 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 6 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 04601 | 13680219.62 | 2110425.80 | -- | ME |
| 04602 | 13680214.65 | 2110425.28 | 652.50 | PROP |
| 04603 | 13680206.22 | 2110556.17 | 652.79 | PROP |
| 04604 | 13680201.24 | 2110555.67 | 652.86 | PROP |
| 04605 | 13680203.63 | 2110581.92 | 652.90 | PROP |
| 04606 | 13680198.66 | 2110581.39 | 652.97 | PROP |
| 04607 | 13680207.02 | 2110627.09 | -- | ME |
| 04608 | 13680210.82 | 2110589.97 | -- | ME |
| 04609 | 13680198.35 | 2110633.28 | 652.98 | PROP |
| 04610 | 13680193.38 | 2110632.77 | 653.05 | PROP |
| 04611 | 13680195.19 | 2110670.37 | 653.10 | PROP |
| 04612 | 13680190.21 | 2110669.95 | 653.17 | PROP |
| 04613 | 13680201.87 | 2110677.87 | -- | ME |
| 04614 | 13680214.86 | 2110550.27 | -- | ME |
| 04615 | 13680226.74 | 2110434.75 | -- | ME |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



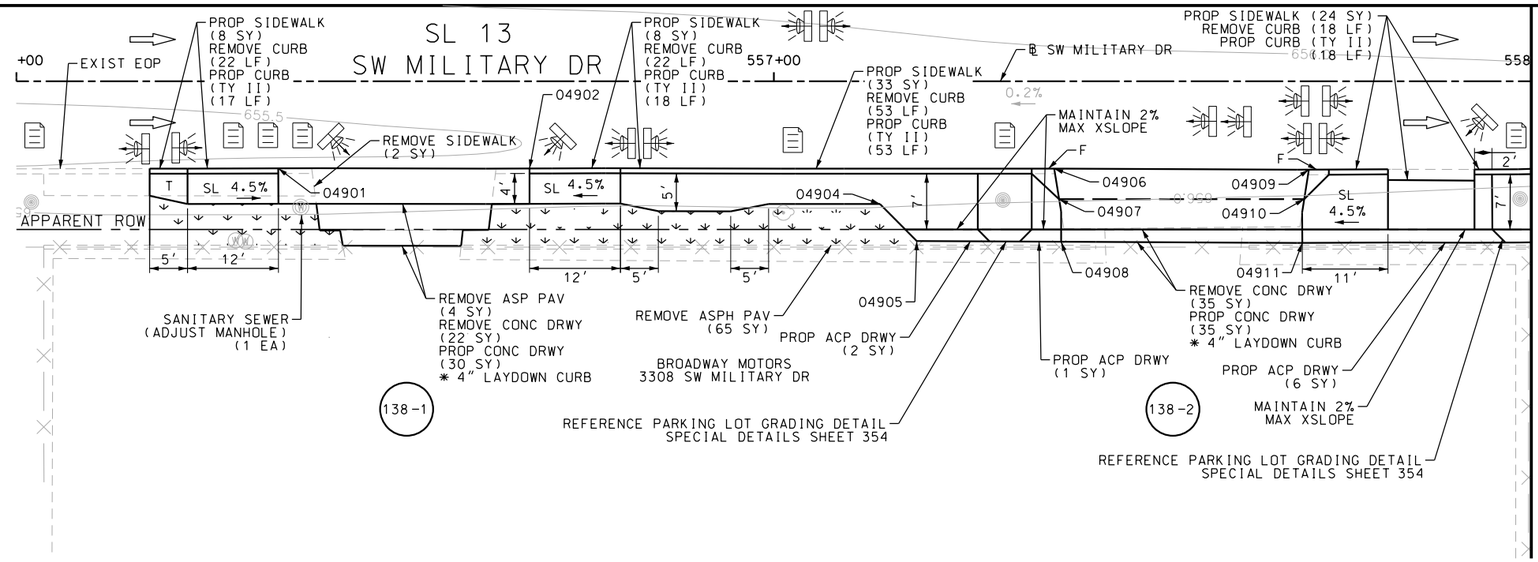
SL 13
SW MILITARY B

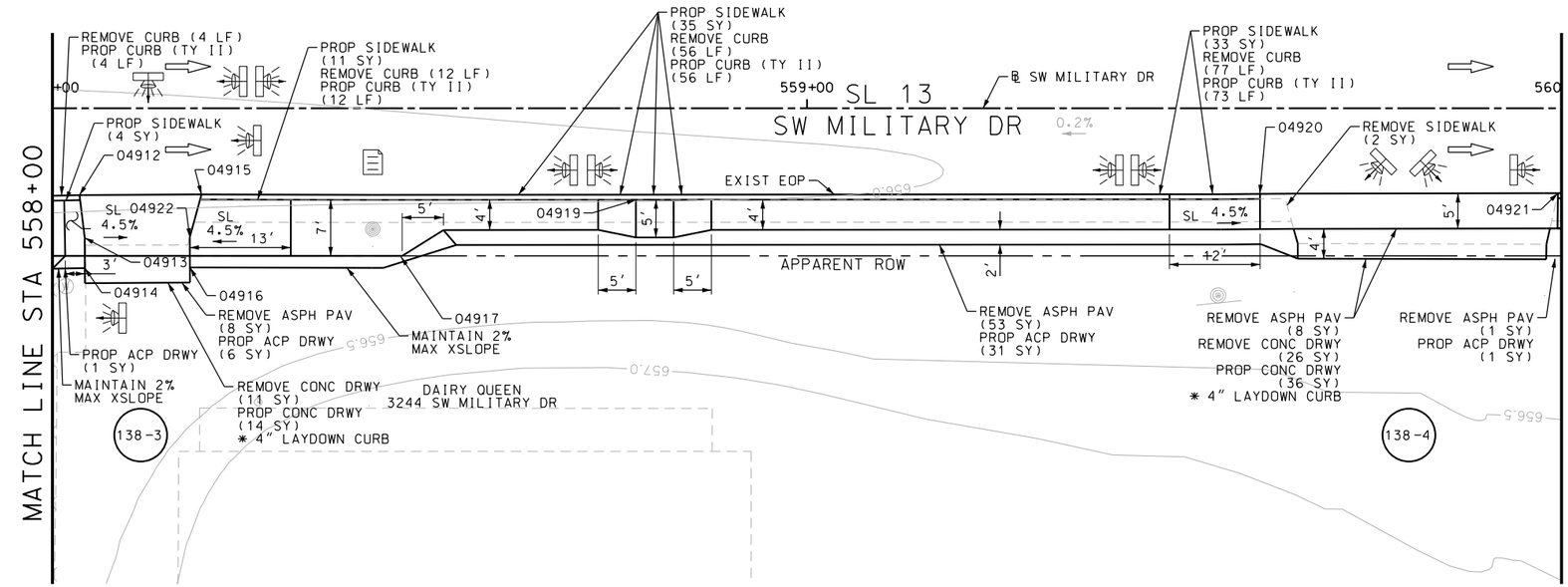
# SIDEWALK CONSTRUCTION PLAN
STA 545+00 TO STA 548+00

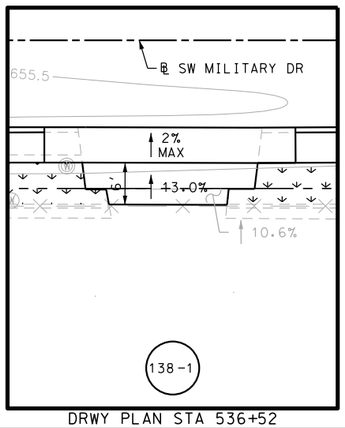
SHEET 14 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 137 |

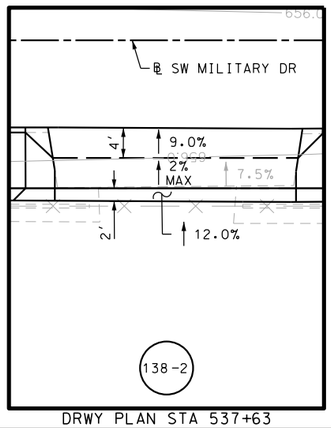
Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*12.dgn



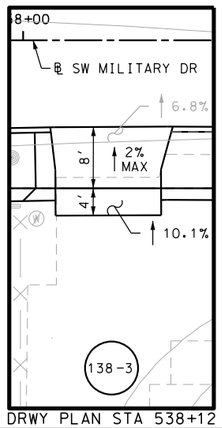



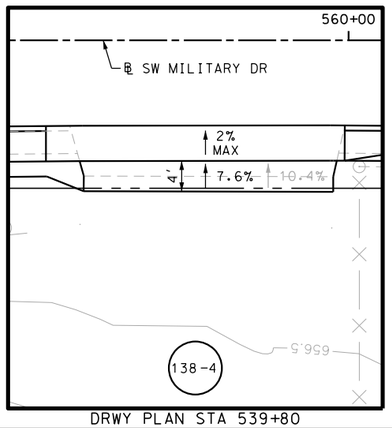

DRWY PLAN STA 536+52




DRWY PLAN STA 537+63




DRWY PLAN STA 538+12




DRWY PLAN STA 539+80

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 94 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 264 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 4 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 139 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 46 |
| 0162-6002 | BLOCK SODDING | SY | 46 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.72 |
| 0529-6002 | CONC CURB (TY II) | LF | 251 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 115 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 48 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 156 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 556+00 TO STA 560+00

SHEET 15 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 138 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*15.dgn

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 04901 | 13680114.95 | 2111531.95 | -- | ME |
| 04902 | 13680111.57 | 2111564.94 | -- | ME |
| 04904 | 13680102.21 | 2111610.50 | -- | ME |
| 04905 | 13680096.85 | 2111614.84 | -- | ME |
| 04906 | 13680104.53 | 2111633.85 | -- | ME |
| 04907 | 13680100.44 | 2111634.09 | 655.47 | PROP |
| 04908 | 13680094.82 | 2111633.78 | 655.54 | PROP |
| 04909 | 13680100.97 | 2111667.30 | -- | ME |
| 04910 | 13680097.16 | 2111666.30 | 655.58 | PROP |
| 04911 | 13680091.43 | 2111665.46 | 655.65 | PROP |
| 04912 | 13680097.79 | 2111700.10 | -- | ME |
| 04913 | 13680092.09 | 2111700.20 | -- | ME |
| 04914 | 13680088.11 | 2111699.82 | -- | ME |
| 04915 | 13680096.23 | 2111716.20 | -- | ME |
| 04916 | 13680086.76 | 2111713.68 | -- | ME |
| 04917 | 13680085.44 | 2111741.83 | -- | ME |
| 04918 | 13680088.30 | 2111747.60 | -- | ME |
| 04919 | 13680089.71 | 2111773.40 | -- | ME |
| 04920 | 13680082.07 | 2111855.76 | -- | ME |
| 04921 | 13680078.15 | 2111895.04 | -- | ME |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 04922 | 13680090.75 | 2111714.07 | -- | ME |

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

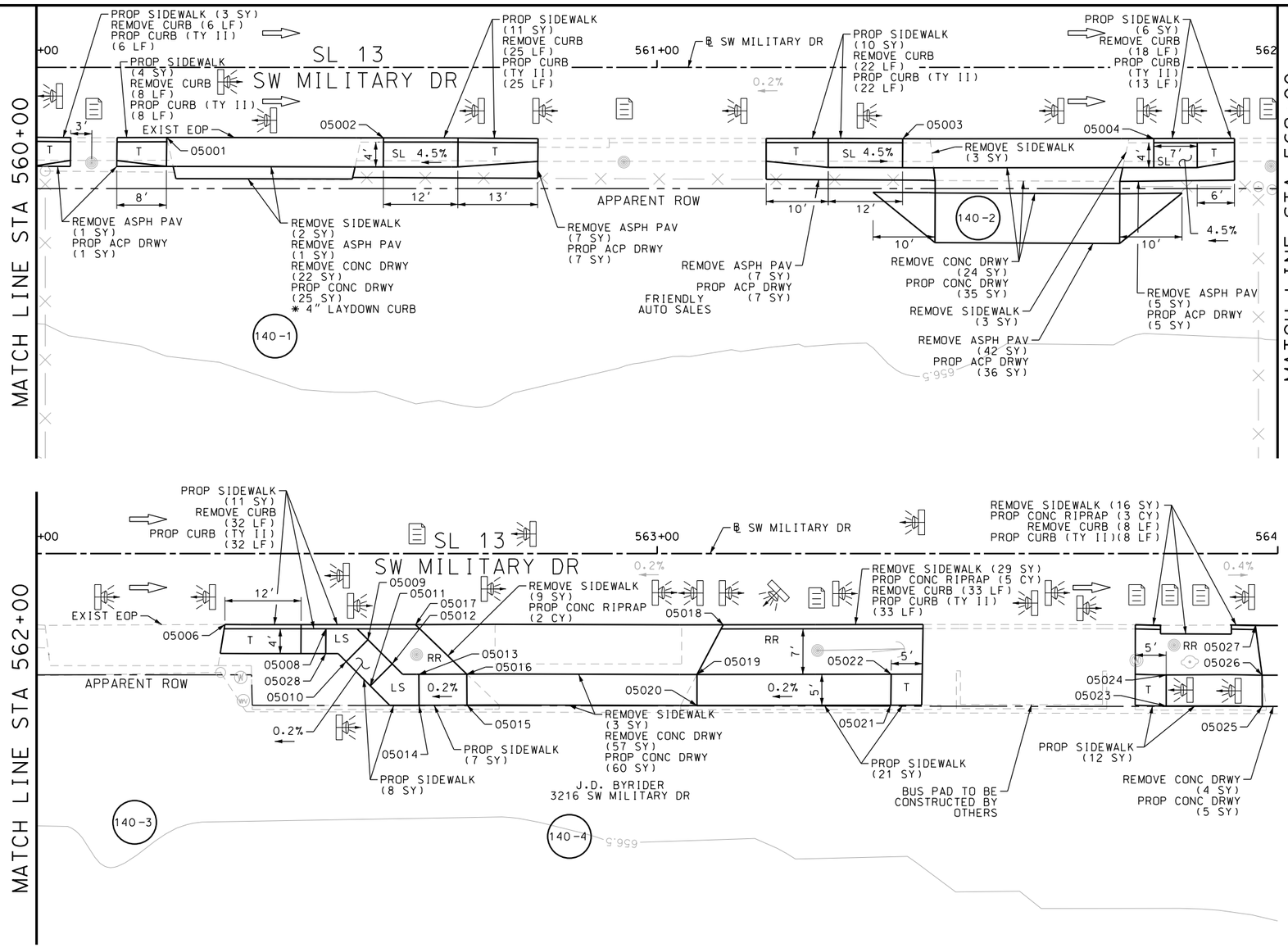
STA 556+00 TO STA 560+00

SHEET 16 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 139 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*15A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 107 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 152 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 65 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 63 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 10 |
| 0529-6002 | CONC CURB (TY II) | LF | 147 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 125 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 56 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 93 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 05001 | 13680075.93 | 2111916.39 | -- | ME |
| 05002 | 13680072.33 | 2111951.14 | -- | ME |
| 05003 | 13680063.71 | 2112034.37 | -- | ME |
| 05004 | 13680059.61 | 2112074.62 | -- | ME |
| 05006 | 13680054.53 | 2112124.94 | -- | ME |
| 05008 | 13680052.20 | 2112140.78 | -- | ME |
| 05009 | 13680049.77 | 2112147.35 | 656.56 | PROP |
| 05010 | 13680046.61 | 2112143.47 | 656.63 | PROP |
| 05011 | 13680042.34 | 2112146.96 | 656.65 | PROP |
| 05012 | 13680045.50 | 2112150.83 | 656.58 | PROP |
| 05013 | 13680043.39 | 2112154.94 | 656.65 | PROP |
| 05014 | 13680038.41 | 2112154.45 | 656.72 | PROP |
| 05015 | 13680037.66 | 2112162.15 | -- | ME |
| 05016 | 13680042.64 | 2112162.64 | 656.67 | PROP |
| 05017 | 13680051.40 | 2112155.21 | -- | ME |
| 05018 | 13680046.35 | 2112204.55 | -- | ME |
| 05019 | 13680038.81 | 2112199.52 | 656.69 | PROP |
| 05020 | 13680033.84 | 2112199.02 | -- | ME |
| 05021 | 13680030.72 | 2112230.08 | 656.83 | PROP |
| 05022 | 13680035.69 | 2112230.66 | 656.76 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 05023 | 13680026.09 | 2112274.21 | 656.70 | PROP |
| 05024 | 13680031.07 | 2112274.74 | 656.63 | PROP |
| 05025 | 13680024.44 | 2112289.61 | -- | ME |
| 05026 | 13680029.46 | 2112290.10 | -- | ME |
| 05027 | 13680037.54 | 2112289.84 | -- | ME |
| 05028 | 13680048.24 | 2112140.34 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

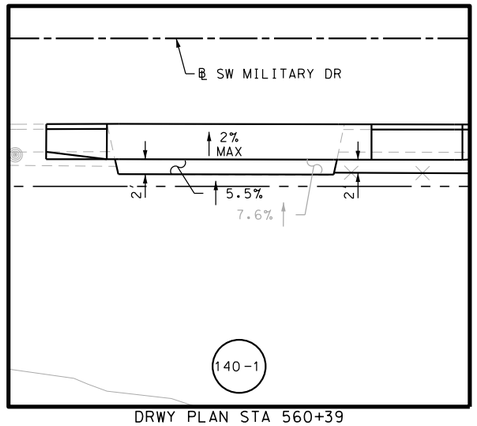
STA 560+00 TO STA 564+00

SHEET 17 OF 45

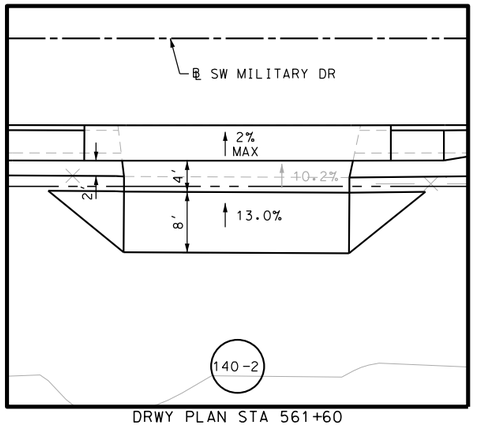
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 140 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*16.dgn




DRWY PLAN STA 560+39

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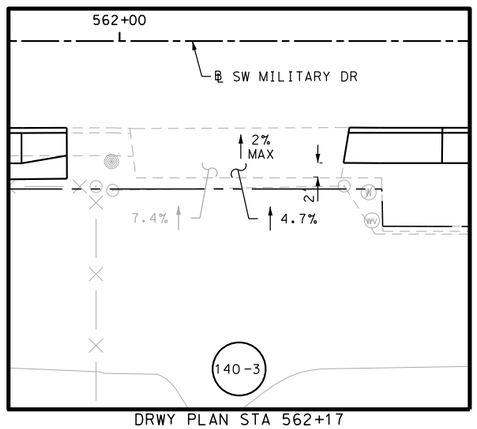
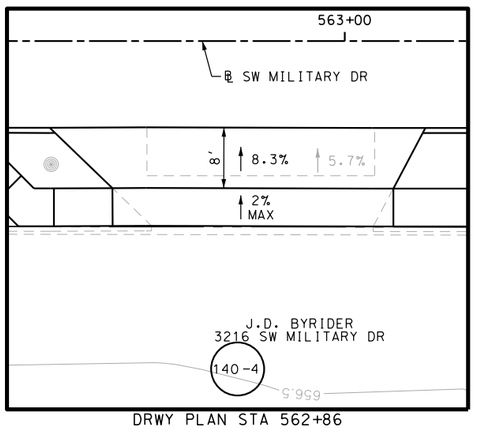



DRWY PLAN STA 562+17




DRWY PLAN STA 562+86

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 560+00 TO STA 564+00

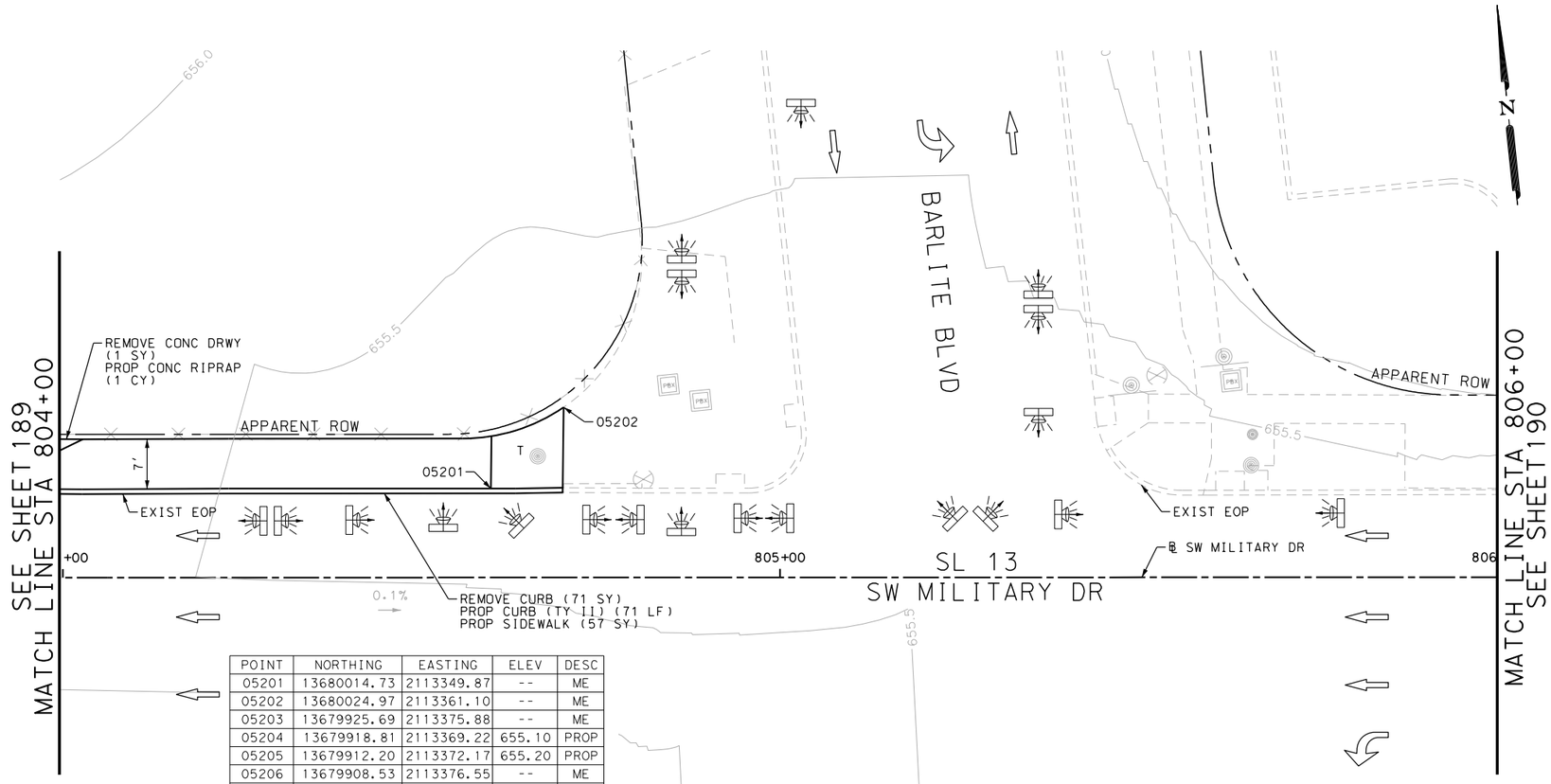
SHEET 18 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 141 |

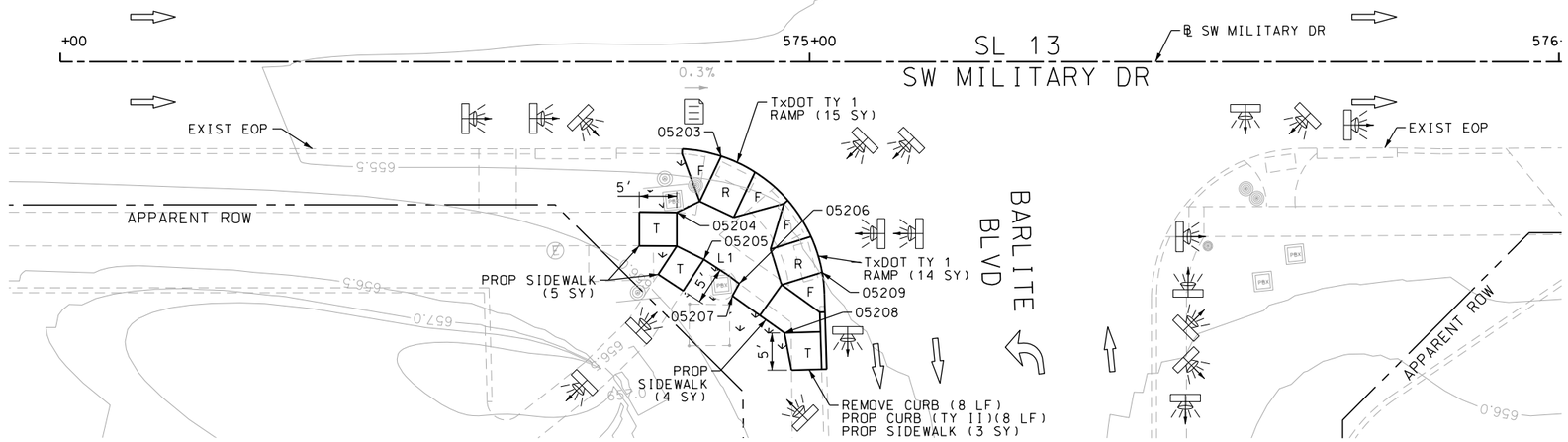
Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\113507*SWMilitaryB*16A.dgn

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 1 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 79 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 15 |
| 0162-6002 | BLOCK SODDING | SY | 15 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.23 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 1 |
| 0529-6002 | CONC CURB (TY II) | LF | 79 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 69 |
| 0531-6018 | CURB RAMPS (TY 1) | SY | 29 |




| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 05201 | 13680014.73 | 2113349.87 | -- | ME |
| 05202 | 13680024.97 | 2113361.10 | -- | ME |
| 05203 | 13679925.69 | 2113375.88 | -- | ME |
| 05204 | 13679918.81 | 2113369.22 | 655.10 | PROP |
| 05205 | 13679912.20 | 2113372.17 | 655.20 | PROP |
| 05206 | 13679908.53 | 2113376.55 | -- | ME |
| 05207 | 13679906.99 | 2113375.48 | -- | ME |
| 05208 | 13679901.35 | 2113381.88 | -- | ME |
| 05209 | 13679908.88 | 2113387.71 | -- | ME |

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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



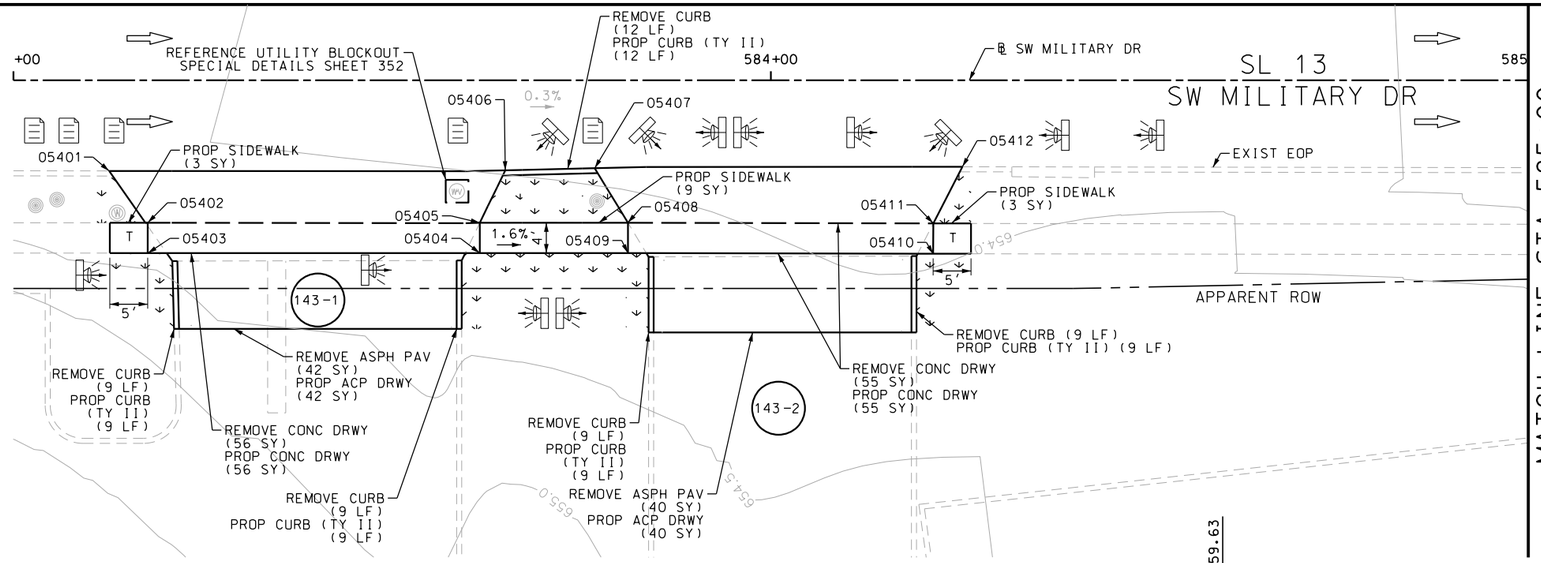
SL 13
SW MILITARY B

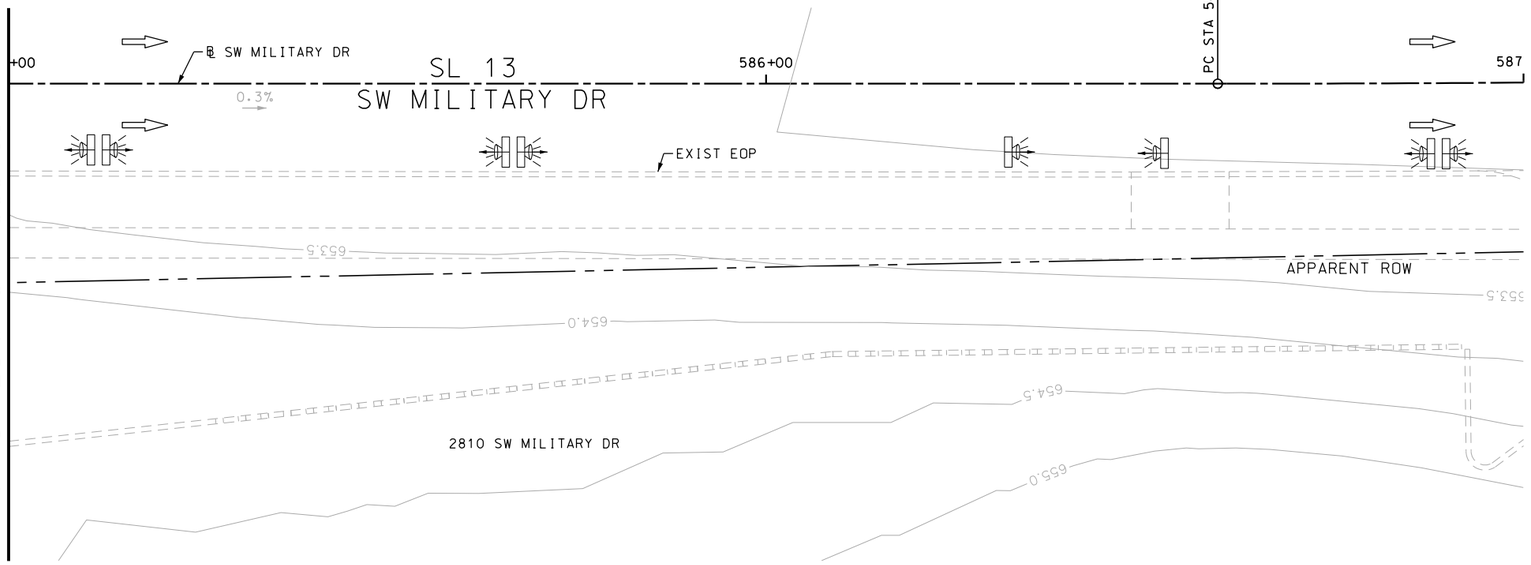
# SIDEWALK CONSTRUCTION PLAN

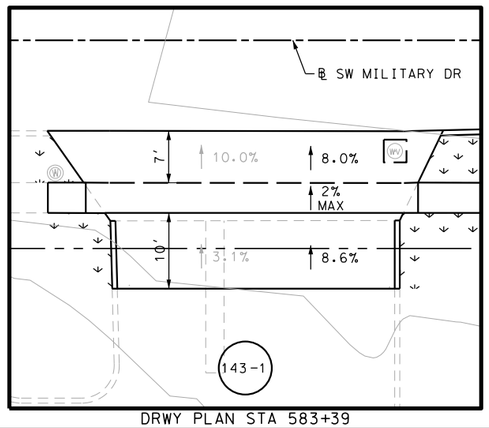
STA 574+00 TO STA 576+00
STA 804+00 TO STA 806+00

SHEET 19 OF 45

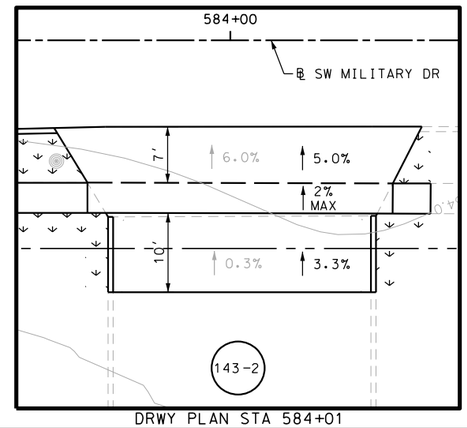
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 142 |




DRWY PLAN STA 583+39




DRWY PLAN STA 584+01

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 111 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 48 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 82 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 40 |
| 0162-6002 | BLOCK SODDING | SY | 40 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.62 |
| 0529-6002 | CONC CURB (TY II) | LF | 48 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 111 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 82 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 15 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 583+00 TO STA 587+00

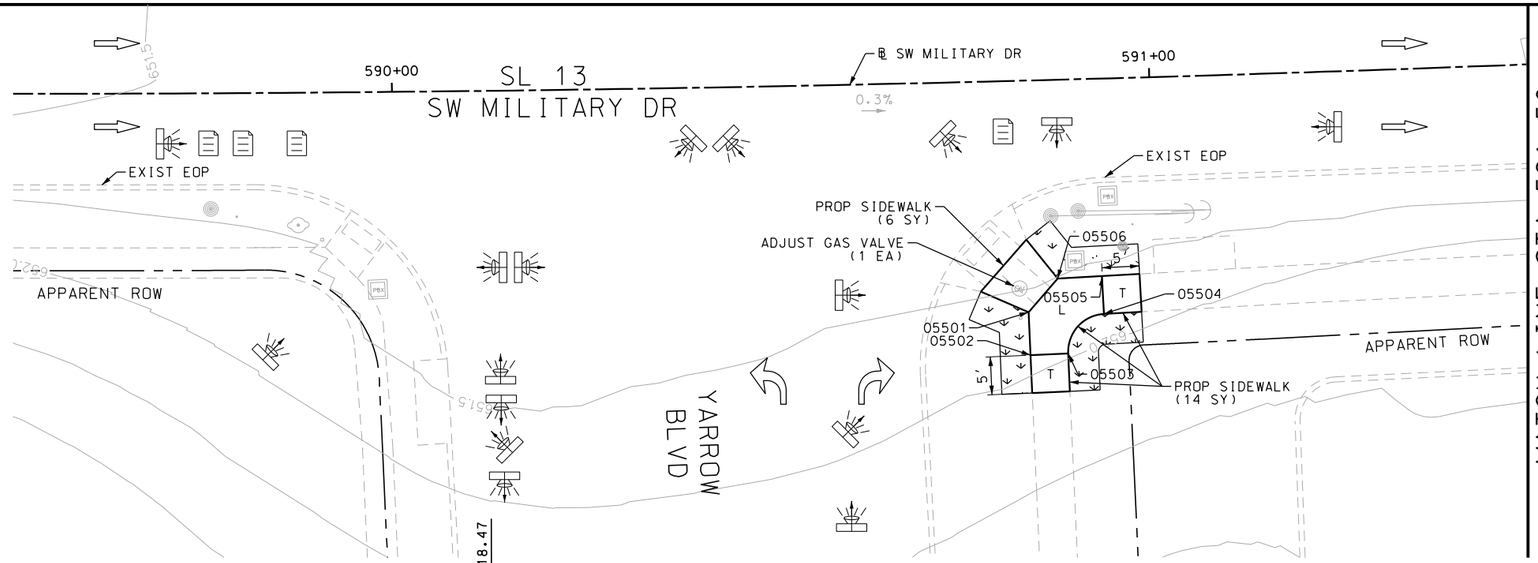
SHEET 20 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 143 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 05401 | 13679842.63 | 2114196.13 | -- | ME |
| 05402 | 13679835.30 | 2114200.50 | 653.35 | PROP |
| 05403 | 13679831.32 | 2114200.09 | 653.42 | PROP |
| 05404 | 13679826.87 | 2114243.73 | 653.46 | PROP |
| 05405 | 13679830.85 | 2114244.13 | 653.39 | PROP |
| 05406 | 13679837.40 | 2114248.16 | -- | ME |
| 05407 | 13679836.49 | 2114259.94 | -- | ME |
| 05408 | 13679828.86 | 2114263.57 | 653.07 | PROP |
| 05409 | 13679824.88 | 2114263.17 | 653.14 | PROP |
| 05410 | 13679820.70 | 2114303.26 | 652.98 | PROP |
| 05411 | 13679824.69 | 2114303.67 | 652.91 | PROP |
| 05412 | 13679831.75 | 2114308.25 | -- | ME |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\111507*SWMilitaryB*20.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 106 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 34 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 48 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 28 |
| 0162-6002 | BLOCK SODDING | SY | 28 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.44 |
| 0529-6002 | CONC CURB (TY II) | LF | 34 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 106 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 48 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 40 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 4 |
| 7027-6001 | ADJUST GAS FACILITY ACCESS COVER | EA | 1 |

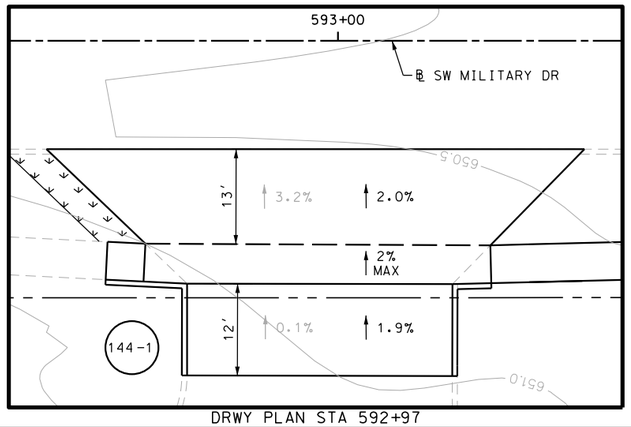
NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019



DRWY PLAN STA 592+97

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 05501 | 13679762.94 | 2114964.70 | 651.41 | PROP |
| 05502 | 13679757.26 | 2114964.69 | 651.50 | PROP |
| 05503 | 13679757.25 | 2114969.66 | 651.57 | PROP |
| 05504 | 13679762.25 | 2114974.61 | 651.43 | PROP |
| 05505 | 13679767.25 | 2114974.56 | 651.36 | PROP |
| 05506 | 13679767.19 | 2114968.72 | 651.27 | PROP |
| 05507 | 13679766.08 | 2115156.75 | 650.13 | PROP |
| 05508 | 13679761.09 | 2115156.53 | 650.20 | PROP |
| 05509 | 13679766.12 | 2115202.31 | 649.93 | PROP |
| 05510 | 13679761.13 | 2115202.46 | 650.00 | PROP |
| 05511 | 13679778.48 | 2115143.63 | -- | ME |
| 05512 | 13679778.90 | 2115214.64 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



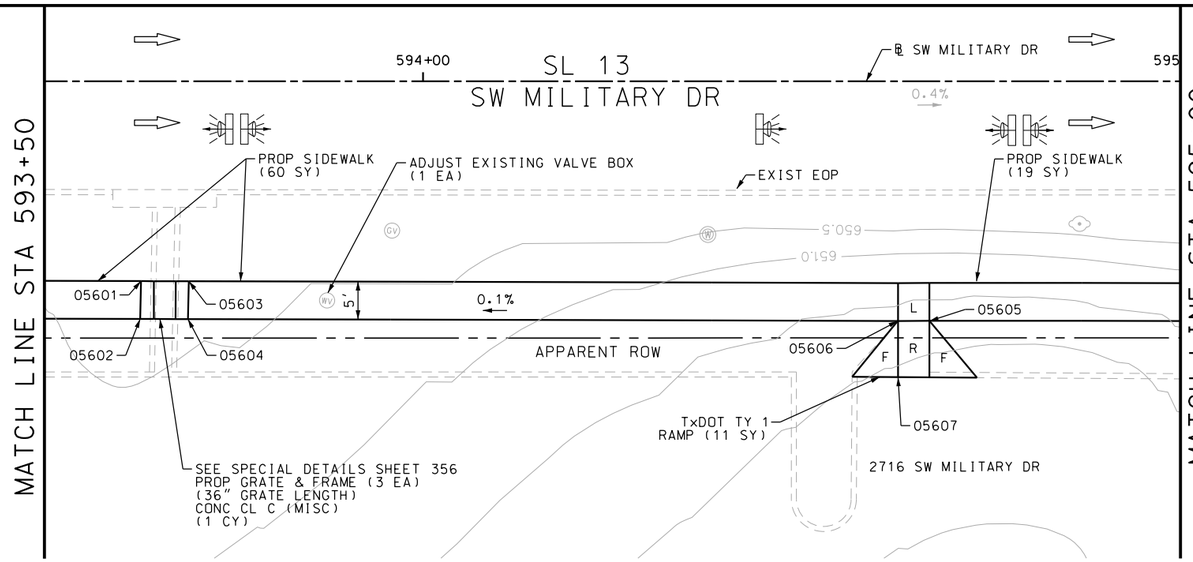
SL 13
SW MILITARY B

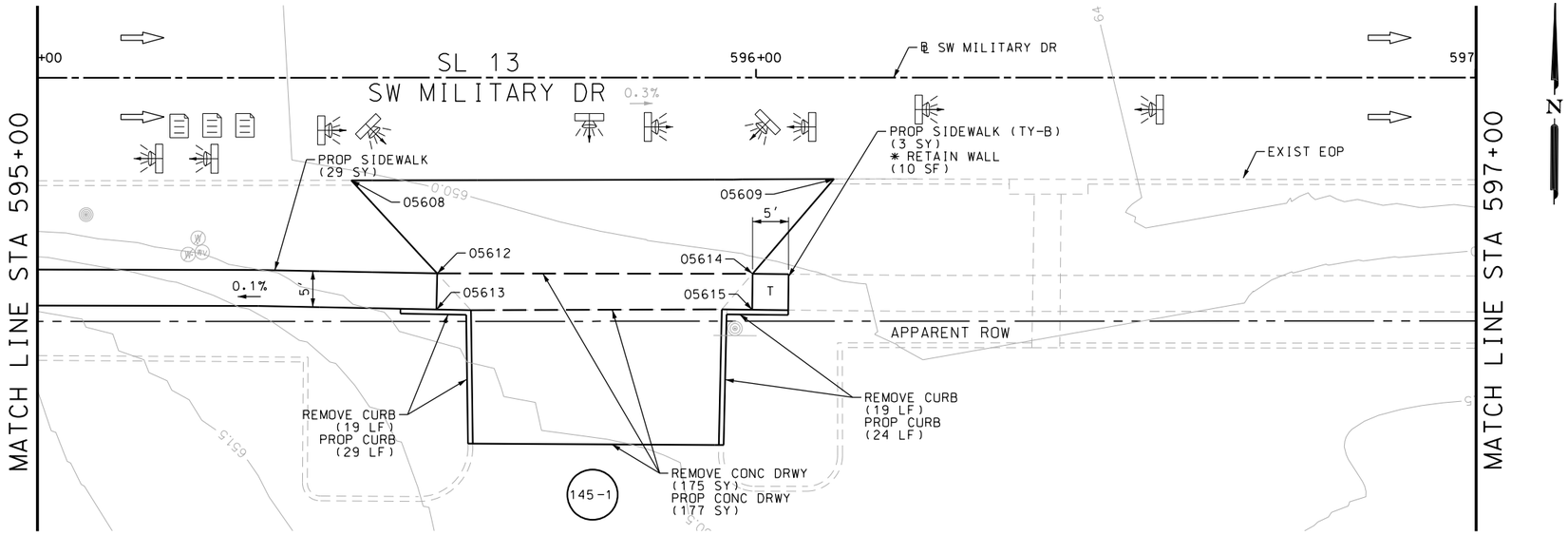
# SIDEWALK CONSTRUCTION PLAN
STA 589+50 TO STA 593+50

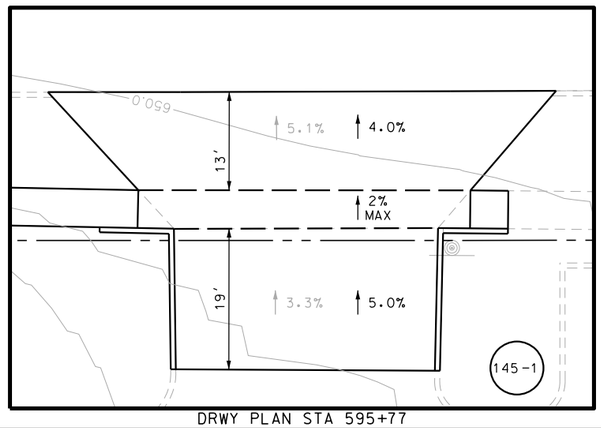
SHEET 21 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 144 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\111350 7*SWMilitaryB*21.dgn




DRWY PLAN STA 595+77

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 175 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 12 |
| 0420-6074 | CL C CONC (MISC) | CY | 1.0 |
| 0471-6003 | GRATE & FRAME | EA | 3 |
| 0529-6002 | CONC CURB (TY II) | LF | 53 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 177 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 108 |
| 0531-6018 | CURB RAMPS (TY 1) | SY | 11 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 3 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 05601 | 13679766.99 | 2115244.91 | 650.07 | PROP |
| 05602 | 13679761.99 | 2115244.85 | 650.14 | PROP |
| 05603 | 13679767.01 | 2115251.22 | 650.10 | PROP |
| 05604 | 13679762.01 | 2115251.14 | 650.17 | PROP |
| 05605 | 13679762.35 | 2115349.04 | 651.72 | PROP |
| 05606 | 13679762.31 | 2115344.89 | 651.69 | PROP |
| 05607 | 13679754.89 | 2115344.94 | -- | ME |
| 05608 | 13679780.14 | 2115425.83 | -- | ME |
| 05609 | 13679780.70 | 2115492.93 | -- | ME |
| 05612 | 13679767.28 | 2115437.84 | 649.33 | PROP |
| 05613 | 13679762.28 | 2115437.77 | 649.40 | PROP |
| 05614 | 13679767.48 | 2115481.69 | 649.20 | PROP |
| 05615 | 13679762.48 | 2115481.67 | 649.27 | PROP |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

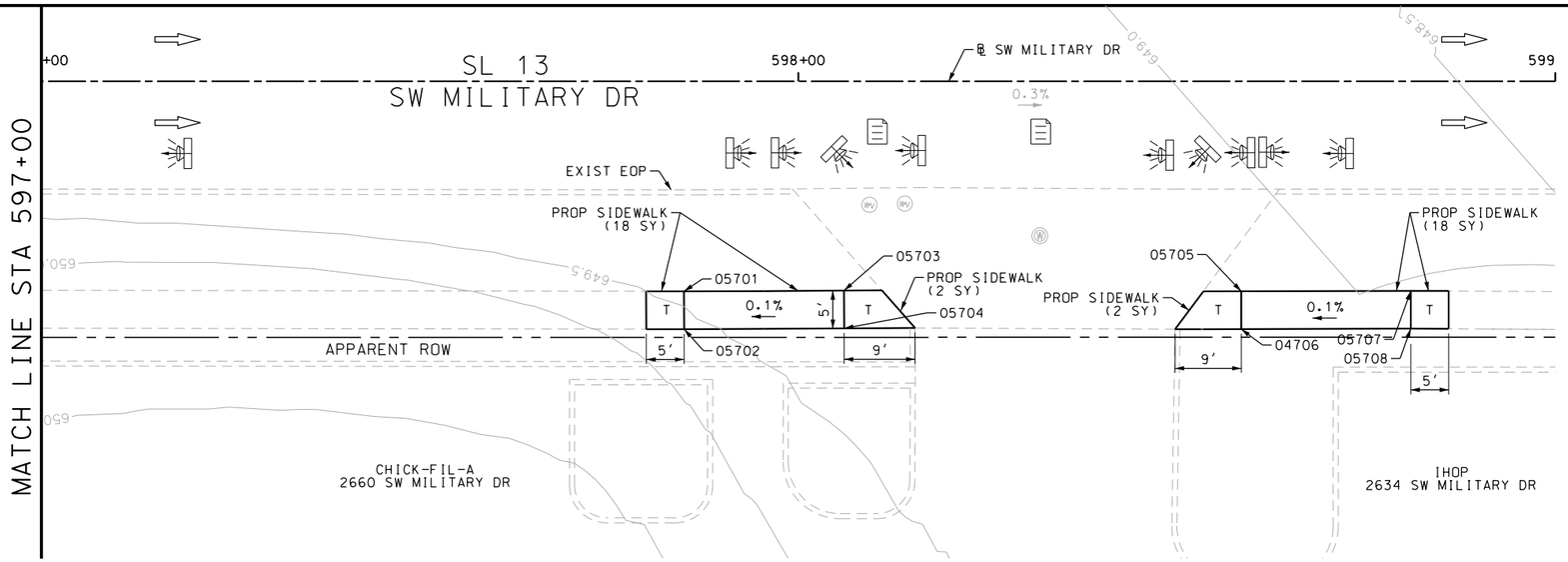
# SIDEWALK CONSTRUCTION PLAN

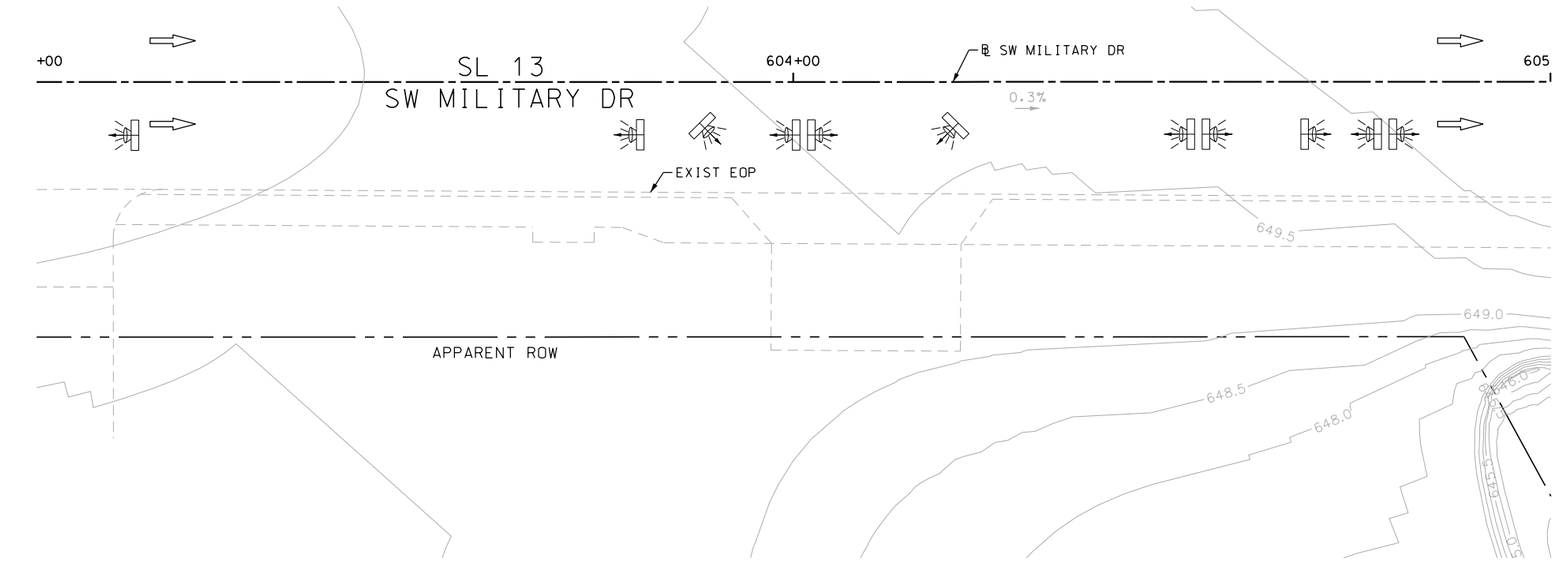
STA 593+50 TO STA 597+00

SHEET 22 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 145 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\111350 7*SWMilitaryB*22.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0531-6001 | CONC SIDEWALKS (4") | SY | 40 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 05701 | 13679768.07 | 2115667.04 | 649.54 | PROP |
| 05702 | 13679763.07 | 2115667.11 | 649.61 | PROP |
| 05703 | 13679768.31 | 2115688.19 | 649.18 | PROP |
| 05704 | 13679763.31 | 2115688.25 | 649.25 | PROP |
| 05705 | 13679768.51 | 2115740.66 | 649.29 | PROP |
| 05706 | 13679763.51 | 2115740.70 | 649.36 | PROP |
| 05707 | 13679768.70 | 2115763.06 | 649.46 | PROP |
| 05708 | 13679763.70 | 2115763.10 | 649.53 | PROP |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

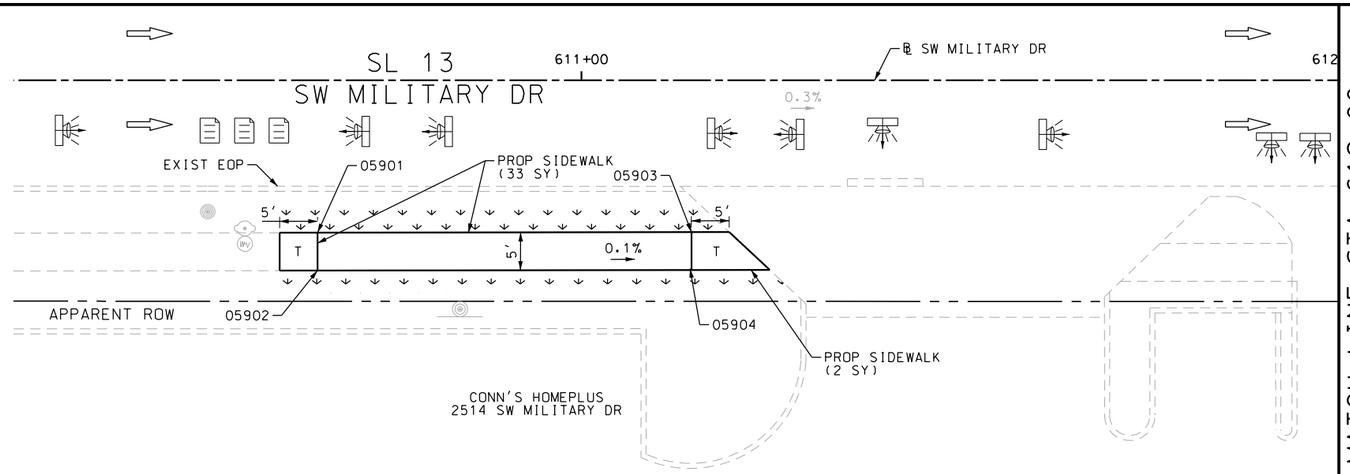
STA 597+00 TO STA 599+00
STA 603+00 TO STA 605+00

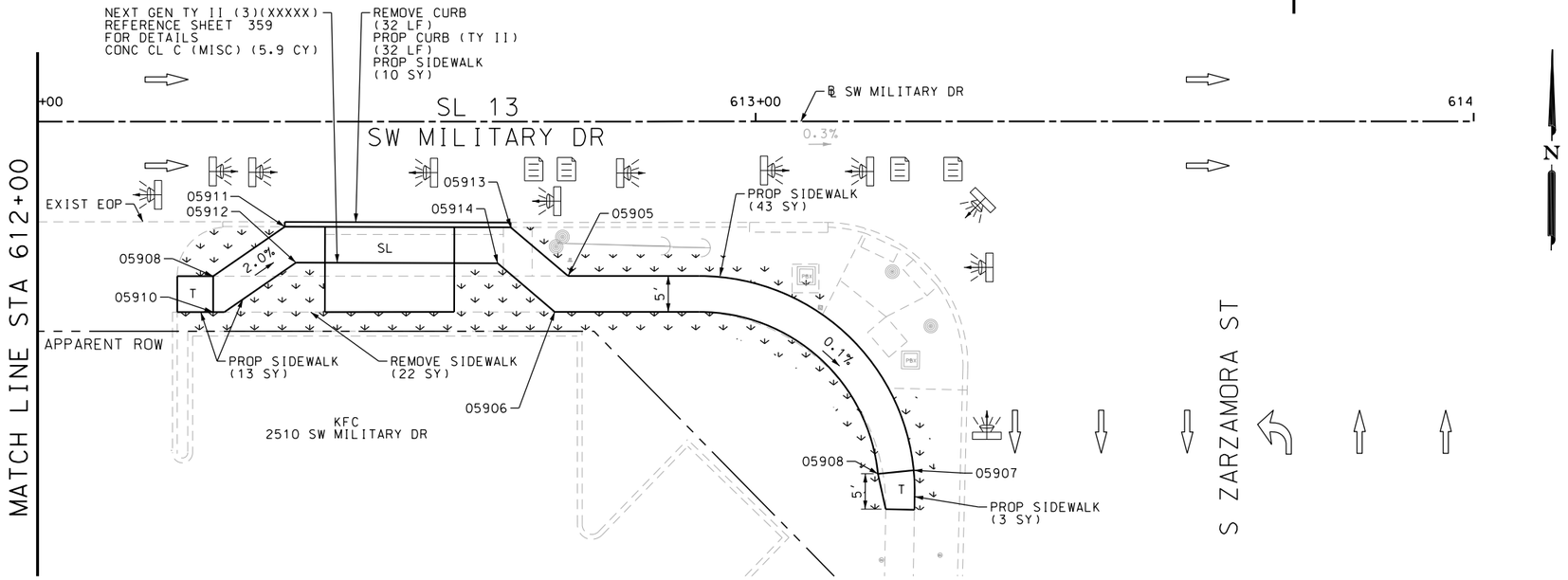
SHEET 23 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 146 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*23.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 32 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 22 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 118 |
| 0162-6002 | BLOCK SODDING | SY | 118 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.84 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0529-6002 | CONC CURB (TY II) | LF | 32 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 104 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 05901 | 13679783.09 | 2116947.23 | 645.17 | PROP |
| 05902 | 13679778.09 | 2116947.27 | 645.24 | PROP |
| 05903 | 13679783.45 | 2116996.60 | 645.15 | PROP |
| 05904 | 13679778.45 | 2116996.64 | 645.22 | PROP |
| 05905 | 13679782.88 | 2117155.98 | 645.10 | PROP |
| 05906 | 13679777.88 | 2117156.01 | 645.17 | PROP |
| 05907 | 13679756.10 | 2117204.28 | 645.30 | PROP |
| 05908 | 13679755.66 | 2117200.01 | 645.36 | PROP |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

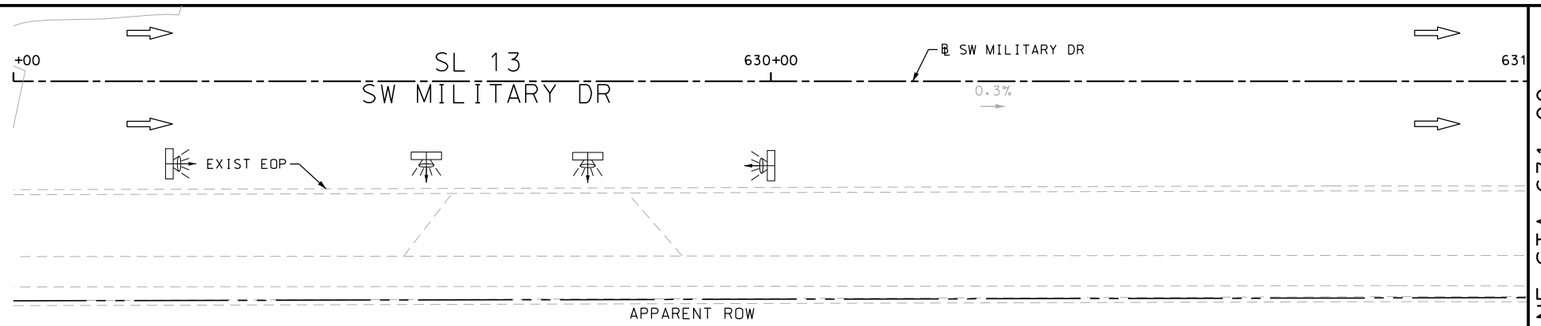
# SIDEWALK CONSTRUCTION PLAN

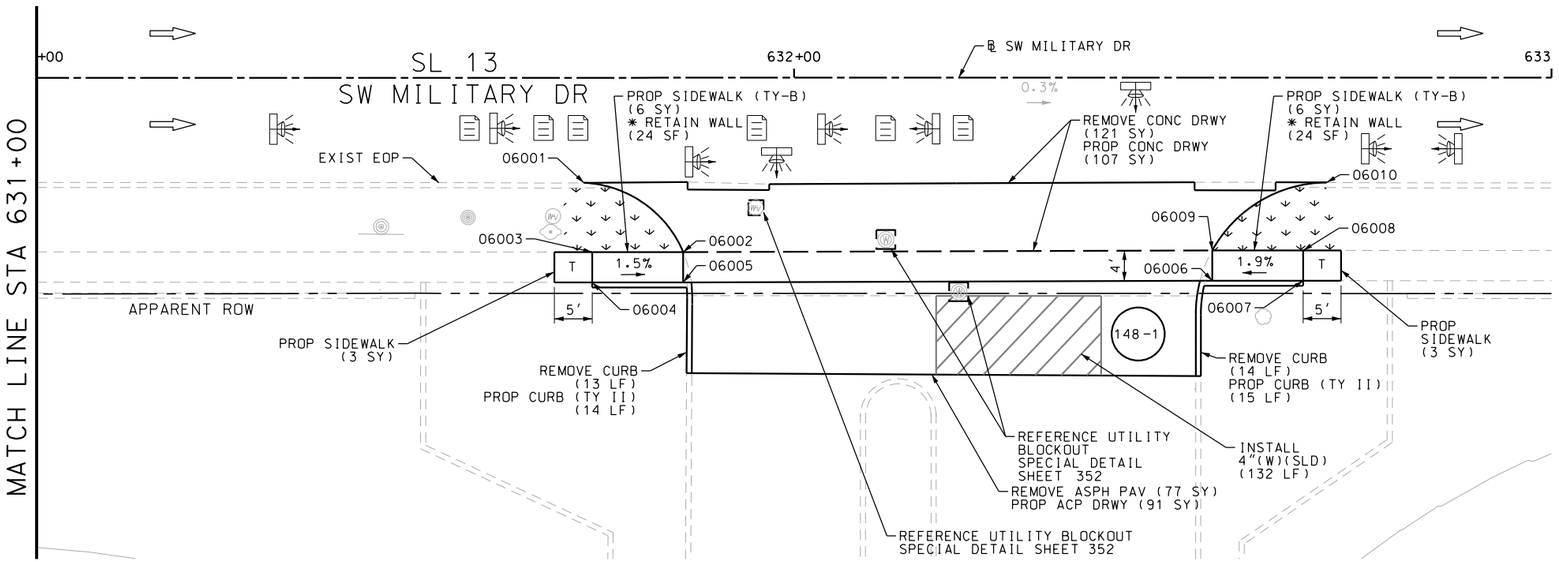
STA 610+25 TO STA 614+00

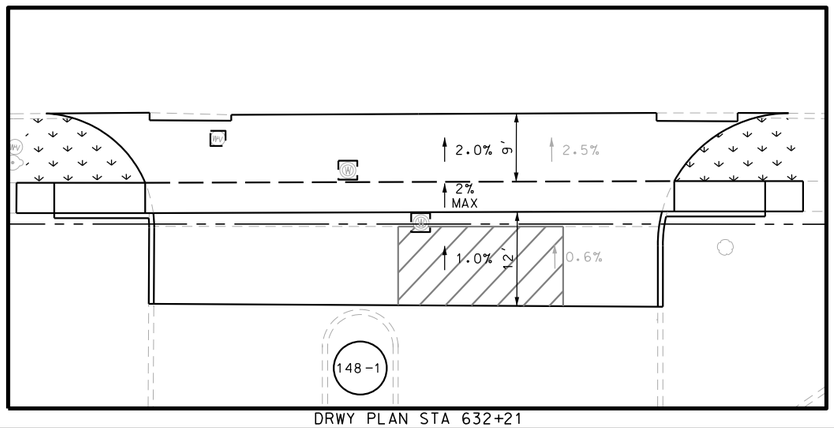
SHEET 24 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 147 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*25.dgn




DRWY PLAN STA 632+21

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 121 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 27 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 77 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 30 |
| 0162-6002 | BLOCK SODDING | SY | 30 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.47 |
| 0529-6002 | CONC CURB (TY II) | LF | 29 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 107 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 91 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 6 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 12 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 132 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 132 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 132 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 06001 | 13679801.52 | 2119054.32 | -- | ME |
| 06002 | 13679792.44 | 2119067.45 | 642.19 | PROP |
| 06003 | 13679792.37 | 2119055.45 | 642.37 | PROP |
| 06004 | 13679788.37 | 2119055.47 | 642.44 | PROP |
| 06005 | 13679788.44 | 2119067.47 | 642.26 | PROP |
| 06006 | 13679789.06 | 2119137.32 | 642.15 | PROP |
| 06007 | 13679789.12 | 2119149.32 | 642.32 | PROP |
| 06008 | 13679793.12 | 2119149.29 | 642.25 | PROP |
| 06009 | 13679793.06 | 2119137.29 | 642.08 | PROP |
| 06010 | 13679802.11 | 2119152.33 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

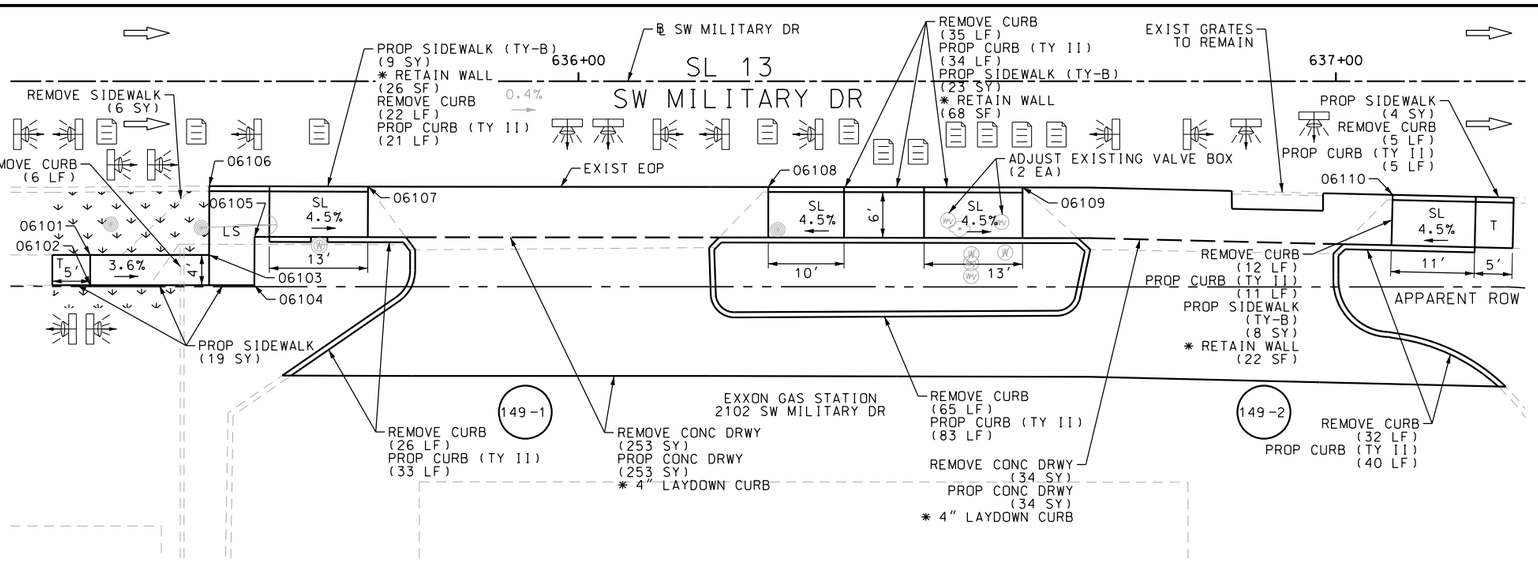
STA 629+00 TO STA 633+00

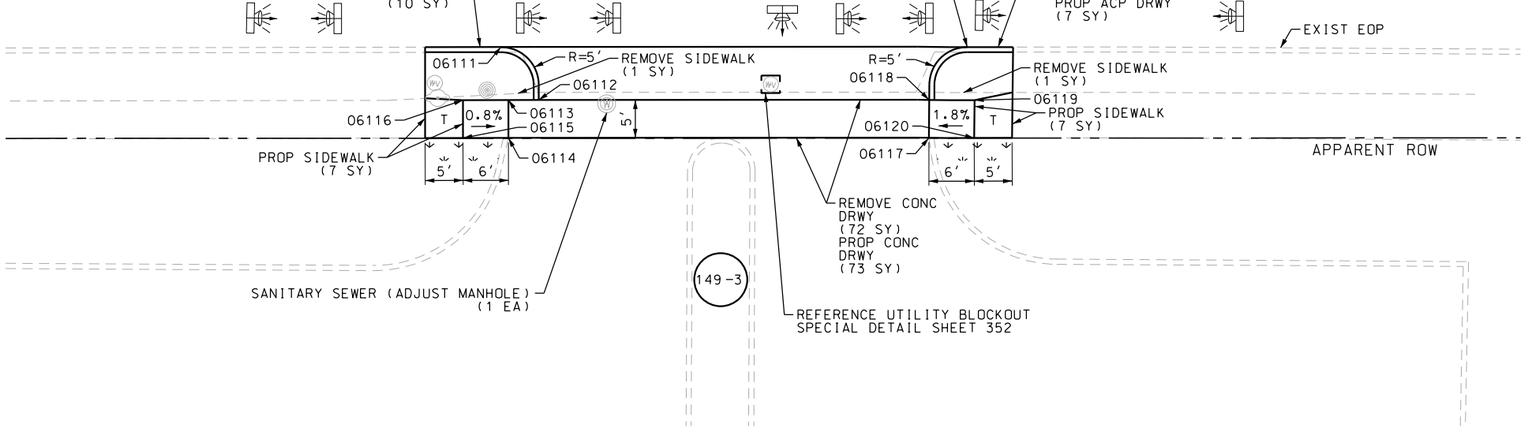
SHEET 25 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 148 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\111350 7*SWMilitaryB*26.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 359 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 227 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 8 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 17 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 32 |
| 0162-6002 | BLOCK SODDING | SY | 32 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.50 |
| 0529-6002 | CONC CURB (TY II) | LF | 263 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 360 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 17 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 37 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 40 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 2 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

STA 635+25 TO STA 637+25
STA 643+75 TO STA 645+75



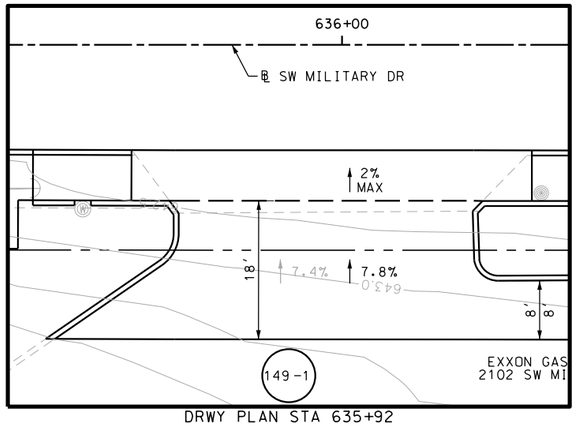
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 149 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 06101 | 13679794.57 | 2119417.61 | 642.56 | PROP |
| 06102 | 13679790.57 | 2119417.63 | 642.63 | PROP |
| 06103 | 13679794.65 | 2119433.29 | 642.39 | PROP |
| 06104 | 13679790.69 | 2119439.29 | -- | ME |
| 06105 | 13679797.09 | 2119439.28 | -- | ME |
| 06106 | 13679803.75 | 2119433.26 | -- | ME |
| 06107 | 13679803.80 | 2119454.22 | -- | ME |
| 06108 | 13679804.05 | 2119507.08 | -- | ME |
| 06109 | 13679804.18 | 2119540.64 | -- | ME |
| 06110 | 13679803.50 | 2119589.51 | -- | ME |
| 06111 | 13679809.15 | 2120322.38 | -- | ME |
| 06112 | 13679802.18 | 2120327.43 | -- | ME |
| 06113 | 13679802.15 | 2120323.43 | 641.95 | PROP |
| 06114 | 13679797.15 | 2120323.47 | 642.02 | PROP |
| 06115 | 13679797.11 | 2120317.47 | 642.07 | PROP |
| 06116 | 13679802.11 | 2120317.43 | 642.00 | PROP |
| 06117 | 13679797.49 | 2120378.96 | 641.36 | PROP |
| 06118 | 13679802.49 | 2120378.98 | 641.29 | PROP |
| 06119 | 13679802.50 | 2120384.98 | 641.40 | PROP |
| 06120 | 13679797.50 | 2120384.96 | 641.47 | PROP |

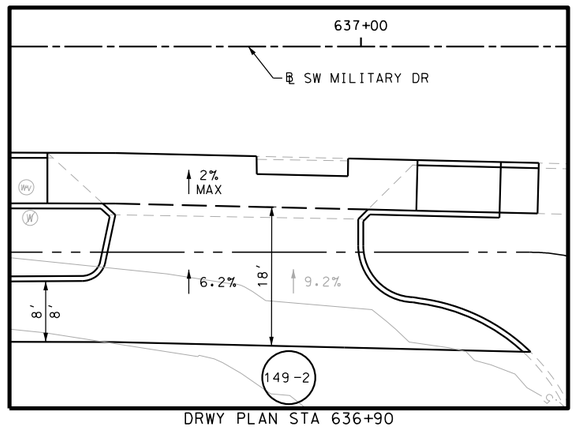
| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 06121 | 13679809.49 | 2120383.96 | -- | ME |

Plotted on: 4/1/2019

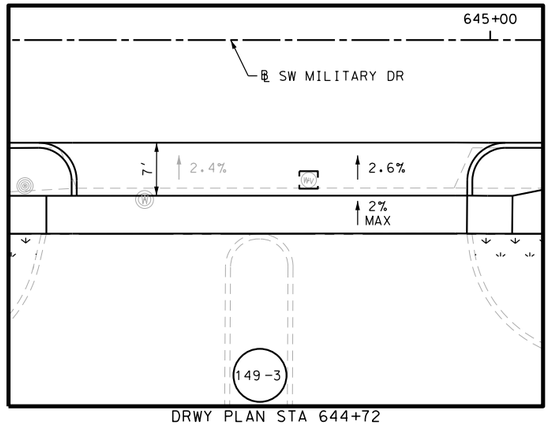
Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\113507*SMMilitaryB*27.dgn




DRWY PLAN STA 635+92




DRWY PLAN STA 636+90




DRWY PLAN STA 644+72

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

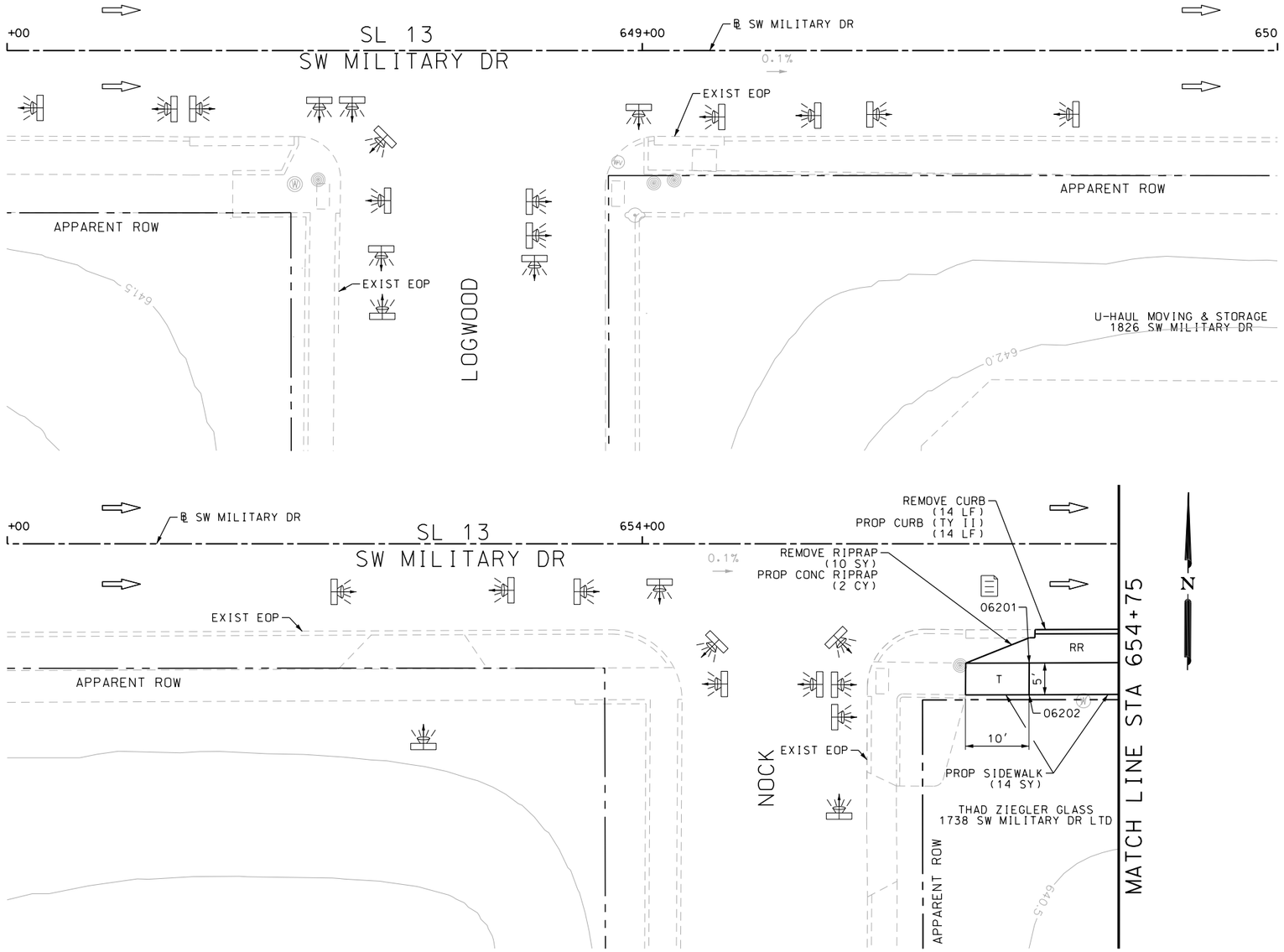
STA 635+25 TO STA 637+25
STA 643+75 TO STA 645+75



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 150 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\1113507*SMMilitaryB*27A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 10 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 14 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 2 |
| 0529-6002 | CONC CURB (TY II) | LF | 14 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 14 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 06201 | 13679809.85 | 2121342.92 | 639.62 | PROP |
| 06202 | 13679804.85 | 2121342.92 | 639.69 | PROP |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

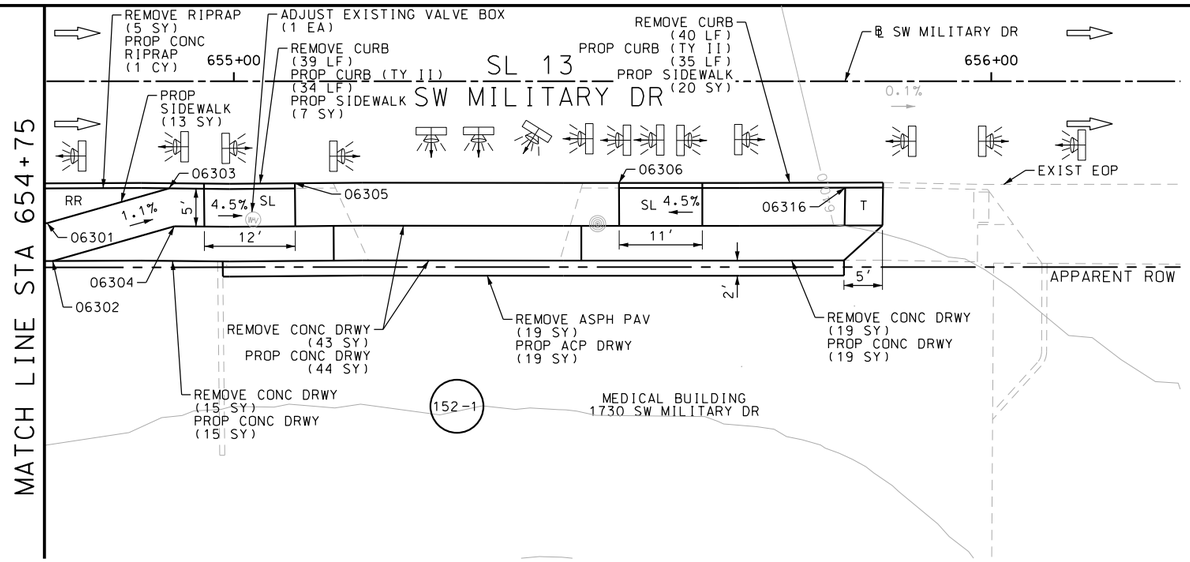
STA 648+00 TO STA 650+00
STA 653+00 TO STA 654+75

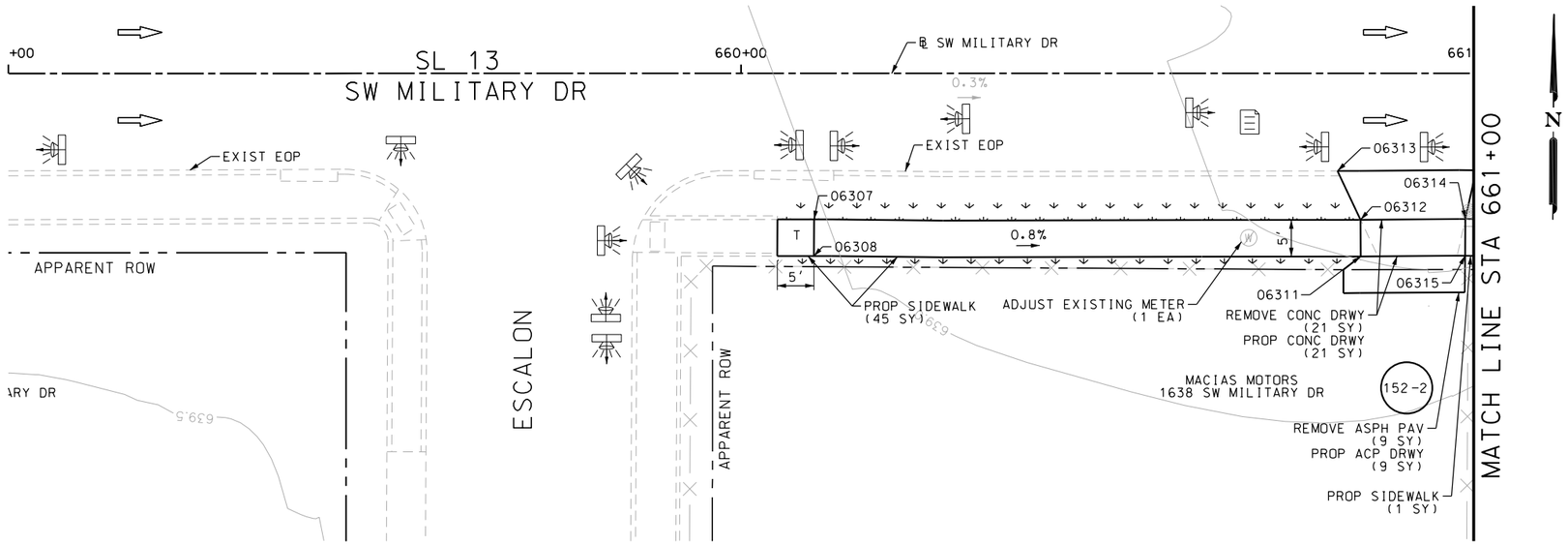
SHEET 28 OF 45

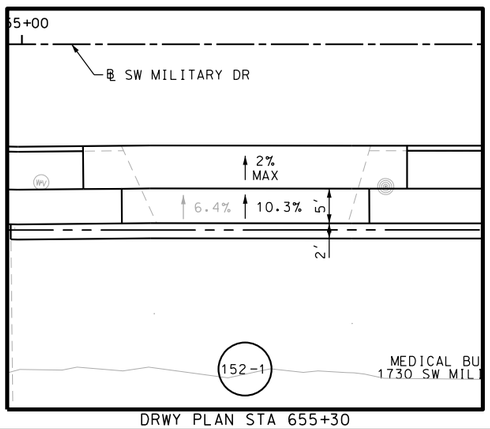
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 151 |

Plotted on: 4/1/2019

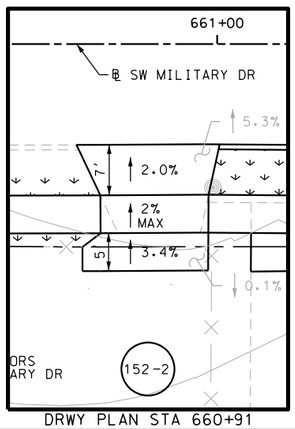
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\111507*SWMilitaryB*28.dgn




DRWY PLAN STA 655+30




DRWY PLAN STA 660+91

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 5 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 98 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 79 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 28 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 40 |
| 0162-6002 | BLOCK SODDING | SY | 40 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.62 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 1 |
| 0529-6002 | CONC CURB (TY II) | LF | 69 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 99 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 28 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 86 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 06301 | 13679809.98 | 2121357.38 | 639.61 | PROP |
| 06302 | 13679804.99 | 2121358.12 | 639.68 | PROP |
| 06303 | 13679814.66 | 2121373.44 | 639.42 | PROP |
| 06304 | 13679809.66 | 2121374.14 | 639.49 | PROP |
| 06305 | 13679815.42 | 2121390.05 | -- | ME |
| 06306 | 13679815.72 | 2121432.85 | -- | ME |
| 06307 | 13679811.87 | 2121891.99 | 638.70 | PROP |
| 06308 | 13679806.87 | 2121891.99 | 638.77 | PROP |
| 06311 | 13679807.25 | 2121966.64 | 638.17 | PROP |
| 06312 | 13679812.25 | 2121966.58 | 638.10 | PROP |
| 06313 | 13679818.90 | 2121963.39 | -- | ME |
| 06314 | 13679812.42 | 2121980.88 | 638.02 | PROP |
| 06315 | 13679807.42 | 2121980.87 | 638.09 | PROP |
| 06316 | 13679815.26 | 2121462.70 | -- | ME |

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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

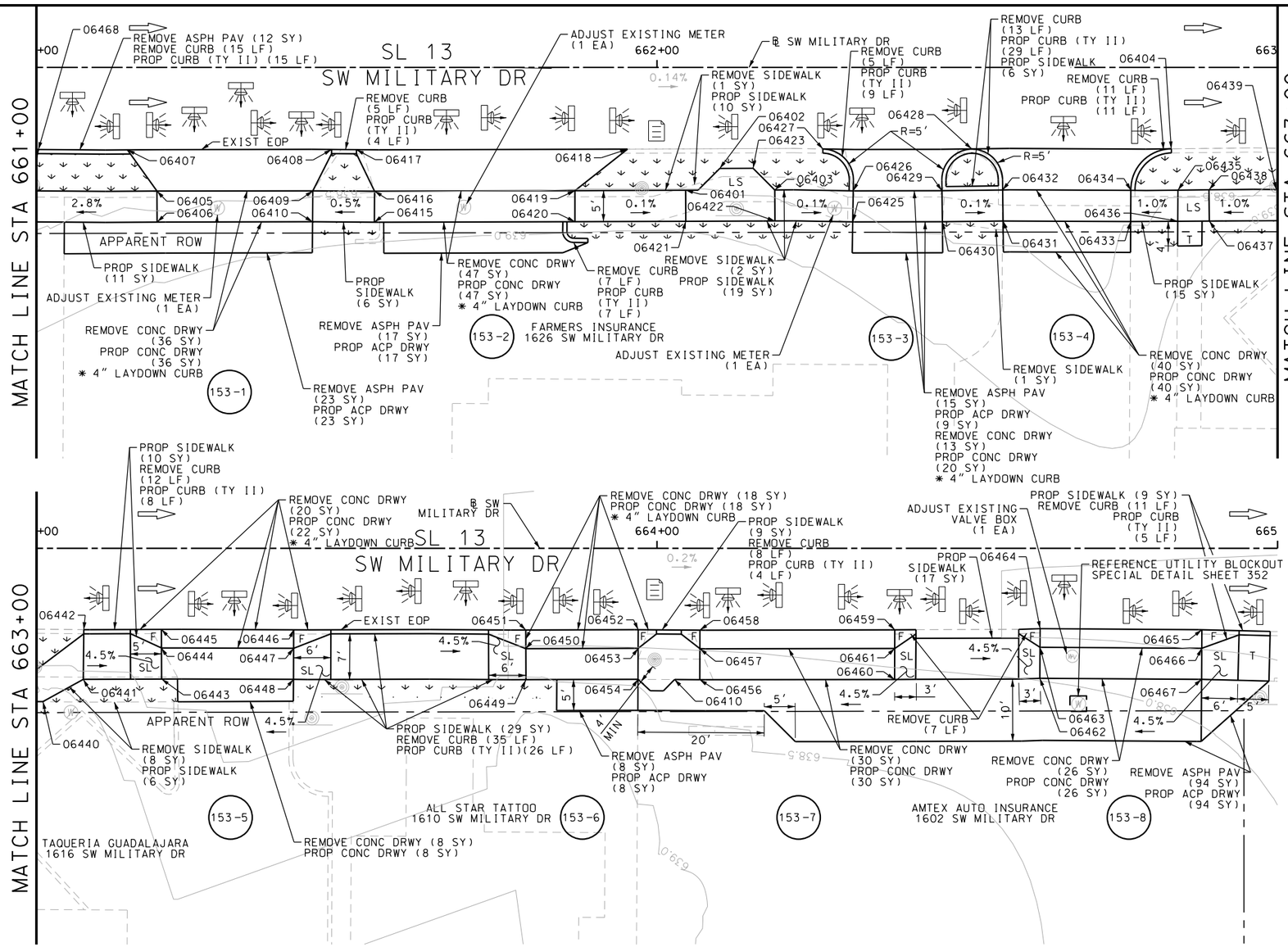
# SIDEWALK CONSTRUCTION PLAN

STA 654+75 TO STA 656+25
STA 659+00 TO STA 661+00

SHEET 29 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 152 |

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*29.dgn
Plotted on: 4/1/2019




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 238 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 129 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 12 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 169 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 114 |
| 0162-6002 | BLOCK SODDING | SY | 114 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.78 |
| 0529-6002 | CONC CURB (TY II) | LF | 118 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 247 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 151 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 147 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 3 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

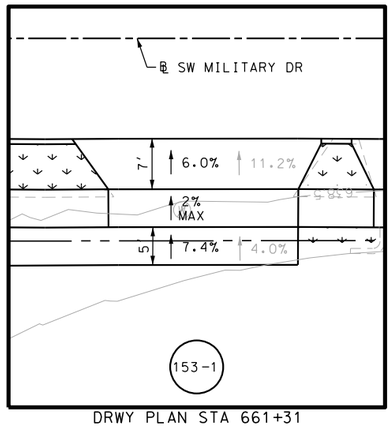
STA 661+00 TO STA 665+00

SHEET 30 OF 45

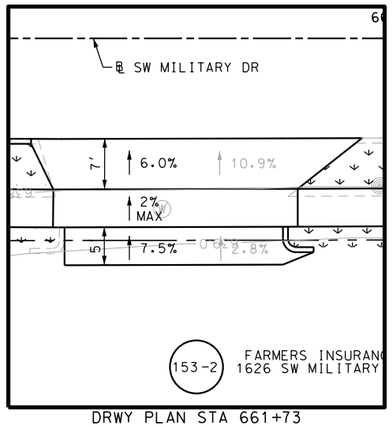
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 153 |

Plotted on: 4/1/2019

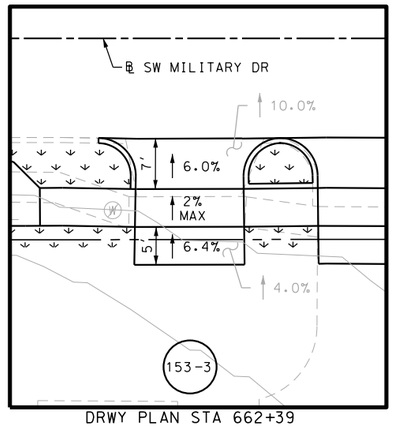
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507+SWMilitaryB+30.dgn



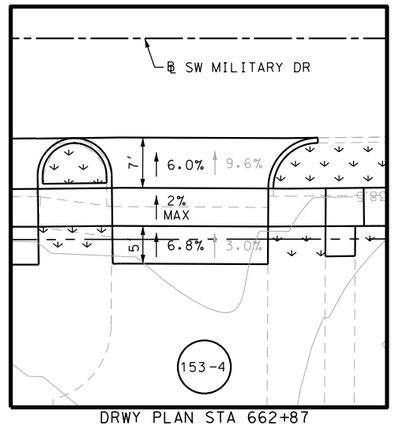

DRWY PLAN STA 661+31



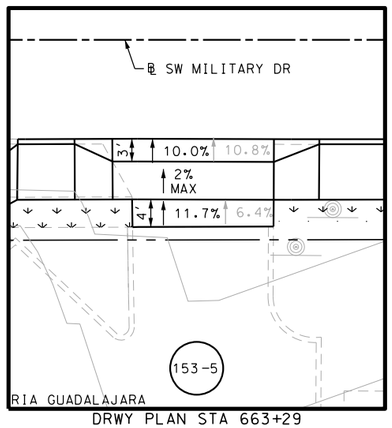

DRWY PLAN STA 661+73



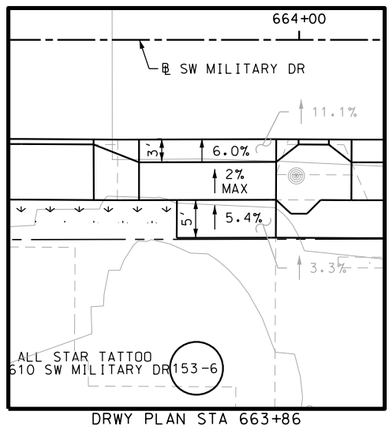

DRWY PLAN STA 662+39



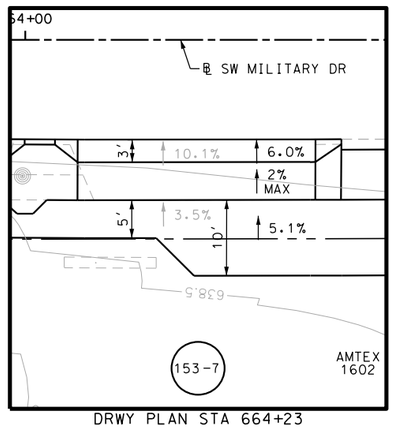

DRWY PLAN STA 662+87




DRWY PLAN STA 663+29




DRWY PLAN STA 663+86

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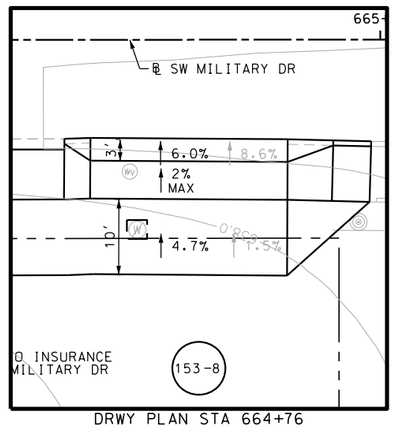


DRWY PLAN STA 664+76

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 06401 | 13679813.12 | 2122086.63 | 638.48 | PROP |
| 06402 | 13679816.67 | 2122092.09 | 638.48 | PROP |
| 06403 | 13679813.26 | 2122100.99 | 638.47 | PROP |
| 06404 | 13679820.25 | 2122164.84 | -- | ME |
| 06405 | 13679812.50 | 2122001.43 | 638.57 | PROP |
| 06406 | 13679807.50 | 2122001.49 | 638.64 | PROP |
| 06407 | 13679819.11 | 2121996.63 | -- | ME |
| 06408 | 13679819.36 | 2122029.53 | -- | ME |
| 06409 | 13679812.69 | 2122026.54 | 638.51 | PROP |
| 06410 | 13679812.90 | 2122284.83 | 638.58 | PROP |
| 06415 | 13679807.68 | 2122036.50 | 638.63 | PROP |
| 06416 | 13679812.68 | 2122036.51 | 638.56 | PROP |
| 06417 | 13679819.35 | 2122033.53 | -- | ME |
| 06418 | 13679819.71 | 2122077.21 | -- | ME |
| 06419 | 13679812.96 | 2122068.77 | 638.50 | PROP |
| 06420 | 13679807.96 | 2122068.81 | 638.57 | PROP |
| 06421 | 13679808.12 | 2122086.67 | 638.55 | PROP |
| 06422 | 13679808.26 | 2122101.04 | 638.54 | PROP |
| 06423 | 13679816.71 | 2122097.47 | 638.47 | PROP |
| 06425 | 13679808.17 | 2122113.58 | 638.51 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 06426 | 13679813.18 | 2122113.63 | 638.44 | PROP |
| 06427 | 13679819.90 | 2122108.71 | -- | ME |
| 06428 | 13679820.04 | 2122132.79 | -- | ME |
| 06429 | 13679813.29 | 2122127.92 | 638.44 | PROP |
| 06430 | 13679808.29 | 2122128.01 | -- | ME |
| 06431 | 13679808.47 | 2122137.79 | -- | ME |
| 06432 | 13679813.47 | 2122137.70 | -- | ME |
| 06433 | 13679808.51 | 2122158.36 | -- | ME |
| 06434 | 13679813.51 | 2122158.35 | -- | ME |
| 06435 | 13679813.60 | 2122165.94 | -- | ME |
| 06436 | 13679808.59 | 2122165.95 | -- | ME |
| 06437 | 13679808.64 | 2122171.02 | -- | ME |
| 06438 | 13679813.69 | 2122170.94 | -- | ME |
| 06439 | 13679813.79 | 2122181.79 | -- | ME |
| 06440 | 13679808.78 | 2122183.08 | -- | ME |
| 06441 | 13679812.39 | 2122189.56 | -- | ME |
| 06442 | 13679820.41 | 2122189.60 | -- | ME |
| 06443 | 13679812.52 | 2122202.17 | -- | ME |
| 06444 | 13679817.52 | 2122202.12 | -- | ME |
| 06445 | 13679820.52 | 2122202.09 | -- | ME |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 06446 | 13679820.59 | 2122223.42 | -- | ME |
| 06447 | 13679817.59 | 2122223.42 | -- | ME |
| 06448 | 13679812.59 | 2122223.42 | -- | ME |
| 06449 | 13679812.75 | 2122260.87 | -- | ME |
| 06450 | 13679817.75 | 2122260.83 | -- | ME |
| 06451 | 13679820.75 | 2122260.80 | -- | ME |
| 06452 | 13679820.90 | 2122278.94 | -- | ME |
| 06453 | 13679817.90 | 2122278.94 | -- | ME |
| 06454 | 13679812.90 | 2122278.94 | -- | ME |
| 06456 | 13679812.90 | 2122288.88 | -- | ME |
| 06457 | 13679817.90 | 2122288.88 | -- | ME |
| 06458 | 13679820.90 | 2122288.88 | -- | ME |
| 06459 | 13679821.12 | 2122320.28 | -- | ME |
| 06460 | 13679813.12 | 2122320.28 | -- | ME |
| 06461 | 13679818.12 | 2122320.28 | -- | ME |
| 06462 | 13679813.44 | 2122343.69 | -- | ME |
| 06463 | 13679818.44 | 2122343.69 | -- | ME |
| 06464 | 13679821.45 | 2122343.69 | -- | ME |
| 06465 | 13679821.41 | 2122369.75 | -- | ME |
| 06466 | 13679818.41 | 2122369.75 | -- | ME |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 06467 | 13679813.41 | 2122369.75 | -- | ME |
| 06468 | 13679819.09 | 2121982.29 | -- | ME |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

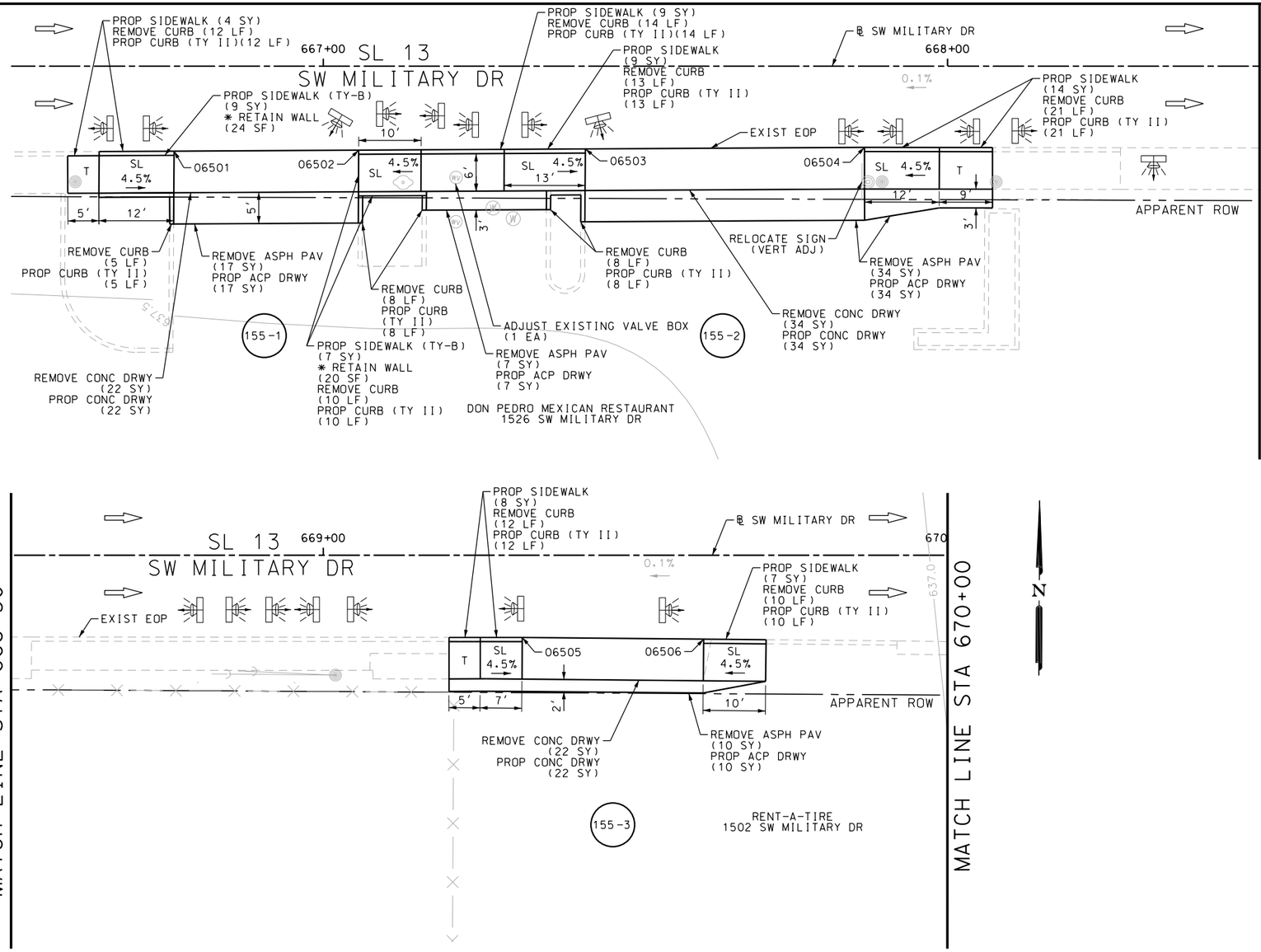
# SIDEWALK CONSTRUCTION PLAN

STA 661+00 TO STA 665+00

SHEET 31 OF 45

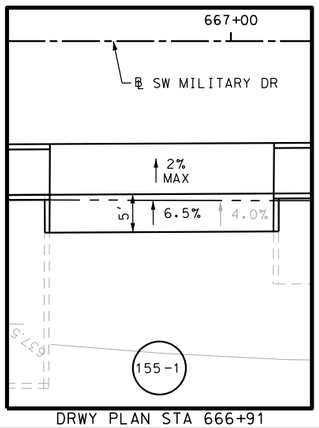
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 154 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\113507*SMMilitaryB*30*A.dgn

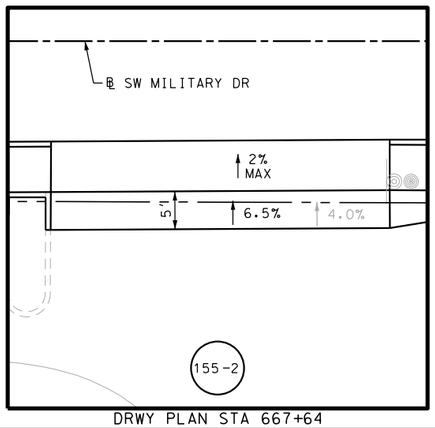




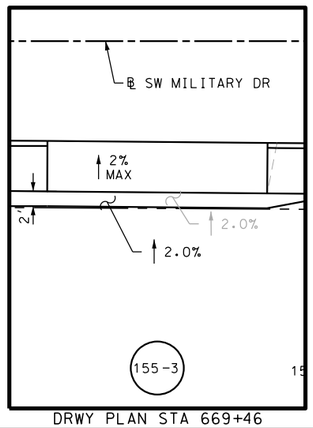





DRWY PLAN STA 666+91




DRWY PLAN STA 667+64




DRWY PLAN STA 669+46

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 78 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 113 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 68 |
| 0529-6002 | CONC CURB (TY II) | LF | 113 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 78 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 68 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 51 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 16 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 06501 | 13679822.04 | 2122558.07 | -- | ME |
| 06502 | 13679822.36 | 2122587.65 | -- | ME |
| 06503 | 13679822.77 | 2122623.95 | -- | ME |
| 06504 | 13679823.27 | 2122668.66 | -- | ME |
| 06505 | 13679823.96 | 2122813.84 | -- | ME |
| 06506 | 13679823.86 | 2122842.90 | -- | ME |

SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

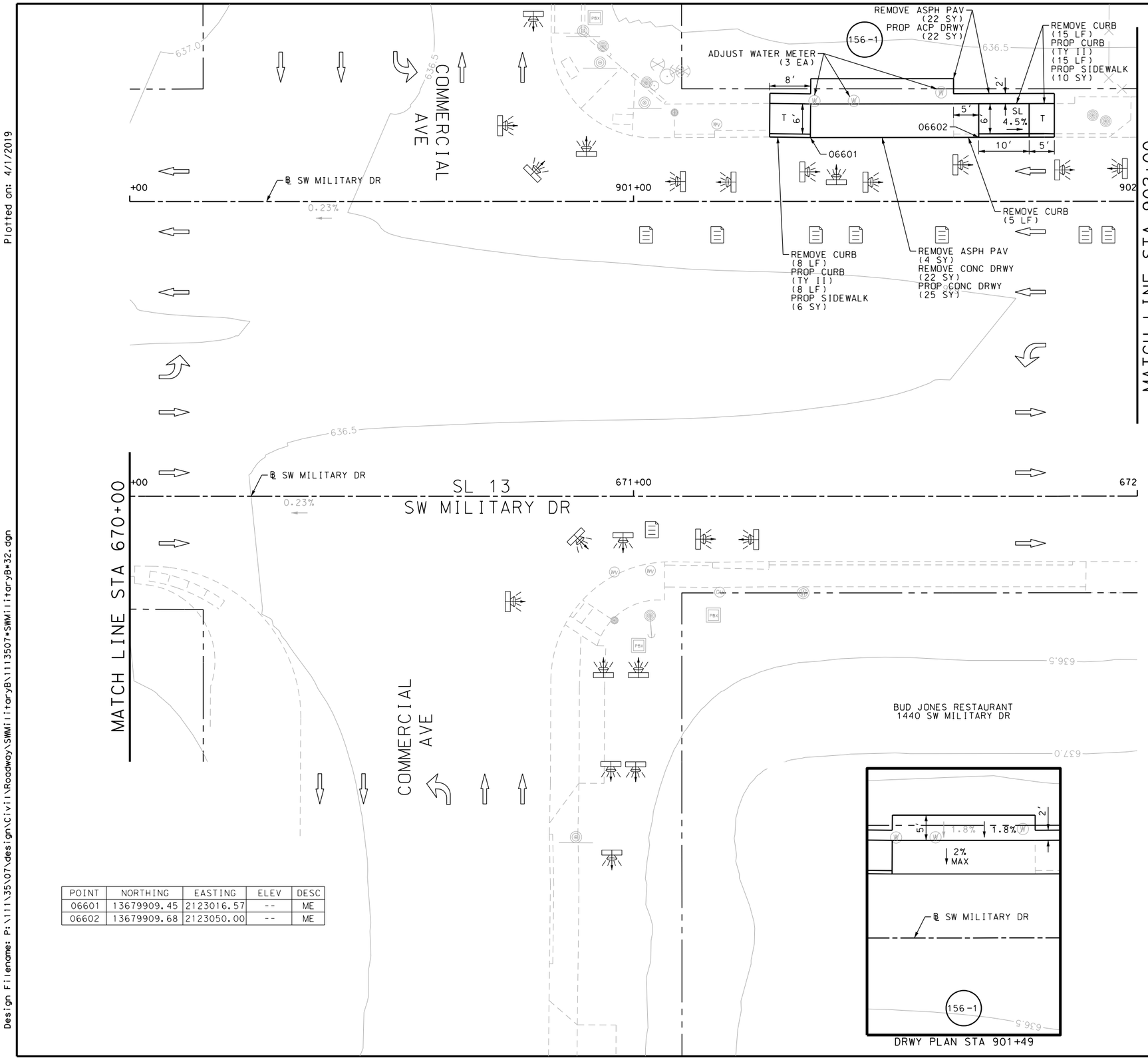
STA 666+50 TO STA 670+00

SHEET 32 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 155 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*31.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 22 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 28 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 26 |
| 0529-6002 | CONC CURB (TY II) | LF | 23 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 25 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 22 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 16 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 3 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 06601 | 13679909.45 | 2123016.57 | -- | ME |
| 06602 | 13679909.68 | 2123050.00 | -- | ME |

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

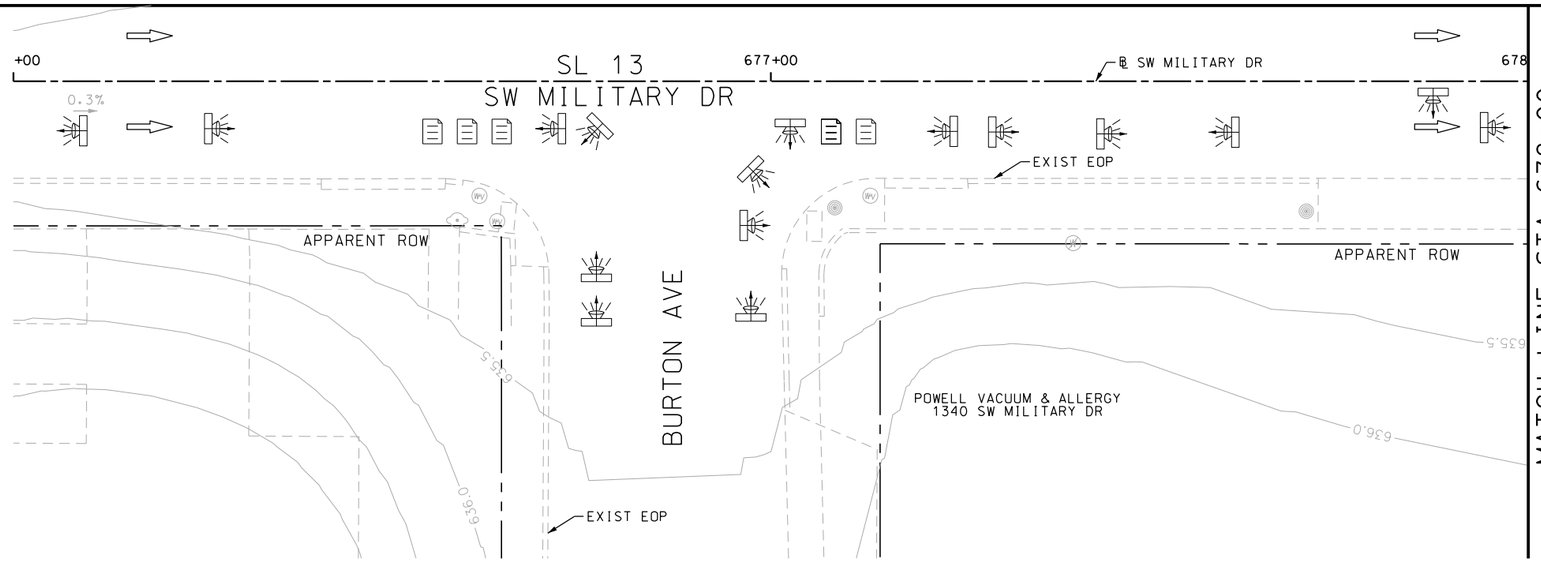
# SIDEWALK CONSTRUCTION PLAN

STA 670+00 TO STA 672+00
STA 900+00 TO STA 902+00

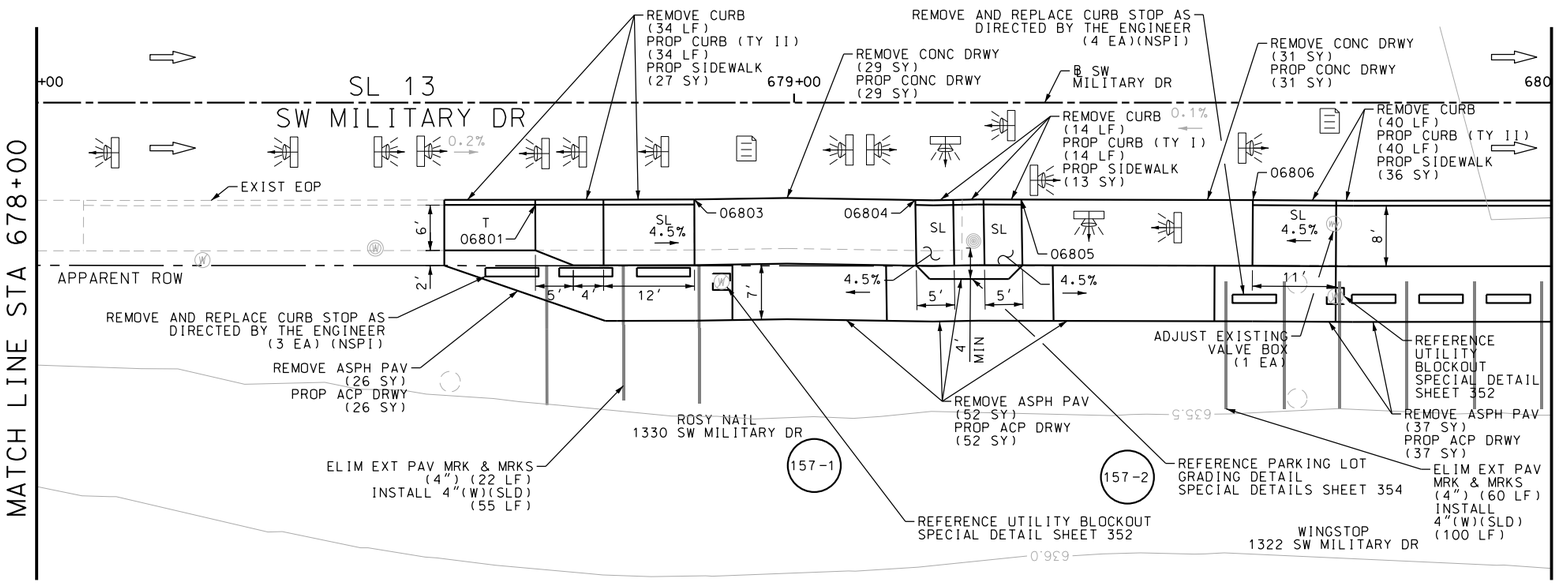


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 156 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*32.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 60 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 88 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 115 |
| 0529-6001 | CONC CURB (TY I) | LF | 14 |
| 0529-6002 | CONC CURB (TY II) | LF | 74 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 60 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 115 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 76 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 155 |
| 0666-6303 | RE PM W/RET REQ TY I (W)4"(SLD)(100MIL) | LF | 155 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 82 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 155 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |

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DESIGN

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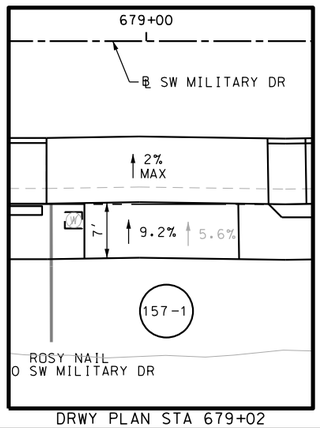
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

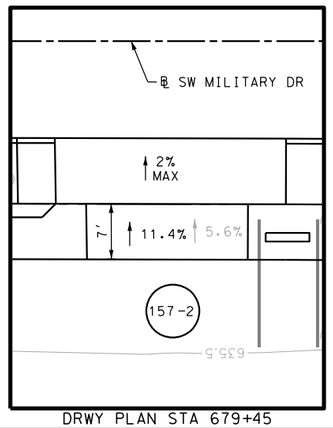
INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |



DRWY PLAN STA 679+02



DRWY PLAN STA 679+45

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 06801 | 13679829.04 | 2123747.79 | -- | ME |
| 06803 | 13679829.86 | 2123768.78 | -- | ME |
| 06804 | 13679829.97 | 2123797.95 | -- | ME |
| 06805 | 13679830.10 | 2123811.95 | -- | ME |
| 06806 | 13679830.21 | 2123842.51 | -- | ME |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

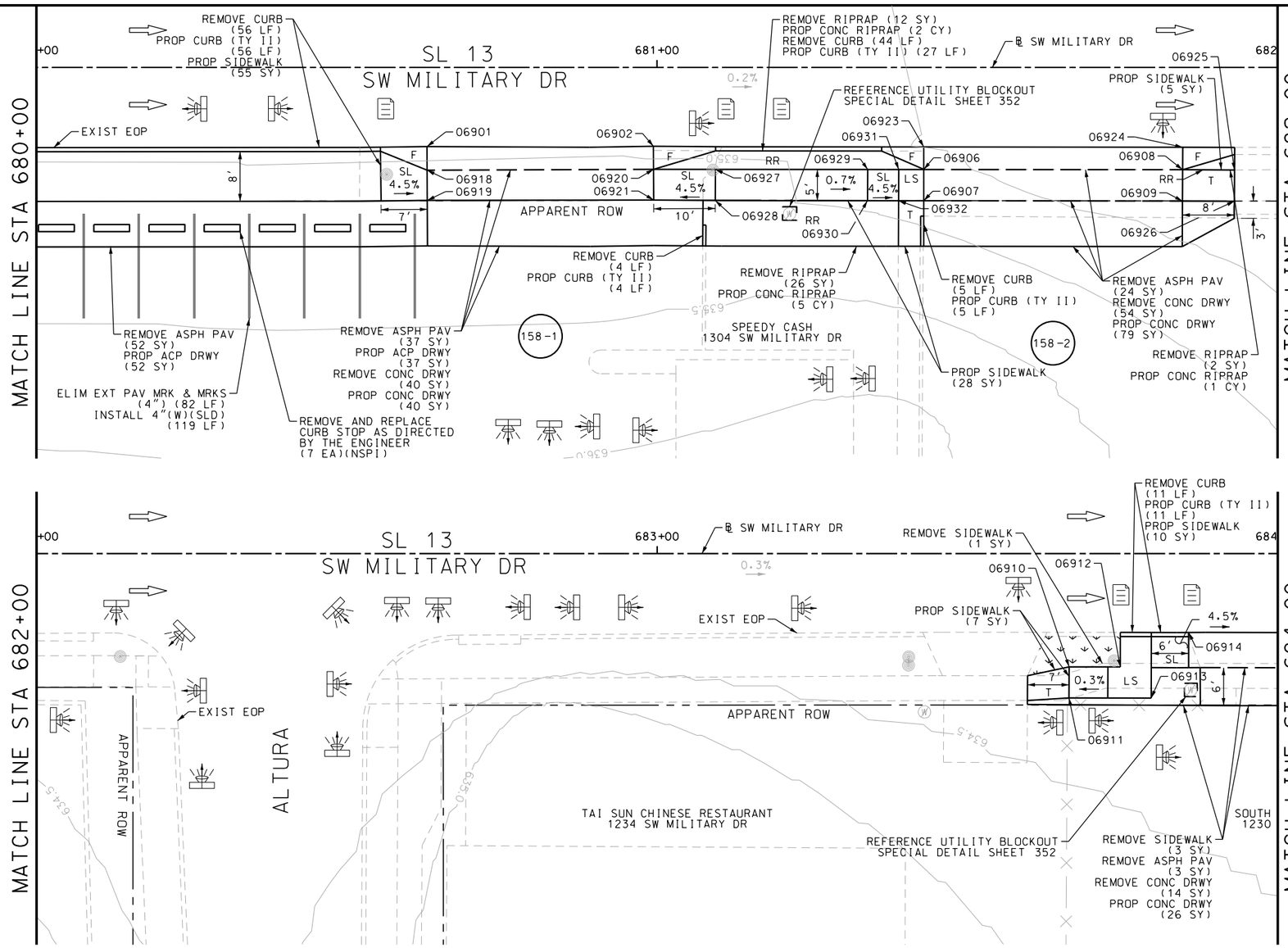
STA 676+00 TO STA 680+00

SHEET 34 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 157 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\113507+SMMilitaryB+34.dgn







| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 40 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 108 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 120 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 4 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 116 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 8 |
| 0162-6002 | BLOCK SODDING | SY | 8 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.12 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 8 |
| 0529-6002 | CONC CURB (TY II) | LF | 103 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 145 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 89 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 105 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 119 |
| 0666-6303 | RE PM W/RET REQ TY I (W)4"(SLD)(100MIL) | LF | 119 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 82 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 119 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

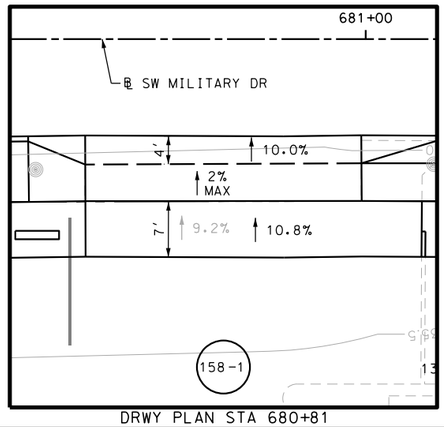
DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

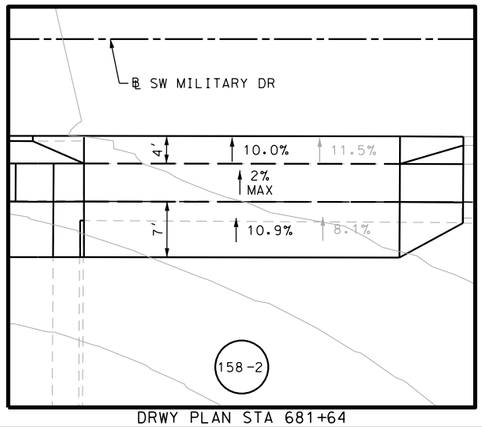
REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'



DRWY PLAN STA 680+81



DRWY PLAN STA 681+64

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 06901 | 13679830.91 | 2123944.88 | -- | ME |
| 06902 | 13679831.17 | 2123981.36 | -- | ME |
| 06906 | 13679827.68 | 2124024.94 | 634.21 | PROP |
| 06907 | 13679822.65 | 2124024.97 | 634.28 | PROP |
| 06908 | 13679827.88 | 2124066.64 | 634.11 | PROP |
| 06909 | 13679822.84 | 2124066.65 | 634.18 | PROP |
| 06910 | 13679827.17 | 2124248.34 | -- | ME |
| 06911 | 13679822.17 | 2124248.36 | -- | ME |
| 06912 | 13679827.20 | 2124256.59 | -- | ME |
| 06913 | 13679822.22 | 2124261.61 | -- | ME |
| 06914 | 13679832.82 | 2124267.56 | -- | ME |
| 06918 | 13679827.09 | 2123944.92 | 634.37 | PROP |
| 06919 | 13679822.24 | 2123944.97 | 634.44 | PROP |
| 06920 | 13679827.46 | 2123981.40 | 634.22 | PROP |
| 06921 | 13679822.50 | 2123981.44 | 634.29 | PROP |
| 06923 | 13679831.32 | 2124024.92 | -- | ME |
| 06924 | 13679831.51 | 2124066.64 | -- | ME |
| 06925 | 13679827.89 | 2124075.01 | -- | ME |
| 06926 | 13679822.85 | 2124075.02 | -- | ME |
| 06927 | 13679827.51 | 2123991.38 | 634.67 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 06928 | 13679822.49 | 2123991.38 | 634.74 | PROP |
| 06929 | 13679827.63 | 2124015.92 | 634.50 | PROP |
| 06930 | 13679822.60 | 2124015.92 | 634.57 | PROP |
| 06931 | 13679827.65 | 2124020.92 | 634.27 | PROP |
| 06932 | 13679822.62 | 2124020.92 | 634.34 | PROP |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

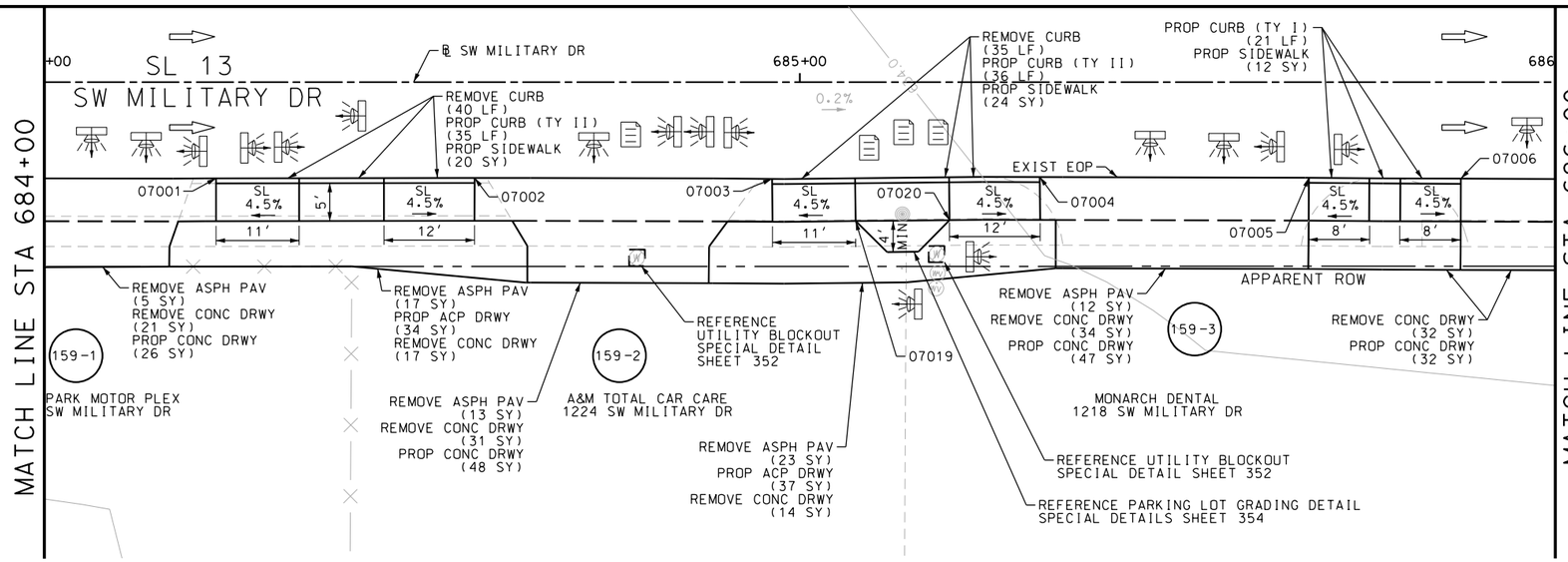
STA 680+00 TO STA 684+00

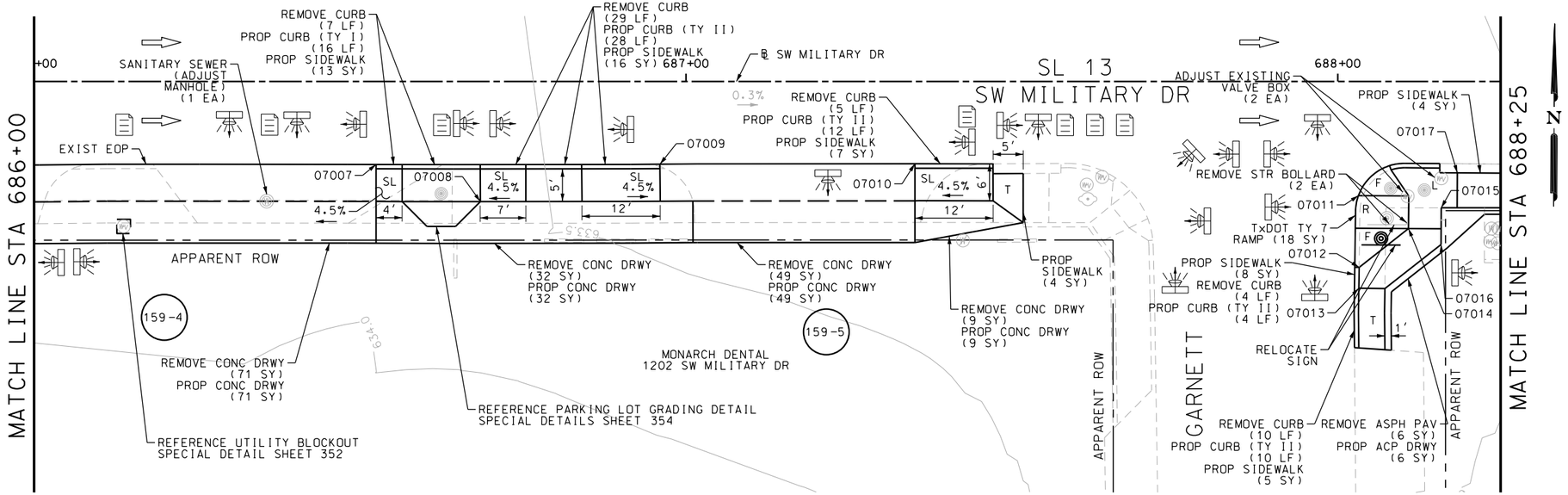
SHEET 35 OF 45

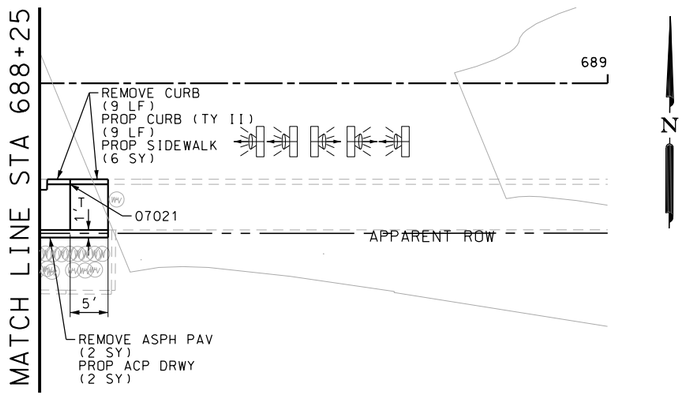
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 158 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*35.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 310 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 139 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 78 |
| 0496-6030 | REMOVE STR (BOLLARD) | EA | 2 |
| 0529-6001 | CONC CURB (TY I) | LF | 37 |
| 0529-6002 | CONC CURB (TY II) | LF | 134 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 314 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 79 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 119 |
| 0531-6024 | CURB RAMPS (TY 7) | SY | 18 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 2 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 07001 | 13679833.01 | 2124304.64 | -- | ME |
| 07002 | 13679833.28 | 2124338.88 | -- | ME |
| 07003 | 13679833.37 | 2124378.25 | -- | ME |
| 07004 | 13679833.83 | 2124413.68 | -- | ME |
| 07005 | 13679833.93 | 2124449.32 | -- | ME |
| 07006 | 13679833.93 | 2124469.42 | -- | ME |
| 07007 | 13679834.34 | 2124534.40 | -- | ME |
| 07008 | 13679828.74 | 2124550.41 | -- | ME |
| 07009 | 13679834.64 | 2124577.94 | -- | ME |
| 07010 | 13679834.93 | 2124617.04 | -- | ME |
| 07011 | 13679830.44 | 2124685.13 | -- | ME |
| 07012 | 13679819.44 | 2124685.30 | -- | ME |
| 07013 | 13679816.25 | 2124685.27 | -- | ME |
| 07014 | 13679825.43 | 2124692.83 | -- | ME |
| 07015 | 13679828.64 | 2124697.84 | -- | ME |
| 07016 | 13679823.01 | 2124697.83 | -- | ME |
| 07017 | 13679834.02 | 2124700.28 | -- | ME |
| 07019 | 13679827.86 | 2124389.34 | -- | ME |
| 07020 | 13679828.06 | 2124401.77 | -- | ME |
| 07021 | 13679834.74 | 2124710.97 | -- | ME |

NOTES:
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1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20′

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



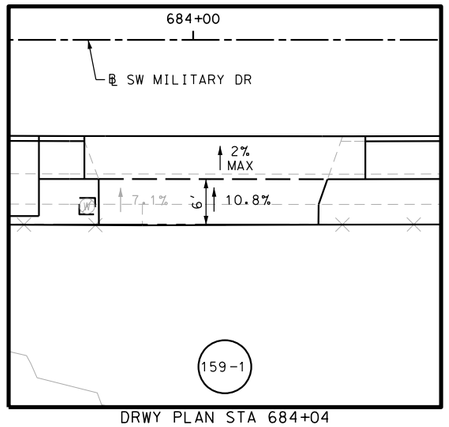
SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 684+00 TO STA 689+00

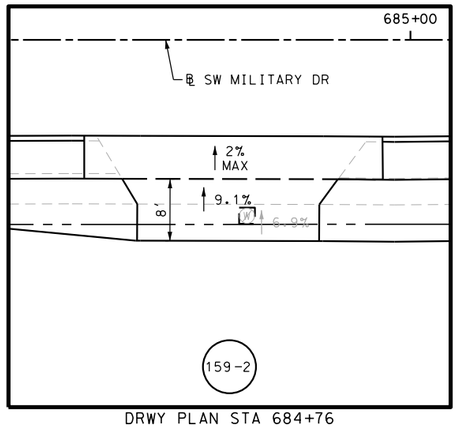
SHEET 36 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 159 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*36.dgn




DRWY PLAN STA 684+04

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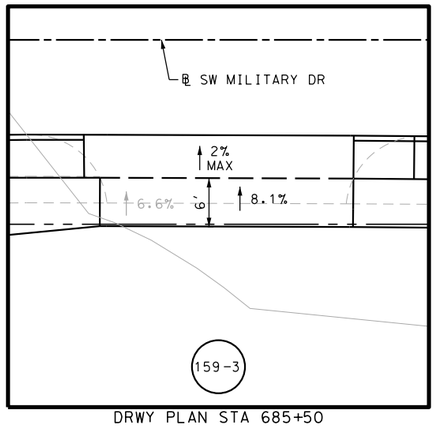
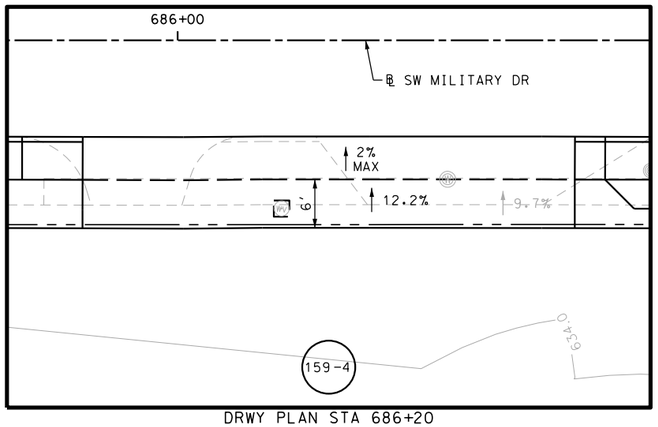
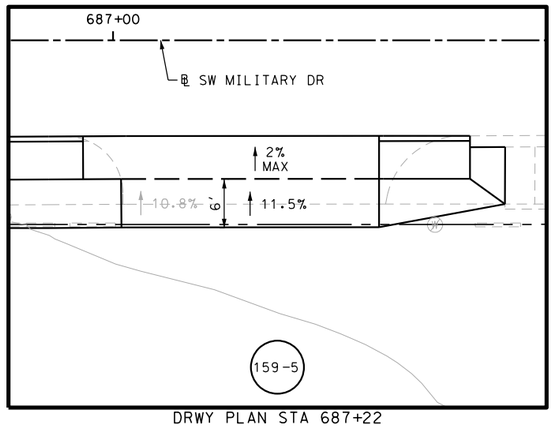



DRWY PLAN STA 685+50




DRWY PLAN STA 686+20




DRWY PLAN STA 687+22

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



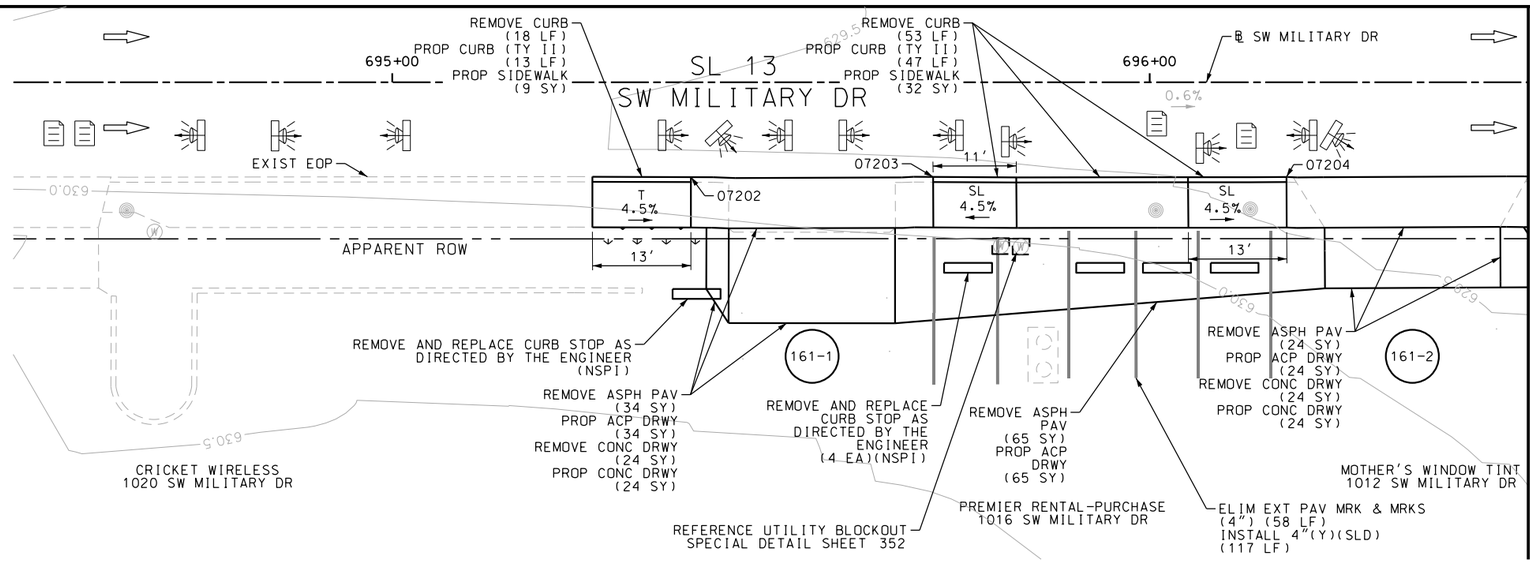
SL 13
SW MILITARY B

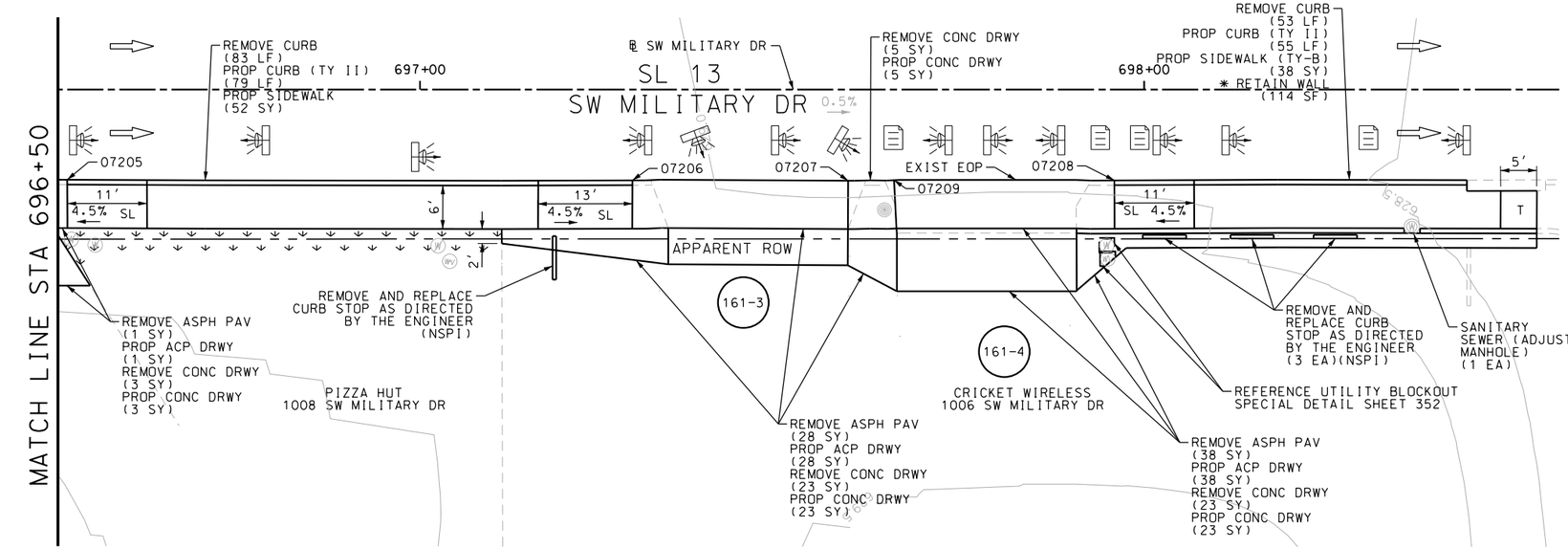
# SIDEWALK CONSTRUCTION PLAN

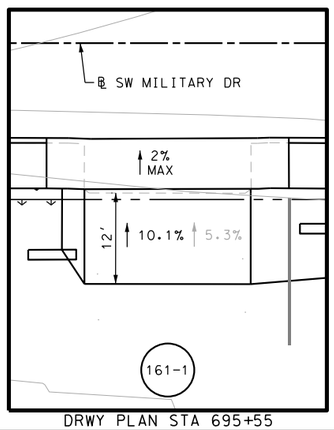
STA 684+00 TO STA 689+00

SHEET 37 OF 45

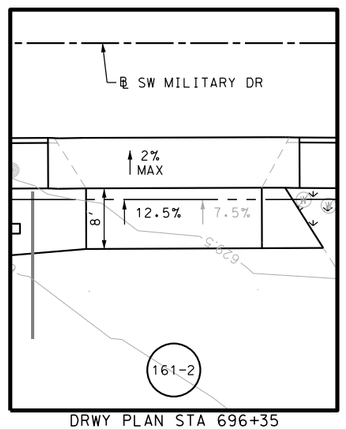
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 160 |




DRWY PLAN STA 695+55

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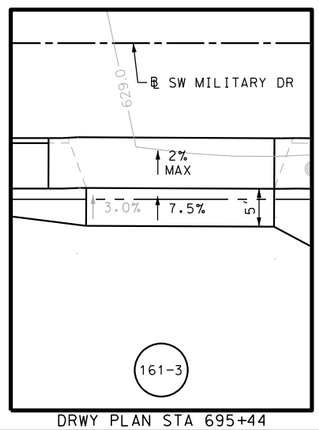
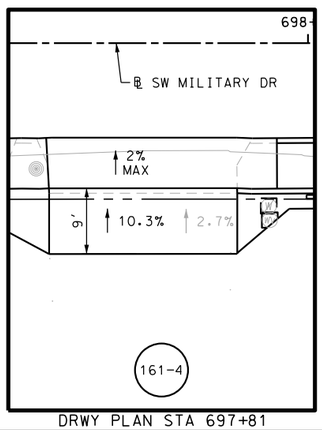



DRWY PLAN STA 695+44




DRWY PLAN STA 697+81

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 102 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 207 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 190 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 26 |
| 0162-6002 | BLOCK SODDING | SY | 26 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.41 |
| 0529-6002 | CONC CURB (TY II) | LF | 194 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 102 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 190 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 93 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 38 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 117 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 117 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 58 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 117 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 07202 | 13679839.68 | 2125421.36 | -- | ME |
| 07203 | 13679839.88 | 2125453.32 | -- | ME |
| 07204 | 13679840.15 | 2125499.99 | -- | ME |
| 07205 | 13679840.39 | 2125533.19 | -- | ME |
| 07206 | 13679840.76 | 2125611.23 | -- | ME |
| 07207 | 13679840.90 | 2125641.04 | -- | ME |
| 07208 | 13679841.14 | 2125677.79 | -- | ME |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

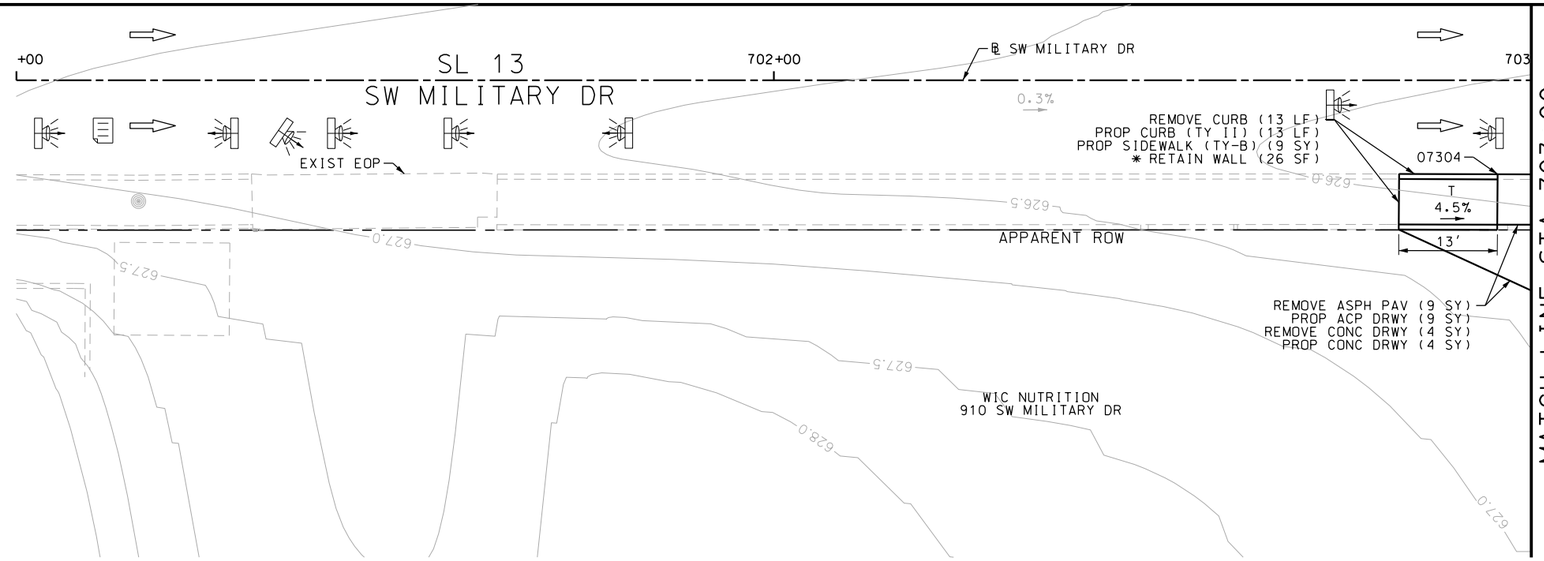
# SIDEWALK CONSTRUCTION PLAN
STA 694+50 TO STA 698+55

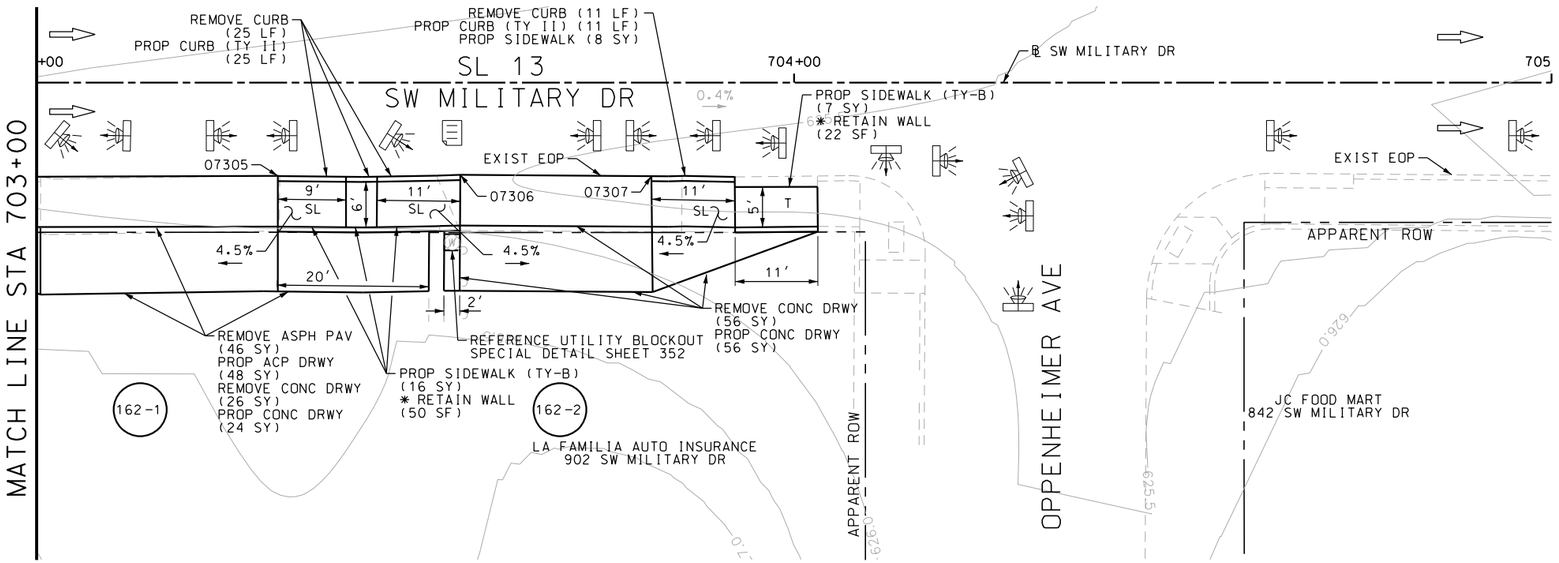
SHEET 38 OF 45

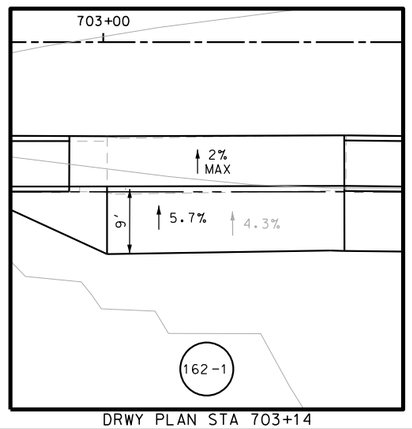
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 161 |

Plotted on: 4/1/2019

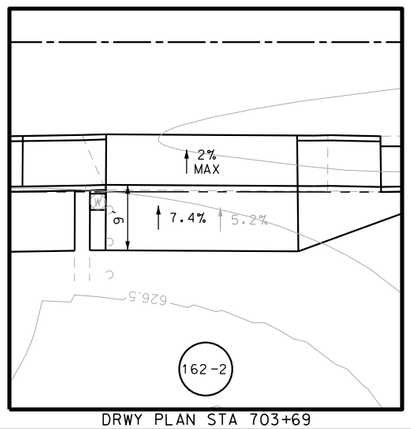
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\111507+SWMilitaryB+38.dgn




DRWY PLAN STA 703+14




DRWY PLAN STA 703+69

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 86 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 49 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 55 |
| 0529-6002 | CONC CURB (TY II) | LF | 49 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 84 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 57 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 8 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 32 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 07304 | 13679844.16 | 2126177.44 | -- | ME |
| 07305 | 13679844.46 | 2126213.73 | -- | ME |
| 07306 | 13679844.74 | 2126237.84 | -- | ME |
| 07307 | 13679844.73 | 2126263.05 | -- | ME |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 701+00 TO STA 705+00

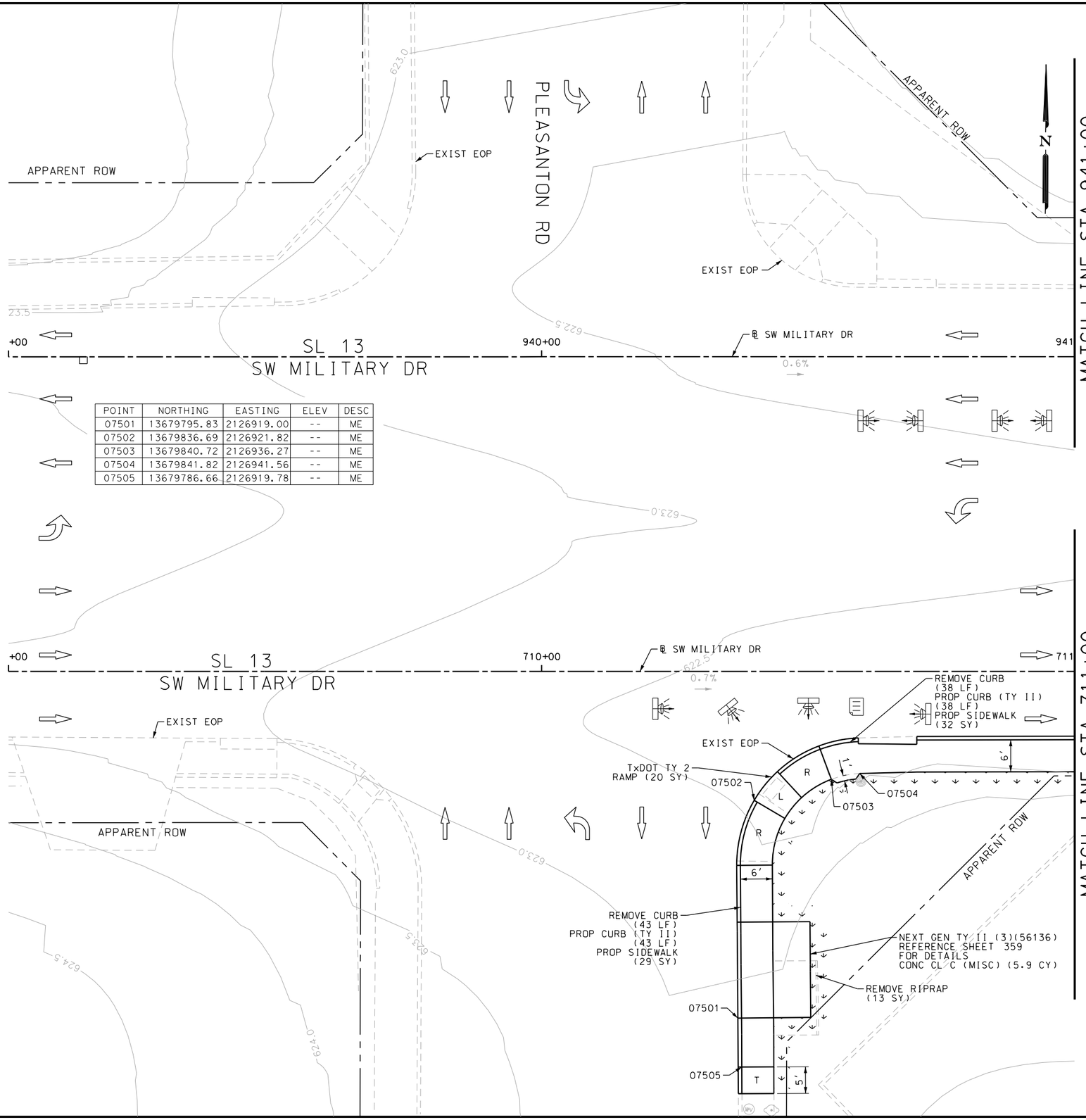
SHEET 39 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 162 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*39.dgn

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*41.dgn




| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 07501 | 13679795.83 | 2126919.00 | -- | ME |
| 07502 | 13679836.69 | 2126921.82 | -- | ME |
| 07503 | 13679840.72 | 2126936.27 | -- | ME |
| 07504 | 13679841.82 | 2126941.56 | -- | ME |
| 07505 | 13679786.66 | 2126919.78 | -- | ME |

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 13 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 81 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 41 |
| 0162-6002 | BLOCK SODDING | SY | 41 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.64 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0529-6002 | CONC CURB (TY II) | LF | 81 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 61 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 20 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



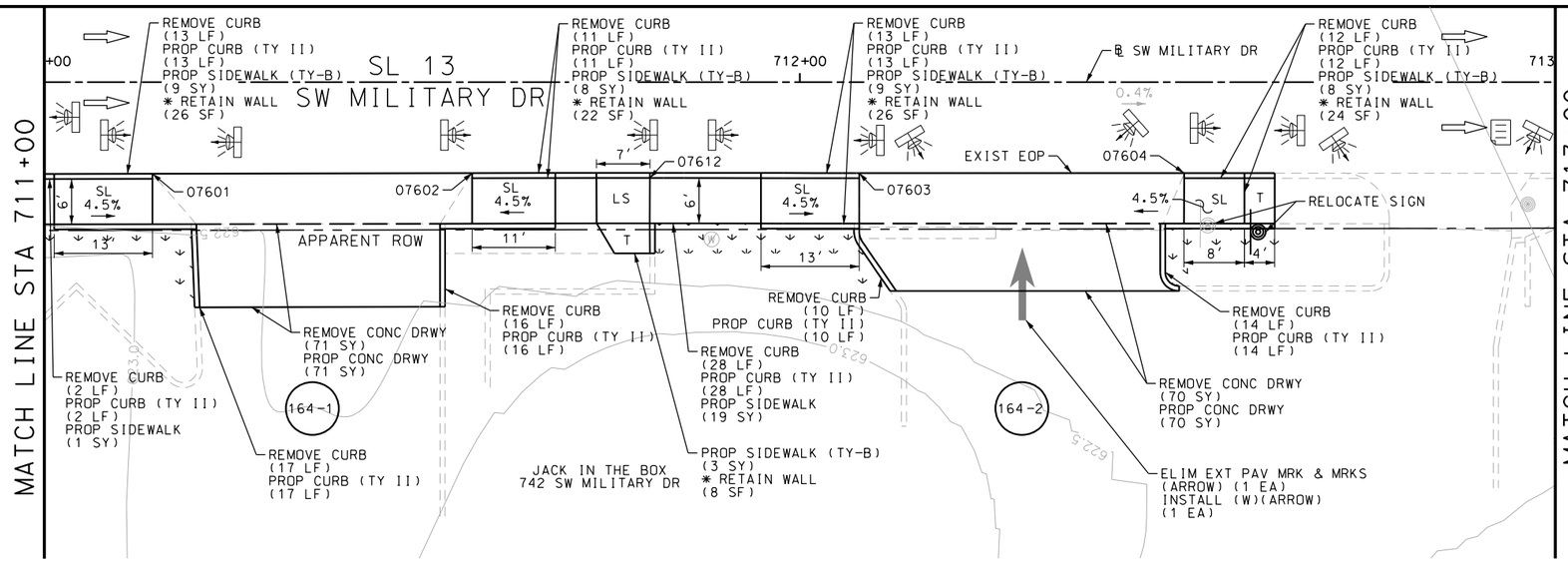

SL 13
SW MILITARY B

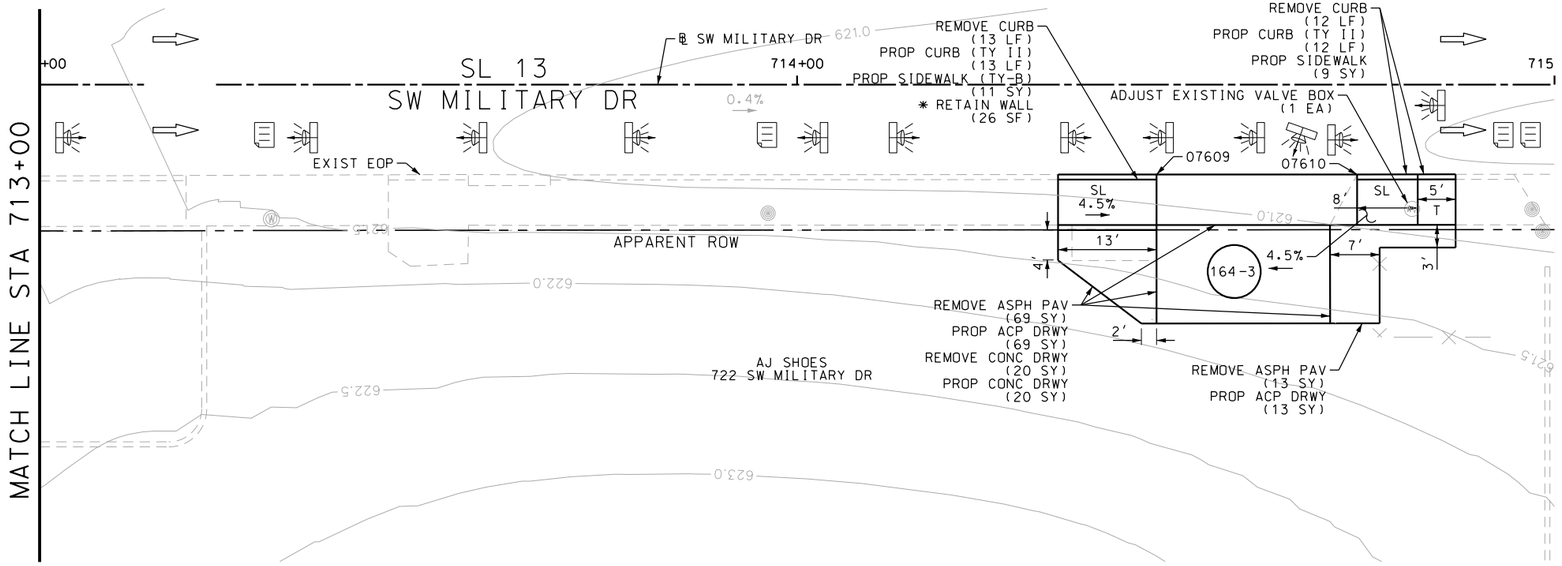
# SIDEWALK CONSTRUCTION PLAN

STA 709+00 TO STA 711+00
STA 939+00 TO STA 941+00

SHEET 40 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 163 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 161 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 161 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 82 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 30 |
| 0162-6002 | BLOCK SODDING | SY | 30 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.47 |
| 0529-6002 | CONC CURB (TY II) | LF | 161 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 161 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 82 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 29 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 48 |
| 0666-6054 | REFL PAV MRK TY I (W)(ARROW)(100MIL) | EA | 1 |
| 0666-6231 | PAVEMENT SEALER (ARROW) | EA | 1 |
| 0677-6008 | ELIM EXT PAV MRK & MRKS (ARROW) | EA | 1 |
| 0678-6009 | PAV SURF PREP FOR MRK (ARROW) | EA | 1 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |

NOTES:
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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 07601 | 13679849.18 | 2126996.18 | -- | ME |
| 07602 | 13679849.51 | 2127038.50 | -- | ME |
| 07603 | 13679849.82 | 2127089.74 | -- | ME |
| 07604 | 13679850.06 | 2127132.74 | -- | ME |
| 07609 | 13679851.37 | 2127329.34 | -- | ME |
| 07610 | 13679851.54 | 2127355.81 | -- | ME |
| 07612 | 13679849.01 | 2127062.03 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

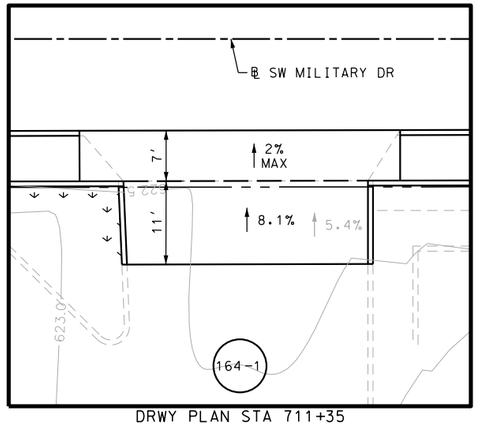
# SIDEWALK CONSTRUCTION PLAN

STA 711+00 TO STA 715+00

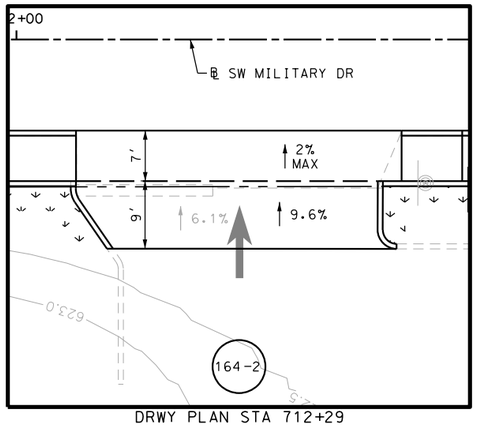
SHEET 41 OF 45

| DGNs | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGNs | 6 | TEXAS | | | | VARIES |
| DWGs | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWGs | SAT | BEXAR | 0915 | 12 | 576 | 164 |

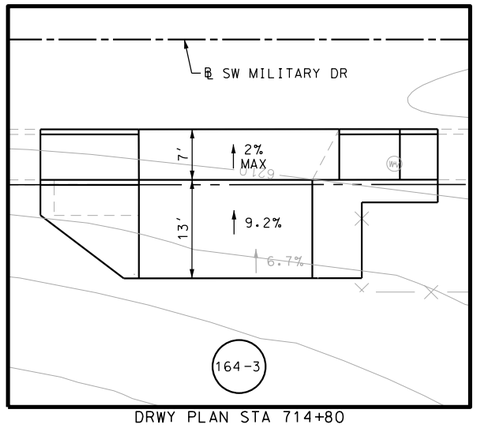
Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*42.dgn




DRWY PLAN STA 711+35




DRWY PLAN STA 712+29




DRWY PLAN STA 714+80

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

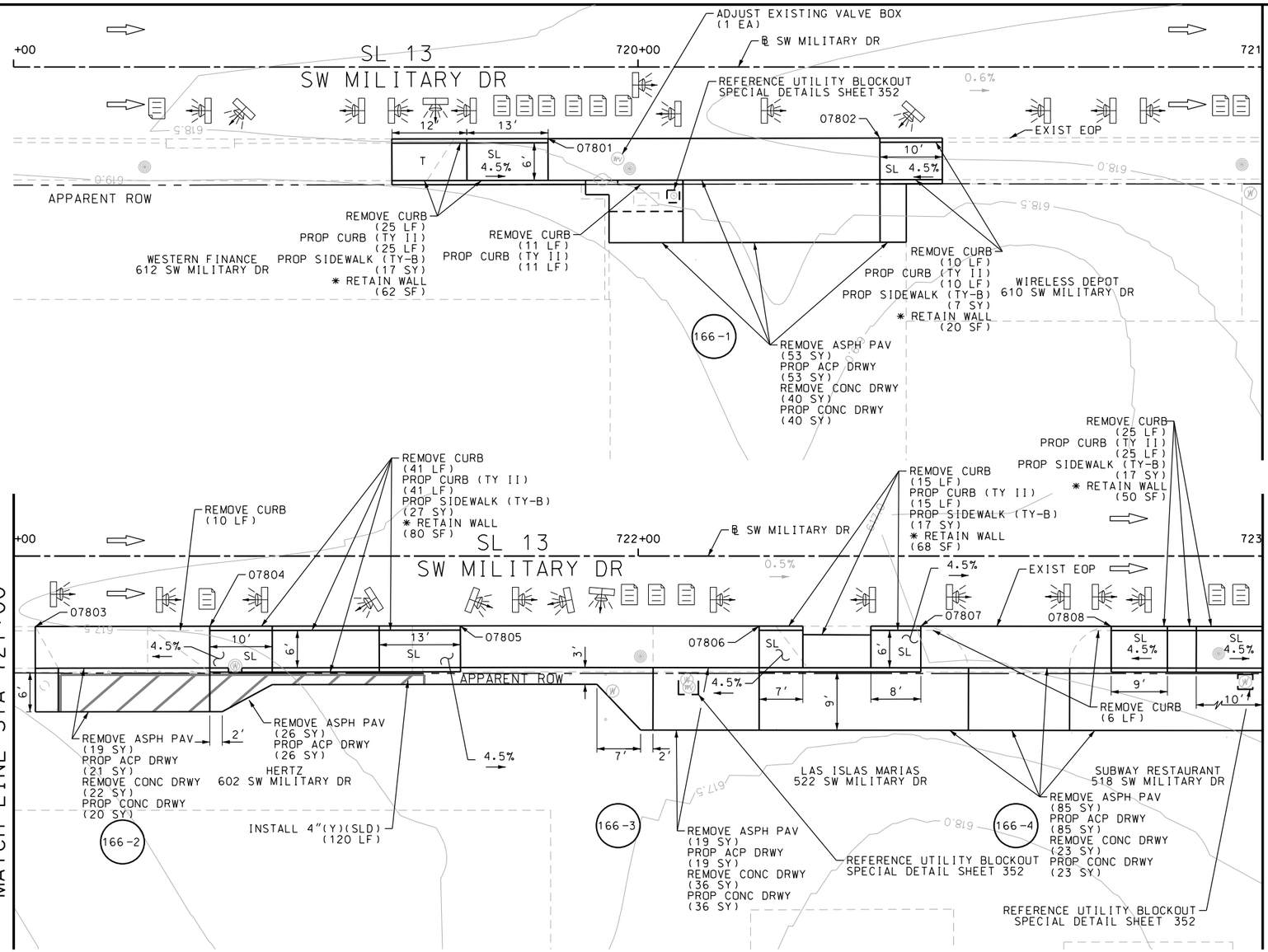
# SIDEWALK CONSTRUCTION PLAN
STA 711+00 TO STA 715+00

SHEET 42 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 165 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507+SWMilitaryB+42A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 121 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 143 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 202 |
| 0529-6002 | CONC CURB (TY II) | LF | 127 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 119 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 204 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 85 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 120 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 120 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 120 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 07801 | 13679854.86 | 2127867.45 | -- | ME |
| 07802 | 13679855.26 | 2127920.59 | -- | ME |
| 07803 | 13679855.73 | 2127985.31 | -- | ME |
| 07804 | 13679855.93 | 2128013.25 | -- | ME |
| 07805 | 13679856.22 | 2128053.39 | -- | ME |
| 07806 | 13679856.48 | 2128101.23 | -- | ME |
| 07807 | 13679856.62 | 2128127.13 | -- | ME |
| 07808 | 13679856.76 | 2128157.61 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

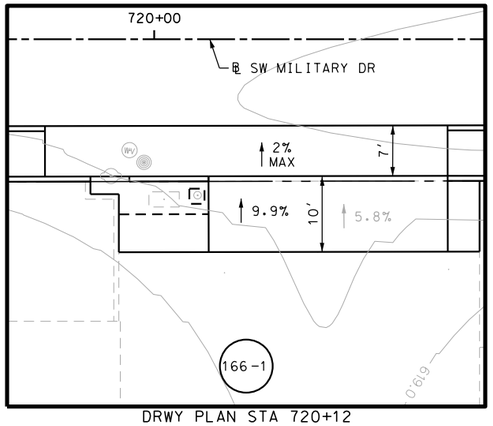
# SIDEWALK CONSTRUCTION PLAN
STA 719+00 TO STA 723+00

SHEET 43 OF 45

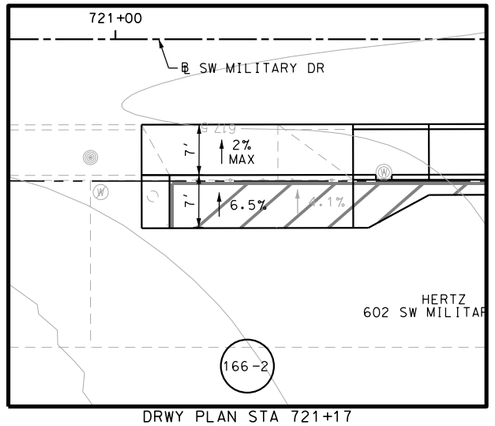
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 166 |

Plotted on: 4/1/2019

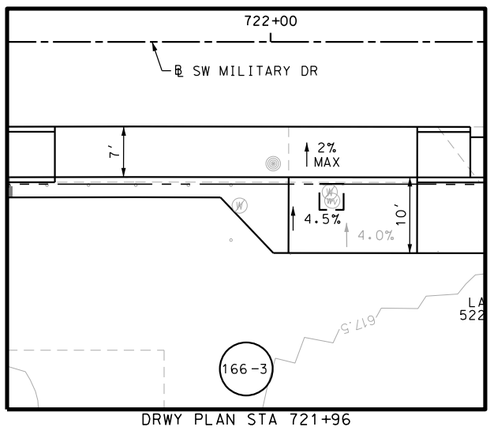
Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\113507+SMMilitaryB+44.dgn



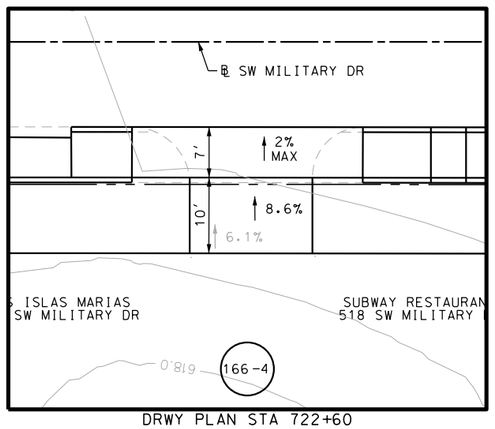
DRWY PLAN STA 720+12



DRWY PLAN STA 721+17



DRWY PLAN STA 721+96



DRWY PLAN STA 722+60

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

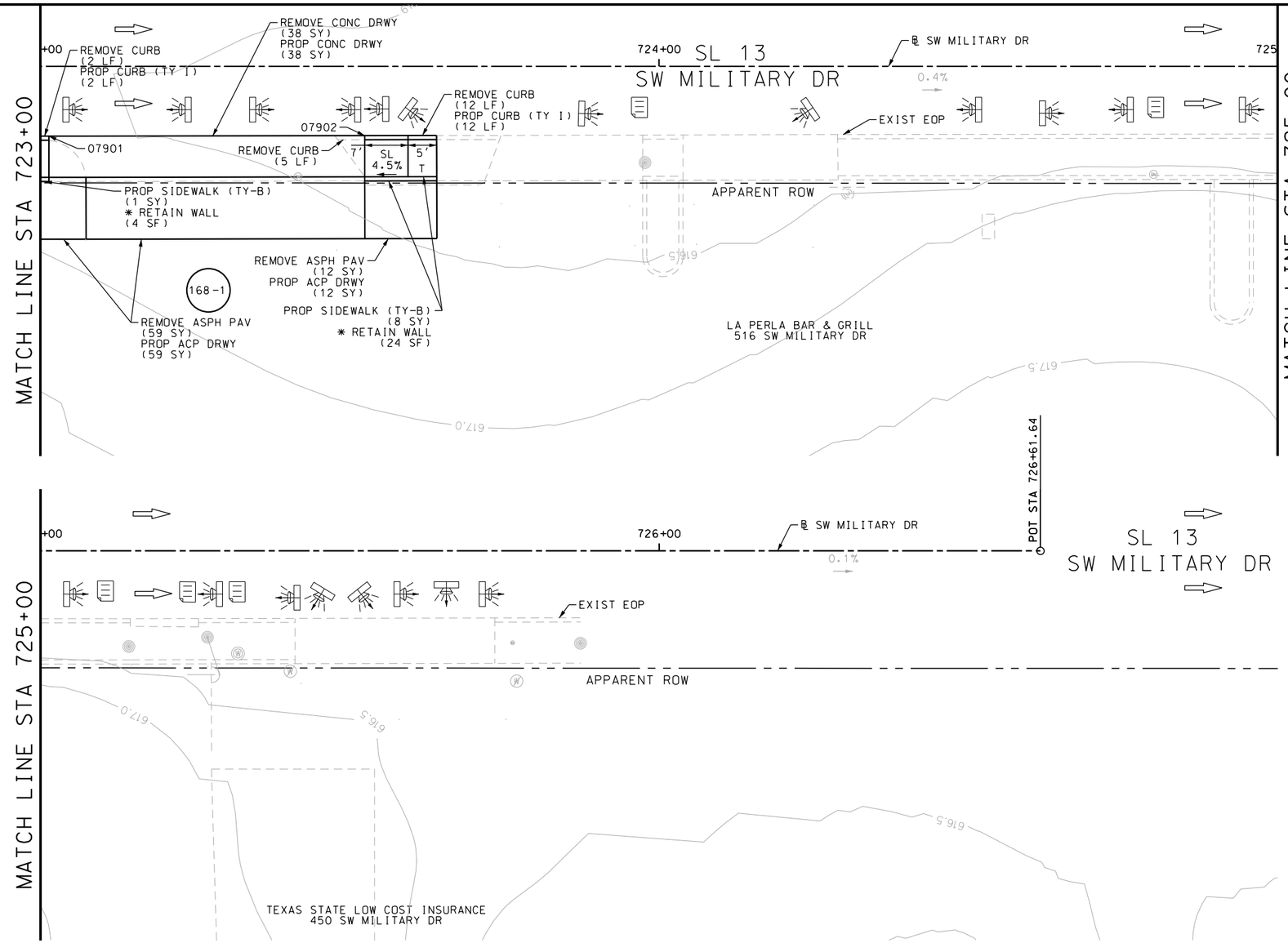
# SIDEWALK CONSTRUCTION PLAN
STA 719+00 TO STA 721+00

SHEET 44 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 167 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\113507+SWMilitaryB+44A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 38 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 19 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 71 |
| 0529-6001 | CONC CURB (TY I) | LF | 14 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 38 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 71 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 9 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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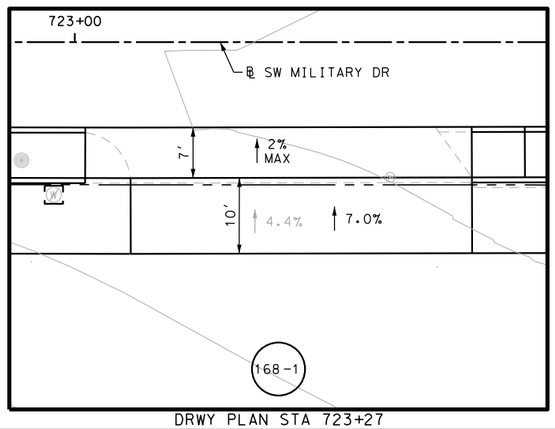
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019



DRWY PLAN STA 723+27

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 07901 | 13679856.88 | 2128183.24 | -- | ME |
| 07902 | 13679857.26 | 2128234.27 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



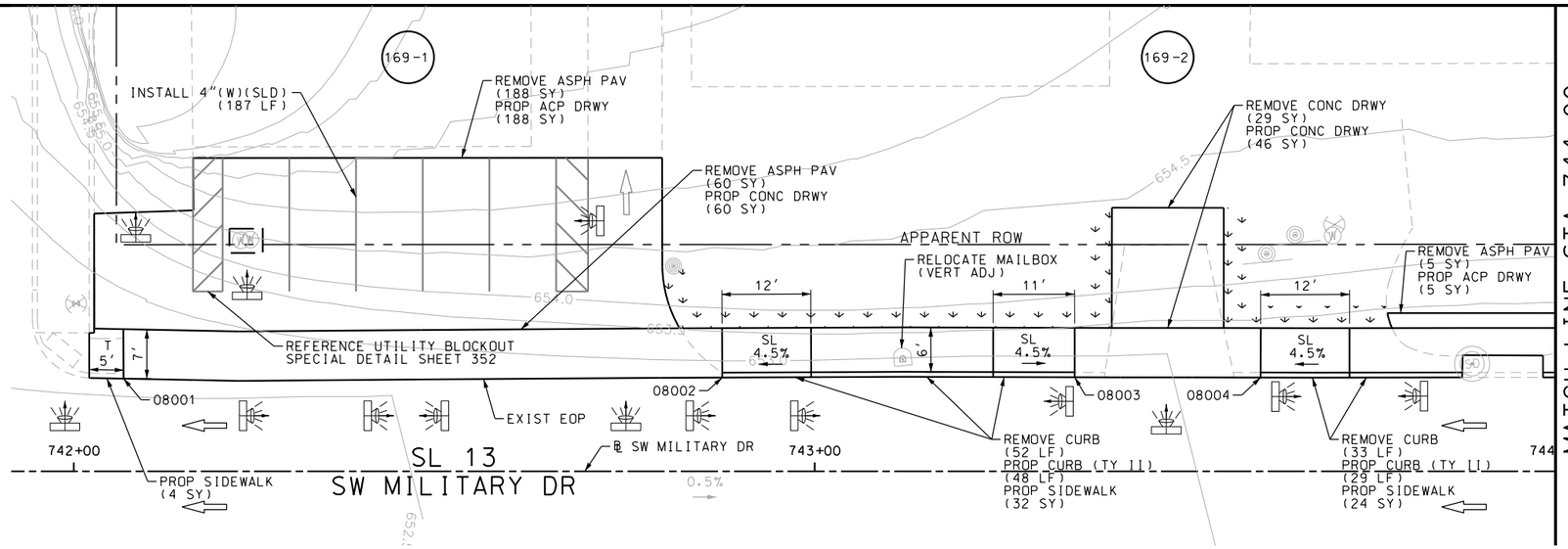
SL 13
SW MILITARY B

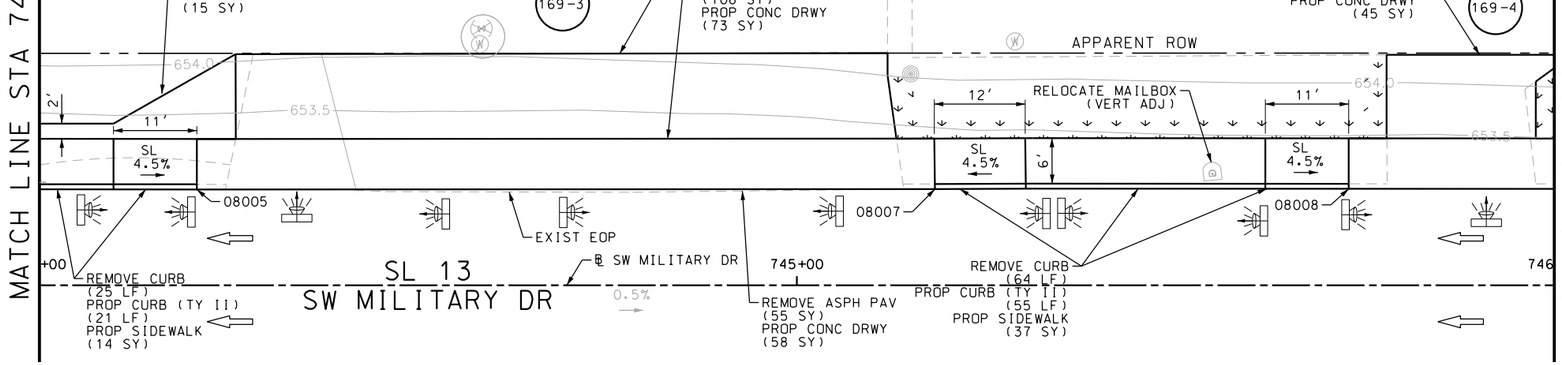
# SIDEWALK CONSTRUCTION PLAN
STA 723+00 TO END PROJECT

SHEET 45 OF 45

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 168 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*45.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 93 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 174 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 414 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 70 |
| 0162-6002 | BLOCK SODDING | SY | 70 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.09 |
| 0529-6002 | CONC CURB (TY II) | LF | 153 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 224 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 316 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 111 |
| 0560-6014 | MAILBOX INSTALL-S (TWG-POST) TY 4 | EA | 2 |
| 0666-6048 | REFL PAV MRK TY I (W)24"(SLD)(100MIL) | LF | 187 |
| 0666-6054 | REFL PAV MRK TY I (W)(ARROW)(100MIL) | EA | 1 |
| 0666-6230 | PAVEMENT SEALER 24" | LF | 187 |
| 0666-6231 | PAVEMENT SEALER (ARROW) | EA | 1 |
| 0678-6008 | PAV SURF PREP FOR MRK (24") | LF | 187 |
| 0678-6009 | PAV SURF PREP FOR MRK (ARROW) | EA | 1 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 08001 | 13680647.83 | 2107129.02 | -- | ME |
| 08002 | 13680639.79 | 2107209.42 | -- | ME |
| 08003 | 13680635.02 | 2107256.74 | -- | ME |
| 08004 | 13680632.45 | 2107281.72 | -- | ME |
| 08005 | 13680626.31 | 2107341.99 | -- | ME |
| 08006 | 13680624.16 | 2107362.37 | -- | ME |
| 08007 | 13680616.49 | 2107438.95 | -- | ME |
| 08008 | 13680610.99 | 2107493.29 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

BEGIN PROJECT TO STA 746+00

SHEET 1 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 169 |

Plotted on: 4/1/2019
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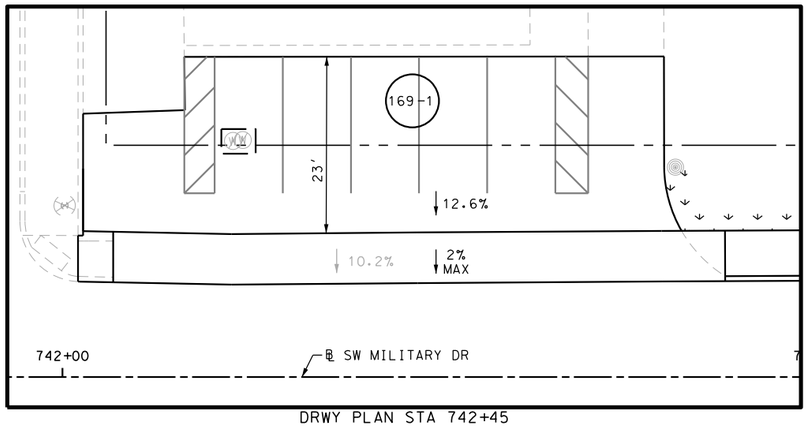
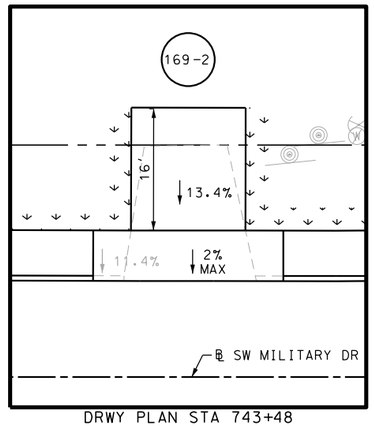
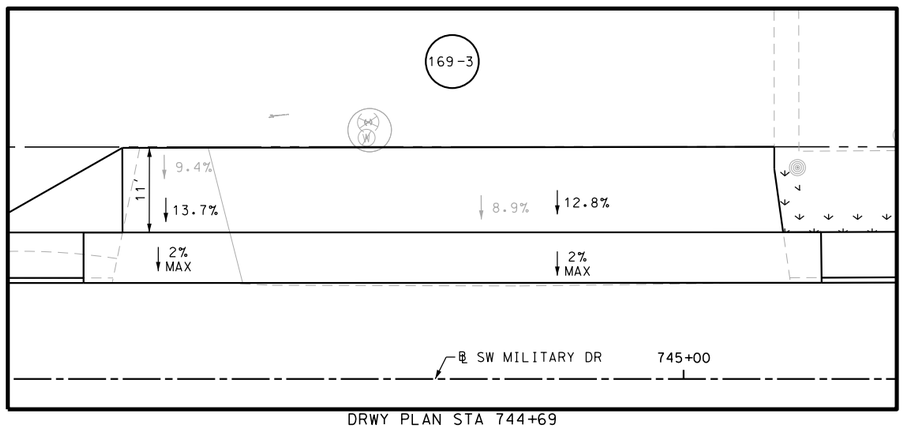


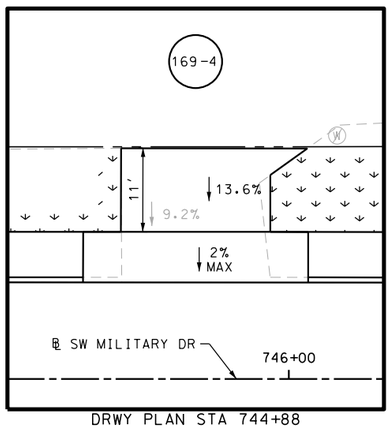

DRWY PLAN STA 742+45




DRWY PLAN STA 743+48




DRWY PLAN STA 744+69




DRWY PLAN STA 744+88

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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

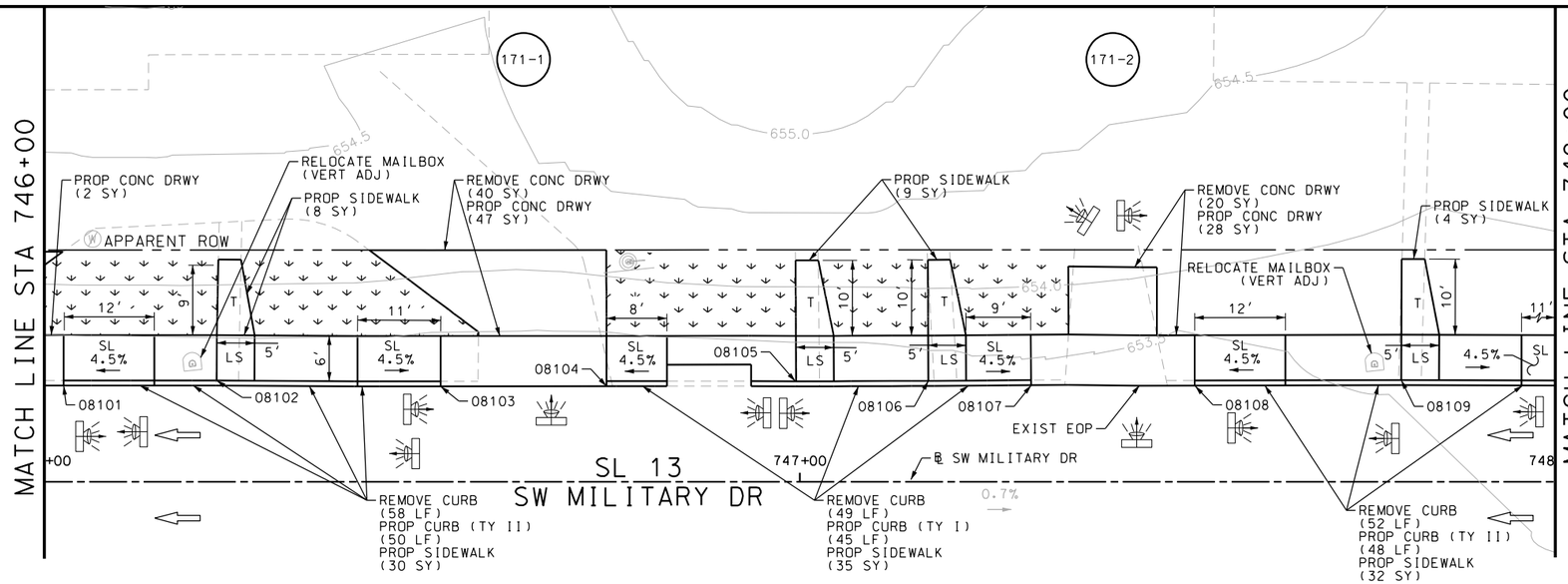
BEGIN PROJECT TO STA 746+00

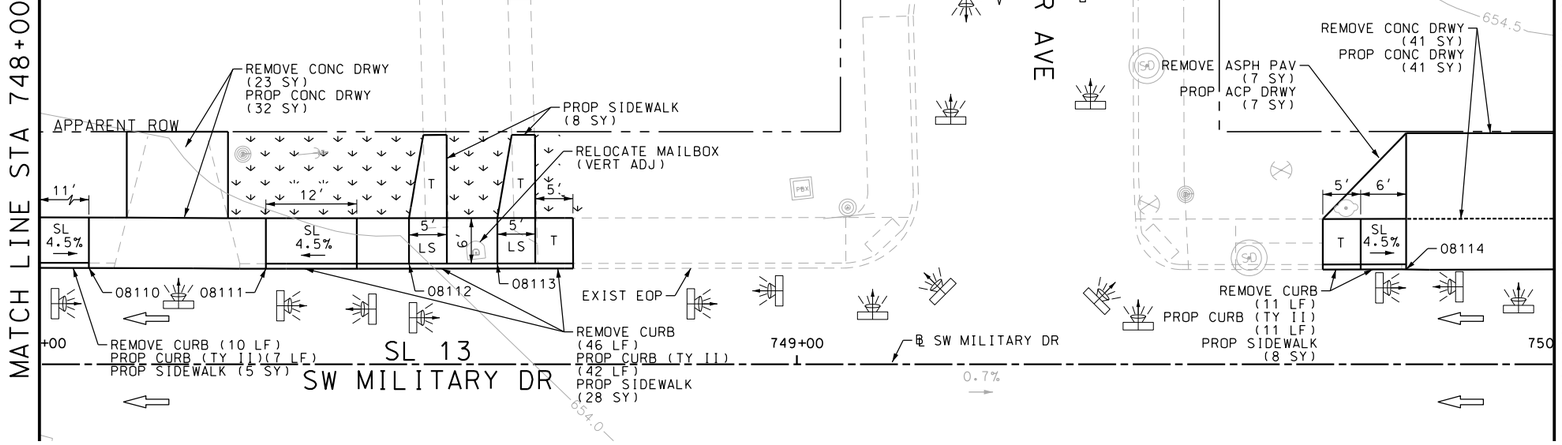
SHEET 2 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 170 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\113507+SMMilitaryB+WB01A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 125 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 226 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 7 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 170 |
| 0162-6002 | BLOCK SODDING | SY | 170 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.65 |
| 0529-6002 | CONC CURB (TY II) | LF | 203 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 153 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 7 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 167 |
| 0560-6014 | MAILBOX INSTALL-S (TWG-POST) TY 4 | EA | 3 |

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
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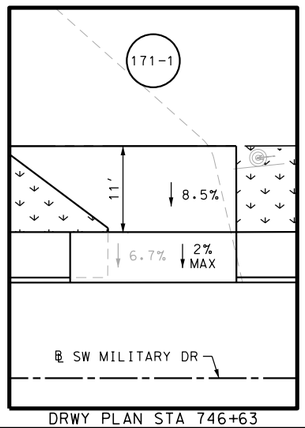
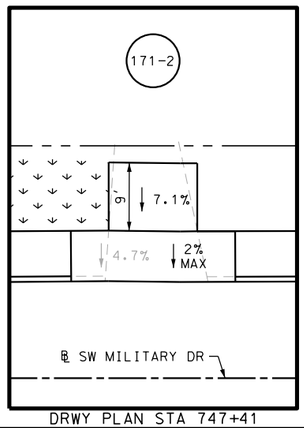
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

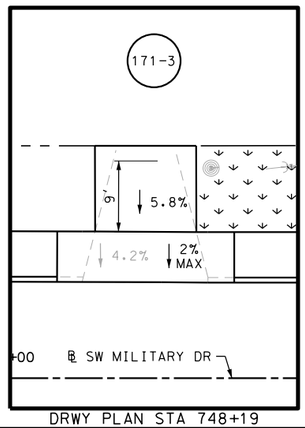
SCALE: PLAN 1"= 20'



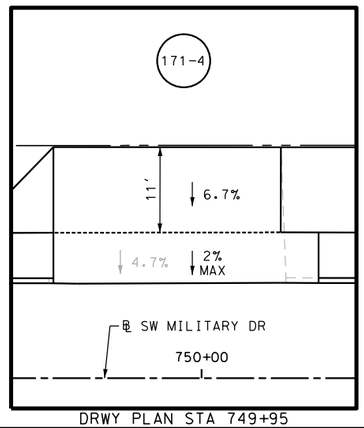
DRWY PLAN STA 746+63



DRWY PLAN STA 747+41



DRWY PLAN STA 748+19



DRWY PLAN STA 749+95

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 08101 | 13680607.98 | 2107522.84 | -- | ME |
| 08102 | 13680606.63 | 2107542.76 | -- | ME |
| 08103 | 13680602.83 | 2107572.49 | -- | ME |
| 08104 | 13680600.63 | 2107594.33 | -- | ME |
| 08105 | 13680598.80 | 2107618.60 | -- | ME |
| 08106 | 13680597.06 | 2107636.28 | -- | ME |
| 08107 | 13680595.06 | 2107650.25 | -- | ME |
| 08108 | 13680592.82 | 2107671.80 | -- | ME |
| 08109 | 13680590.85 | 2107698.43 | -- | ME |
| 08110 | 13680587.32 | 2107725.76 | -- | ME |
| 08111 | 13680584.85 | 2107749.02 | -- | ME |
| 08112 | 13680583.55 | 2107768.56 | -- | ME |
| 08113 | 13680581.81 | 2107785.75 | -- | ME |
| 08114 | 13680569.59 | 2107898.18 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 746+00 TO STA 750+00

SHEET 3 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 171 |

Plotted on: 4/1/2019
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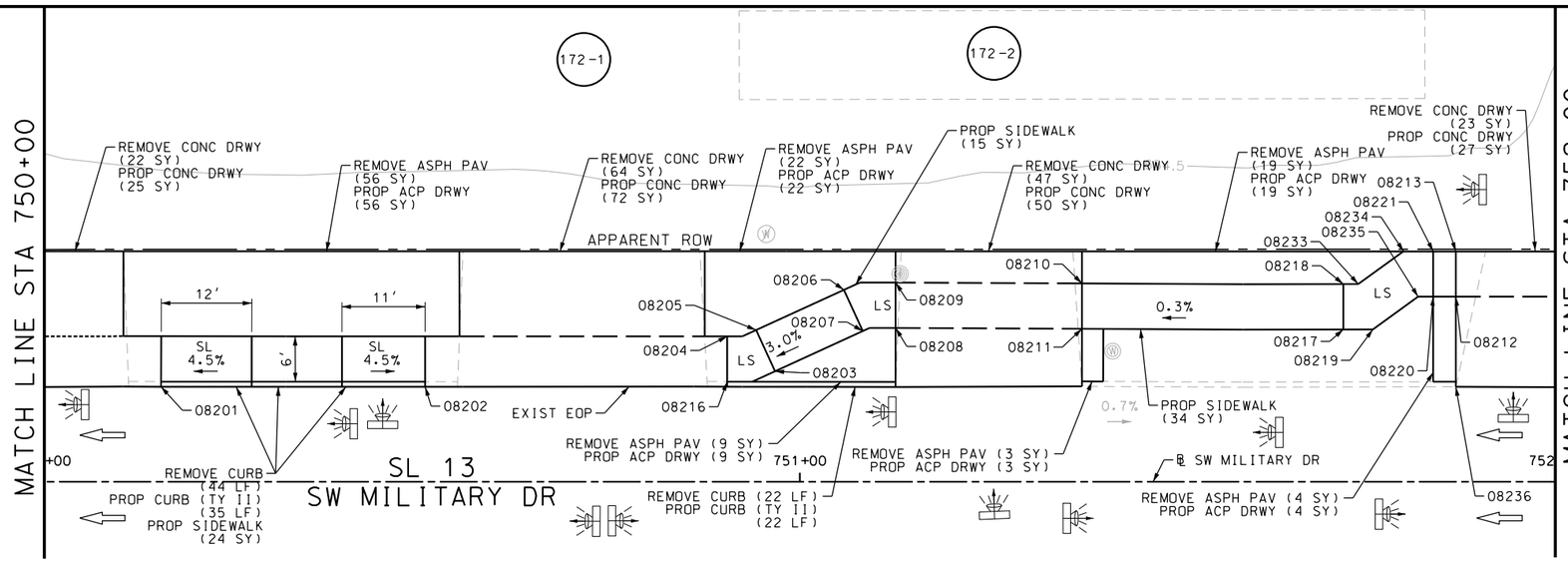


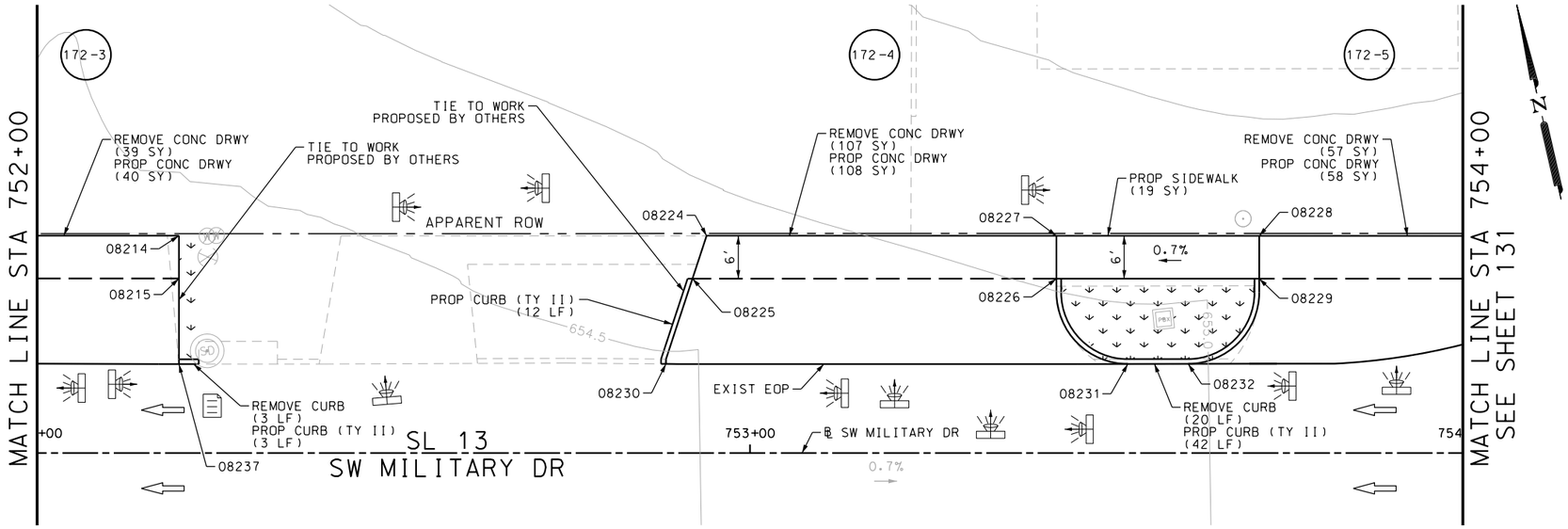


| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 359 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 89 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 113 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 30 |
| 0162-6002 | BLOCK SODDING | SY | 30 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.47 |
| 0529-6002 | CONC CURB (TY II) | LF | 114 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 380 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 113 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 92 |

NOTES:
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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

STA 750+00 TO STA 754+00

SHEET 4 OF 42

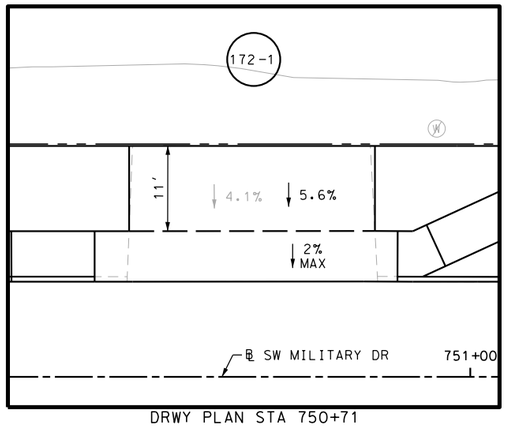
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 172 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 08201 | 13680566.03 | 2107933.61 | -- | ME |
| 08202 | 13680562.48 | 2107968.38 | -- | ME |
| 08203 | 13680558.23 | 2108010.14 | 653.40 | PROP |
| 08204 | 13680558.90 | 2108010.21 | -- | ME |
| 08205 | 13680564.87 | 2108010.83 | 653.47 | PROP |
| 08206 | 13680570.38 | 2108027.01 | 653.83 | PROP |
| 08207 | 13680564.27 | 2108027.69 | 653.76 | PROP |
| 08208 | 13680563.92 | 2108031.12 | 653.83 | PROP |
| 08209 | 13680569.89 | 2108031.73 | 653.90 | PROP |
| 08210 | 13680567.27 | 2108056.25 | 653.86 | PROP |
| 08211 | 13680561.30 | 2108055.65 | 653.79 | PROP |
| 08212 | 13680560.52 | 2108105.32 | -- | ME |
| 08213 | 13680566.49 | 2108105.93 | -- | ME |
| 08214 | 13680563.14 | 2108138.80 | -- | ME |
| 08215 | 13680557.18 | 2108138.19 | 654.07 | PROP |
| 08217 | 13680557.73 | 2108090.05 | 653.89 | PROP |
| 08218 | 13680563.70 | 2108090.65 | 653.96 | PROP |
| 08219 | 13680557.34 | 2108093.97 | 653.90 | PROP |
| 08220 | 13680560.82 | 2108102.34 | 853.97 | PROP |
| 08221 | 13680566.79 | 2108102.94 | 854.04 | PROP |

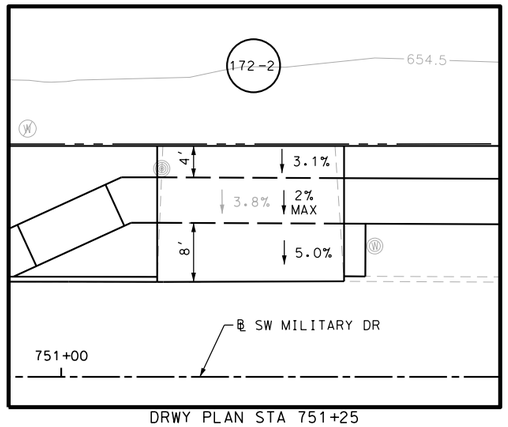
| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 08224 | 13680555.86 | 2108210.49 | -- | ME |
| 08225 | 13680549.86 | 2108209.88 | 654.64 | PROP |
| 08226 | 13680544.69 | 2108260.67 | 654.76 | PROP |
| 08227 | 13680550.67 | 2108261.28 | -- | ME |
| 08228 | 13680547.78 | 2108289.57 | -- | ME |
| 08229 | 13680541.80 | 2108288.96 | 654.97 | PROP |
| 08230 | 13680538.34 | 2108204.96 | -- | ME |
| 08231 | 13680531.77 | 2108269.42 | -- | ME |
| 08232 | 13680530.94 | 2108277.82 | -- | ME |
| 08233 | 13680563.50 | 2108092.64 | 653.96 | PROP |
| 08234 | 13680567.19 | 2108099.03 | 654.03 | PROP |
| 08235 | 13680561.03 | 2108100.35 | 653.97 | PROP |
| 08236 | 13680548.67 | 2108104.11 | -- | ME |
| 08237 | 13680545.23 | 2108136.98 | -- | ME |

Plotted on: 4/1/2019

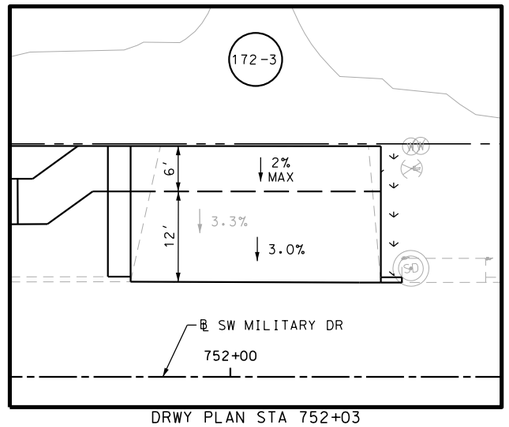
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*WB03.dgn



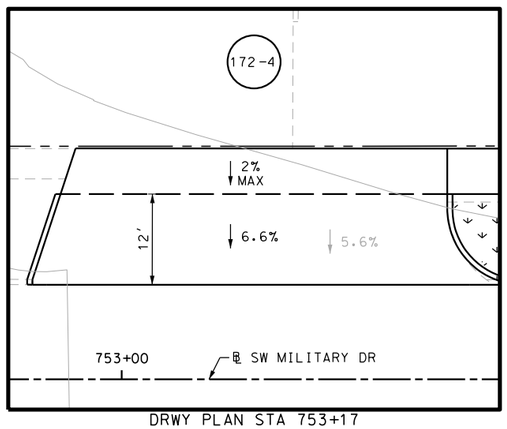
DRWY PLAN STA 750+71



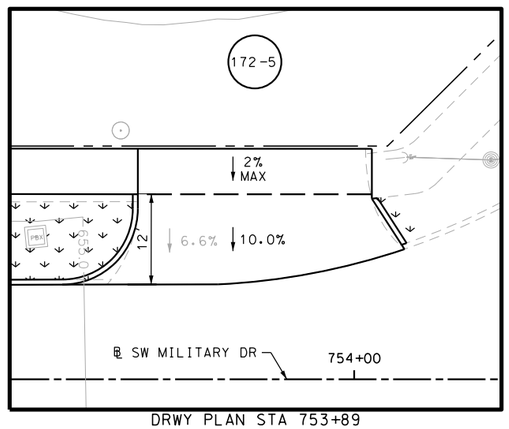
DRWY PLAN STA 751+25



DRWY PLAN STA 752+03



DRWY PLAN STA 753+17



DRWY PLAN STA 753+89

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

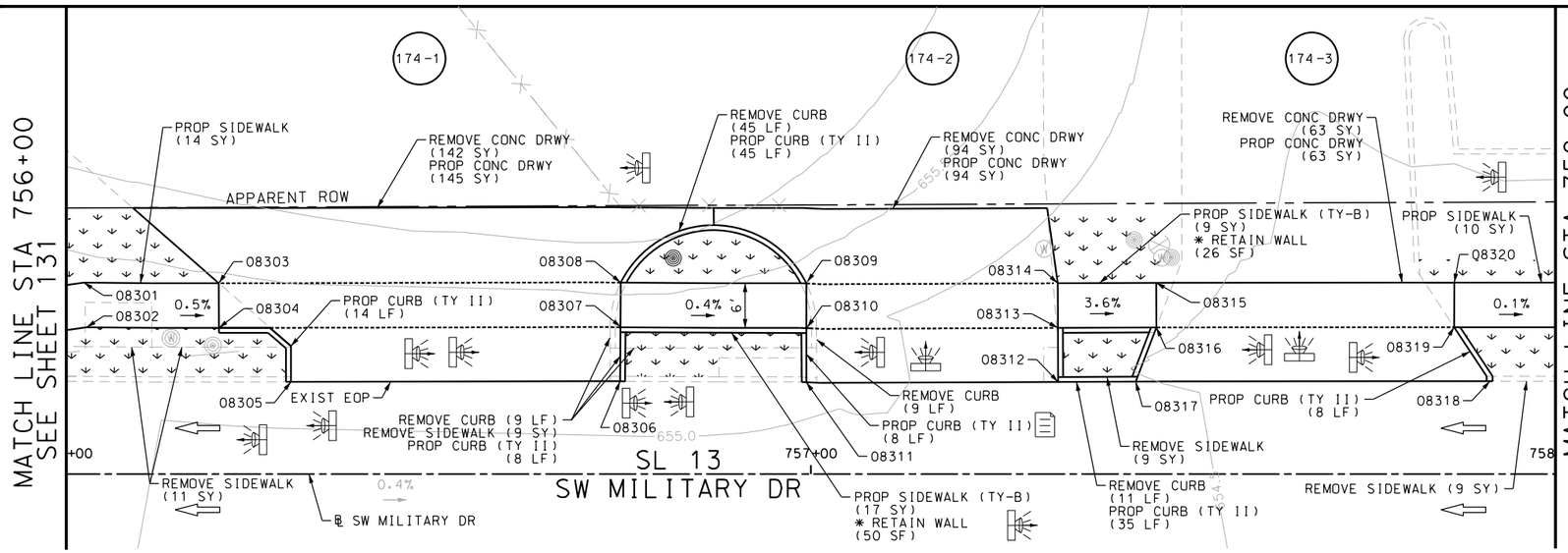
# SIDEWALK CONSTRUCTION PLAN
STA 750+00 TO STA 754+00

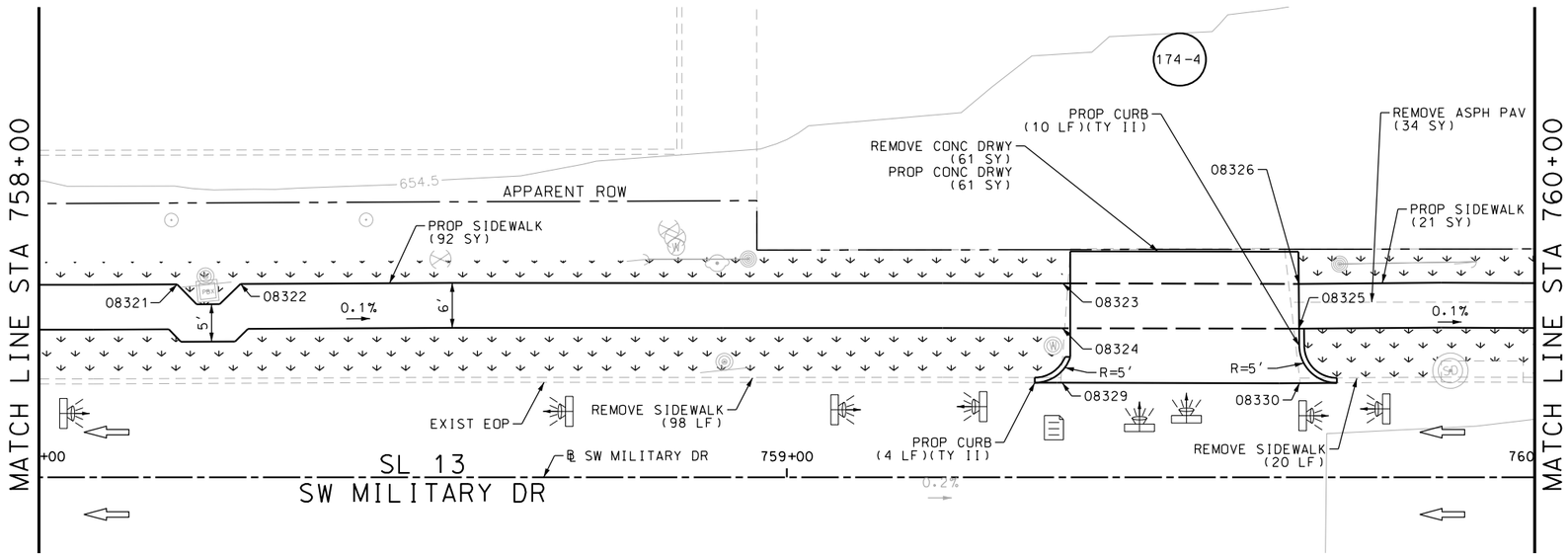
SHEET 5 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 173 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\113507*SMMilitaryB*WB03A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 360 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 74 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 156 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 34 |
| 0529-6002 | CONC CURB (TY II) | LF | 132 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 363 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 137 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 26 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 08301 | 13680519.71 | 2108518.82 | -- | ME |
| 08302 | 13680513.70 | 2108518.60 | -- | ME |
| 08303 | 13680517.79 | 2108536.86 | 654.82 | PROP |
| 08304 | 13680511.83 | 2108536.25 | 654.75 | PROP |
| 08305 | 13680503.62 | 2108545.15 | -- | ME |
| 08306 | 13680499.22 | 2108589.15 | -- | ME |
| 08307 | 13680506.45 | 2108589.93 | 654.44 | PROP |
| 08308 | 13680512.41 | 2108590.57 | 654.51 | PROP |
| 08309 | 13680509.78 | 2108615.34 | 654.40 | PROP |
| 08310 | 13680503.80 | 2108614.74 | 654.33 | PROP |
| 08311 | 13680496.56 | 2108614.01 | -- | ME |
| 08312 | 13680493.17 | 2108647.66 | -- | ME |
| 08313 | 13680500.41 | 2108648.36 | 654.24 | PROP |
| 08314 | 13680506.38 | 2108648.94 | 654.31 | PROP |
| 08315 | 13680505.10 | 2108662.10 | -- | ME |
| 08316 | 13680499.13 | 2108661.52 | 653.77 | PROP |
| 08317 | 13680492.17 | 2108658.02 | -- | ME |
| 08318 | 13680487.40 | 2108705.36 | -- | ME |
| 08319 | 13680495.12 | 2108701.32 | 653.68 | PROP |
| 08320 | 13680501.09 | 2108701.93 | -- | ME |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 08321 | 13680497.89 | 2108733.85 | 653.75 | PROP |
| 08322 | 13680497.07 | 2108742.27 | 653.74 | PROP |
| 08323 | 13680486.02 | 2108851.63 | 653.61 | PROP |
| 08324 | 13680480.06 | 2108851.01 | 653.54 | PROP |
| 08325 | 13680476.79 | 2108882.49 | 653.42 | PROP |
| 08326 | 13680482.77 | 2108883.06 | 653.49 | PROP |
| 08329 | 13680472.83 | 2108850.26 | -- | ME |
| 08330 | 13680469.56 | 2108881.81 | -- | ME |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



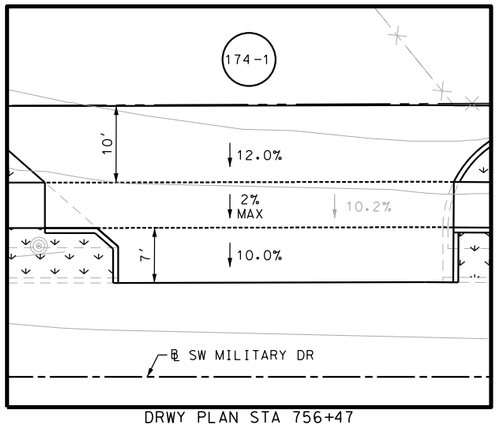
SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 756+00 TO STA 760+00

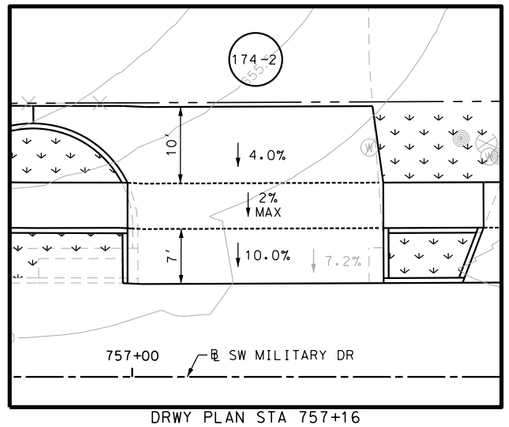
SHEET 6 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 174 |

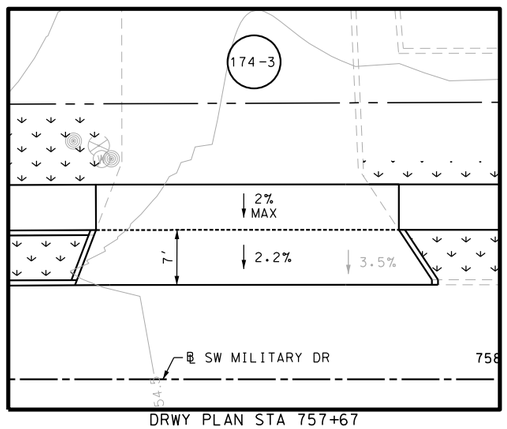
Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*WB04.dgn



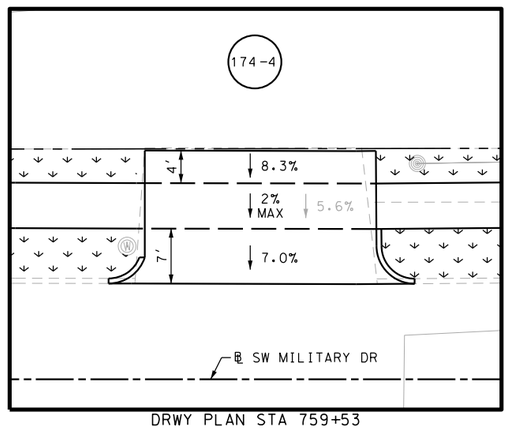

DRWY PLAN STA 756+47




DRWY PLAN STA 757+16




DRWY PLAN STA 757+67




DRWY PLAN STA 759+53

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

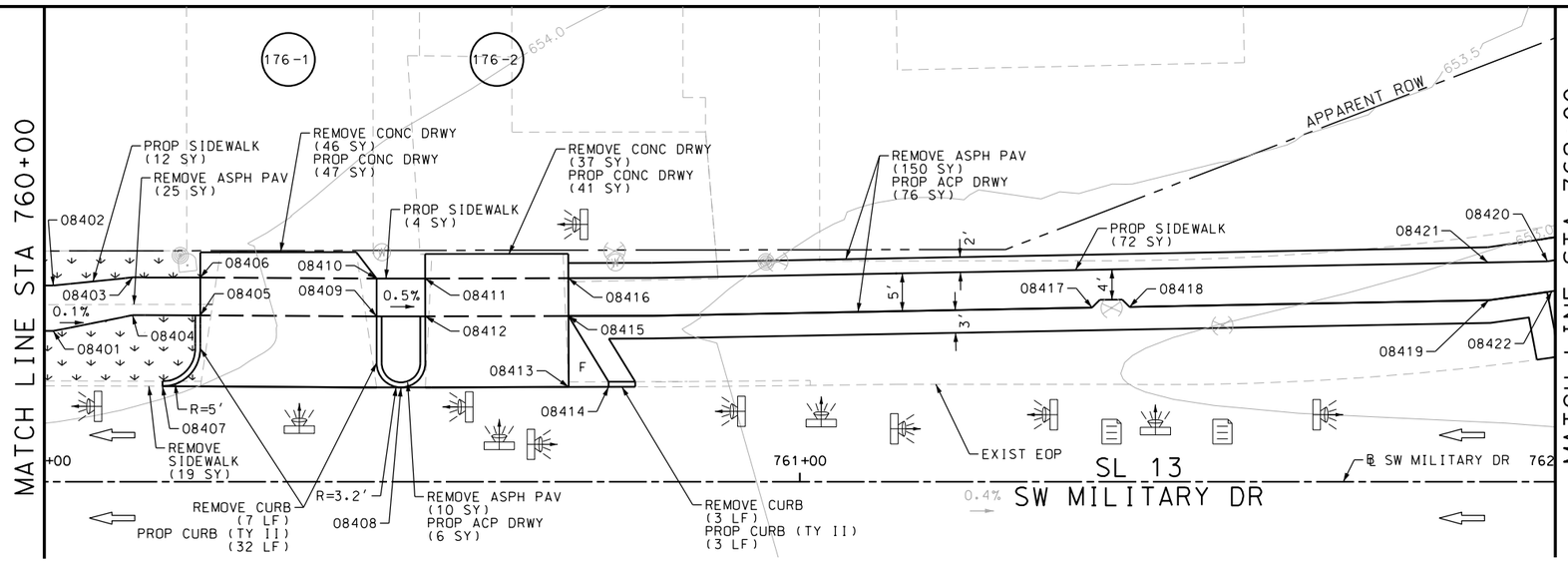
STA 756+00 TO STA 760+00

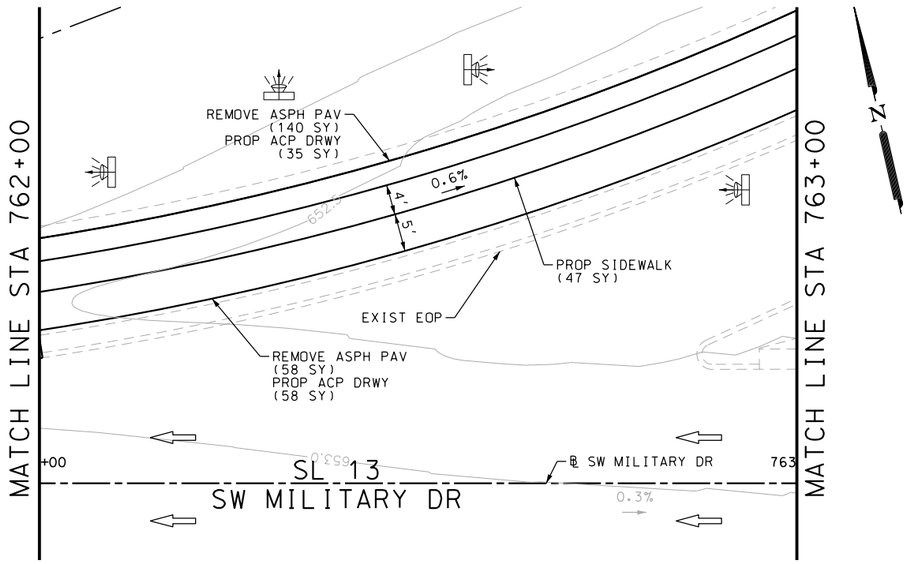
SHEET 7 OF 42

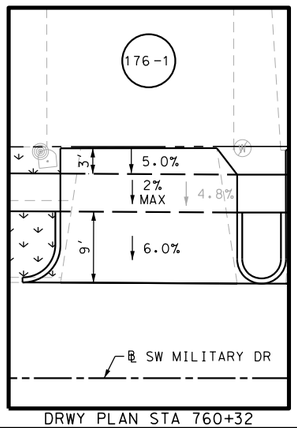
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 175 |

Plotted on: 4/1/2019

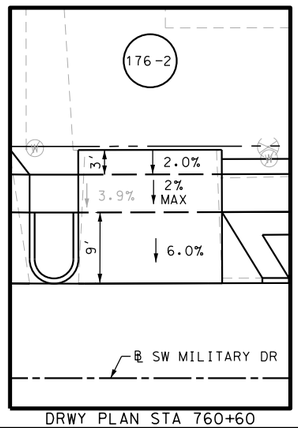
Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\113507+SMMilitaryB+WB04A.dgn




DRWY PLAN STA 760+32




DRWY PLAN STA 760+60

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 83 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 10 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 19 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 315 |
| 0529-6002 | CONC CURB (TY II) | LF | 32 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 83 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 175 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 135 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 08401 | 13680473.58 | 2108915.01 | 653.41 | PROP |
| 08402 | 13680479.55 | 2108915.64 | 653.48 | PROP |
| 08403 | 13680479.56 | 2108926.19 | 653.46 | PROP |
| 08404 | 13680474.59 | 2108925.67 | 653.39 | PROP |
| 08405 | 13680473.66 | 2108934.59 | 653.38 | PROP |
| 08406 | 13680478.63 | 2108935.09 | 653.45 | PROP |
| 08407 | 13680464.84 | 2108928.66 | -- | ME |
| 08408 | 13680461.50 | 2108960.05 | -- | ME |
| 08409 | 13680471.16 | 2108957.79 | 653.27 | PROP |
| 08410 | 13680476.14 | 2108958.30 | -- | ME |
| 08411 | 13680475.48 | 2108964.70 | -- | ME |
| 08412 | 13680470.51 | 2108964.20 | 653.24 | PROP |
| 08413 | 13680459.30 | 2108982.13 | -- | ME |
| 08414 | 13680458.78 | 2108987.41 | -- | ME |
| 08415 | 13680468.64 | 2108983.05 | 653.24 | PROP |
| 08416 | 13680473.61 | 2108983.54 | 653.74 | PROP |
| 08417 | 13680462.73 | 2109052.11 | 652.89 | PROP |
| 08418 | 13680462.32 | 2109057.07 | 652.79 | PROP |
| 08419 | 13680458.39 | 2109104.46 | 852.51 | PROP |
| 08420 | 13680462.72 | 2109112.72 | 652.46 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 08421 | 13680463.37 | 2109104.87 | 652.57 | PROP |
| 08422 | 13680458.72 | 2109112.92 | 652.40 | PROP |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

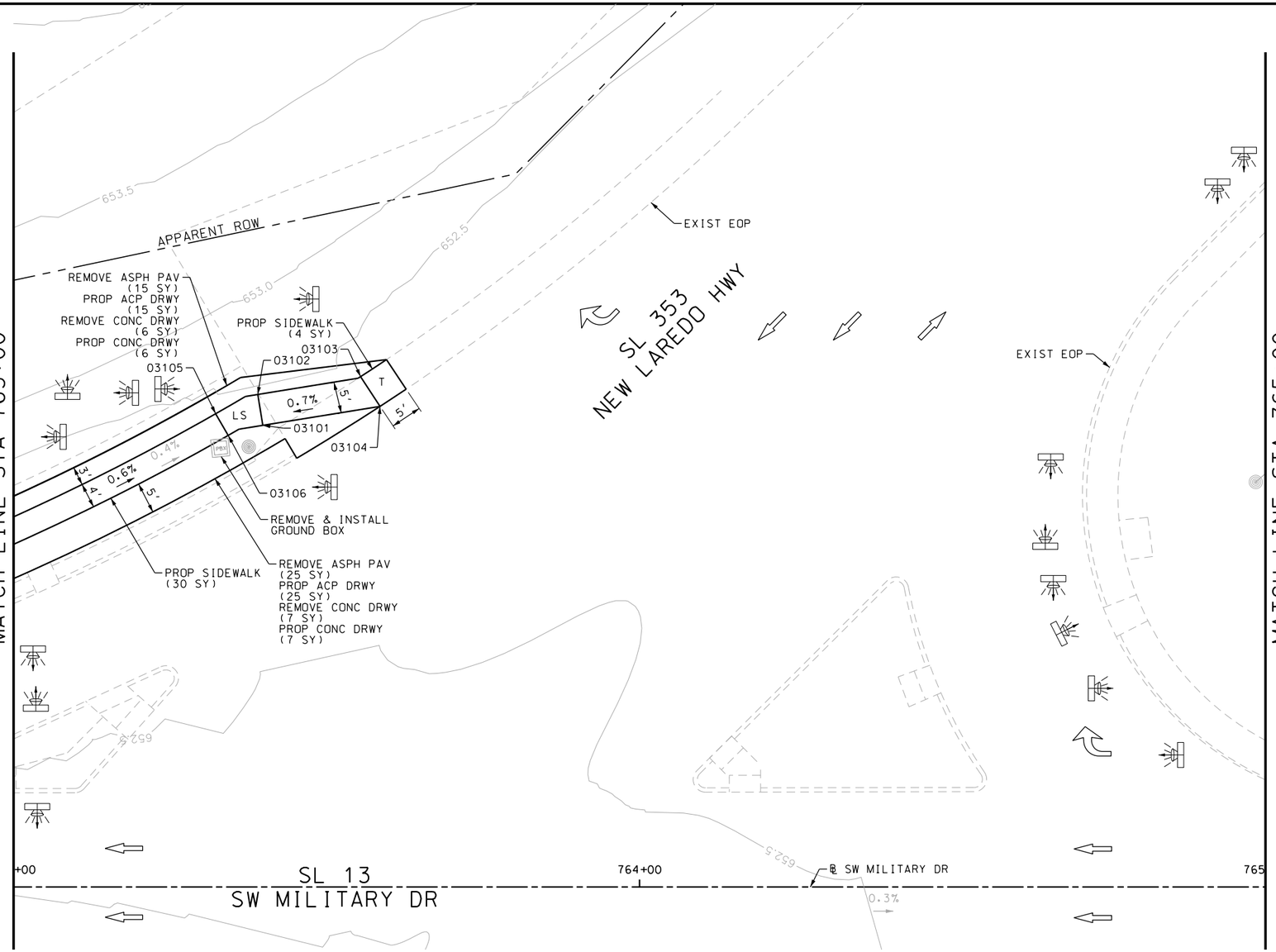
# SIDEWALK CONSTRUCTION PLAN
STA 760+00 TO STA 763+00

SHEET 8 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 176 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\111350 7*SWMilitaryB*WB05.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 13 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 40 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 13 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 40 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 34 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 1 |
| 0624-6028 | REMOVE GROUND BOX | EA | 1 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 03101 | 13680497.70 | 2109255.06 | 651.52 | PROP |
| 03102 | 13680492.60 | 2109253.51 | 651.59 | PROP |
| 03103 | 13680493.95 | 2109276.29 | -- | ME |
| 03104 | 13680493.95 | 2109276.29 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



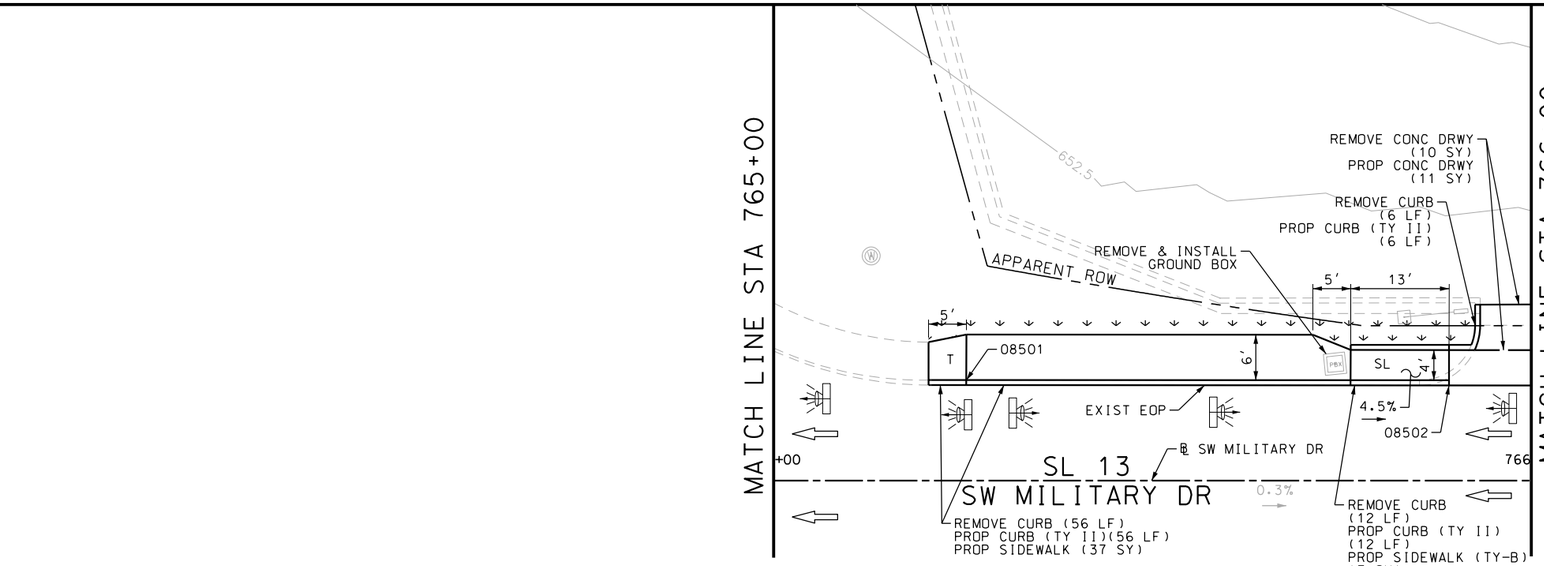
SL 13
SW MILITARY B

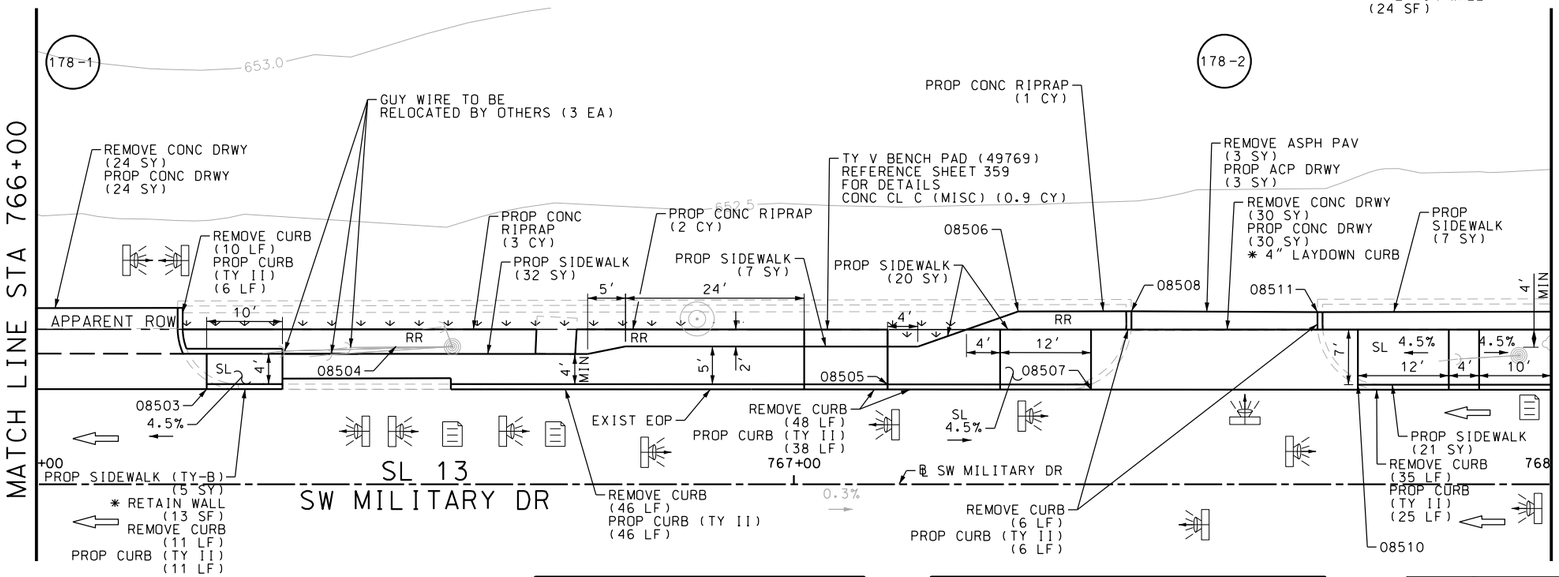
# SIDEWALK CONSTRUCTION PLAN
STA 763+00 TO STA 765+00

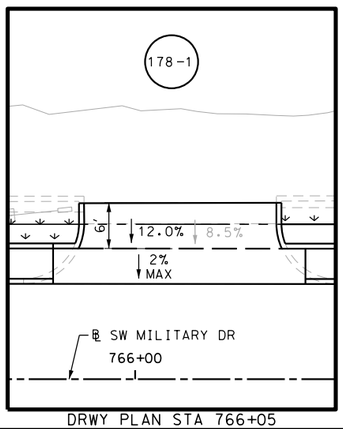
SHEET 9 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 177 |

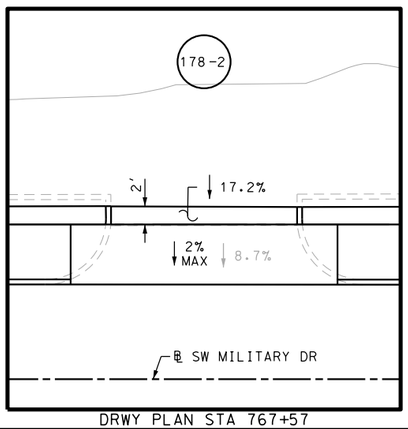
Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\113507*SWMilitaryB*WB05*A.dgn




DRWY PLAN STA 766+05




DRWY PLAN STA 767+57

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 64 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 230 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 3 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 25 |
| 0162-6002 | BLOCK SODDING | SY | 25 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.39 |
| 0420-6074 | CL C CONC (MISC) | CY | 0.9 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 6 |
| 0529-6002 | CONC CURB (TY II) | LF | 206 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 65 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 3 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 125 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 12 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 1 |
| 0624-6028 | REMOVE GROUND BOX | EA | 1 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 08501 | 13680413.88 | 2109435.88 | -- | ME |
| 08502 | 13680406.83 | 2109498.22 | -- | ME |
| 08503 | 13680403.43 | 2109531.38 | -- | ME |
| 08504 | 13680403.35 | 2109587.95 | -- | ME |
| 08505 | 13680396.94 | 2109594.93 | -- | ME |
| 08506 | 13680405.12 | 2109605.07 | -- | ME |
| 08508 | 13680400.77 | 2109647.53 | -- | ME |
| 08510 | 13680400.16 | 2109653.50 | -- | ME |
| 08511 | 13680395.19 | 2109652.99 | -- | ME |
| 08512 | 13680397.41 | 2109680.45 | -- | ME |
| 08513 | 13680392.43 | 2109679.94 | -- | ME |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

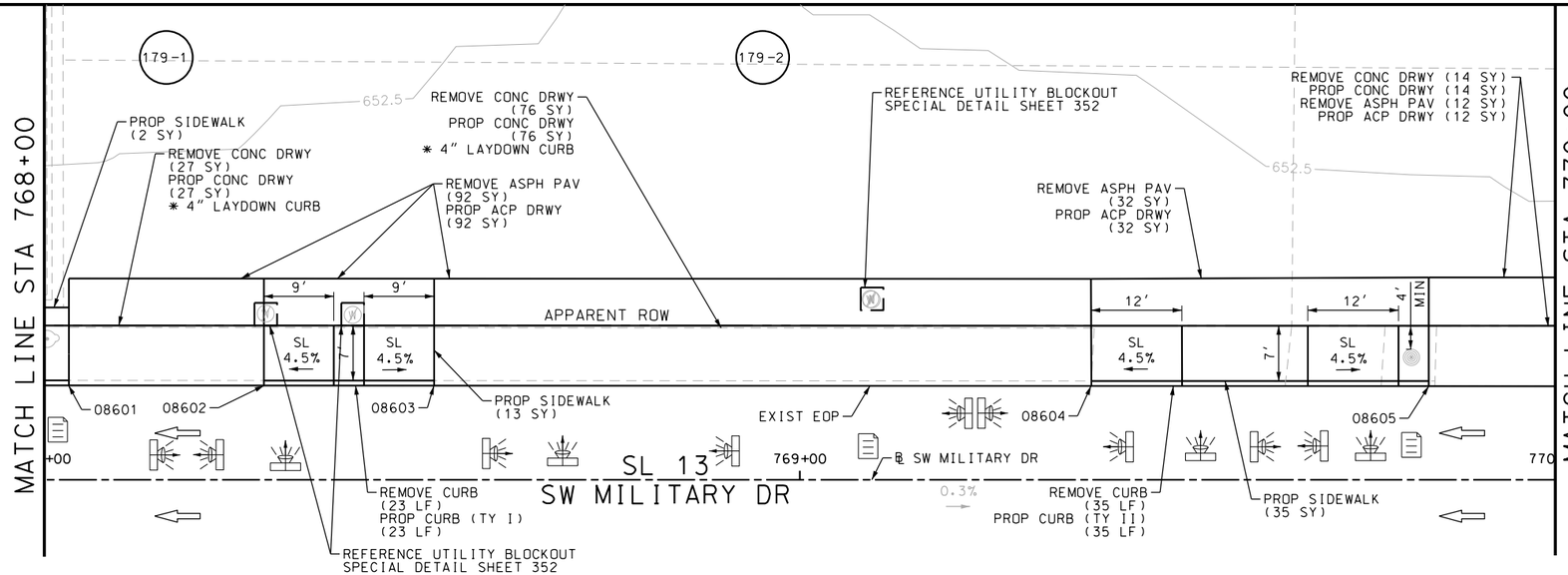
STA 765+00 TO STA 768+00

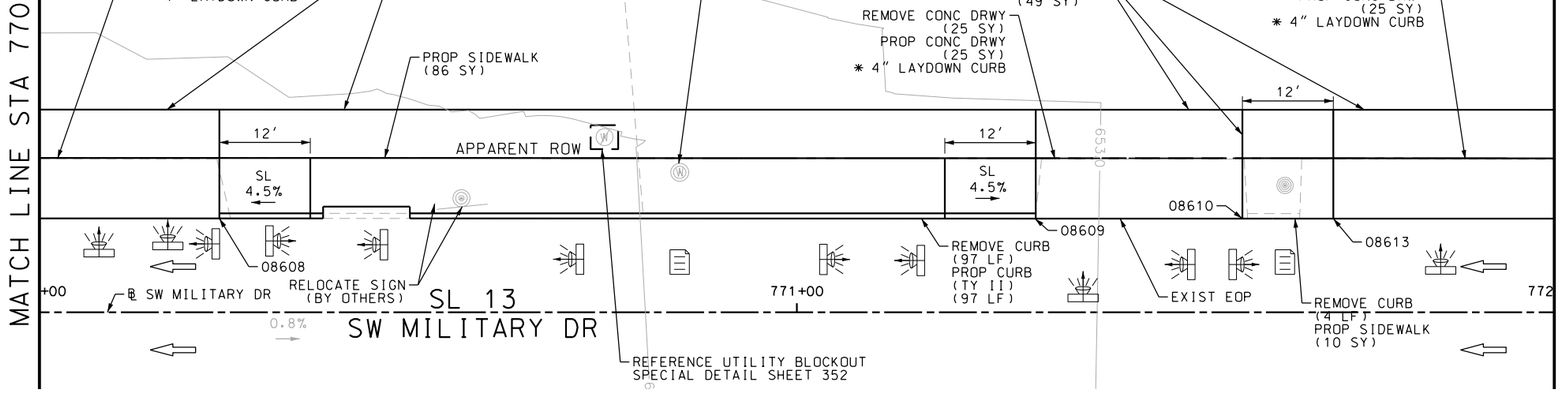
SHEET 10 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 178 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*WB06.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 188 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 159 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 280 |
| 0529-6001 | CONC CURB (TY I) | LF | 23 |
| 0529-6002 | CONC CURB (TY II) | LF | 132 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 188 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 280 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 146 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 08601 | 13680394.06 | 2109713.13 | -- | ME |
| 08602 | 13680389.09 | 2109712.62 | -- | ME |
| 08603 | 13680391.44 | 2109738.82 | -- | ME |
| 08604 | 13680386.46 | 2109738.31 | -- | ME |
| 08605 | 13680389.14 | 2109761.22 | -- | ME |
| 08606 | 13680384.17 | 2109760.72 | -- | ME |
| 08607 | 13680380.30 | 2109847.75 | -- | ME |
| 08608 | 13680375.32 | 2109847.24 | -- | ME |
| 08609 | 13680375.75 | 2109892.20 | -- | ME |
| 08610 | 13680370.77 | 2109891.70 | -- | ME |
| 08611 | 13680371.65 | 2109932.50 | -- | ME |
| 08612 | 13680366.67 | 2109931.99 | -- | ME |
| 08613 | 13680369.10 | 2109957.51 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



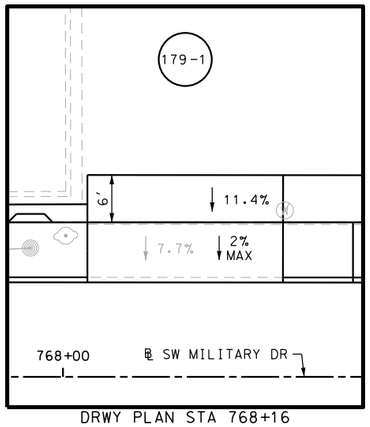
SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 768+00 TO STA 772+00

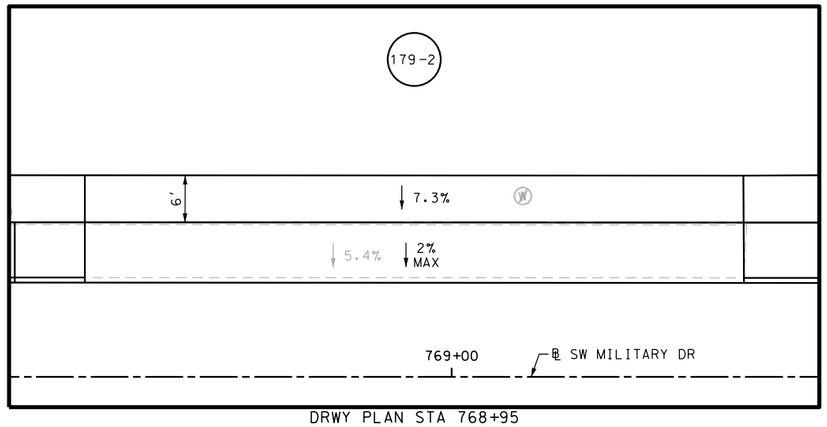


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 179 |

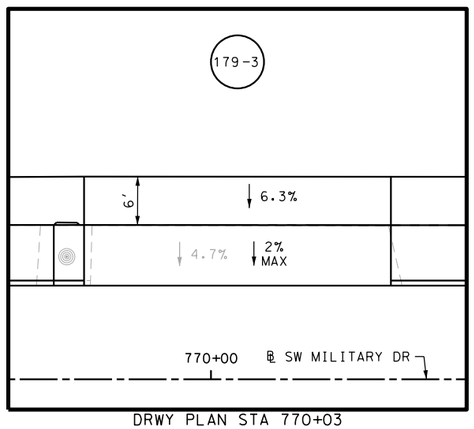
Plotted on: 4/2/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*WB07.dgn



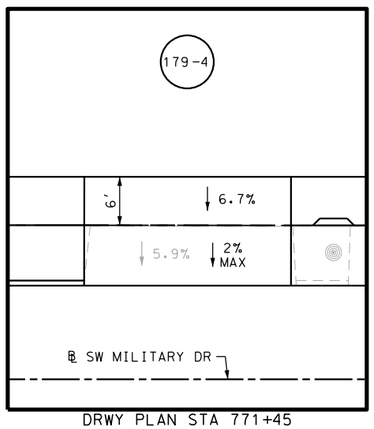
DRWY PLAN STA 768+16



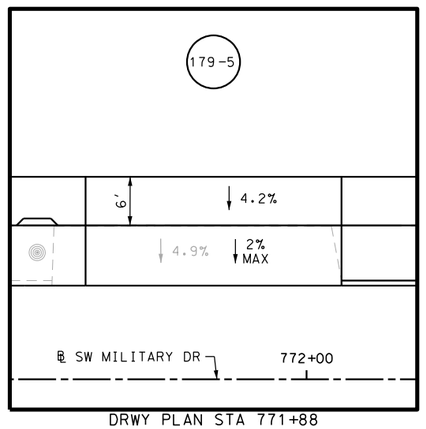
DRWY PLAN STA 768+95



DRWY PLAN STA 770+03



DRWY PLAN STA 771+45



DRWY PLAN STA 771+88

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



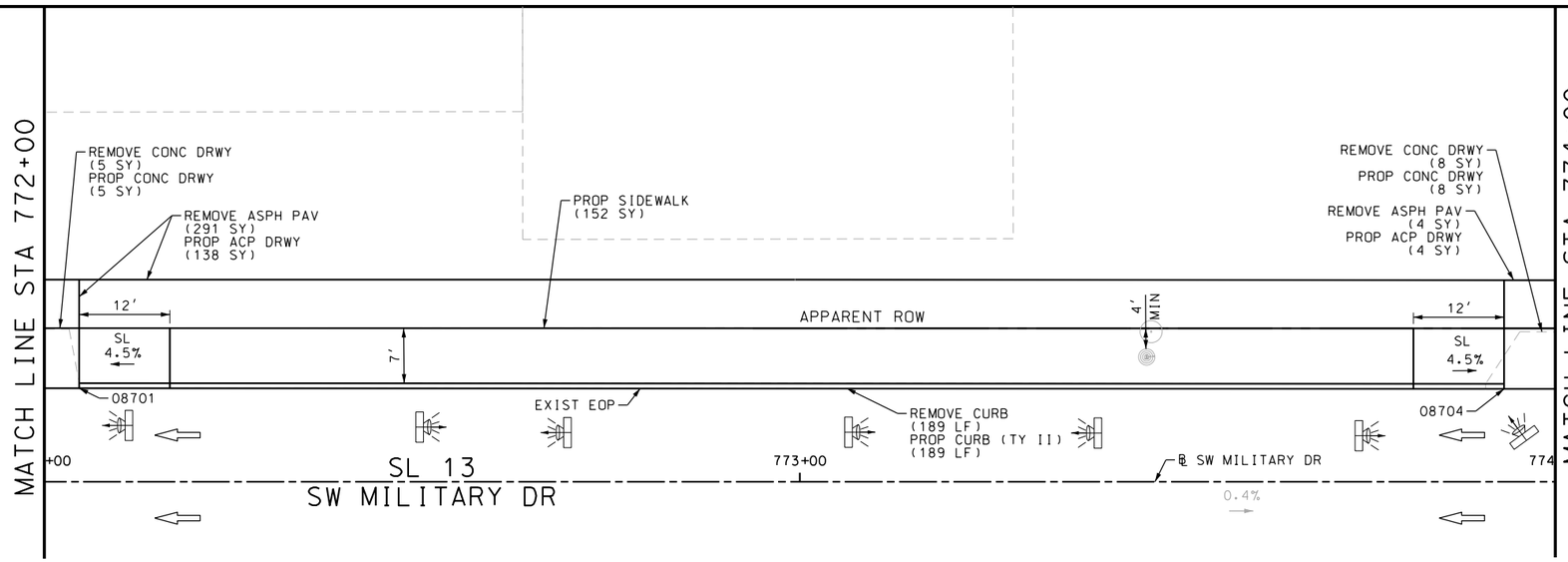
SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 768+00 TO STA 772+00

SHEET 12 OF 42

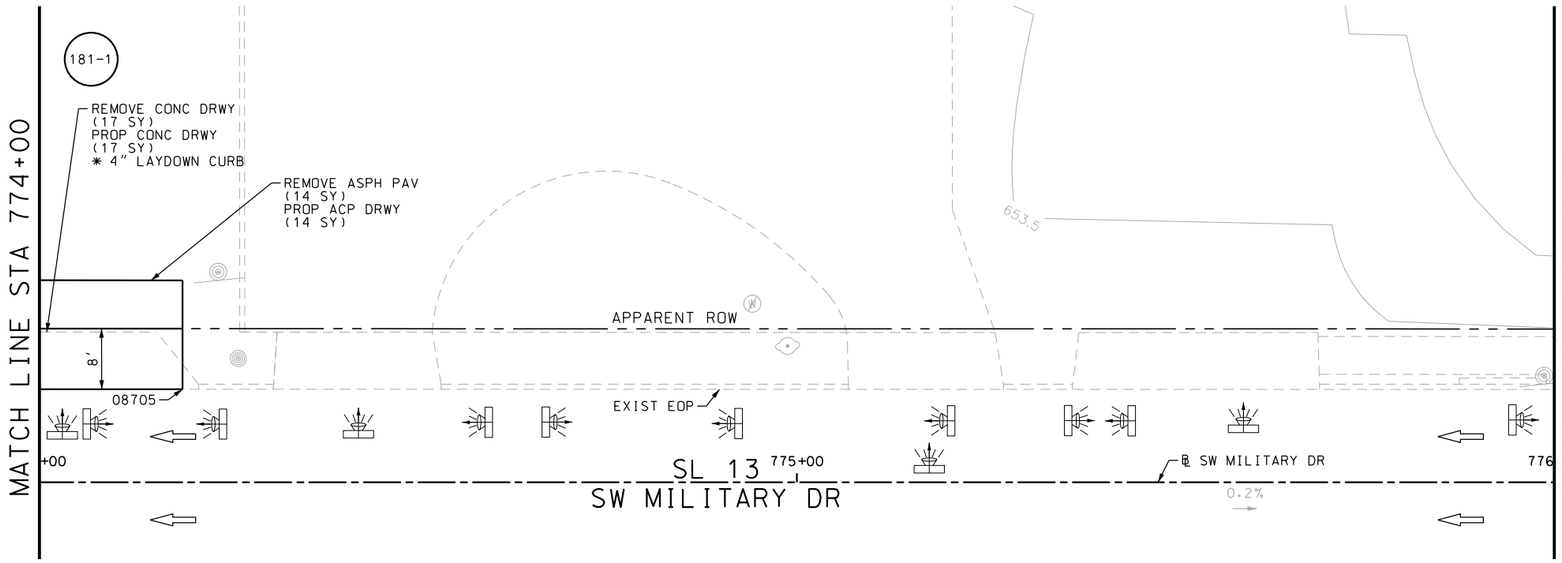
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 180 |

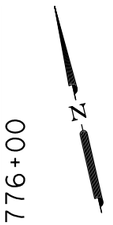
Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\113507*SMMilitaryB*WB07A.dgn

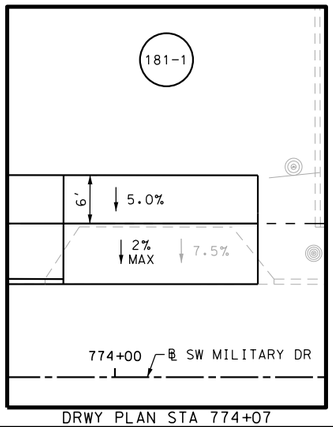




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 30 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 189 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 291 |
| 0529-6002 | CONC CURB (TY II) | LF | 189 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 30 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 156 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 152 |




DRWY PLAN STA 774+07

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 08701 | 13680353.53 | 2110112.45 | -- | ME |
| 08702 | 13680348.56 | 2110111.95 | -- | ME |
| 08703 | 13680334.37 | 2110300.08 | -- | ME |
| 08704 | 13680329.39 | 2110299.57 | -- | ME |
| 08705 | 13680326.77 | 2110325.10 | -- | ME |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



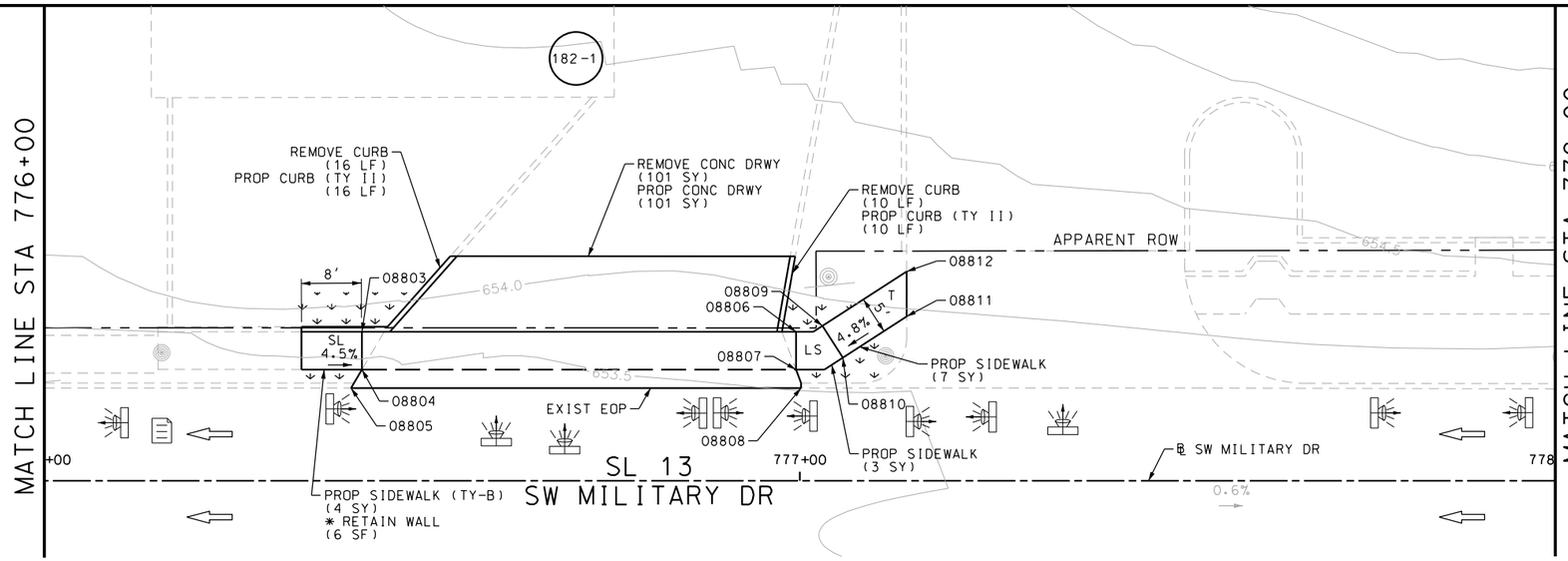
SL 13
SW MILITARY B

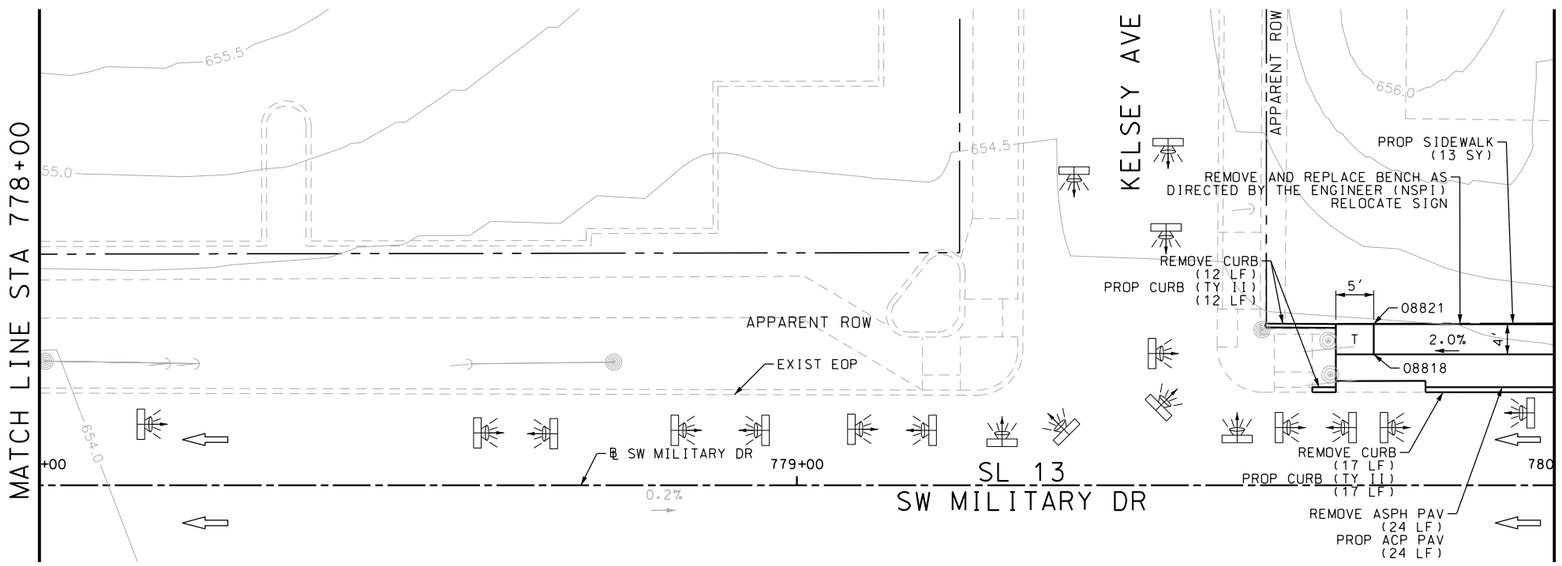
# SIDEWALK CONSTRUCTION PLAN
STA 772+00 TO STA 776+00

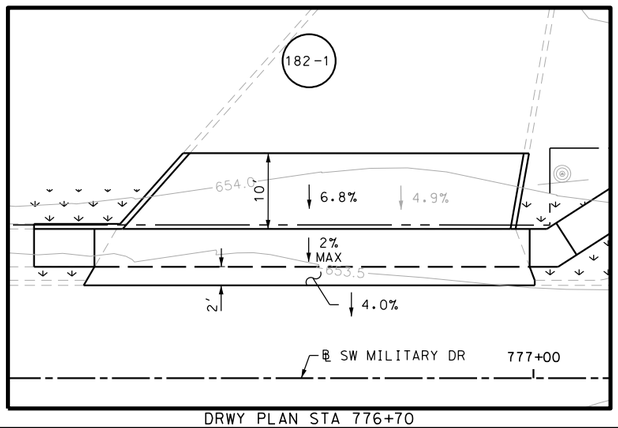
SHEET 13 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 181 |

Plotted on: 4/2/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\113507+SMMilitaryB+WB08.dgn




DRWY PLAN STA 776+70

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 101 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 55 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 24 |
| 0529-6002 | CONC CURB (TY II) | LF | 55 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 101 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 24 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 23 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 4 |

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 08803 | 13680307.23 | 2110547.43 | 652.52 | PROP |
| 08804 | 13680302.25 | 2110546.92 | 652.45 | PROP |
| 08805 | 13680299.97 | 2110545.24 | -- | ME |
| 08806 | 13680301.42 | 2110604.58 | 652.59 | PROP |
| 08807 | 13680296.45 | 2110604.07 | 652.52 | PROP |
| 08808 | 13680293.94 | 2110604.49 | -- | ME |
| 08809 | 13680301.84 | 2110608.14 | 652.66 | PROP |
| 08810 | 13680297.38 | 2110610.41 | 652.59 | PROP |
| 08811 | 13680301.94 | 2110619.37 | -- | ME |
| 08812 | 13680307.85 | 2110619.96 | -- | ME |
| 08813 | 13680298.63 | 2110704.74 | 654.00 | PROP |
| 08814 | 13680293.54 | 2110704.23 | 653.03 | PROP |
| 08815 | 13680296.28 | 2110729.02 | 653.50 | ME |
| 08816 | 13680291.18 | 2110728.50 | 653.43 | ME |
| 08817 | 13680281.93 | 2110727.56 | -- | ME |
| 08818 | 13680270.99 | 2110879.58 | 653.95 | PROP |
| 08819 | 13680293.88 | 2110753.90 | 653.60 | PROP |
| 08820 | 13680288.68 | 2110753.37 | 653.53 | PROP |
| 08821 | 13680274.97 | 2110879.99 | 654.02 | PROP |
| 08822 | 13680290.70 | 2110733.48 | 653.38 | PROP |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



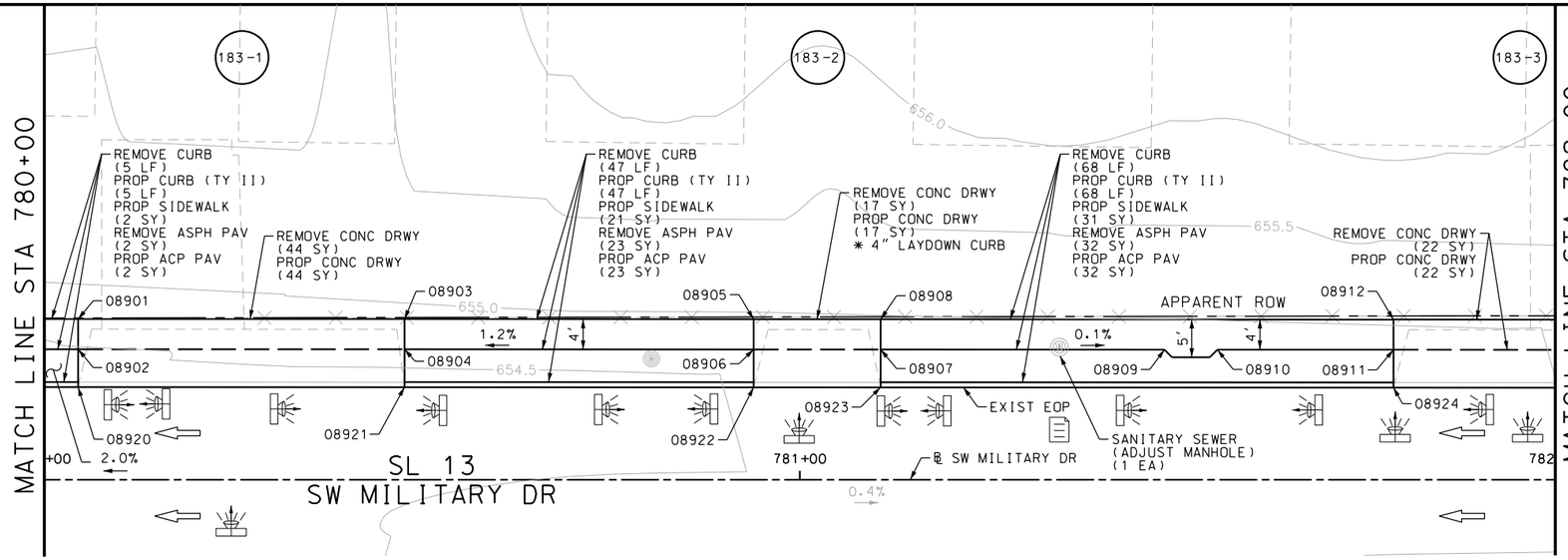
SL 13
SW MILITARY B

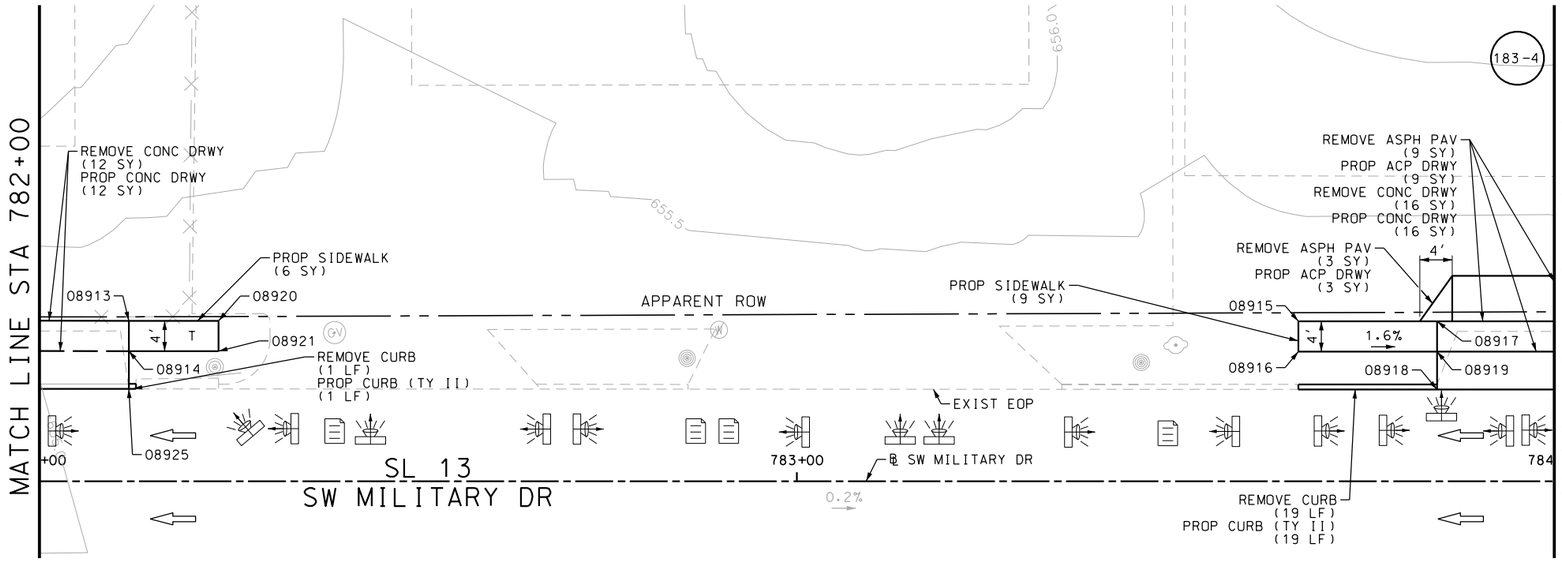
# SIDEWALK CONSTRUCTION PLAN
STA 776+00 TO STA 780+00

SHEET 14 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 182 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*WB09.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 111 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 140 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 69 |
| 0529-6002 | CONC CURB (TY II) | LF | 140 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 111 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 69 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 69 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 08901 | 13680272.09 | 2110908.15 | -- | ME |
| 08902 | 13680268.11 | 2110907.74 | 653.94 | PROP |
| 08903 | 13680267.70 | 2110951.13 | -- | ME |
| 08904 | 13680263.72 | 2110950.72 | 654.09 | PROP |
| 08905 | 13680263.00 | 2110997.10 | -- | ME |
| 08906 | 13680259.02 | 2110996.69 | 654.63 | PROP |
| 08907 | 13680257.32 | 2111013.42 | 654.72 | PROP |
| 08908 | 13680261.29 | 2111013.83 | -- | ME |
| 08909 | 13680253.50 | 2111050.79 | 654.68 | PROP |
| 08910 | 13680252.79 | 2111057.76 | 654.66 | PROP |
| 08911 | 13680250.42 | 2111080.95 | 654.64 | PROP |
| 08912 | 13680254.39 | 2111081.35 | -- | ME |
| 08913 | 13680251.01 | 2111114.41 | -- | ME |
| 08914 | 13680247.04 | 2111114.00 | 654.58 | PROP |
| 08915 | 13680249.13 | 2111132.95 | -- | ME |
| 08916 | 13680245.17 | 2111132.32 | -- | ME |
| 08917 | 13680240.86 | 2111125.27 | 654.50 | PROP |
| 08918 | 13680236.54 | 2111167.61 | -- | ME |
| 08919 | 13680241.51 | 2111168.12 | 654.43 | PROP |
| 08920 | 13680245.48 | 2111168.52 | -- | ME |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 08921 | 13680240.92 | 2111173.92 | -- | ME |
| 08922 | 13680240.21 | 2111180.88 | -- | ME |
| 08923 | 13680239.35 | 2111189.29 | -- | ME |
| 08924 | 13680243.32 | 2111189.70 | -- | ME |
| 08925 | 13680238.49 | 2111236.94 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

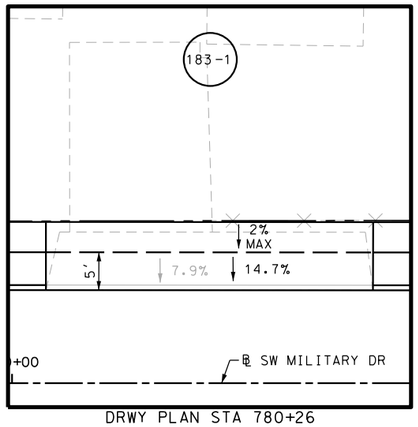
# SIDEWALK CONSTRUCTION PLAN
STA 780+00 TO STA 784+00

SHEET 15 OF 42

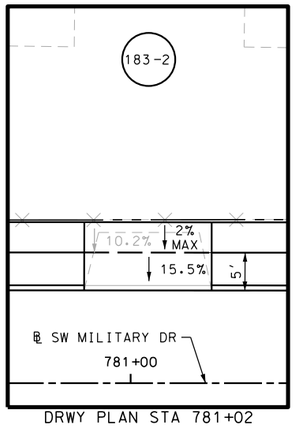
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 183 |

Plotted on: 4/1/2019

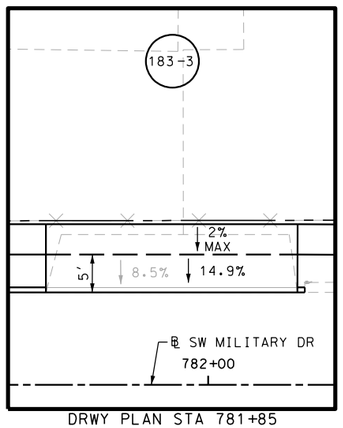
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*WB10.dgn



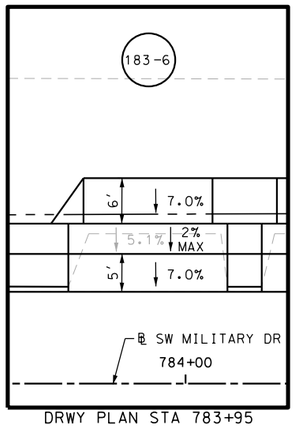
DRWY PLAN STA 780+26



DRWY PLAN STA 781+02



DRWY PLAN STA 781+85



DRWY PLAN STA 783+95

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



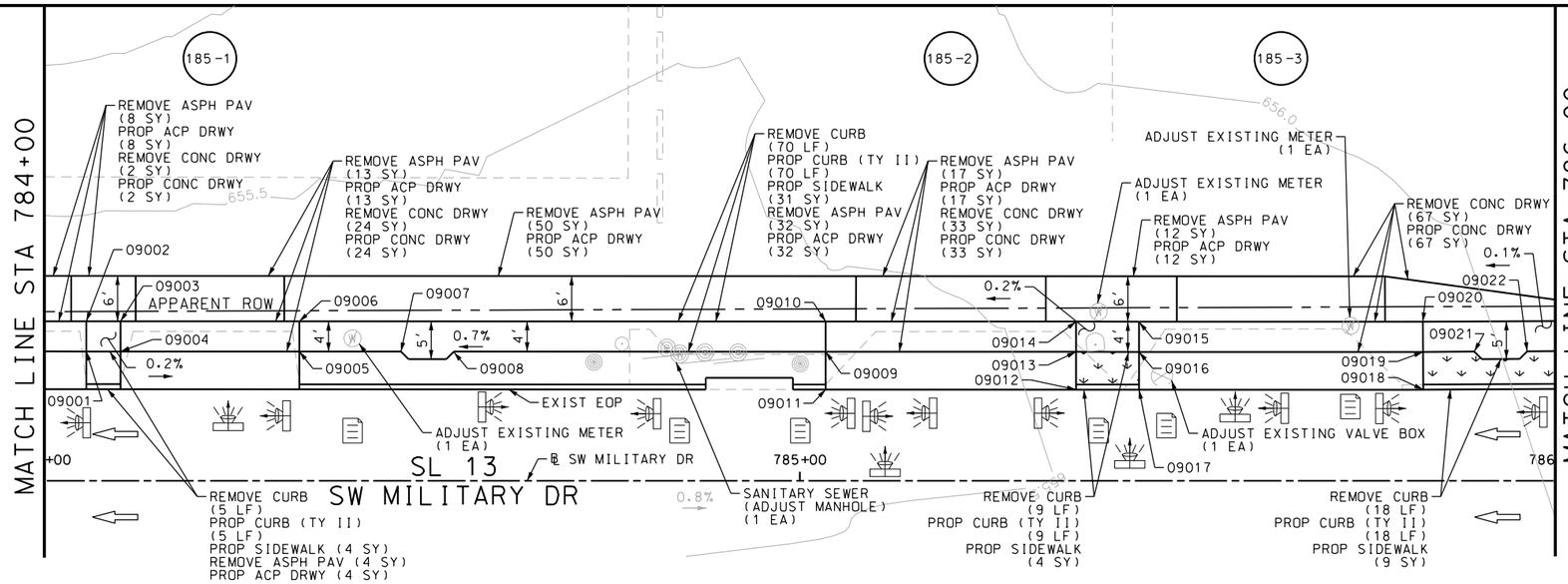
SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 780+00 TO STA 784+00

SHEET 16 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 184 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507+SWMilitaryB+WB10A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 10 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 231 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 202 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 136 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 15 |
| 0162-6002 | BLOCK SODDING | SY | 15 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.23 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 1 |
| 0529-6002 | CONC CURB (TY II) | LF | 202 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 231 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 136 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 101 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 5 |

NOTES:
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 784+00 TO STA 788+00

SHEET 17 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 185 |

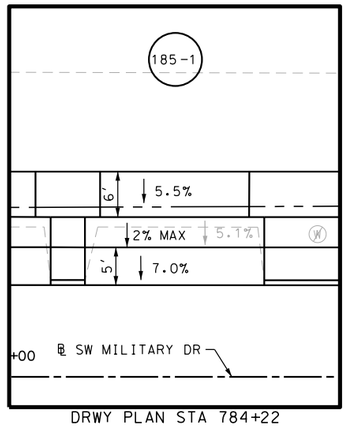
| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 09001 | 13680227.35 | 2111306.75 | -- | ME |
| 09002 | 13680231.32 | 2111307.16 | -- | ME |
| 09003 | 13680230.86 | 2111311.65 | 654.59 | PROP |
| 09004 | 13680226.89 | 2111311.25 | 654.52 | PROP |
| 09005 | 13680224.48 | 2111334.81 | 654.40 | PROP |
| 09006 | 13680228.45 | 2111335.22 | 654.47 | PROP |
| 09007 | 13680223.12 | 2111348.19 | 654.49 | PROP |
| 09008 | 13680222.40 | 2111355.15 | 654.53 | PROP |
| 09009 | 13680217.40 | 2111404.12 | 654.87 | PROP |
| 09010 | 13680221.38 | 2111404.53 | 654.94 | PROP |
| 09011 | 13680212.43 | 2111403.61 | -- | ME |
| 09012 | 13680209.06 | 2111436.58 | -- | ME |
| 09013 | 13680214.03 | 2111437.08 | 654.87 | PROP |
| 09014 | 13680218.00 | 2111437.49 | 654.94 | PROP |
| 09015 | 13680217.17 | 2111445.78 | 654.96 | PROP |
| 09016 | 13680213.19 | 2111445.37 | 654.89 | PROP |
| 09017 | 13680208.21 | 2111444.86 | -- | ME |
| 09018 | 13680204.41 | 2111482.29 | -- | ME |
| 09019 | 13680209.38 | 2111482.77 | 654.87 | PROP |
| 09020 | 13680213.36 | 2111483.16 | 654.94 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 09021 | 13680208.73 | 2111489.53 | 654.88 | PROP |
| 09022 | 13680208.05 | 2111496.50 | 654.88 | PROP |
| 09023 | 13680209.73 | 2111520.74 | 654.97 | PROP |
| 09024 | 13680205.75 | 2111520.33 | 654.90 | PROP |
| 09025 | 13680202.67 | 2111550.49 | 654.89 | PROP |
| 09026 | 13680206.64 | 2111550.90 | 654.96 | PROP |
| 09027 | 13680201.08 | 2111605.33 | -- | ME |
| 09028 | 13680197.10 | 2111604.92 | 655.53 | PROP |
| 09029 | 13680194.09 | 2111634.43 | 655.55 | PROP |
| 09030 | 13680198.07 | 2111634.84 | -- | ME |
| 09031 | 13680197.30 | 2111642.32 | -- | ME |
| 09032 | 13680193.33 | 2111641.92 | 655.67 | PROP |
| 09033 | 13680192.82 | 2111646.89 | 655.75 | PROP |
| 09034 | 13680197.79 | 2111647.40 | -- | ME |
| 09035 | 13680196.76 | 2111657.54 | -- | ME |
| 09036 | 13680191.78 | 2111657.03 | 655.91 | PROP |
| 09037 | 13680188.87 | 2111685.50 | 655.94 | PROP |
| 09038 | 13680193.85 | 2111686.01 | -- | ME |
| 09039 | 13680200.77 | 2111519.83 | -- | ME |
| 09040 | 13680197.69 | 2111549.98 | -- | ME |

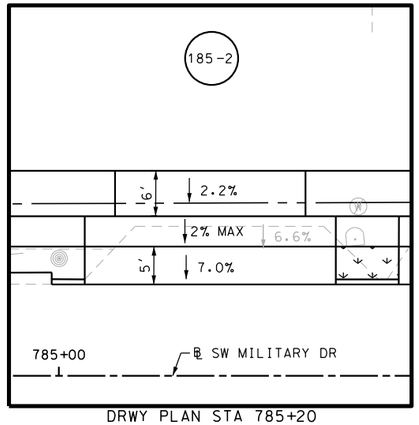
| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 09041 | 13680192.13 | 2111604.41 | -- | ME |
| 09042 | 13680189.12 | 2111633.92 | -- | ME |
| 09043 | 13680186.81 | 2111656.52 | -- | ME |
| 09044 | 13680183.90 | 2111684.99 | -- | ME |
| 09045 | 13680200.36 | 2111573.02 | -- | ME |
| 09046 | 13680199.86 | 2111577.99 | -- | ME |
| 09047 | 13680204.34 | 2111573.43 | -- | ME |
| 09048 | 13680203.84 | 2111578.39 | -- | ME |
| 09049 | 13680198.12 | 2111591.73 | -- | ME |
| 09050 | 13680197.94 | 2111596.73 | -- | ME |
| 09051 | 13680202.43 | 2111592.16 | -- | ME |
| 09052 | 13680201.93 | 2111597.13 | -- | ME |

Plotted on: 4/1/2019

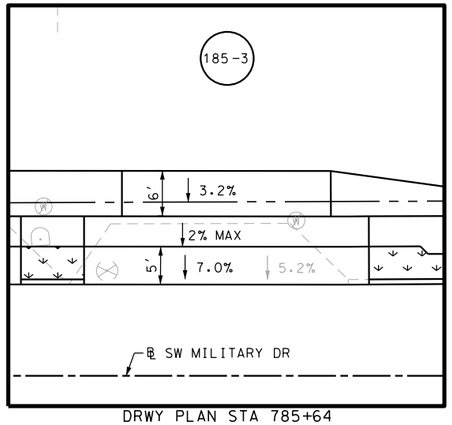
Design Filename: P:\111350\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*WB11.dgn



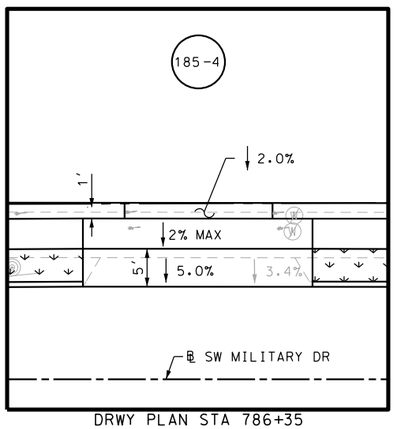
DRWY PLAN STA 784+22



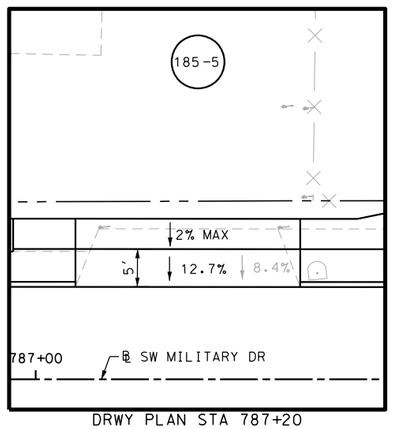
DRWY PLAN STA 785+20



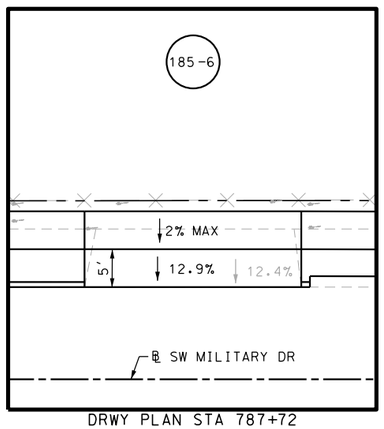
DRWY PLAN STA 785+64



DRWY PLAN STA 786+35



DRWY PLAN STA 787+20



DRWY PLAN STA 787+72

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

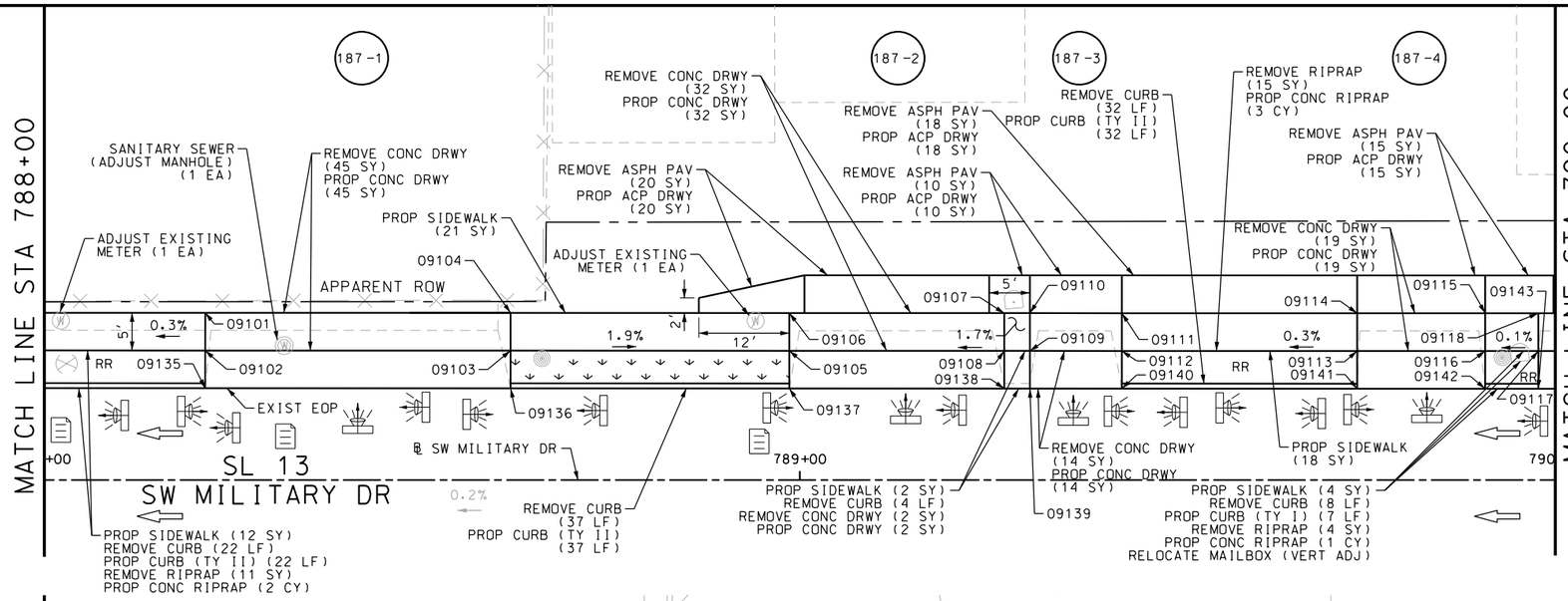
# SIDEWALK CONSTRUCTION PLAN
STA 784+00 TO STA 788+00

SHEET 18 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 186 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\1113507*SMMilitaryB*WB11A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 58 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 161 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 157 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 3 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 104 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 60 |
| 0162-6002 | BLOCK SODDING | SY | 60 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.94 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 11 |
| 0529-6001 | CONC CURB (TY I) | LF | 7 |
| 0529-6002 | CONC CURB (TY II) | LF | 145 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 161 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 104 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 103 |
| 0560-6014 | MAILBOX INSTALL-S (TWG-POST) TY 4 | EA | 1 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 3 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 788+00 TO STA 792+00

SHEET 19 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 187 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 09101 | 13680190.29 | 2111720.87 | -- | ME |
| 09102 | 13680185.31 | 2111720.36 | 656.04 | PROP |
| 09103 | 13680181.20 | 2111760.58 | 656.10 | PROP |
| 09104 | 13680186.18 | 2111761.08 | -- | ME |
| 09105 | 13680177.45 | 2111797.28 | 655.41 | PROP |
| 09106 | 13680182.43 | 2111797.79 | 655.48 | PROP |
| 09107 | 13680179.54 | 2111826.10 | 655.52 | PROP |
| 09108 | 13680174.56 | 2111825.59 | 655.45 | PROP |
| 09109 | 13680174.22 | 2111828.95 | 655.50 | PROP |
| 09110 | 13680179.19 | 2111829.46 | 655.57 | PROP |
| 09111 | 13680177.95 | 2111841.57 | 655.62 | PROP |
| 09112 | 13680172.98 | 2111841.07 | 655.54 | PROP |
| 09113 | 13680169.81 | 2111872.05 | 655.61 | PROP |
| 09114 | 13680174.79 | 2111872.56 | 655.68 | PROP |
| 09115 | 13680173.07 | 2111889.41 | 655.74 | PROP |
| 09116 | 13680168.09 | 2111888.90 | 655.67 | PROP |
| 09117 | 13680167.38 | 2111895.89 | 655.67 | PROP |
| 09118 | 13680172.35 | 2111896.40 | -- | ME |
| 09119 | 13680170.15 | 2111917.96 | 656.73 | PROP |
| 09120 | 13680165.18 | 2111917.46 | 655.66 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 09121 | 13680168.47 | 2111934.45 | 655.90 | PROP |
| 09122 | 13680163.28 | 2111936.00 | 655.83 | PROP |
| 09123 | 13680172.93 | 2111939.93 | 655.98 | PROP |
| 09124 | 13680167.75 | 2111941.49 | 655.91 | PROP |
| 09125 | 13680166.34 | 2111955.23 | 656.03 | PROP |
| 09126 | 13680171.32 | 2111955.74 | 656.10 | PROP |
| 09127 | 13680169.91 | 2111969.53 | 656.08 | PROP |
| 09128 | 13680164.93 | 2111969.02 | 656.01 | PROP |
| 09129 | 13680164.46 | 2111973.65 | -- | ME |
| 09130 | 13680169.44 | 2111974.16 | 656.19 | PROP |
| 09131 | 13680169.92 | 2111979.23 | 656.30 | PROP |
| 09132 | 13680163.95 | 2111978.62 | -- | ME |
| 09133 | 13680161.81 | 2111999.65 | 656.71 | PROP |
| 09134 | 13680167.77 | 2112000.26 | 656.78 | PROP |
| 09135 | 13680180.34 | 2111719.85 | -- | ME |
| 09136 | 13680176.23 | 2111760.07 | -- | ME |
| 09137 | 13680172.48 | 2111796.77 | -- | ME |
| 09138 | 13680169.59 | 2111825.08 | -- | ME |
| 09139 | 13680169.24 | 2111828.44 | -- | ME |
| 09140 | 13680168.01 | 2111840.56 | -- | ME |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 09141 | 13680164.84 | 2111871.55 | -- | ME |
| 09142 | 13680163.12 | 2111888.39 | -- | ME |
| 09143 | 13680162.41 | 2111895.39 | -- | ME |
| 09144 | 13680160.20 | 2111916.95 | -- | ME |
| 09145 | 13680156.40 | 2111954.21 | -- | ME |
| 09146 | 13680154.99 | 2111968.00 | -- | ME |

Plotted on: 4/1/2019

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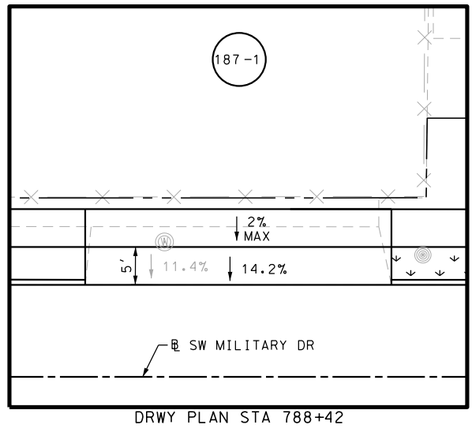
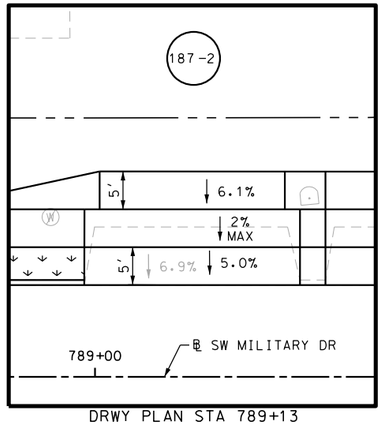
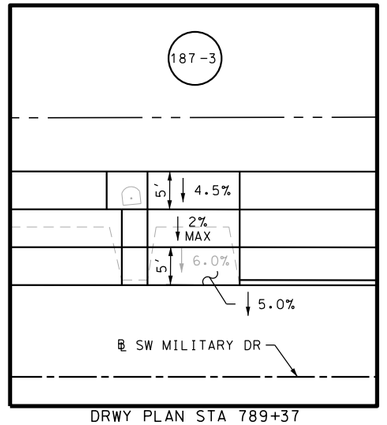


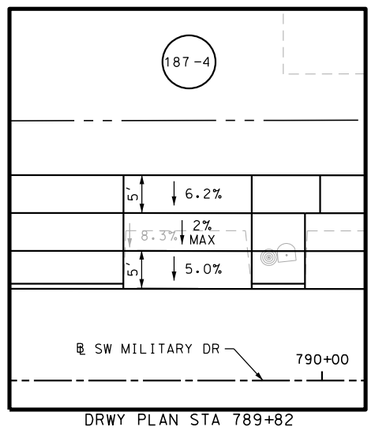
DRWY PLAN STA 788+42



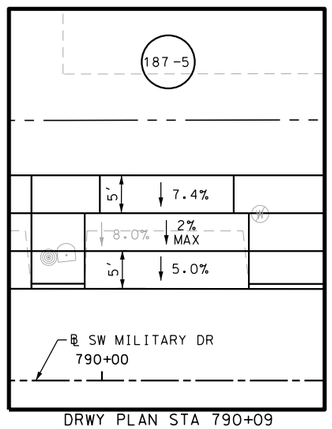
DRWY PLAN STA 789+13



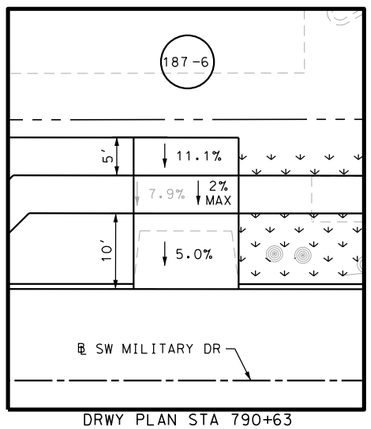
DRWY PLAN STA 789+37



DRWY PLAN STA 789+82



DRWY PLAN STA 790+09



DRWY PLAN STA 790+63

NOTES:
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1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 788+00 TO STA 792+00

SHEET 20 OF 42

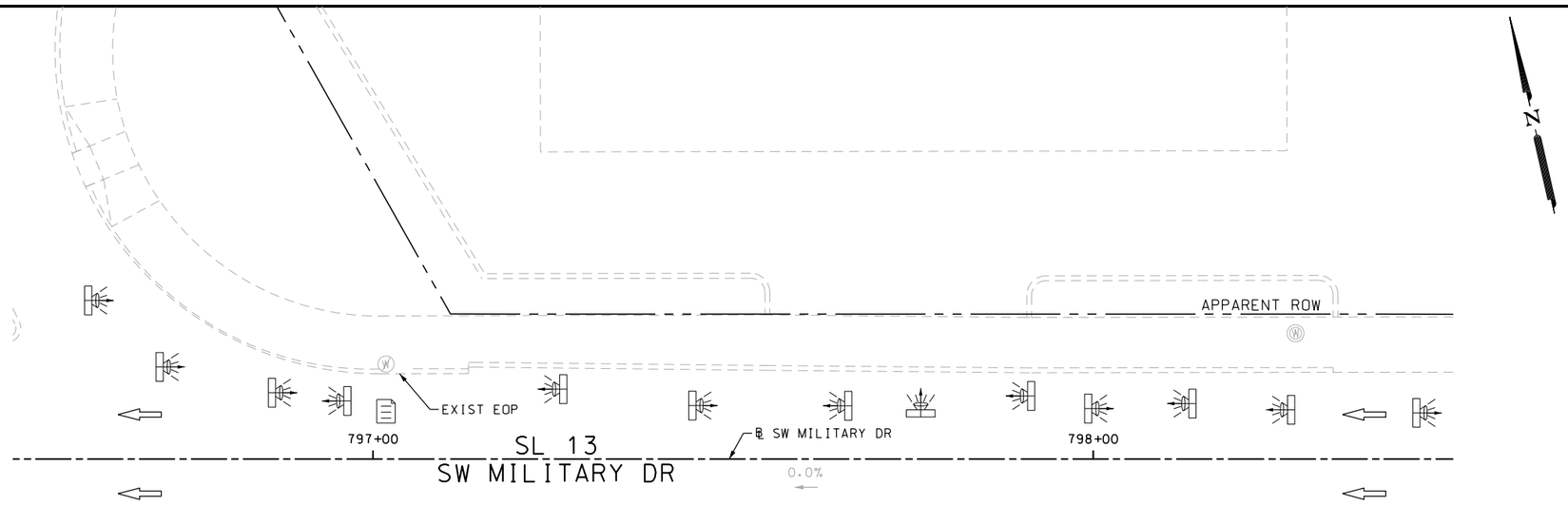
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 188 |

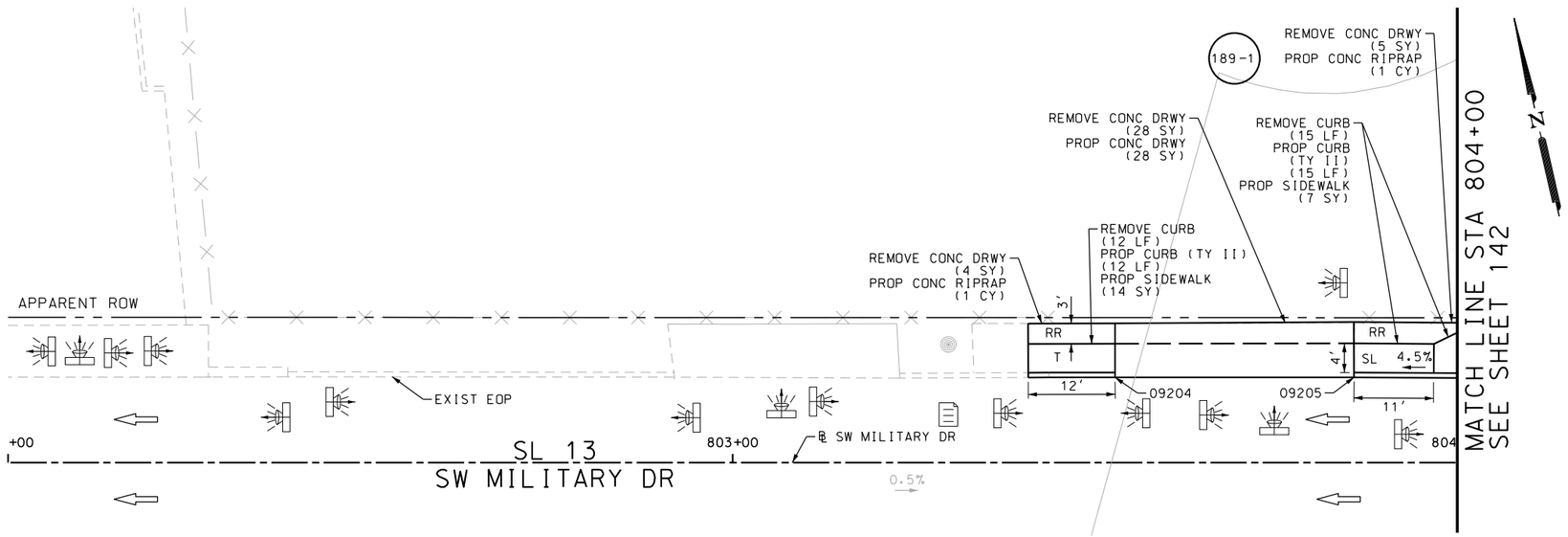
Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\1113507*SMMilitaryB*WB12A.dgn

Plotted on: 4/1/2019

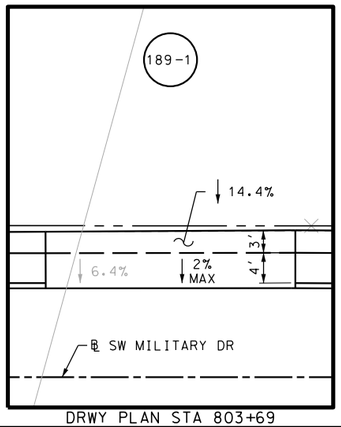
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\113507*SWMilitaryB*WB13A.dgn

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 37 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 27 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 2 |
| 0529-6002 | CONC CURB (TY II) | LF | 27 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 28 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 21 |




| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 09204 | 13680024.89 | 2113243.43 | -- | ME |
| 09205 | 13680021.57 | 2113276.23 | -- | ME |



DRWY PLAN STA 803+69

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DESIGN

INTERIM REVIEW
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



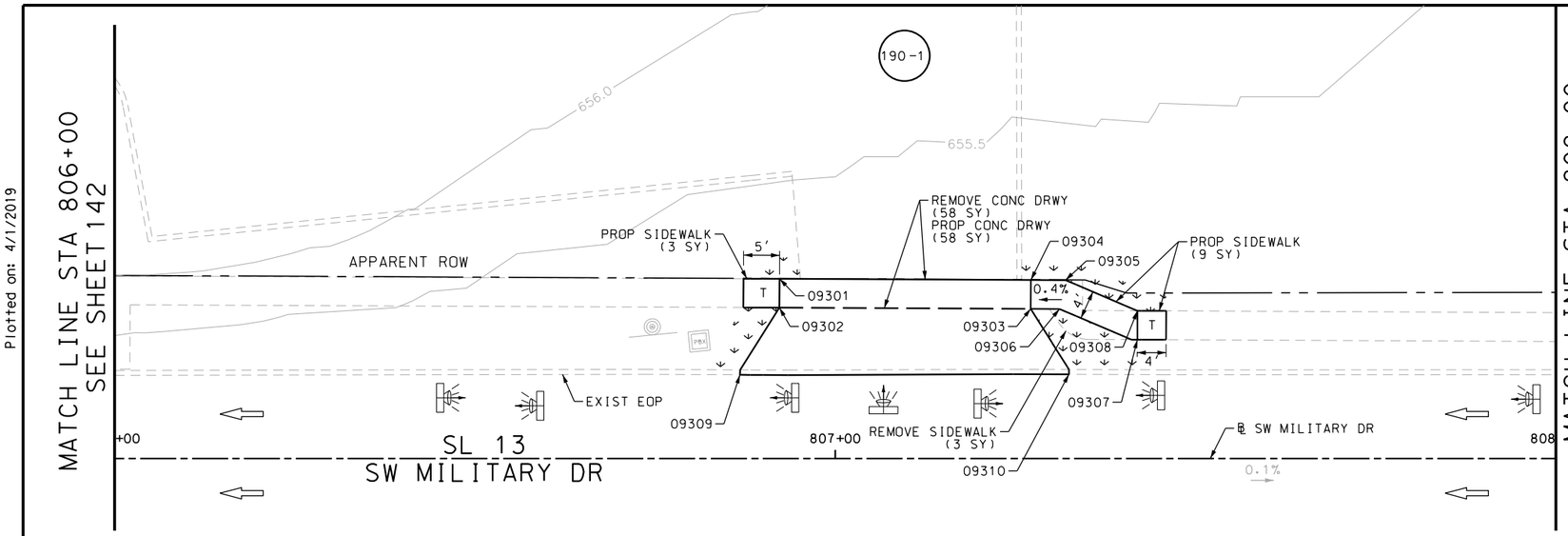
SL 13
SW MILITARY B

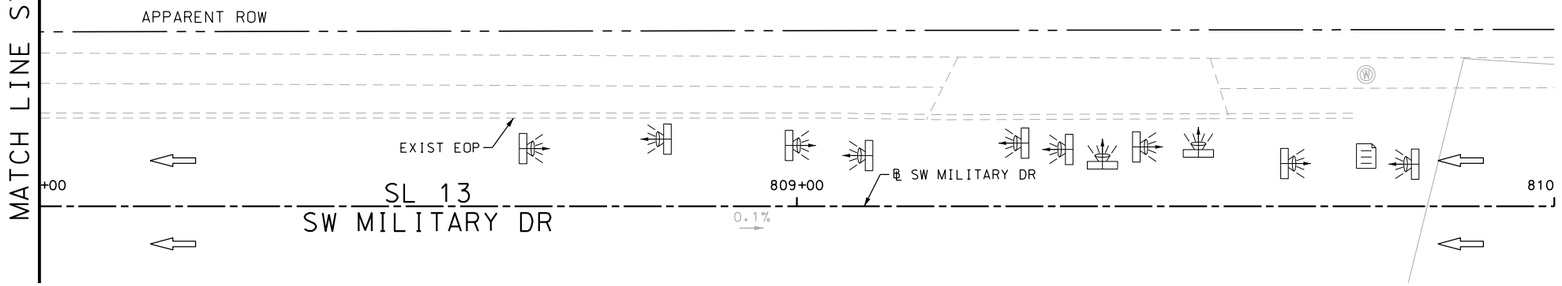
# SIDEWALK CONSTRUCTION PLAN

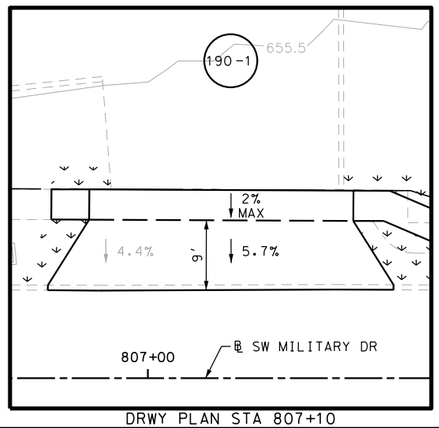
STA 796+50 TO STA 798+50
STA 802+00 TO STA 804+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 189 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 58 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 3 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 25 |
| 0162-6002 | BLOCK SODDING | SY | 25 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.39 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 58 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 12 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 09301 | 13680003.63 | 2113582.51 | -- | ME |
| 09302 | 13679999.65 | 2113582.09 | 654.41 | PROP |
| 09303 | 13679995.97 | 2113616.77 | 654.44 | PROP |
| 09304 | 13679999.95 | 2113617.19 | -- | ME |
| 09305 | 13679999.44 | 2113621.97 | 654.53 | PROP |
| 09306 | 13679995.55 | 2113620.75 | 654.46 | PROP |
| 09307 | 13679990.22 | 2113631.05 | 654.50 | PROP |
| 09308 | 13679994.20 | 2113631.47 | 654.57 | PROP |
| 09309 | 13679990.95 | 2113575.71 | -- | ME |
| 09310 | 13679986.38 | 2113621.12 | -- | ME |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



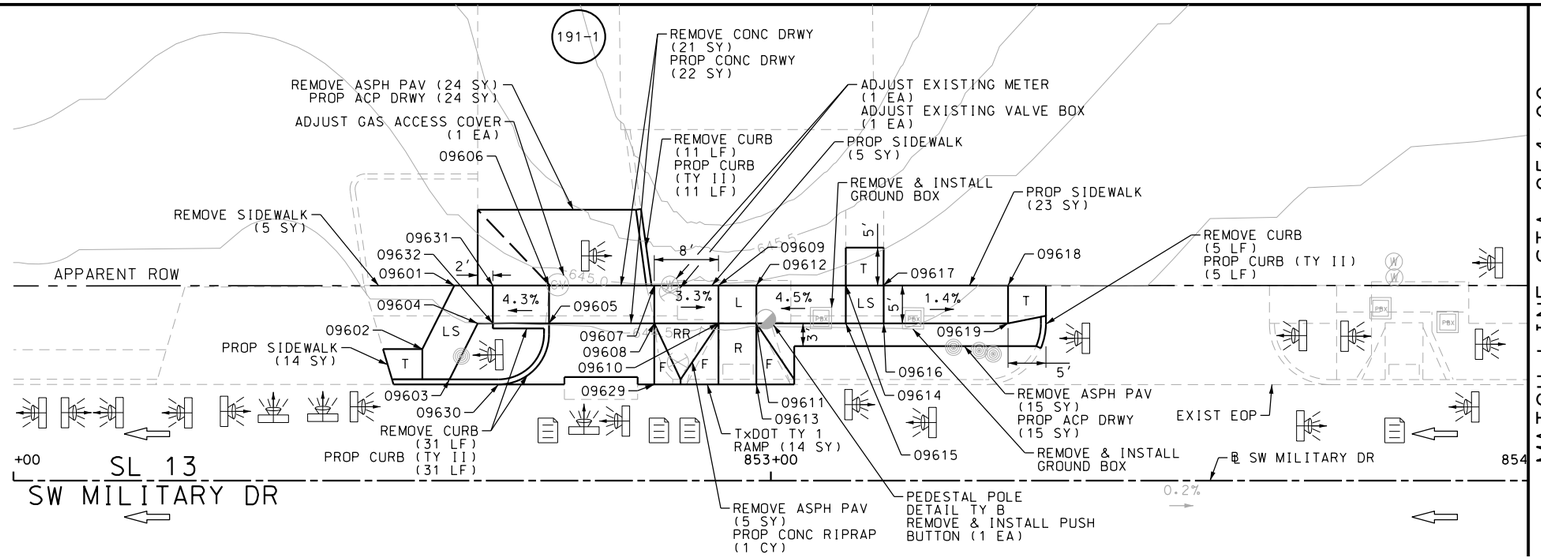
SL 13
SW MILITARY B

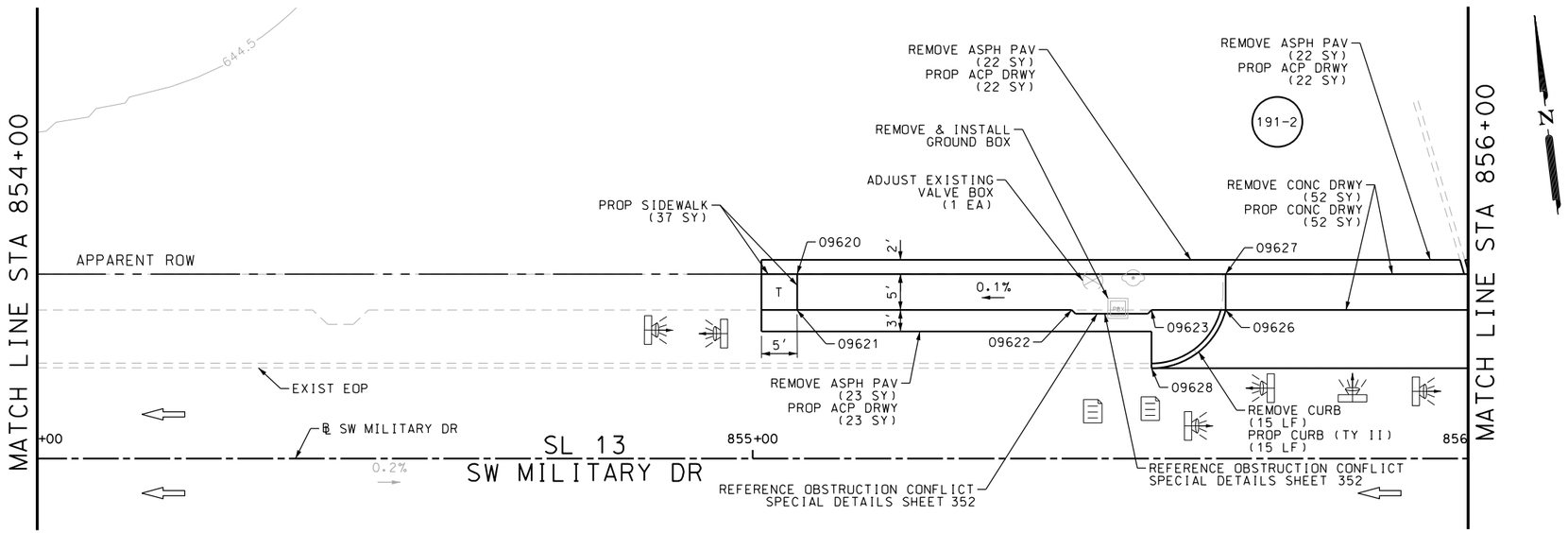
# SIDEWALK CONSTRUCTION PLAN
STA 806+00 TO STA 810+00

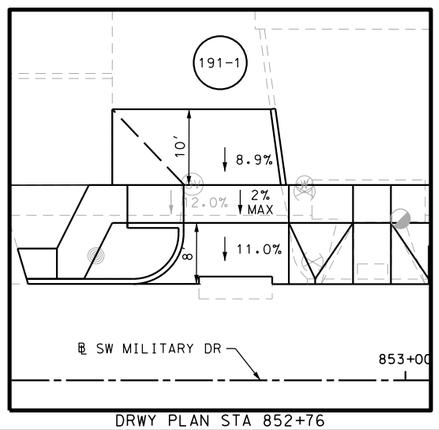
SHEET 22 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 190 |

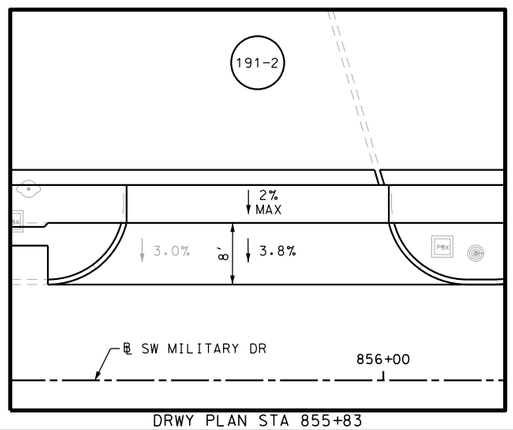
Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\111350 7*SWMilitaryB*WB14.dgn




DRWY PLAN STA 852+76




DRWY PLAN STA 855+83

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 09601 | 13679893.69 | 2118139.67 | 643.98 | PROP |
| 09602 | 13679885.27 | 2118135.50 | -- | ME |
| 09603 | 13679881.29 | 2118139.11 | -- | ME |
| 09604 | 13679888.70 | 2118142.78 | 643.91 | PROP |
| 09605 | 13679888.76 | 2118152.21 | 644.21 | PROP |
| 09606 | 13679893.76 | 2118152.18 | 644.28 | PROP |
| 09607 | 13679893.84 | 2118166.07 | -- | ME |
| 09608 | 13679888.84 | 2118166.10 | 644.24 | PROP |
| 09609 | 13679893.89 | 2118174.54 | -- | ME |
| 09610 | 13679888.89 | 2118174.57 | 643.98 | PROP |
| 09611 | 13679888.92 | 2118179.57 | 644.06 | PROP |
| 09612 | 13679893.92 | 2118179.54 | -- | ME |
| 09613 | 13679880.85 | 2118179.62 | -- | ME |
| 09614 | 13679893.99 | 2118191.35 | 644.67 | PROP |
| 09615 | 13679888.99 | 2118191.38 | 644.60 | PROP |
| 09616 | 13679889.02 | 2118196.38 | 644.52 | PROP |
| 09617 | 13679894.02 | 2118196.35 | 644.60 | PROP |
| 09618 | 13679894.12 | 2118212.77 | -- | ME |
| 09619 | 13679889.12 | 2118212.80 | 644.29 | PROP |
| 09620 | 13679895.15 | 2118387.67 | -- | ME |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 09621 | 13679890.15 | 2118387.70 | 643.35 | PROP |
| 09622 | 13679890.38 | 2118426.10 | 643.31 | PROP |
| 09623 | 13679890.45 | 2118437.24 | 643.30 | PROP |
| 09626 | 13679890.51 | 2118447.59 | 643.29 | PROP |
| 09627 | 13679895.51 | 2118447.56 | -- | ME |
| 09628 | 13679882.32 | 2118437.27 | -- | ME |
| 09629 | 13679880.79 | 2118168.59 | -- | ME |
| 09630 | 13679880.66 | 2118145.58 | -- | ME |
| 09631 | 13679893.72 | 2118144.75 | 644.00 | PROP |
| 09632 | 13679888.72 | 2118144.78 | 639.93 | PROP |

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 73 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 62 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 5 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 89 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 1 |
| 0529-6001 | CONC CURB (TY I) | LF | 1 |
| 0529-6002 | CONC CURB (TY II) | LF | 61 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 74 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 84 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 79 |
| 0531-6018 | CURB RAMPS (TY 1) | SY | 14 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 3 |
| 0624-6028 | REMOVE GROUND BOX | EA | 3 |
| 0688-6002 | PED DETECT PUSH BUTTON (STANDARD) | EA | 1 |
| 0690-6030 | REMOVAL OF PEDESTRIAN PUSH BUTTONS | EA | 1 |
| 7027-6001 | ADJUST GAS FACILITY ACCESS COVER | EA | 1 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 2 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



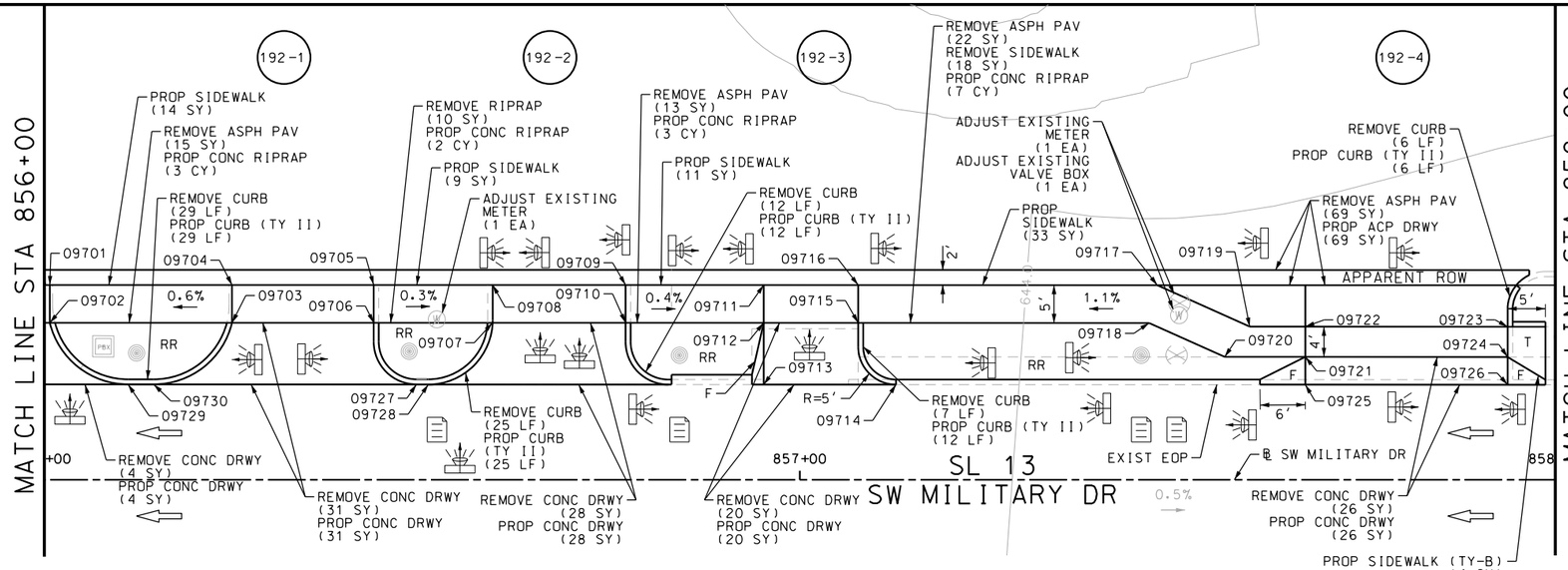
SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 852+00 TO STA 856+00

SHEET 23 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 191 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*WB17.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 10 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 109 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 79 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 18 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 119 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 15 |
| 0529-6002 | CONC CURB (TY II) | LF | 84 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 109 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 69 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 67 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 4 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 2 |

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DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 09701 | 13679895.71 | 2118482.18 | -- | ME |
| 09702 | 13679890.71 | 2118482.21 | 643.24 | PROP |
| 09703 | 13679890.86 | 2118506.34 | 643.38 | PROP |
| 09704 | 13679895.86 | 2118506.31 | -- | ME |
| 09705 | 13679895.97 | 2118525.05 | -- | ME |
| 09706 | 13679890.97 | 2118525.08 | 643.37 | PROP |
| 09707 | 13679891.06 | 2118540.82 | 643.33 | PROP |
| 09708 | 13679896.06 | 2118540.80 | -- | ME |
| 09709 | 13679896.16 | 2118558.38 | -- | ME |
| 09710 | 13679891.16 | 2118558.41 | 643.25 | PROP |
| 09711 | 13679896.27 | 2118576.69 | -- | ME |
| 09712 | 13679891.27 | 2118576.72 | 643.18 | PROP |
| 09713 | 13679883.11 | 2118576.76 | -- | ME |
| 09714 | 13679883.21 | 2118594.27 | -- | ME |
| 09715 | 13679891.34 | 2118589.22 | 643.20 | PROP |
| 09716 | 13679896.34 | 2118589.19 | -- | ME |
| 09717 | 13679896.56 | 2118628.76 | -- | ME |
| 09718 | 13679891.56 | 2118627.72 | 643.00 | PROP |
| 09719 | 13679891.14 | 2118641.02 | 642.90 | PROP |
| 09720 | 13679887.12 | 2118637.75 | 642.83 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 09721 | 13679887.18 | 2118648.42 | 642.76 | PROP |
| 09722 | 13679891.18 | 2118648.40 | 642.84 | PROP |
| 09723 | 13679891.34 | 2118675.17 | 642.90 | PROP |
| 09724 | 13679887.34 | 2118675.20 | 642.83 | PROP |
| 09725 | 13679883.51 | 2118648.44 | -- | ME |
| 09726 | 13679883.67 | 2118675.22 | -- | ME |
| 09727 | 13679882.85 | 2118530.79 | -- | ME |
| 09728 | 13679882.86 | 2118532.35 | -- | ME |
| 09729 | 13679882.63 | 2118492.63 | -- | ME |
| 09730 | 13679882.65 | 2118496.02 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

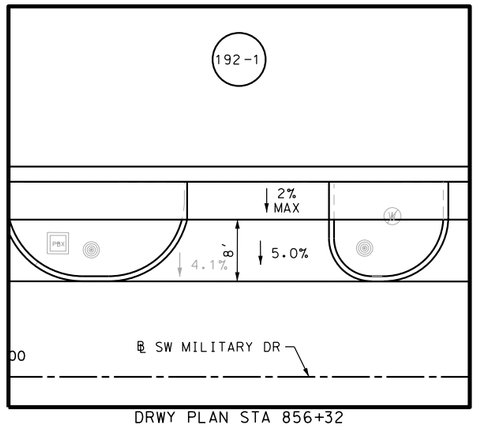
# SIDEWALK CONSTRUCTION PLAN
STA 856+00 TO STA 860+00

SHEET 24 OF 42

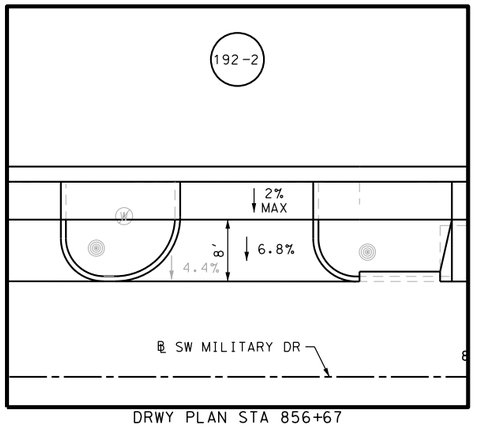
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 192 |

Plotted on: 4/1/2019

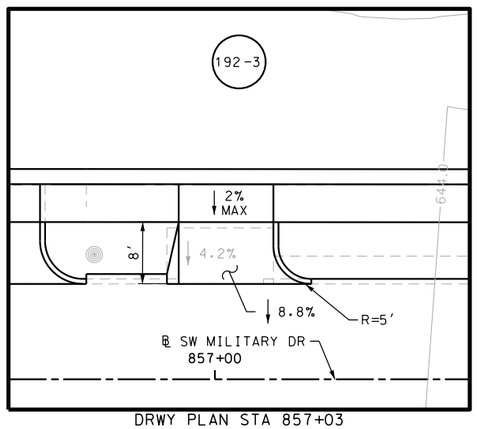
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*WB18.dgn



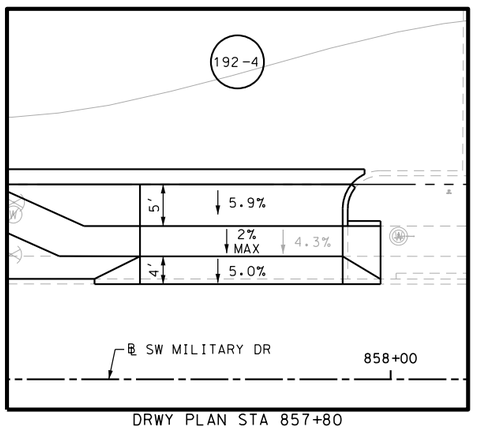

DRWY PLAN STA 856+32




DRWY PLAN STA 856+67




DRWY PLAN STA 857+03




DRWY PLAN STA 857+80

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

STA 856+00 TO STA 860+00

SHEET 25 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 193 |

Plotted on: 4/1/2019

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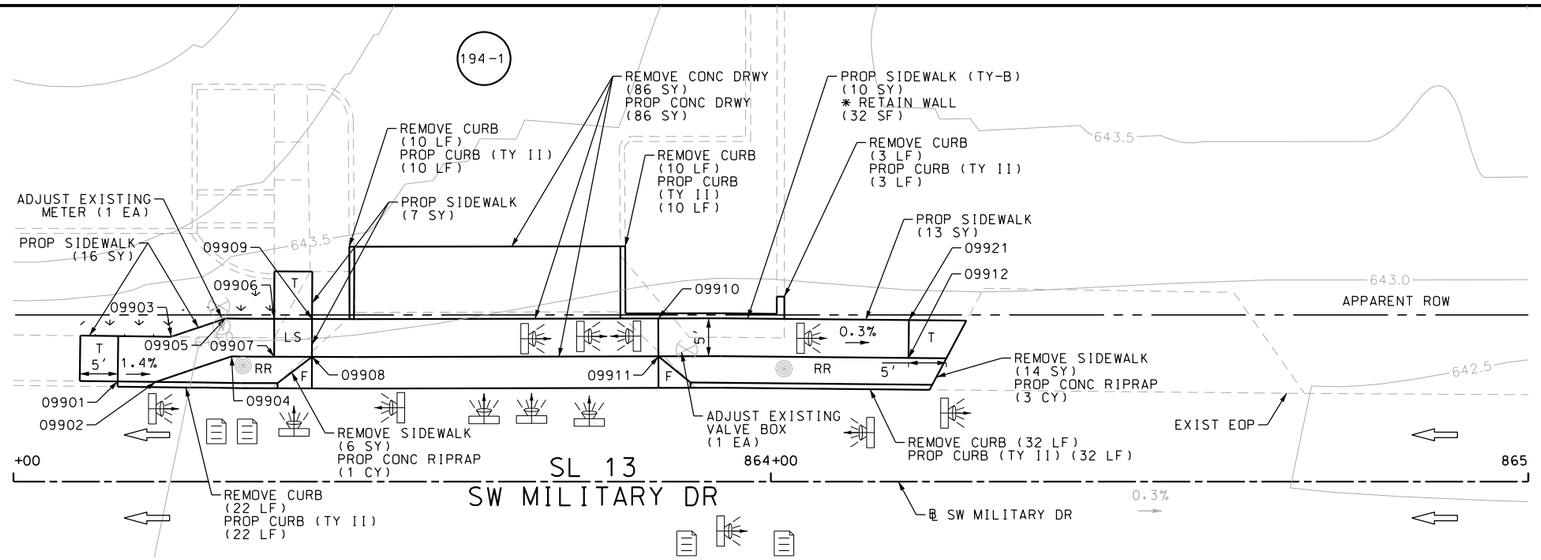


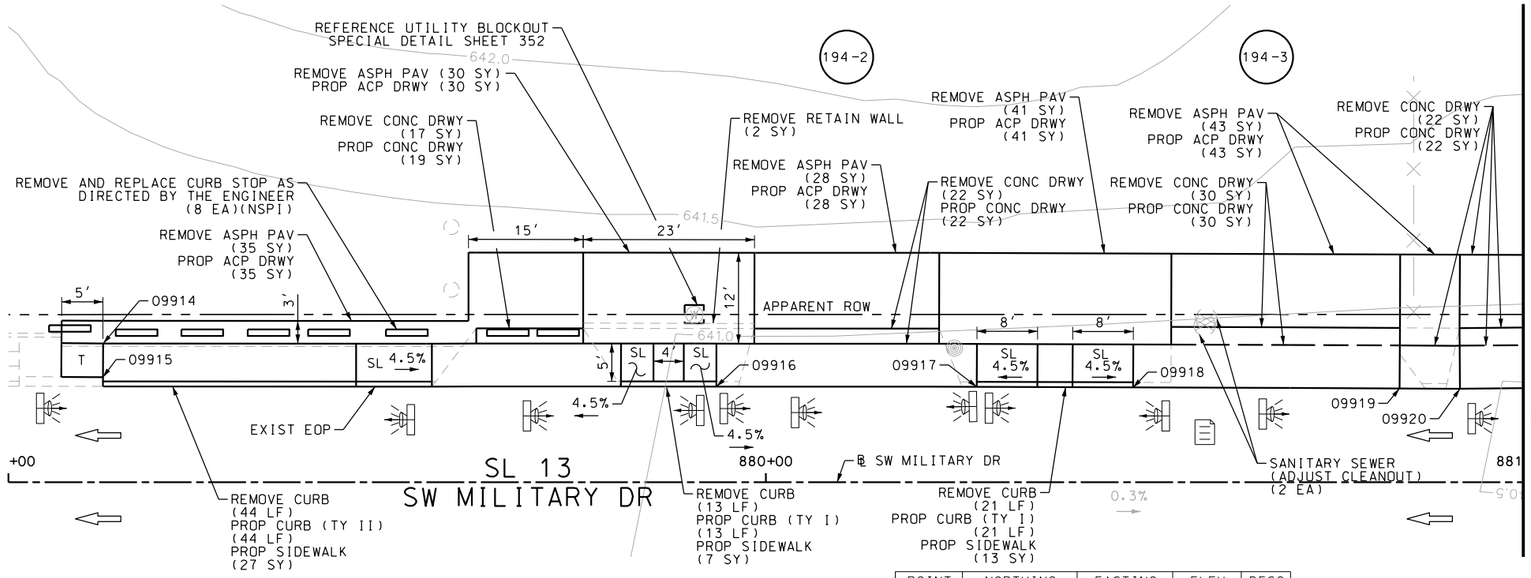


| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 177 |
| 0104-6024 | REMOVING CONC (RETAINING WALLS) | SY | 2 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 155 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 20 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 177 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 10 |
| 0162-6002 | BLOCK SODDING | SY | 10 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.16 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 4 |
| 0529-6001 | CONC CURB (TY I) | LF | 34 |
| 0529-6002 | CONC CURB (TY II) | LF | 121 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 179 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 177 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 83 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 10 |
| 7194-6002 | SANITARY SEWER (ADJUST CLEANOUT) | EA | 2 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

STA 863+00 TO STA 865+00
STA 879+00 TO STA 881+00

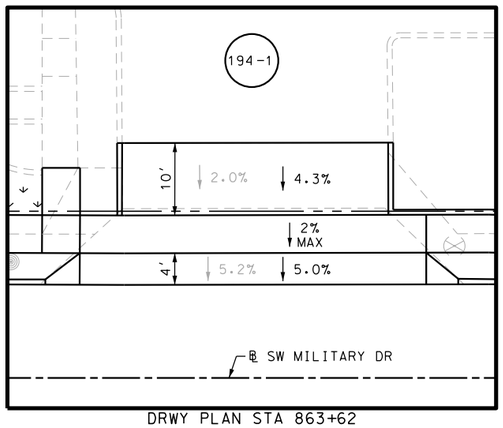


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 194 |

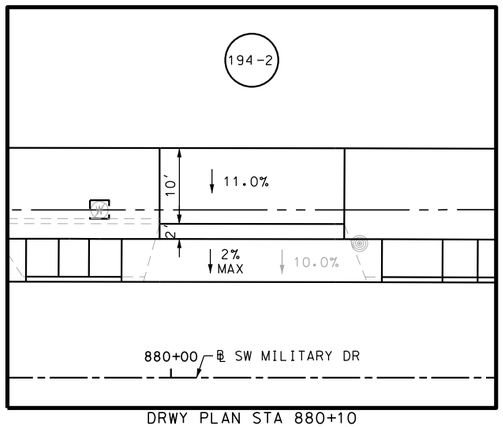
| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 09901 | 13679887.39 | 2119195.28 | -- | ME |
| 09902 | 13679887.36 | 2119200.28 | -- | ME |
| 09903 | 13679893.35 | 2119202.32 | -- | ME |
| 09904 | 13679890.80 | 2119210.30 | 642.38 | PROP |
| 09905 | 13679895.80 | 2119209.48 | 642.45 | PROP |
| 09906 | 13679895.80 | 2119215.91 | -- | ME |
| 09907 | 13679890.80 | 2119215.92 | 642.28 | PROP |
| 09908 | 13679890.81 | 2119220.92 | 642.31 | PROP |
| 09909 | 13679895.81 | 2119220.91 | -- | ME |
| 09910 | 13679896.13 | 2119266.62 | -- | ME |
| 09911 | 13679891.13 | 2119266.65 | 642.12 | PROP |
| 09912 | 13679891.11 | 2119299.67 | 642.20 | PROP |
| 09914 | 13679901.96 | 2120793.96 | -- | ME |
| 09915 | 13679897.51 | 2120793.96 | -- | ME |
| 09916 | 13679896.75 | 2120874.97 | -- | ME |
| 09917 | 13679896.91 | 2120909.34 | -- | ME |
| 09918 | 13679896.96 | 2120929.97 | -- | ME |
| 09919 | 13679897.03 | 2120965.17 | -- | ME |
| 09920 | 13679897.05 | 2120973.15 | -- | ME |
| 09921 | 13679896.11 | 2119299.69 | 642.27 | PROP |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\111350 7*SWMilitaryB*WB20.dgn




DRWY PLAN STA 863+62

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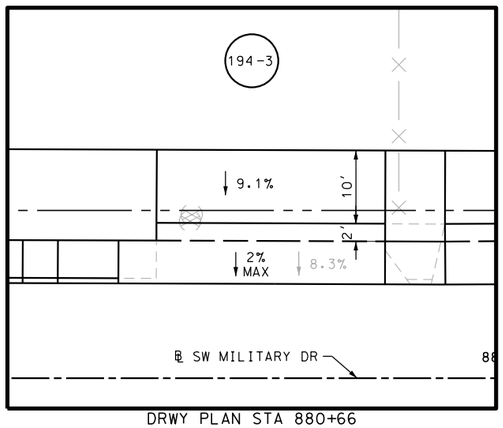


DRWY PLAN STA 880+66

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

STA 863+00 TO STA 865+00
STA 879+00 TO STA 881+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 195 |

Plotted on: 4/1/2019

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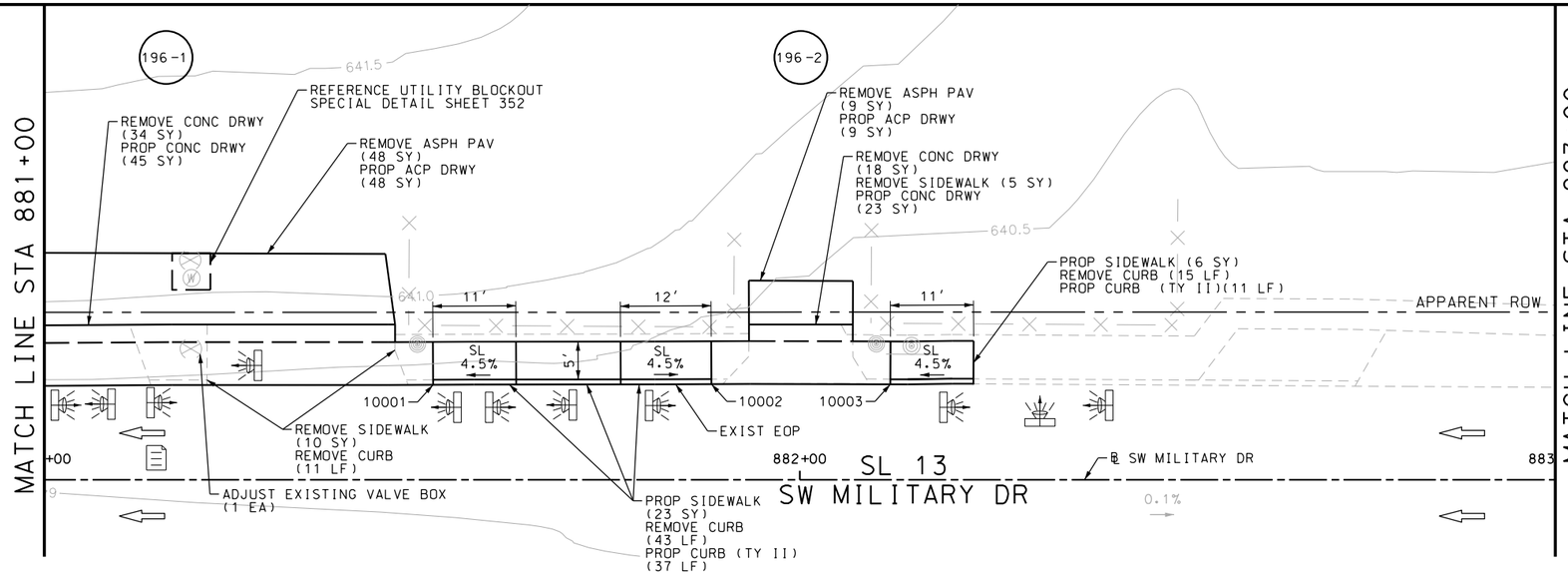
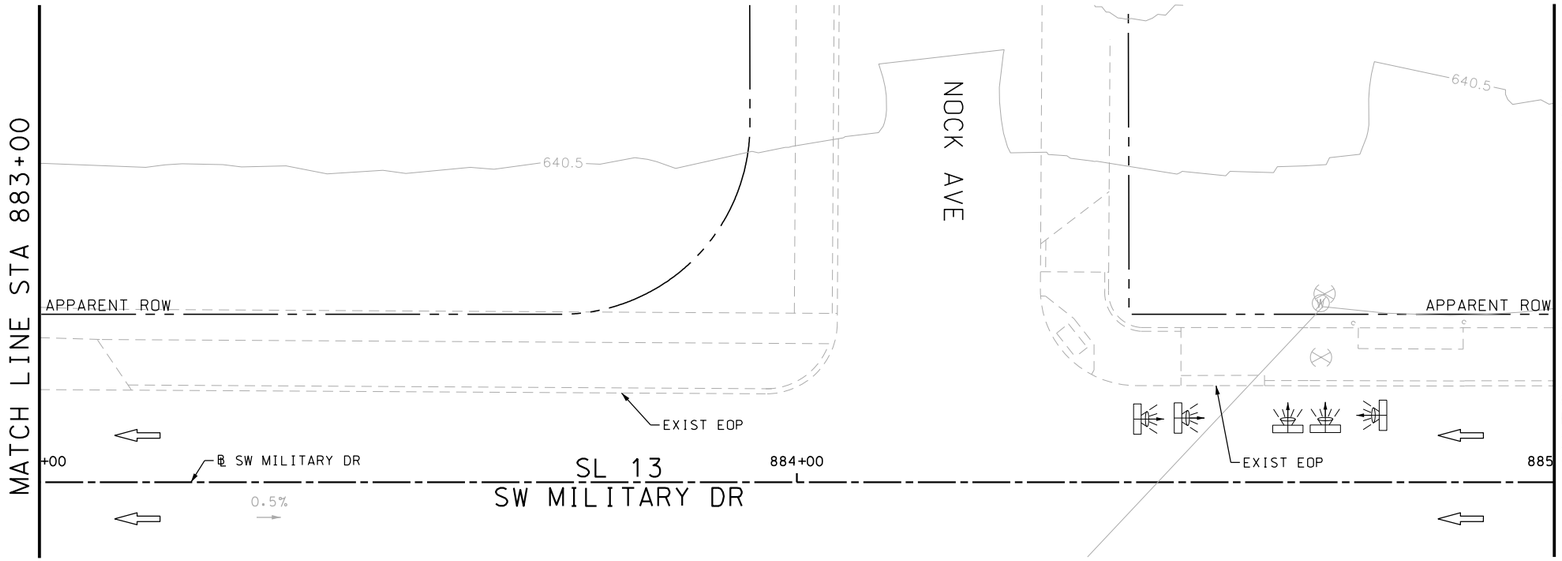
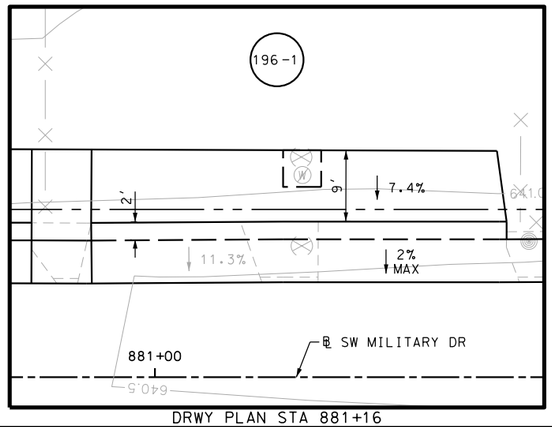
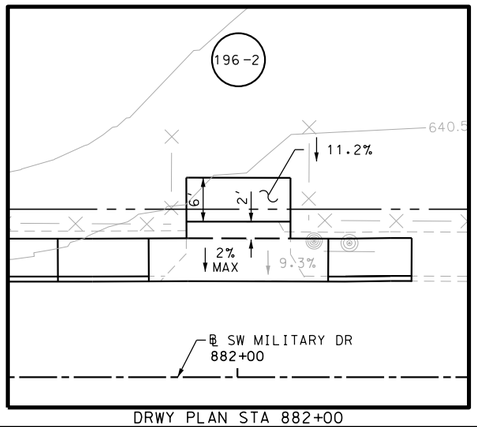



DRWY PLAN STA 881+16




DRWY PLAN STA 882+00

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 52 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 69 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 15 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 57 |
| 0529-6002 | CONC CURB (TY II) | LF | 48 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 68 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 57 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 29 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 10001 | 13679897.60 | 2121032.96 | -- | ME |
| 10002 | 13679897.91 | 2121069.78 | -- | ME |
| 10003 | 13679898.02 | 2121093.47 | -- | ME |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



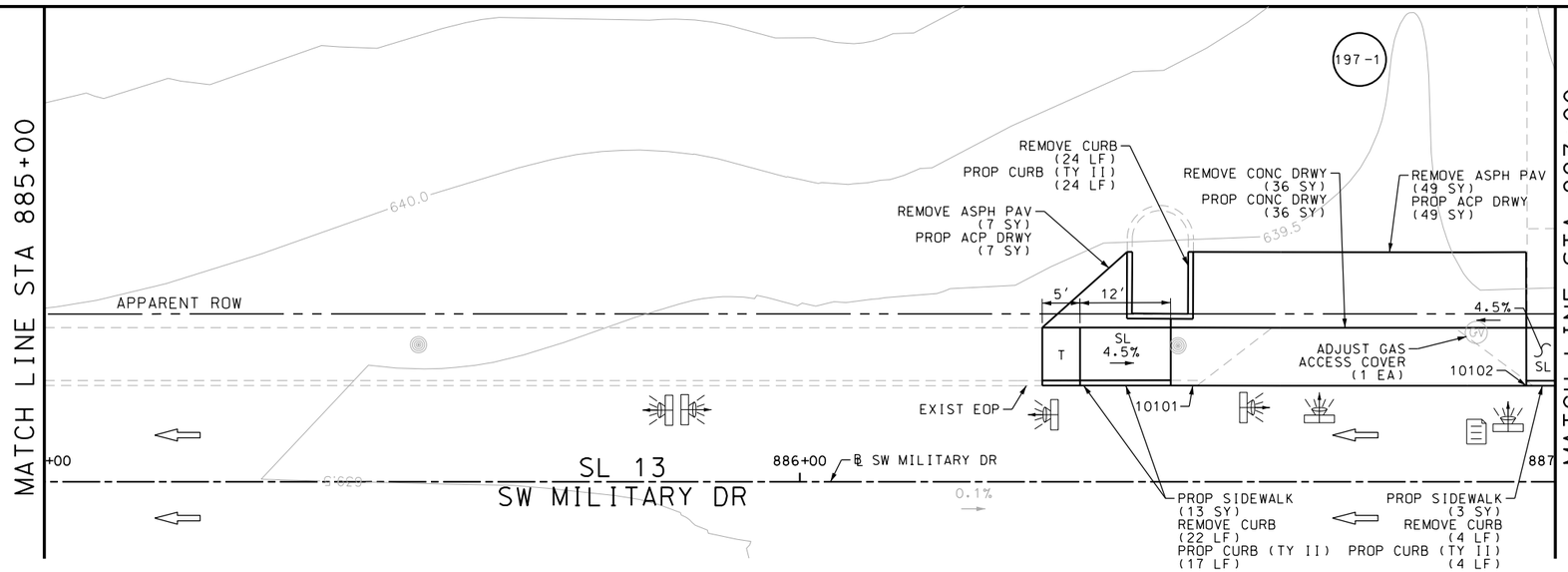
SL 13
SW MILITARY B

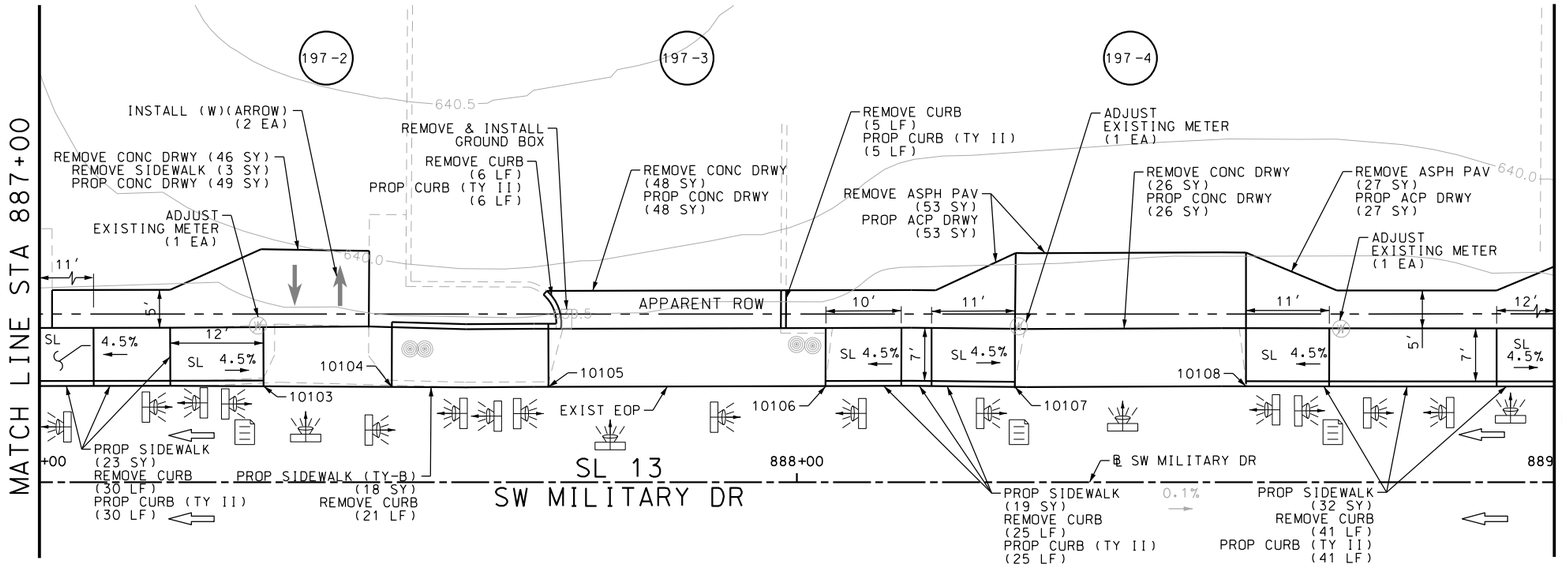
# SIDEWALK CONSTRUCTION PLAN

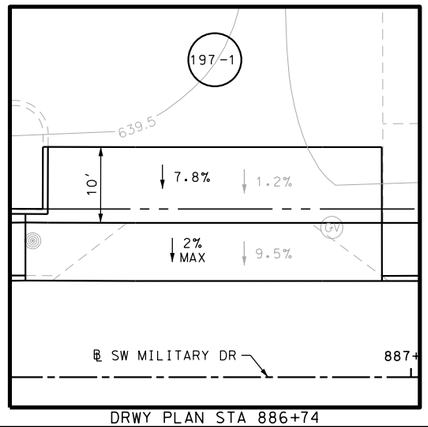
STA 881+00 TO STA 885+00

SHEET 28 OF 42

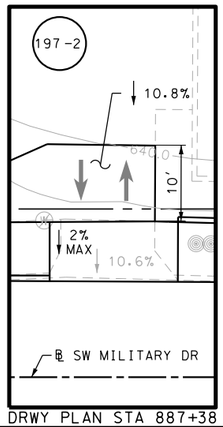
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 196 |




DRWY PLAN STA 886+74

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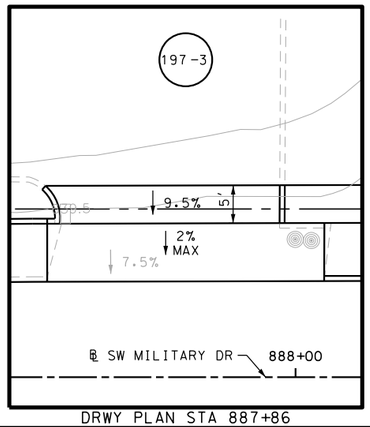
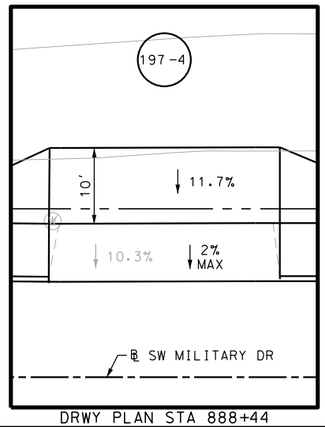



DRWY PLAN STA 887+86




DRWY PLAN STA 888+44

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 156 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 178 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 3 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 136 |
| 0529-6002 | CONC CURB (TY II) | LF | 159 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 110 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 136 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 90 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 18 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 1 |
| 0624-6028 | REMOVE GROUND BOX | EA | 1 |
| 0666-6057 | REFL PAV MRK TY I(W)(DBL ARROW)(100MIL) | EA | 2 |
| 0666-6234 | PAVEMENT SEALER (DBL ARROW) | EA | 2 |
| 0678-6010 | PAV SURF PREP FOR MRK (DBL ARROW) | EA | 2 |
| 7027-6001 | ADJUST GAS FACILITY ACCESS COVER | EA | 1 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 3 |

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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 885+00 TO STA 889+00

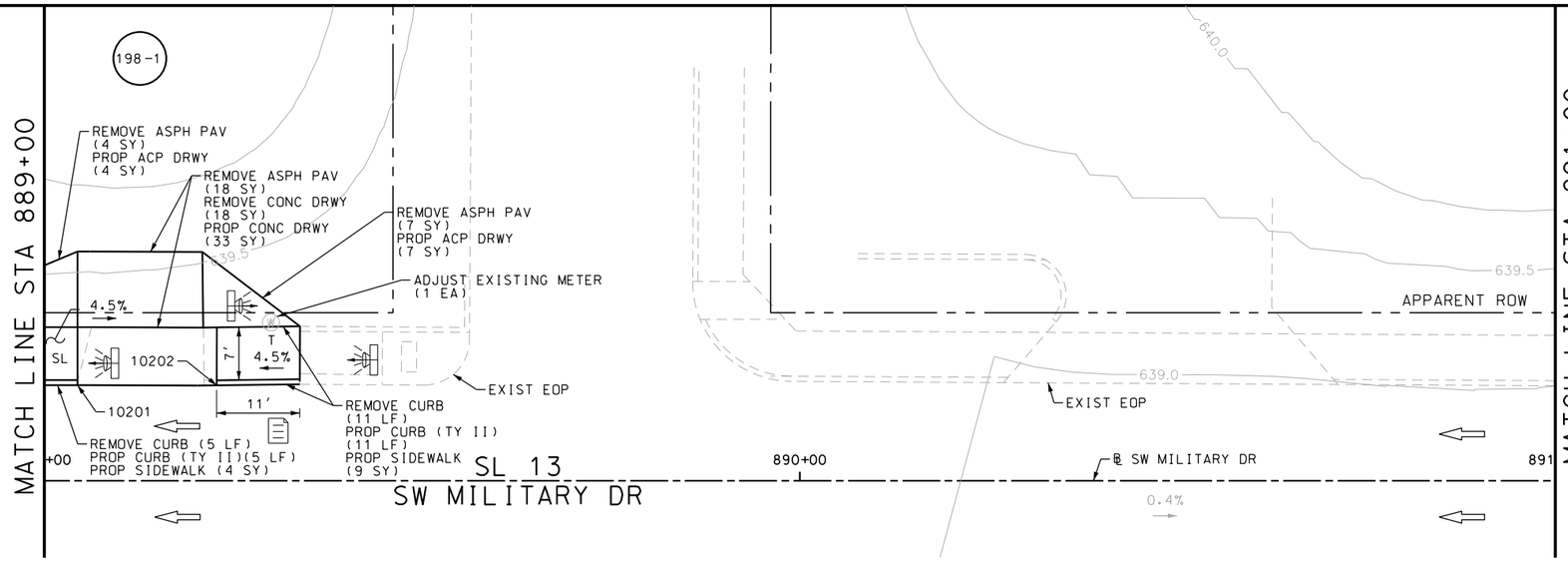
SHEET 29 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 197 |

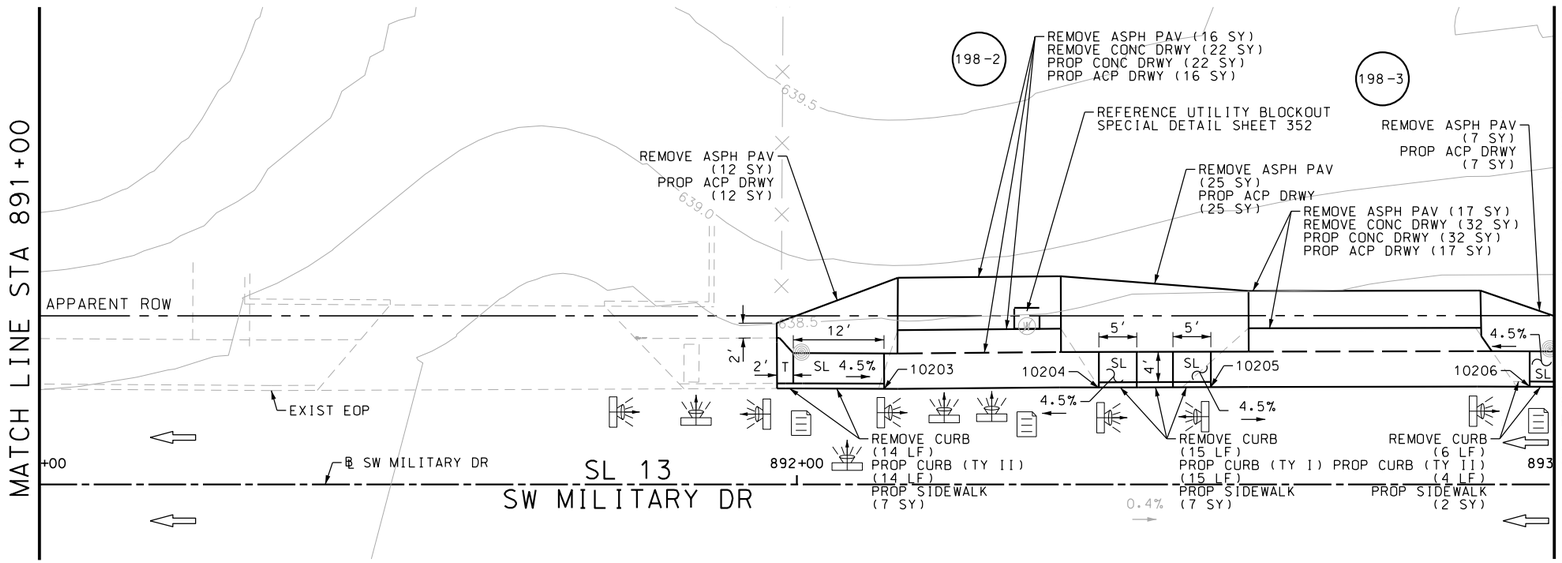
| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 10101 | 13679900.74 | 2121533.50 | -- | ME |
| 10102 | 13679900.97 | 2121577.64 | -- | ME |
| 10103 | 13679901.56 | 2121611.10 | -- | ME |
| 10104 | 13679901.37 | 2121627.98 | -- | ME |
| 10105 | 13679901.28 | 2121648.70 | -- | ME |
| 10106 | 13679901.59 | 2121685.30 | -- | ME |
| 10107 | 13679901.65 | 2121710.26 | -- | ME |
| 10108 | 13679901.90 | 2121740.76 | -- | ME |

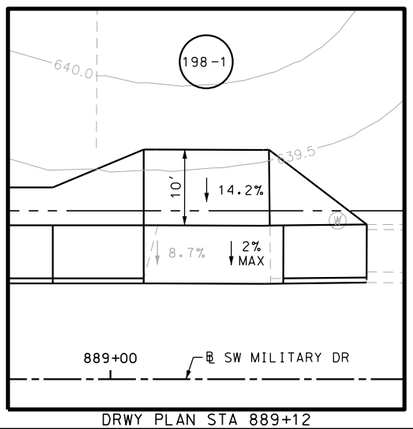
Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\1113507*SMMilitaryB*WB22.dgn

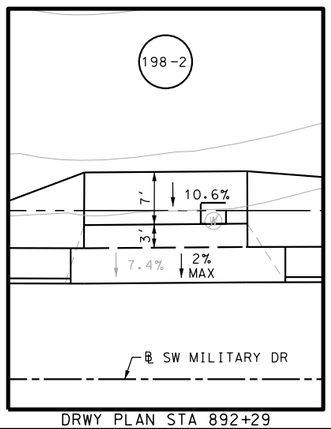



| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 72 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 51 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 106 |
| 0529-6001 | CONC CURB (TY I) | LF | 15 |
| 0529-6002 | CONC CURB (TY II) | LF | 34 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 87 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 88 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 29 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

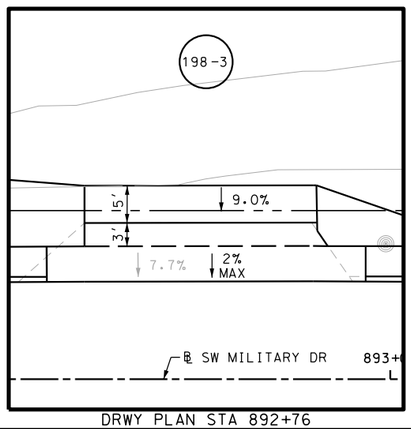



DRWY PLAN STA 889+12




DRWY PLAN STA 892+29




DRWY PLAN STA 892+76

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 10201 | 13679902.15 | 2121785.87 | -- | ME |
| 10202 | 13679902.24 | 2121804.30 | -- | ME |
| 10203 | 13679903.93 | 2122092.99 | -- | ME |
| 10204 | 13679904.28 | 2122121.34 | -- | ME |
| 10205 | 13679904.41 | 2122136.12 | -- | ME |
| 10206 | 13679904.71 | 2122178.22 | -- | ME |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

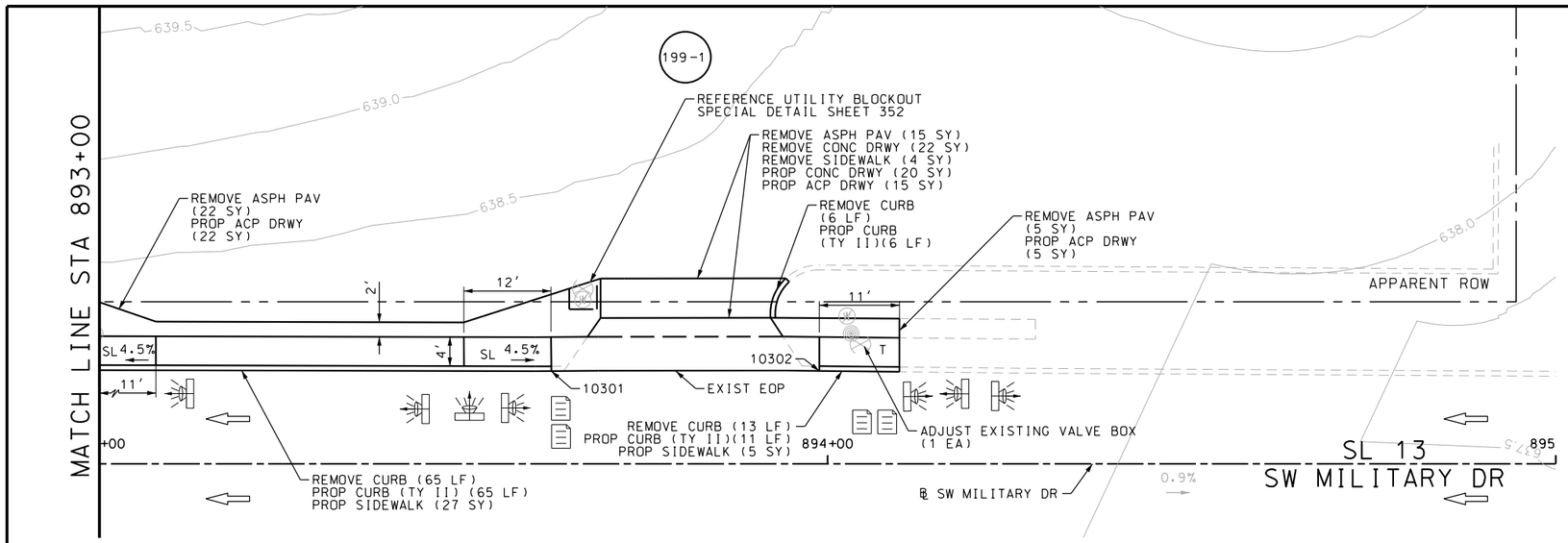
# SIDEWALK CONSTRUCTION PLAN
STA 889+00 TO STA 893+00

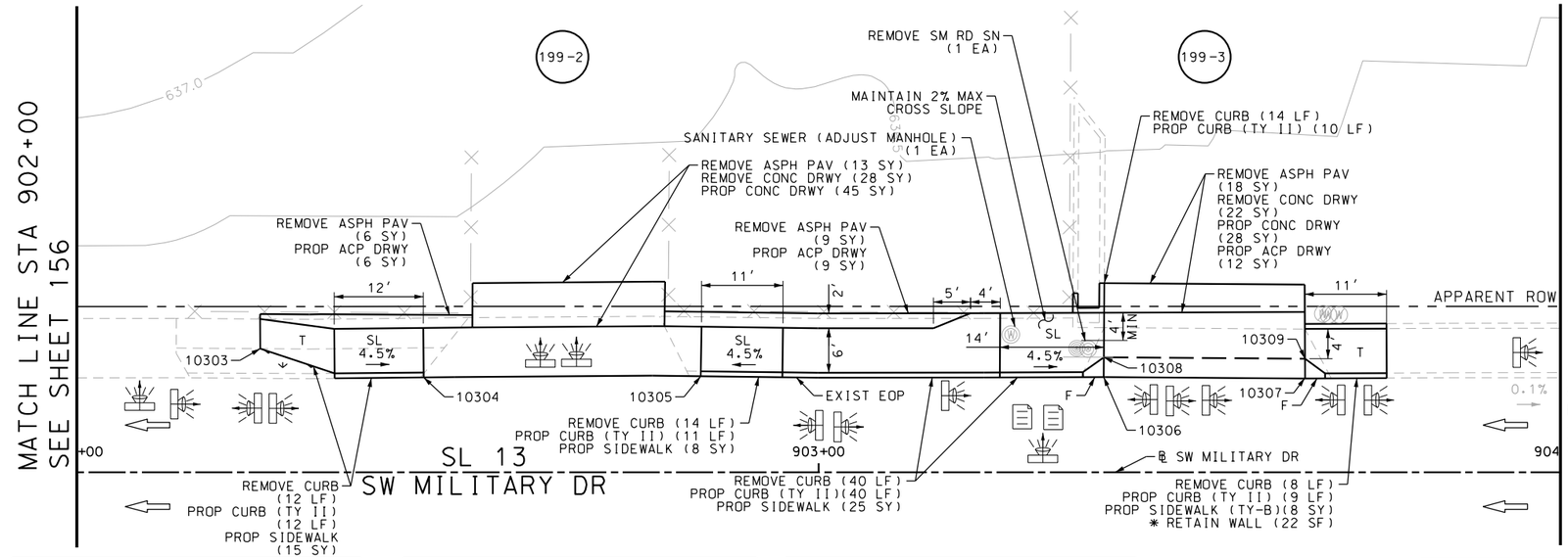
SHEET 30 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 198 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*WB23.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 72 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 172 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 4 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 88 |
| 0529-6002 | CONC CURB (TY II) | LF | 164 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 93 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 69 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 80 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 8 |
| 0644-6076 | REMOVE SM RD SN SUP&AM | EA | 1 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |

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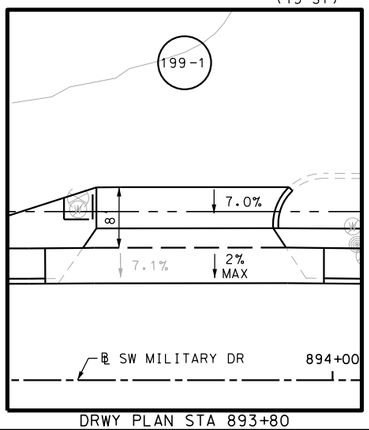
DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

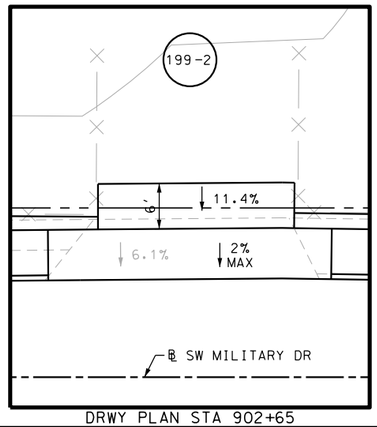
REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

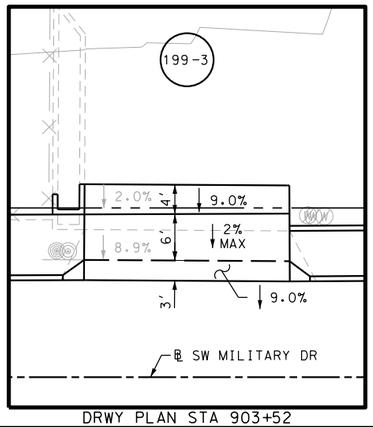
SCALE: PLAN 1"= 20'



DRWY PLAN STA 893+80



DRWY PLAN STA 902+65



DRWY PLAN STA 903+52

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 10301 | 13679904.95 | 2122243.53 | -- | ME |
| 10302 | 13679905.20 | 2122280.33 | -- | ME |
| 10303 | 13679913.96 | 2123106.16 | -- | ME |
| 10304 | 13679910.21 | 2123128.22 | -- | ME |
| 10305 | 13679910.60 | 2123165.57 | -- | ME |
| 10306 | 13679910.80 | 2123219.88 | -- | ME |
| 10307 | 13679910.84 | 2123252.04 | -- | ME |
| 10308 | 13679913.47 | 2123219.88 | 635.60 | PROP |
| 10309 | 13679913.45 | 2123252.01 | 635.53 | PROP |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

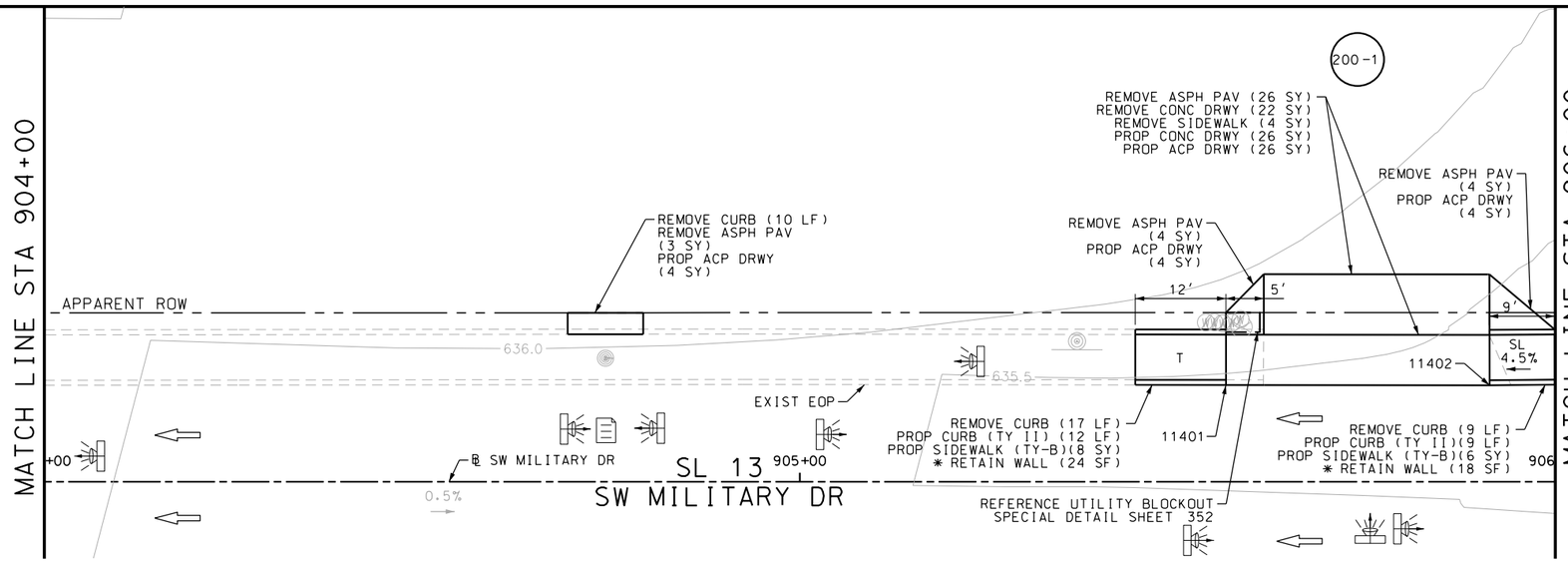
# SIDEWALK CONSTRUCTION PLAN

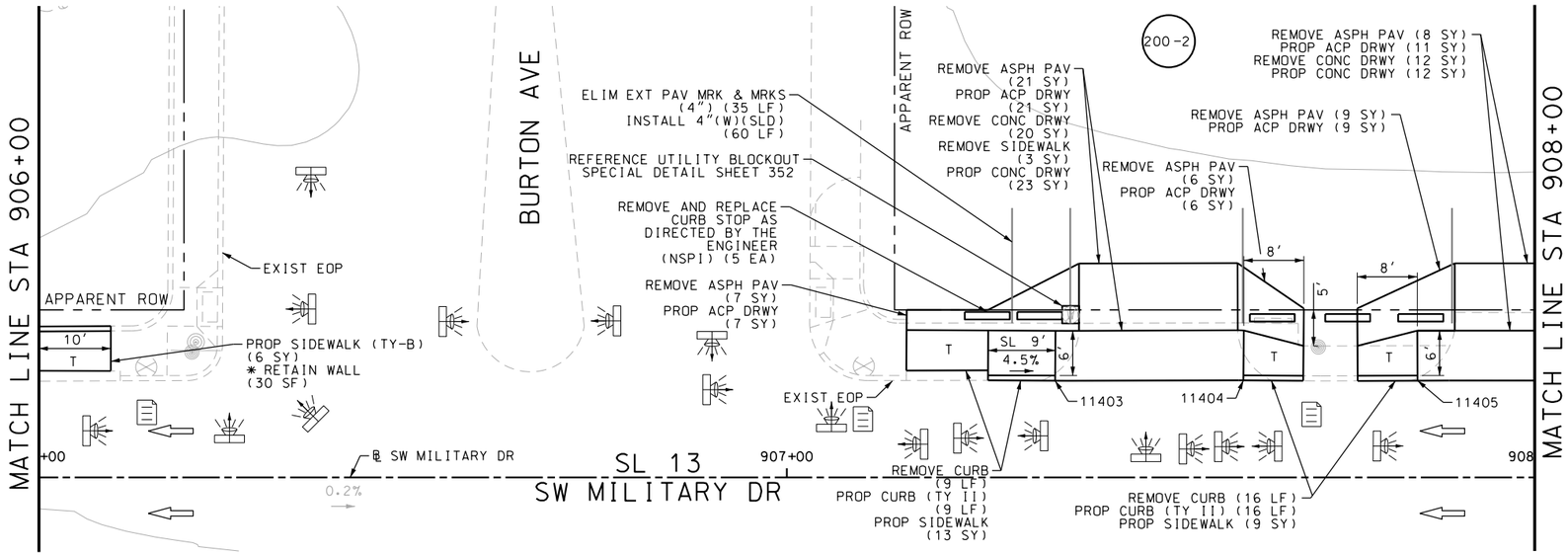
STA 893+00 TO STA 895+00
STA 902+00 TO STA 904+00

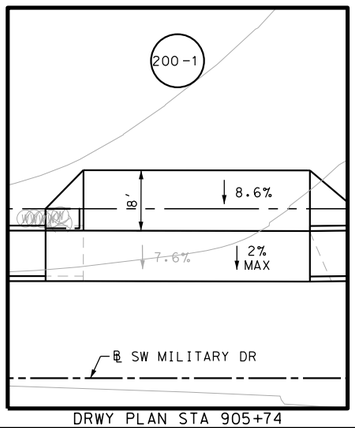
SHEET 31 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 199 |

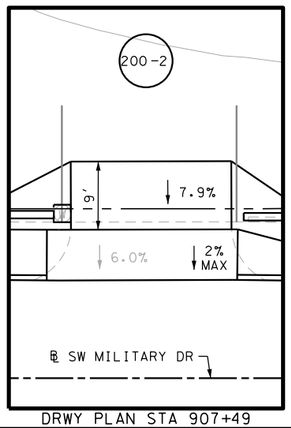
Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\1113507*SMMilitaryB*WB24.dgn




DRWY PLAN STA 905+74




DRWY PLAN STA 907+49

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 54 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 61 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 7 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 88 |
| 0529-6002 | CONC CURB (TY II) | LF | 46 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 61 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 92 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 22 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 20 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 60 |
| 0666-6303 | RE PM W/RET REQ TY I (W)4"(SLD)(100MIL) | LF | 60 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 35 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 60 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 11401 | 13679912.07 | 2123437.84 | -- | ME |
| 11402 | 13679912.24 | 2123472.74 | -- | ME |
| 11403 | 13679913.25 | 2123617.33 | -- | ME |
| 11404 | 13679913.45 | 2123642.48 | -- | ME |
| 11405 | 13679913.54 | 2123665.76 | -- | ME |
| 11406 | 13679912.19 | 2123340.73 | -- | ME |
| 11407 | 13679912.41 | 2123370.73 | -- | ME |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20′

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

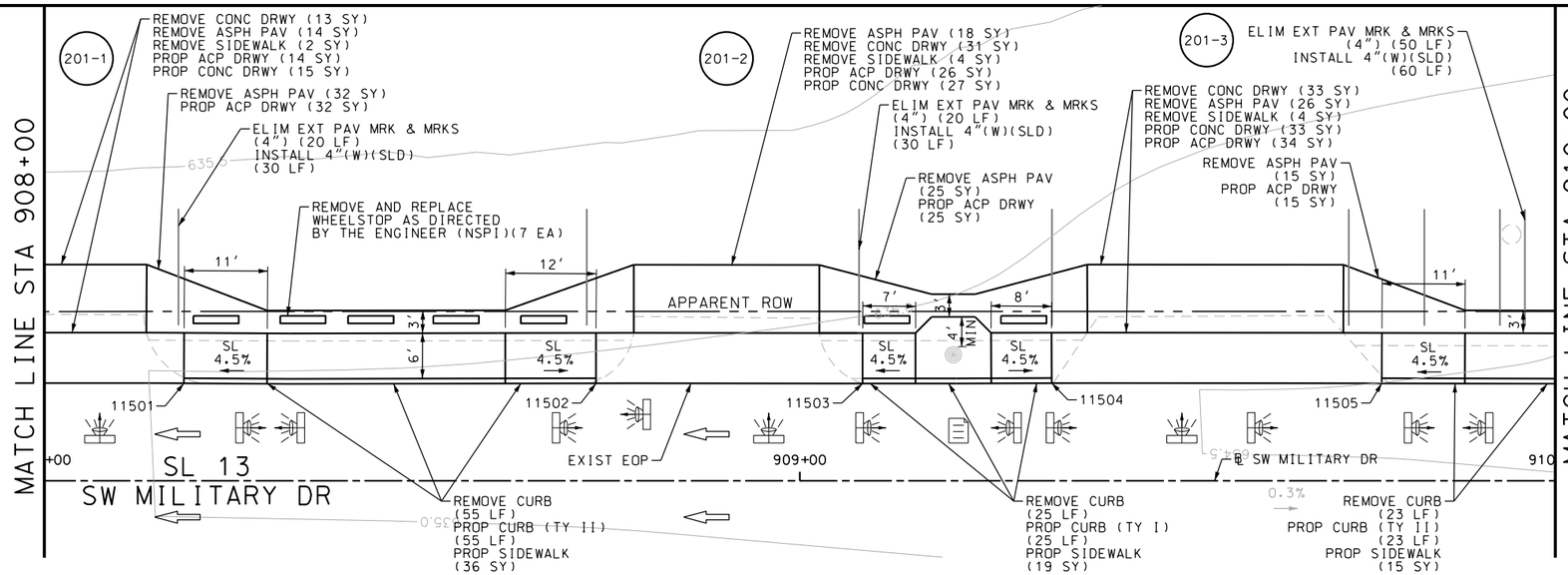
# SIDEWALK CONSTRUCTION PLAN
STA 904+00 TO STA 908+00

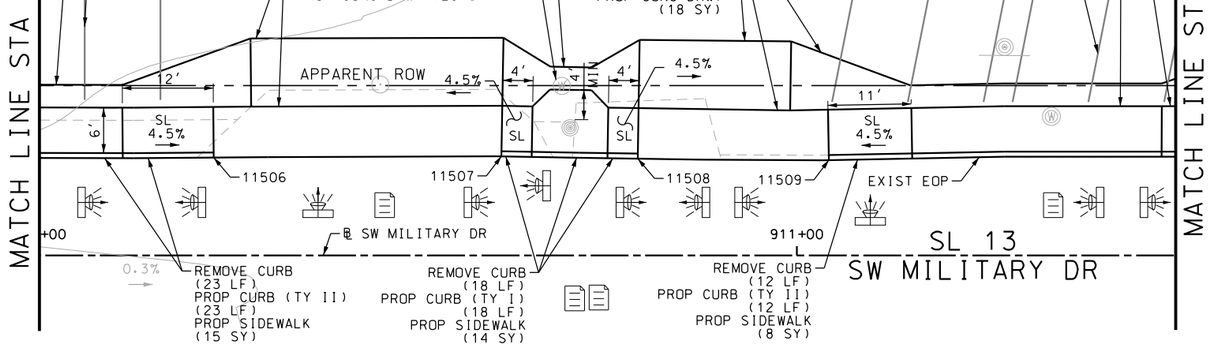
SHEET 32 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 200 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\1113507+SMMilitaryB+WB25.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 130 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 190 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 10 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 223 |
| 0529-6001 | CONC CURB (TY I) | LF | 43 |
| 0529-6002 | CONC CURB (TY II) | LF | 147 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 122 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 247 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 129 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 250 |
| 0666-6303 | RE PM W/RET REQ TY I (W)4"(SLD)(100MIL) | LF | 150 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 100 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 190 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 250 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

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DESIGN

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DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

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DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 11501 | 13679913.72 | 2123699.91 | -- | ME |
| 11502 | 13679914.03 | 2123754.46 | -- | ME |
| 11503 | 13679914.23 | 2123789.76 | -- | ME |
| 11504 | 13679914.42 | 2123814.79 | -- | ME |
| 11505 | 13679914.65 | 2123858.47 | -- | ME |
| 11506 | 13679914.93 | 2123904.45 | -- | ME |
| 11507 | 13679915.31 | 2123942.44 | -- | ME |
| 11508 | 13679915.12 | 2123960.44 | -- | ME |
| 11509 | 13679915.07 | 2123985.67 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

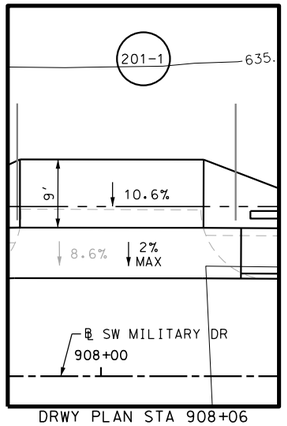
# SIDEWALK CONSTRUCTION PLAN
STA 908+00 TO STA 911+50

SHEET 33 OF 42

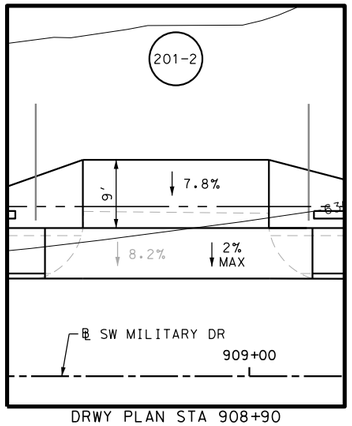
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 201 |

Plotted on: 4/1/2019

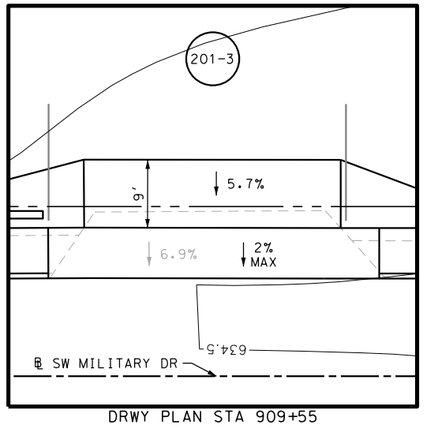
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\111507*SWMilitaryB*WB26.dgn



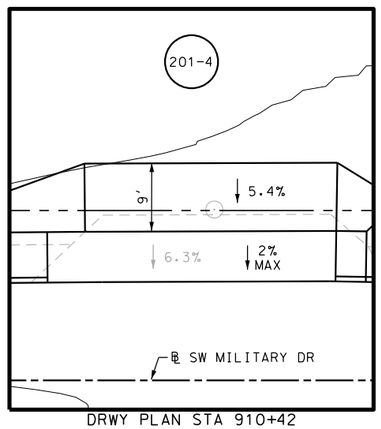
DRWY PLAN STA 908+06



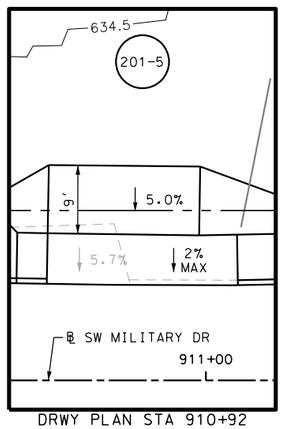
DRWY PLAN STA 908+90



DRWY PLAN STA 909+55



DRWY PLAN STA 910+42



DRWY PLAN STA 910+92

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



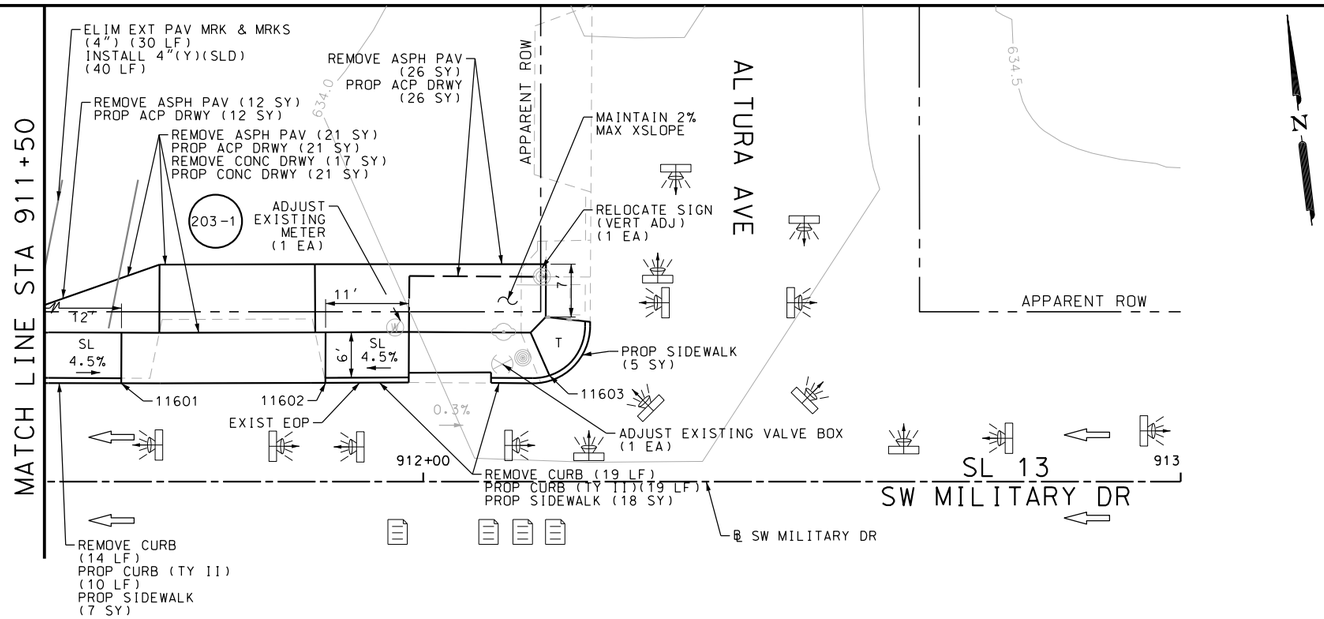
SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN
STA 908+00 TO STA 911+50 DETAILS

SHEET 34 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 202 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\1113507*SMMilitaryB*WB26A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 17 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 33 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 59 |
| 0529-6002 | CONC CURB (TY II) | LF | 29 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 21 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 59 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 30 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 40 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 40 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 30 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 40 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

NOTES:
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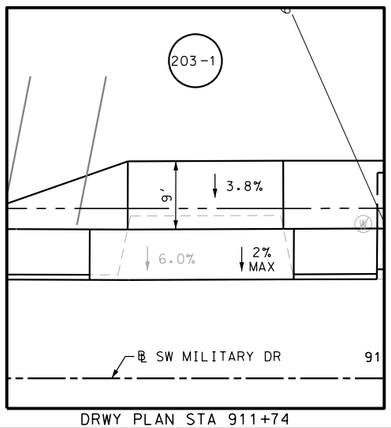
DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'



DRWY PLAN STA 911+74

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 11601 | 13679915.83 | 2124041.59 | -- | ME |
| 11602 | 13679916.04 | 2124068.53 | -- | ME |
| 11603 | 13679917.18 | 2124098.11 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

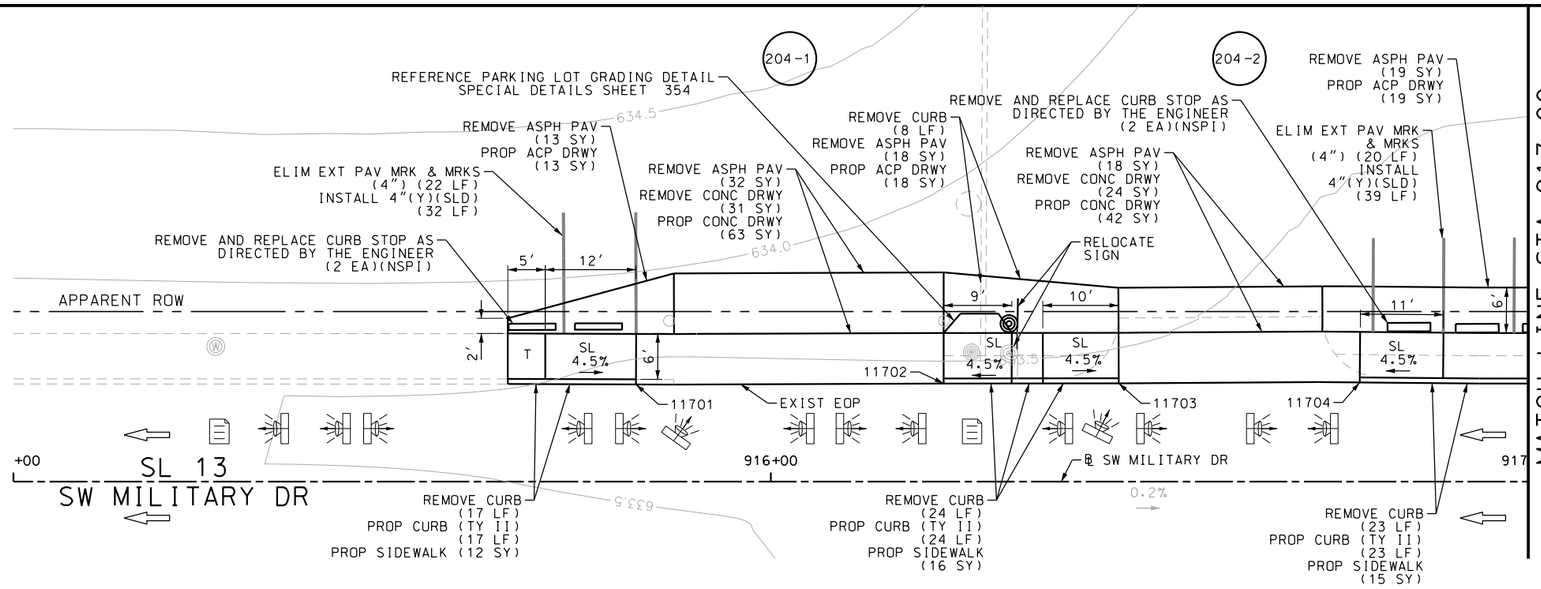
# SIDEWALK CONSTRUCTION PLAN

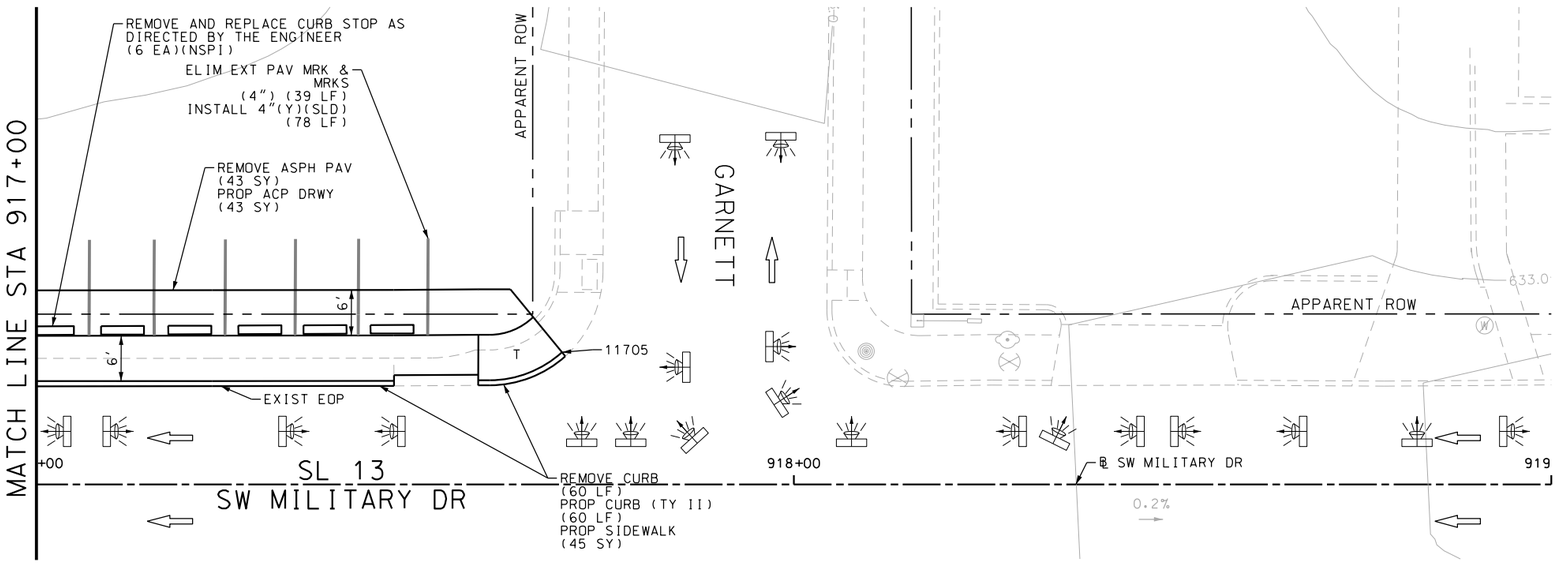
STA 911+50 TO STA 913+00

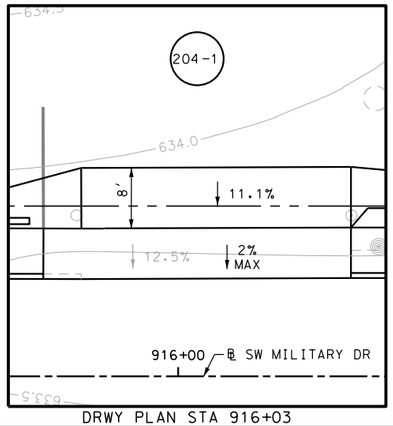
SHEET 35 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 203 |

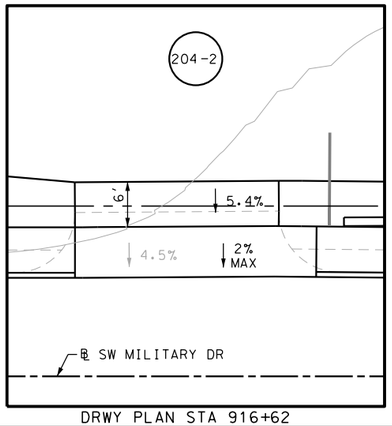
Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\113507*SMMilitaryB*WB27.dgn




DRWY PLAN STA 916+03




DRWY PLAN STA 916+62

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 55 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 132 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 143 |
| 0529-6002 | CONC CURB (TY II) | LF | 124 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 105 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 93 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 88 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 149 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 149 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 81 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 149 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 11701 | 13679918.18 | 2124463.63 | -- | ME |
| 11702 | 13679918.54 | 2124504.25 | -- | ME |
| 11703 | 13679918.70 | 2124527.35 | -- | ME |
| 11704 | 13679919.01 | 2124559.17 | -- | ME |
| 11705 | 13679923.88 | 2124650.79 | -- | ME |

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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

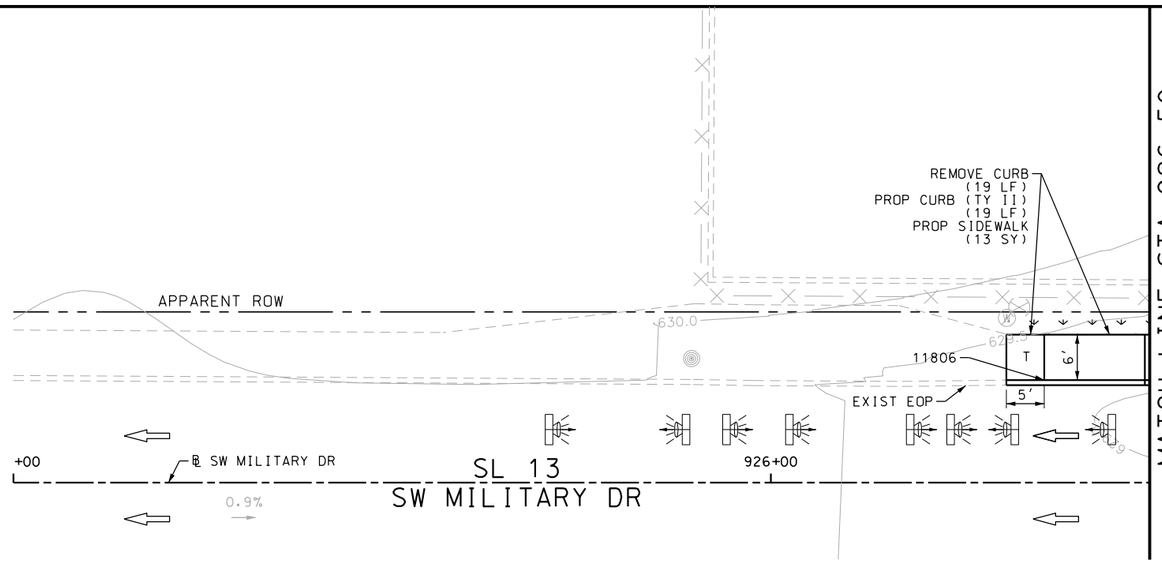
# SIDEWALK CONSTRUCTION PLAN
STA 915+00 TO STA 919+00

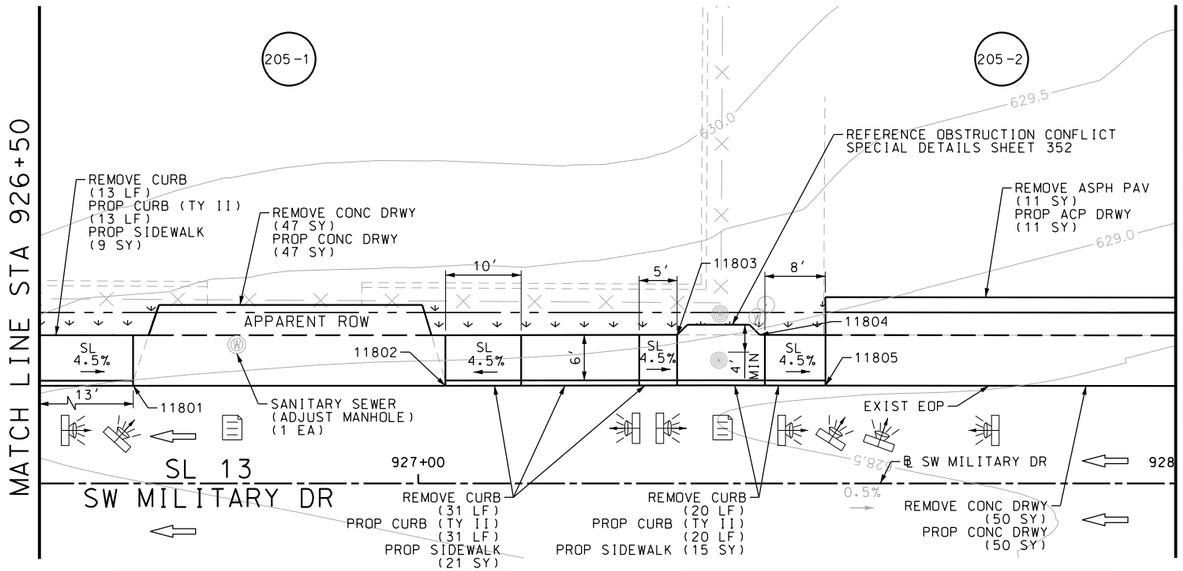
SHEET 36 OF 42

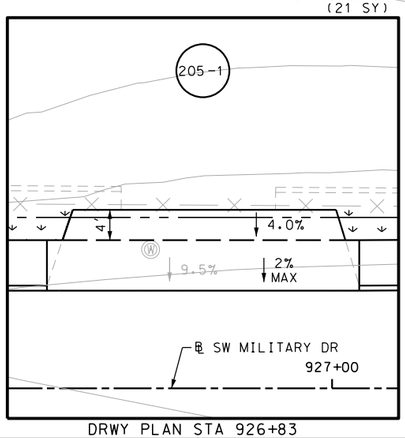
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 204 |

Plotted on: 4/1/2019

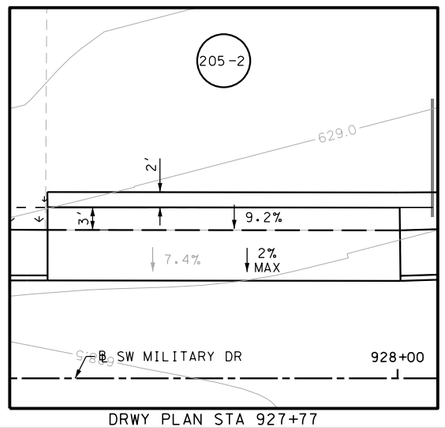
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*WB28.dgn




DRWY PLAN STA 926+83




DRWY PLAN STA 927+77

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 97 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 83 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 11 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 28 |
| 0162-6002 | BLOCK SODDING | SY | 28 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.44 |
| 0529-6002 | CONC CURB (TY II) | LF | 83 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 97 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 11 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 58 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 11801 | 13679924.60 | 2125543.78 | -- | ME |
| 11802 | 13679924.86 | 2125585.00 | -- | ME |
| 11803 | 13679931.74 | 2125615.55 | -- | ME |
| 11804 | 13679931.82 | 2125626.44 | -- | ME |
| 11805 | 13679925.18 | 2125635.19 | -- | ME |
| 11806 | 13679925.12 | 2125517.50 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

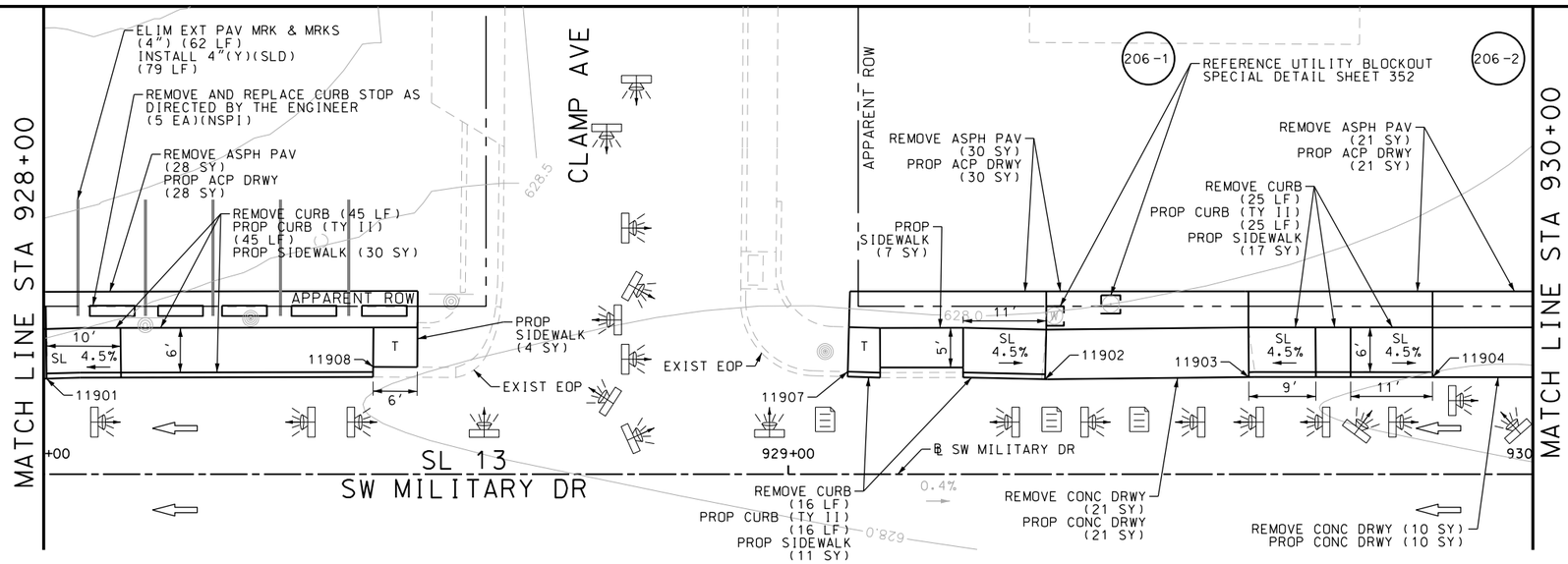
STA 925+00 TO STA 928+00

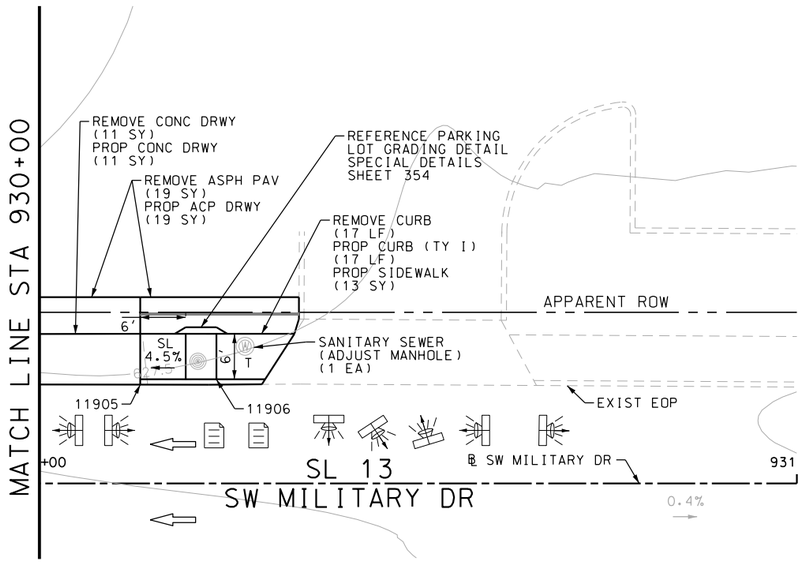
SHEET 37 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 205 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507+SWMilitaryB+WB29.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 42 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 103 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 98 |
| 0529-6001 | CONC CURB (TY I) | LF | 17 |
| 0529-6002 | CONC CURB (TY II) | LF | 86 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 42 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 98 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 82 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 79 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 79 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 62 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 79 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |

NOTES:
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DESIGN

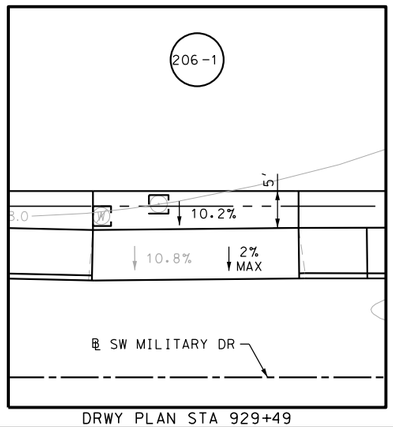
INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

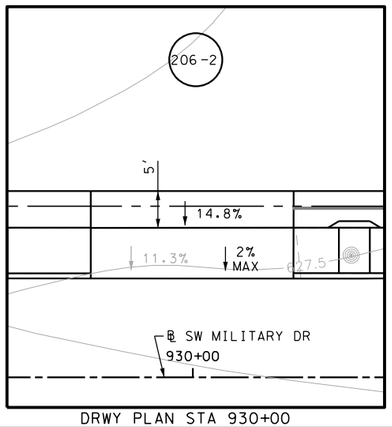
INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |



DRWY PLAN STA 929+49



DRWY PLAN STA 930+00

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 11901 | 13679925.40 | 2125681.80 | -- | ME |
| 11902 | 13679926.11 | 2125815.89 | -- | ME |
| 11903 | 13679926.55 | 2125843.26 | -- | ME |
| 11904 | 13679926.69 | 2125867.93 | -- | ME |
| 11905 | 13679926.83 | 2125894.70 | -- | ME |
| 11906 | 13679927.60 | 2125904.77 | -- | ME |
| 11907 | 13679926.96 | 2125789.38 | -- | ME |
| 11908 | 13679927.23 | 2125725.65 | -- | ME |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



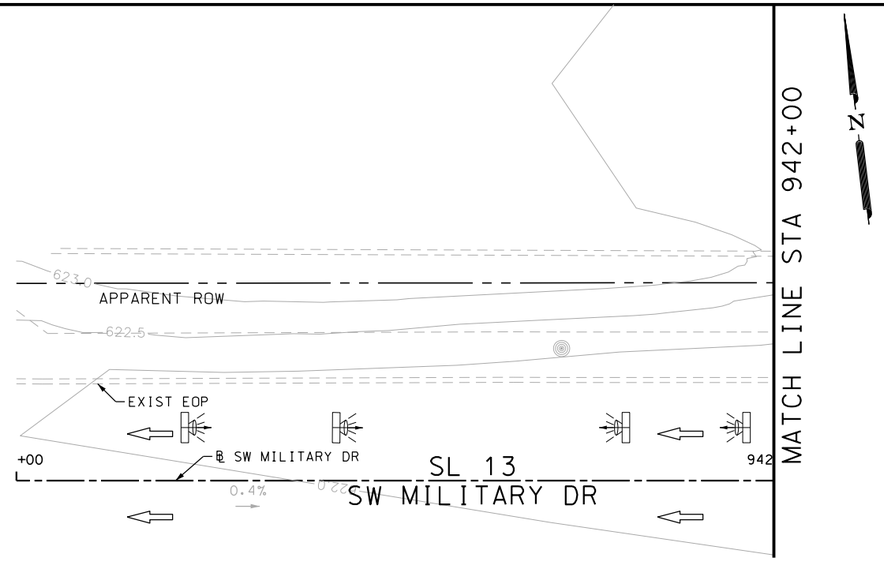
SL 13
SW MILITARY B

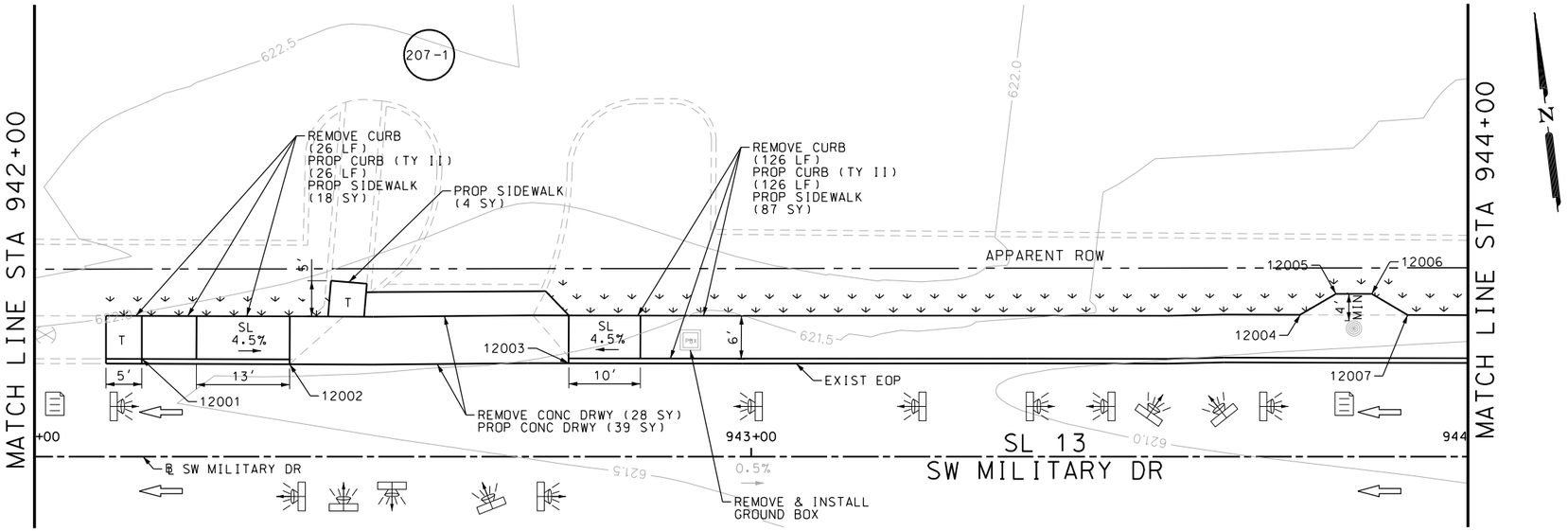
# SIDEWALK CONSTRUCTION PLAN
STA 928+00 TO STA 931+00

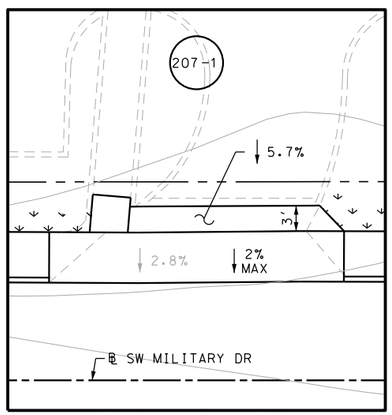
SHEET 38 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 206 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\113507+SMMilitaryB+WB30.dgn




DRWY PLAN STA 942+55

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 28 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 152 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 55 |
| 0162-6002 | BLOCK SODDING | SY | 55 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.86 |
| 0529-6002 | CONC CURB (TY II) | LF | 152 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 39 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 109 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 1 |
| 0624-6028 | REMOVE GROUND BOX | EA | 1 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 12001 | 13679934.53 | 2127096.35 | -- | ME |
| 12002 | 13679933.91 | 2127116.98 | -- | ME |
| 12003 | 13679934.27 | 2127155.91 | -- | ME |
| 12004 | 13679941.63 | 2127257.93 | -- | ME |
| 12005 | 13679944.59 | 2127262.91 | -- | ME |
| 12006 | 13679944.62 | 2127267.91 | -- | ME |
| 12007 | 13679941.69 | 2127272.92 | -- | ME |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

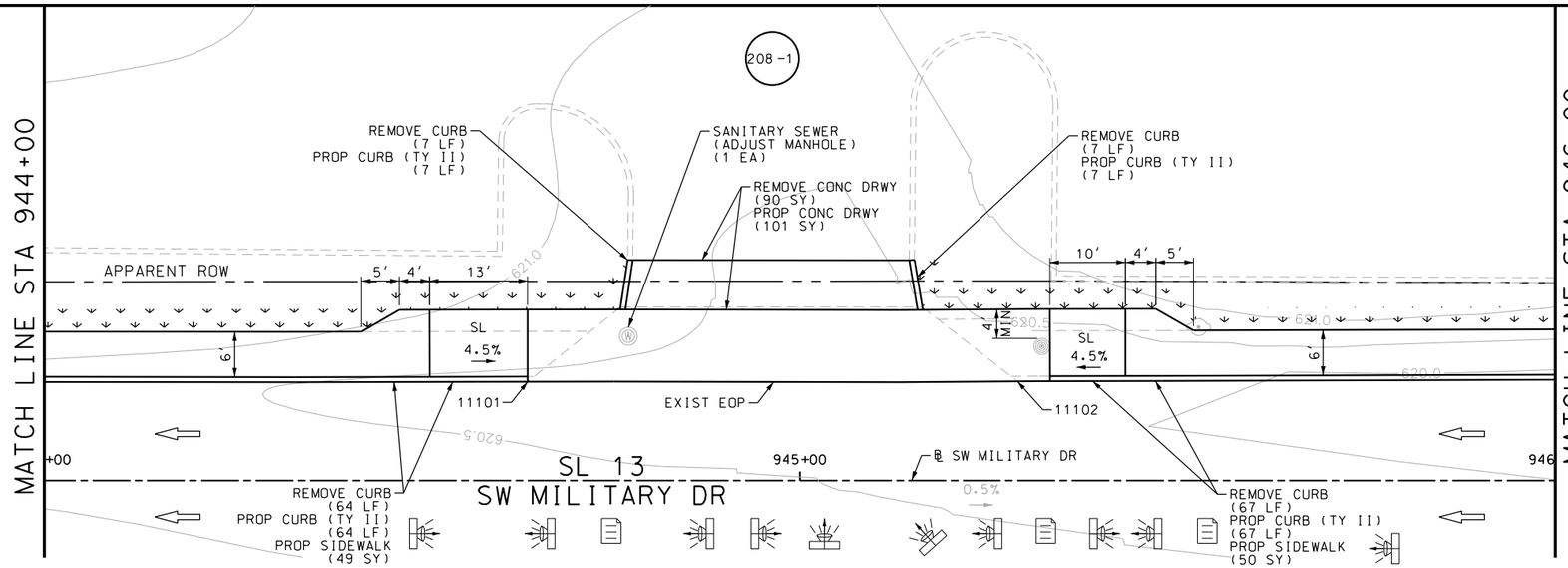
STA 941+00 TO STA 944+00

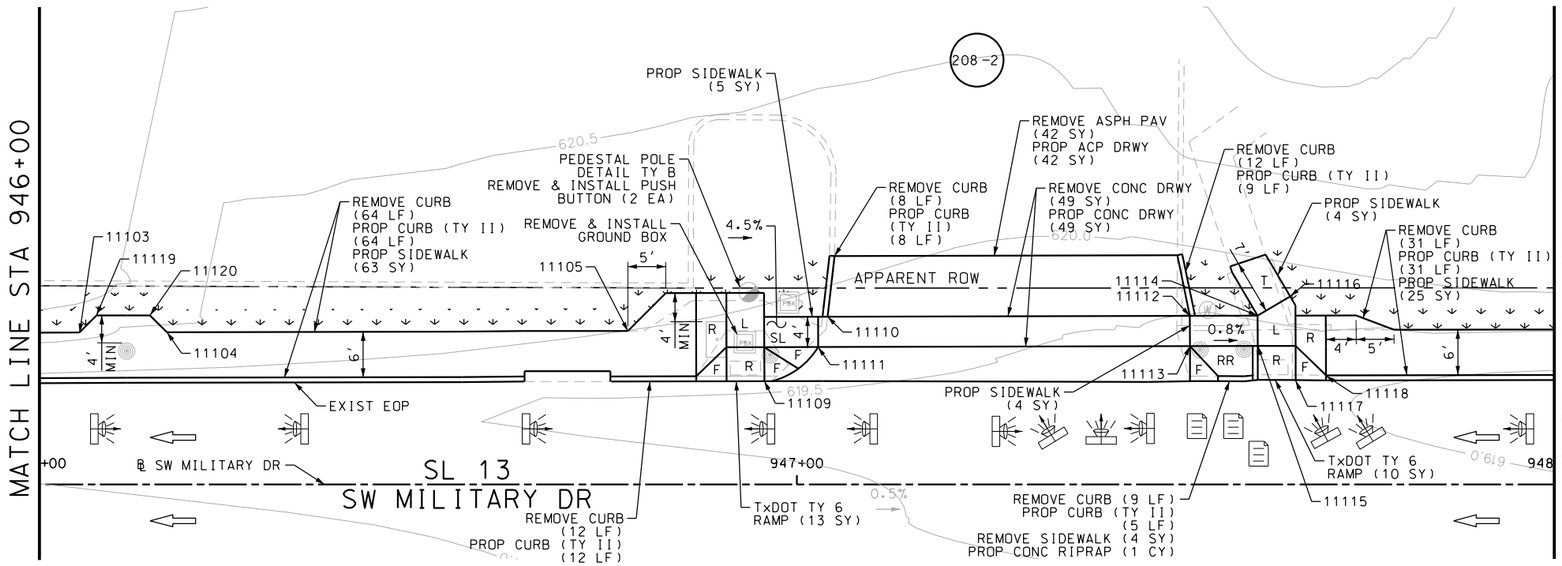
SHEET 39 OF 42

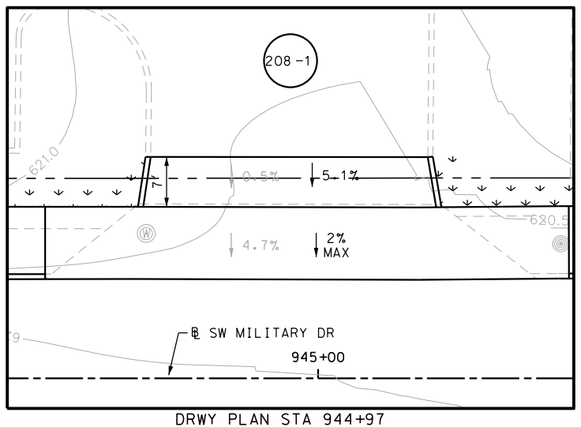
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 207 |

Plotted on: 4/1/2019

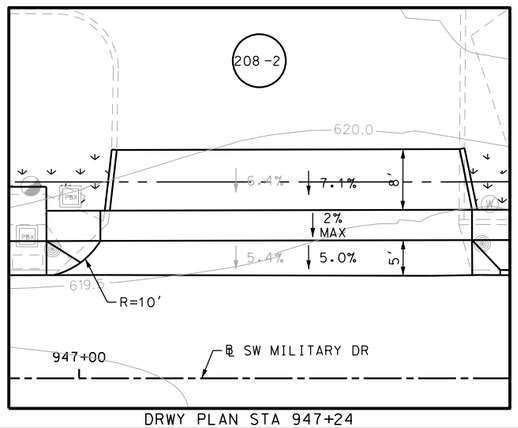
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\111307*SWMilitaryB*WB31.dgn




DRWY PLAN STA 944+97




DRWY PLAN STA 947+24

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 139 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 281 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 4 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 42 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 168 |
| 0162-6002 | BLOCK SODDING | SY | 168 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.62 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 1 |
| 0529-6002 | CONC CURB (TY II) | LF | 274 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 150 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 42 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 200 |
| 0531-6023 | CURB RAMPS (TY 6) | SY | 23 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 1 |
| 0624-6028 | REMOVE GROUND BOX | EA | 1 |
| 0688-6002 | PED DETECT PUSH BUTTON (STANDARD) | EA | 2 |
| 0690-6030 | REMOVAL OF PEDESTRIAN PUSH BUTTONS | EA | 2 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 11101 | 13679935.46 | 2127345.34 | -- | ME |
| 11102 | 13679935.90 | 2127410.19 | -- | ME |
| 11103 | 13679943.26 | 2127486.63 | -- | ME |
| 11104 | 13679943.36 | 2127498.17 | -- | ME |
| 11105 | 13679943.89 | 2127559.02 | -- | ME |
| 11109 | 13679937.37 | 2127577.08 | -- | ME |
| 11110 | 13679945.94 | 2127585.38 | 619.66 | PROP |
| 11111 | 13679941.92 | 2127584.15 | 619.59 | PROP |
| 11112 | 13679946.33 | 2127633.20 | 619.47 | PROP |
| 11113 | 13679942.33 | 2127633.23 | 619.40 | PROP |
| 11114 | 13679946.40 | 2127642.16 | 619.39 | PROP |
| 11115 | 13679942.40 | 2127642.19 | 619.33 | PROP |
| 11116 | 13679948.97 | 2127646.45 | 619.40 | PROP |
| 11117 | 13679937.94 | 2127647.22 | -- | ME |
| 11118 | 13679938.59 | 2127651.21 | -- | ME |
| 11119 | 13679945.52 | 2127488.85 | -- | ME |
| 11120 | 13679945.59 | 2127495.91 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

# SIDEWALK CONSTRUCTION PLAN

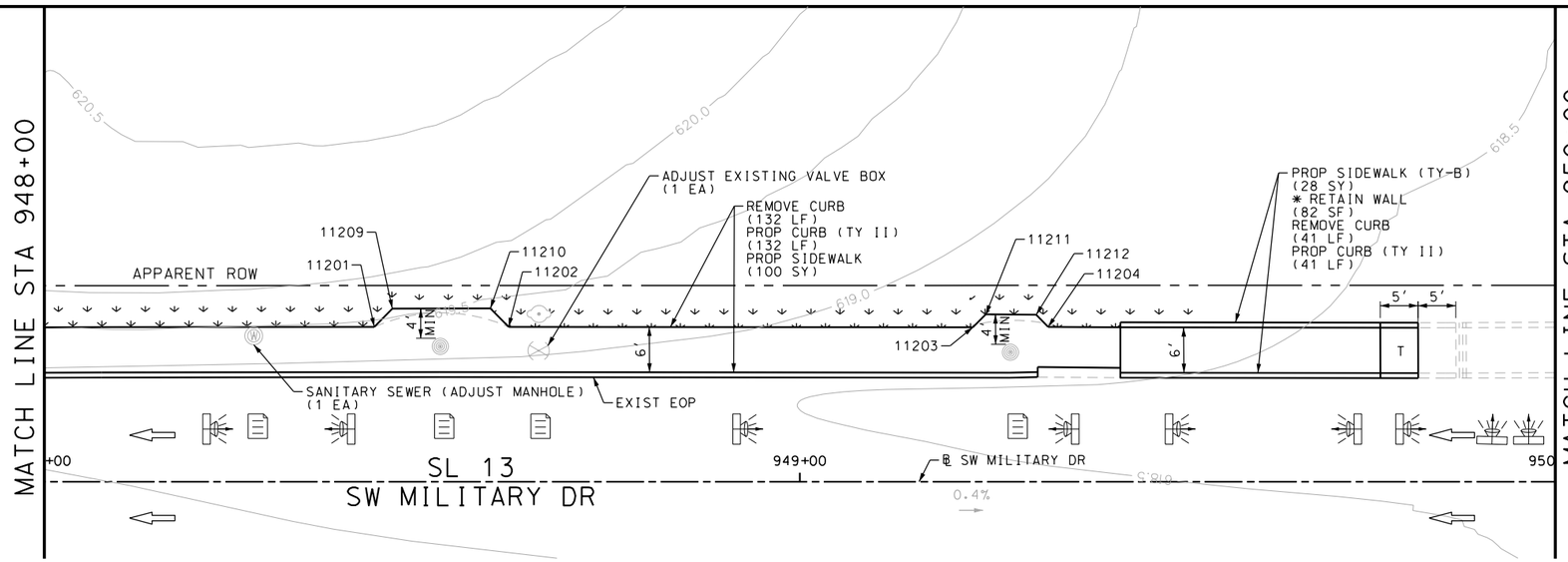
STA 944+00 TO STA 948+00

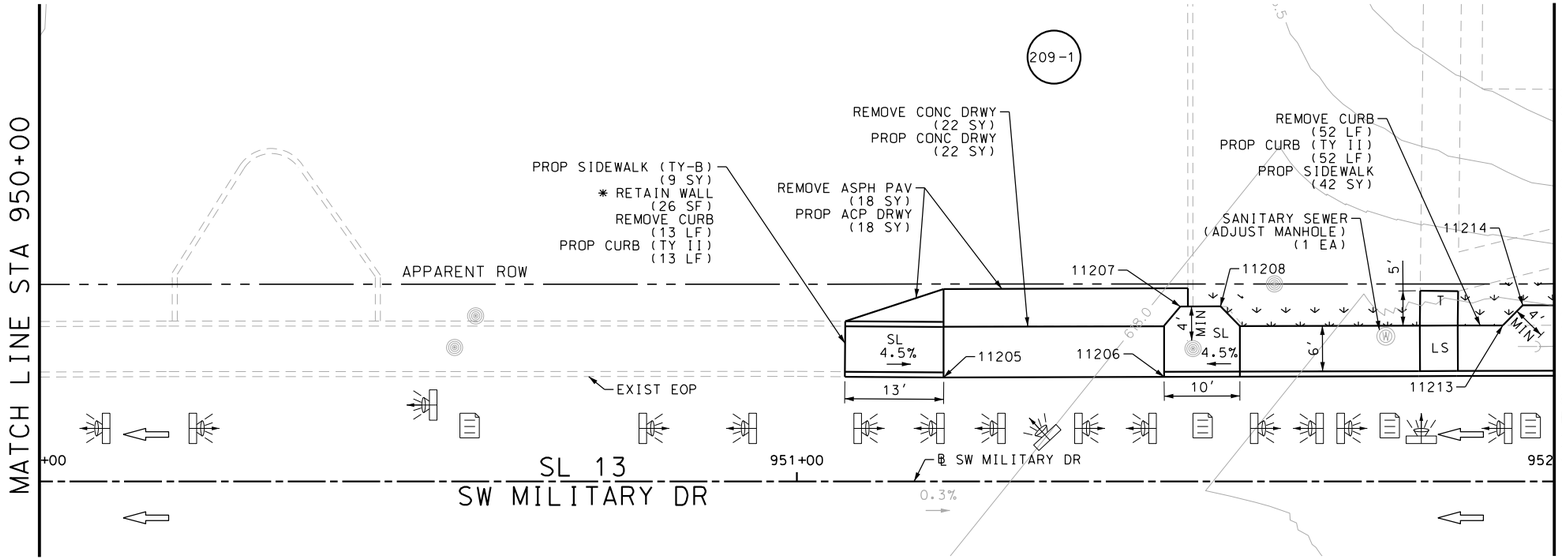
SHEET 40 OF 42

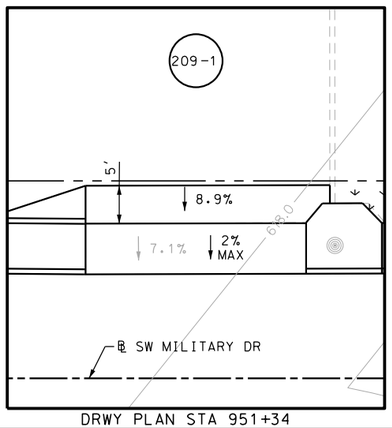
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 208 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\SMMilitaryB\1113507*SMMilitaryB*WB32.dgn




DRWY PLAN STA 951+34

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 22 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 238 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 18 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 50 |
| 0162-6002 | BLOCK SODDING | SY | 50 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.78 |
| 0529-6002 | CONC CURB (TY II) | LF | 238 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 22 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 18 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 142 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 37 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 2 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 11201 | 13679945.13 | 2127725.00 | -- | ME |
| 11202 | 13679945.24 | 2127742.80 | -- | ME |
| 11203 | 13679945.55 | 2127804.23 | -- | ME |
| 11204 | 13679945.66 | 2127814.20 | -- | ME |
| 11205 | 13679939.98 | 2128000.73 | -- | ME |
| 11206 | 13679940.23 | 2128029.86 | -- | ME |
| 11207 | 13679949.53 | 2128031.94 | -- | ME |
| 11208 | 13679949.57 | 2128037.24 | -- | ME |
| 11209 | 13679947.55 | 2127727.39 | -- | ME |
| 11210 | 13679947.65 | 2127740.36 | -- | ME |
| 11211 | 13679947.27 | 2127805.93 | -- | ME |
| 11212 | 13679947.25 | 2127812.61 | -- | ME |
| 11213 | 13679947.28 | 2128074.51 | -- | ME |
| 11214 | 13679949.96 | 2128077.14 | -- | ME |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

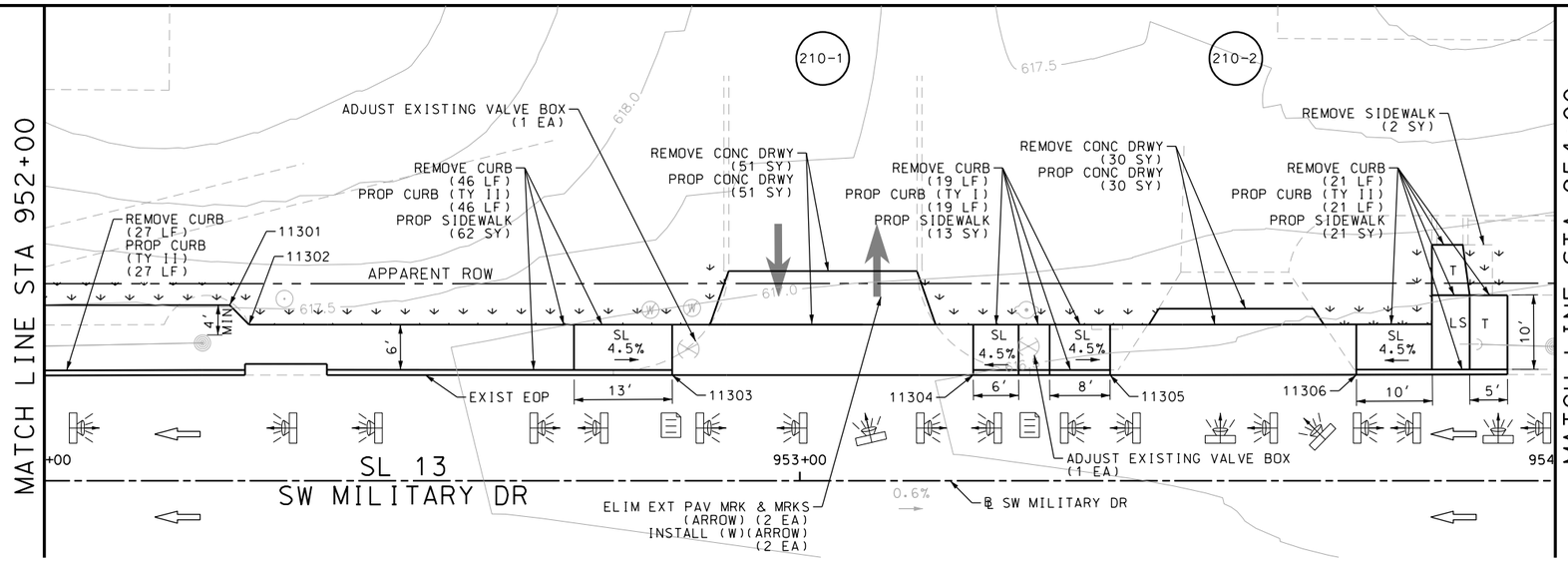
# SIDEWALK CONSTRUCTION PLAN

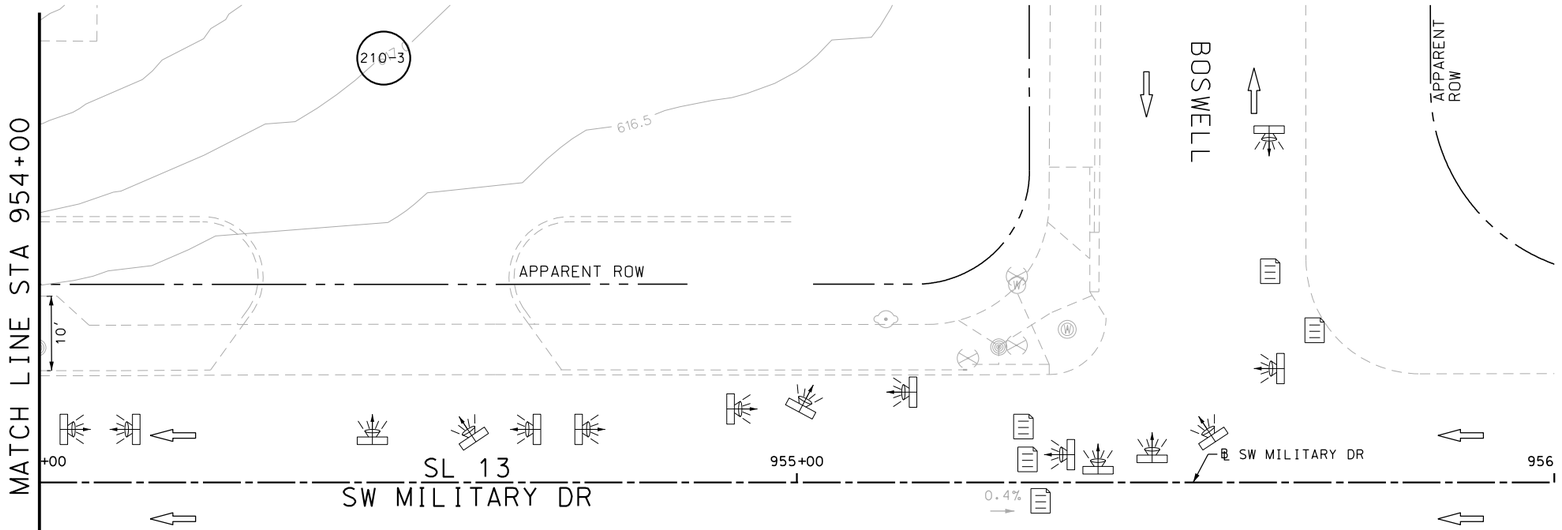
STA 948+00 TO STA 952+00

SHEET 41 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 209 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\111507*SWMilitaryB*WB33.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 124 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 204 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 10 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 28 |
| 0162-6002 | BLOCK SODDING | SY | 28 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.44 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 2 |
| 0529-6001 | CONC CURB (TY I) | LF | 19 |
| 0529-6002 | CONC CURB (TY II) | LF | 185 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 124 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 156 |
| 0531-6018 | CURB RAMPS (TY 1) | SY | 10 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 13 |
| 0666-6054 | REFL PAV MRK TY I (W)(ARROW)(100MIL) | EA | 2 |
| 0666-6231 | PAVEMENT SEALER (ARROW) | EA | 2 |
| 0677-6008 | ELIM EXT PAV MRK & MRKS (ARROW) | EA | 2 |
| 0678-6009 | PAV SURF PREP FOR MRK (ARROW) | EA | 2 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 4 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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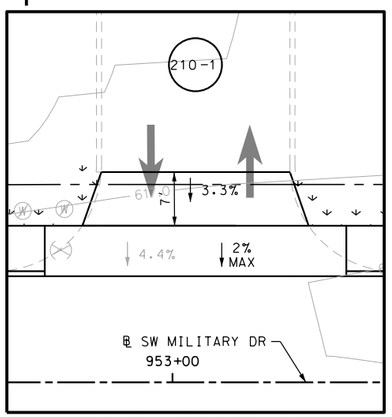
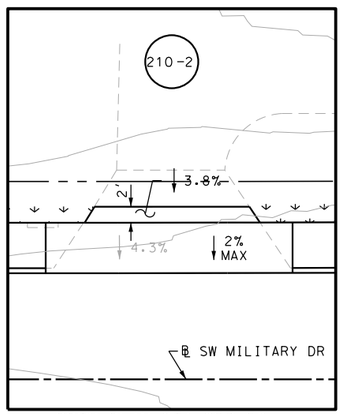
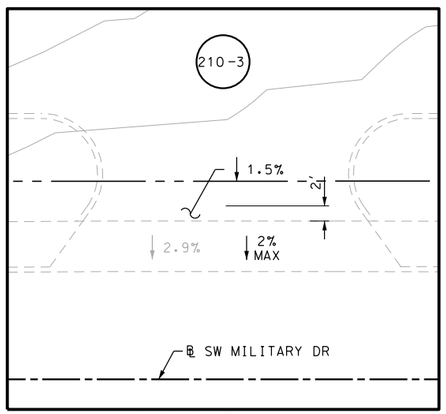


DRWY PLAN STA 953+03



DRWY PLAN STA 953+58



DRWY PLAN STA 954+46

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 11301 | 13679950.12 | 2128105.83 | -- | ME |
| 11302 | 13679947.56 | 2128108.42 | -- | ME |
| 11303 | 13731141.77 | 2089135.44 | -- | ME |
| 11304 | 13679941.45 | 2128204.31 | -- | ME |
| 11305 | 13679941.55 | 2128222.42 | -- | ME |
| 11306 | 13679941.79 | 2128255.03 | -- | ME |
| 11307 | 13679942.20 | 2128303.31 | -- | ME |
| 11308 | 13679942.52 | 2128350.29 | -- | ME |
| 11310 | 13679944.25 | 2128406.95 | -- | ME |
| 11311 | 13679946.40 | 2128406.94 | -- | ME |
| 11312 | 13679949.49 | 2128402.00 | -- | ME |
| 11313 | 13679949.52 | 2128411.46 | -- | ME |
| 11314 | 13679952.61 | 2128407.53 | -- | ME |
| 11315 | 13679943.97 | 2128418.50 | -- | ME |
| 11316 | 13679953.93 | 2128414.94 | -- | ME |
| 11317 | 13679956.54 | 2128410.62 | -- | ME |
| 11318 | 13679965.35 | 2128419.90 | -- | ME |
| 11319 | 13679965.31 | 2128414.54 | -- | ME |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
SW MILITARY B

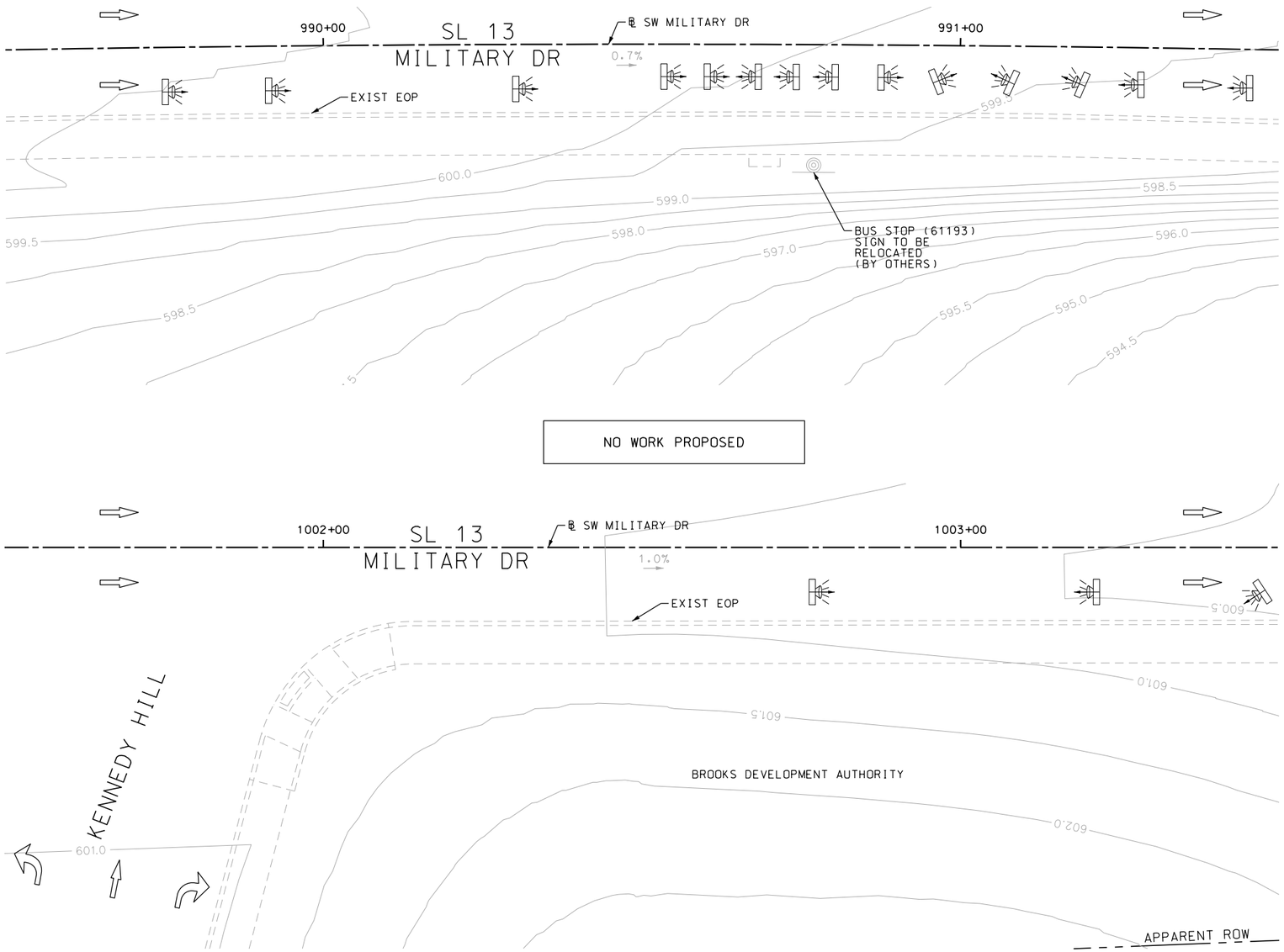
# SIDEWALK CONSTRUCTION PLAN

STA 952+00 TO END PROJECT

SHEET 42 OF 42

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 210 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\SWMilitaryB\1113507*SWMilitaryB*WB34.dgn




NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 13
MILITARY DRIVE

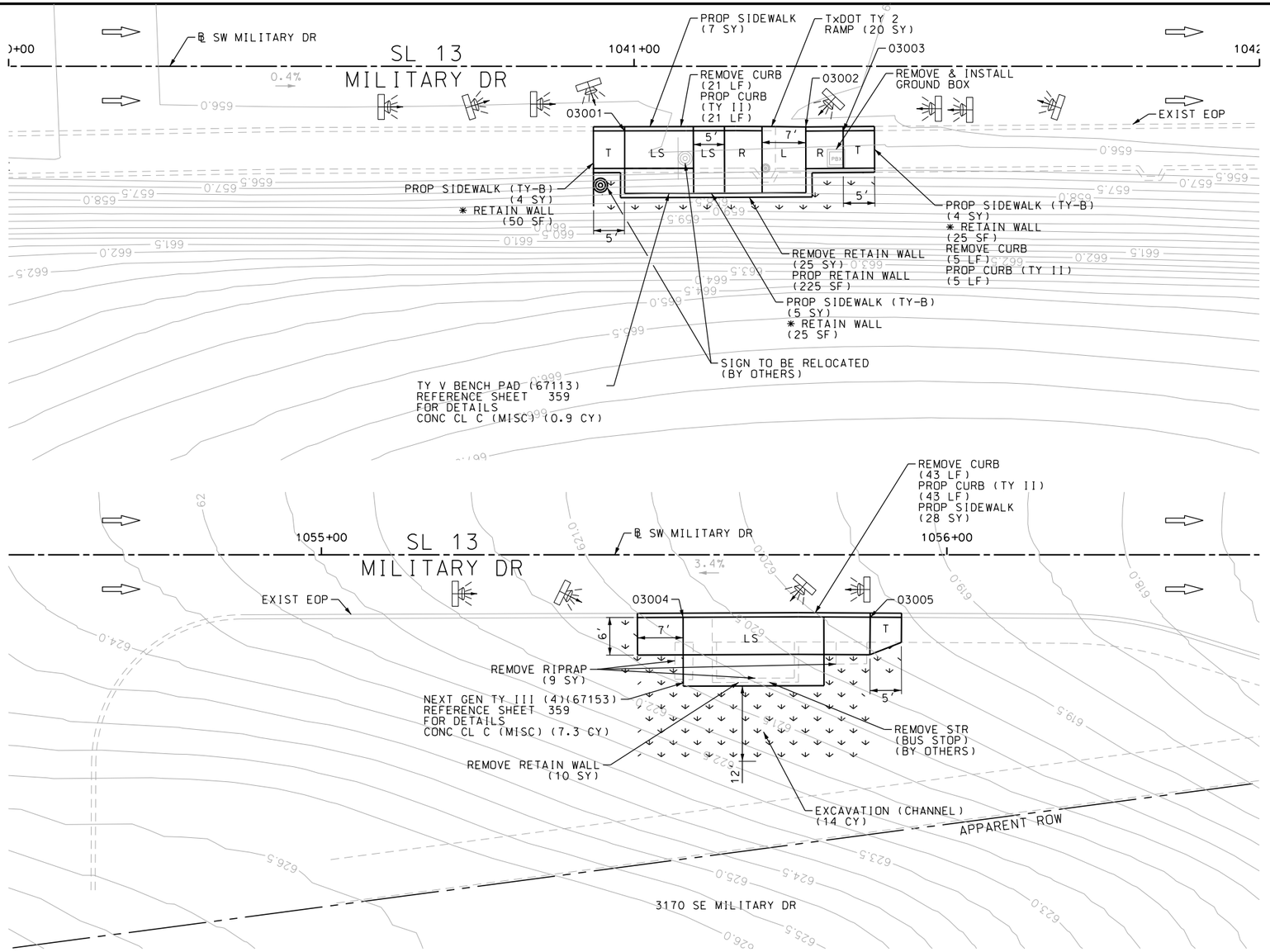
# SIDEWALK CONSTRUCTION PLAN

BEGIN PROJECT TO STA 991+50
STA 1001+50 TO STA 1003+50

SHEET 1 OF 5

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 211 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Military Dr\1113507*MilitaryDr*01.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 9 |
| 0104-6024 | REMOVING CONC (RETAINING WALLS) | SY | 35 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 69 |
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 14 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 83 |
| 0162-6002 | BLOCK SODDING | SY | 83 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.29 |
| 0420-6074 | CL C CONC (MISC) | CY | 8.2 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 225 |
| 0529-6002 | CONC CURB (TY II) | LF | 69 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 35 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 20 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 13 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 1 |
| 0624-6028 | REMOVE GROUND BOX | EA | 1 |

NOTES:
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1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 03001 | 13678138.45 | 2147070.17 | -- | ME |
| 03002 | 13678139.22 | 2147099.11 | -- | ME |
| 03003 | 13678138.63 | 2147105.11 | -- | ME |
| 03004 | 13678146.15 | 2148534.49 | -- | ME |
| 03005 | 13678145.58 | 2148559.41 | -- | ME |

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
MILITARY DRIVE

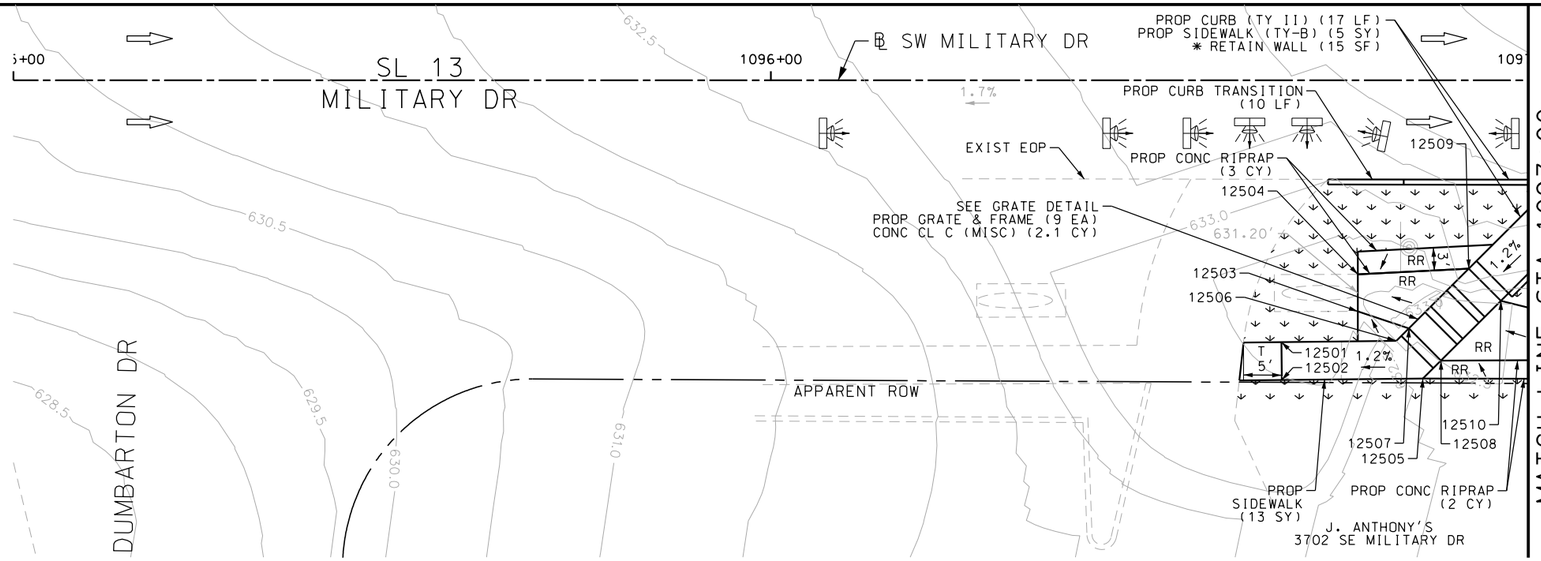
# SIDEWALK CONSTRUCTION PLAN

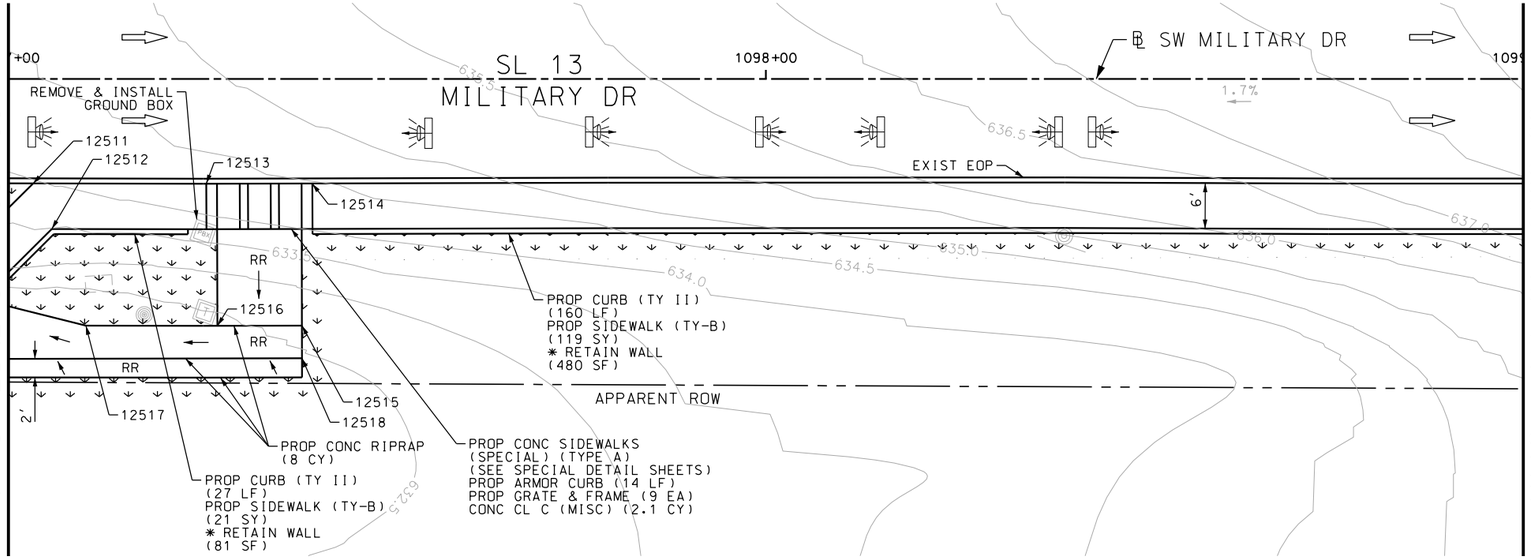
STA 1040+00 TO STA 1042+00
STA 1054+50 TO STA 1056+50



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 212 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Military Dr\1113507*MilitaryDr*02.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 162 |
| 0162-6002 | BLOCK SODDING | SY | 162 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.53 |
| 0420-6074 | CL C CONC (MISC) | CY | 4.2 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 13 |
| 0471-6003 | GRATE & FRAME | EA | 18 |
| 0529-6002 | CONC CURB (TY II) | LF | 214 |
| 0529-6020 | CONC CURB & GUTTER (ARMOR CURB) | LF | 14 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 13 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 145 |
| 0624-6010 | GROUND BOX TY D (162922)W/APRON | EA | 1 |
| 0624-6028 | REMOVE GROUND BOX | EA | 1 |

NOTES:
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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

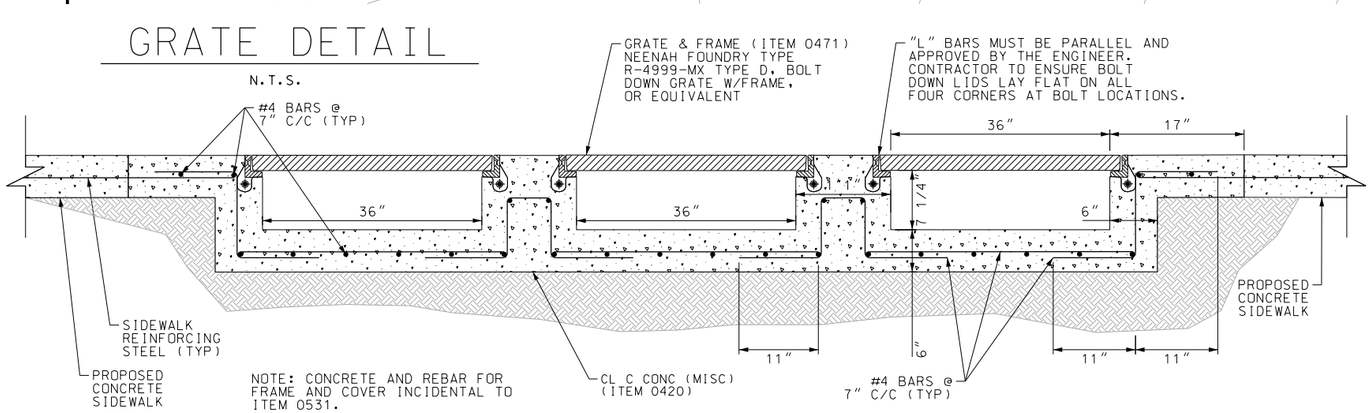
REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

## GRATE DETAIL

N.T.S.




| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 12501 | 13678991.23 | 2152520.24 | 634.14 | PROP |
| 12502 | 13678986.51 | 2152521.87 | 634.20 | PROP |
| 12503 | 13678998.29 | 2152528.50 | -- | ME |
| 12504 | 13679002.91 | 2152526.95 | -- | ME |
| 12505 | 13678992.61 | 2152539.48 | 633.42 | PROP |
| 12506 | 13678996.20 | 2152534.56 | 633.36 | PROP |
| 12507 | 13678998.30 | 2152535.62 | 631.47 | PROP |
| 12508 | 13678995.62 | 2152540.98 | 631.52 | PROP |
| 12509 | 13679008.29 | 2152540.61 | 631.58 | PROP |
| 12510 | 13679005.61 | 2152545.97 | 631.63 | PROP |
| 12511 | 13679022.31 | 2152547.61 | 634.75 | PROP |
| 12512 | 13679017.41 | 2152551.87 | 634.84 | PROP |
| 12513 | 13679029.56 | 2152569.30 | -- | ME |
| 12514 | 13679034.05 | 2152582.56 | -- | ME |
| 12515 | 13679015.82 | 2152587.24 | 632.00 | PROP |
| 12516 | 13679012.24 | 2152576.66 | 631.89 | PROP |
| 12517 | 13679006.74 | 2152560.20 | 631.76 | PROP |
| 12518 | 13679011.75 | 2152588.62 | 632.00 | PROP |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
MILITARY DRIVE

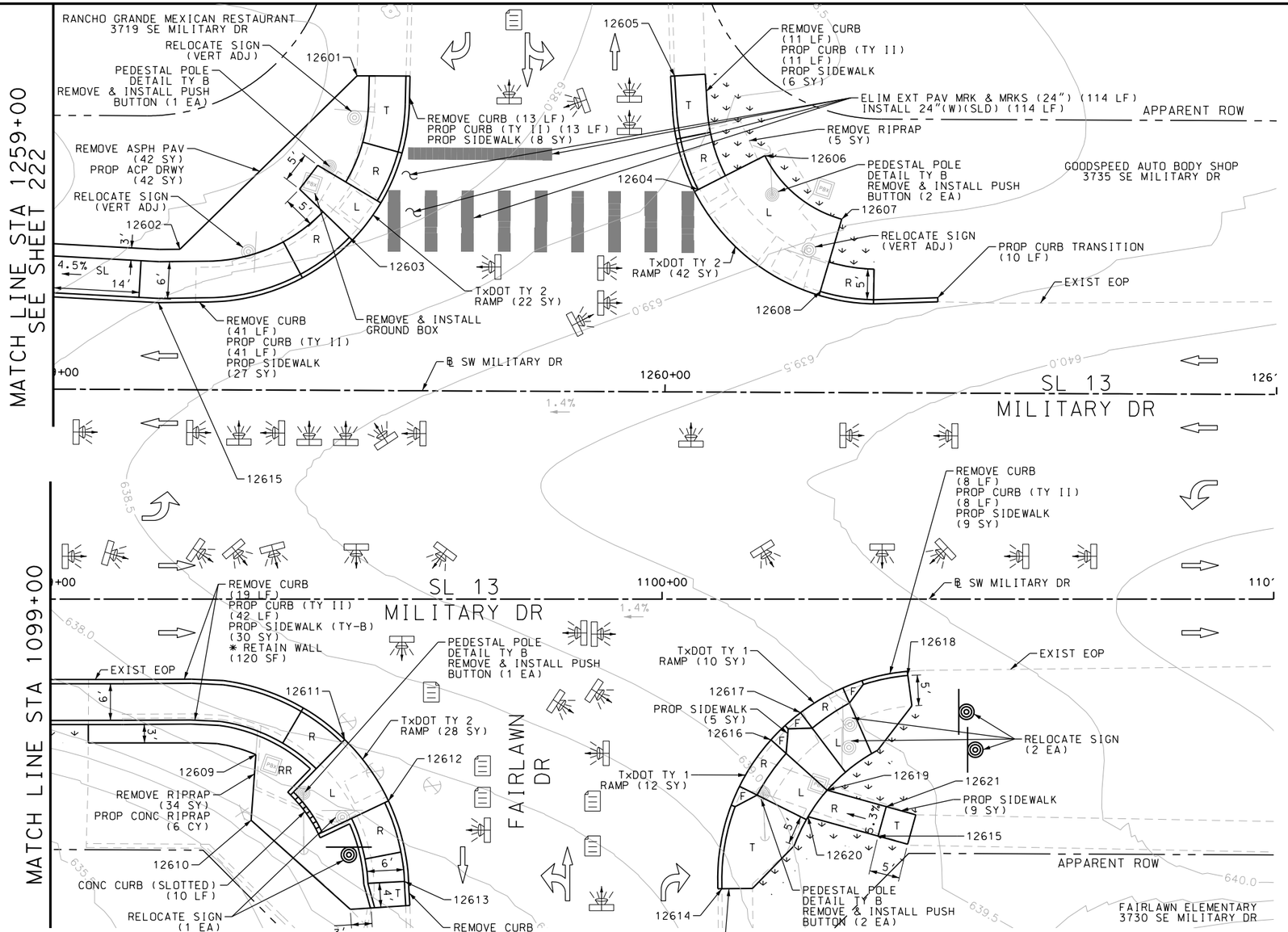
# SIDEWALK CONSTRUCTION PLAN
STA 1095+00 TO STA 1099+00

SHEET 3 OF 5

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 213 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Military Dr\111507*MilitaryDr*05.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 39 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 115 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 42 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 44 |
| 0162-6002 | BLOCK SODDING | SY | 44 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.69 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 6 |
| 0529-6002 | CONC CURB (TY II) | LF | 148 |
| 0529-6012 | CONC CURB (SLOTTED) | LF | 10 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 42 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 80 |
| 0531-6018 | CURB RAMPS (TY 1) | SY | 22 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 92 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 36 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 3 |
| 0624-6028 | REMOVE GROUND BOX | EA | 3 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 6 |
| 0666-6048 | REFL PAV MRK TY I (W)24"(SLD)(100MIL) | LF | 114 |
| 0666-6230 | PAVEMENT SEALER 24" | LF | 114 |
| 0677-6007 | ELIM EXT PAV MRK & MRKS (24") | LF | 114 |
| 0678-6008 | PAV SURF PREP FOR MRK (24") | LF | 114 |
| 0688-6002 | PED DETECT PUSH BUTTON (STANDARD) | EA | 6 |
| 0690-6030 | REMOVAL OF PEDESTRIAN PUSH BUTTONS | EA | 6 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 12601 | 13679195.02 | 2152750.06 | -- | ME |
| 12602 | 13679158.95 | 2152731.63 | -- | ME |
| 12603 | 13679169.32 | 2152757.86 | -- | ME |
| 12604 | 13679194.68 | 2152808.38 | -- | ME |
| 12605 | 13679211.53 | 2152799.30 | -- | ME |
| 12606 | 13679203.88 | 2152817.42 | -- | ME |
| 12607 | 13679198.04 | 2152832.64 | -- | ME |
| 12608 | 13679185.05 | 2152833.09 | -- | ME |
| 12609 | 13679084.58 | 2152769.67 | -- | ME |
| 12610 | 13679074.17 | 2152772.35 | -- | ME |
| 12611 | 13679091.54 | 2152782.66 | -- | ME |
| 12612 | 13679084.30 | 2152792.63 | -- | ME |
| 12613 | 13679072.65 | 2152799.30 | -- | ME |
| 12614 | 13679088.03 | 2152848.90 | -- | ME |
| 12615 | 13679104.32 | 2152870.36 | 639.04 | PROP |
| 12616 | 13679113.66 | 2152848.75 | -- | ME |
| 12617 | 13679119.42 | 2152851.92 | -- | ME |
| 12618 | 13679130.77 | 2152866.62 | -- | ME |
| 12619 | 13679108.78 | 2152860.07 | 638.47 | PROP |
| 12620 | 13679103.69 | 2152858.48 | 638.40 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 12621 | 13679109.32 | 2152870.10 | 639.00 | PROP |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
MILITARY DRIVE

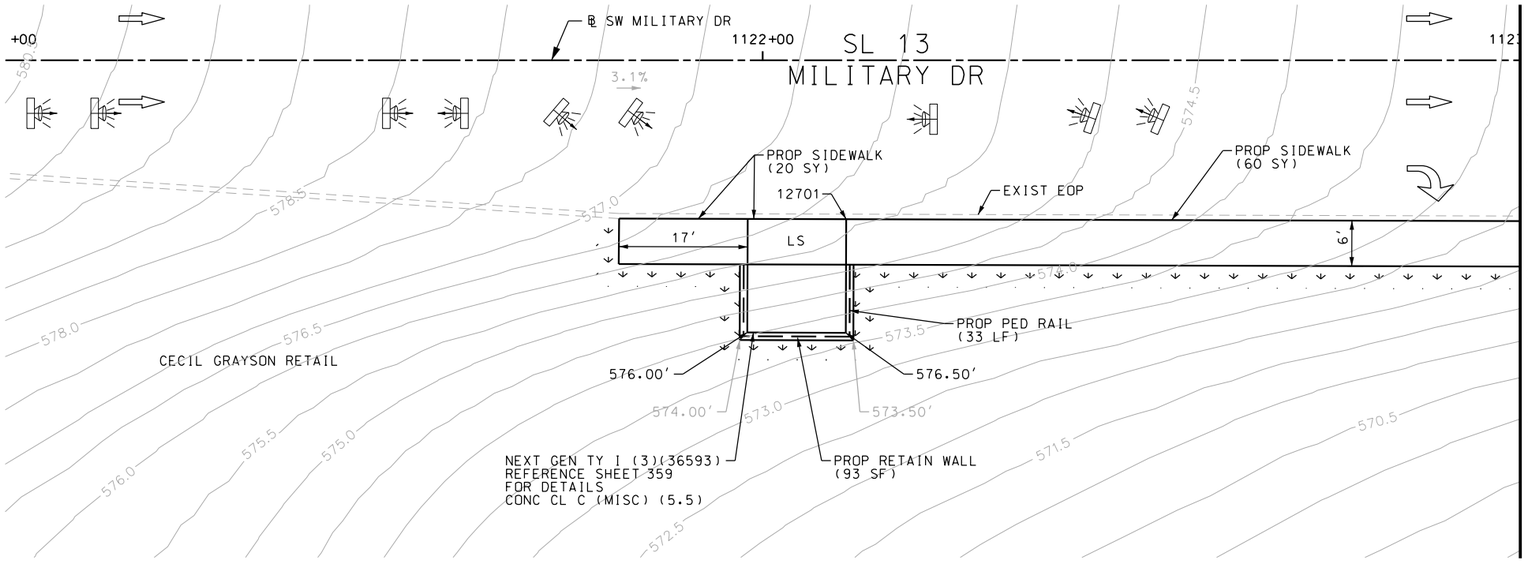
# SIDEWALK CONSTRUCTION PLAN

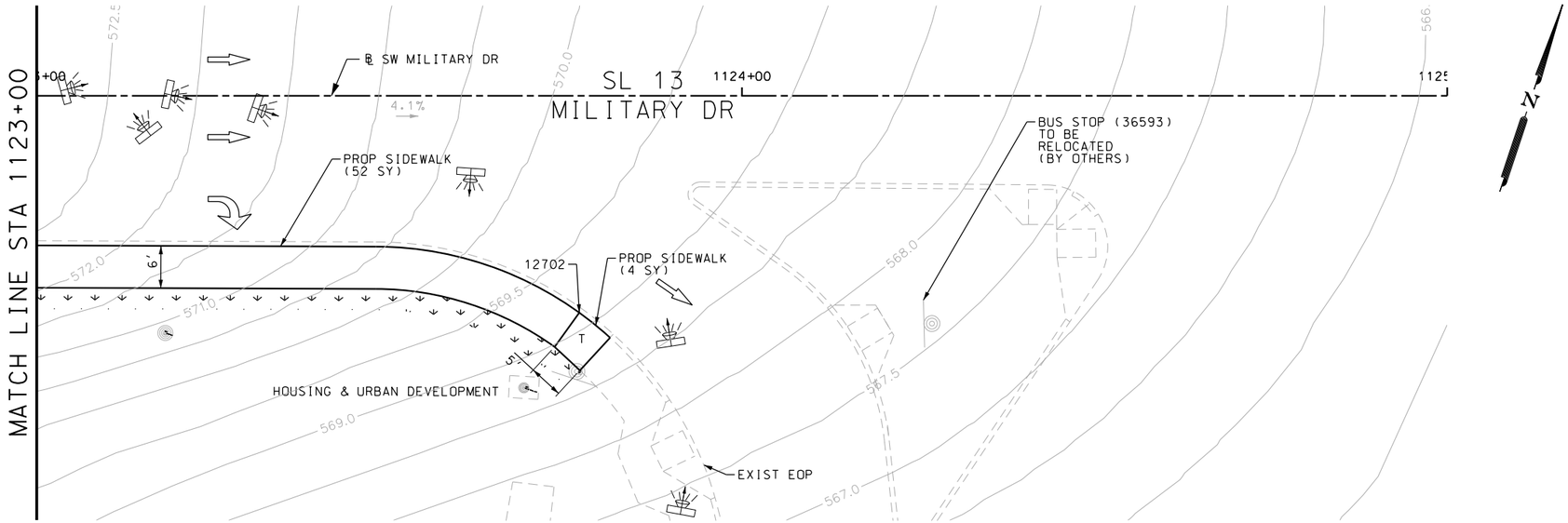
STA 1099+00 TO STA 1101+00
STA 1259+00 TO STA 1261+00

SHEET 4 OF 5

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 214 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Military Dr\1113507*MilitaryDr*06.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 76 |
| 0162-6002 | BLOCK SODDING | SY | 76 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.19 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 93 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 136 |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 12701 | 13679813.31 | 2154927.38 | -- | ME |
| 12702 | 13679856.81 | 2155087.79 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



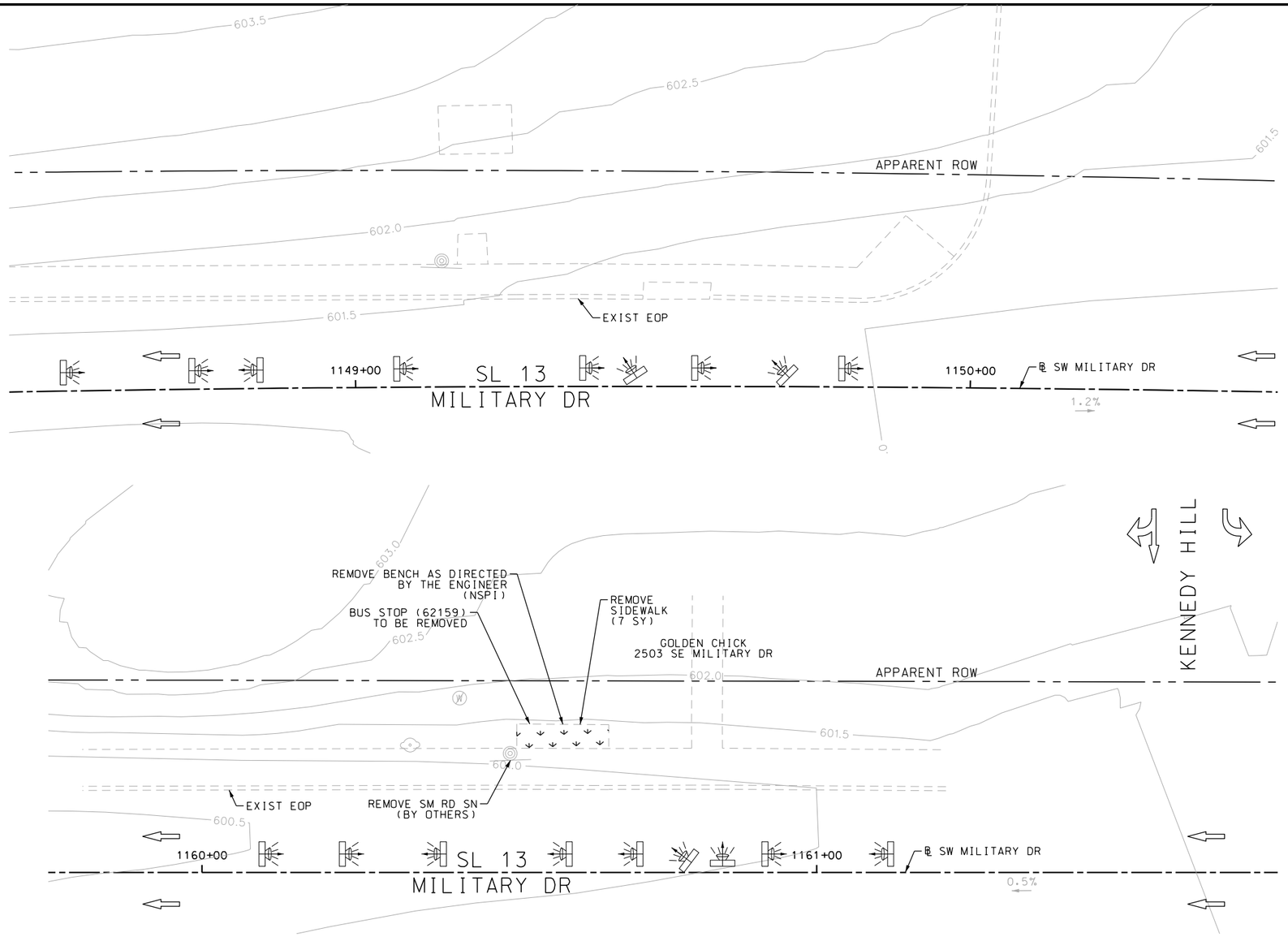
# SL 13
# MILITARY DRIVE
# SIDEWALK CONSTRUCTION PLAN
## STA 1122+50 TO END PROJECT

SHEET 5 OF 5

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 215 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Military Dr\1113507*MilitaryDr*07.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 7 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 7 |
| 0162-6002 | BLOCK SODDING | SY | 7 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.11 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 12801 | 13678286.10 | 2141866.86 | -- | ME |
| 12802 | 13678286.29 | 2141871.85 | -- | ME |

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# SL 13
# MILITARY DRIVE

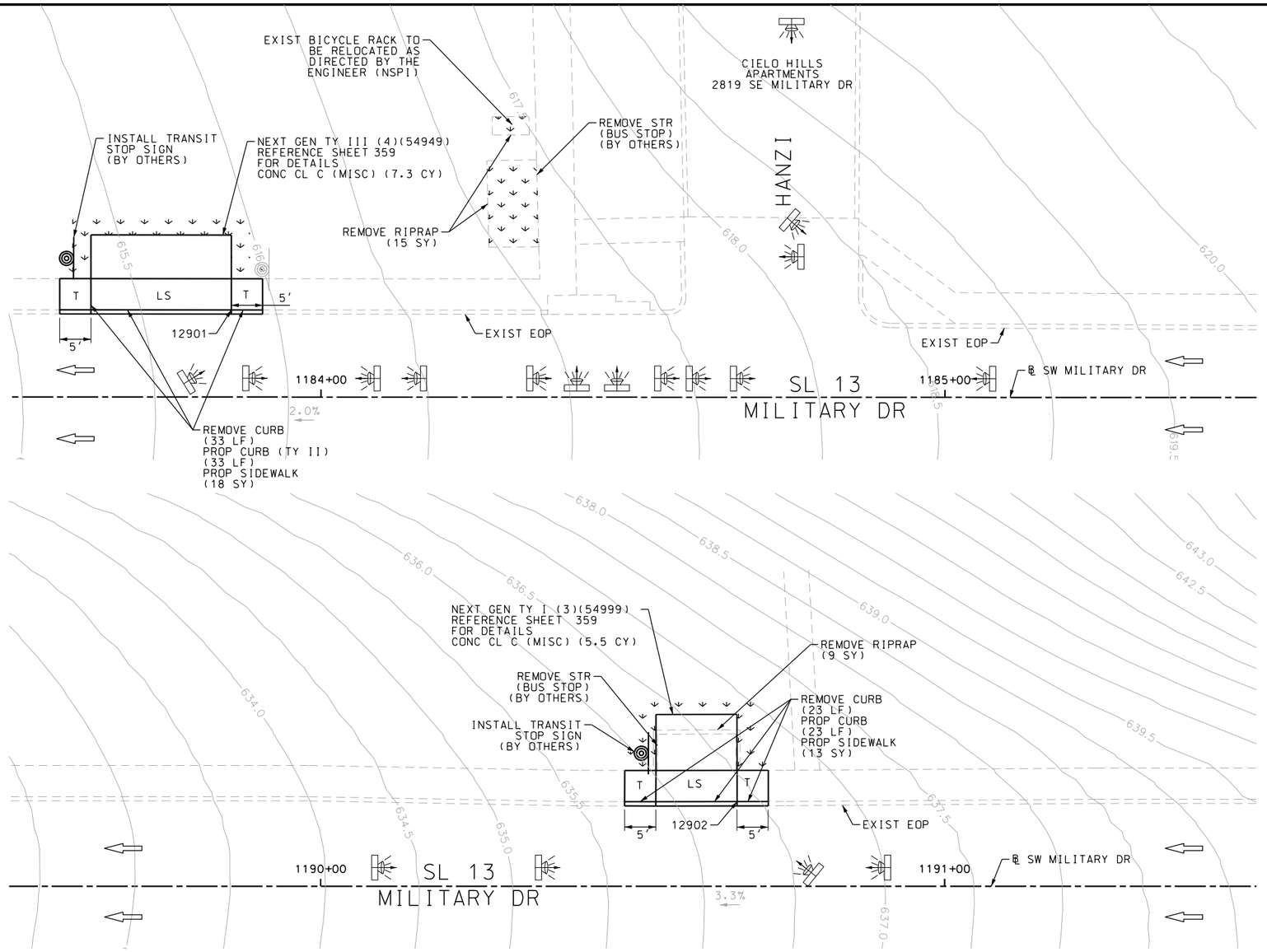
## SIDEWALK CONSTRUCTION PLAN

BEGIN PROJECT TO STA 1150+50
STA 1159+75 TO STA 1161+75



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 216 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Military Dr\1113507*MilitaryDr*WB01.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 24 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 56 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 43 |
| 0162-6002 | BLOCK SODDING | SY | 43 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.67 |
| 0420-6074 | CL C CONC (MISC) | CY | 12.8 |
| 0529-6002 | CONC CURB (TY II) | LF | 56 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 31 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 12901 | 13678215.48 | 2145335.18 | -- | ME |
| 12902 | 13678218.75 | 2146016.31 | -- | ME |

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
MILITARY DRIVE

# SIDEWALK CONSTRUCTION PLAN

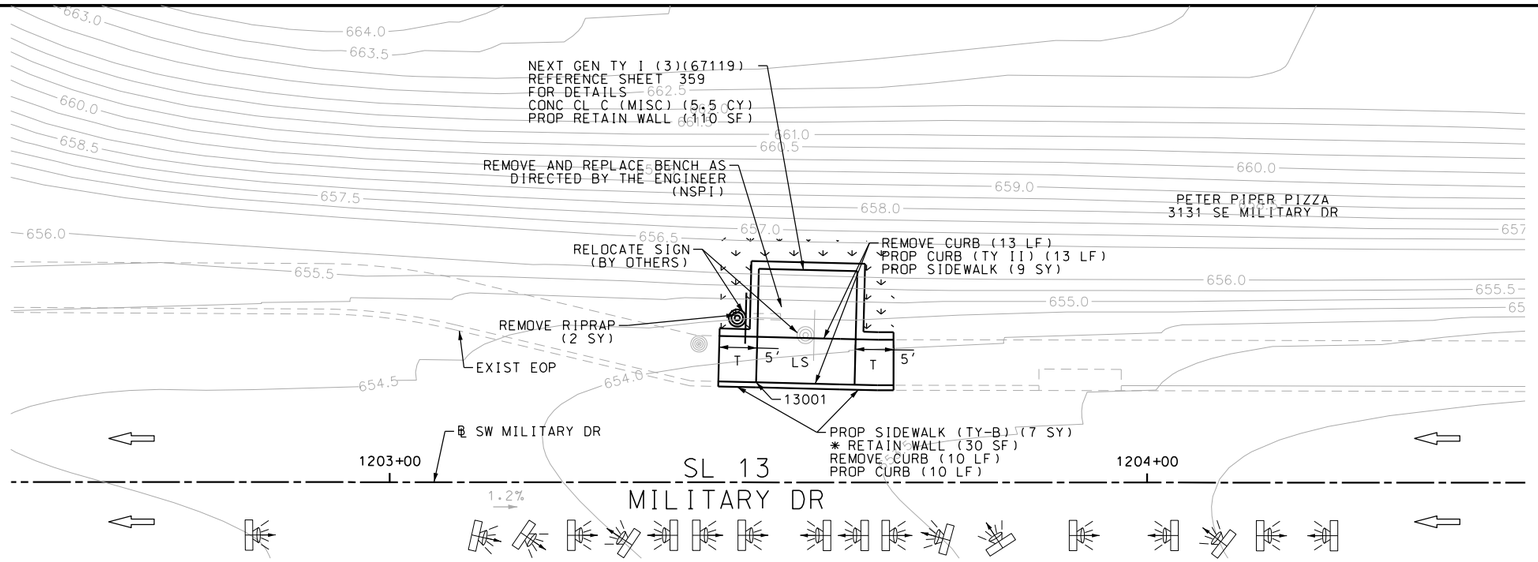
STA 1183+50 TO STA 1185+50
STA 1189+50 TO STA 1091+50

SHEET 2 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 217 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Military Dr\1113507*Military Dr*WB02.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 2 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 23 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 11 |
| 0162-6002 | BLOCK SODDING | SY | 11 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.17 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 110 |
| 0529-6002 | CONC CURB (TY II) | LF | 23 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 9 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 7 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 13001 | 13678225.29 | 2147297.91 | -- | ME |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 13
MILITARY DRIVE

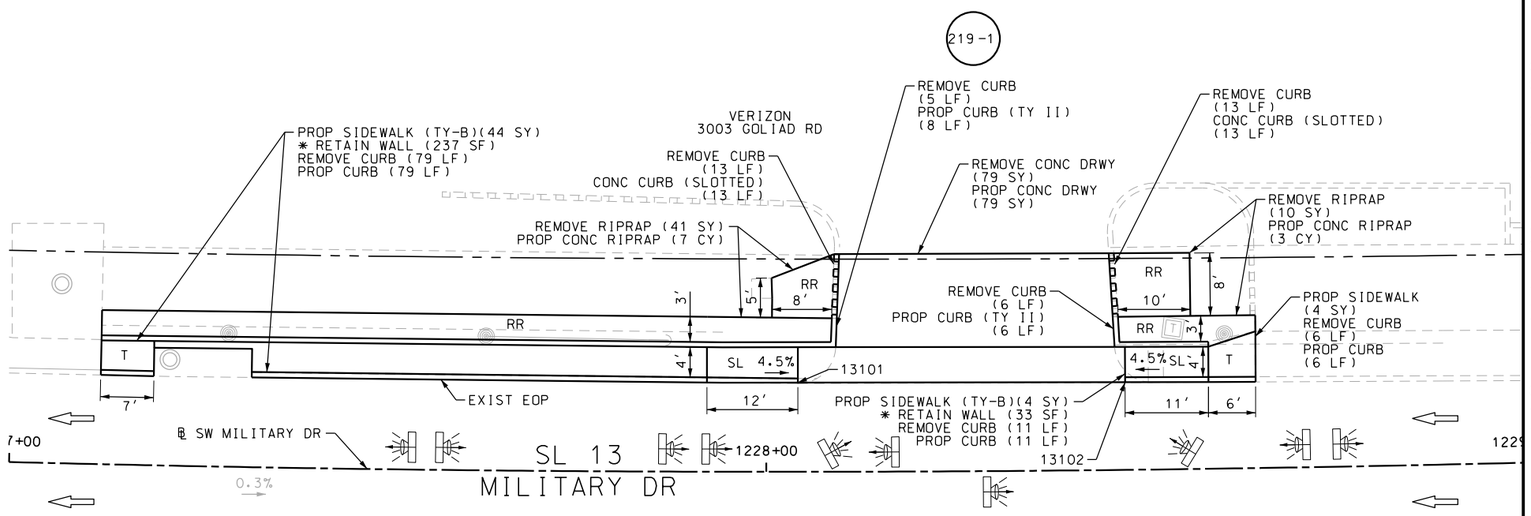
# SIDEWALK CONSTRUCTION PLAN
STA 1202+50 TO STA 1204+50

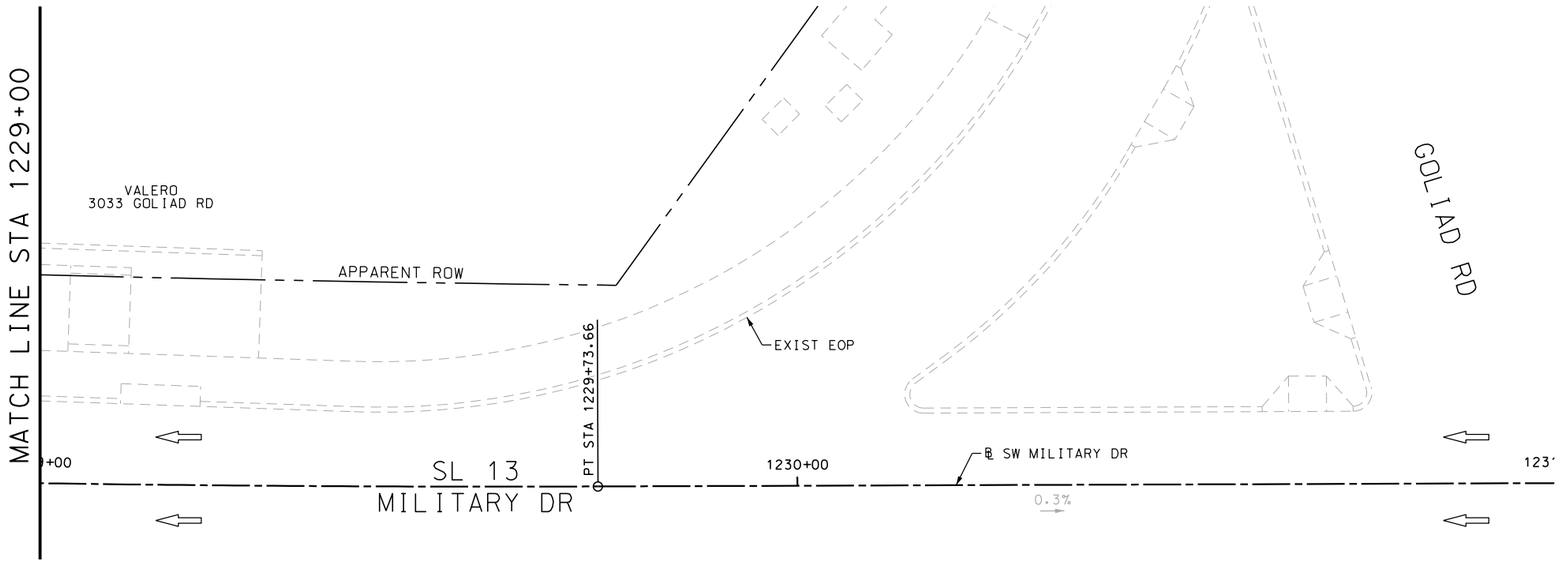
SHEET 3 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 218 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Military Dr\1113507*Military Dr*WB03.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 51 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 79 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 122 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 10 |
| 0529-6002 | CONC CURB (TY II) | LF | 96 |
| 0529-6012 | CONC CURB (SLOTTED) | LF | 26 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 79 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 4 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 48 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

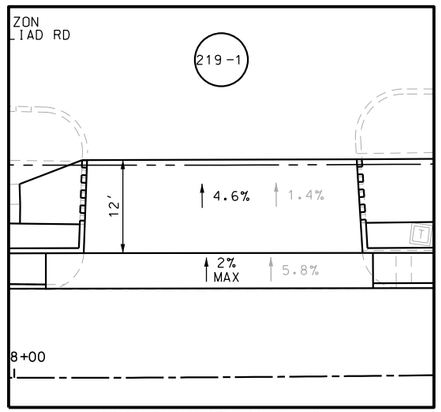


SL 13
MILITARY DRIVE

# SIDEWALK CONSTRUCTION PLAN
STA 1227+00 TO STA 1231+00

SHEET 4 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 219 |

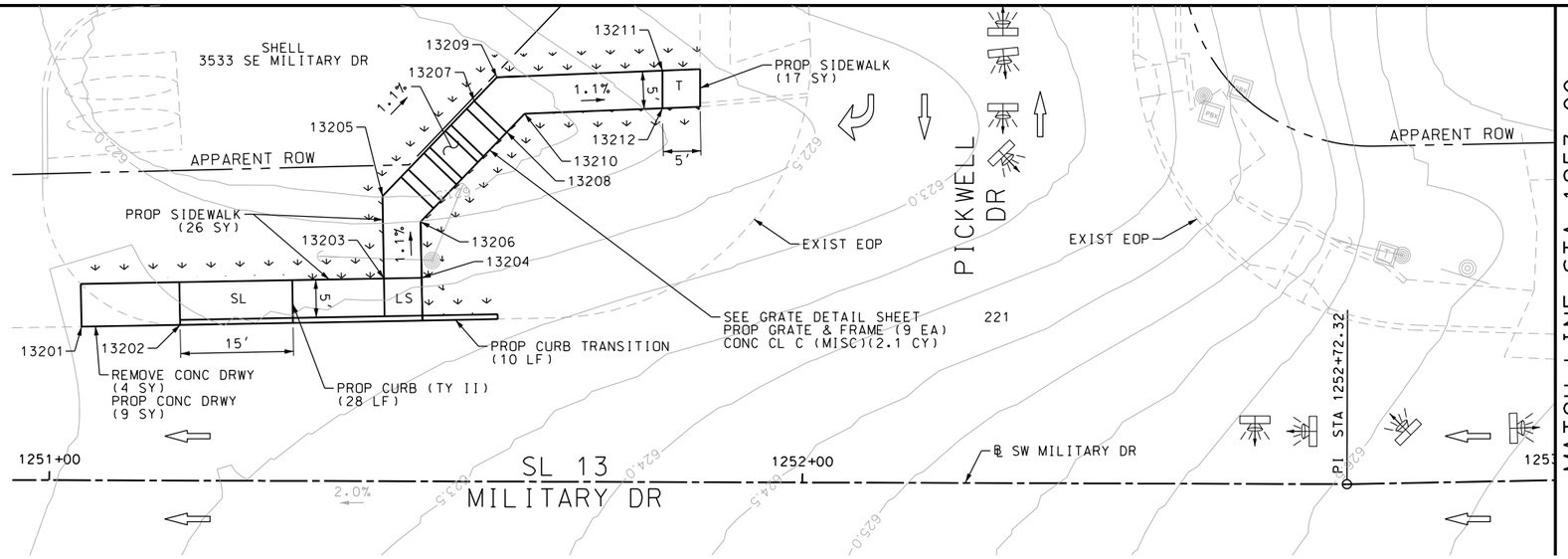


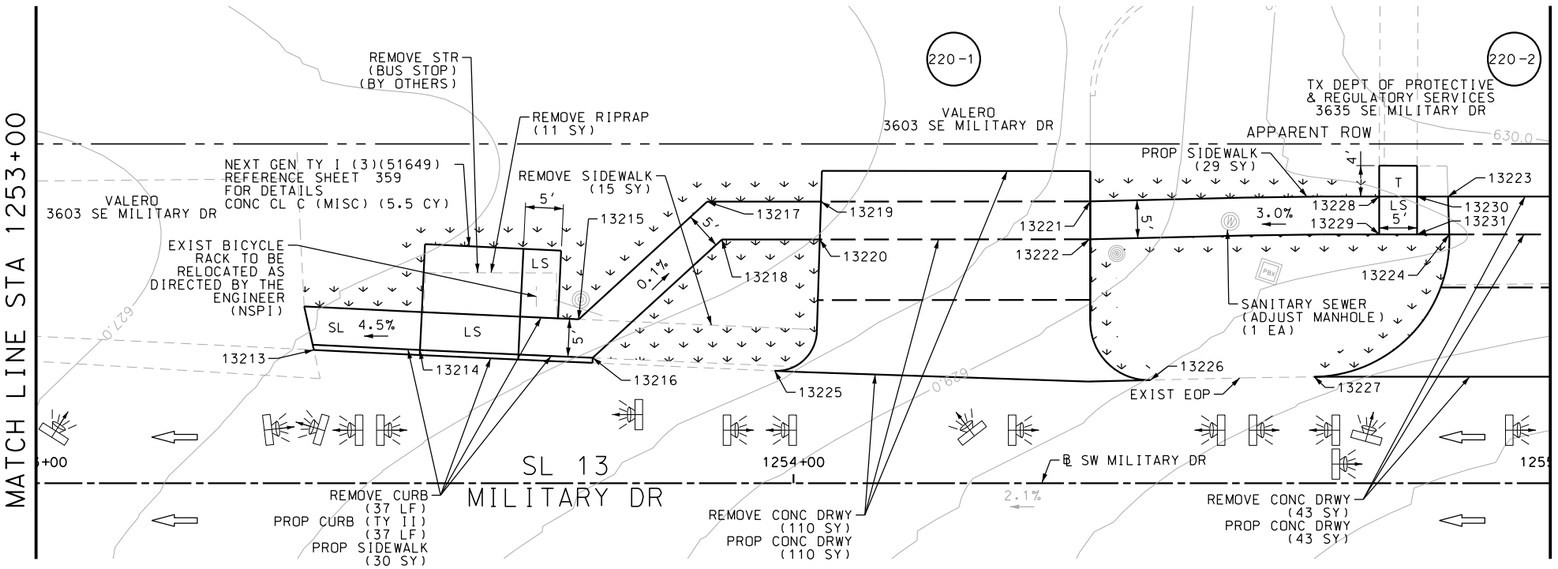
DRWY PLAN STA 1228+27

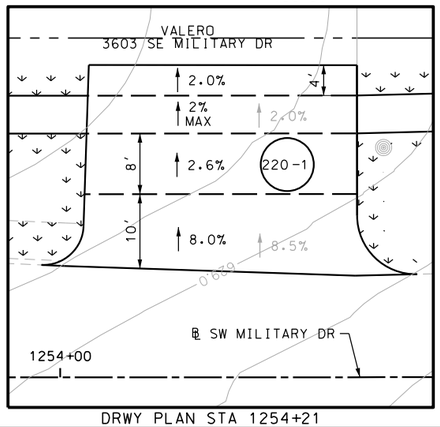
| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 13101 | 13678278.59 | 2149750.21 | -- | ME |
| 13102 | 13678284.34 | 2149793.02 | -- | ME |

Plotted on: 4/1/2019

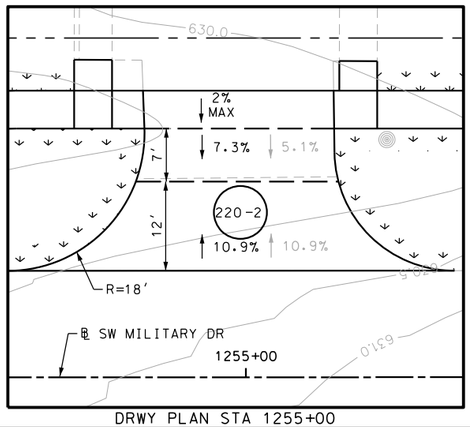
Design Filename: P:\111\35\07\design\Civil\Roadway\Military Dr\1113507*MilitaryDr*WB04.dgn




DRWY PLAN STA 1254+21




DRWY PLAN STA 1255+00

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 11 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 157 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 37 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 15 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 153 |
| 0162-6002 | BLOCK SODDING | SY | 153 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.39 |
| 0420-6074 | CL C CONC (MISC) | CY | 7.6 |
| 0471-6003 | GRATE & FRAME | EA | 9 |
| 0529-6002 | CONC CURB (TY II) | LF | 75 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 162 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 102 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
MILITARY DRIVE

# SIDEWALK CONSTRUCTION PLAN

STA 1251+00 TO STA 1255+00

SHEET 5 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 220 |

SEE SHEET 221 FOR POINT TABLE

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Military Dr\1113507*MilitaryDr*WB05.dgn

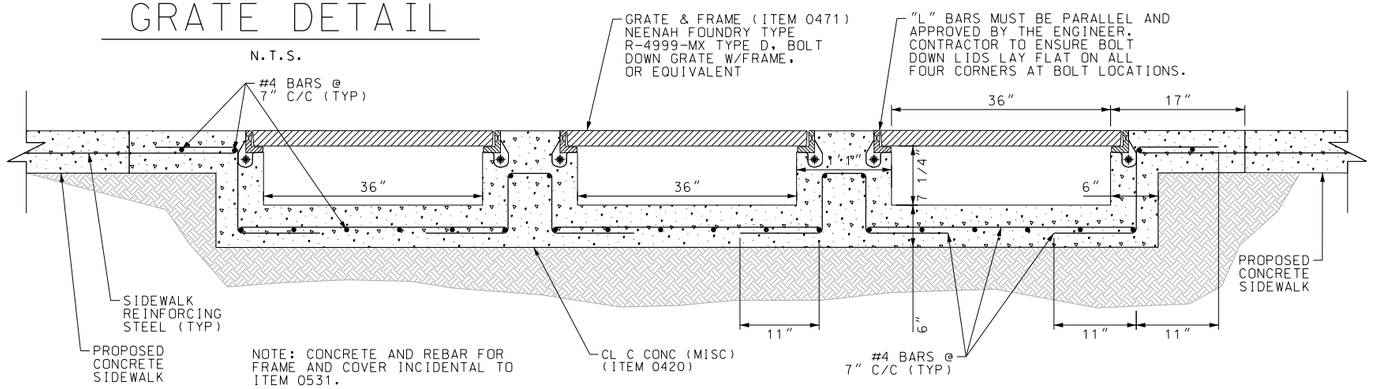
SEE SHEET 220

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 13201 | 13678903.96 | 2151956.63 | -- | ME |
| 13202 | 13678908.05 | 2151969.06 | -- | ME |
| 13203 | 13678921.92 | 2151993.11 | 623.18 | PROP |
| 13204 | 13678923.48 | 2151997.86 | 623.26 | PROP |
| 13205 | 13678932.32 | 2151989.70 | 623.10 | PROP |
| 13206 | 13678930.57 | 2151995.53 | 623.18 | PROP |
| 13207 | 13678947.97 | 2151997.58 | 622.92 | PROP |
| 13208 | 13678945.27 | 2152002.94 | 623.00 | PROP |
| 13209 | 13678951.89 | 2151999.55 | 622.88 | PROP |
| 13210 | 13678948.33 | 2152004.48 | 622.96 | PROP |
| 13211 | 13678959.23 | 2152020.28 | 622.53 | PROP |
| 13212 | 13678954.45 | 2152021.76 | 622.61 | PROP |
| 13213 | 13678970.55 | 2152178.91 | -- | ME |
| 13214 | 13678974.94 | 2152192.22 | -- | ME |
| 13215 | 13678985.37 | 2152210.86 | -- | ME |
| 13216 | 13678981.12 | 2152214.21 | -- | ME |
| 13217 | 13679005.43 | 2152222.08 | 627.42 | PROP |
| 13218 | 13679001.29 | 2152225.50 | 627.35 | PROP |
| 13219 | 13679010.15 | 2152236.34 | 627.40 | PROP |
| 13220 | 13679005.35 | 2152237.76 | 627.33 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 13221 | 13679021.33 | 2152270.09 | 628.08 | PROP |
| 13222 | 13679016.58 | 2152271.66 | 628.01 | PROP |
| 13223 | 13679036.77 | 2152314.74 | -- | ME |
| 13224 | 13679032.08 | 2152316.48 | 629.37 | PROP |
| 13225 | 13678987.02 | 2152237.56 | -- | ME |
| 13226 | 13679001.42 | 2152285.03 | -- | ME |
| 13227 | 13679008.63 | 2152305.42 | -- | ME |
| 13228 | 13679033.92 | 2152306.12 | 629.06 | PROP |
| 13229 | 13679029.17 | 2152307.69 | 629.02 | PROP |
| 13230 | 13679035.49 | 2152310.86 | 629.11 | PROP |
| 13231 | 13679030.74 | 2152312.43 | 629.07 | PROP |

# GRATE DETAIL

N.T.S.




NOTE: CONCRETE AND REBAR FOR FRAME AND COVER INCIDENTAL TO ITEM 0531.

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
MILITARY DRIVE

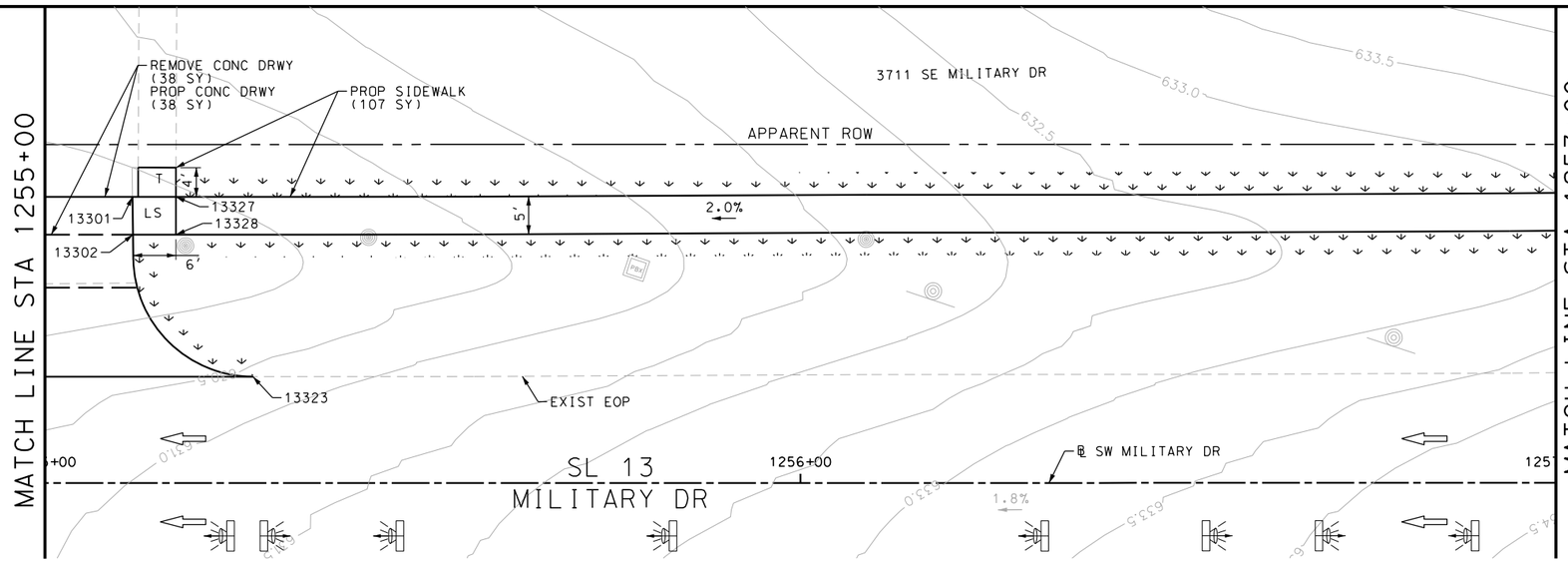
# SIDEWALK CONSTRUCTION PLAN

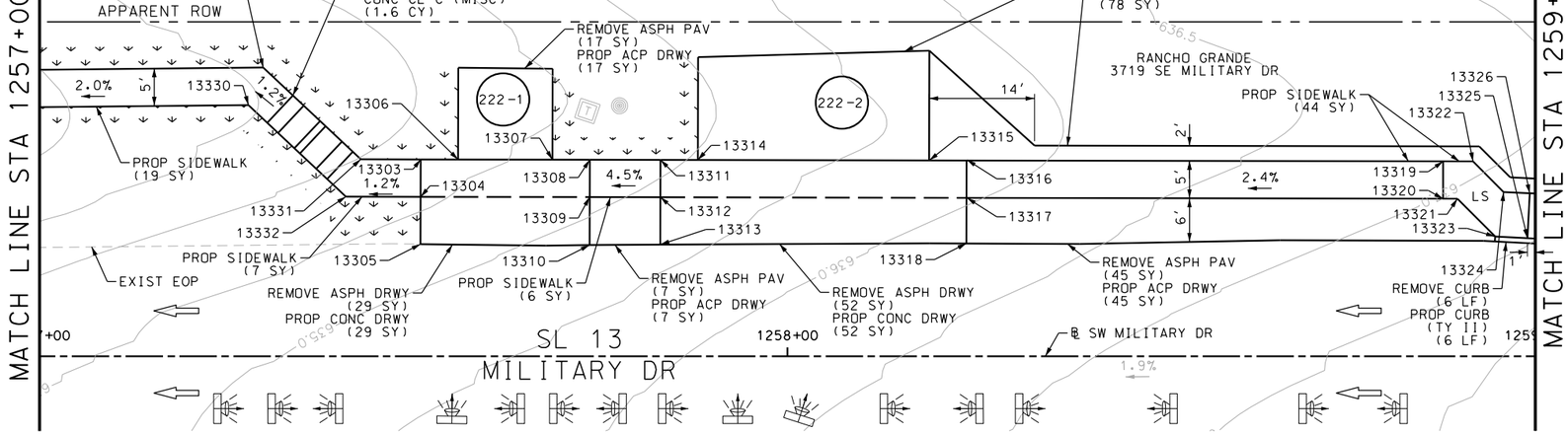
STA 1251+00 TO STA 1255+00
POINT TABLES

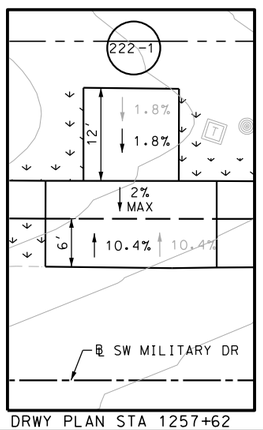


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 221 |

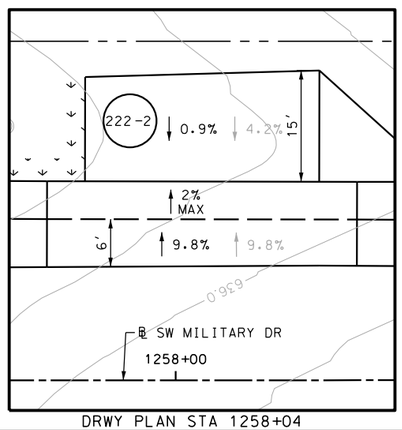
Plotted on: 4/1/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Military Dr\1113507*Military Dr*WB05a.dgn




DRWY PLAN STA 1257+62




DRWY PLAN STA 1258+04

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 38 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 6 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 228 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 190 |
| 0162-6002 | BLOCK SODDING | SY | 190 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.96 |
| 0420-6074 | CL C CONC (MISC) | CY | 1.6 |
| 0471-6003 | GRATE & FRAME | EA | 6 |
| 0529-6002 | CONC CURB (TY II) | LF | 6 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 119 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 147 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 183 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 13301 | 13679044.68 | 2152338.63 | 629.48 | PROP |
| 13302 | 13679039.95 | 2152340.27 | 629.40 | PROP |
| 13303 | 13679108.91 | 2152569.52 | 634.16 | PROP |
| 13304 | 13679104.16 | 2152571.08 | 634.24 | PROP |
| 13305 | 13679098.14 | 2152573.06 | -- | ME |
| 13306 | 13679110.47 | 2152574.27 | -- | ME |
| 13307 | 13679114.41 | 2152586.25 | -- | ME |
| 13308 | 13679115.97 | 2152591.00 | 633.95 | PROP |
| 13309 | 13679111.22 | 2152592.56 | 634.03 | PROP |
| 13310 | 13679105.13 | 2152594.56 | -- | ME |
| 13311 | 13679118.92 | 2152599.98 | 634.38 | PROP |
| 13312 | 13679114.17 | 2152601.54 | 634.46 | PROP |
| 13313 | 13679108.14 | 2152603.52 | -- | ME |
| 13314 | 13679120.48 | 2152604.73 | -- | ME |
| 13315 | 13679130.14 | 2152634.12 | -- | ME |
| 13316 | 13679131.70 | 2152638.87 | 635.51 | PROP |
| 13317 | 13679126.95 | 2152640.43 | 635.59 | PROP |
| 13318 | 13679121.16 | 2152642.33 | -- | ME |
| 13319 | 13679151.59 | 2152699.40 | 637.03 | PROP |
| 13320 | 13679146.84 | 2152700.96 | 637.10 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 13321 | 13679147.44 | 2152702.79 | 637.12 | PROP |
| 13322 | 13679152.83 | 2152703.20 | 637.09 | PROP |
| 13323 | 13679144.22 | 2152709.16 | -- | ME |
| 13324 | 13679150.22 | 2152708.36 | -- | ME |
| 13325 | 13679145.37 | 2152713.33 | -- | ME |
| 13326 | 13679151.15 | 2152711.73 | -- | ME |
| 13327 | 13679046.48 | 2152344.09 | 629.45 | PROP |
| 13328 | 13679041.74 | 2152345.66 | 629.44 | PROP |
| 13329 | 13679113.99 | 2152545.65 | 633.84 | PROP |
| 13331 | 13679106.41 | 2152561.90 | 634.06 | PROP |
| 13332 | 13679101.04 | 2152561.58 | 634.14 | PROP |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
MILITARY DRIVE

# SIDEWALK CONSTRUCTION PLAN
STA 1255+00 TO STA 1259+00

SHEET 7 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 222 |

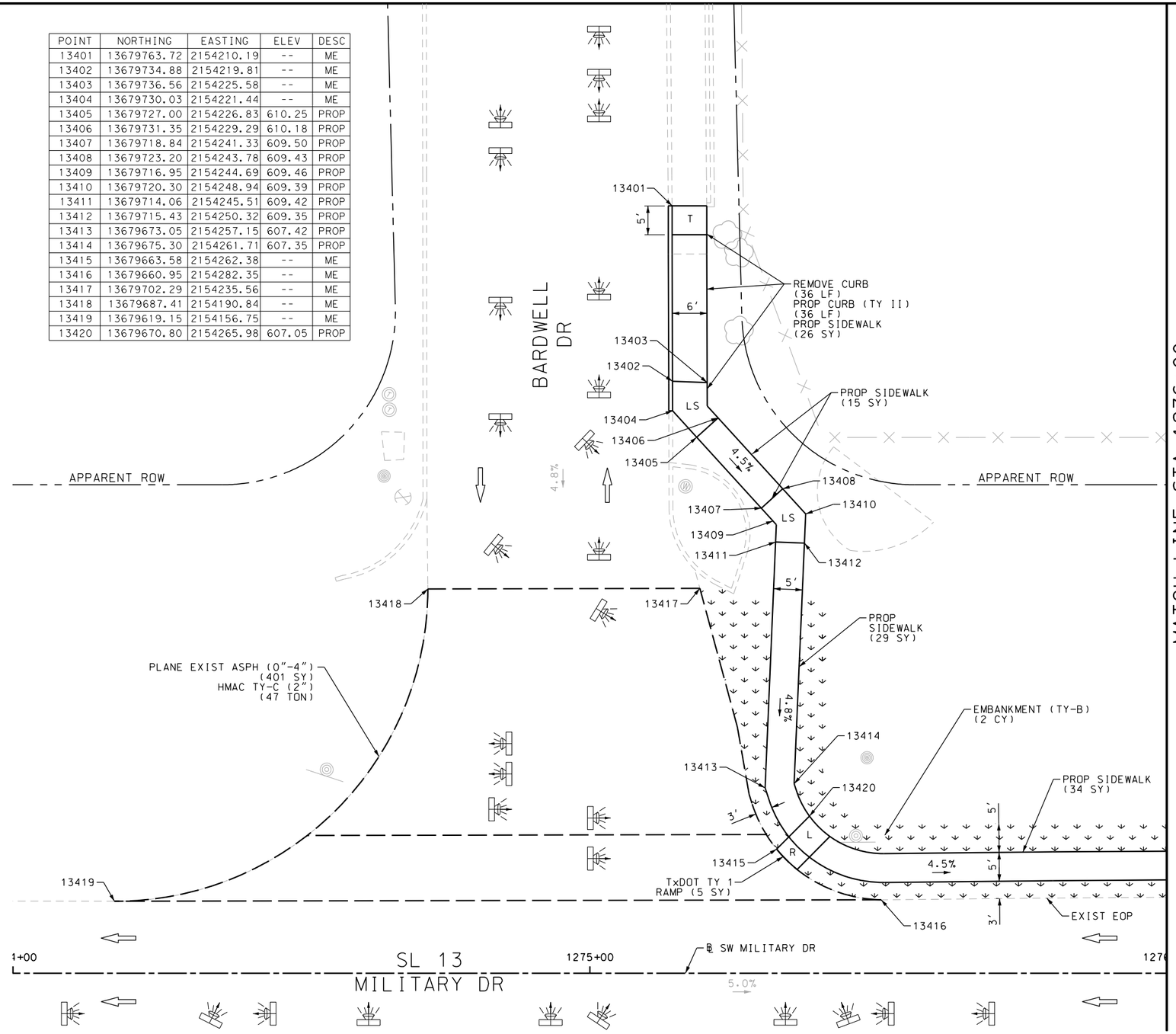
Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Military Dr\111507*MilitaryDr*WB06.dgn

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Military Dr\1113507*MilitaryDr*WB07.dgn

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 13401 | 13679763.72 | 2154210.19 | -- | ME |
| 13402 | 13679734.88 | 2154219.81 | -- | ME |
| 13403 | 13679736.56 | 2154225.58 | -- | ME |
| 13404 | 13679730.03 | 2154221.44 | -- | ME |
| 13405 | 13679727.00 | 2154226.83 | 610.25 | PROP |
| 13406 | 13679731.35 | 2154229.29 | 610.18 | PROP |
| 13407 | 13679718.84 | 2154241.33 | 609.50 | PROP |
| 13408 | 13679723.20 | 2154243.78 | 609.43 | PROP |
| 13409 | 13679716.95 | 2154244.69 | 609.46 | PROP |
| 13410 | 13679720.30 | 2154248.94 | 609.39 | PROP |
| 13411 | 13679714.06 | 2154245.51 | 609.42 | PROP |
| 13412 | 13679715.43 | 2154250.32 | 609.35 | PROP |
| 13413 | 13679673.05 | 2154257.15 | 607.42 | PROP |
| 13414 | 13679675.30 | 2154261.71 | 607.35 | PROP |
| 13415 | 13679663.58 | 2154262.38 | -- | ME |
| 13416 | 13679660.95 | 2154282.35 | -- | ME |
| 13417 | 13679702.29 | 2154235.56 | -- | ME |
| 13418 | 13679687.41 | 2154190.84 | -- | ME |
| 13419 | 13679619.15 | 2154156.75 | -- | ME |
| 13420 | 13679670.80 | 2154265.98 | 607.05 | PROP |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 36 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 2 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 108 |
| 0162-6002 | BLOCK SODDING | SY | 108 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.68 |
| 0340-6066 | D-GR HMA(SQ) TY-C PG76-22 | TON | 47.0 |
| 0354-6023 | PLANE ASPH CONC PAV(0" TO 4") | SY | 401 |
| 0529-6002 | CONC CURB (TY II) | LF | 36 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 104 |
| 0531-6018 | CURB RAMPS (TY 1) | SY | 5 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



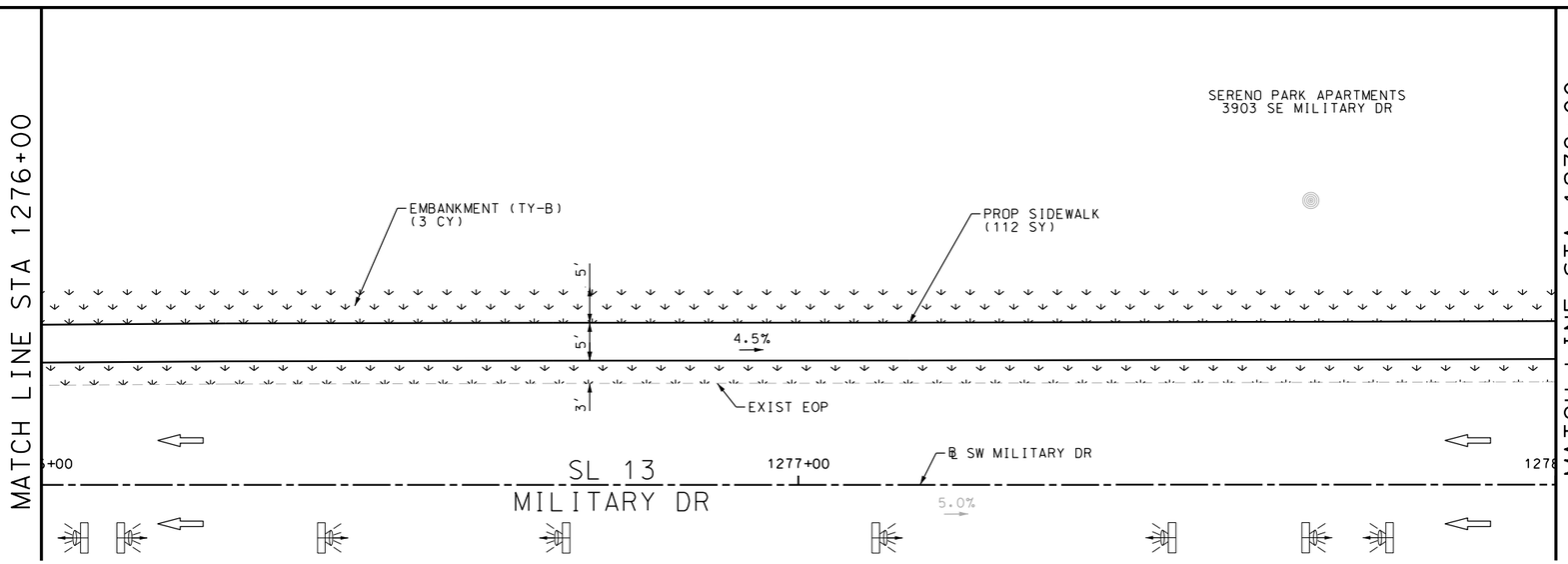

SL 13
MILITARY DRIVE

# SIDEWALK CONSTRUCTION PLAN

STA 1274+00 TO STA 1276+00

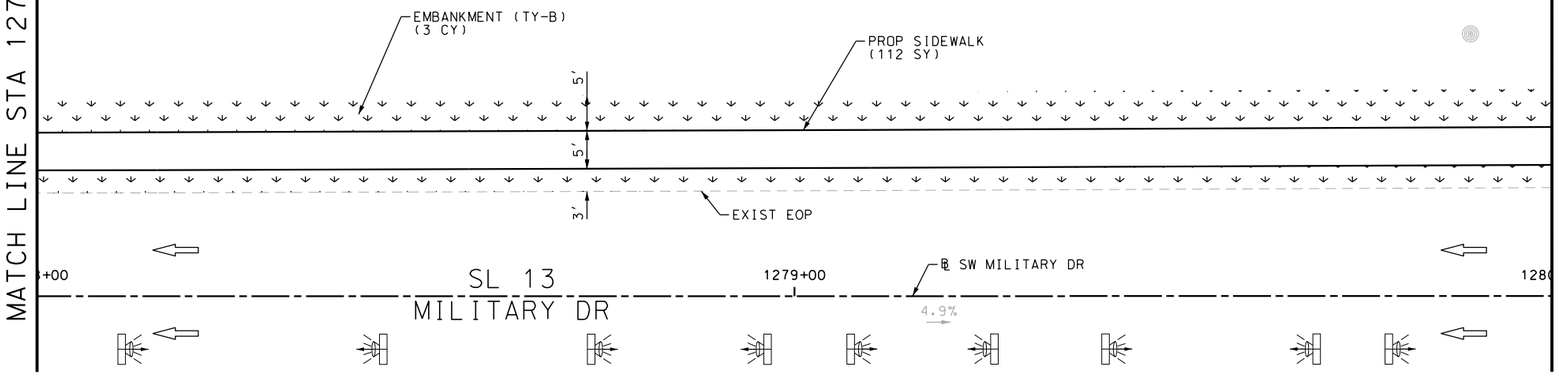
SHEET 8 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 223 |





| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 6 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 356 |
| 0162-6002 | BLOCK SODDING | SY | 356 |
| 0168-6001 | VEGETATIVE WATERING | MG | 5.55 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 224 |





NOTES:
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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
MILITARY DRIVE

# SIDEWALK CONSTRUCTION PLAN

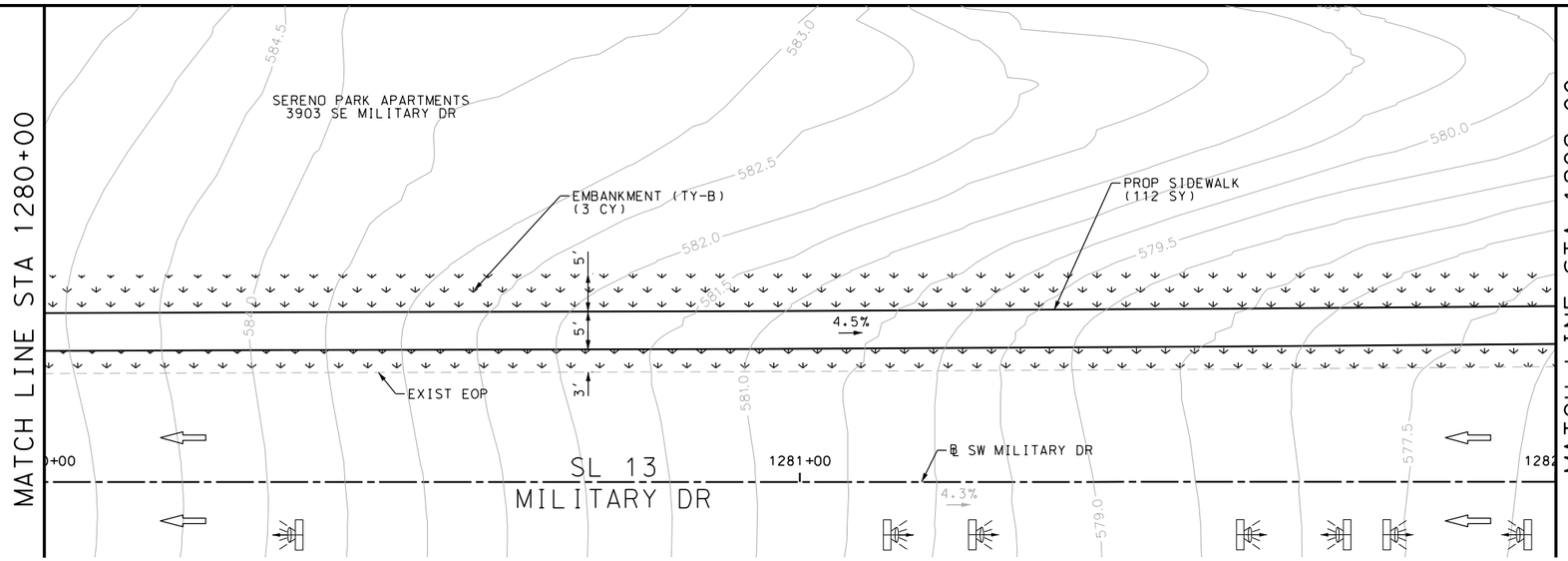
STA 1276+00 TO STA 1280+00

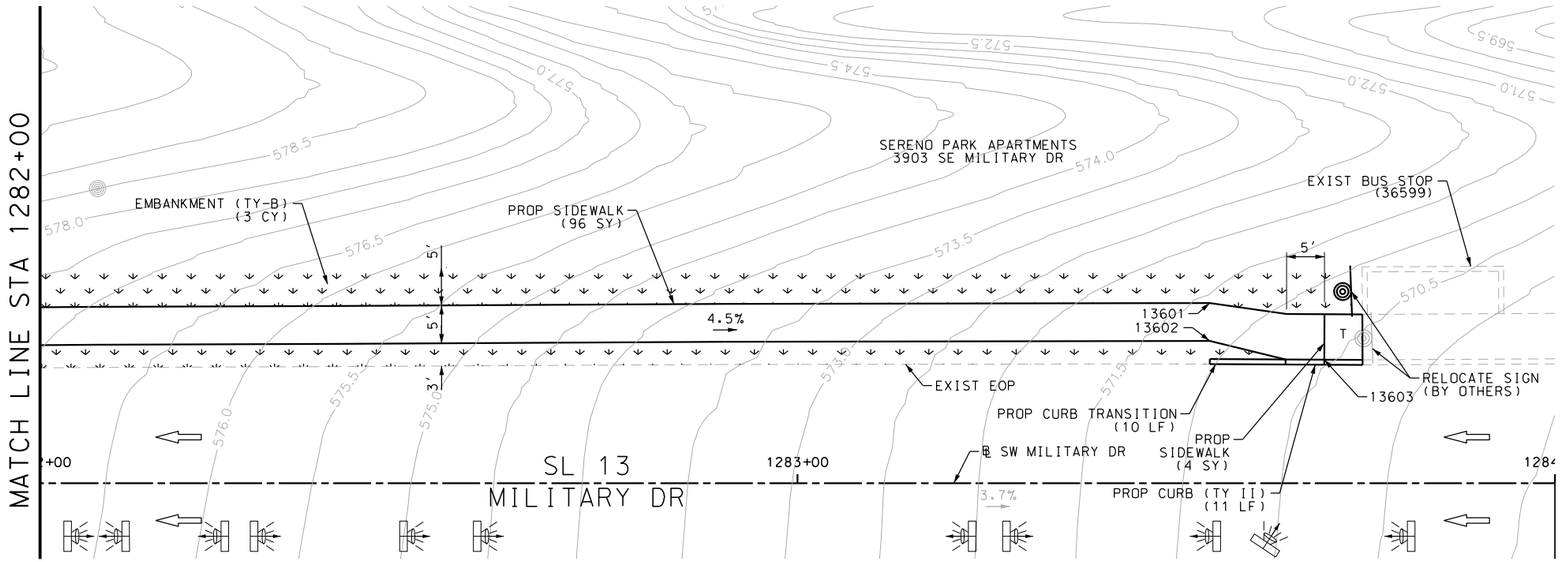
SHEET 9 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 224 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Military Dr\1113507*MilitaryDr*WB08.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 6 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 328 |
| 0162-6002 | BLOCK SODDING | SY | 328 |
| 0168-6001 | VEGETATIVE WATERING | MG | 5.12 |
| 0529-6002 | CONC CURB (TY II) | LF | 21 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 212 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 13601 | 13679923.82 | 2155042.16 | 570.50 | PROP |
| 13602 | 13679919.07 | 2155043.73 | 570.57 | PROP |
| 13603 | 13679921.48 | 2155058.86 | -- | ME |

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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 13
MILITARY DRIVE

# SIDEWALK CONSTRUCTION PLAN

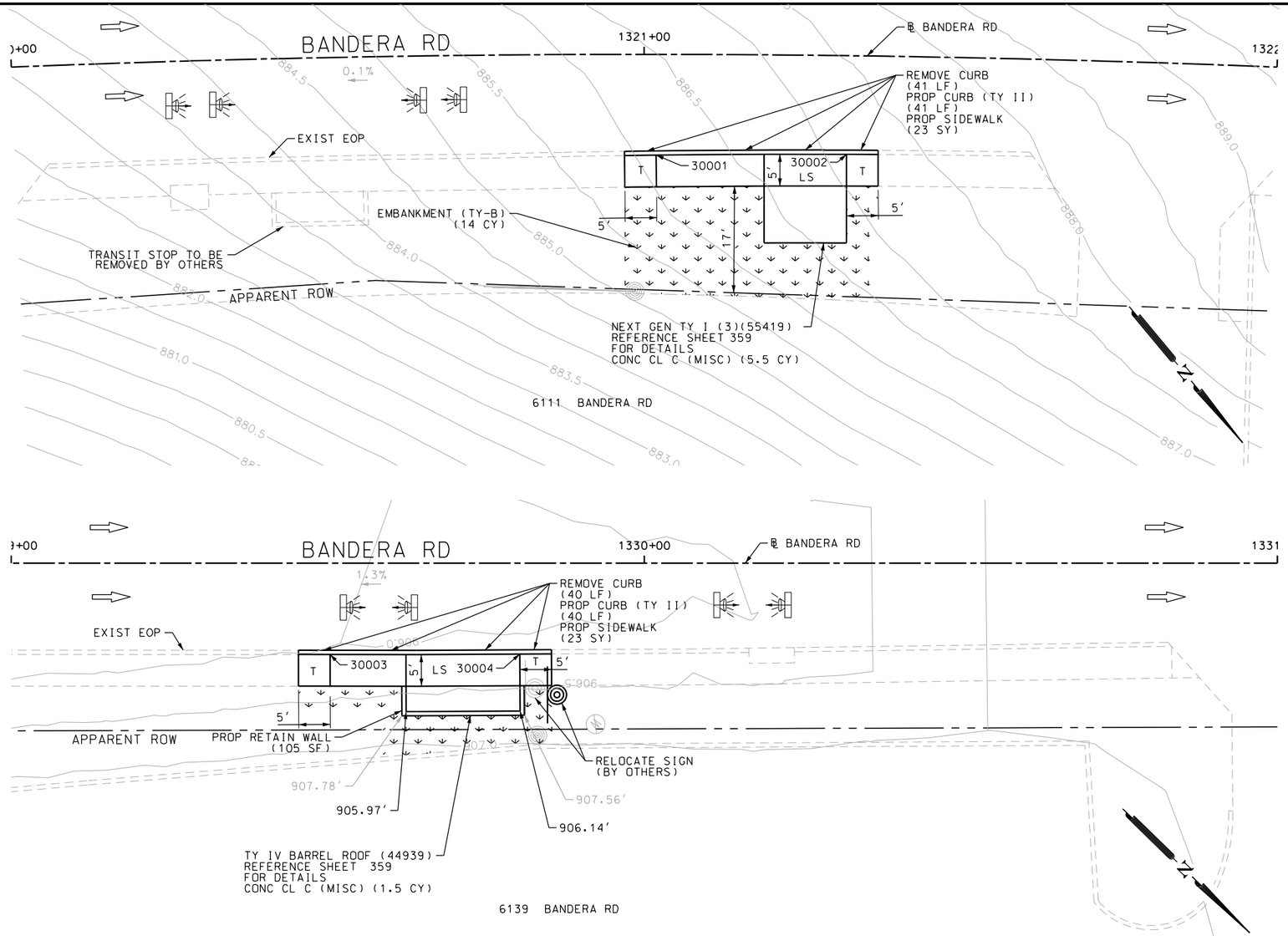
STA 1280+00 TO END PROJECT

SHEET 10 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 225 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Military Dr\1113507*MilitaryDr*WB09.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 81 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 14 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 85 |
| 0162-6002 | BLOCK SODDING | SY | 85 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.33 |
| 0420-6074 | CL C CONC (MISC) | CY | 11.4 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 105 |
| 0529-6002 | CONC CURB (TY II) | LF | 81 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 46 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 30001 | 13726456.12 | 2094433.42 | -- | ME |
| 30002 | 13726475.25 | 2094410.23 | -- | ME |
| 30003 | 13727051.43 | 2093831.58 | -- | ME |
| 30004 | 13727072.81 | 2093810.58 | -- | ME |

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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

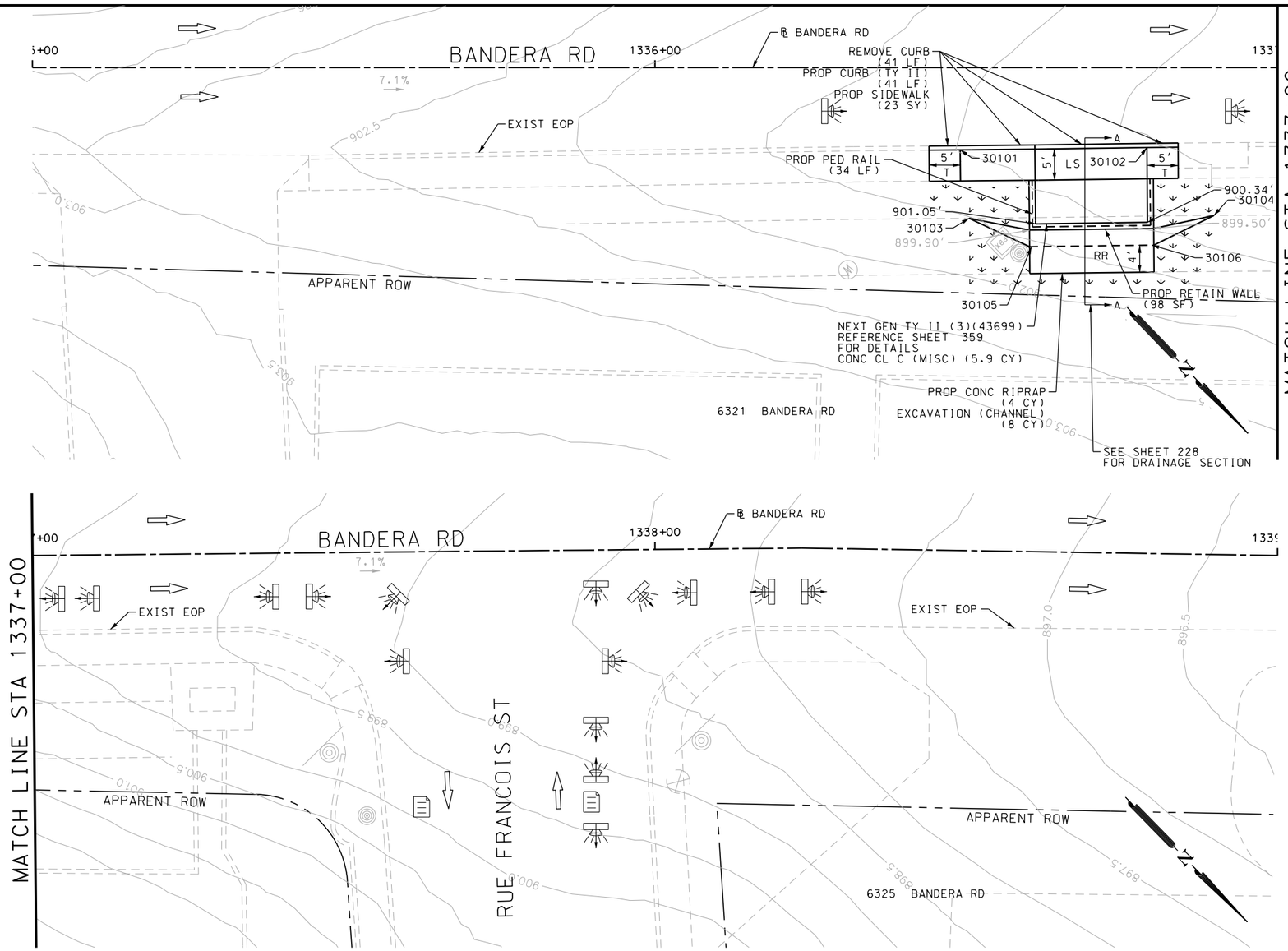
STA 1320+00 TO STA 1322+00
STA 1329+00 TO STA 1331+00

SHEET 1 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 226 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507+Bandera Dr+WB+01.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 41 |
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 8 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 44 |
| 0162-6002 | BLOCK SODDING | SY | 44 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.69 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 98 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 4 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 34 |
| 0529-6002 | CONC CURB (TY II) | LF | 41 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 23 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 30101 | 13727541.99 | 2093333.63 | -- | ME |
| 30102 | 13727562.50 | 2093311.73 | -- | ME |
| 30103 | 13727550.92 | 2093340.20 | -- | ME |
| 30104 | 13727577.80 | 2093311.51 | -- | ME |
| 30105 | 13727561.10 | 2093336.04 | -- | ME |
| 30106 | 13727574.36 | 2093321.99 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

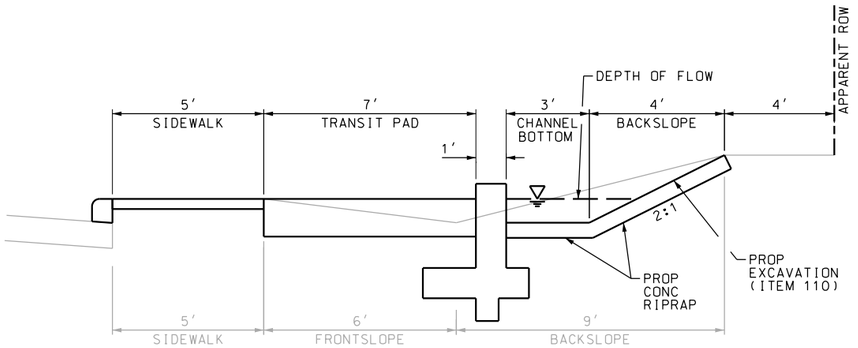
# SIDEWALK CONSTRUCTION PLAN

STA 1335+00 TO STA 1339+00



| DGNs | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGNs | 6 | TEXAS | | | | VARIES |
| DWGs | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWGs | SAT | BEXAR | 0915 | 12 | 576 | 227 |

Plotted on: 4/2/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*02.dgn




SECTION A–A

N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.020 | FT/FT | S | FL SLOPE | 0.020 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.015 | |
| A | AREA | 3.8 | SQ FT | A | AREA | 2.80 | SQ FT |
| P | WETTED PERIMETER | 9.6 | FT | P | WETTED PERIMETER | 5.30 | FT |
| R | HYDRAULIC RADIUS | 0.39 | FT | R | HYDRAULIC RADIUS | 0.53 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 14.0 | CFS | Q | DISCHARGE | 25.6 | CFS |

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P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20′

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

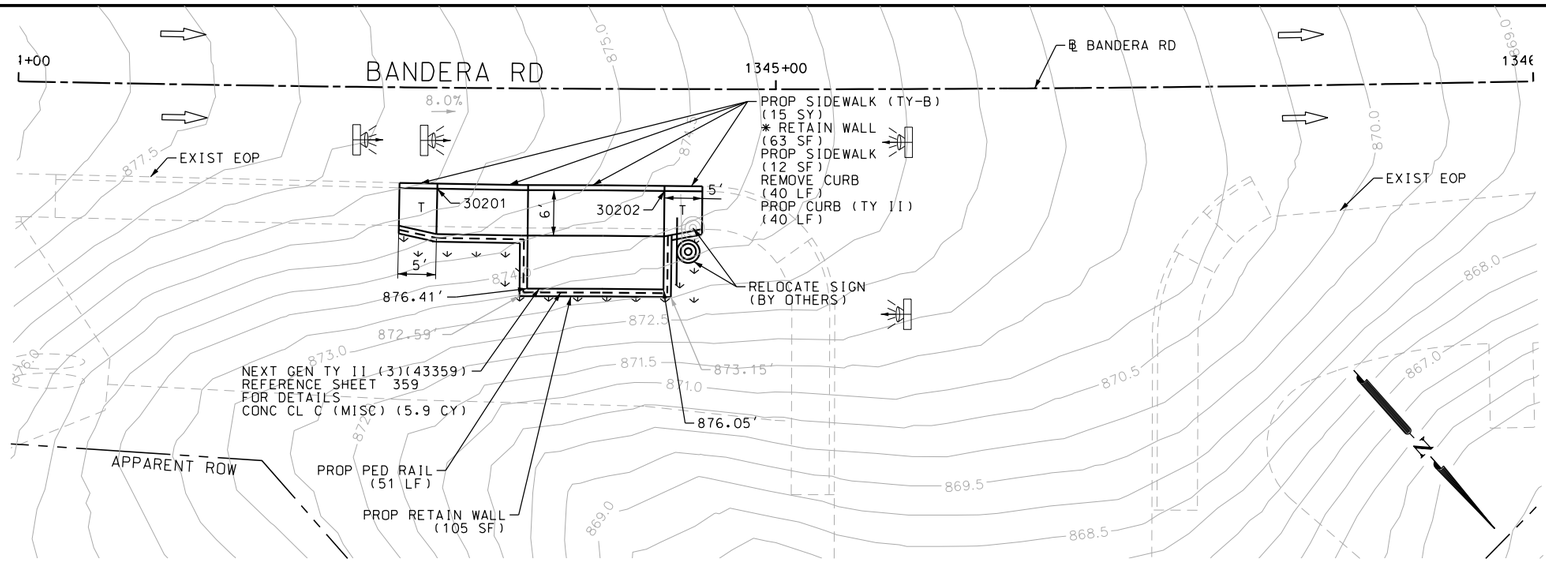
STA 1335+00 TO STA 1339+00

SHEET 3 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 228 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350 7*Bandera Dr*WB*02*A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 40 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 14 |
| 0162-6002 | BLOCK SODDING | SY | 14 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.22 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 105 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 51 |
| 0529-6002 | CONC CURB (TY II) | LF | 40 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 12 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 15 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 30201 | 13728106.93 | 2092757.79 | -- | ME |
| 30202 | 13728127.09 | 2092735.57 | -- | ME |

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

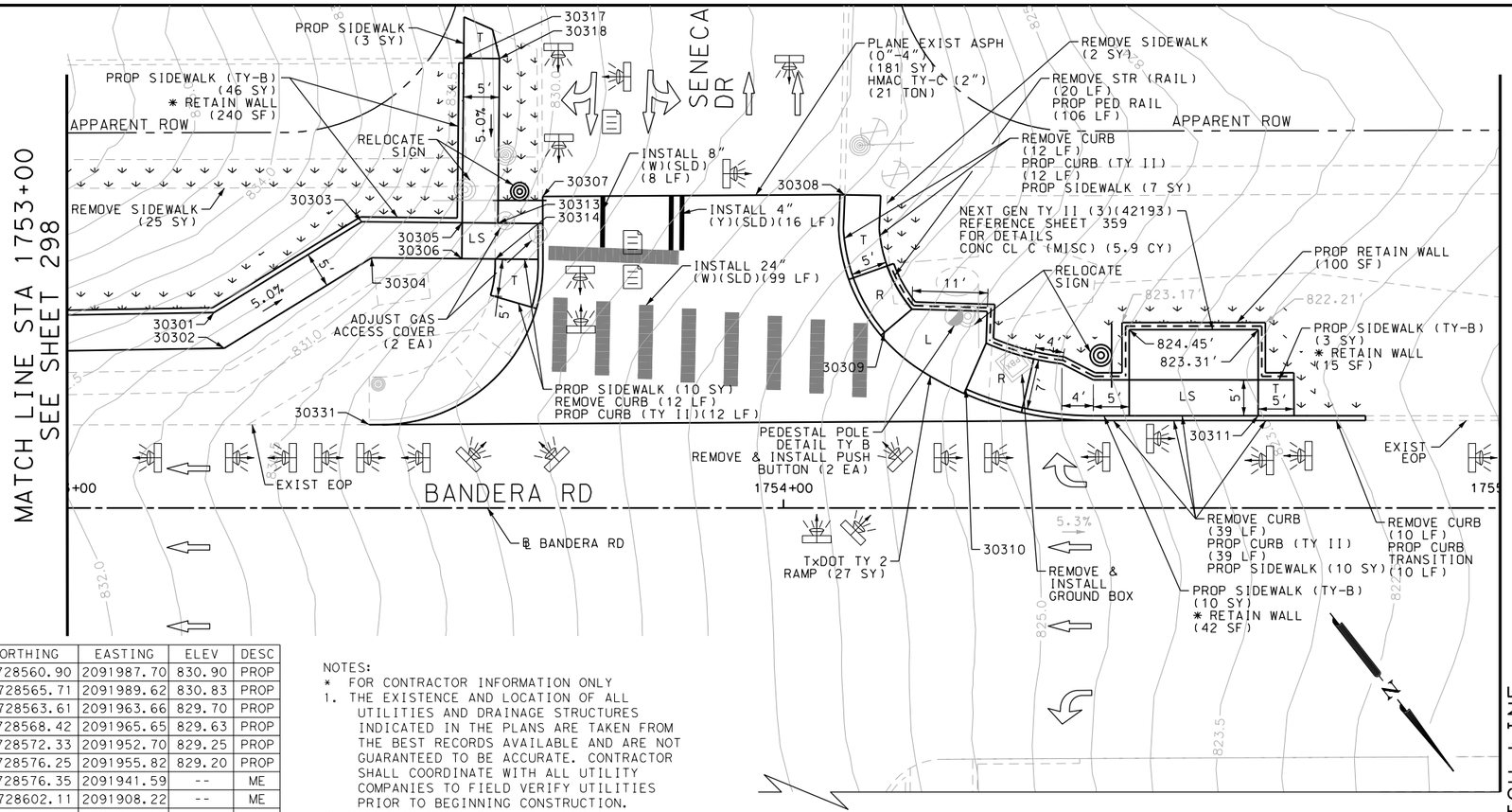
STA 1344+00 TO STA 1346+00

SHEET 4 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 229 |

Plotted on: 4/2/2019

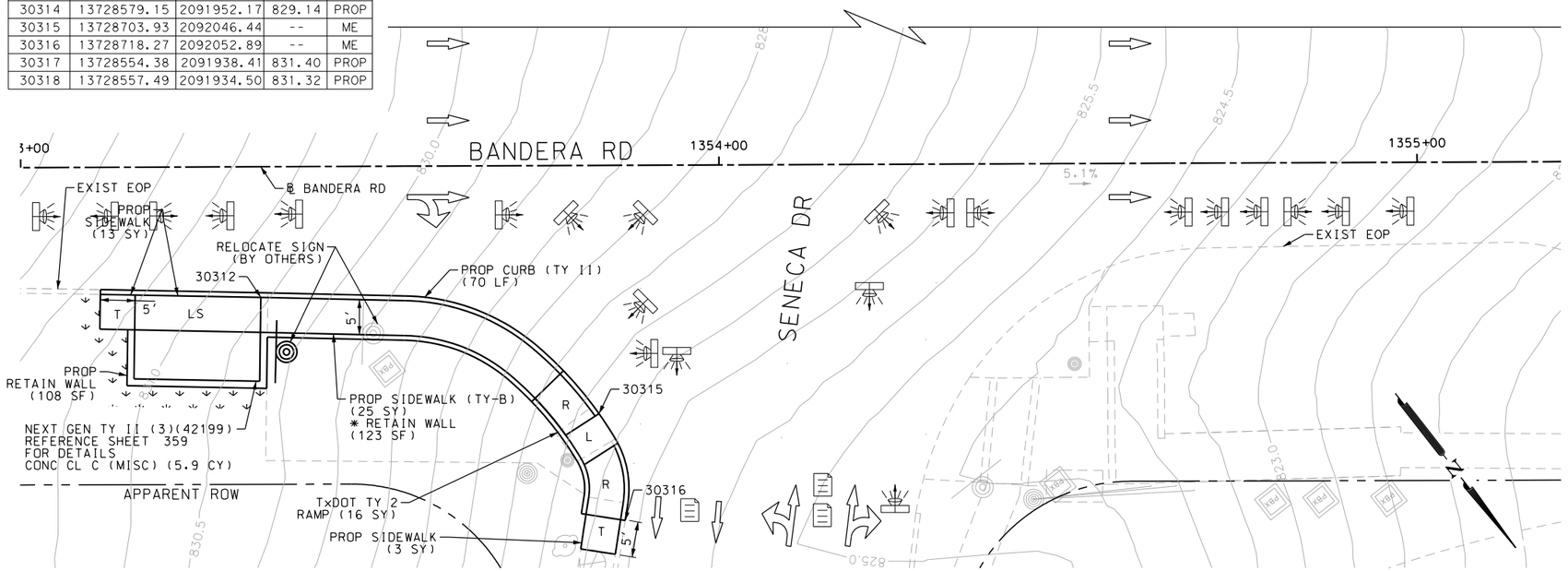
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111507*Bandera Dr*WB*03.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 61 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 27 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 109 |
| 0162-6002 | BLOCK SODDING | SY | 109 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.70 |
| 0340-6066 | D-GR HMA(SQ) TY-C PG76-22 | TON | 21.0 |
| 0354-6023 | PLANE ASPH CONC PAV(0" TO 4") | SY | 181 |
| 0420-6074 | CL C CONC (MISC) | CY | 11.8 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 208 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 106 |
| 0496-6099 | REMOVE STR (RAIL) | LF | 20 |
| 0529-6002 | CONC CURB (TY II) | LF | 143 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 46 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 43 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 84 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 1 |
| 0624-6028 | REMOVE GROUND BOX | EA | 1 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 2 |
| 0666-6036 | REFL PAV MRK TY I (W)8"(SLD)(100MIL) | LF | 8 |
| 0666-6048 | REFL PAV MRK TY I (W)24"(SLD)(100MIL) | LF | 99 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 16 |
| 0666-6226 | PAVEMENT SEALER 8" | LF | 8 |
| 0666-6230 | PAVEMENT SEALER 24" | LF | 99 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 16 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 16 |
| 0678-6004 | PAV SURF PREP FOR MRK (8") | LF | 8 |
| 0678-6008 | PAV SURF PREP FOR MRK (24") | LF | 99 |
| 0688-6002 | PED DETECT PUSH BUTTON (STANDARD) | EA | 2 |
| 0690-6030 | REMOVAL OF PEDESTRIAN PUSH BUTTONS | EA | 2 |
| 7027-6001 | ADJUST GAS FACILITY ACCESS COVER | EA | 2 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 30301 | 13728560.90 | 2091987.70 | 830.90 | PROP |
| 30302 | 13728565.71 | 2091989.62 | 830.83 | PROP |
| 30303 | 13728563.61 | 2091963.66 | 829.70 | PROP |
| 30304 | 13728568.42 | 2091965.65 | 829.63 | PROP |
| 30305 | 13728572.33 | 2091952.70 | 829.25 | PROP |
| 30306 | 13728576.25 | 2091955.82 | 829.20 | PROP |
| 30307 | 13728576.35 | 2091941.59 | -- | ME |
| 30308 | 13728602.11 | 2091908.22 | -- | ME |
| 30309 | 13728620.65 | 2091915.63 | -- | ME |
| 30310 | 13728633.87 | 2091911.55 | -- | ME |
| 30311 | 13728661.89 | 2091881.70 | -- | ME |
| 30312 | 13728664.80 | 2092069.74 | -- | ME |
| 30313 | 13728575.45 | 2091948.79 | 829.20 | PROP |
| 30314 | 13728579.15 | 2091952.17 | 829.14 | PROP |
| 30315 | 13728703.93 | 2092046.44 | -- | ME |
| 30316 | 13728718.27 | 2092052.89 | -- | ME |
| 30317 | 13728554.38 | 2091938.41 | 831.40 | PROP |
| 30318 | 13728557.49 | 2091934.50 | 831.32 | PROP |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED




DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

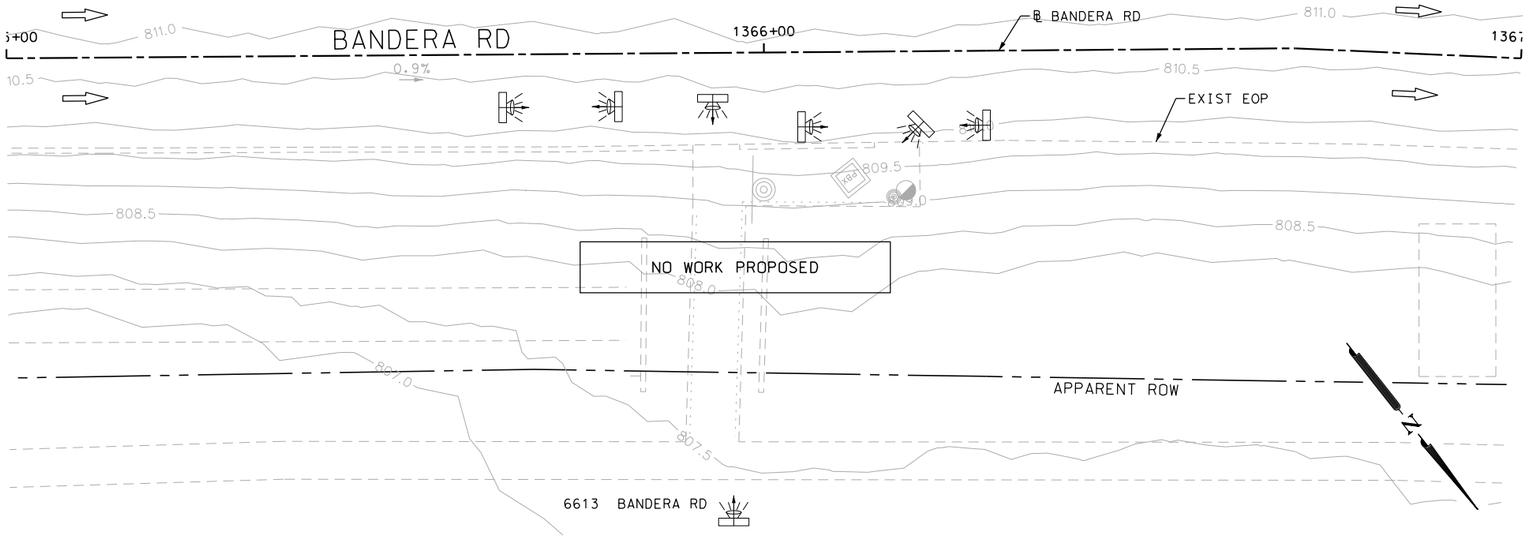
STA 1353+00 TO STA 1355+00
STA 1753+00 TO STA 1755+00

SHEET 5 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 230 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*04.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 41 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 16 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 58 |
| 0162-6002 | BLOCK SODDING | SY | 58 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.90 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 183 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 15 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 55 |
| 0529-6002 | CONC CURB (TY II) | LF | 41 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 13 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 16 |

NOTES:
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1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
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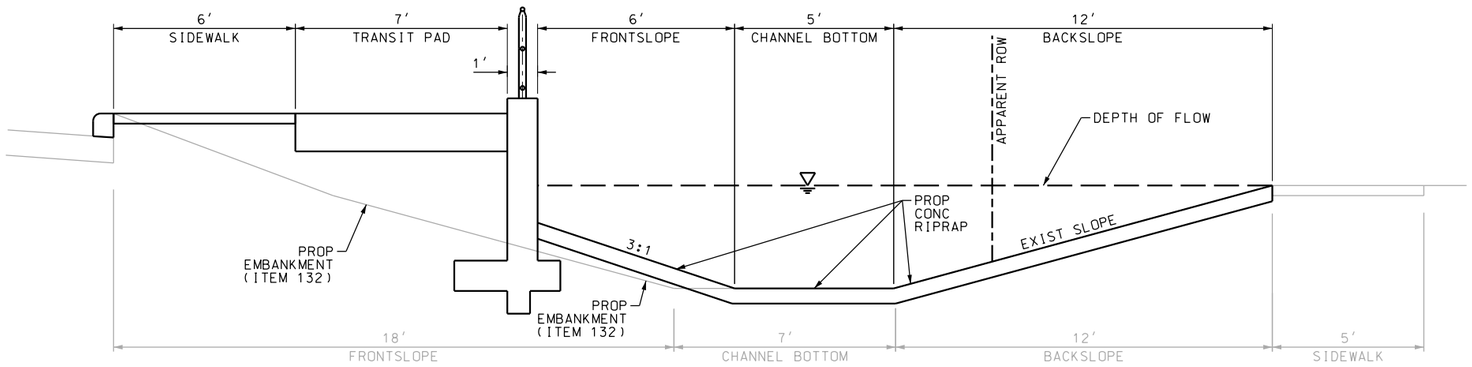
DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019




## SECTION A-A
N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.003 | FT/FT | S | FL SLOPE | 0.003 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.022 | |
| A | AREA | 66.5 | SQ FT | A | AREA | 54.10 | SQ FT |
| P | WETTED PERIMETER | 32.8 | FT | P | WETTED PERIMETER | 26.30 | FT |
| R | HYDRAULIC RADIUS | 2.03 | FT | R | HYDRAULIC RADIUS | 2.06 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 289.0 | CFS | Q | DISCHARGE | 323.7 | CFS |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 30501 | 13729403.49 | 2091105.70 | -- | ME |
| 30502 | 13729422.32 | 2091081.44 | -- | ME |
| 30503 | 13729418.52 | 2091118.95 | -- | ME |
| 30504 | 13729422.43 | 2091122.03 | -- | ME |
| 30505 | 13729430.88 | 2091103.22 | -- | ME |
| 30506 | 13729434.16 | 2091095.60 | -- | ME |
| 30507 | 13729439.63 | 2091099.98 | -- | ME |
| 30508 | 13729407.65 | 2091123.08 | -- | ME |

SCALE: PLAN 1"= 20′

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

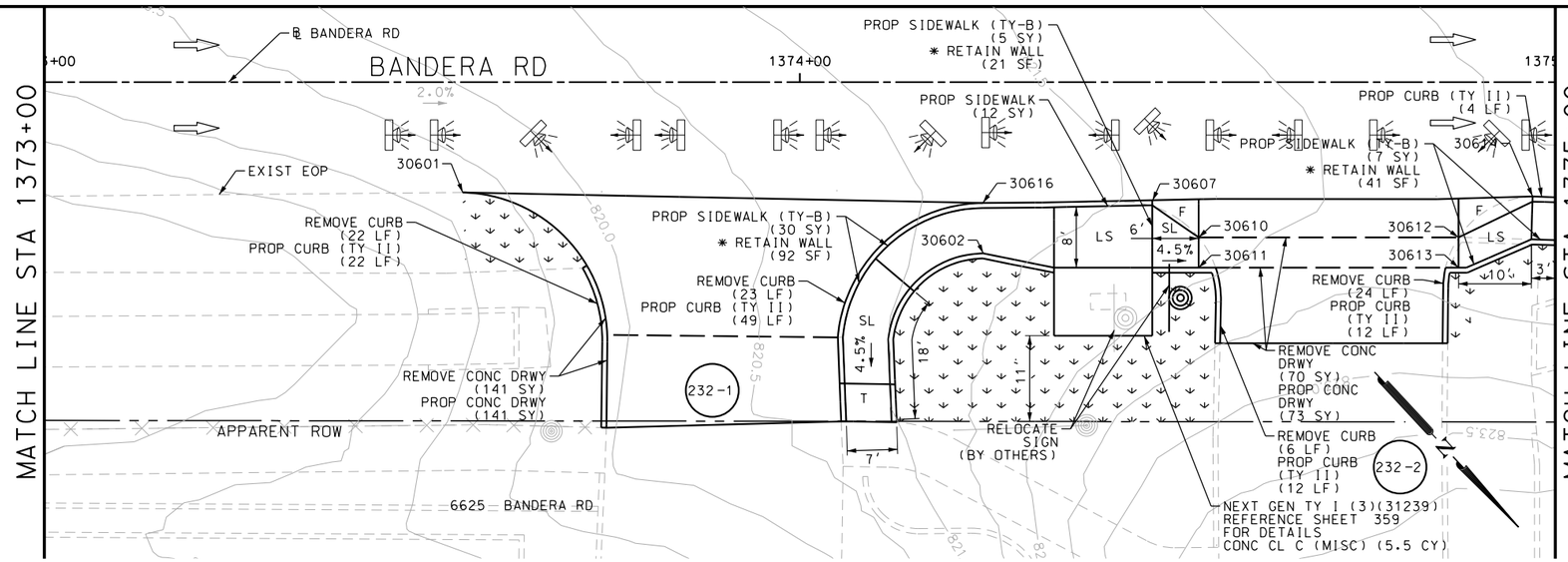
STA 1365+00 TO STA 1367+00

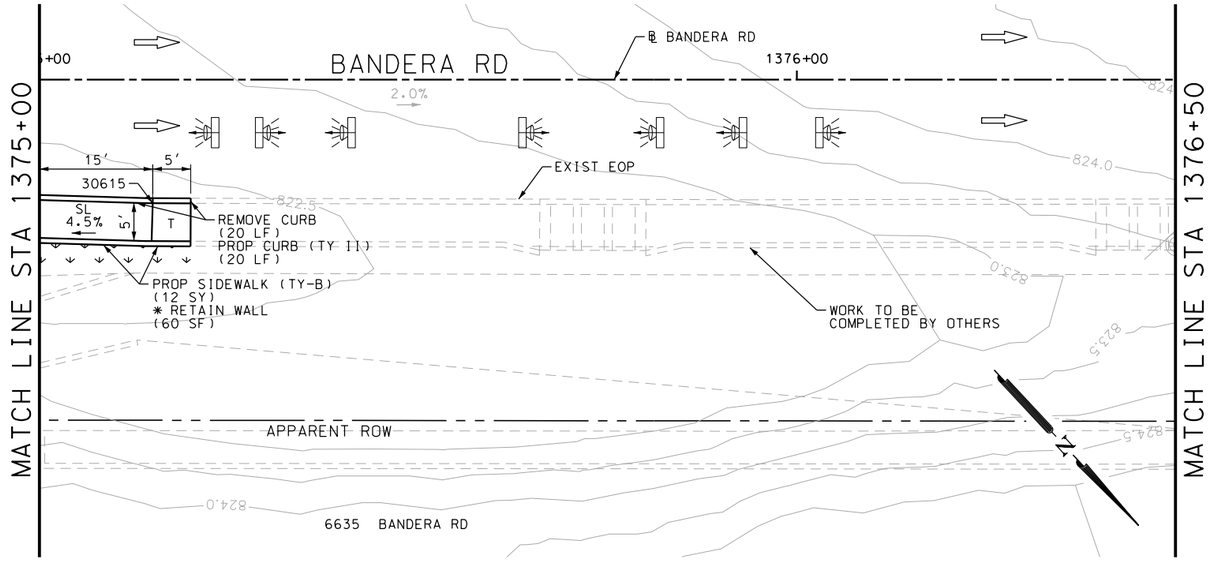
SHEET 6 OF 68

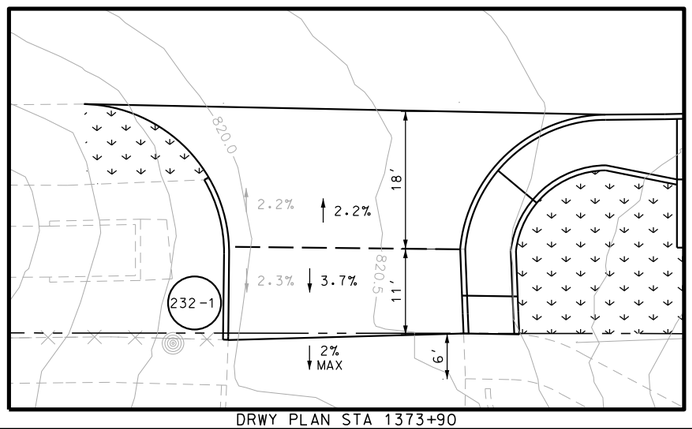
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 231 |

Plotted on: 4/2/2019

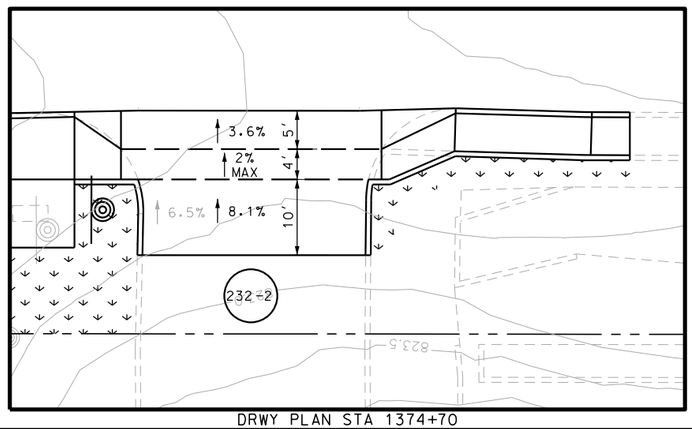
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350 7*Bandera Dr*WB*06.dgn




DRWY PLAN STA 1373+90




DRWY PLAN STA 1374+70

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 211 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 95 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 100 |
| 0162-6002 | BLOCK SODDING | SY | 100 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.56 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0529-6002 | CONC CURB (TY II) | LF | 119 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 214 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 12 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 64 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 30601 | 13729928.78 | 2090503.64 | -- | ME |
| 30602 | 13729976.66 | 2090454.12 | -- | ME |
| 30603 | 13729964.54 | 2090510.88 | 820.40 | PROP |
| 30604 | 13729968.78 | 2090515.10 | -- | ME |
| 30605 | 13729989.60 | 2090491.39 | -- | ME |
| 30606 | 13729985.06 | 2090487.51 | 820.92 | PROP |
| 30607 | 13729985.61 | 2090445.29 | -- | ME |
| 30608 | 13729994.00 | 2090486.38 | -- | ME |
| 30609 | 13729991.30 | 2090481.46 | 821.00 | PROP |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

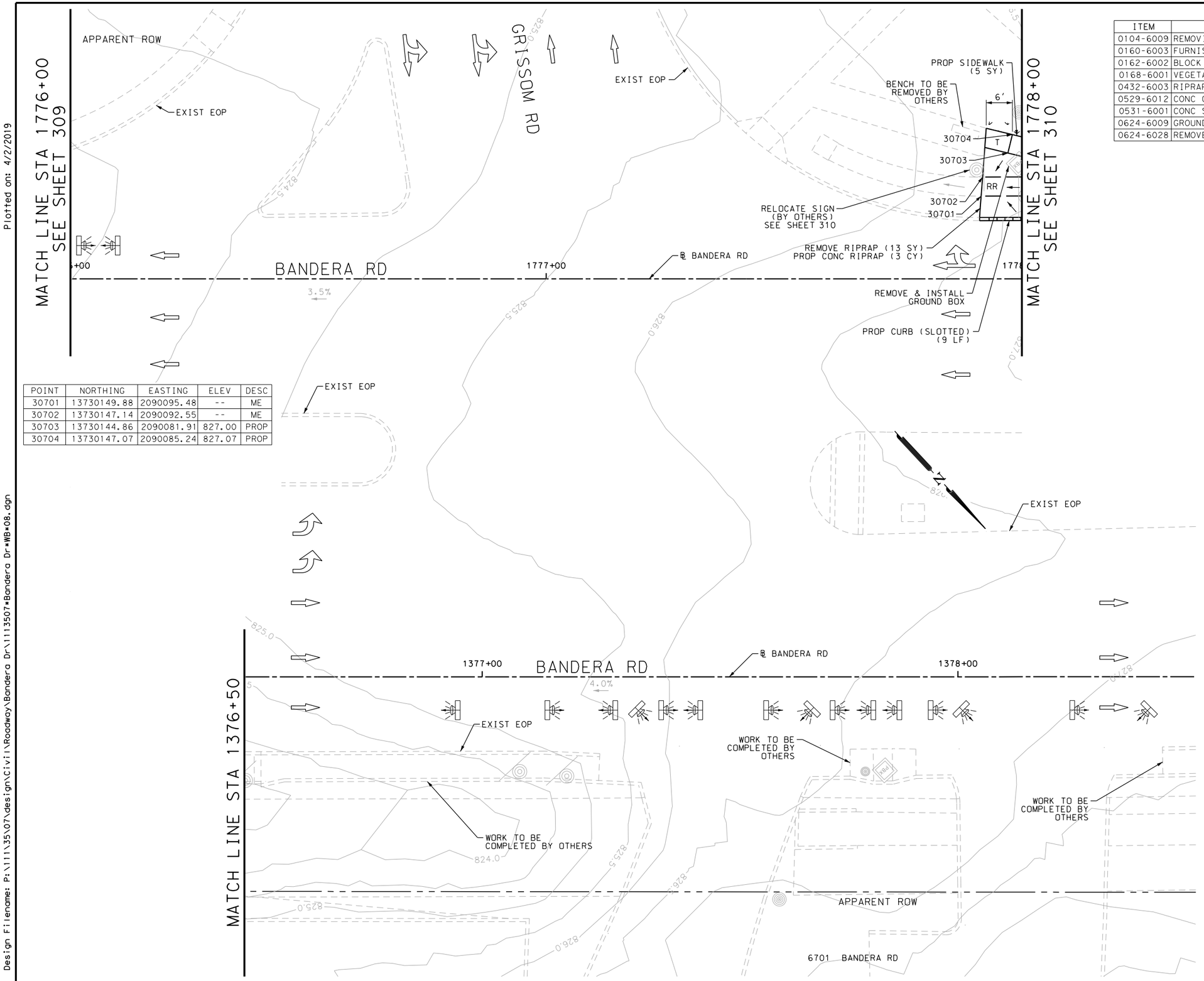
STA 1373+00 TO STA 1376+50

SHEET 7 OF 68

| DGNs | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGNs | 6 | TEXAS | | | | VARIES |
| DWGs | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWGs | SAT | BEXAR | 0915 | 12 | 576 | 232 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111507*Bandera Dr*WB*07.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 13 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 3 |
| 0162-6002 | BLOCK SODDING | SY | 3 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.05 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 3 |
| 0529-6012 | CONC CURB (SLOTTED) | LF | 9 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 5 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 1 |
| 0624-6028 | REMOVE GROUND BOX | EA | 1 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 30701 | 13730149.88 | 2090095.48 | -- | ME |
| 30702 | 13730147.14 | 2090092.55 | -- | ME |
| 30703 | 13730144.86 | 2090081.91 | 827.00 | PROP |
| 30704 | 13730147.07 | 2090085.24 | 827.07 | PROP |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800

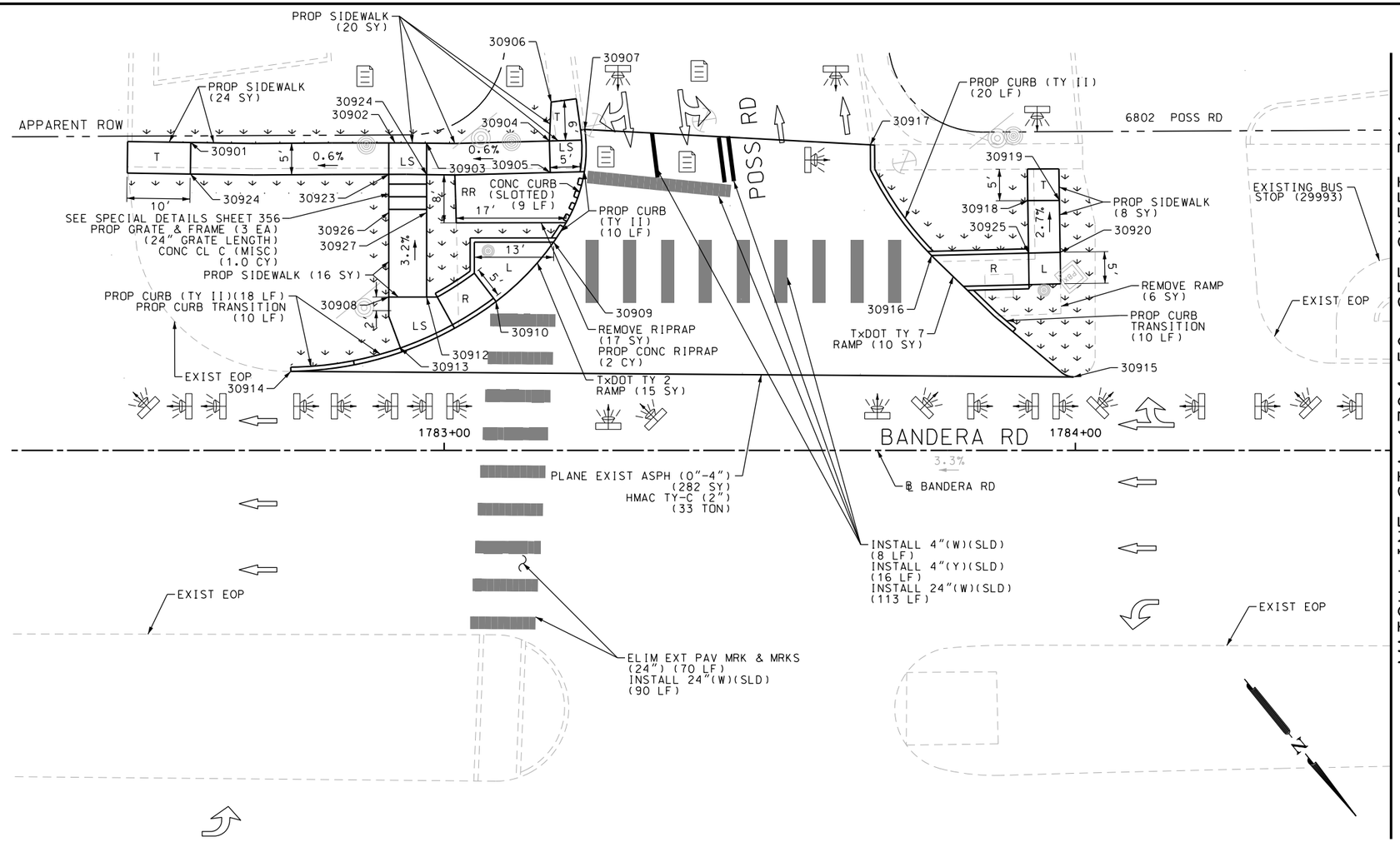


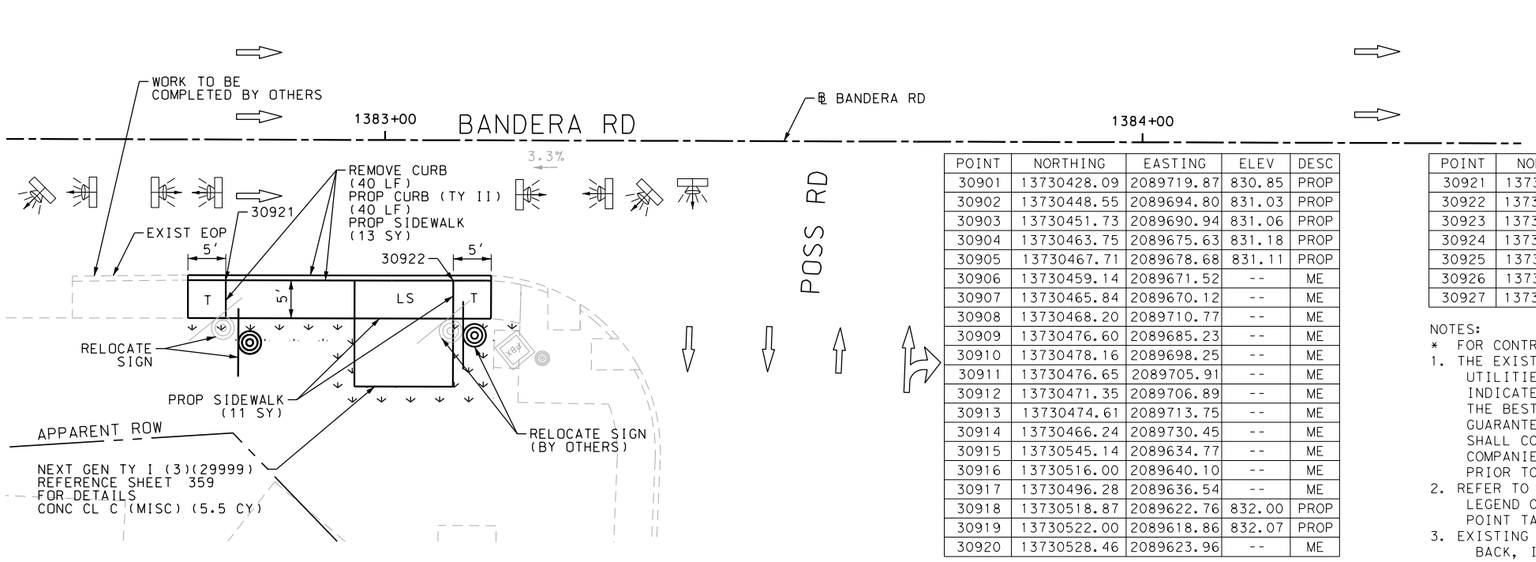
BANDERA RD

# SIDEWALK CONSTRUCTION PLAN
STA 1376+50 TO STA 1378+50
STA 1776+00 TO STA 1778+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 233 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 17 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 40 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 6 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 135 |
| 0162-6002 | BLOCK SODDING | SY | 135 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.11 |
| 0340-6066 | D-GR HMA(SQ) TY-C PG76-22 | TON | 33.0 |
| 0354-6023 | PLANE ASPH CONC PAV(0" TO 4") | SY | 282 |
| 0420-6074 | CL C CONC (MISC) | CY | 6.5 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 3 |
| 0471-6003 | GRATE & FRAME | EA | 3 |
| 0529-6002 | CONC CURB (TY II) | LF | 108 |
| 0529-6012 | CONC CURB (SLOTTED) | LF | 9 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 89 |
| 0531-6018 | CURB RAMPS (TY 1) | SY | 10 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 15 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |
| 0666-6048 | REFL PAV MRK TY I (W)24"(SLD)(100MIL) | LF | 203 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 24 |
| 0666-6230 | PAVEMENT SEALER 24" | LF | 203 |
| 0666-6303 | RE PM W/RET REQ TY I (W)4"(SLD)(100MIL) | LF | 16 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 8 |
| 0677-6007 | ELIM EXT PAV MRK & MRKS (24") | LF | 70 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 24 |
| 0678-6008 | PAV SURF PREP FOR MRK (24") | LF | 203 |

MATCH LINE STA 1784+50 SEE SHEET 311

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 30901 | 13730428.09 | 2089719.87 | 830.85 | PROP |
| 30902 | 13730448.55 | 2089694.80 | 831.03 | PROP |
| 30903 | 13730451.73 | 2089690.94 | 831.06 | PROP |
| 30904 | 13730463.75 | 2089675.63 | 831.18 | PROP |
| 30905 | 13730467.71 | 2089678.68 | 831.11 | PROP |
| 30906 | 13730459.14 | 2089671.52 | -- | ME |
| 30907 | 13730465.84 | 2089670.12 | -- | ME |
| 30908 | 13730468.20 | 2089710.77 | -- | ME |
| 30909 | 13730476.60 | 2089685.23 | -- | ME |
| 30910 | 13730478.16 | 2089698.25 | -- | ME |
| 30911 | 13730476.65 | 2089705.91 | -- | ME |
| 30912 | 13730471.35 | 2089706.89 | -- | ME |
| 30913 | 13730474.61 | 2089713.75 | -- | ME |
| 30914 | 13730466.24 | 2089730.45 | -- | ME |
| 30915 | 13730545.14 | 2089634.77 | -- | ME |
| 30916 | 13730516.00 | 2089640.10 | -- | ME |
| 30917 | 13730496.28 | 2089636.54 | -- | ME |
| 30918 | 13730518.87 | 2089622.76 | 832.00 | PROP |
| 30919 | 13730522.00 | 2089618.86 | 832.07 | PROP |
| 30920 | 13730528.46 | 2089623.96 | -- | ME |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 30921 | 13730543.01 | 2089812.94 | -- | ME |
| 30922 | 13730561.98 | 2089789.67 | 830.78 | PROP |
| 30923 | 13730452.43 | 2089697.95 | 830.96 | PROP |
| 30924 | 13730431.92 | 2089723.08 | 830.99 | PROP |
| 30925 | 13730525.41 | 2089627.92 | -- | ME |
| 30926 | 13730457.11 | 2089701.76 | 831.05 | PROP |
| 30927 | 13730460.27 | 2089697.88 | 831.08 | PROP |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

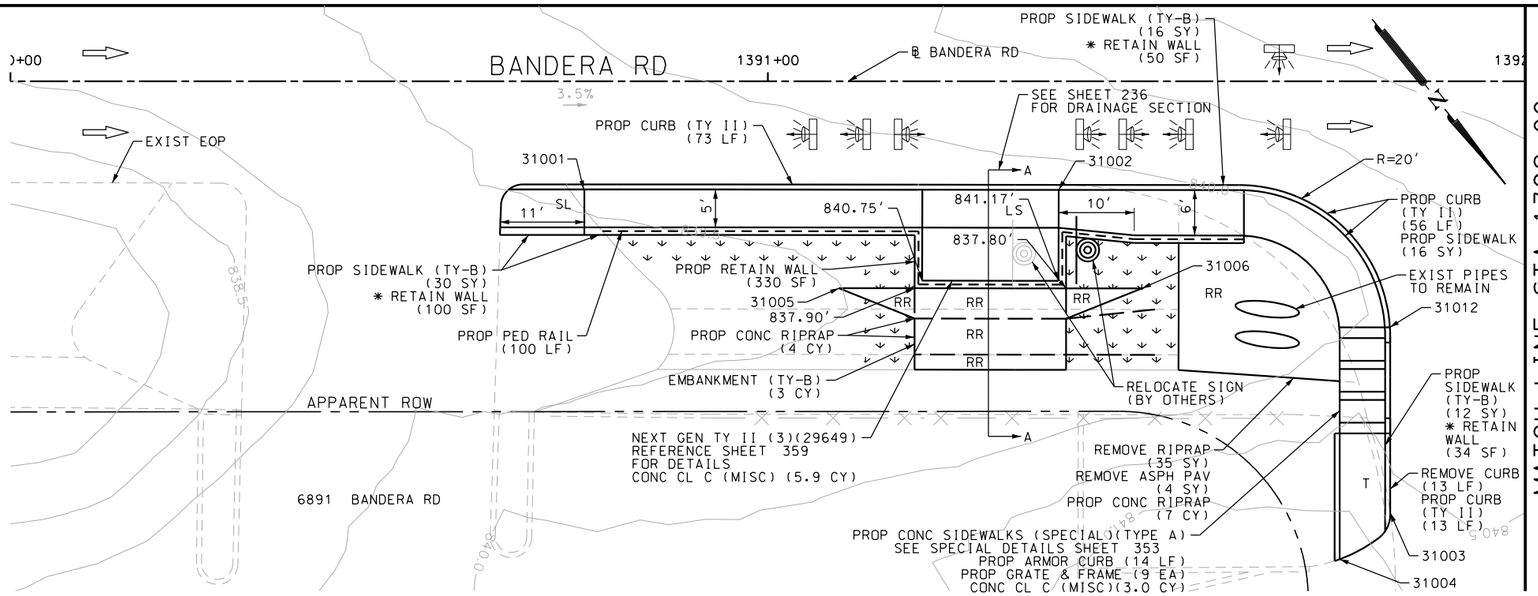
STA 1382+50 TO STA 1384+50
STA 1782+50 TO STA 1784+50

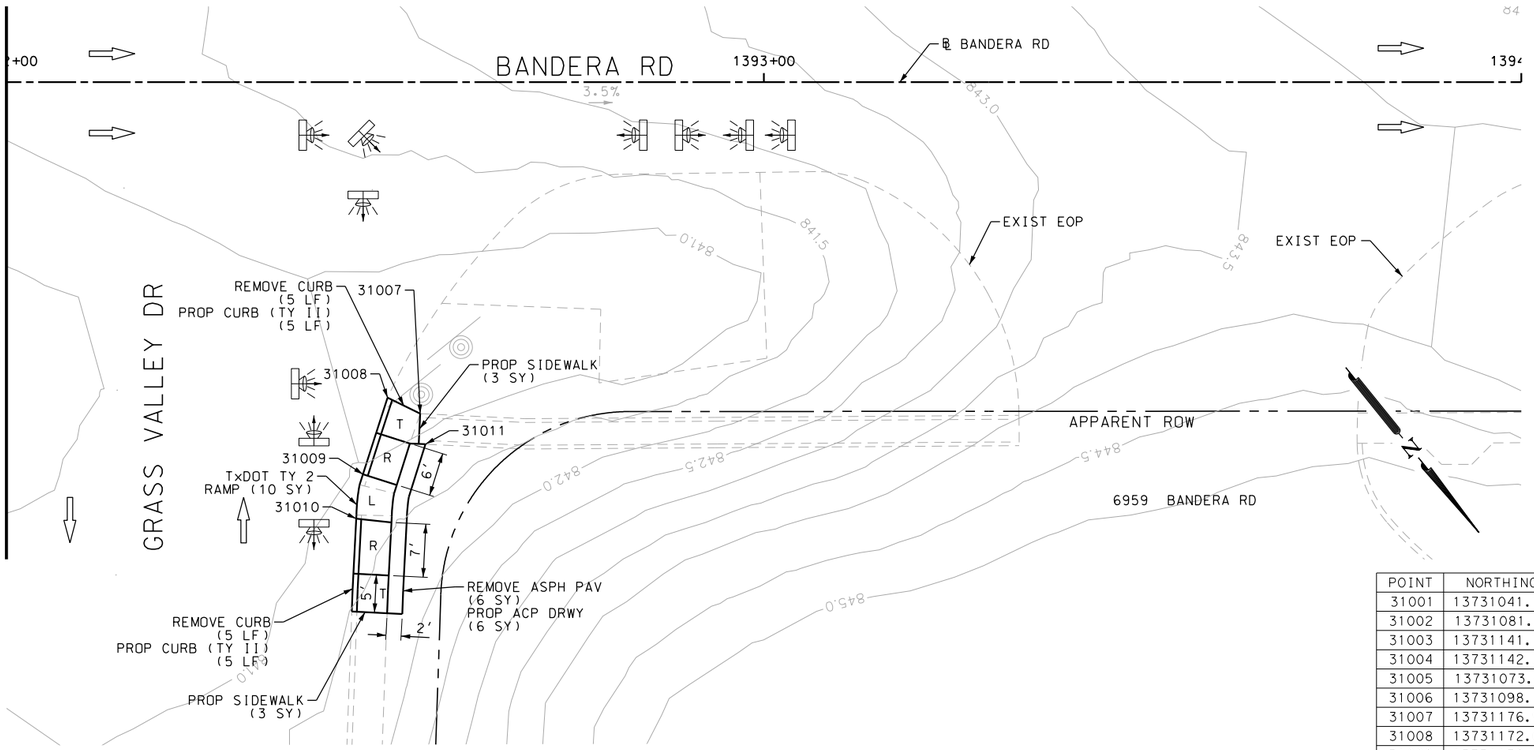
SHEET 9 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 234 |

Plotted on: 4/2/2019

Design Filename: P:\1111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*10.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 35 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 23 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 10 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 3 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 54 |
| 0162-6002 | BLOCK SODDING | SY | 54 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.84 |
| 0420-6074 | CL C CONC (MISC) | CY | 8.9 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 330 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 11 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 100 |
| 0471-6003 | GRATE & FRAME | EA | 9 |
| 0529-6002 | CONC CURB (TY II) | LF | 152 |
| 0529-6020 | CONC CURB & GUTTER (ARMOR CURB) | LF | 14 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 6 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 26 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 10 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 58 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 31001 | 13731041.78 | 2089191.47 | -- | ME |
| 31002 | 13731081.11 | 2089142.76 | -- | ME |
| 31003 | 13731141.77 | 2089135.44 | -- | ME |
| 31004 | 13731142.35 | 2089144.47 | -- | ME |
| 31005 | 13731073.01 | 2089173.49 | -- | ME |
| 31006 | 13731098.13 | 2089142.36 | -- | ME |
| 31007 | 13731176.98 | 2089070.73 | -- | ME |
| 31008 | 13731172.63 | 2089072.78 | -- | ME |
| 31009 | 13731178.47 | 2089081.64 | -- | ME |
| 31010 | 13731182.48 | 2089086.02 | -- | ME |
| 31011 | 13731180.56 | 2089072.72 | -- | ME |
| 31012 | 13731122.67 | 2089120.09 | -- | ME |

PAPE-DAWSON ENGINEERS
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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

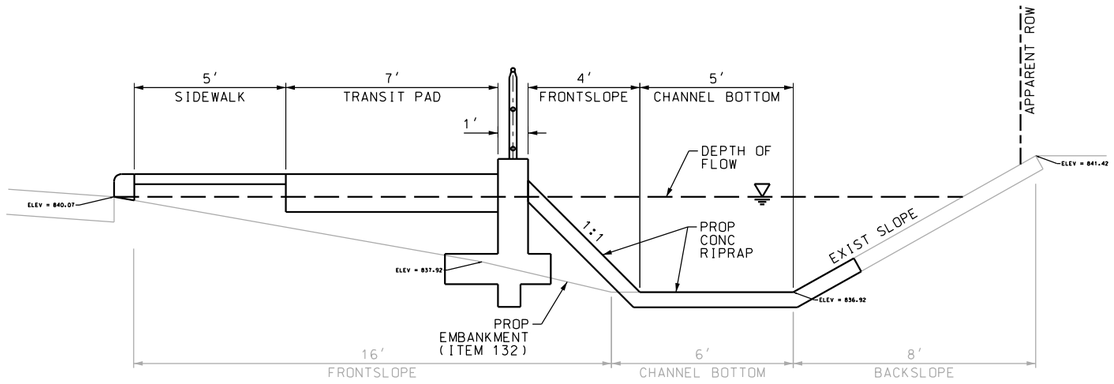
STA 1390+00 TO STA 1394+00

SHEET 10 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 235 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*11.dgn




# SECTION A-A

N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.007 | FT/FT | S | FL SLOPE | 0.007 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.015 | |
| A | AREA | 51.4 | SQ FT | A | AREA | 29.70 | SQ FT |
| P | WETTED PERIMETER | 28.6 | FT | P | WETTED PERIMETER | 15.90 | FT |
| R | HYDRAULIC RADIUS | 1.80 | FT | R | HYDRAULIC RADIUS | 1.87 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 314.9 | CFS | Q | DISCHARGE | 373.4 | CFS |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

SIDEWALK CONSTRUCTION PLAN

STA 1390+00 TO STA 1394+00

SHEET 11 OF 68

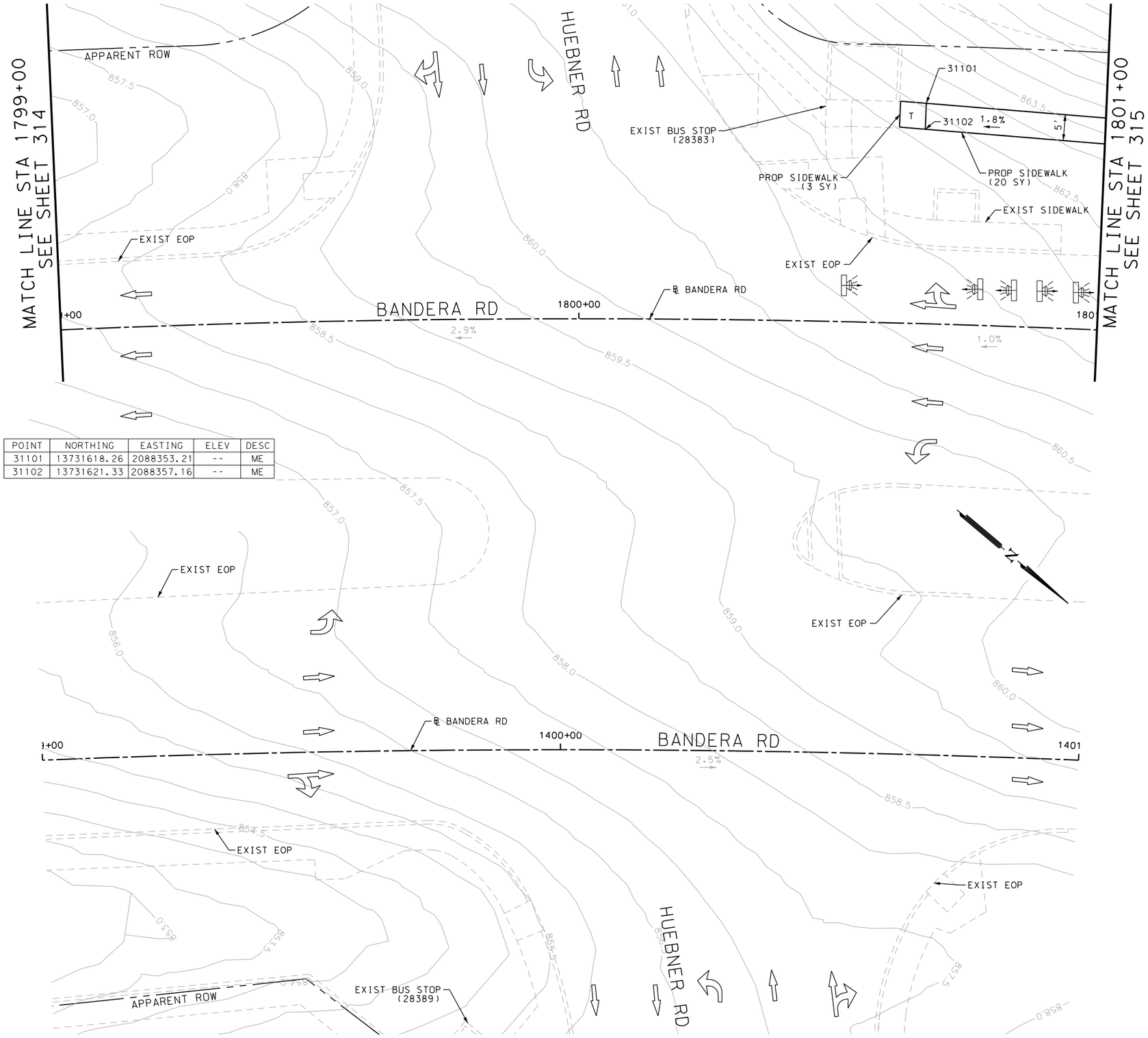
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 236 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*11*A.dgn

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350?*Bandera Dr*WB*12.dgn




| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 31101 | 13731618.26 | 2088353.21 | -- | ME |
| 31102 | 13731621.33 | 2088357.16 | -- | ME |

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 30 |
| 0162-6002 | BLOCK SODDING | SY | 30 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.47 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 23 |

NOTES:
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DESIGN

INTERIM REVIEW
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

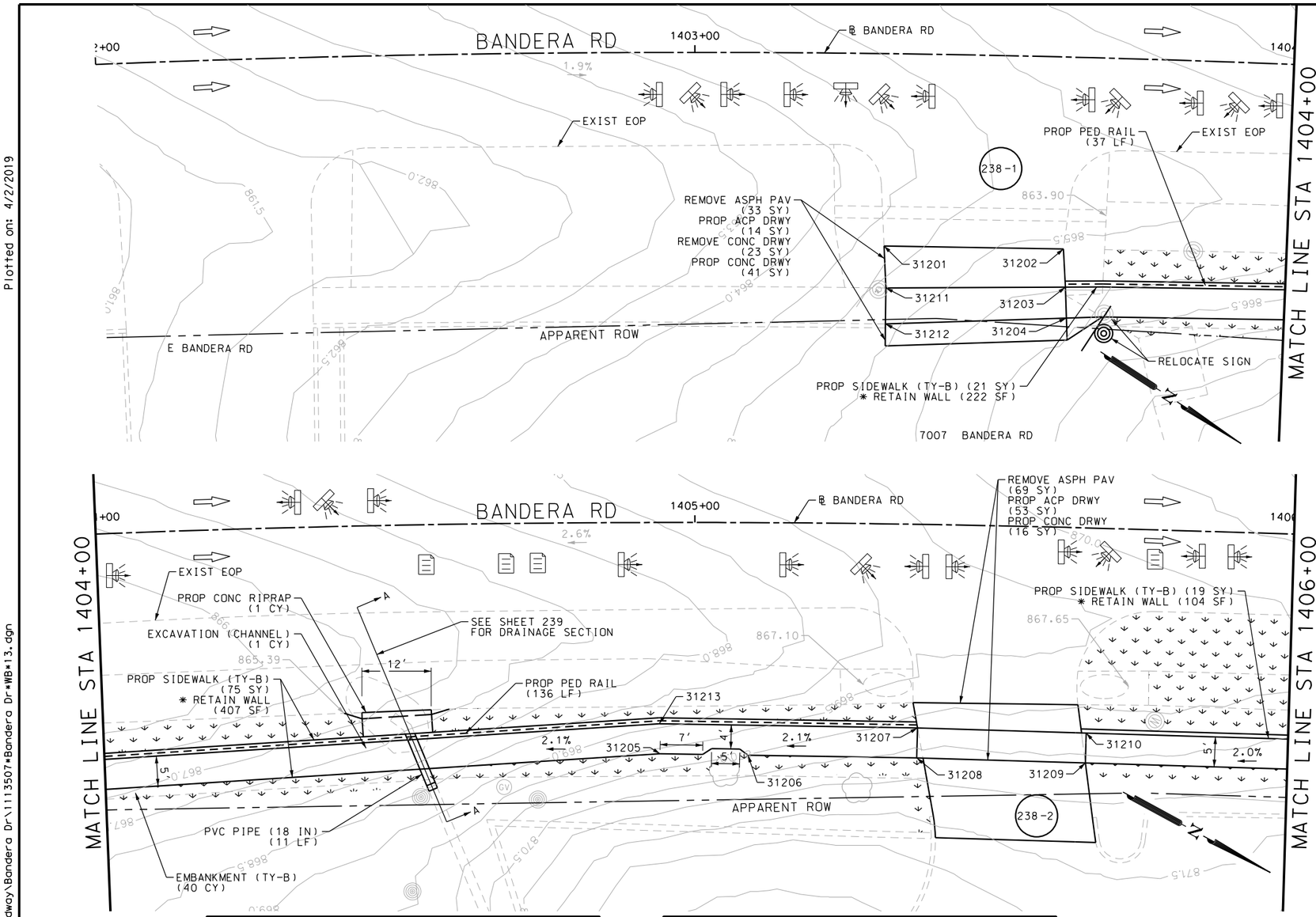


BANDERA RD

# SIDEWALK CONSTRUCTION PLAN
STA 1399+00 TO STA 1401+00
STA 1799+00 TO STA 1801+00

SHEET 12 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 237 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 23 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 102 |
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 1 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 40 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 200 |
| 0162-6002 | BLOCK SODDING | SY | 200 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.12 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 1 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 173 |
| 0481-6029 | PIPE (PVC) (SCH 80) (18 IN) | LF | 11 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 57 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 67 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 115 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

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DESIGN

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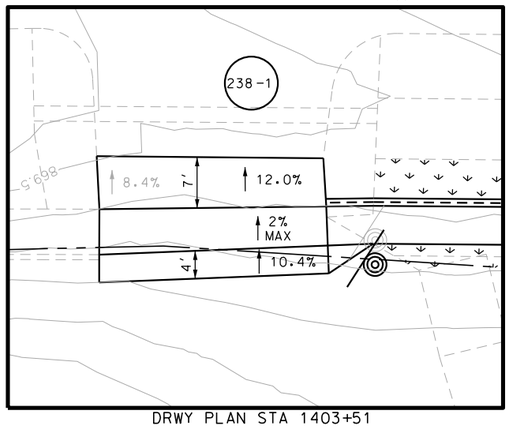
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

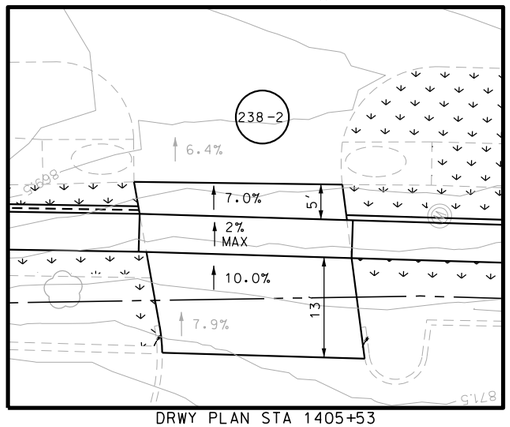
REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'



DRWY PLAN STA 1403+51



DRWY PLAN STA 1405+53

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 31201 | 13731929.23 | 2088324.83 | -- | ME |
| 31202 | 13731954.55 | 2088308.87 | -- | ME |
| 31203 | 13731958.32 | 2088314.02 | 866.59 | PROP |
| 31204 | 13731961.28 | 2088318.26 | 866.66 | PROP |
| 31205 | 13732070.09 | 2088249.06 | -- | ME |
| 31206 | 13732083.09 | 2088242.24 | -- | ME |
| 31207 | 13732105.75 | 2088224.70 | 870.16 | PROP |
| 31208 | 13732108.02 | 2088229.15 | 870.23 | PROP |
| 31209 | 13732133.11 | 2088216.40 | 870.26 | PROP |
| 31210 | 13732130.84 | 2088211.95 | 870.19 | PROP |
| 31211 | 13731933.32 | 2088330.53 | 865.90 | PROP |
| 31212 | 13731936.55 | 2088335.59 | 865.97 | PROP |
| 31213 | 13732067.58 | 2088244.73 | 869.26 | PROP |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

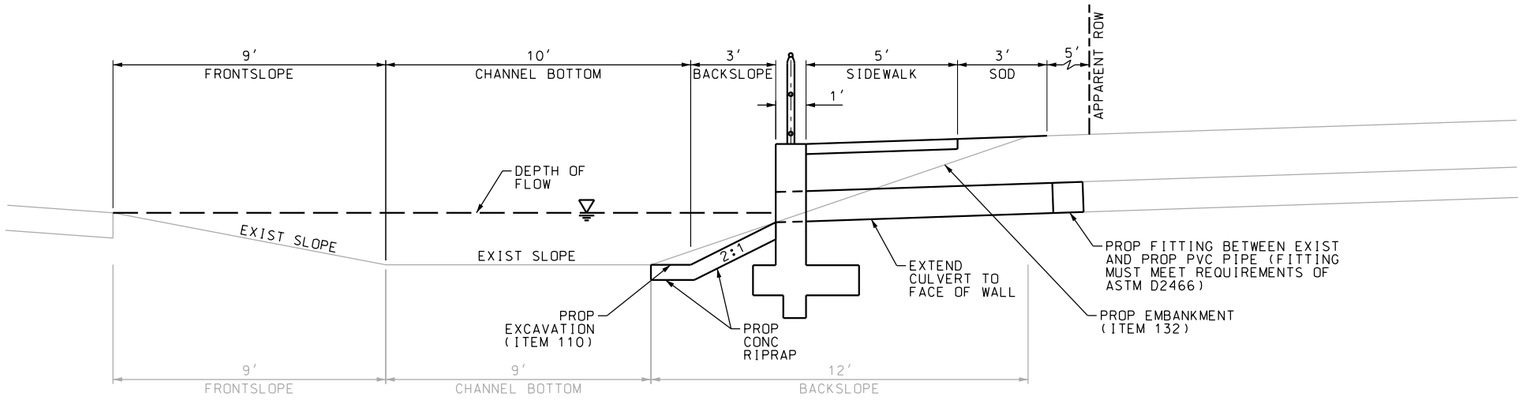
STA 1402+00 TO STA 1406+00

SHEET 13 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 238 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350 7*Bandera Dr*WB*13.dgn




# SECTION A-A

N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.055 | FT/FT | S | FL SLOPE | 0.055 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.030 | |
| A | AREA | 27.1 | SQ FT | A | AREA | 27.90 | SQ FT |
| P | WETTED PERIMETER | 23.3 | FT | P | WETTED PERIMETER | 22.70 | FT |
| R | HYDRAULIC RADIUS | 1.17 | FT | R | HYDRAULIC RADIUS | 1.23 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 349.3 | CFS | Q | DISCHARGE | 371.9 | CFS |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

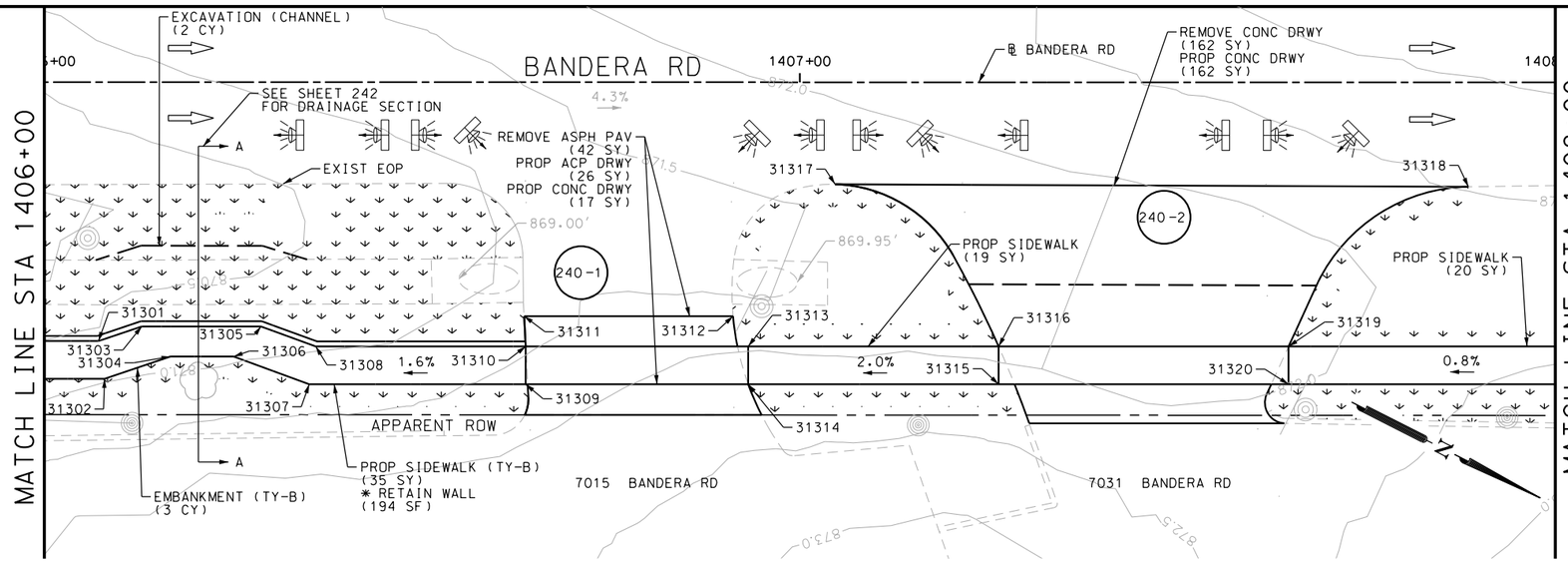
STA 1402+00 TO STA 1406+00

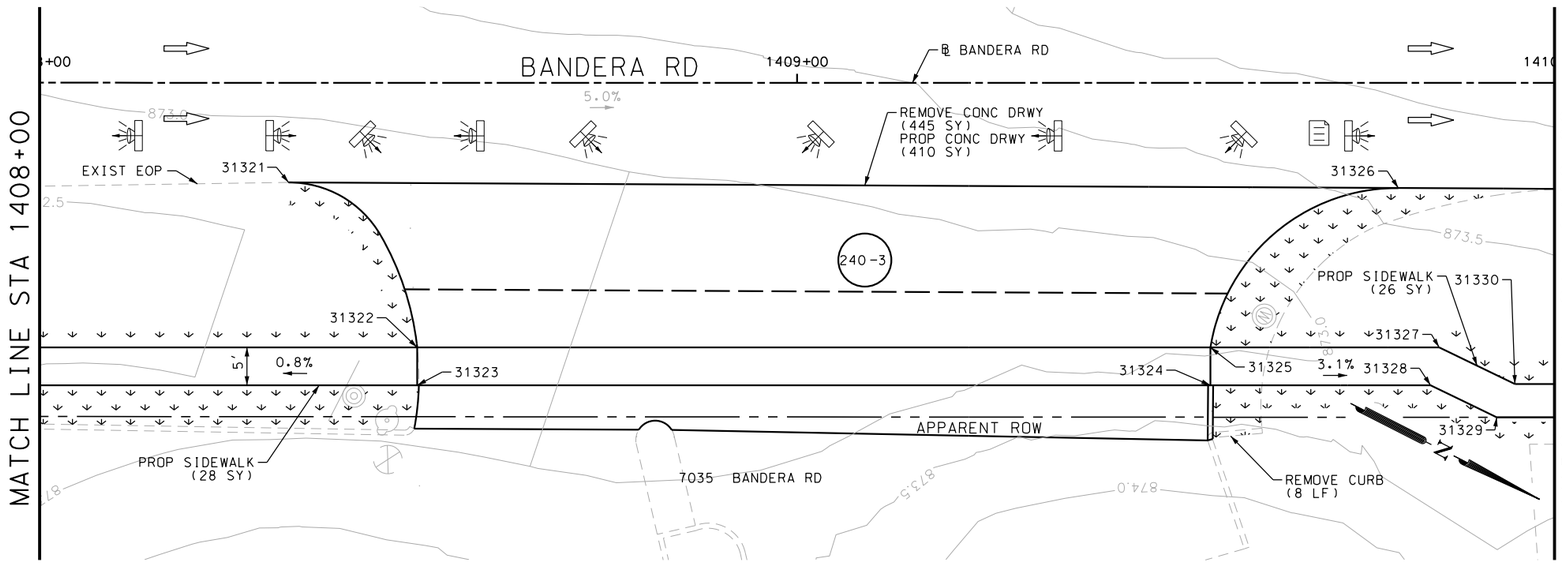
SHEET 14 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 239 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*13*A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 603 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 8 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 42 |
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 2 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 3 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 350 |
| 0162-6002 | BLOCK SODDING | SY | 350 |
| 0168-6001 | VEGETATIVE WATERING | MG | 5.46 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 589 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 26 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 93 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 35 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 31301 | 13732167.25 | 2088193.45 | 870.85 | PROP |
| 31302 | 13732170.24 | 2088197.54 | 871.92 | PROP |
| 31303 | 13732171.50 | 2088189.13 | 871.02 | PROP |
| 31304 | 13732176.70 | 2088190.97 | 871.10 | PROP |
| 31305 | 13732185.56 | 2088181.98 | 871.26 | PROP |
| 31306 | 13732184.14 | 2088187.19 | 871.18 | PROP |
| 31307 | 13732194.71 | 2088185.91 | 871.44 | PROP |
| 31308 | 13732193.23 | 2088181.05 | 871.37 | PROP |
| 31309 | 13732220.26 | 2088172.92 | 871.87 | PROP |
| 31310 | 13732218.00 | 2088168.47 | 871.80 | PROP |
| 31311 | 13732216.00 | 2088164.99 | -- | ME |
| 31312 | 13732240.65 | 2088152.47 | -- | ME |
| 31313 | 13732244.25 | 2088155.12 | 872.36 | PROP |
| 31314 | 13732246.52 | 2088159.58 | 872.43 | PROP |
| 31315 | 13732276.08 | 2088144.56 | 871.75 | PROP |
| 31316 | 13732273.81 | 2088140.11 | 871.68 | PROP |
| 31317 | 13732244.80 | 2088130.80 | -- | ME |
| 31318 | 13732319.67 | 2088093.11 | -- | ME |
| 31319 | 13732308.02 | 2088122.72 | 871.70 | PROP |
| 31320 | 13732310.29 | 2088127.18 | 871.77 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 31321 | 13732358.95 | 2088072.42 | -- | ME |
| 31322 | 13732383.95 | 2088084.14 | 872.42 | PROP |
| 31323 | 13732386.21 | 2088088.60 | 872.49 | PROP |
| 31324 | 13732479.58 | 2088041.16 | 873.18 | PROP |
| 31325 | 13732477.31 | 2088036.70 | 873.11 | PROP |
| 31326 | 13732489.90 | 2088006.70 | -- | ME |
| 31327 | 13732504.24 | 2088023.02 | 872.18 | PROP |
| 31328 | 13732505.49 | 2088028.00 | 872.25 | PROP |
| 31329 | 13732516.59 | 2088027.78 | 871.91 | PROP |
| 31330 | 13732515.35 | 2088022.80 | 871.84 | PROP |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

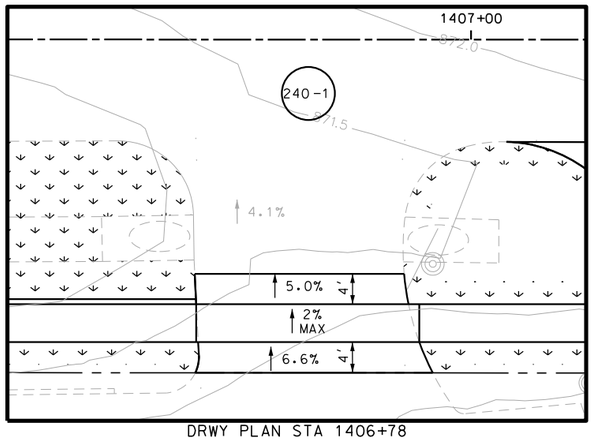
STA 1406+00 TO STA 1410+00

SHEET 15 OF 68

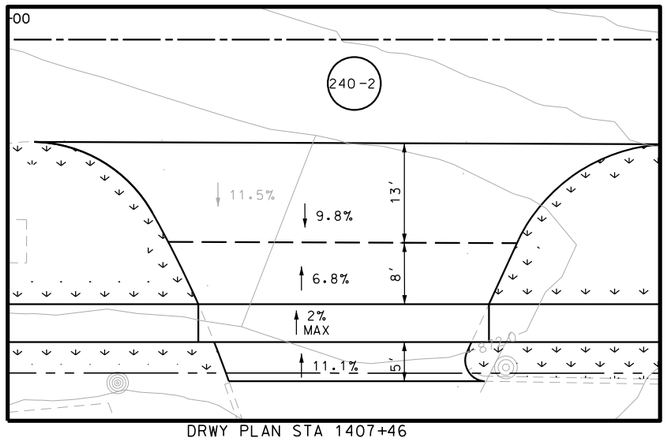
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 240 |

Plotted on: 4/2/2019

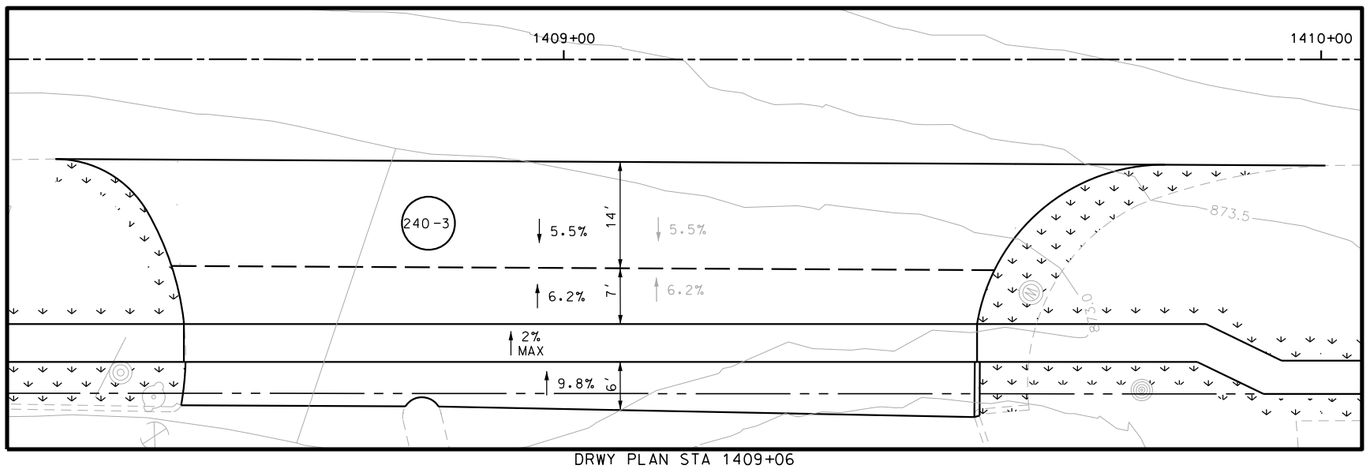
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*14.dgn




DRWY PLAN STA 1406+78




DRWY PLAN STA 1407+46




DRWY PLAN STA 1409+06

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



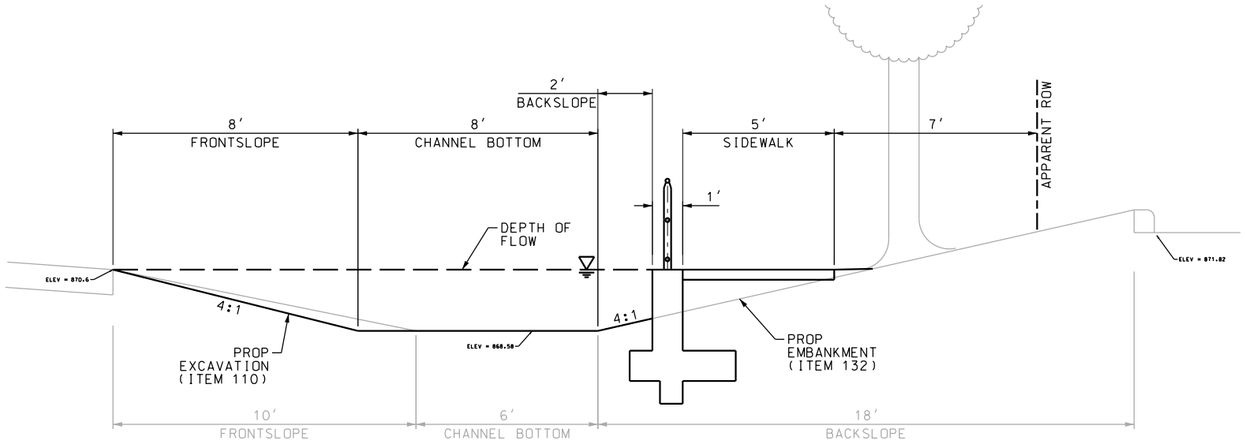
BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1406+00 TO STA 1410+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 241 |




# SECTION A–A

N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.011 | FT/FT | S | FL SLOPE | 0.011 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.030 | |
| A | AREA | 31.3 | SQ FT | A | AREA | 27.43 | SQ FT |
| P | WETTED PERIMETER | 25.4 | FT | P | WETTED PERIMETER | 18.10 | FT |
| R | HYDRAULIC RADIUS | 1.23 | FT | R | HYDRAULIC RADIUS | 1.52 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 186.9 | CFS | Q | DISCHARGE | 188.0 | CFS |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20′

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



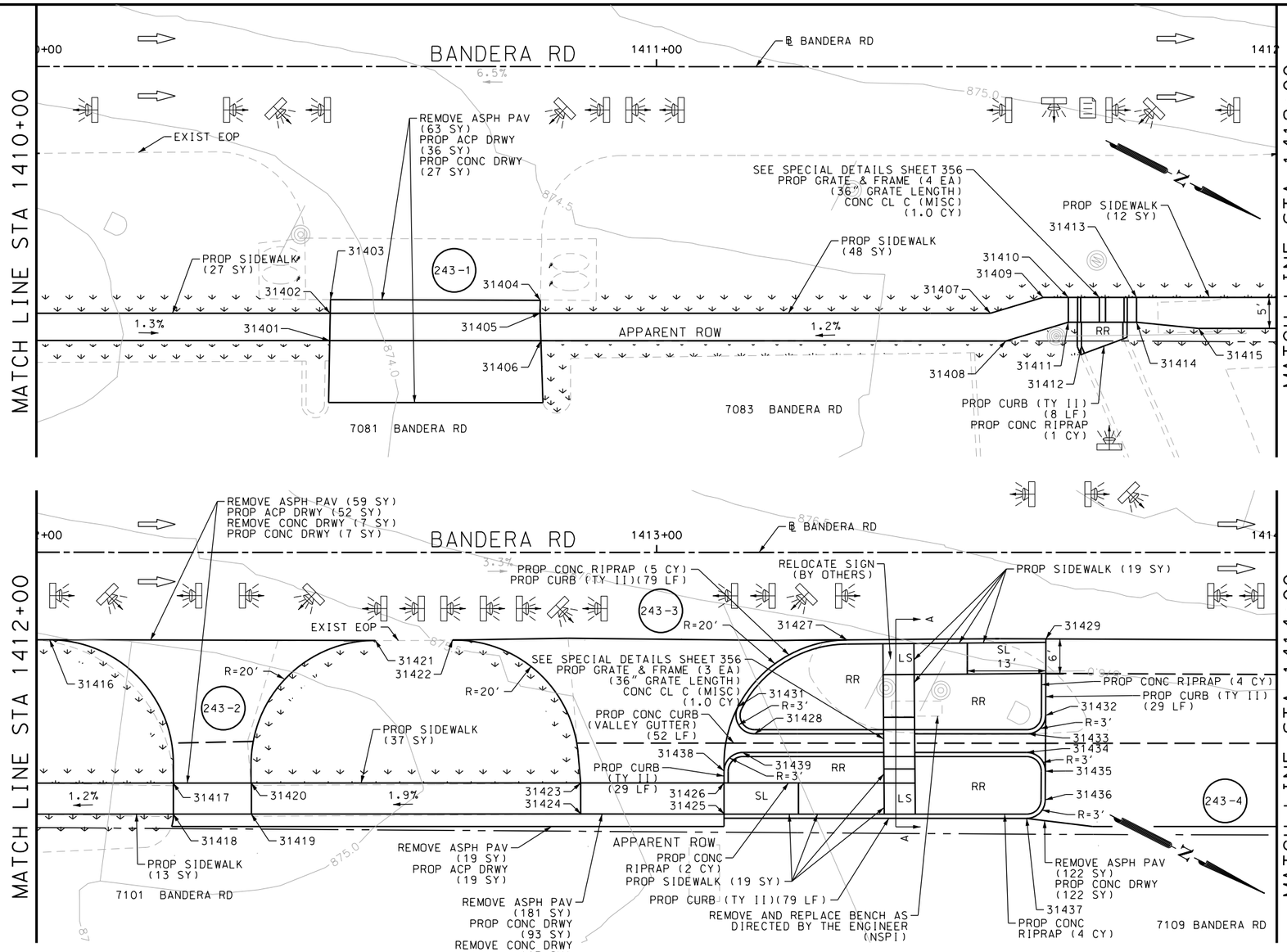
BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1406+00 TO STA 1410+00

SHEET 17 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 242 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 20 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 444 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 170 |
| 0162-6002 | BLOCK SODDING | SY | 170 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.65 |
| 0420-6074 | CL C CONC (MISC) | CY | 2.0 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 16 |
| 0471-6003 | GRATE & FRAME | EA | 7 |
| 0529-6002 | CONC CURB (TY II) | LF | 224 |
| 0529-6023 | CONC CURB & GUTTER(VALLEY GUTTER)(36") | LF | 52 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 249 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 107 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 175 |

NOTES:
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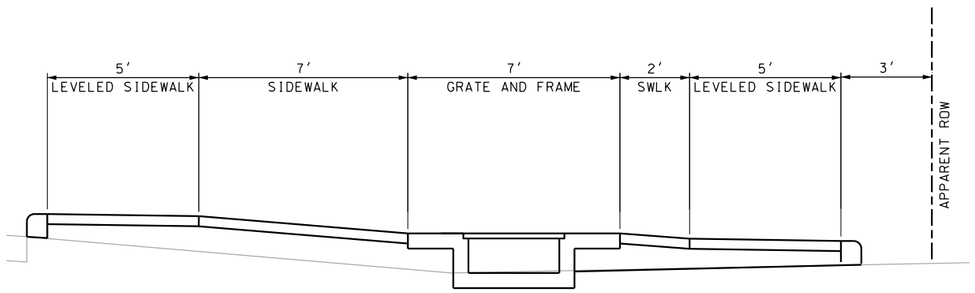
DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'




SECTION A-A
NTS

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 31401 | 13732564.42 | 2088003.47 | 872.11 | PROP |
| 31402 | 13732562.25 | 2087998.97 | 872.04 | PROP |
| 31403 | 13732561.29 | 2087997.00 | -- | ME |
| 31404 | 13732591.49 | 2087981.77 | -- | ME |
| 31405 | 13732592.39 | 2087983.65 | 872.73 | PROP |
| 31406 | 13732594.81 | 2087988.04 | 872.80 | PROP |
| 31407 | 13732657.15 | 2087950.75 | 873.60 | PROP |
| 31408 | 13732660.07 | 2087954.87 | 873.67 | PROP |
| 31409 | 13732663.58 | 2087944.62 | 873.71 | PROP |
| 31410 | 13732667.20 | 2087942.78 | 873.76 | PROP |
| 31411 | 13732669.01 | 2087946.35 | 873.83 | PROP |
| 31412 | 13732672.63 | 2087948.81 | -- | ME |
| 31413 | 13732677.01 | 2087937.80 | 873.94 | PROP |
| 31414 | 13732678.82 | 2087941.36 | 873.99 | PROP |
| 31415 | 13732688.19 | 2087937.73 | 874.15 | PROP |
| 31416 | 13732688.55 | 2087905.99 | -- | ME |
| 31417 | 13732716.81 | 2087917.56 | 874.47 | PROP |
| 31418 | 13732719.08 | 2087922.02 | 874.54 | PROP |
| 31419 | 13732730.29 | 2087916.33 | 874.59 | PROP |
| 31420 | 13732728.02 | 2087911.86 | 874.52 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 31421 | 13732735.42 | 2087882.29 | -- | ME |
| 31422 | 13732746.49 | 2087876.61 | -- | ME |
| 31423 | 13732775.36 | 2087887.79 | 875.51 | PROP |
| 31424 | 13732777.63 | 2087892.25 | 875.58 | PROP |
| 31425 | 13732798.25 | 2087881.80 | 875.53 | PROP |
| 31426 | 13732795.97 | 2087877.32 | 875.46 | PROP |
| 31427 | 13732803.20 | 2087847.76 | -- | ME |
| 31428 | 13732796.77 | 2087868.03 | -- | ME |
| 31429 | 13732831.72 | 2087833.08 | -- | ME |
| 31431 | 13732792.41 | 2087865.33 | -- | ME |
| 31432 | 13732837.27 | 2087844.10 | -- | ME |
| 31433 | 13732835.95 | 2087848.12 | -- | ME |
| 31434 | 13732837.27 | 2087850.82 | -- | ME |
| 31435 | 13732841.31 | 2087852.14 | -- | ME |
| 31436 | 13732843.39 | 2087856.27 | -- | ME |
| 31437 | 13732842.06 | 2087860.29 | -- | ME |
| 31438 | 13732795.10 | 2087875.61 | -- | ME |
| 31439 | 13732796.42 | 2087871.57 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

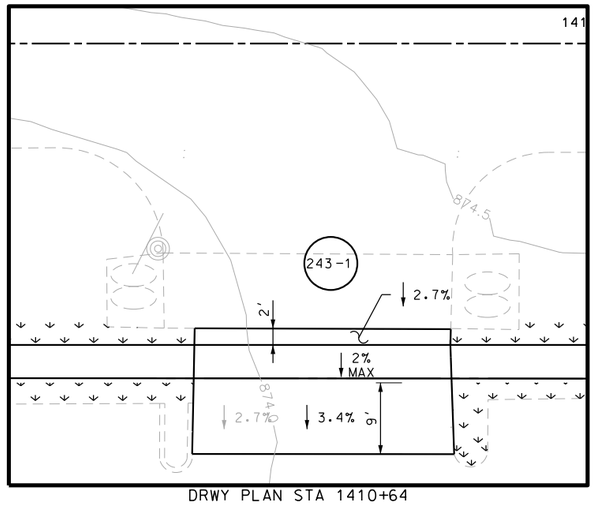
STA 1410+00 TO STA 1414+00

SHEET 18 OF 68

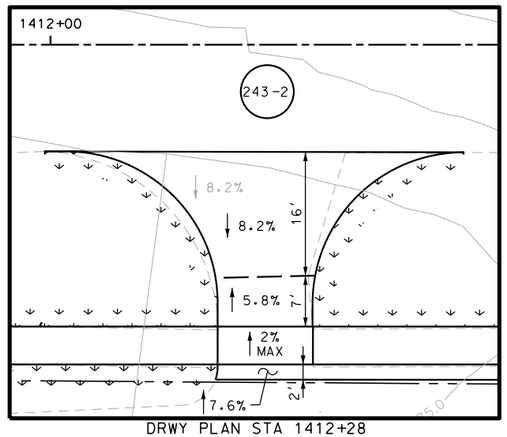
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 243 |

Plotted on: 4/2/2019

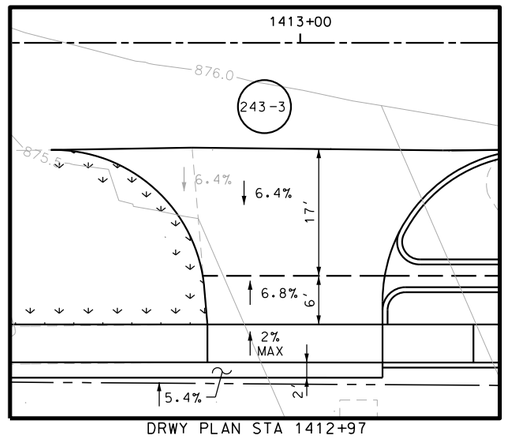
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507+Bandera Dr*WB*15.dgn



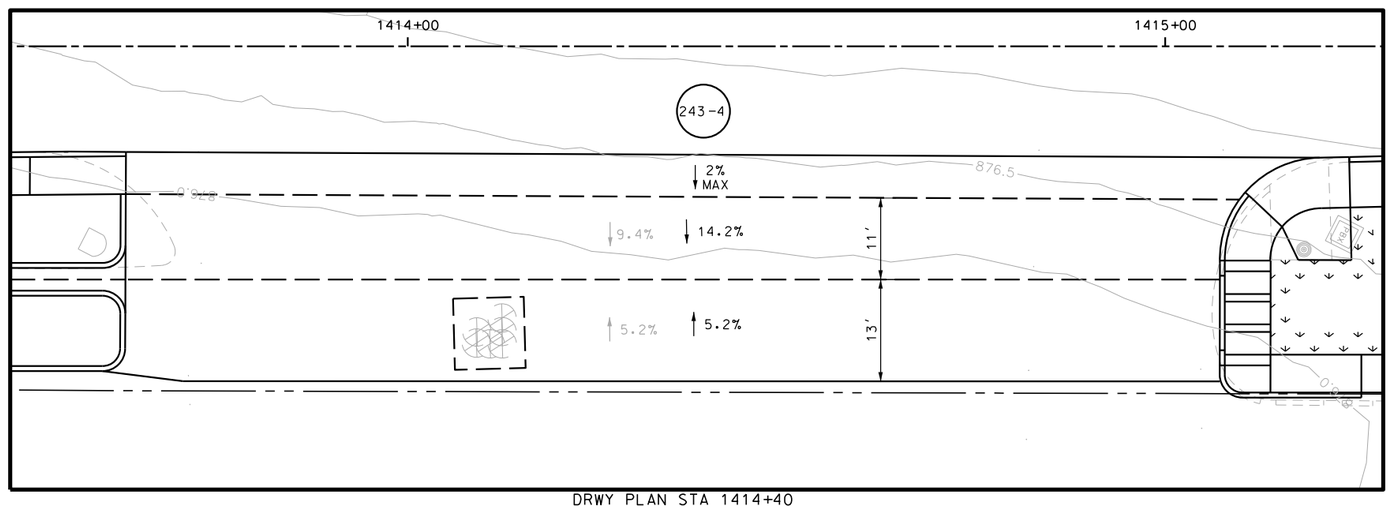

DRWY PLAN STA 1410+64




DRWY PLAN STA 1412+28




DRWY PLAN STA 1412+97




DRWY PLAN STA 1414+40

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

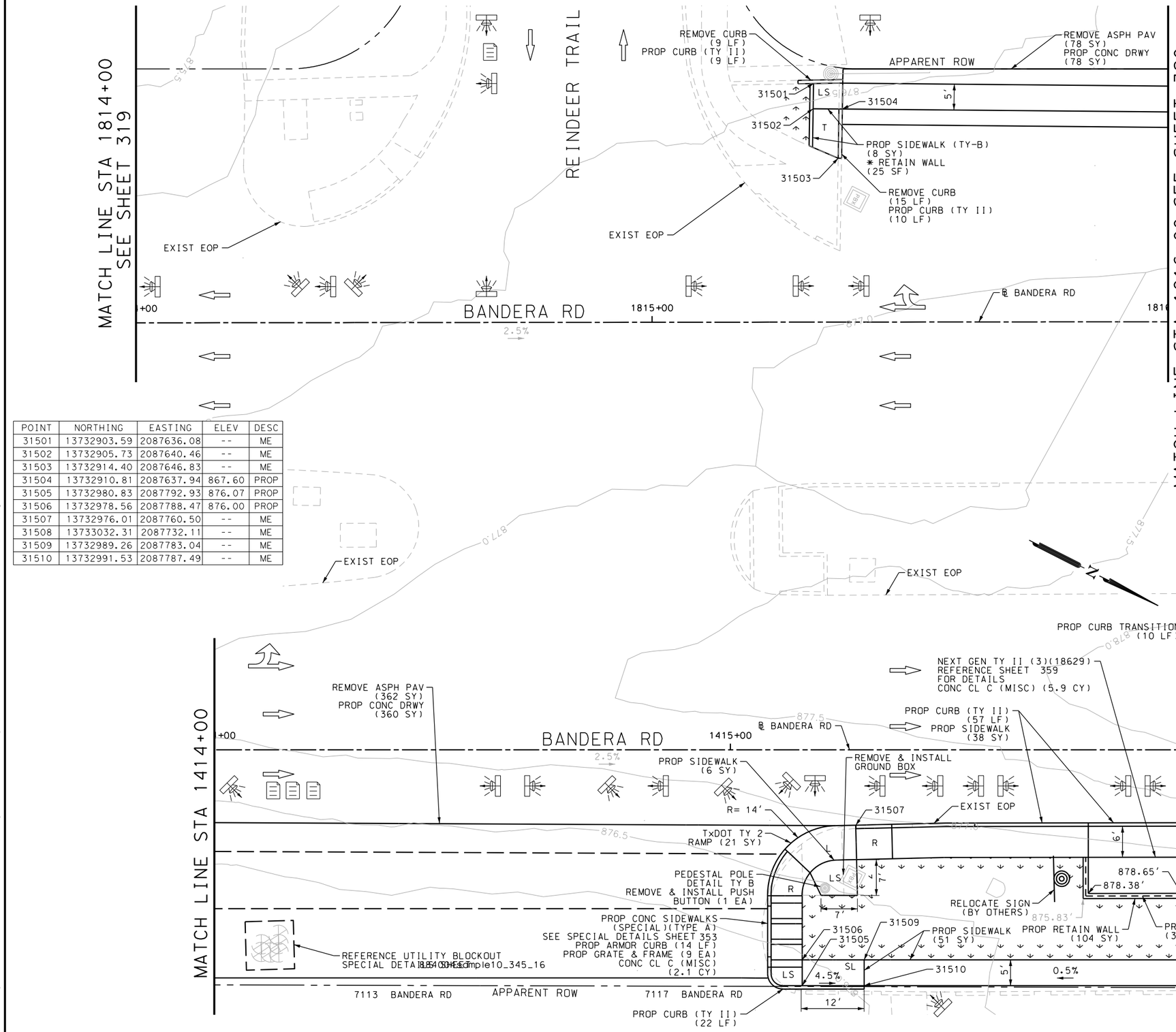
STA 1410+00 TO STA 1414+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 244 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111507*Bandera Dr*WB*15*A.dgn




| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 31501 | 13732903.59 | 2087636.08 | -- | ME |
| 31502 | 13732905.73 | 2087640.46 | -- | ME |
| 31503 | 13732914.40 | 2087646.83 | -- | ME |
| 31504 | 13732910.81 | 2087637.94 | 867.60 | PROP |
| 31505 | 13732980.83 | 2087792.93 | 876.07 | PROP |
| 31506 | 13732978.56 | 2087788.47 | 876.00 | PROP |
| 31507 | 13732976.01 | 2087760.50 | -- | ME |
| 31508 | 13733032.31 | 2087732.11 | -- | ME |
| 31509 | 13732989.26 | 2087783.04 | -- | ME |
| 31510 | 13732991.53 | 2087787.49 | -- | ME |

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 24 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 440 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 220 |
| 0162-6002 | BLOCK SODDING | SY | 220 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.43 |
| 0420-6074 | CL C CONC (MISC) | CY | 8.0 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 104 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 35 |
| 0471-6003 | GRATE & FRAME | EA | 9 |
| 0529-6002 | CONC CURB (TY II) | LF | 108 |
| 0529-6020 | CONC CURB & GUTTER (ARMOR CURB) | LF | 14 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 438 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 95 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 21 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 1 |
| 0624-6028 | REMOVE GROUND BOX | EA | 1 |
| 0688-6001 | PED DETECT PUSH BUTTON (APS) | EA | 1 |
| 0690-6030 | REMOVAL OF PEDESTRIAN PUSH BUTTONS | EA | 1 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

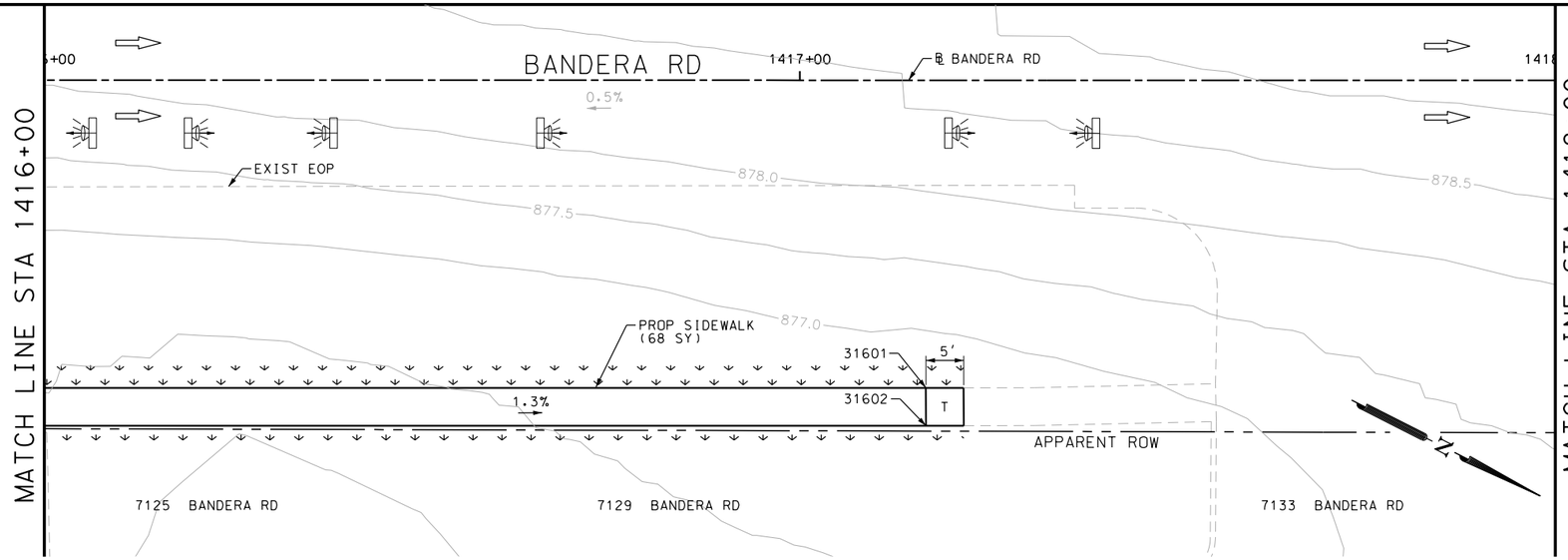
STA 1414+00 TO STA 1416+00
STA 1814+00 TO STA 1816+00

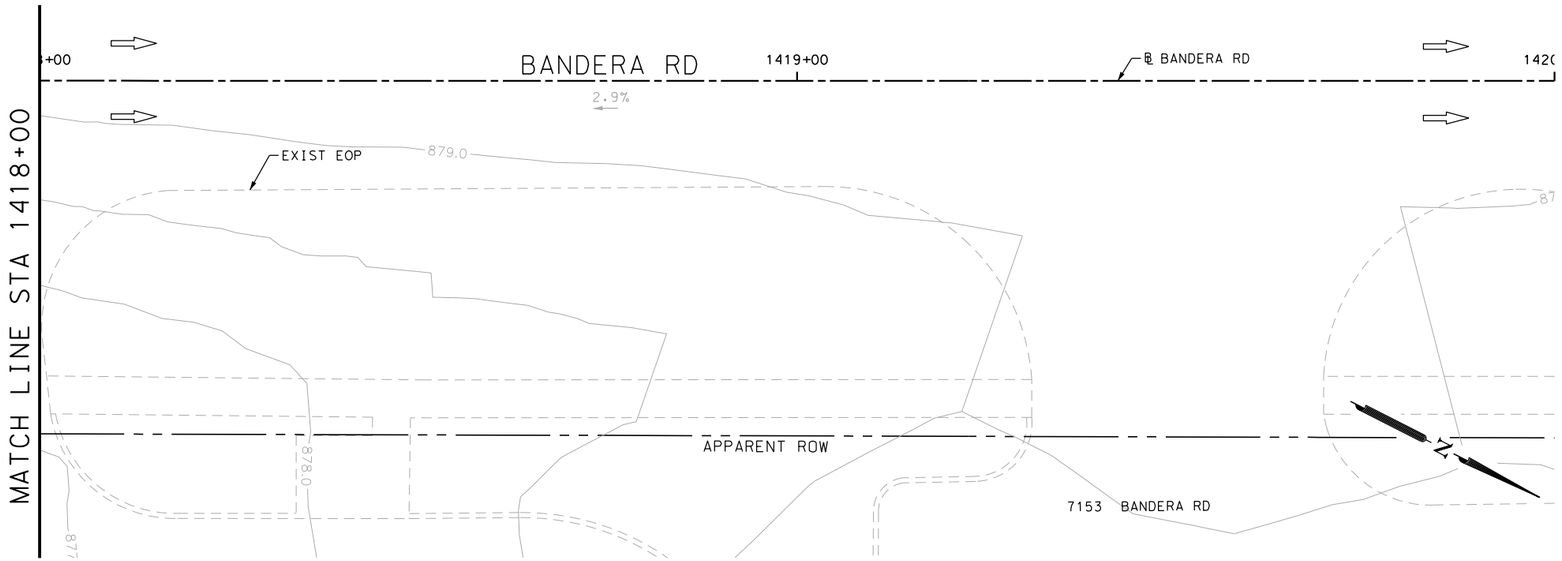
SHEET 20 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 245 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350 7*Bandera Dr*WB*16.dgn




| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 31601 | 13733159.35 | 2087696.63 | 877.05 | PROP |
| 31602 | 13733161.63 | 2087701.08 | 877.12 | PROP |

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 85 |
| 0162-6002 | BLOCK SODDING | SY | 85 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.33 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 68 |

NOTES:
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DESIGN

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DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

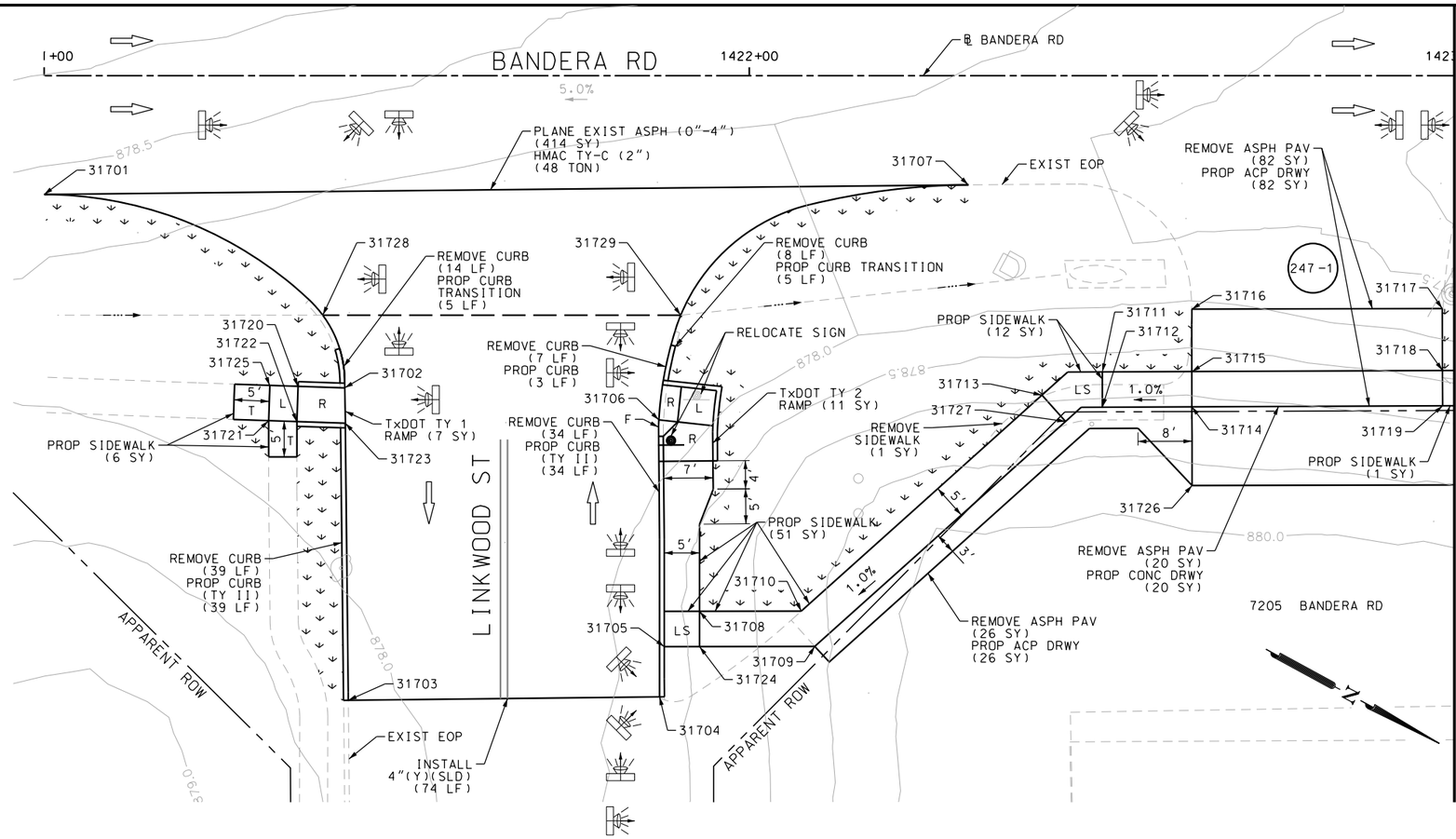
# SIDEWALK CONSTRUCTION PLAN

STA 1416+00 TO STA 1420+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 246 |

Plotted on: 4/2/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*17.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 102 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 1 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 128 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 115 |
| 0162-6002 | BLOCK SODDING | SY | 115 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.79 |
| 0340-6066 | D-GR HMA(SQ) TY-C PG76-22 | TON | 48.0 |
| 0354-6023 | PLANE ASPH CONC PAV(0" TO 4") | SY | 414 |
| 0529-6002 | CONC CURB (TY II) | LF | 86 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 20 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 108 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 69 |
| 0531-6018 | CURB RAMPS (TY 1) | SY | 7 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 11 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 74 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 74 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 74 |

NOTES:
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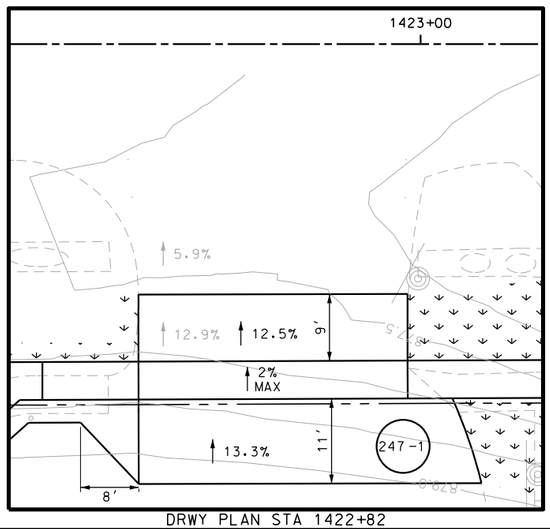
DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019



DRWY PLAN STA 1422+82

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 31701 | 13733489.49 | 2087499.23 | -- | ME |
| 31702 | 13733540.05 | 2087502.99 | -- | ME |
| 31703 | 13733561.63 | 2087541.66 | -- | ME |
| 31704 | 13733600.19 | 2087520.14 | -- | ME |
| 31705 | 13733597.37 | 2087513.57 | -- | ME |
| 31706 | 13733581.35 | 2087485.71 | -- | ME |
| 31707 | 13733604.01 | 2087435.47 | -- | ME |
| 31708 | 13733599.37 | 2087506.79 | -- | ME |
| 31709 | 13733616.12 | 2087503.36 | 878.62 | PROP |
| 31710 | 13733612.05 | 2087499.89 | 878.55 | PROP |
| 31711 | 13733633.38 | 2087449.69 | 879.05 | PROP |
| 31712 | 13733635.77 | 2087454.08 | 879.12 | PROP |
| 31713 | 13733627.42 | 2087456.68 | -- | ME |
| 31714 | 13733646.89 | 2087447.98 | 879.28 | PROP |
| 31715 | 13733644.50 | 2087443.61 | 879.21 | PROP |
| 31716 | 13733640.25 | 2087435.83 | -- | ME |
| 31717 | 13733671.43 | 2087418.79 | -- | ME |
| 31718 | 13733675.65 | 2087426.50 | 878.58 | PROP |
| 31719 | 13733678.06 | 2087430.88 | 878.65 | PROP |
| 31720 | 13733534.12 | 2087505.95 | -- | ME |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 31721 | 13733532.78 | 2087512.21 | 877.82 | PROP |
| 31722 | 13733536.36 | 2087510.42 | -- | ME |
| 31723 | 13733542.51 | 2087507.35 | -- | ME |
| 31724 | 13733601.76 | 2087511.18 | -- | ME |
| 31725 | 13733530.54 | 2087507.74 | 877.75 | PROP |
| 31726 | 13733652.24 | 2087457.76 | -- | ME |
| 31727 | 13733632.13 | 2087458.35 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

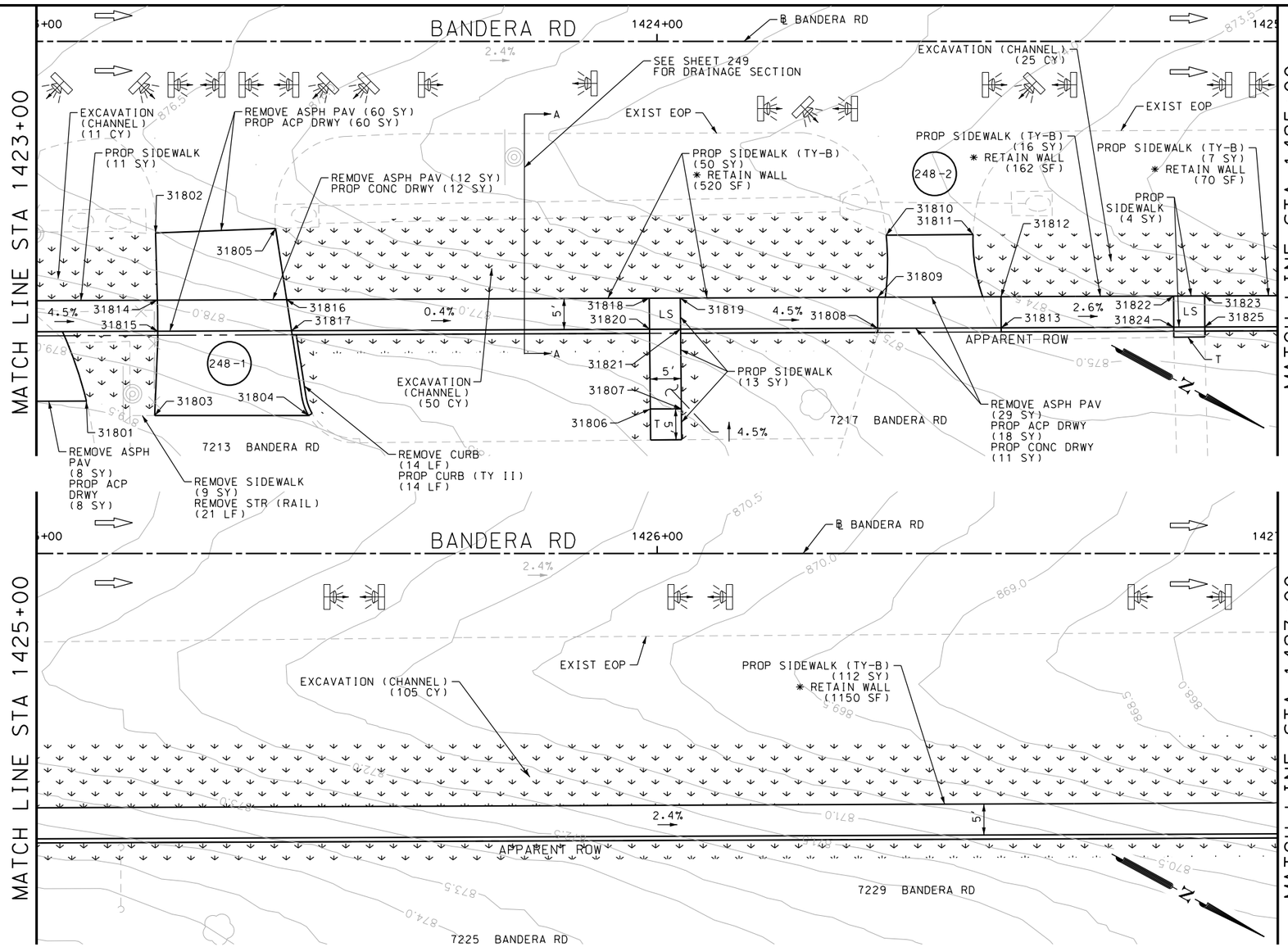
STA 1421+00 TO STA 1423+00

SHEET 22 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 247 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*18.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 14 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 9 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 109 |
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 191 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 590 |
| 0162-6002 | BLOCK SODDING | SY | 590 |
| 0168-6001 | VEGETATIVE WATERING | MG | 9.20 |
| 0496-6099 | REMOVE STR (RAIL) | LF | 21 |
| 0529-6002 | CONC CURB (TY II) | LF | 14 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 23 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 86 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 28 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 118 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



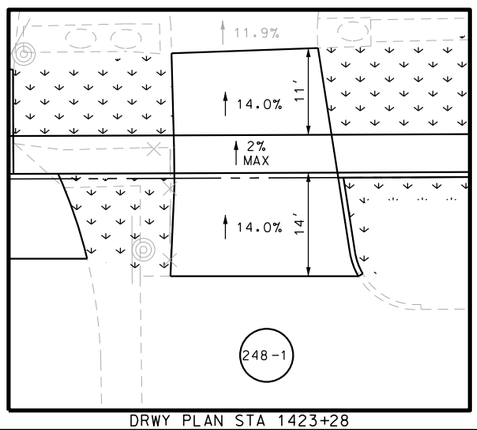
BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

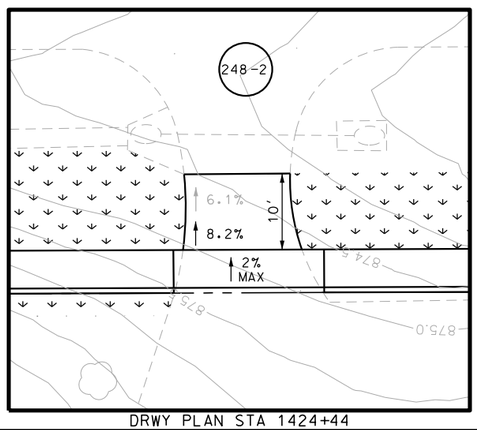
STA 1423+00 TO STA 1427+00

SHEET 23 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 248 |



DRWY PLAN STA 1423+28



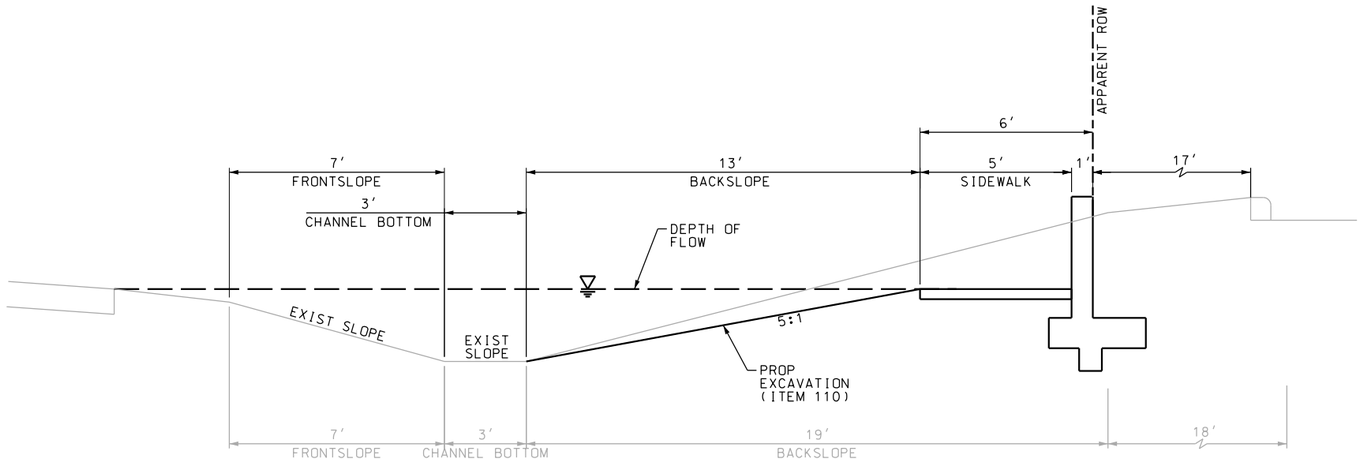
DRWY PLAN STA 1424+44

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 31801 | 13733691.95 | 2087436.06 | -- | ME |
| 31802 | 13733688.80 | 2087406.93 | -- | ME |
| 31803 | 13733702.73 | 2087432.86 | -- | ME |
| 31804 | 13733724.52 | 2087421.02 | -- | ME |
| 31805 | 13733705.45 | 2087397.08 | -- | ME |
| 31806 | 13733772.41 | 2087393.80 | -- | ME |
| 31807 | 13733776.78 | 2087391.37 | -- | ME |
| 31808 | 13733798.39 | 2087364.87 | -- | ME |
| 31809 | 13733795.97 | 2087360.50 | 875.70 | PROP |
| 31810 | 13733792.42 | 2087351.04 | -- | ME |
| 31811 | 13733804.67 | 2087344.25 | -- | ME |
| 31812 | 13733813.41 | 2087350.93 | 875.11 | PROP |
| 31813 | 13733815.82 | 2087355.31 | -- | ME |
| 31816 | 13733712.49 | 2087406.29 | 877.51 | PROP |
| 31817 | 13733715.57 | 2087410.31 | 877.58 | PROP |
| 31818 | 13733763.73 | 2087378.18 | 877.25 | PROP |
| 31819 | 13733768.12 | 2087375.78 | 877.18 | PROP |
| 31820 | 13733766.16 | 2087382.55 | 877.32 | PROP |
| 31822 | 13733837.80 | 2087337.55 | 874.40 | PROP |
| 31823 | 13733842.18 | 2087335.15 | 874.47 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 31824 | 13733840.20 | 2087341.94 | 874.47 | PROP |
| 31825 | 13733844.59 | 2087339.53 | 874.54 | PROP |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*19.dgn




## SECTION A–A

N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.015 | FT/FT | S | FL SLOPE | 0.015 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.030 | |
| A | AREA | 28.4 | SQ FT | A | AREA | 34.30 | SQ FT |
| P | WETTED PERIMETER | 23.5 | FT | P | WETTED PERIMETER | 28.30 | FT |
| R | HYDRAULIC RADIUS | 1.21 | FT | R | HYDRAULIC RADIUS | 1.21 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 195.5 | CFS | Q | DISCHARGE | 236.5 | CFS |

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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

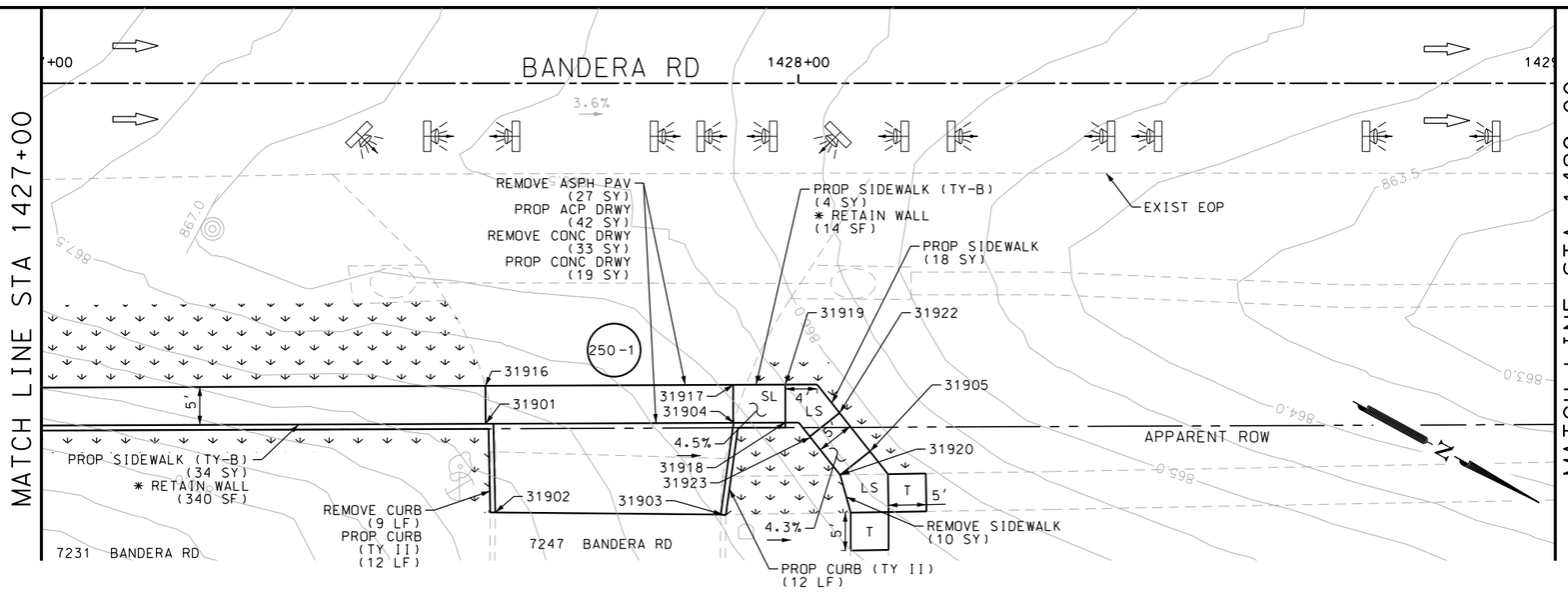
# SIDEWALK CONSTRUCTION PLAN

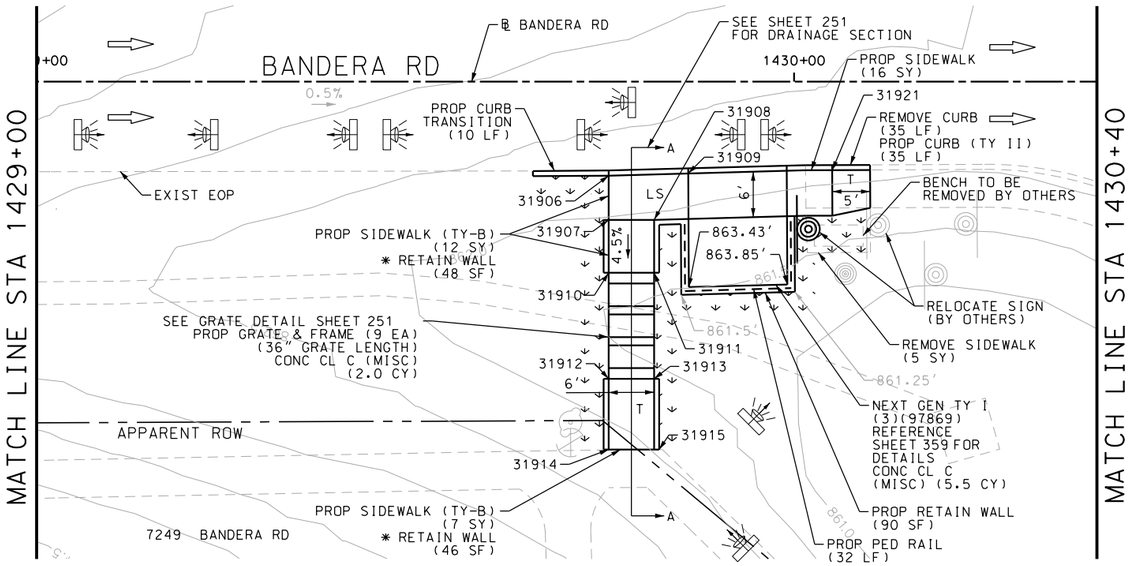
STA 1423+00 TO STA 1427+00

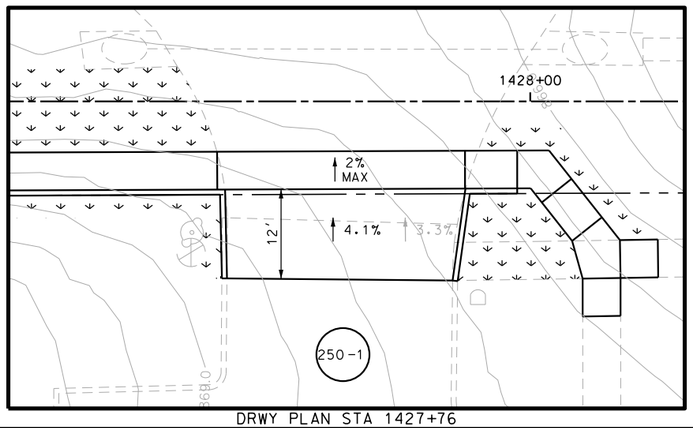


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 249 |

Plotted on: 4/2/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111507*Bandera Dr*WB*19*A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 33 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 44 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 15 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 27 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 155 |
| 0162-6002 | BLOCK SODDING | SY | 155 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.42 |
| 0420-6074 | CL C CONC (MISC) | CY | 7.5 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 90 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 32 |
| 0471-6003 | GRATE & FRAME | EA | 9 |
| 0529-6002 | CONC CURB (TY II) | LF | 69 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 19 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 42 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 34 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 57 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1427+00 TO STA 1430+00

SHEET 25 OF 68

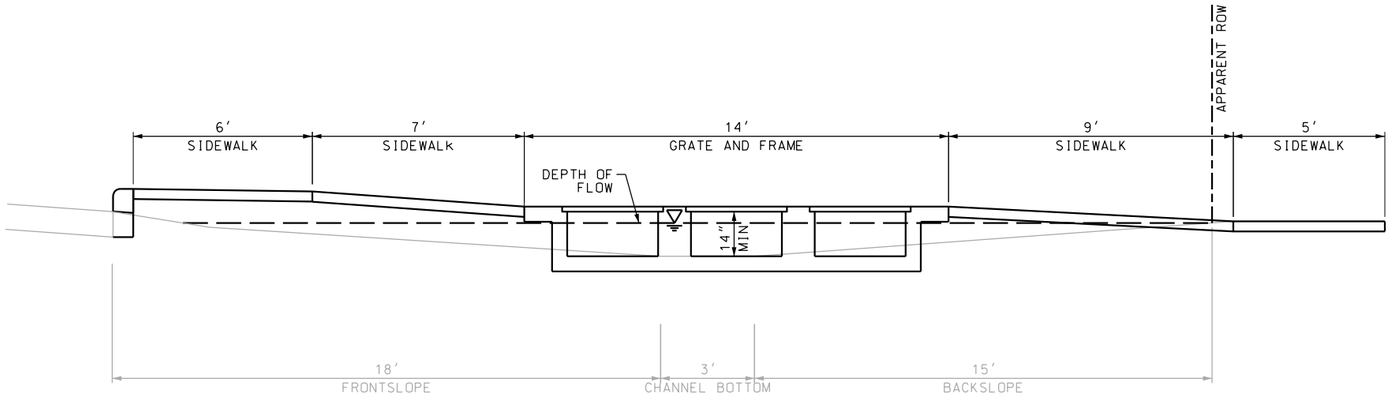
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 250 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 31901 | 13734081.68 | 2087209.47 | 868.05 | PROP |
| 31902 | 13734088.40 | 2087219.15 | -- | ME |
| 31903 | 13734114.70 | 2087205.16 | -- | ME |
| 31904 | 13734110.36 | 2087193.73 | 867.40 | PROP |
| 31905 | 13734128.04 | 2087188.44 | 866.80 | PROP |
| 31906 | 13734256.68 | 2087077.36 | -- | ME |
| 31907 | 13734259.47 | 2087082.49 | -- | ME |
| 31908 | 13734264.74 | 2087079.62 | -- | ME |
| 31909 | 13734265.78 | 2087072.09 | -- | ME |
| 31910 | 13734262.80 | 2087088.62 | 862.71 | PROP |
| 31911 | 13734268.07 | 2087085.76 | 862.71 | PROP |
| 31912 | 13734269.49 | 2087100.92 | 862.71 | PROP |
| 31913 | 13734274.76 | 2087098.06 | 862.71 | PROP |
| 31914 | 13734273.95 | 2087109.14 | 862.50 | PROP |
| 31915 | 13734280.18 | 2087105.75 | -- | ME |
| 31916 | 13734079.26 | 2087205.09 | -- | ME |
| 31917 | 13734107.97 | 2087189.34 | -- | ME |
| 31918 | 13734116.40 | 2087190.42 | 867.12 | PROP |
| 31919 | 13734114.00 | 2087186.03 | 867.05 | PROP |
| 31920 | 13734126.08 | 2087193.03 | 866.87 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 31921 | 13734282.27 | 2087062.64 | -- | ME |
| 31922 | 13734122.09 | 2087185.89 | -- | ME |
| 31923 | 13734120.13 | 2087190.49 | -- | ME |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507+Bandera Dr+WB+20.dgn



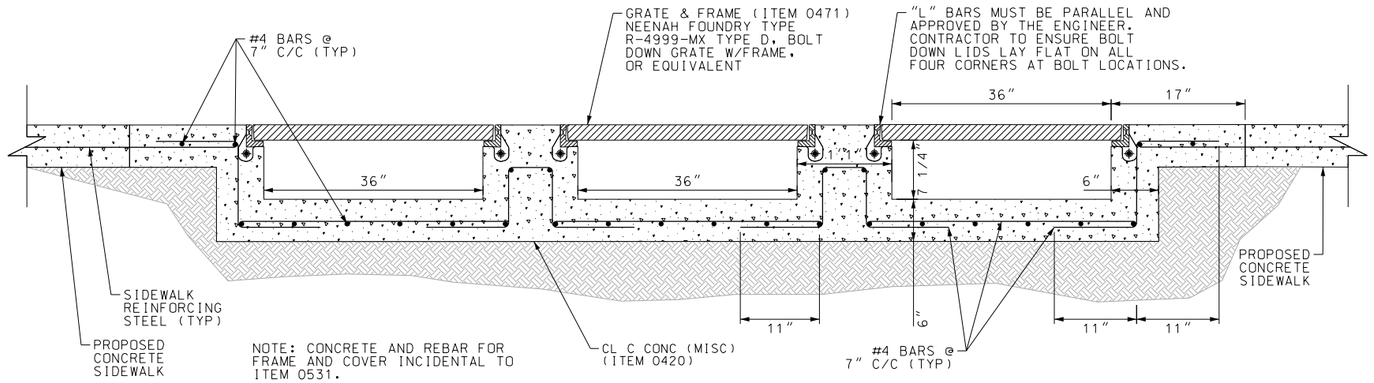

# SECTION A-A

N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.020 | FT/FT | S | FL SLOPE | 0.020 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.015 | |
| A | AREA | 21.0 | SQ FT | A | AREA | 10.20 | SQ FT |
| P | WETTED PERIMETER | 34.1 | FT | P | WETTED PERIMETER | 15.60 | FT |
| R | HYDRAULIC RADIUS | 0.62 | FT | R | HYDRAULIC RADIUS | 0.65 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 106.5 | CFS | Q | DISCHARGE | 107.7 | CFS |

# GRATE DETAIL

N.T.S.




NOTES:
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DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20′

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

SIDEWALK CONSTRUCTION PLAN

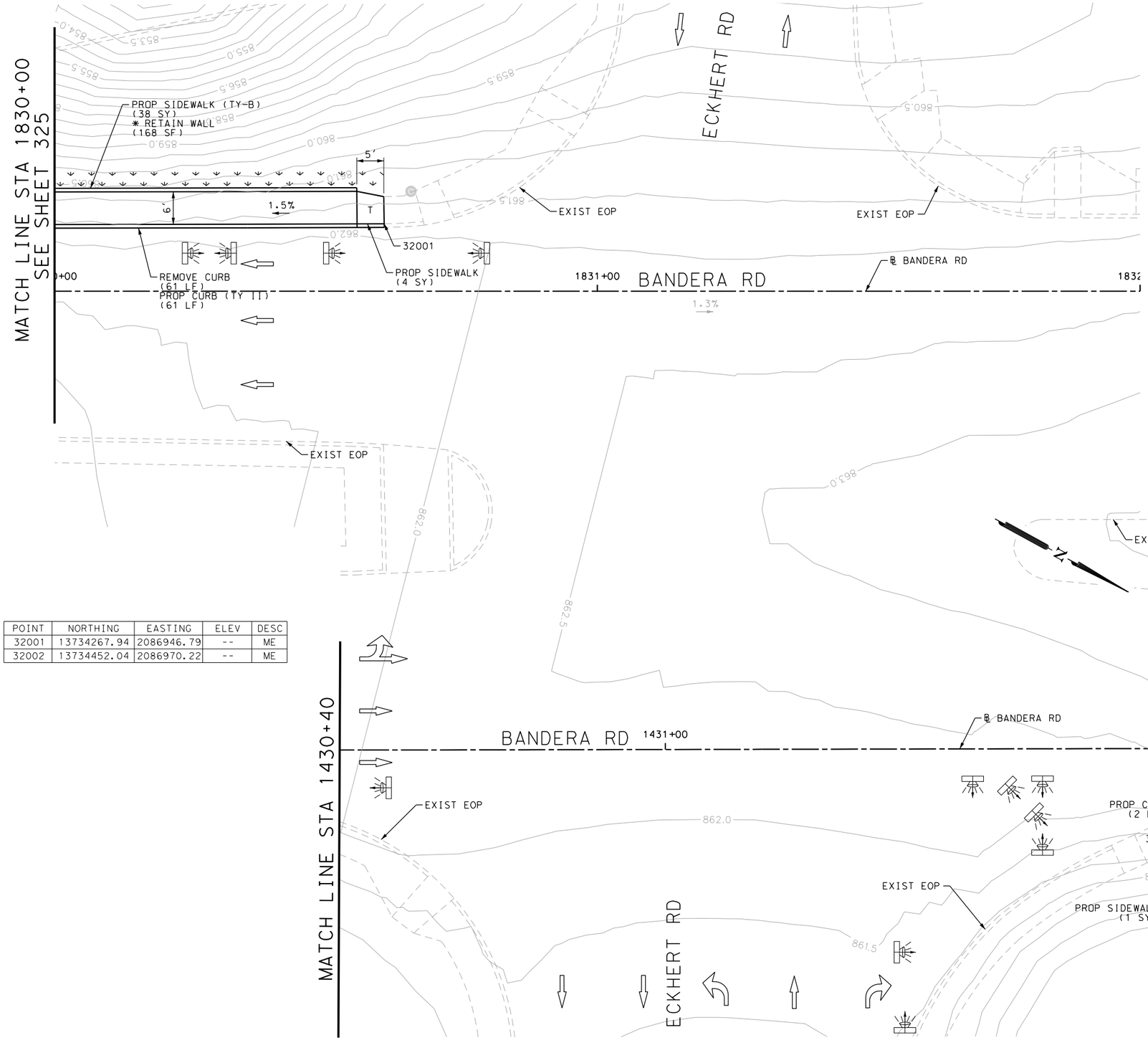
STA 1427+00 TO STA 1430+00

SHEET 26 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 251 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*20*A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 61 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 22 |
| 0162-6002 | BLOCK SODDING | SY | 22 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.34 |
| 0529-6002 | CONC CURB (TY II) | LF | 63 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 5 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 38 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 32001 | 13734267.94 | 2086946.79 | -- | ME |
| 32002 | 13734452.04 | 2086970.22 | -- | ME |

NOTES:
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INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

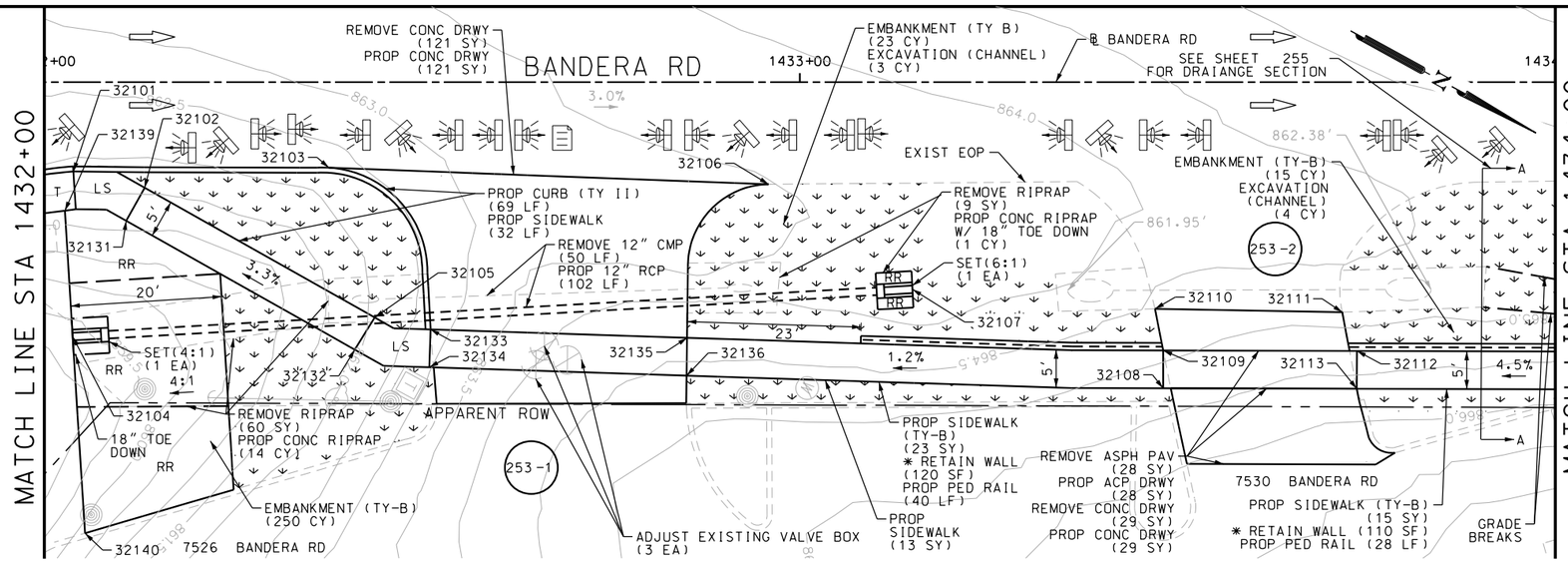
# SIDEWALK CONSTRUCTION PLAN
STA 1430+00 TO STA 1432+00
STA 1830+00 TO STA 1832+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 252 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*21.dgn




NOTE: FOR SET RIPRAP AND TOE DOWN DIMENSIONS, SEE STANDARDS PSET-SP AND PSET-RR

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 90 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 236 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 384 |
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 14 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 317 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 415 |
| 0162-6002 | BLOCK SODDING | SY | 415 |
| 0168-6001 | VEGETATIVE WATERING | MG | 6.47 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 18 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 146 |
| 0464-6001 | RC PIPE (CL III)(12 IN) | LF | 227 |
| 0467-6324 | SET (TY II) (12 IN) (RCP) (4: 1) (P) | EA | 2 |
| 0467-6326 | SET (TY II) (12 IN) (RCP) (6: 1) (P) | EA | 3 |
| 0496-6007 | REMOV STR (PIPE) | LF | 206 |
| 0529-6002 | CONC CURB (TY II) | LF | 69 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 274 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 346 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 65 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 80 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 3 |

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1432+00 TO STA 1436+00

SHEET 28 OF 68

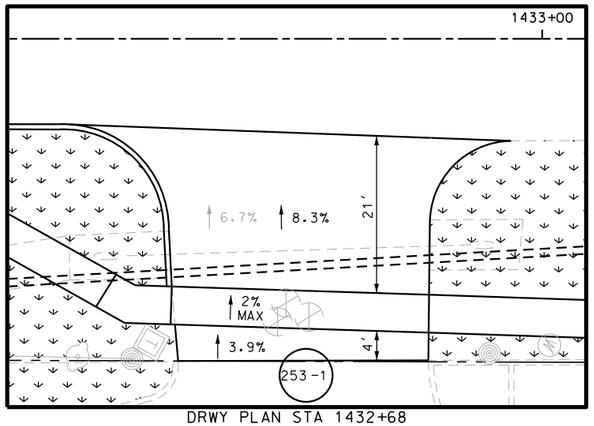
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 253 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 32101 | 13734456.59 | 2086966.89 | -- | ME |
| 32102 | 13734465.89 | 2086964.22 | 863.37 | PROP |
| 32103 | 13734485.96 | 2086950.10 | -- | ME |
| 32104 | 13734467.06 | 2086986.06 | -- | ME |
| 32105 | 13734500.85 | 2086964.52 | 864.48 | PROP |
| 32106 | 13734537.98 | 2086923.90 | -- | ME |
| 32107 | 13734561.36 | 2086926.88 | 862.61 | PROP |
| 32108 | 13734596.74 | 2086922.31 | 865.02 | PROP |
| 32109 | 13734594.34 | 2086917.93 | 865.09 | PROP |
| 32110 | 13734590.72 | 2086913.62 | -- | ME |
| 32111 | 13734612.63 | 2086902.06 | -- | ME |
| 32112 | 13734616.81 | 2086905.60 | 864.62 | PROP |
| 32113 | 13734619.22 | 2086909.98 | 864.69 | PROP |
| 32114 | 13734646.33 | 2086882.76 | 863.24 | PROP |
| 32115 | 13734672.44 | 2086880.78 | 867.37 | PROP |
| 32116 | 13734669.43 | 2086876.72 | 867.30 | PROP |
| 32117 | 13734690.82 | 2086864.99 | 867.45 | PROP |
| 32118 | 13734694.19 | 2086868.85 | 867.52 | PROP |
| 32119 | 13734700.94 | 2086853.15 | 864.56 | PROP |
| 32120 | 13734706.57 | 2086850.14 | 864.93 | PROP |

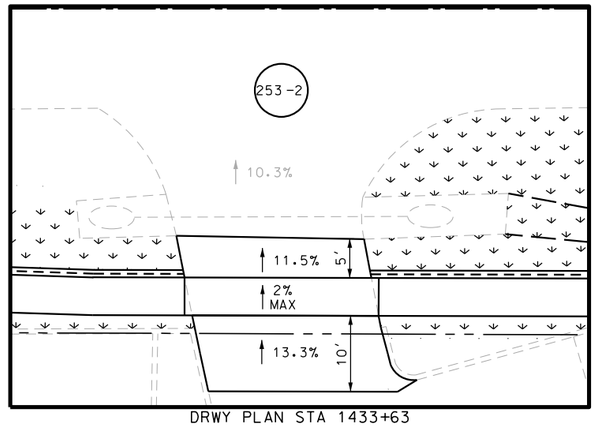
| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 32121 | 13734723.51 | 2086852.76 | 868.55 | PROP |
| 32122 | 13734721.11 | 2086848.37 | 868.48 | PROP |
| 32123 | 13734751.07 | 2086837.64 | 869.38 | PROP |
| 32124 | 13734748.66 | 2086833.26 | 869.31 | PROP |
| 32125 | 13734744.44 | 2086810.62 | -- | ME |
| 32126 | 13734755.32 | 2086804.70 | -- | ME |
| 32127 | 13734778.91 | 2086816.66 | 869.62 | PROP |
| 32128 | 13734781.30 | 2086821.05 | 869.69 | PROP |
| 32129 | 13734812.60 | 2086803.88 | 869.96 | PROP |
| 32130 | 13734810.20 | 2086799.49 | 869.89 | PROP |
| 32131 | 13734465.85 | 2086969.22 | 863.44 | PROP |
| 32132 | 13734500.59 | 2086969.52 | 864.55 | PROP |
| 32133 | 13734508.07 | 2086962.34 | 864.39 | PROP |
| 32134 | 13734510.35 | 2086966.80 | 864.46 | PROP |
| 32135 | 13734538.34 | 2086946.90 | 864.85 | PROP |
| 32136 | 13734540.70 | 2086951.31 | 864.92 | PROP |
| 32137 | 13734690.77 | 2086839.82 | -- | ME |
| 32138 | 13734690.81 | 2086839.79 | -- | ME |
| 32139 | 13734458.10 | 2086971.97 | -- | ME |
| 32140 | 13734481.04 | 2087008.03 | -- | ME |

Plotted on: 4/2/2019

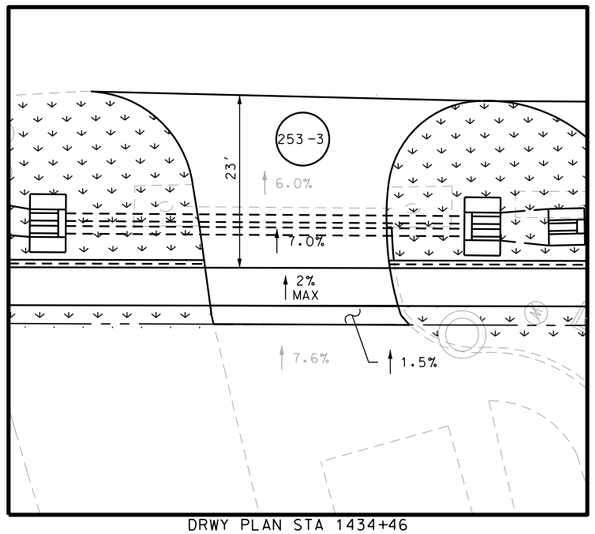
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507+Bandera Dr+WB+22.dgn



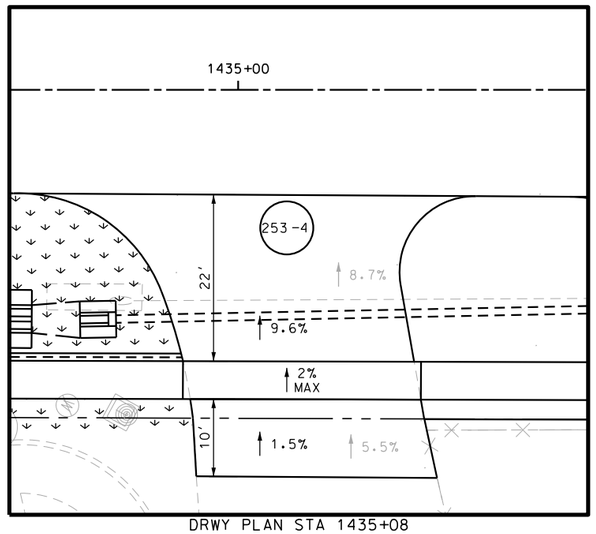
DRWY PLAN STA 1432+68



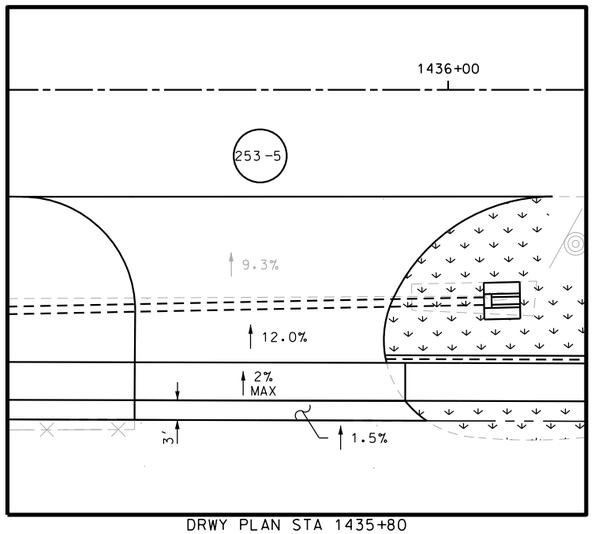
DRWY PLAN STA 1433+63



DRWY PLAN STA 1434+46



DRWY PLAN STA 1435+08



DRWY PLAN STA 1435+80

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DESIGN

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DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



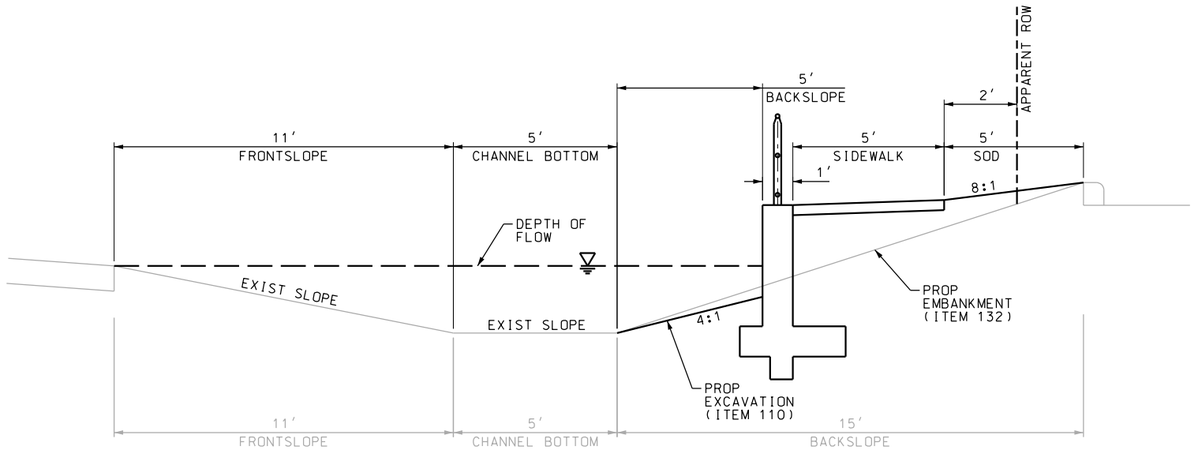
BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1432+00 TO STA 1436+00



| DGNs | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGNs | 6 | TEXAS | | | | VARIES |
| DWGs | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWGs | SAT | BEXAR | 0915 | 12 | 576 | 254 |




# SECTION A–A

N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.009 | FT/FT | S | FL SLOPE | 0.009 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.030 | |
| A | AREA | 32.1 | SQ FT | A | AREA | 32.20 | SQ FT |
| P | WETTED PERIMETER | 24.0 | FT | P | WETTED PERIMETER | 22.80 | FT |
| R | HYDRAULIC RADIUS | 1.34 | FT | R | HYDRAULIC RADIUS | 1.41 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 183.1 | CFS | Q | DISCHARGE | 190.5 | CFS |

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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



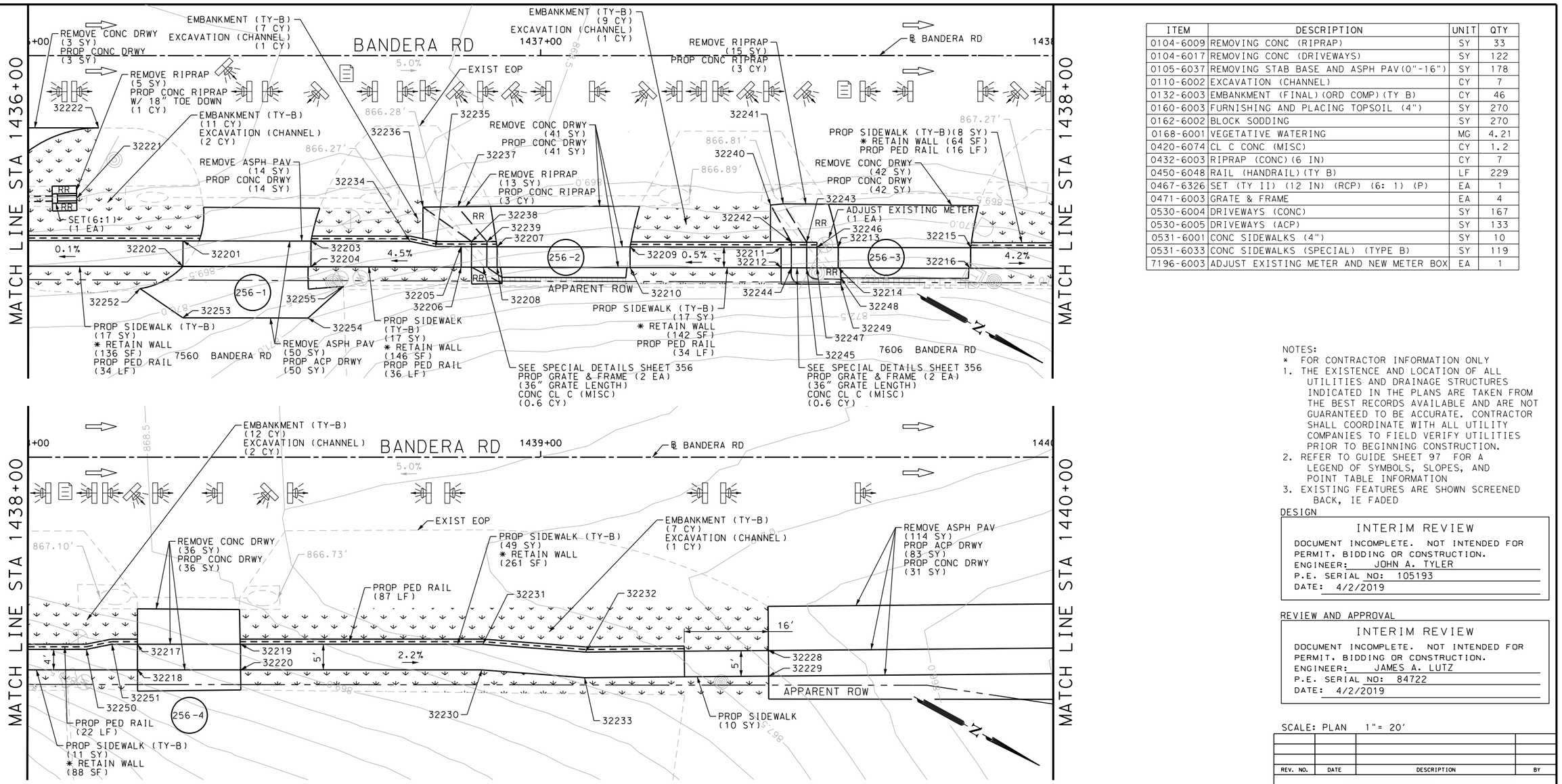
BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1432+00 TO STA 1436+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 255 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 33 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 122 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 178 |
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 7 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 46 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 270 |
| 0162-6002 | BLOCK SODDING | SY | 270 |
| 0168-6001 | VEGETATIVE WATERING | MG | 4.21 |
| 0420-6074 | CL C CONC (MISC) | CY | 1.2 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 7 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 229 |
| 0467-6326 | SET (TY II) (12 IN) (RCP) (6: 1) (P) | EA | 1 |
| 0471-6003 | GRATE & FRAME | EA | 4 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 167 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 133 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 10 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 119 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

NOTE: FOR SET RIPRAP AND TOE DOWN DIMENSIONS, SEE STANDARDS PSET-SP AND PSET-RR

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 32201 | 13734841.66 | 2086782.23 | 869.42 | PROP |
| 32202 | 13734844.07 | 2086786.61 | 869.49 | PROP |
| 32203 | 13734863.56 | 2086770.21 | 869.37 | PROP |
| 32204 | 13734865.97 | 2086774.60 | 869.44 | PROP |
| 32205 | 13734889.74 | 2086756.99 | 870.67 | PROP |
| 32206 | 13734891.67 | 2086760.50 | 870.74 | PROP |
| 32207 | 13734895.88 | 2086753.62 | 870.59 | PROP |
| 32208 | 13734897.80 | 2086757.13 | 870.76 | PROP |
| 32209 | 13734918.62 | 2086741.14 | 870.78 | PROP |
| 32210 | 13734920.55 | 2086744.65 | 870.85 | PROP |
| 32211 | 13734944.45 | 2086726.98 | 870.93 | PROP |
| 32212 | 13734946.37 | 2086730.48 | 871.00 | PROP |
| 32213 | 13734954.21 | 2086721.62 | 870.95 | PROP |
| 32214 | 13734956.13 | 2086725.12 | 871.02 | PROP |
| 32215 | 13734976.88 | 2086709.18 | 871.01 | PROP |
| 32216 | 13734978.80 | 2086712.69 | 871.08 | PROP |
| 32217 | 13735009.16 | 2086690.33 | 869.45 | PROP |
| 32218 | 13735011.57 | 2086694.71 | 869.52 | PROP |
| 32219 | 13735026.78 | 2086680.66 | 869.41 | PROP |
| 32220 | 13735029.18 | 2086685.04 | 869.48 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 32221 | 13734819.48 | 2086784.93 | 866.09 | PROP |
| 32222 | 13734816.61 | 2086770.85 | -- | ME |
| 32228 | 13735117.66 | 2086632.19 | 867.08 | PROP |
| 32229 | 13735120.10 | 2086636.55 | 867.15 | PROP |
| 32230 | 13735070.47 | 2086662.39 | 868.44 | PROP |
| 32231 | 13735068.23 | 2086657.92 | 868.37 | PROP |
| 32232 | 13735086.49 | 2086649.63 | 867.93 | PROP |
| 32233 | 13735088.75 | 2086654.09 | 868.00 | PROP |
| 32234 | 13734880.49 | 2086760.92 | 870.23 | PROP |
| 32235 | 13734885.36 | 2086759.39 | 870.45 | PROP |
| 32236 | 13734879.50 | 2086753.84 | -- | ME |
| 32237 | 13734885.41 | 2086750.54 | -- | ME |
| 32238 | 13734891.02 | 2086755.15 | -- | ME |
| 32239 | 13734893.65 | 2086753.71 | -- | ME |
| 32240 | 13734938.65 | 2086720.74 | -- | ME |
| 32241 | 13734940.71 | 2086719.34 | -- | ME |
| 32242 | 13734945.72 | 2086725.14 | -- | ME |
| 32243 | 13734948.35 | 2086723.69 | -- | ME |
| 32244 | 13734948.12 | 2086729.52 | -- | ME |
| 32245 | 13734950.75 | 2086728.08 | -- | ME |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 32246 | 13734950.58 | 2086723.61 | -- | ME |
| 32247 | 13734952.51 | 2086727.11 | -- | ME |
| 32248 | 13734957.54 | 2086726.58 | -- | ME |
| 32249 | 13734958.14 | 2086727.65 | -- | ME |
| 32250 | 13735000.87 | 2086696.02 | 869.87 | PROP |
| 32251 | 13735004.78 | 2086692.73 | 869.66 | PROP |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

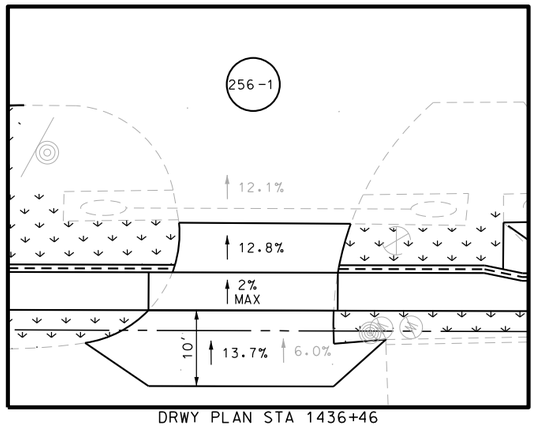
STA 1436+00 TO STA 1440+00

SHEET 31 OF 68

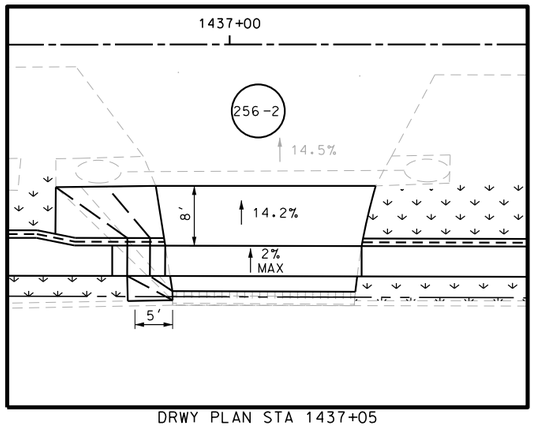
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 256 |

Plotted on: 4/2/2019

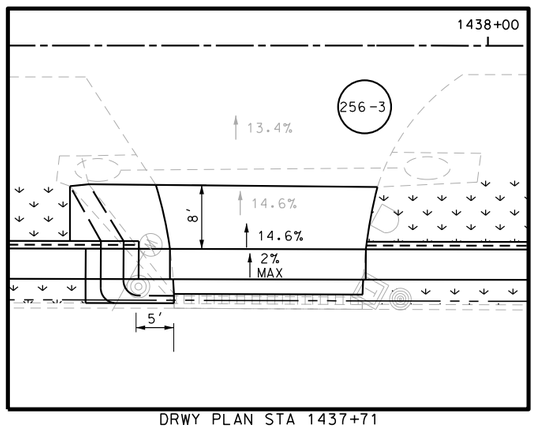
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*23.dgn



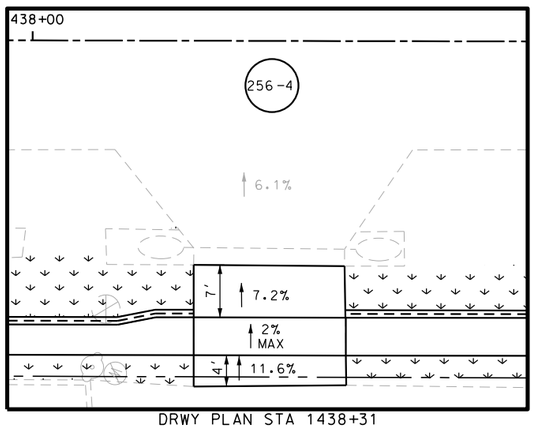

DRWY PLAN STA 1436+46




DRWY PLAN STA 1437+05




DRWY PLAN STA 1437+71




DRWY PLAN STA 1438+31

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



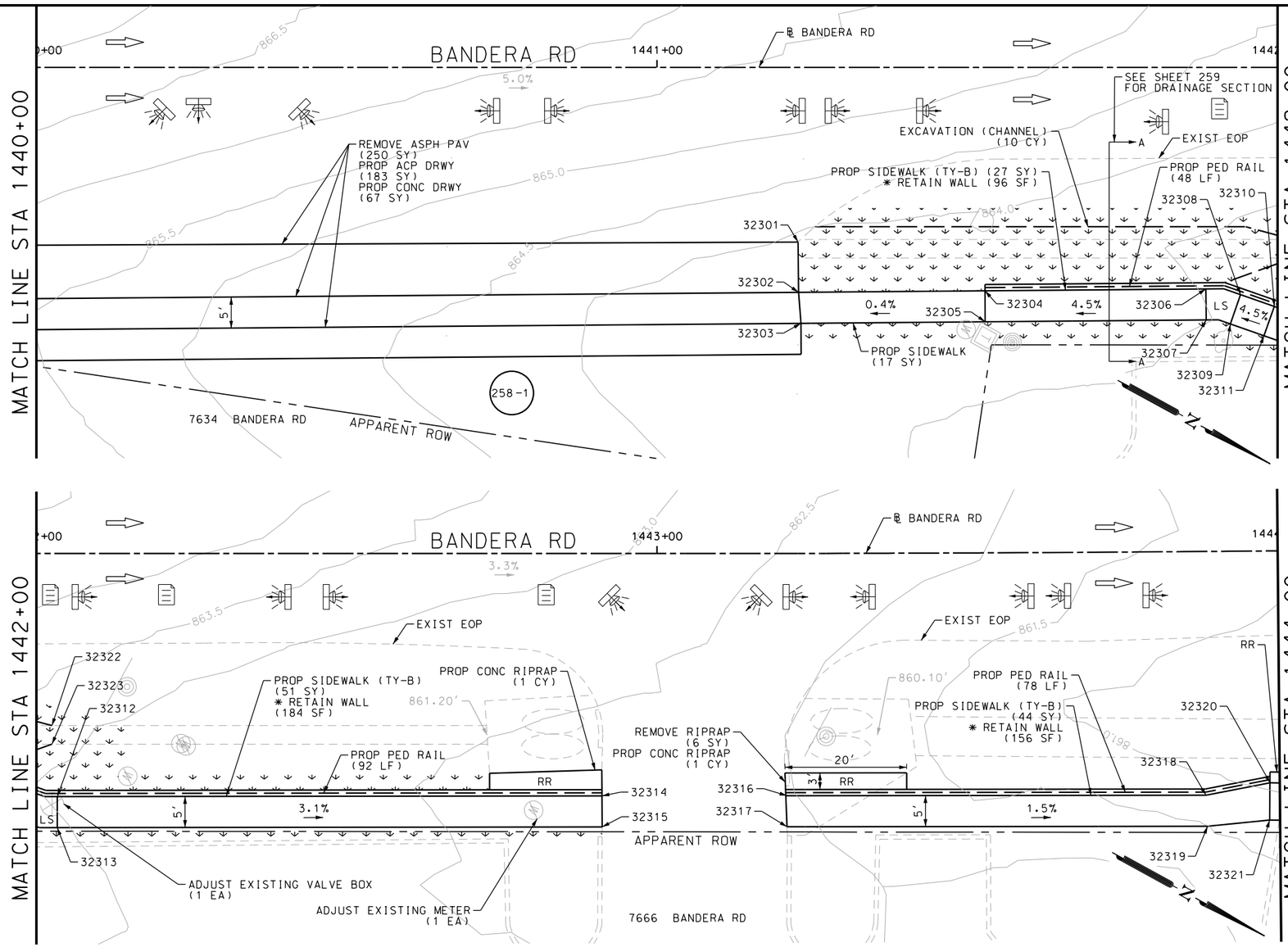
BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1436+00 TO STA 1440+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 257 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 6 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 250 |
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 10 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 200 |
| 0162-6002 | BLOCK SODDING | SY | 200 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.12 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 2 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 218 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 67 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 183 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 17 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 122 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

NOTES:
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DESIGN

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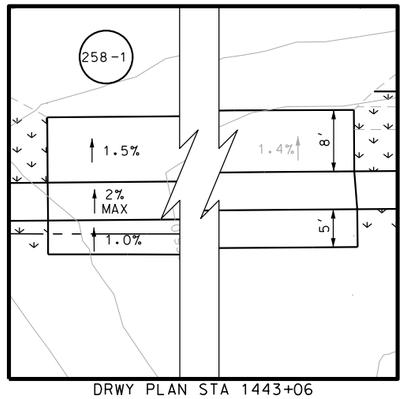
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'



DRWY PLAN STA 1443+06

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 32301 | 13735269.36 | 2086538.01 | -- | ME |
| 32302 | 13735273.32 | 2086545.08 | 863.48 | PROP |
| 32303 | 13735276.06 | 2086549.28 | 863.55 | PROP |
| 32304 | 13735299.54 | 2086530.41 | 863.67 | PROP |
| 32305 | 13735301.98 | 2086534.78 | 863.60 | PROP |
| 32306 | 13735330.61 | 2086513.03 | 865.29 | PROP |
| 32307 | 13735333.05 | 2086517.39 | 865.35 | PROP |
| 32308 | 13735335.95 | 2086511.15 | 865.35 | PROP |
| 32309 | 13735336.77 | 2086516.08 | 865.38 | PROP |
| 32310 | 13735341.62 | 2086510.20 | 865.61 | PROP |
| 32311 | 13735342.44 | 2086515.13 | 865.68 | PROP |
| 32312 | 13735345.34 | 2086508.91 | 865.55 | PROP |
| 32313 | 13735347.75 | 2086513.29 | 865.61 | PROP |
| 32314 | 13735422.25 | 2086466.60 | -- | ME |
| 32315 | 13735424.68 | 2086470.96 | -- | ME |
| 32316 | 13735448.21 | 2086452.32 | -- | ME |
| 32317 | 13735450.79 | 2086456.60 | -- | ME |
| 32318 | 13735507.53 | 2086419.68 | 861.68 | PROP |
| 32319 | 13735510.16 | 2086423.94 | 861.75 | PROP |
| 32320 | 13735515.60 | 2086412.96 | 861.53 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 32321 | 13735518.44 | 2086418.24 | 861.60 | PROP |
| 32322 | 13735339.10 | 2086499.28 | -- | ME |
| 32323 | 13735340.54 | 2086501.91 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

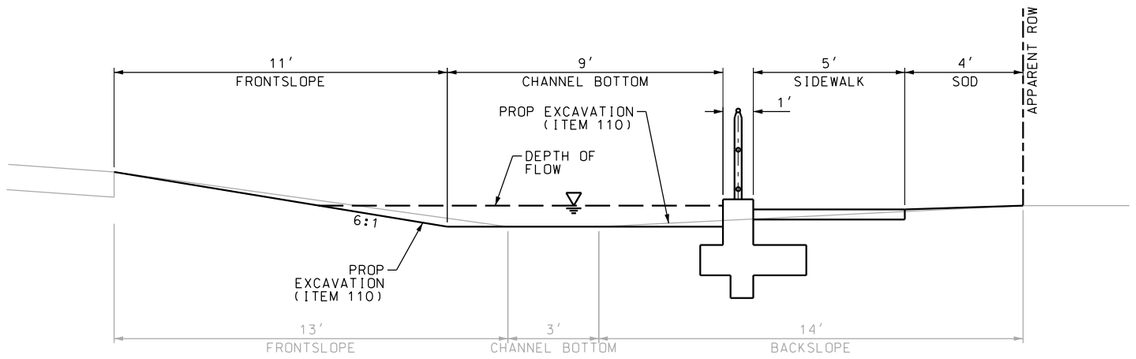
STA 1440+00 TO STA 1444+00

SHEET 33 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 258 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*24.dgn




# SECTION A-A

N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.016 | FT/FT | S | FL SLOPE | 0.016 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.030 | |
| A | AREA | 8.8 | SQ FT | A | AREA | 7.90 | SQ FT |
| P | WETTED PERIMETER | 22.1 | FT | P | WETTED PERIMETER | 14.10 | FT |
| R | HYDRAULIC RADIUS | 0.40 | FT | R | HYDRAULIC RADIUS | 0.56 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 29.8 | CFS | Q | DISCHARGE | 33.6 | CFS |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

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DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

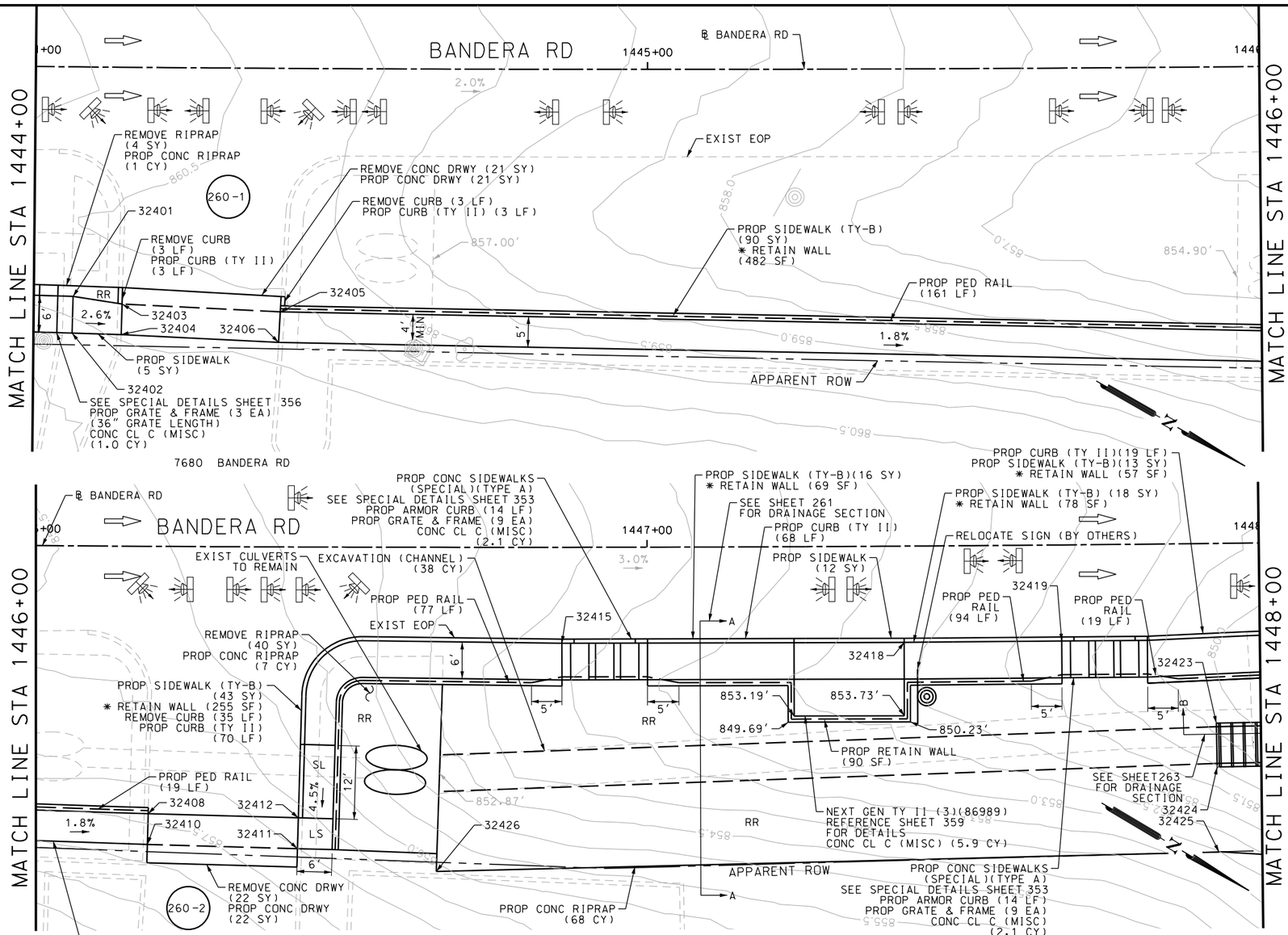
# SIDEWALK CONSTRUCTION PLAN

STA 1440+00 TO STA 1444+00

SHEET 34 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 259 |

Plotted on: 4/2/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111507*Bandera Dr*WB*24*A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 44 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 43 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 6 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 8 |
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 38 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 120 |
| 0162-6002 | BLOCK SODDING | SY | 120 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.87 |
| 0420-6074 | CL C CONC (MISC) | CY | 11.1 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 90 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 76 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 342 |
| 0471-6003 | GRATE & FRAME | EA | 21 |
| 0529-6002 | CONC CURB (TY II) | LF | 163 |
| 0529-6020 | CONC CURB & GUTTER (ARMOR CURB) | LF | 28 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 43 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 17 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 197 |

NOTES:
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

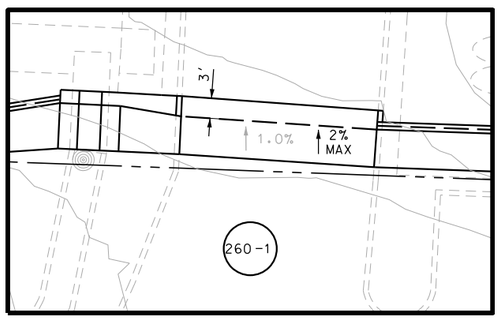
# SIDEWALK CONSTRUCTION PLAN

STA 1444+00 TO STA 1448+00

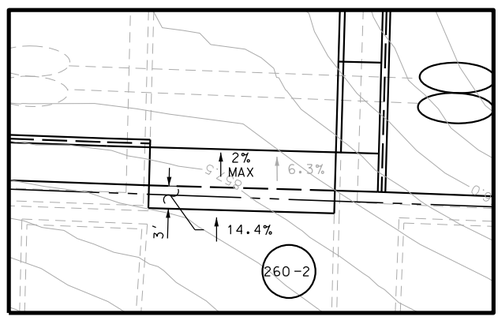
SHEET 35 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 260 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 32401 | 13735522.66 | 2086409.19 | 861.51 | PROP |
| 32402 | 13735525.50 | 2086414.47 | 861.58 | PROP |
| 32403 | 13735530.24 | 2086406.28 | 861.30 | PROP |
| 32404 | 13735532.59 | 2086410.69 | -- | ME |
| 32405 | 13735553.32 | 2086394.53 | 861.19 | PROP |
| 32406 | 13735555.56 | 2086398.99 | -- | ME |
| 32408 | 13735710.48 | 2086308.34 | -- | ME |
| 32410 | 13735712.94 | 2086312.74 | 858.09 | PROP |
| 32411 | 13735734.38 | 2086300.76 | 857.20 | PROP |
| 32412 | 13735731.91 | 2086296.35 | -- | ME |
| 32415 | 13735754.31 | 2086249.78 | -- | ME |
| 32418 | 13735802.31 | 2086221.00 | -- | ME |
| 32419 | 13735824.32 | 2086207.63 | -- | ME |
| 32423 | 13735852.91 | 2086206.23 | 845.27 | PROP |
| 32424 | 13735856.72 | 2086212.30 | 845.30 | PROP |
| 32425 | 13735864.09 | 2086224.09 | -- | ME |
| 32426 | 13735755.76 | 2086292.34 | -- | ME |



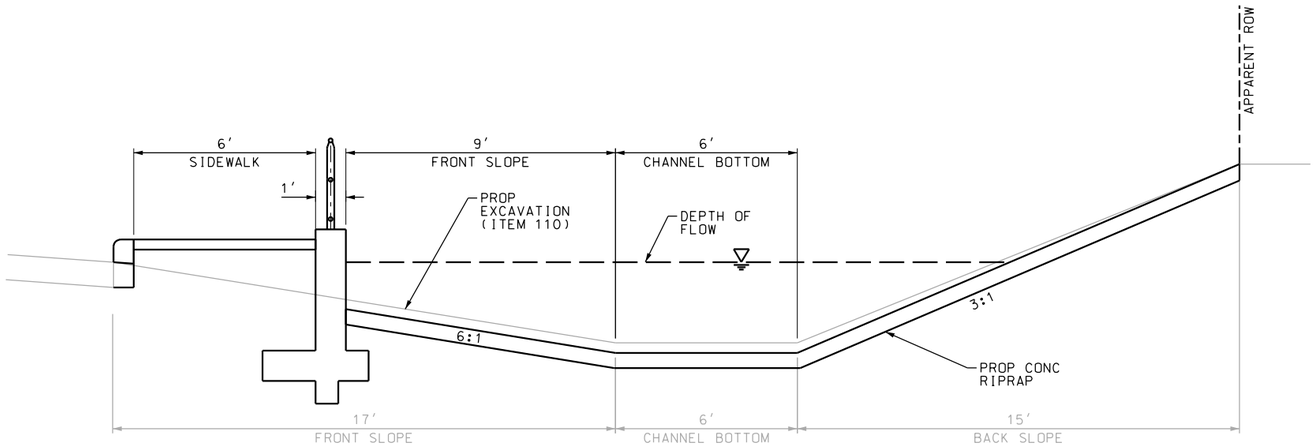

DRWY PLAN STA 1444+28




DRWY PLAN STA 1446+31

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*25.dgn




# SECTION A-A

N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.033 | FT/FT | S | FL SLOPE | 0.033 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.030 | |
| A | AREA | 46.9 | SQ FT | A | AREA | 43.60 | SQ FT |
| P | WETTED PERIMETER | 29.9 | FT | P | WETTED PERIMETER | 23.60 | FT |
| R | HYDRAULIC RADIUS | 1.57 | FT | R | HYDRAULIC RADIUS | 1.85 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 569.7 | CFS | Q | DISCHARGE | 590.7 | CFS |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



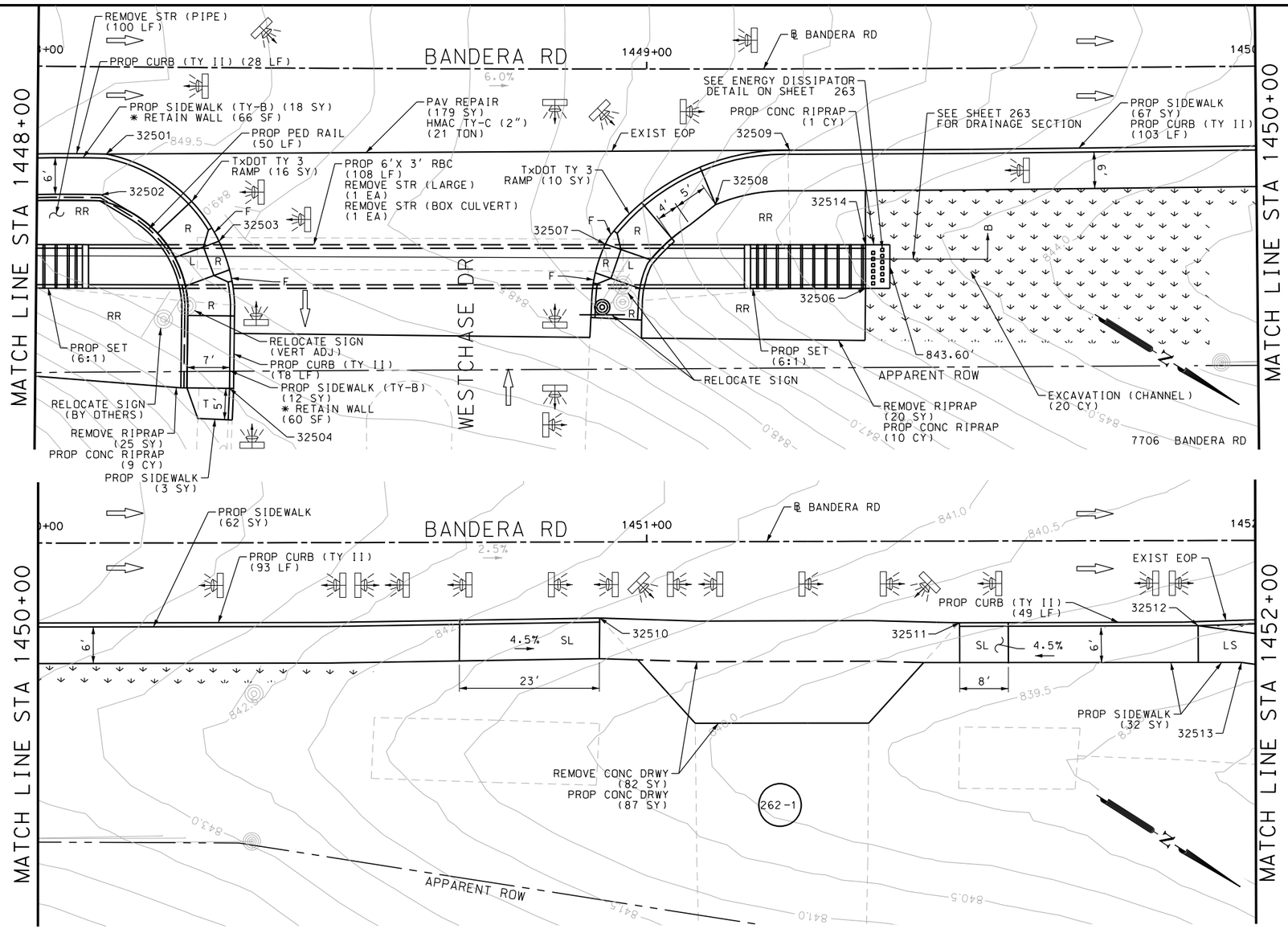
BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1444+00 TO STA 1448+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 261 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 45 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 82 |
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 20 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 397 |
| 0162-6002 | BLOCK SODDING | SY | 397 |
| 0168-6001 | VEGETATIVE WATERING | MG | 6.19 |
| 0340-6066 | D-GR HMA(SQ) TY-C PG76-22 | TON | 21.0 |
| 0351-6028 | FLEX PAVE STRUCTURE REPAIR (8"-10") | SY | 179 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 19 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 50 |
| 0462-6010 | CONC BOX CULV (6 FT X 3 FT) | LF | 108 |
| 0467-6134 | SET (TY I)(S= 4 FT)(HW= 2 FT)(6:1) (P) | EA | 2 |
| 0496-6001 | REMOV STR (BOX CULVERT) | EA | 1 |
| 0496-6007 | REMOV STR (PIPE) | LF | 100 |
| 0496-6041 | REMOV STR (LARGE) | EA | 1 |
| 0529-6002 | CONC CURB (TY II) | LF | 291 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 87 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 164 |
| 0531-6020 | CURB RAMPS (TY 3) | SY | 26 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 30 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 2 |

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DESIGN

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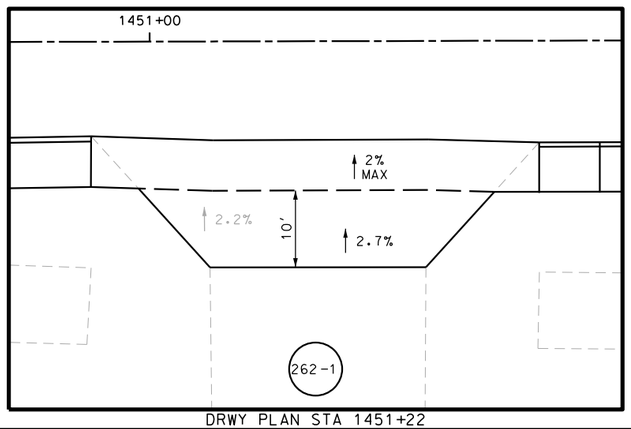
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'



DRWY PLAN STA 1451+22

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 32501 | 13735860.90 | 2086183.70 | -- | ME |
| 32502 | 13735863.78 | 2086189.75 | -- | ME |
| 32503 | 13735884.23 | 2086185.99 | -- | ME |
| 32504 | 13735898.51 | 2086205.56 | -- | ME |
| 32506 | 13735978.41 | 2086136.24 | -- | ME |
| 32507 | 13735938.29 | 2086152.74 | -- | ME |
| 32508 | 13735950.22 | 2086137.64 | -- | ME |
| 32509 | 13735955.79 | 2086123.60 | -- | ME |
| 32510 | 13736097.74 | 2086031.99 | -- | ME |
| 32511 | 13736147.99 | 2086000.81 | -- | ME |
| 32512 | 13736181.26 | 2085980.08 | -- | ME |
| 32513 | 13736190.51 | 2085981.33 | 840.45 | PROP |
| 32514 | 13735974.61 | 2086130.17 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
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BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1448+00 TO STA 1452+00

SHEET 37 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 262 |

Plotted on: 4/2/2019

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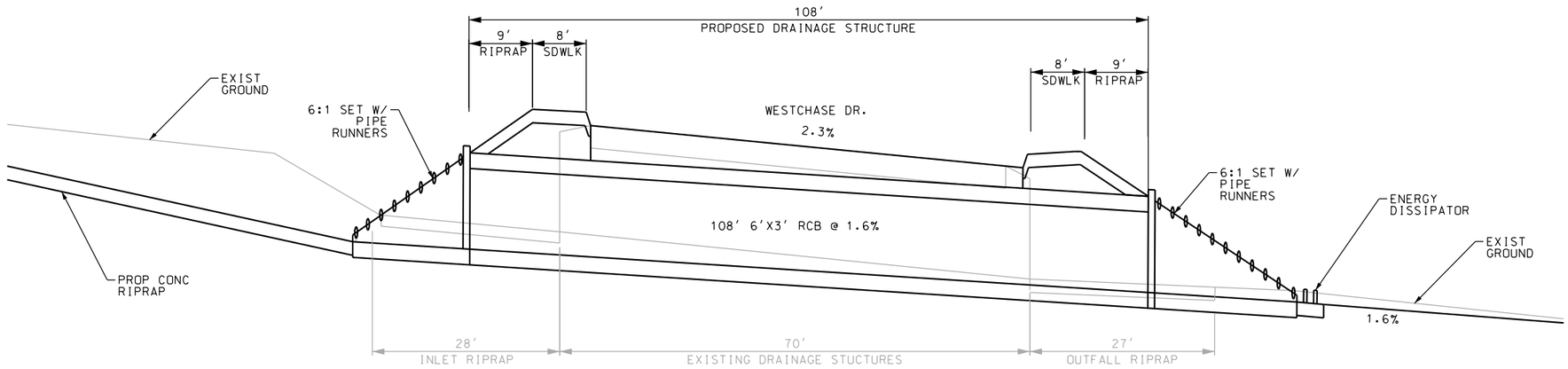
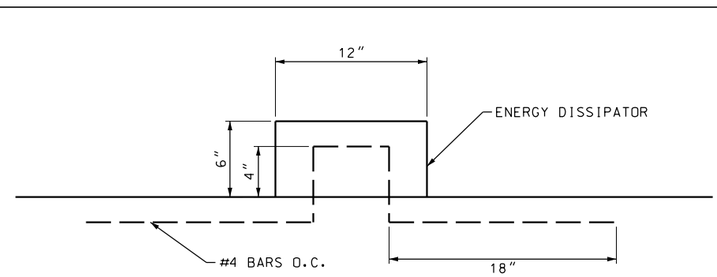
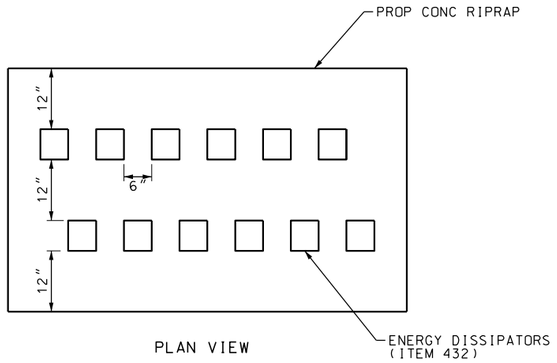



# SECTION B-B




PROFILE VIEW
(STEEL DETAIL)




PLAN VIEW

# ENERGY DISSIPATOR DETAIL

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
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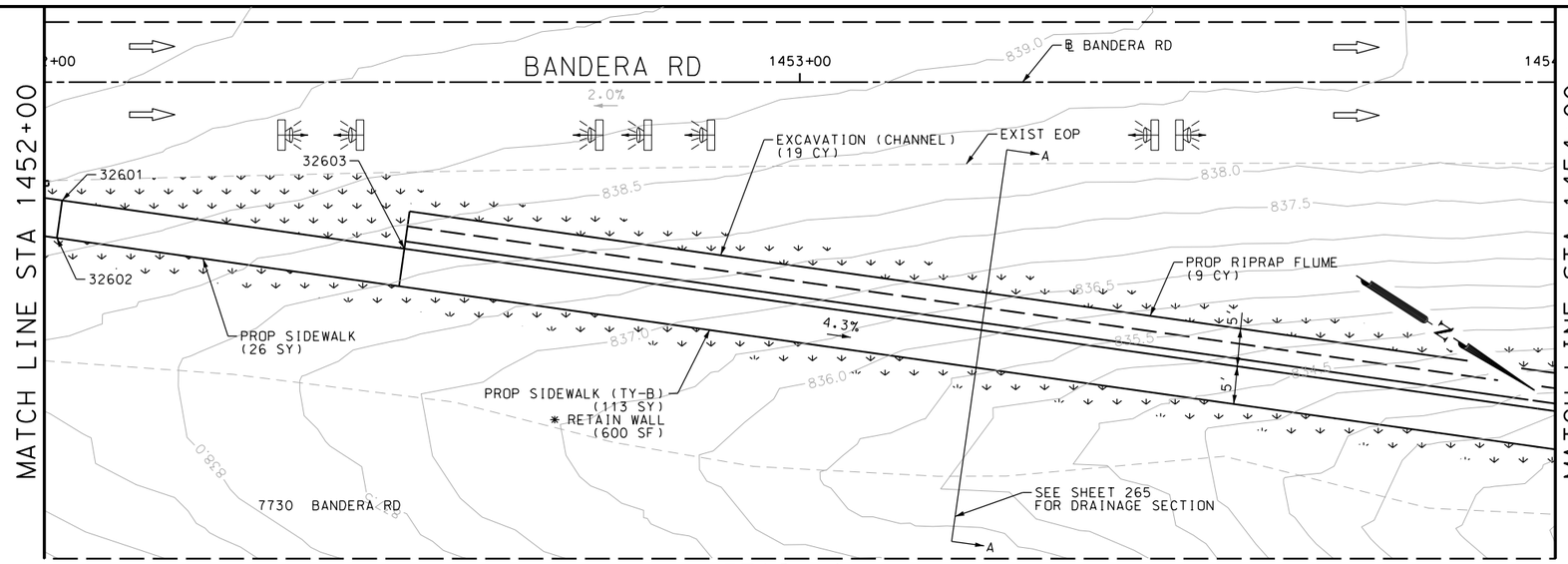
BANDERA RD

SIDEWALK
CONSTRUCTION PLAN

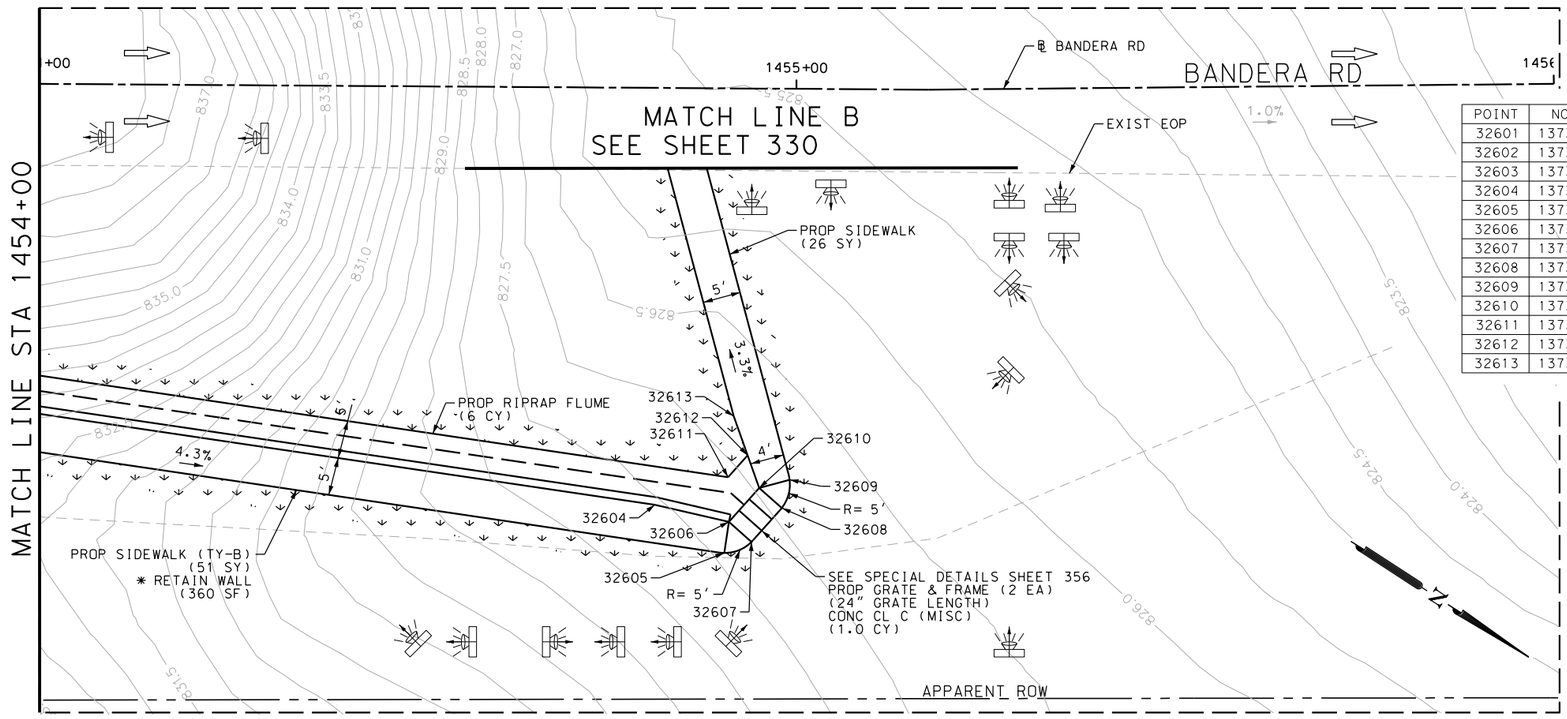
STA 1448+00 TO STA 1452+00

SHEET 38 OF 68

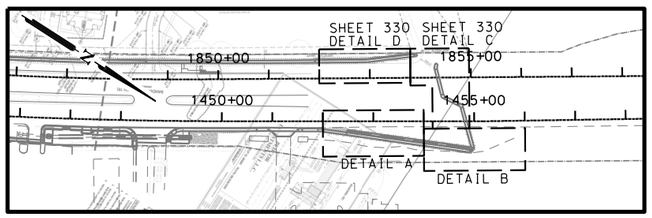
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 263 |




DETAIL A




DETAIL B




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 19 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 300 |
| 0162-6002 | BLOCK SODDING | SY | 300 |
| 0168-6001 | VEGETATIVE WATERING | MG | 4.68 |
| 0420-6007 | CL A CONC (FLUME) | CY | 15 |
| 0420-6074 | CL C CONC (MISC) | CY | 1.0 |
| 0471-6003 | GRATE & FRAME | EA | 2 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 52 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 164 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 32601 | 13736192.06 | 2085975.11 | 840.35 | PROP |
| 32602 | 13736194.15 | 2085979.66 | 840.42 | PROP |
| 32603 | 13736233.62 | 2085955.99 | 839.00 | PROP |
| 32604 | 13736448.32 | 2085857.20 | 827.86 | PROP |
| 32605 | 13736459.48 | 2085857.52 | 827.79 | PROP |
| 32606 | 13736457.74 | 2085853.75 | 827.86 | PROP |
| 32607 | 13736461.69 | 2085854.35 | 827.79 | PROP |
| 32608 | 13736462.59 | 2085848.42 | 827.68 | PROP |
| 32609 | 13736461.42 | 2085844.73 | 827.68 | PROP |
| 32610 | 13736458.64 | 2085847.82 | 827.75 | PROP |
| 32611 | 13736454.44 | 2085848.89 | 827.60 | PROP |
| 32612 | 13736455.02 | 2085845.05 | 827.58 | PROP |
| 32613 | 13736450.67 | 2085841.73 | 827.40 | PROP |

NOTES:
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DESIGN

INTERIM REVIEW
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

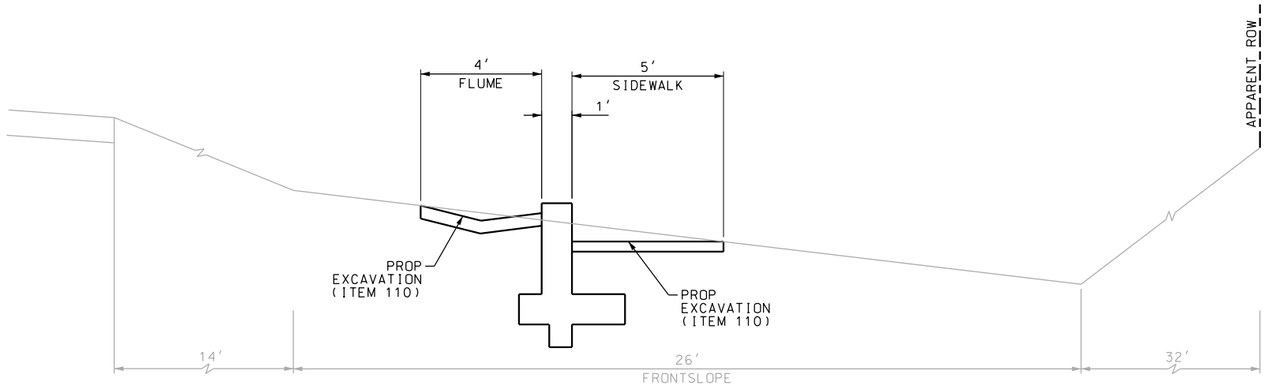
STA 1452+00 TO STA 1456+00

SHEET 39 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 264 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*27.dgn




# SECTION A-A

N.T.S.

NOTES:
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
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BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1452+00 TO STA 1456+00

SHEET 40 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 265 |

Plotted on: 4/2/2019
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NOTES:
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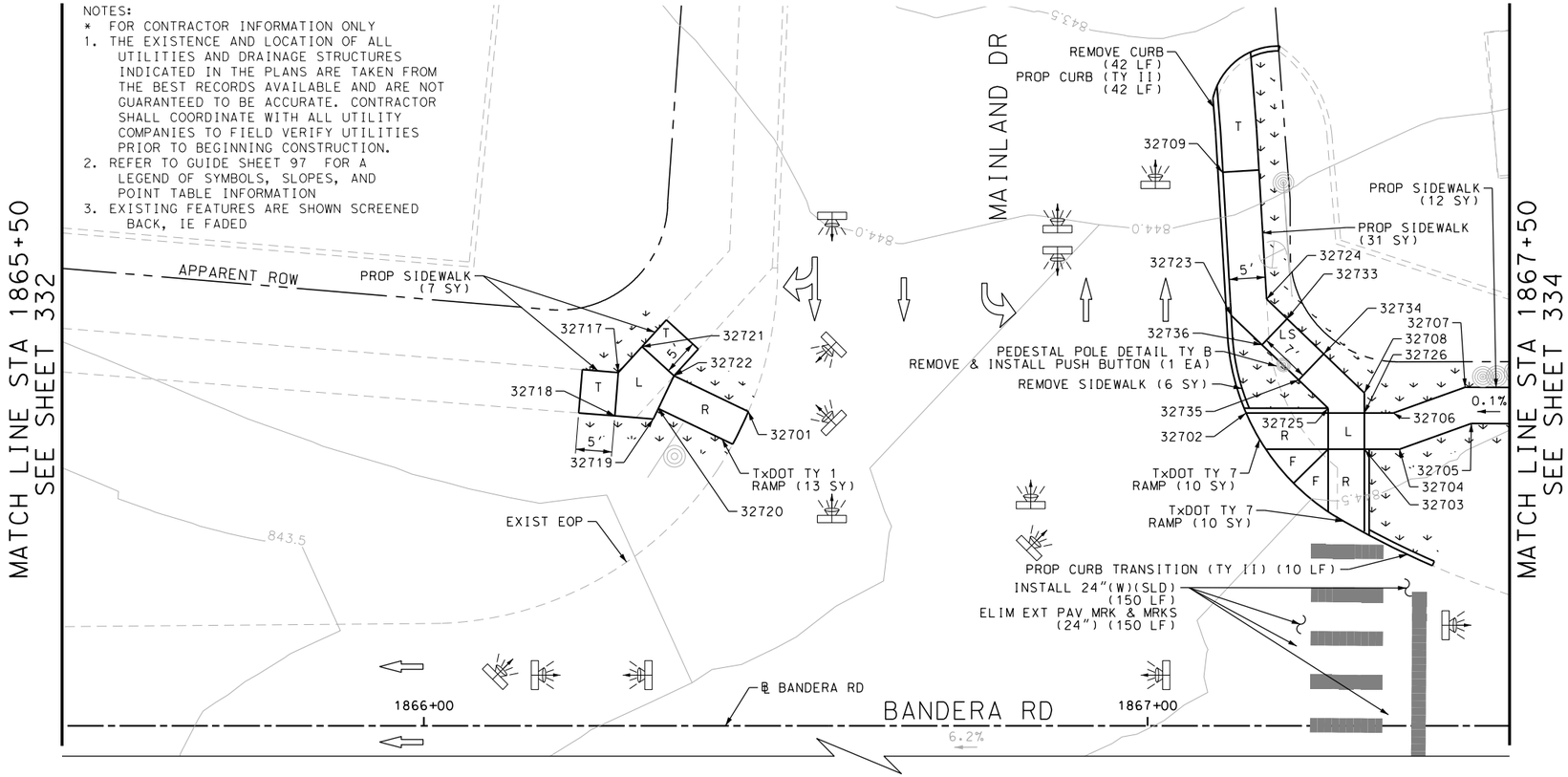
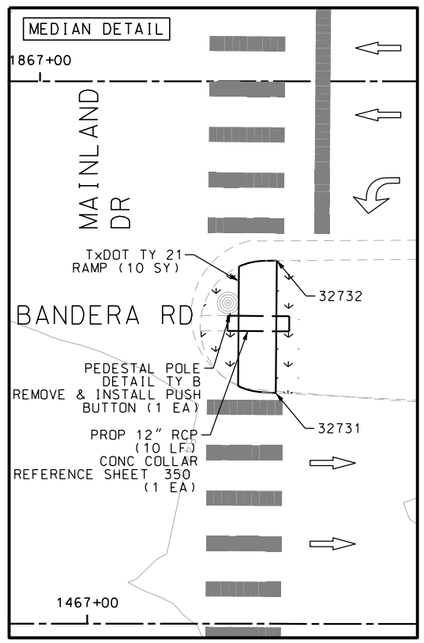
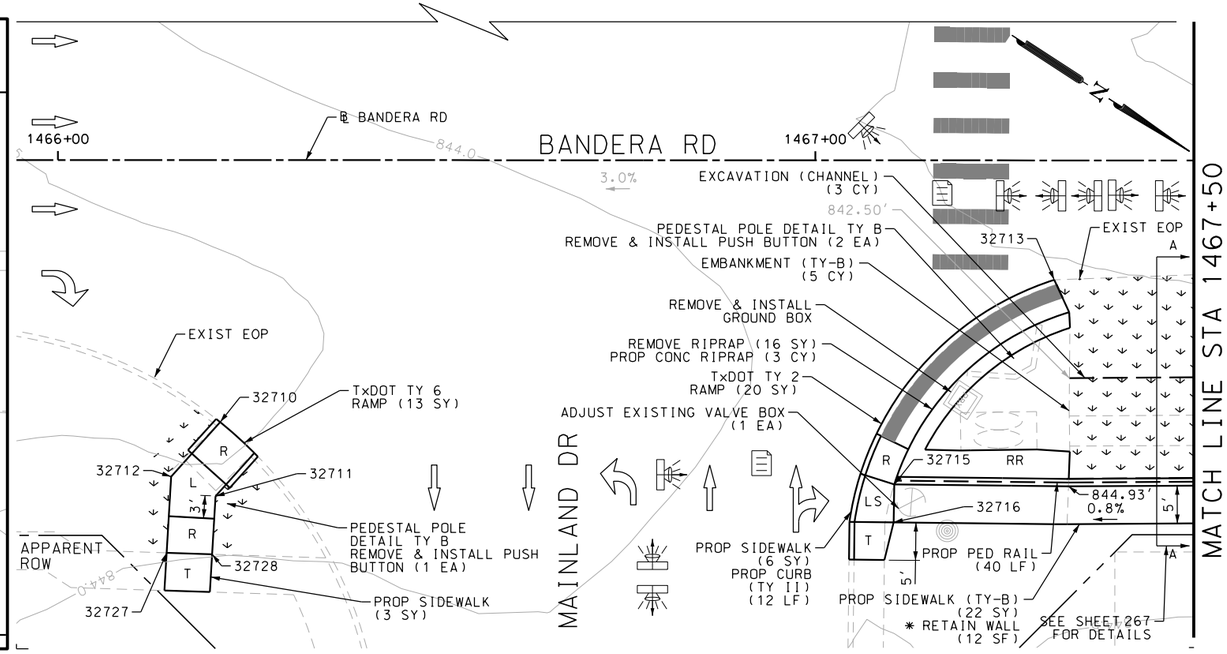



SEE MEDIAN DETAIL




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 16 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 42 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 6 |
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 3 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 5 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 200 |
| 0162-6002 | BLOCK SODDING | SY | 200 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.12 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 3 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 40 |
| 0464-6001 | RC PIPE (CL III)(12 IN) | LF | 10 |
| 0529-6002 | CONC CURB (TY II) | LF | 64 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 59 |
| 0531-6018 | CURB RAMPS (TY 1) | SY | 13 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 20 |
| 0531-6023 | CURB RAMPS (TY 6) | SY | 13 |
| 0531-6024 | CURB RAMPS (TY 7) | SY | 20 |
| 0531-6030 | CURB RAMPS (TY 21) | SY | 10 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 22 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 1 |
| 0624-6028 | REMOVE GROUND BOX | EA | 1 |
| 0666-6048 | REFL PAV MRK TY I (W)24"(SLD)(100MIL) | LF | 150 |
| 0666-6230 | PAVEMENT SEALER 24" | LF | 150 |
| 0677-6007 | ELIM EXT PAV MRK & MRKS (24") | LF | 150 |
| 0678-6008 | PAV SURF PREP FOR MRK (24") | LF | 150 |
| 0688-6002 | PED DETECT PUSH BUTTON (STANDARD) | EA | 5 |
| 0690-6030 | REMOVAL OF PEDESTRIAN PUSH BUTTONS | EA | 5 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1465+50 TO STA 1467+50
STA 1865+50 TO STA 1867+50

SHEET 41 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 266 |

Plotted on: 4/2/2019

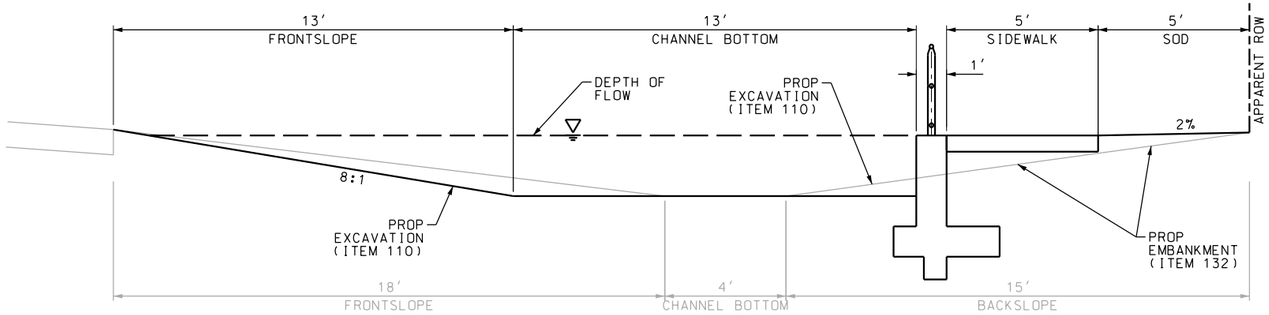
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*28.dgn

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350 7*Bandera Dr*WB*28*A.dgn

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 32701 | 13737315.75 | 2085068.96 | -- | ME |
| 32702 | 13737373.43 | 2085031.51 | -- | ME |
| 32703 | 13737389.84 | 2085026.76 | 844.69 | PROP |
| 32704 | 13737393.92 | 2085024.10 | 844.70 | PROP |
| 32705 | 13737400.27 | 2085015.68 | 844.70 | PROP |
| 32706 | 13737390.46 | 2085020.39 | 844.77 | PROP |
| 32707 | 13737396.81 | 2085011.96 | 844.78 | PROP |
| 32708 | 13737385.57 | 2085020.23 | 844.76 | PROP |
| 32709 | 13737352.54 | 2085005.41 | -- | ME |
| 32710 | 13737389.14 | 2085212.69 | -- | ME |
| 32711 | 13737393.98 | 2085221.20 | 844.00 | PROP |
| 32712 | 13737387.67 | 2085222.25 | 843.93 | PROP |
| 32713 | 13737471.06 | 2085136.72 | -- | ME |
| 32715 | 13737468.14 | 2085170.90 | -- | ME |
| 32716 | 13737470.83 | 2085175.11 | -- | ME |
| 32717 | 13737297.76 | 2085074.28 | 845.20 | PROP |
| 32718 | 13737300.62 | 2085079.55 | 845.15 | PROP |
| 32719 | 13737305.31 | 2085077.00 | 845.13 | PROP |
| 32720 | 13737305.10 | 2085075.40 | 845.13 | PROP |
| 32721 | 13737298.53 | 2085069.49 | 845.13 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 32722 | 13737304.45 | 2085070.45 | 845.06 | PROP |
| 32723 | 13737364.34 | 2085021.33 | -- | ME |
| 32724 | 13737367.19 | 2085016.78 | -- | ME |
| 32725 | 13737382.56 | 2085024.75 | 844.75 | PROP |
| 32726 | 13737387.11 | 2085022.58 | 844.76 | PROP |
| 32727 | 13737392.67 | 2085230.98 | 844.23 | PROP |
| 32728 | 13737397.80 | 2085227.87 | 844.30 | PROP |
| 32729 | 13737481.41 | 2085156.72 | -- | ME |
| 32730 | 13737485.18 | 2085154.60 | -- | ME |
| 32731 | 13737440.20 | 2085101.65 | -- | ME |
| 32732 | 13737430.75 | 2085086.96 | -- | ME |
| 32733 | 13737371.05 | 2085017.50 | 844.90 | PROP |
| 32734 | 13737377.93 | 2085018.80 | 844.82 | PROP |
| 32735 | 13737377.01 | 2085023.71 | 844.75 | PROP |
| 32736 | 13737370.13 | 2085022.42 | 844.83 | PROP |




## SECTION A–A

N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.008 | FT/FT | S | FL SLOPE | 0.008 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.030 | |
| A | AREA | 42.7 | SQ FT | A | AREA | 38.60 | SQ FT |
| P | WETTED PERIMETER | 36.9 | FT | P | WETTED PERIMETER | 27.50 | FT |
| R | HYDRAULIC RADIUS | 1.16 | FT | R | HYDRAULIC RADIUS | 1.40 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 208.5 | CFS | Q | DISCHARGE | 214.4 | CFS |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20′

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



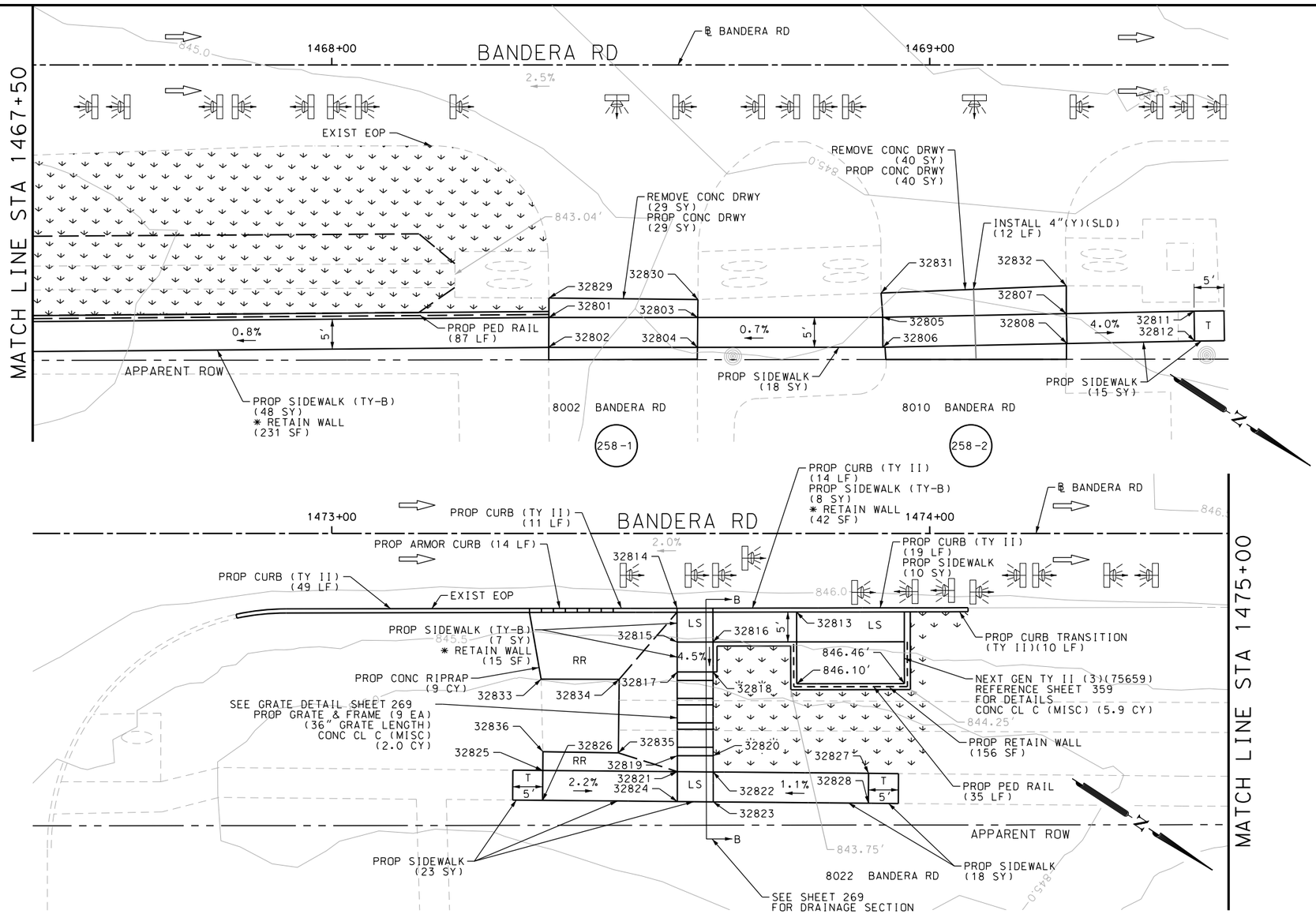
BANDERA RD

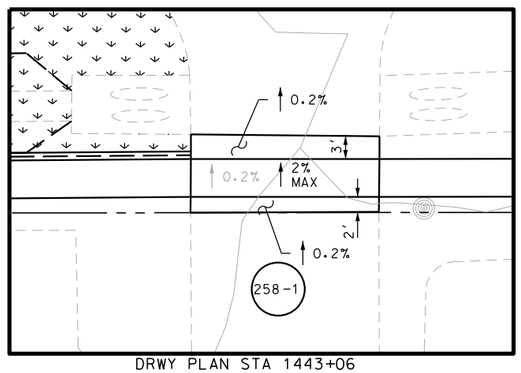
# SIDEWALK CONSTRUCTION PLAN

STA 1465+50 TO STA 1467+50
STA 1865+50 TO STA 1867+50

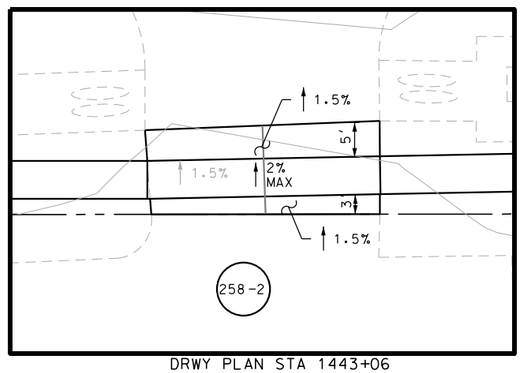
SHEET 42 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 267 |




DRWY PLAN STA 1443+06




DRWY PLAN STA 1443+06

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 69 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 476 |
| 0162-6002 | BLOCK SODDING | SY | 476 |
| 0168-6001 | VEGETATIVE WATERING | MG | 7.43 |
| 0420-6074 | CL C CONC (MISC) | CY | 7.9 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 156 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 9 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 35 |
| 0471-6003 | GRATE & FRAME | EA | 9 |
| 0529-6002 | CONC CURB (TY II) | LF | 103 |
| 0529-6020 | CONC CURB & GUTTER (ARMOR CURB) | LF | 14 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 69 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 84 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 63 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 12 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 12 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 12 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1467+50 TO STA 1469+50
STA 1473+00 TO STA 1475+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 268 |

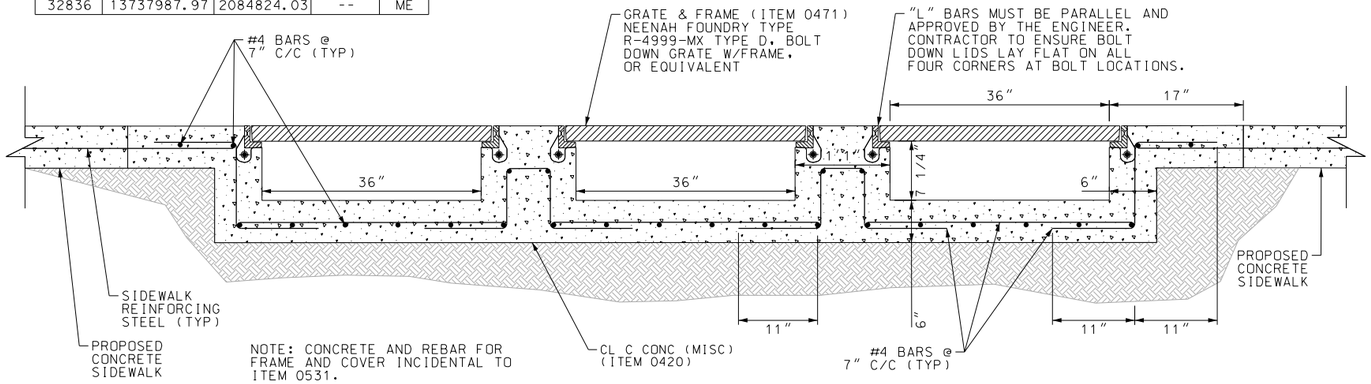
Plotted on: 4/2/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*29.dgn

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 32801 | 13737573.25 | 2085101.62 | 845.67 | PROP |
| 32802 | 13737575.96 | 2085105.82 | 845.68 | PROP |
| 32803 | 13737594.08 | 2085088.00 | 845.82 | PROP |
| 32804 | 13737596.78 | 2085092.21 | 845.83 | PROP |
| 32805 | 13737619.99 | 2085071.07 | 846.03 | PROP |
| 32806 | 13737622.73 | 2085075.25 | 846.06 | PROP |
| 32807 | 13737645.36 | 2085053.78 | 845.99 | PROP |
| 32808 | 13737648.18 | 2085057.92 | 846.02 | PROP |
| 32811 | 13737663.03 | 2085041.75 | 845.12 | PROP |
| 32812 | 13737665.82 | 2085045.90 | 845.19 | PROP |
| 32814 | 13737993.63 | 2084791.69 | -- | ME |
| 32815 | 13737996.74 | 2084796.43 | 845.15 | PROP |
| 32816 | 13738001.75 | 2084793.14 | 845.15 | PROP |
| 32817 | 13737999.48 | 2084800.61 | 844.93 | PROP |
| 32818 | 13738004.49 | 2084797.32 | 844.93 | PROP |
| 32819 | 13738007.15 | 2084812.32 | 844.86 | PROP |
| 32820 | 13738012.17 | 2084809.03 | 844.93 | PROP |
| 32821 | 13738008.61 | 2084814.54 | 844.93 | PROP |
| 32822 | 13738013.66 | 2084811.31 | 844.93 | PROP |
| 32823 | 13738016.40 | 2084815.49 | 845.00 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 32824 | 13738011.35 | 2084818.73 | 845.00 | PROP |
| 32825 | 13737989.66 | 2084826.67 | 845.43 | PROP |
| 32826 | 13737992.36 | 2084830.88 | 845.50 | PROP |
| 32827 | 13738035.55 | 2084797.29 | 845.23 | PROP |
| 32828 | 13738038.25 | 2084801.50 | 845.30 | PROP |
| 32829 | 13737571.48 | 2085098.88 | -- | ME |
| 32830 | 13737592.47 | 2085085.48 | -- | ME |
| 32831 | 13737617.52 | 2085067.83 | -- | ME |
| 32832 | 13737642.80 | 2085049.88 | -- | ME |
| 32833 | 13737981.08 | 2084814.04 | -- | ME |
| 32834 | 13737992.01 | 2084806.94 | -- | ME |
| 32835 | 13737998.63 | 2084817.30 | -- | ME |
| 32836 | 13737987.97 | 2084824.03 | -- | ME |

# GRATE DETAIL

N.T.S.




NOTES:
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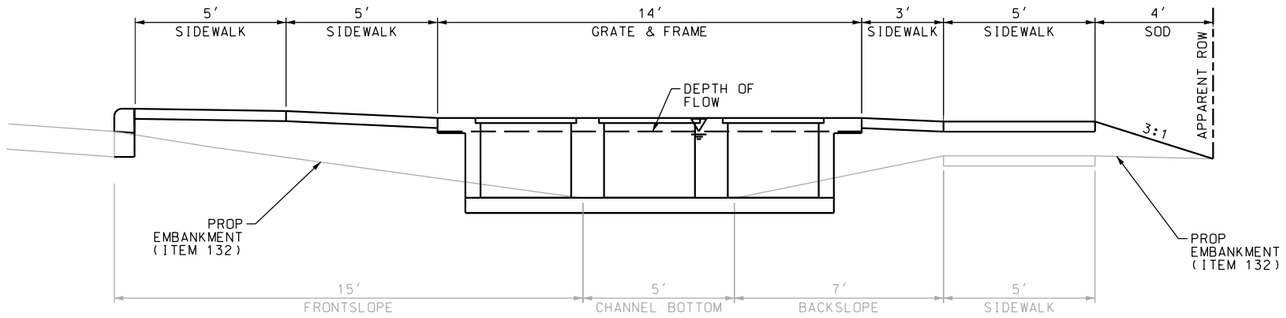
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED




# SECTION A-A

N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.002 | FT/FT | S | FL SLOPE | 0.002 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.023 | |
| A | AREA | 18.9 | SQ FT | A | AREA | 19.70 | SQ FT |
| P | WETTED PERIMETER | 22.3 | FT | P | WETTED PERIMETER | 22.10 | FT |
| R | HYDRAULIC RADIUS | 0.85 | FT | R | HYDRAULIC RADIUS | 0.89 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 37.5 | CFS | Q | DISCHARGE | 52.7 | CFS |

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



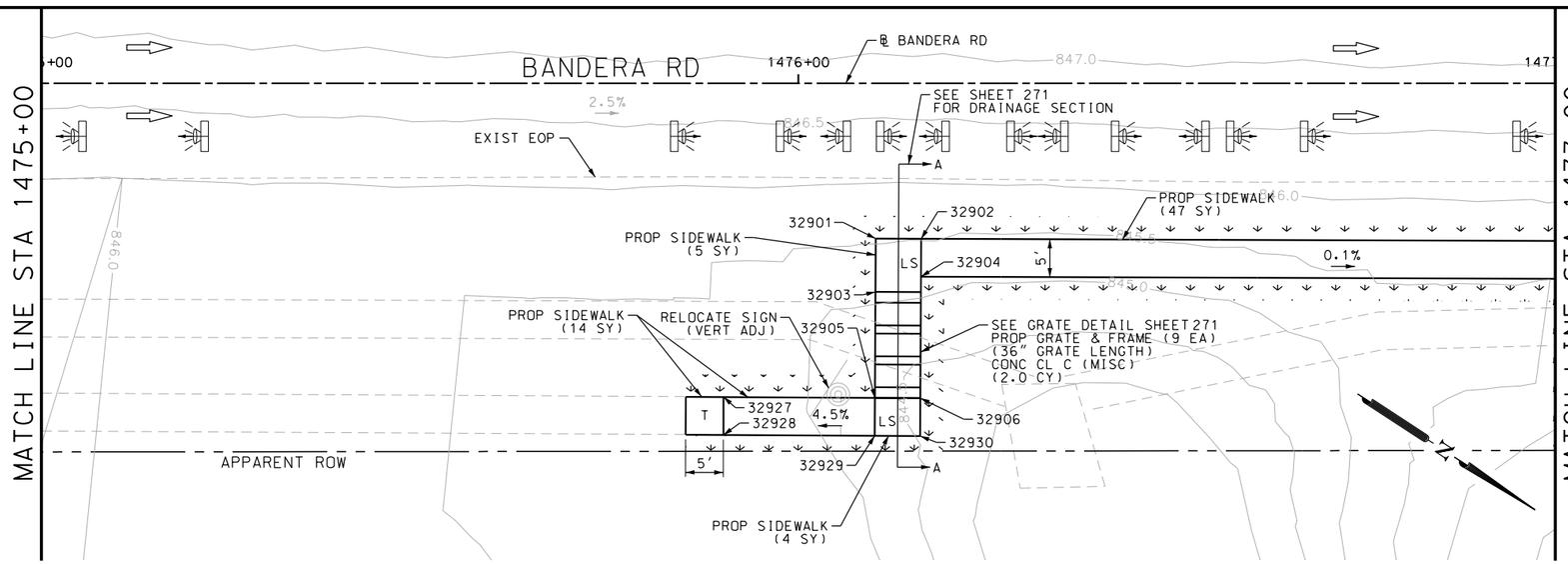

BANDERA RD

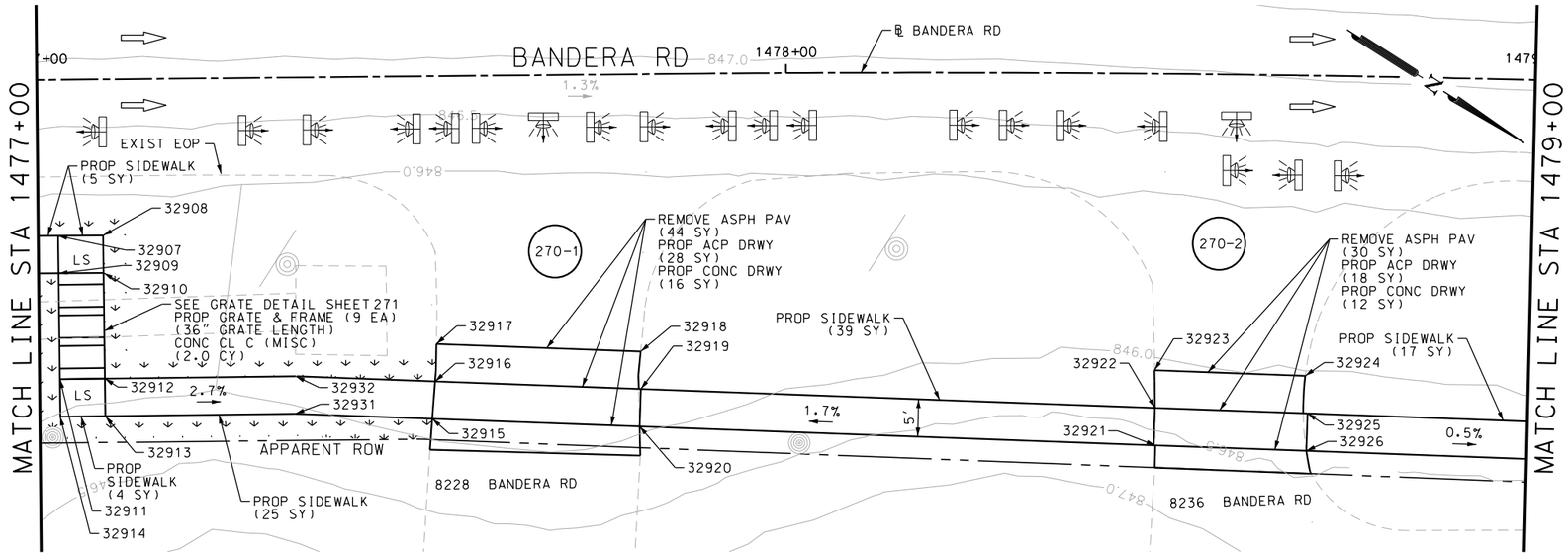
# SIDEWALK CONSTRUCTION PLAN

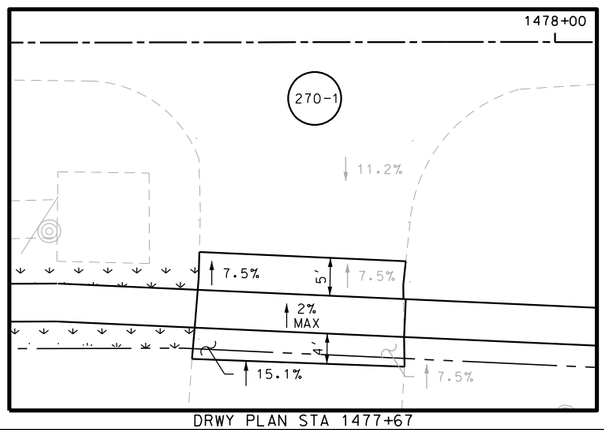
STA 1467+50 TO STA 1469+50
STA 1473+00 TO STA 1475+00



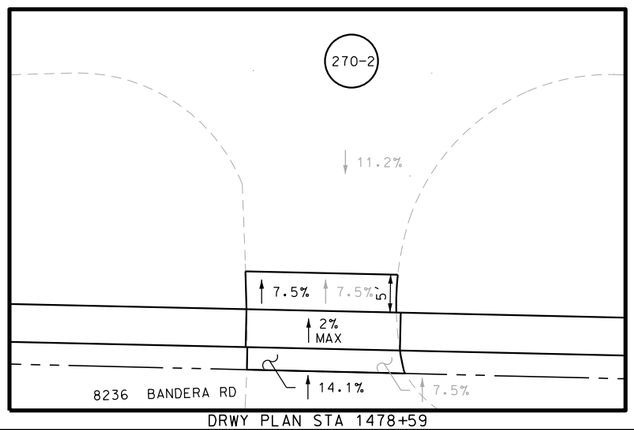
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 269 |




DRWY PLAN STA 1477+67




DRWY PLAN STA 1478+59

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 74 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 214 |
| 0162-6002 | BLOCK SODDING | SY | 214 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.34 |
| 0420-6074 | CL C CONC (MISC) | CY | 4.0 |
| 0471-6003 | GRATE & FRAME | EA | 18 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 28 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 46 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 160 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

NOTES:
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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1475+00 TO STA 1479+00

SHEET 45 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 270 |

Plotted on: 4/2/2019

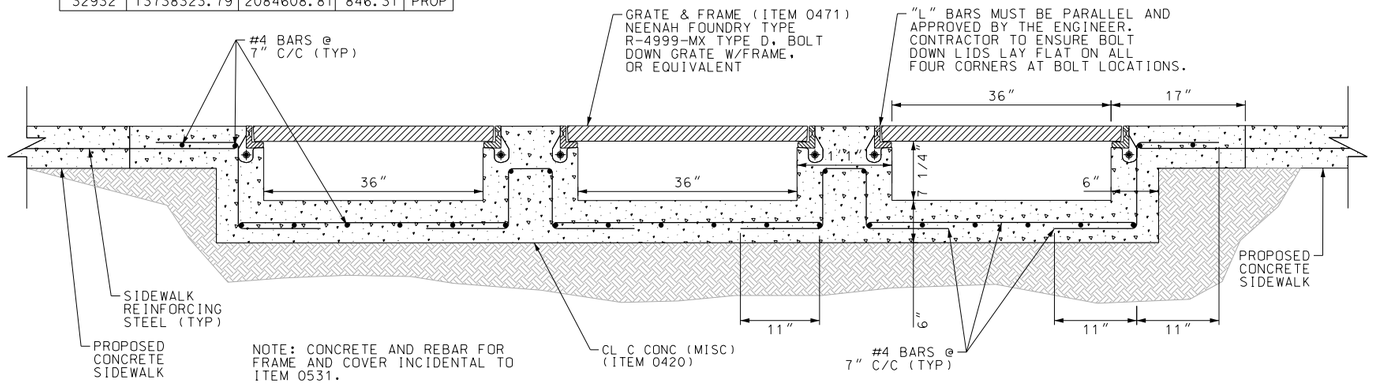
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*30.dgn

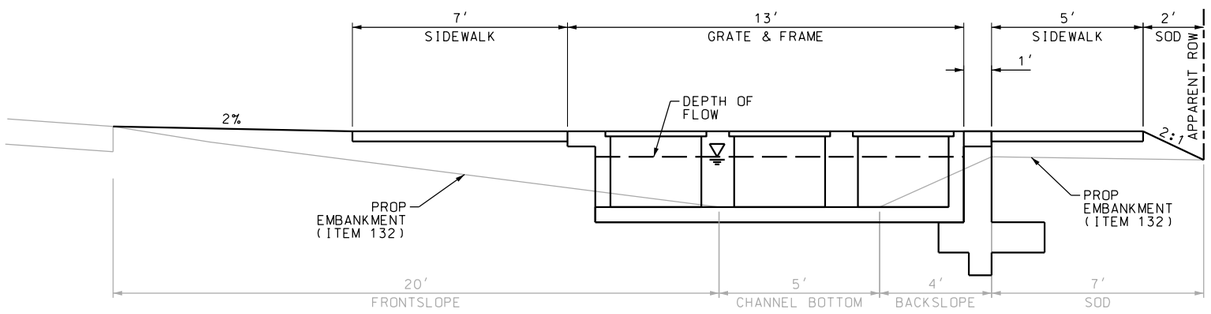
| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 32901 | 13738209.41 | 2084660.37 | 846.90 | PROP |
| 32902 | 13738214.45 | 2084657.11 | 846.83 | PROP |
| 32903 | 13738213.22 | 2084666.27 | 846.83 | PROP |
| 32904 | 13738217.16 | 2084661.31 | 846.76 | PROP |
| 32905 | 13738220.82 | 2084678.04 | 846.75 | PROP |
| 32906 | 13738225.86 | 2084674.78 | 846.75 | PROP |
| 32907 | 13738286.99 | 2084610.11 | 846.76 | PROP |
| 32908 | 13738292.02 | 2084606.84 | 846.69 | PROP |
| 32909 | 13738289.73 | 2084614.29 | 846.69 | PROP |
| 32910 | 13738294.77 | 2084611.02 | 846.62 | PROP |
| 32911 | 13738297.48 | 2084626.09 | 846.93 | PROP |
| 32912 | 13738302.50 | 2084622.80 | 846.86 | PROP |
| 32913 | 13738305.24 | 2084626.98 | 846.93 | PROP |
| 32914 | 13738300.23 | 2084630.27 | 847.00 | PROP |
| 32915 | 13738342.20 | 2084603.78 | 845.87 | PROP |
| 32916 | 13738339.82 | 2084599.37 | 845.80 | PROP |
| 32917 | 13738337.28 | 2084595.07 | -- | ME |
| 32918 | 13738360.79 | 2084581.23 | -- | ME |
| 32919 | 13738363.51 | 2084585.42 | 845.78 | PROP |
| 32920 | 13738366.05 | 2084589.73 | 845.85 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 32921 | 13738425.20 | 2084554.90 | 847.04 | PROP |
| 32922 | 13738422.67 | 2084550.59 | 846.97 | PROP |
| 32923 | 13738419.93 | 2084546.40 | -- | ME |
| 32924 | 13738437.27 | 2084536.19 | -- | ME |
| 32925 | 13738440.23 | 2084540.25 | 846.59 | PROP |
| 32926 | 13738442.76 | 2084544.55 | 846.66 | PROP |
| 32927 | 13738204.01 | 2084688.88 | 845.85 | PROP |
| 32928 | 13738206.72 | 2084693.08 | 845.92 | PROP |
| 32929 | 13738223.53 | 2084682.24 | 846.82 | PROP |
| 32930 | 13738228.57 | 2084678.98 | 846.82 | PROP |
| 32931 | 13738326.43 | 2084613.06 | 846.38 | PROP |
| 32932 | 13738323.79 | 2084608.81 | 846.31 | PROP |

# GRATE DETAIL

N.T.S.




# SECTION A-A

N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.027 | FT/FT | S | FL SLOPE | 0.027 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.023 | |
| A | AREA | 15.7 | SQ FT | A | AREA | 14.90 | SQ FT |
| P | WETTED PERIMETER | 21.2 | FT | P | WETTED PERIMETER | 19.00 | FT |
| R | HYDRAULIC RADIUS | 0.74 | FT | R | HYDRAULIC RADIUS | 0.78 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 104.6 | CFS | Q | DISCHARGE | 134.5 | CFS |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

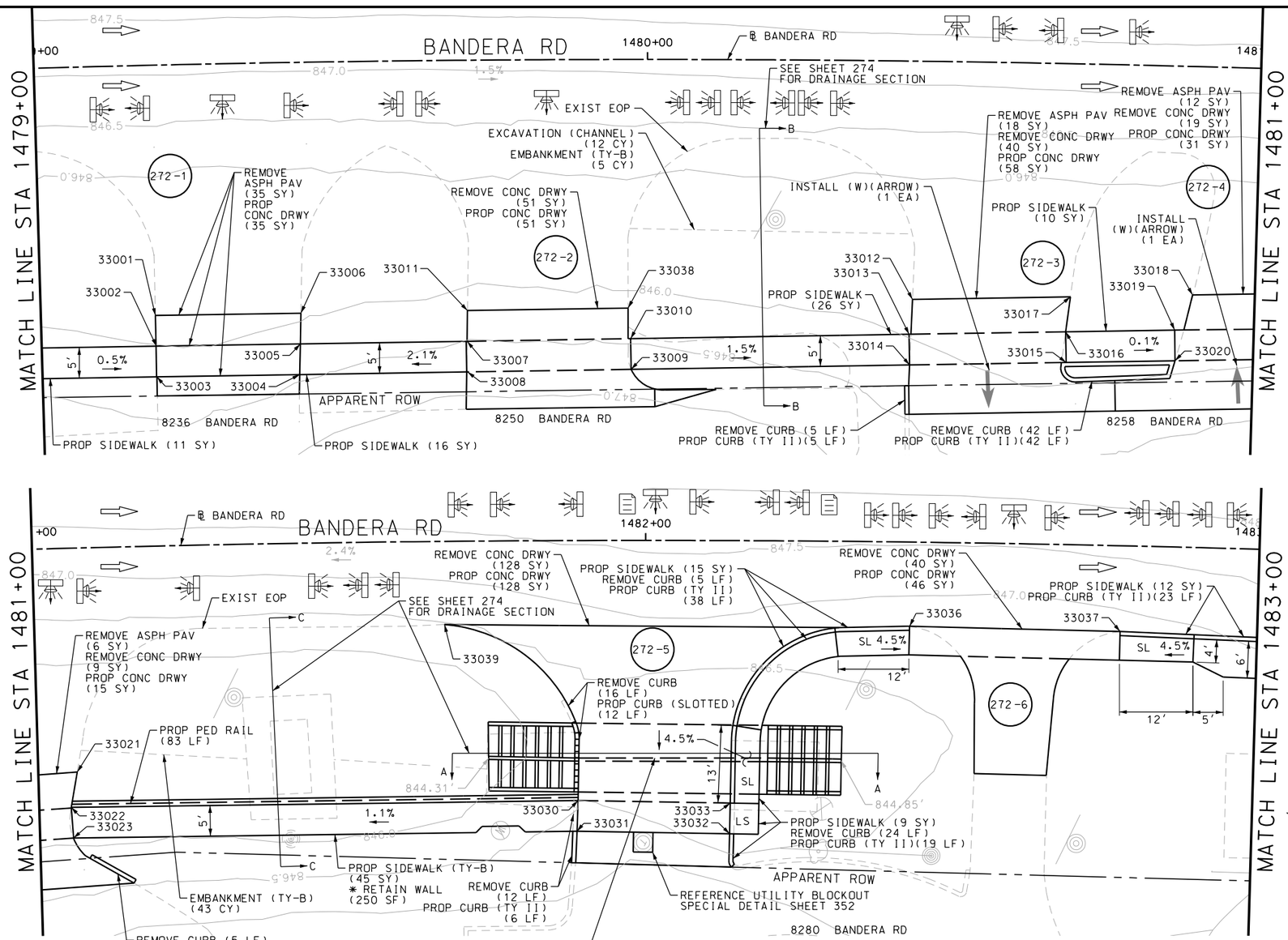
STA 1475+00 TO STA 1479+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 271 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111507*Bandera Dr*WB*30*A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 287 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 109 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 71 |
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 12 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 48 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 275 |
| 0162-6002 | BLOCK SODDING | SY | 275 |
| 0168-6001 | VEGETATIVE WATERING | MG | 4.29 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 83 |
| 0462-6006 | CONC BOX CULV (5 FT X 2 FT) | LF | 60 |
| 0467-6168 | SET (TY I)(S= 5 FT)(HW= 2 FT)(6:1) (P) | EA | 2 |
| 0496-6001 | REMOV STR (BOX CULVERT) | EA | 2 |
| 0496-6004 | REMOV STR (SET) | EA | 2 |
| 0529-6002 | CONC CURB (TY II) | LF | 138 |
| 0529-6012 | CONC CURB (SLOTTED) | LF | 12 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 364 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 99 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 45 |
| 0666-6054 | REFL PAV MRK TY I (W)(ARROW)(100MIL) | EA | 2 |
| 0666-6231 | PAVEMENT SEALER (ARROW) | EA | 2 |
| 0678-6009 | PAV SURF PREP FOR MRK (ARROW) | EA | 2 |

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 33001 | 13738478.99 | 2084511.61 | -- | ME |
| 33002 | 13738481.56 | 2084515.90 | 846.36 | PROP |
| 33003 | 13738484.10 | 2084520.21 | 846.43 | PROP |
| 33004 | 13738504.19 | 2084508.38 | 846.50 | PROP |
| 33005 | 13738501.81 | 2084503.98 | 846.43 | PROP |
| 33006 | 13738499.42 | 2084499.59 | -- | ME |
| 33007 | 13738525.09 | 2084490.27 | 847.01 | PROP |
| 33008 | 13738527.63 | 2084494.58 | 847.08 | PROP |
| 33009 | 13738550.71 | 2084480.99 | 847.04 | PROP |
| 33010 | 13738548.17 | 2084476.68 | 846.97 | PROP |
| 33011 | 13738522.80 | 2084485.82 | -- | ME |
| 33012 | 13738584.94 | 2084448.45 | -- | ME |
| 33013 | 13738587.26 | 2084453.66 | 846.30 | PROP |
| 33014 | 13738589.80 | 2084457.96 | 846.37 | PROP |
| 33015 | 13738611.78 | 2084445.02 | 846.08 | PROP |
| 33016 | 13738609.24 | 2084440.71 | 846.01 | PROP |
| 33017 | 13738607.11 | 2084435.39 | -- | ME |
| 33018 | 13738624.25 | 2084425.30 | -- | ME |
| 33019 | 13738624.53 | 2084431.71 | 846.02 | PROP |
| 33020 | 13738627.07 | 2084436.02 | 846.09 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 33021 | 13738638.45 | 2084416.93 | -- | ME |
| 33022 | 13738640.14 | 2084422.52 | 846.22 | PROP |
| 33023 | 13738642.67 | 2084426.83 | 846.29 | PROP |
| 33030 | 13738713.65 | 2084384.98 | 847.09 | PROP |
| 33031 | 13738715.72 | 2084389.53 | 847.16 | PROP |
| 33032 | 13738738.18 | 2084378.89 | 847.42 | PROP |
| 33033 | 13738736.06 | 2084374.36 | 847.35 | PROP |
| 33036 | 13738749.51 | 2084335.61 | -- | ME |
| 33037 | 13738780.63 | 2084321.20 | -- | ME |
| 33038 | 13738545.35 | 2084472.54 | -- | ME |
| 33039 | 13738681.45 | 2084368.90 | -- | ME |

PAPE-DAWSON ENGINEERS
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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1479+00 TO STA 1483+00

SHEET 47 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 272 |

Plotted on: 4/2/2019

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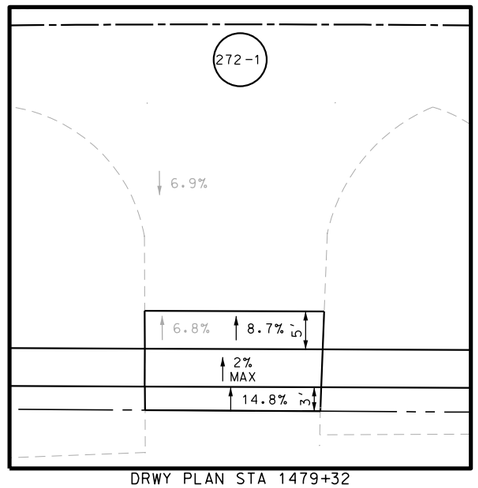
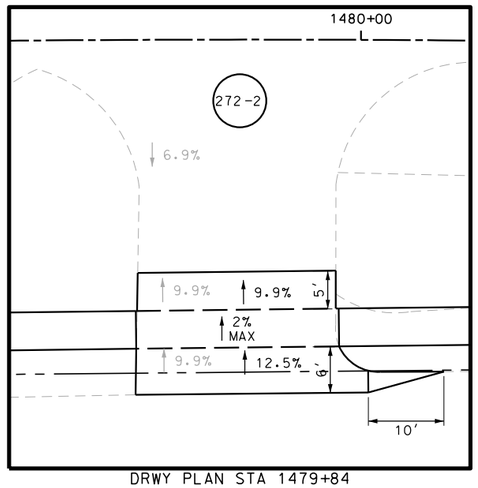
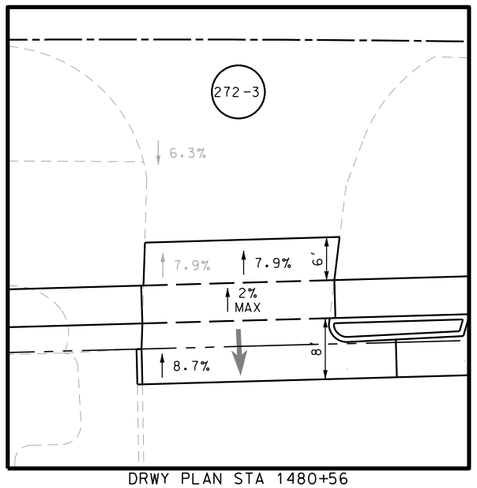


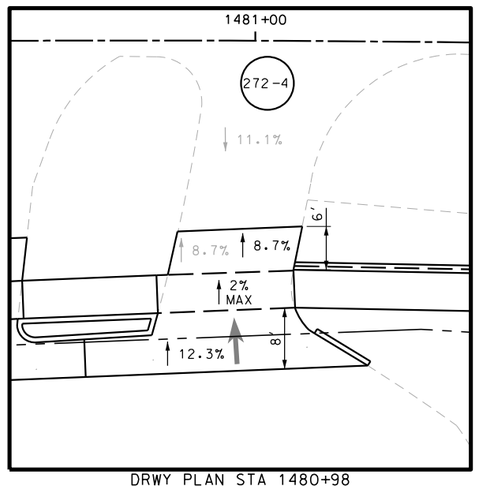
DRWY PLAN STA 1479+32



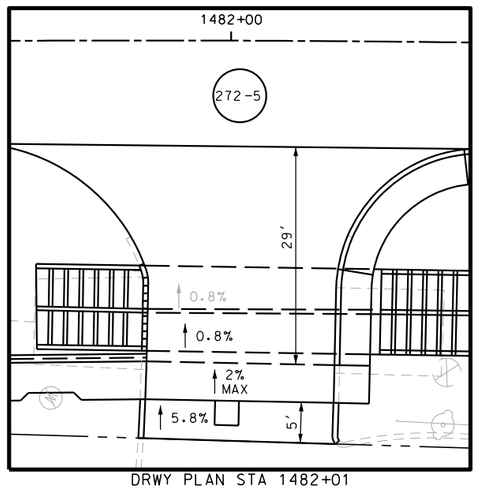
DRWY PLAN STA 1479+84



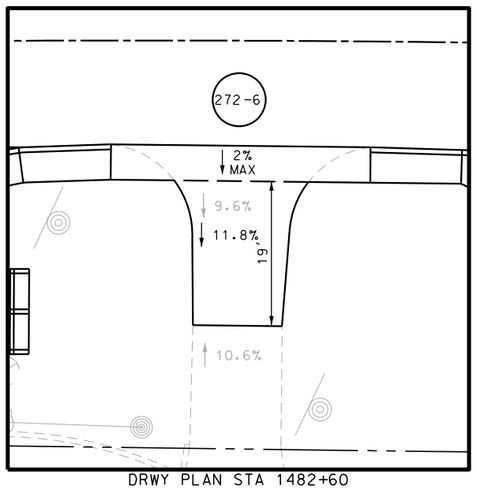
DRWY PLAN STA 1480+56



DRWY PLAN STA 1480+98



DRWY PLAN STA 1482+01



DRWY PLAN STA 1482+60

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DESIGN

INTERIM REVIEW
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

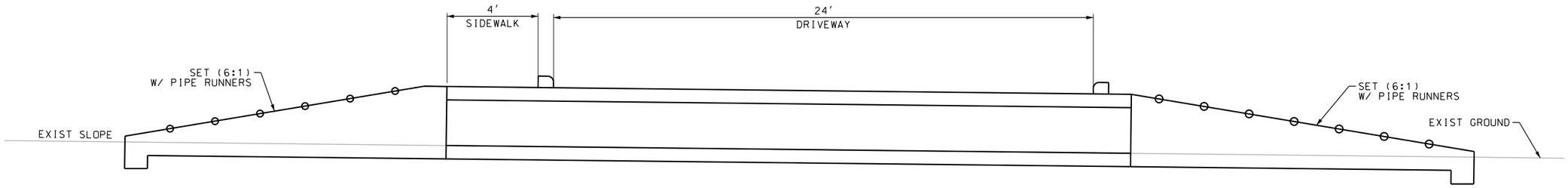
STA 1479+00 TO STA 1483+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 273 |

Plotted on: 4/2/2019

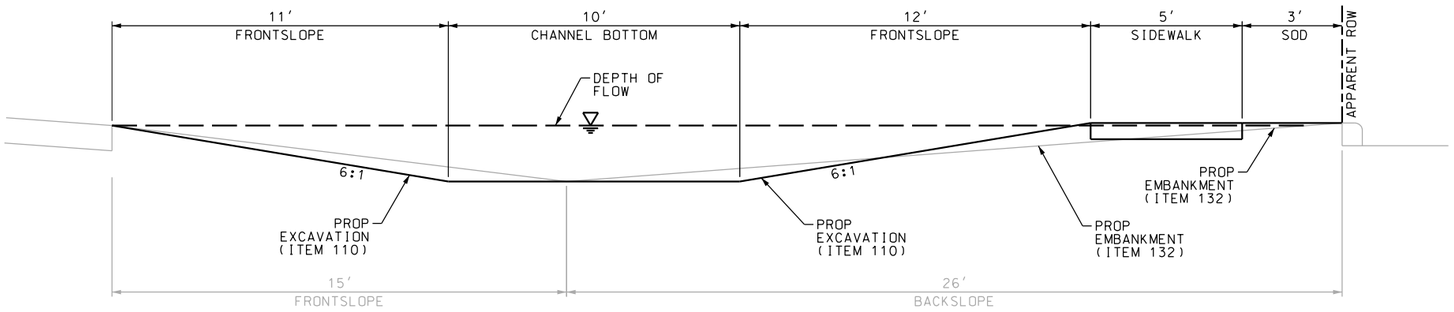
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111507*Bandera Dr*WB*31*A.dgn




## SECTION A–A
N.T.S.

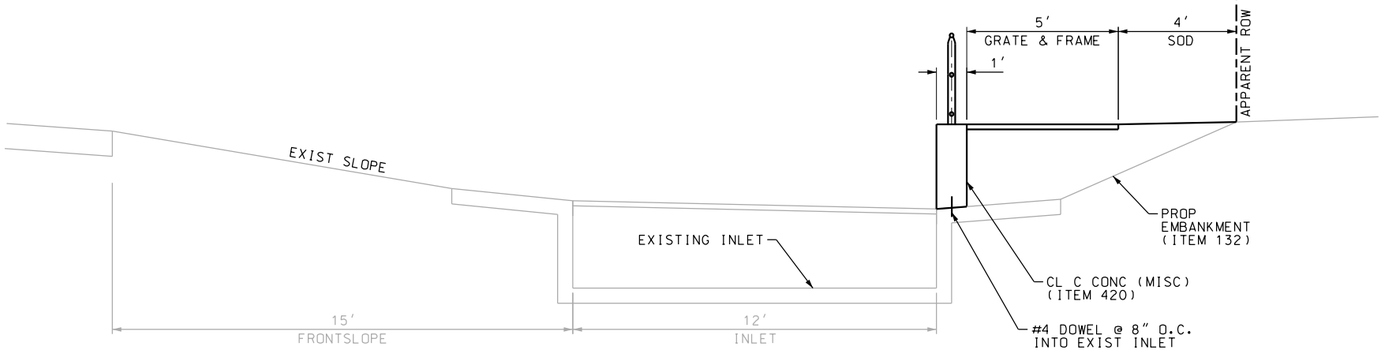
EXIST: 2 - 5' X 2' MBC W/ SET 6:1

PROP: 2 - 30 LF 5' X 2' MBC W/ SET 6:1




## SECTION B–B
N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.003 | FT/FT | S | FL SLOPE | 0.003 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.030 | |
| A | AREA | 36.6 | SQ FT | A | AREA | 38.30 | SQ FT |
| P | WETTED PERIMETER | 39.7 | FT | P | WETTED PERIMETER | 32.10 | FT |
| R | HYDRAULIC RADIUS | 0.92 | FT | R | HYDRAULIC RADIUS | 1.19 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 94.1 | CFS | Q | DISCHARGE | 116.9 | CFS |




PROPOSED IMPROVEMENTS WILL NOT AFFECT EXISTING HYDRAULIC CAPACITY

## SECTION C–C
N.T.S.

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

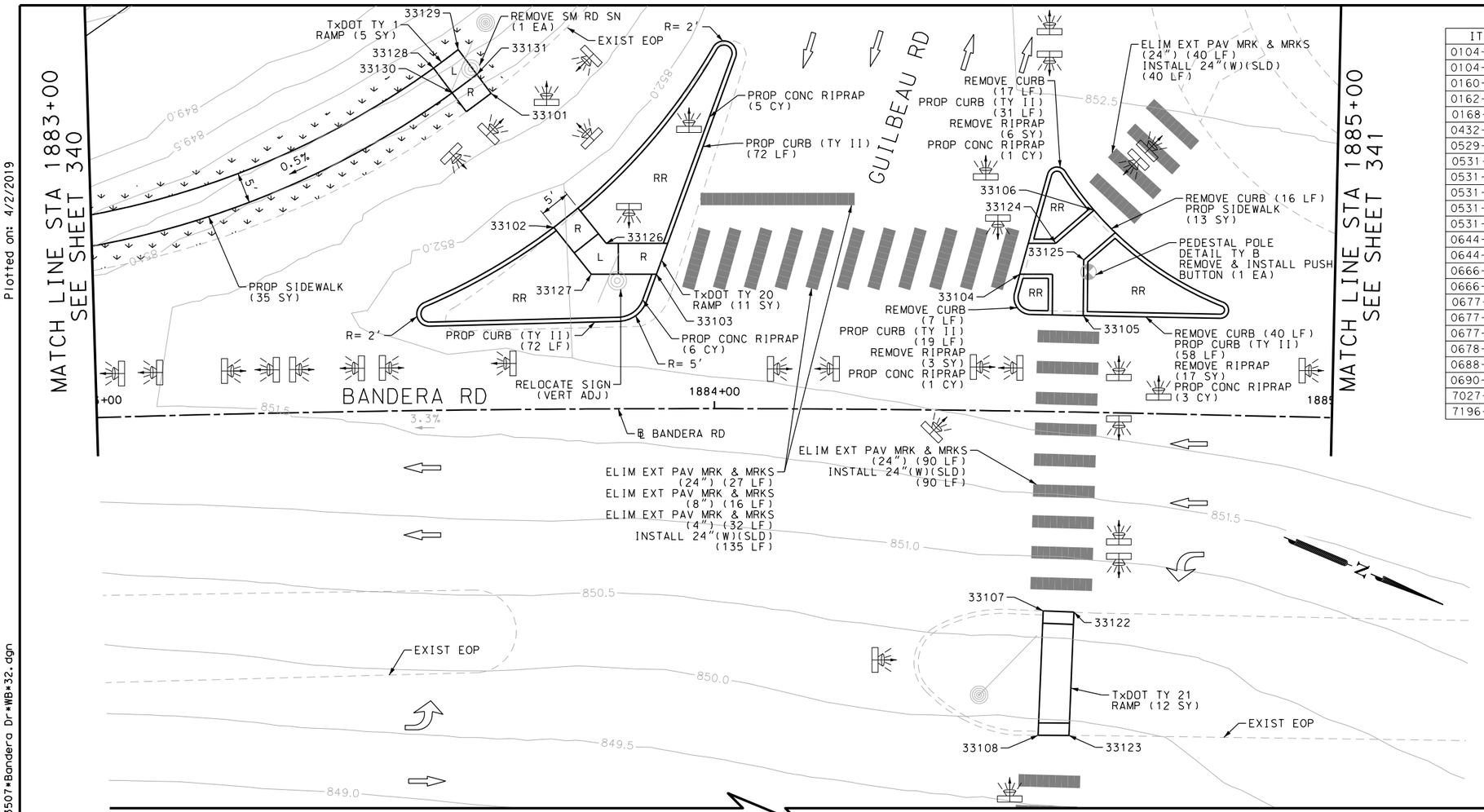
STA 1479+00 TO STA 1483+00

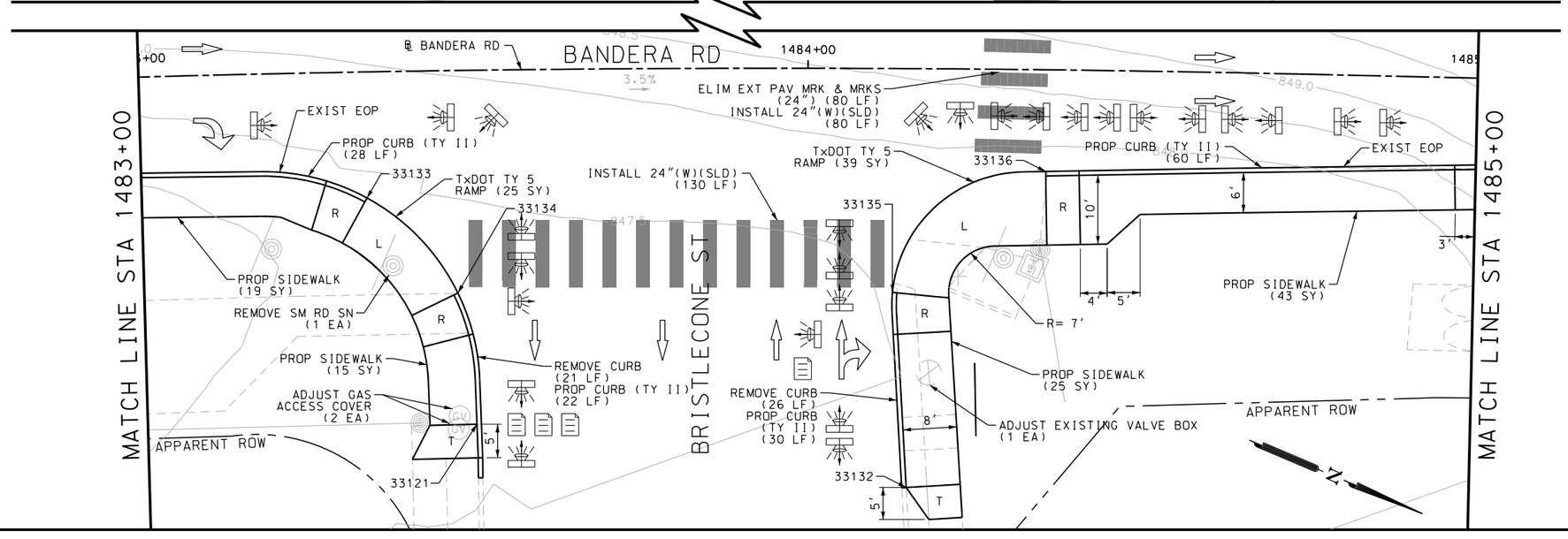


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 274 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350 7*Bandera Dr*WB*31*B.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 26 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 127 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 122 |
| 0162-6002 | BLOCK SODDING | SY | 122 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.90 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 16 |
| 0529-6002 | CONC CURB (TY II) | LF | 392 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 150 |
| 0531-6018 | CURB RAMPS (TY 1) | SY | 5 |
| 0531-6022 | CURB RAMPS (TY 5) | SY | 64 |
| 0531-6029 | CURB RAMPS (TY 20) | SY | 11 |
| 0531-6030 | CURB RAMPS (TY 21) | SY | 12 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |
| 0644-6076 | REMOVE SM RD SN SUP&AM | EA | 2 |
| 0666-6048 | REFL PAV MRK TY I (W)24"(SLD)(100MIL) | LF | 475 |
| 0666-6230 | PAVEMENT SEALER 24" | LF | 475 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 32 |
| 0677-6003 | ELIM EXT PAV MRK & MRKS (8") | LF | 16 |
| 0677-6007 | ELIM EXT PAV MRK & MRKS (24") | LF | 237 |
| 0678-6008 | PAV SURF PREP FOR MRK (24") | LF | 475 |
| 0688-6002 | PED DETECT PUSH BUTTON (STANDARD) | EA | 1 |
| 0690-6030 | REMOVAL OF PEDESTRIAN PUSH BUTTONS | EA | 1 |
| 7027-6001 | ADJUST GAS FACILITY ACCESS COVER | EA | 2 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1483+00 TO STA 1485+00
STA 1883+00 TO STA 1885+00

SHEET 50 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 275 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*32.dgn

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 33101 | 13738781.20 | 2084157.27 | -- | ME |
| 33102 | 13738799.06 | 2084173.27 | -- | ME |
| 33103 | 13738817.32 | 2084173.74 | -- | ME |
| 33104 | 13738871.46 | 2084150.73 | -- | ME |
| 33105 | 13738883.55 | 2084152.88 | -- | ME |
| 33106 | 13738878.48 | 2084136.49 | -- | ME |
| 33107 | 13738896.28 | 2084199.41 | -- | ME |
| 33108 | 13738903.41 | 2084218.28 | -- | ME |
| 33109 | 13738847.61 | 2084307.17 | -- | ME |
| 33116 | 13738910.52 | 2084276.08 | -- | ME |
| 33117 | 13738920.71 | 2084261.20 | -- | ME |
| 33121 | 13738861.89 | 2084327.09 | -- | ME |
| 33122 | 13738900.96 | 2084197.65 | -- | ME |
| 33123 | 13738908.02 | 2084216.35 | -- | ME |
| 33124 | 13738874.88 | 2084143.84 | 853.33 | PROP |
| 33125 | 13738880.09 | 2084144.57 | 853.33 | PROP |
| 33126 | 13738807.86 | 2084172.33 | 853.08 | PROP |
| 33127 | 13738807.60 | 2084177.87 | 853.01 | PROP |
| 33128 | 13738771.06 | 2084157.17 | 850.66 | PROP |
| 33129 | 13738773.57 | 2084152.84 | 850.73 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 33130 | 13738775.39 | 2084159.68 | 850.73 | PROP |
| 33131 | 13738777.89 | 2084155.35 | 850.80 | PROP |
| 33132 | 13738924.57 | 2084310.70 | -- | ME |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

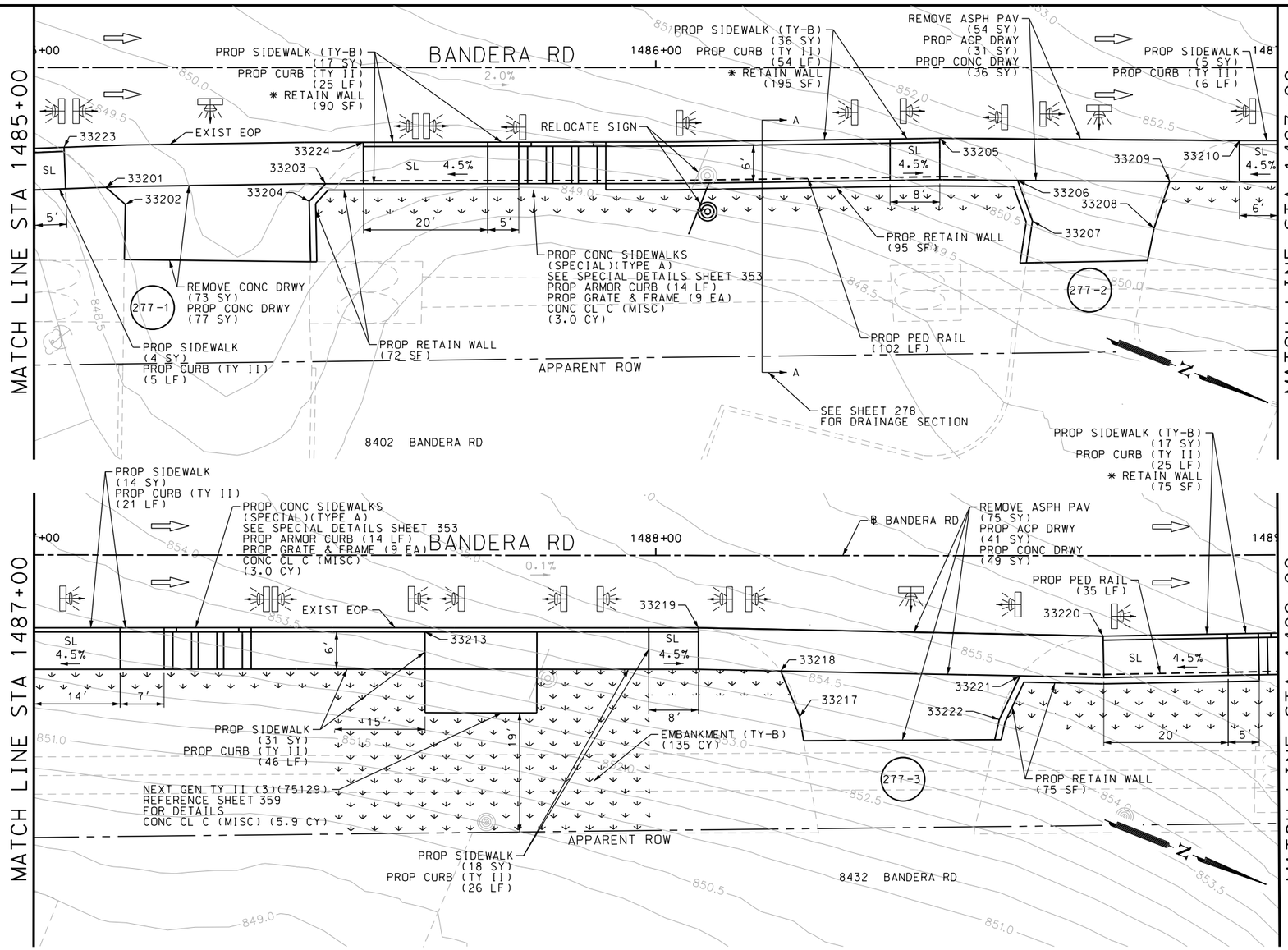
STA 1483+00 TO STA 1485+00
STA 1883+00 TO STA 1885+00

SHEET 51 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 276 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350 7*Bandera Dr*WB*32*A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 73 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 129 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 135 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 269 |
| 0162-6002 | BLOCK SODDING | SY | 269 |
| 0168-6001 | VEGETATIVE WATERING | MG | 4.20 |
| 0420-6074 | CL C CONC (MISC) | CY | 11.9 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 242 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 107 |
| 0471-6003 | GRATE & FRAME | EA | 18 |
| 0529-6002 | CONC CURB (TY II) | LF | 208 |
| 0529-6020 | CONC CURB & GUTTER (ARMOR CURB) | LF | 28 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 162 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 72 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 72 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 70 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

NOTES:
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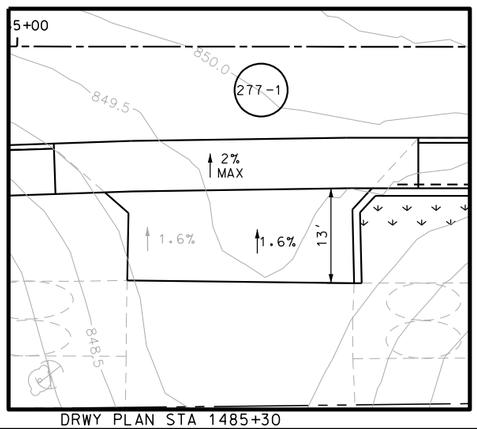
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

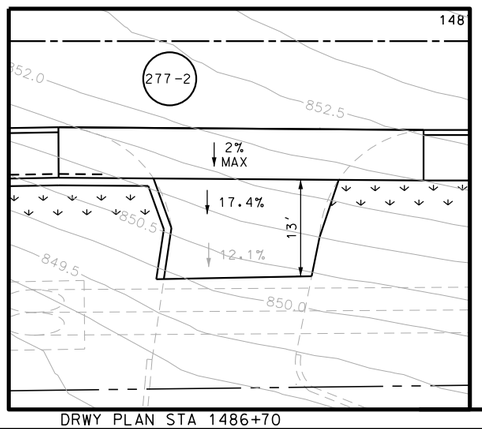
REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

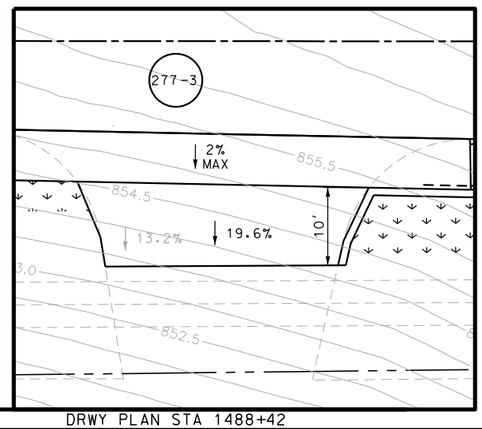
SCALE: PLAN 1"= 20'



DRWY PLAN STA 1485+30



DRWY PLAN STA 1486+70



DRWY PLAN STA 1488+42

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 33201 | 13738997.02 | 2084234.62 | -- | ME |
| 33202 | 13739000.96 | 2084236.00 | 849.75 | PROP |
| 33203 | 13739029.60 | 2084221.01 | -- | ME |
| 33204 | 13739028.24 | 2084224.58 | 850.35 | PROP |
| 33205 | 13739118.66 | 2084177.60 | -- | ME |
| 33206 | 13739132.82 | 2084179.24 | -- | ME |
| 33207 | 13739137.44 | 2084184.43 | 851.64 | PROP |
| 33208 | 13739156.04 | 2084178.29 | 851.88 | PROP |
| 33209 | 13739155.59 | 2084170.35 | -- | ME |
| 33210 | 13739163.56 | 2084160.08 | -- | ME |
| 33213 | 13739227.89 | 2084135.06 | -- | ME |
| 33217 | 13739288.92 | 2084125.34 | 853.88 | PROP |
| 33218 | 13739283.34 | 2084119.66 | -- | ME |
| 33219 | 13739268.51 | 2084118.12 | -- | ME |
| 33220 | 13739329.40 | 2084095.19 | -- | ME |
| 33221 | 13739319.38 | 2084106.09 | -- | ME |
| 33222 | 13739318.90 | 2084113.86 | 855.28 | PROP |
| 33223 | 13738988.40 | 2084231.13 | -- | ME |
| 33224 | 13739032.80 | 2084212.55 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

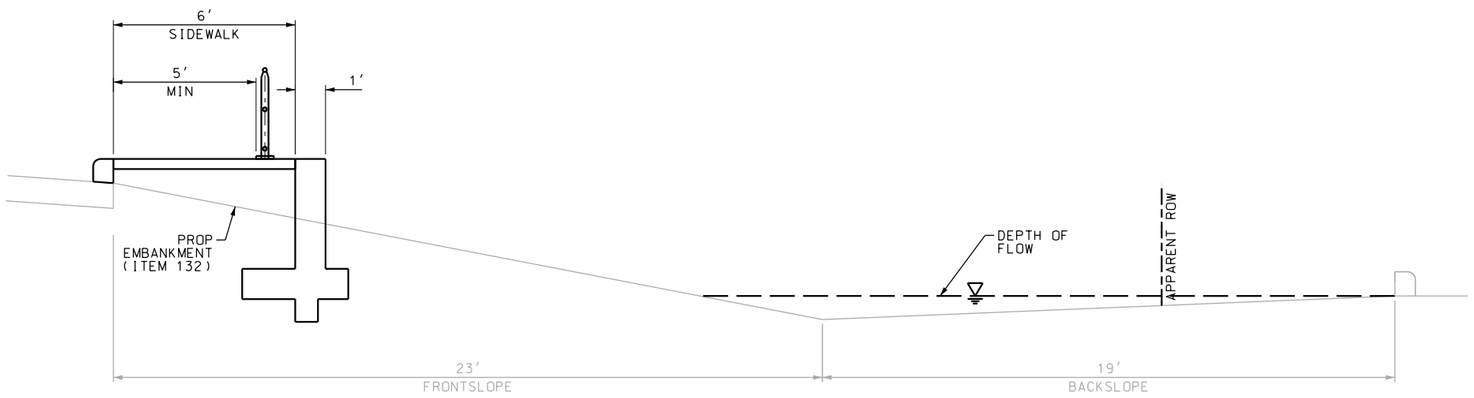
STA 1485+00 TO STA 1489+00

SHEET 52 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 277 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111507*Bandera Dr*WB*33.dgn




PROPOSED IMPROVEMENTS WILL NOT AFFECT EXISTING HYDRAULIC CAPACITY

# SECTION A–A

N.T.S.

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

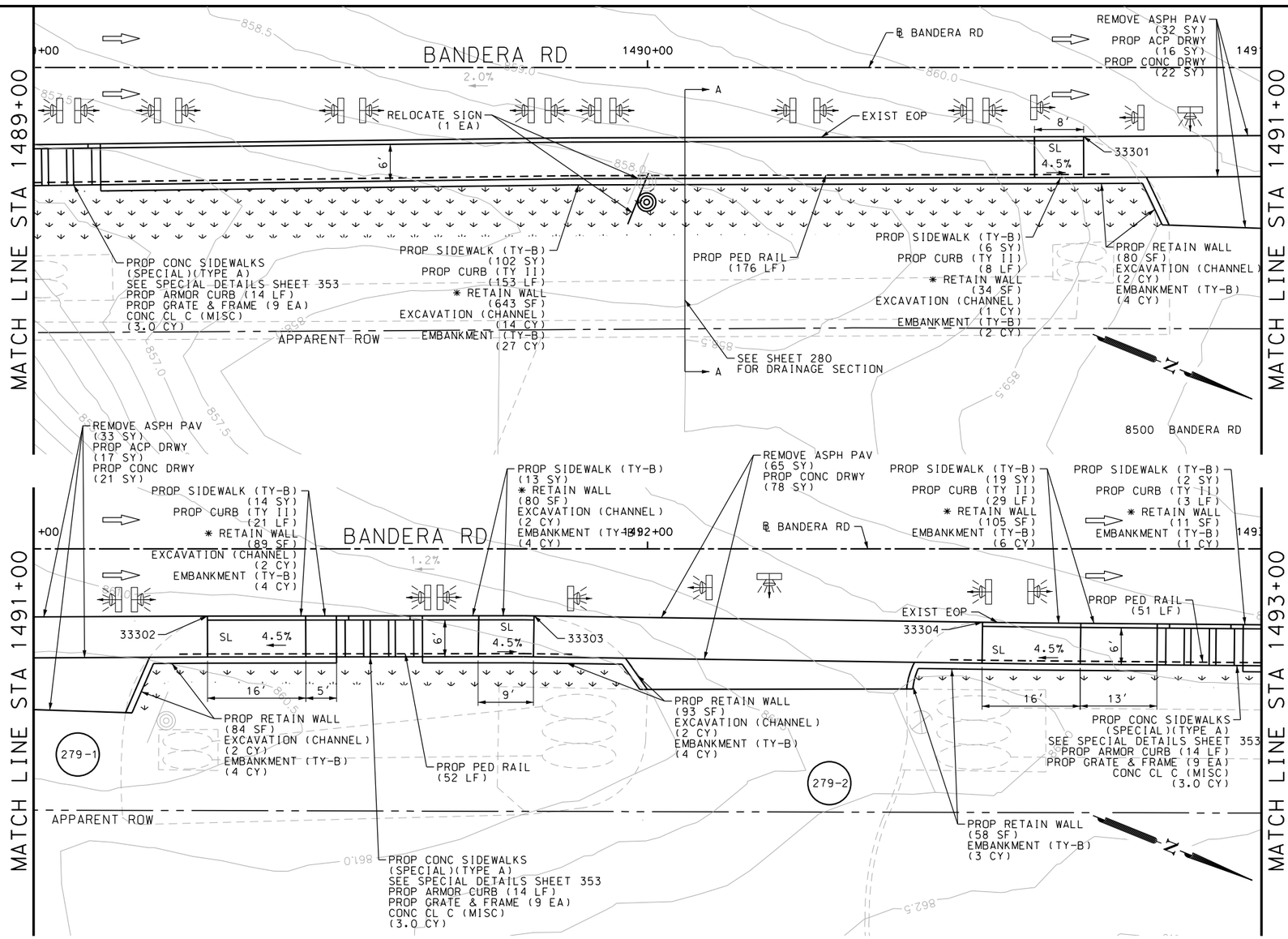
# SIDEWALK CONSTRUCTION PLAN

STA 1485+00 TO STA 1489+00

SHEET 53 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 278 |

Plotted on: 4/2/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350 7*Bandera Dr*WB*33*A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 130 |
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 25 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 59 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 213 |
| 0162-6002 | BLOCK SODDING | SY | 213 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.32 |
| 0420-6074 | CL C CONC (MISC) | CY | 9.0 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 315 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 286 |
| 0471-6003 | GRATE & FRAME | EA | 27 |
| 0529-6002 | CONC CURB (TY II) | LF | 233 |
| 0529-6020 | CONC CURB & GUTTER (ARMOR CURB) | LF | 42 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 121 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 33 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 156 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

NOTES:
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DESIGN

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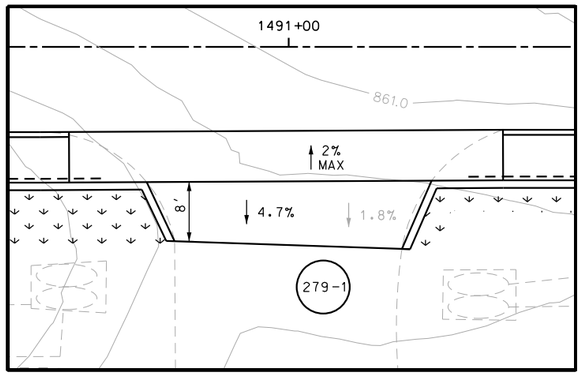
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

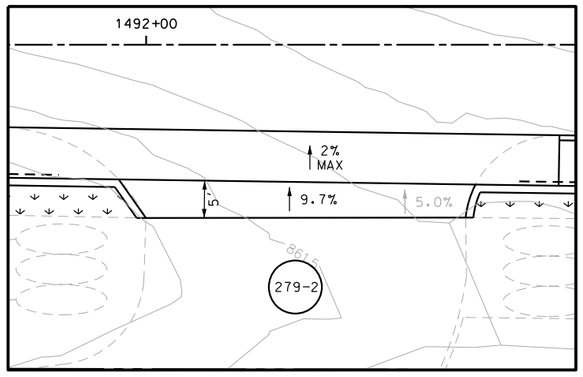
INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 33301 | 13739513.28 | 2084018.69 | -- | ME |
| 33302 | 13739566.27 | 2083996.87 | -- | ME |
| 33303 | 13739615.54 | 2083976.80 | -- | ME |
| 33304 | 13739683.62 | 2083950.28 | -- | ME |



DW PLAN STA 1491+00



DW PLAN STA 1492+20

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

Texas Department of Transportation
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BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

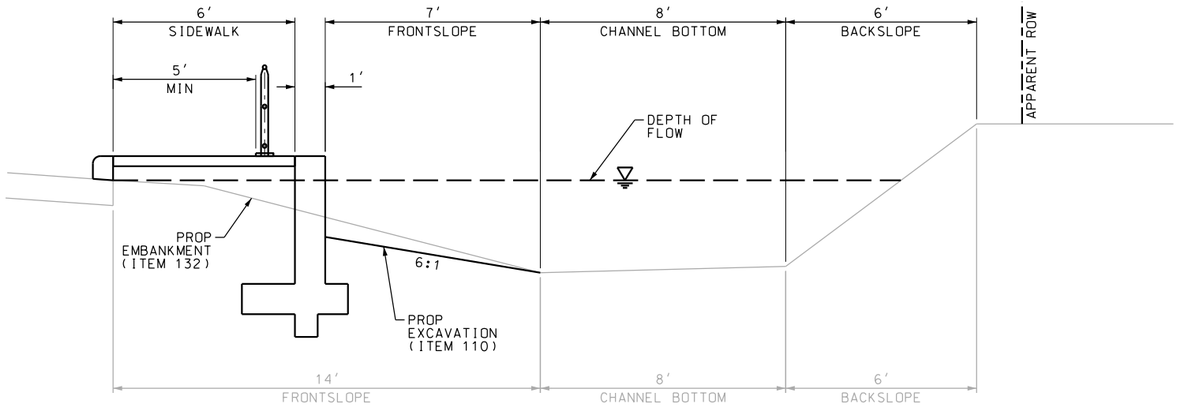
STA 1489+00 TO STA 1493+00

SHEET 54 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 279 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507+Bandera Dr+WB+34.dgn




## SECTION A-A

N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.016 | FT/FT | S | FL SLOPE | 0.016 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.030 | |
| A | AREA | 47.4 | SQ FT | A | AREA | 46.70 | SQ FT |
| P | WETTED PERIMETER | 27.3 | FT | P | WETTED PERIMETER | 21.90 | FT |
| R | HYDRAULIC RADIUS | 1.74 | FT | R | HYDRAULIC RADIUS | 2.13 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 429.0 | CFS | Q | DISCHARGE | 484.8 | CFS |

NOTES:
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DESIGN

INTERIM REVIEW
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



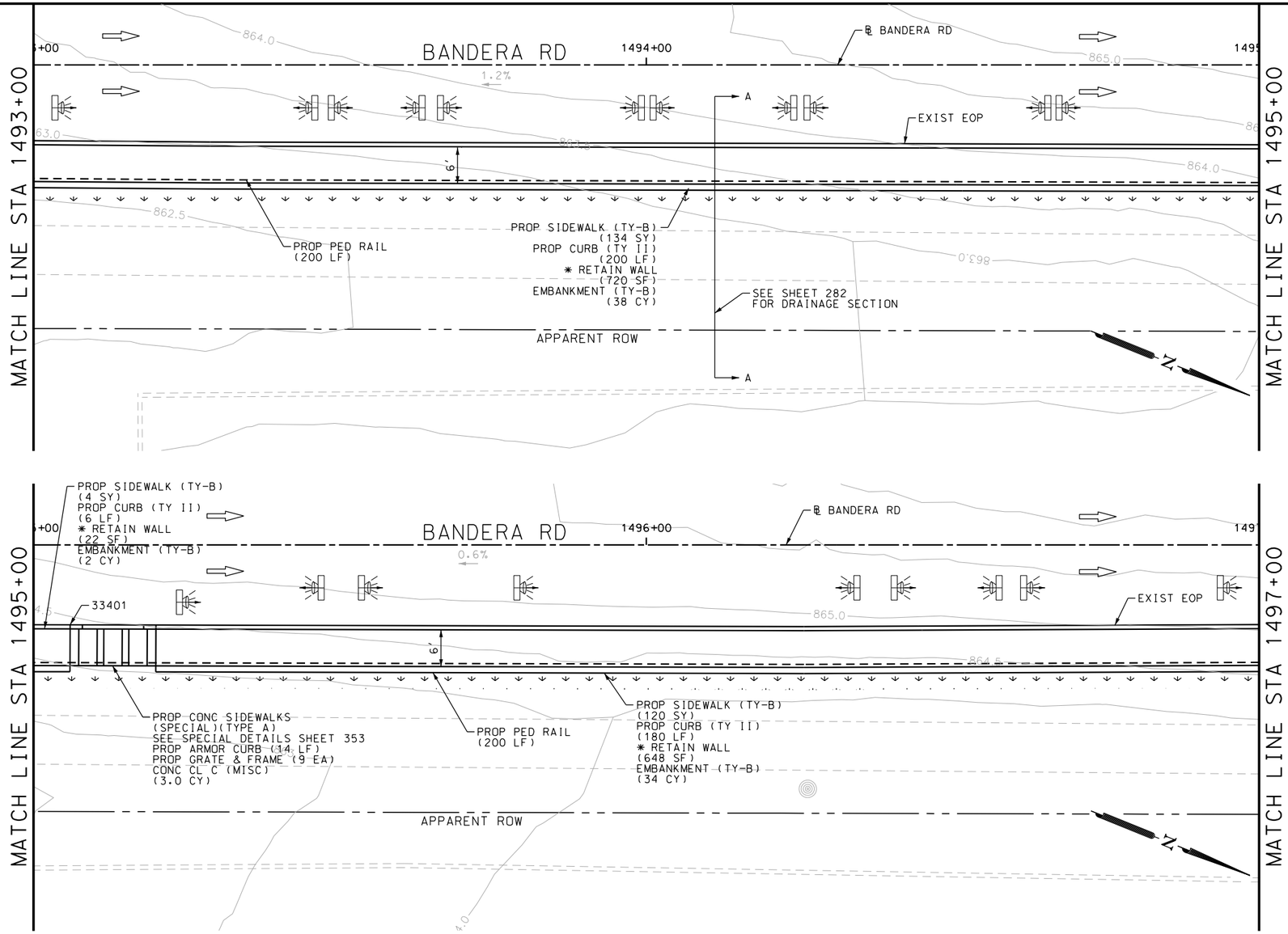
BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1489+00 TO STA 1493+00

SHEET 55 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 280 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 74 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 119 |
| 0162-6002 | BLOCK SODDING | SY | 119 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.86 |
| 0420-6074 | CL C CONC (MISC) | CY | 3.0 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 400 |
| 0471-6003 | GRATE & FRAME | EA | 9 |
| 0529-6002 | CONC CURB (TY II) | LF | 386 |
| 0529-6020 | CONC CURB & GUTTER (ARMOR CURB) | LF | 14 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 258 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 33401 | 13739917.00 | 2083856.64 | -- | ME |

NOTES:
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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

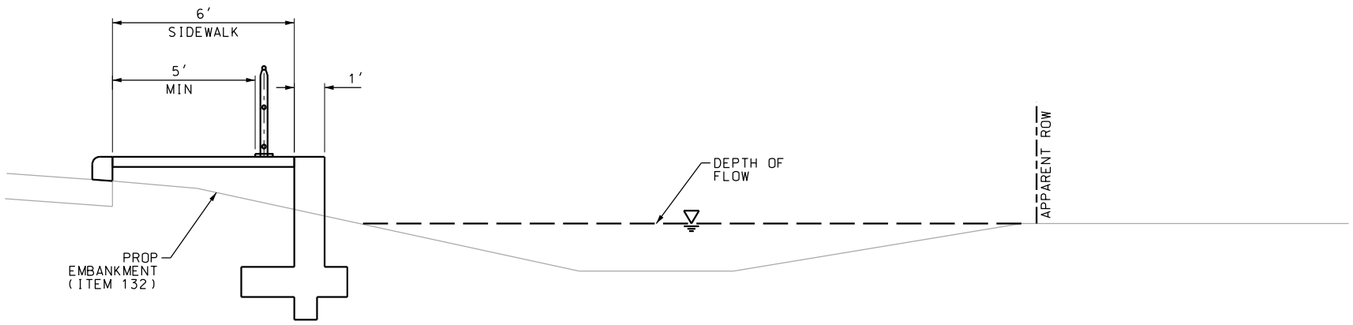
# SIDEWALK CONSTRUCTION PLAN

STA 1493+00 TO STA 1497+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 281 |

Plotted on: 4/2/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*35.dgn




PROPOSED IMPROVEMENTS WILL NOT AFFECT EXISTING HYDRAULIC CAPACITY

## SECTION A-A

N.T.S.

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

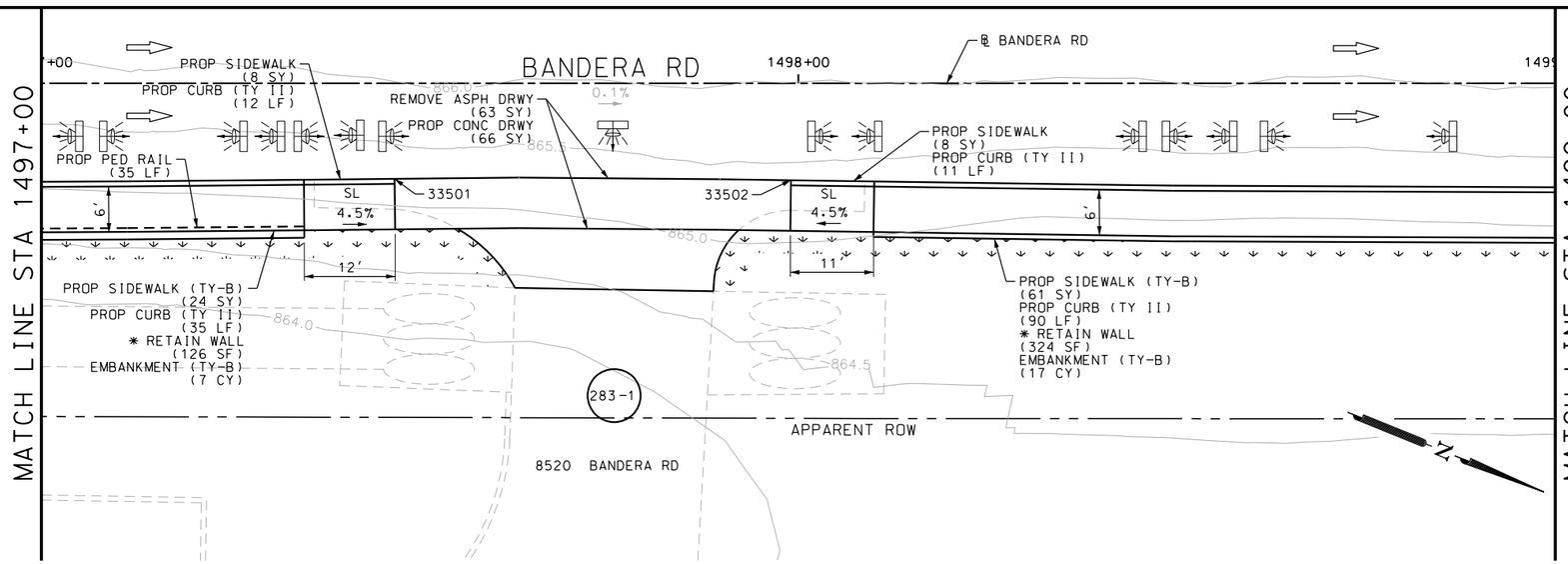
# SIDEWALK CONSTRUCTION PLAN

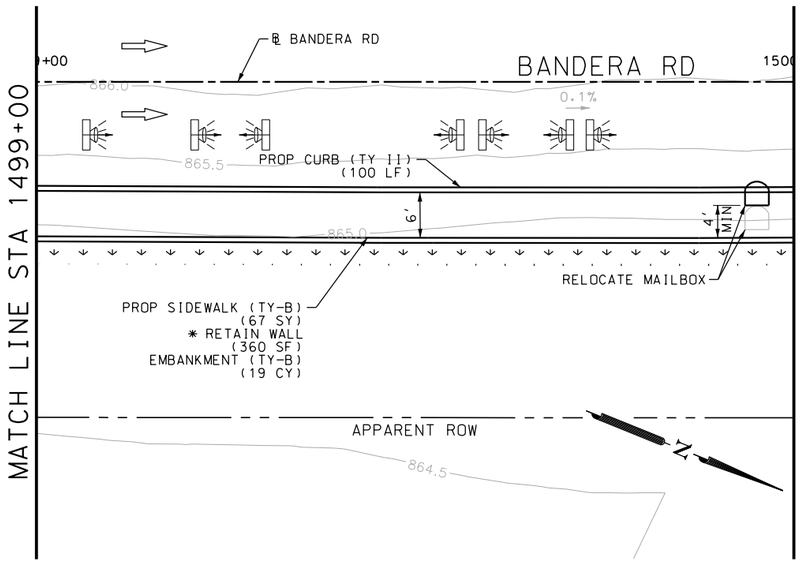
STA 1493+00 TO STA 1497+00

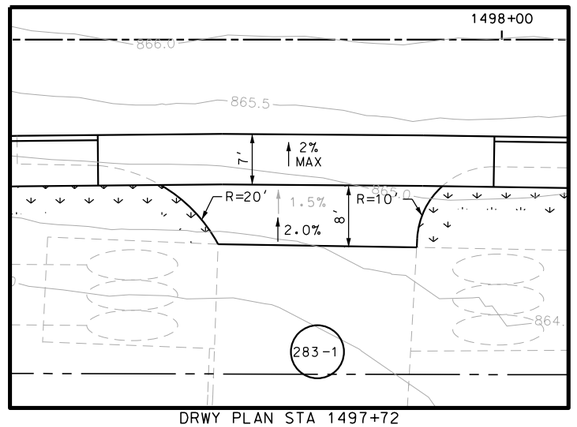
SHEET 57 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 282 |

Plotted on: 4/2/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350 7*Bandera Dr*WB*35*A.dgn




DRWY PLAN STA 1497+72

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 63 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 43 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 93 |
| 0162-6002 | BLOCK SODDING | SY | 93 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.45 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 35 |
| 0529-6002 | CONC CURB (TY II) | LF | 248 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 66 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 16 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 152 |
| 0560-6014 | MAILBOX INSTALL-S (TWG-POST) TY 4 | EA | 1 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 33501 | 13740139.78 | 2083765.69 | -- | ME |
| 33502 | 13740188.37 | 2083746.15 | -- | ME |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

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DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

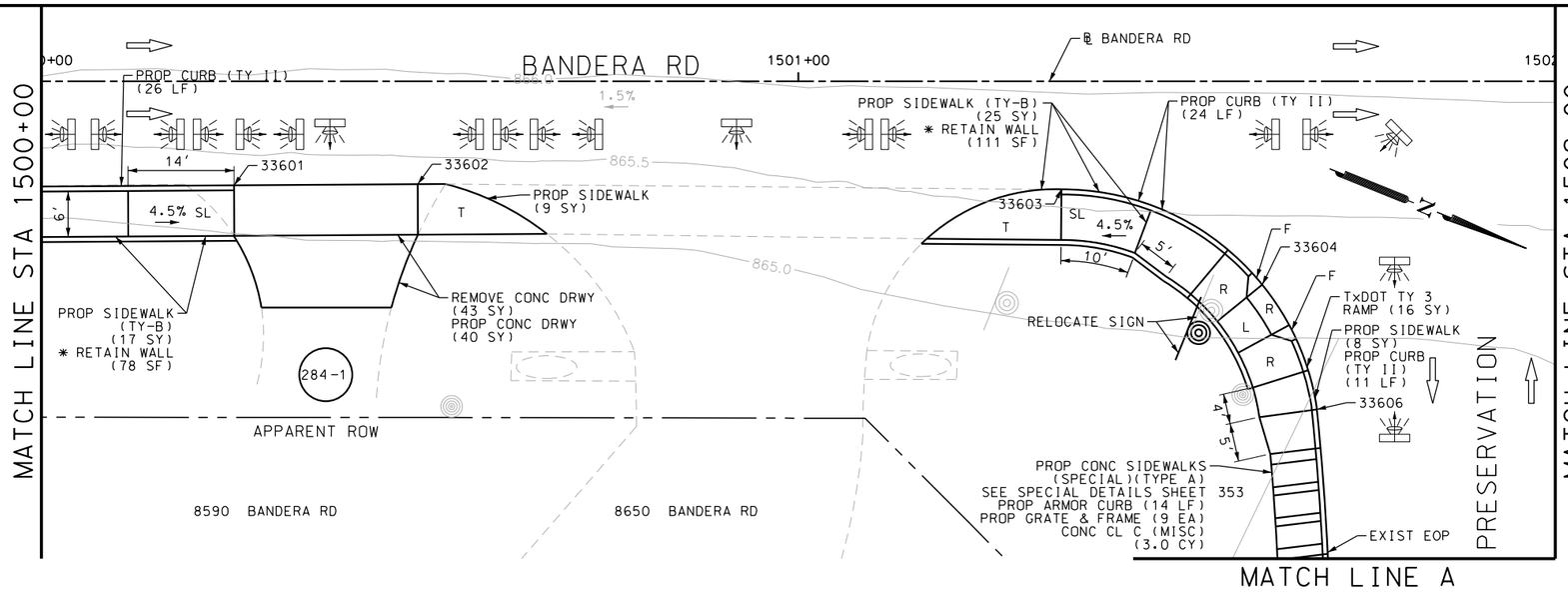
STA 1497+00 TO STA 1500+00

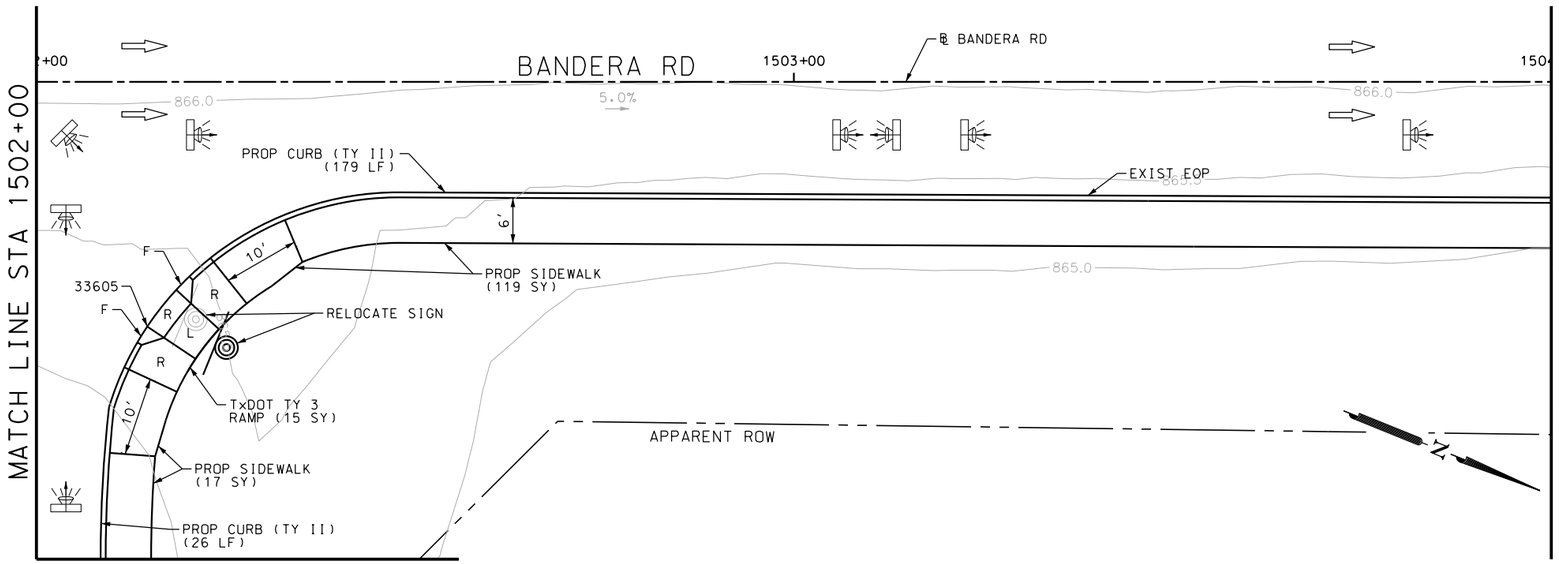
SHEET 58 OF 68

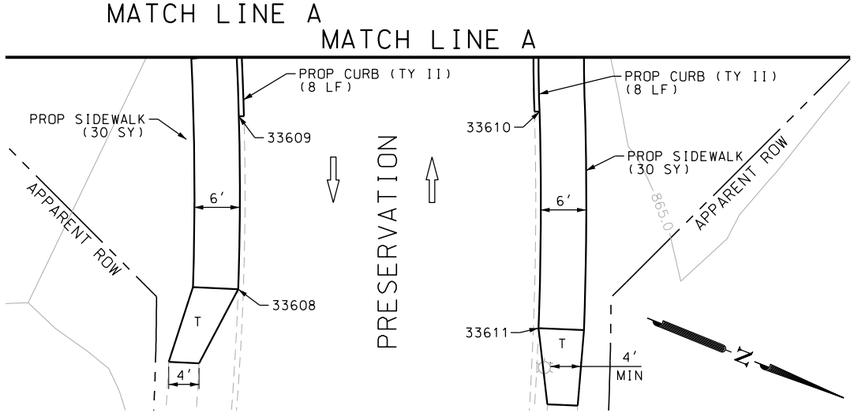
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 283 |

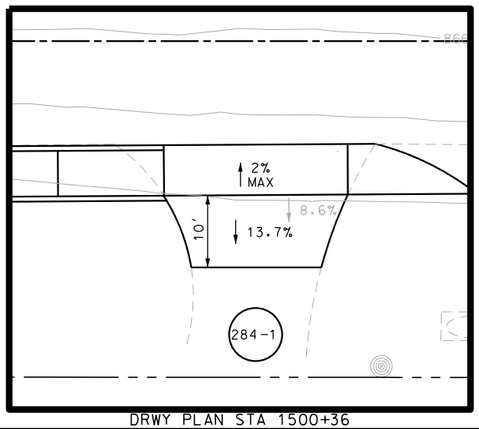
Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111307+Bandera Dr+WB+36.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 43 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 110 |
| 0162-6002 | BLOCK SODDING | SY | 110 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.72 |
| 0420-6074 | CL C CONC (MISC) | CY | 3.0 |
| 0471-6003 | GRATE & FRAME | EA | 9 |
| 0529-6002 | CONC CURB (TY II) | LF | 282 |
| 0529-6020 | CONC CURB & GUTTER (ARMOR CURB) | LF | 14 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 40 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 213 |
| 0531-6020 | CURB RAMPS (TY 3) | SY | 31 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 42 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 2 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 33601 | 13740398.48 | 2083661.81 | -- | ME |
| 33602 | 13740420.90 | 2083652.54 | -- | ME |
| 33603 | 13740499.97 | 2083621.16 | -- | ME |
| 33604 | 13740529.29 | 2083622.83 | -- | ME |
| 33605 | 13740580.75 | 2083607.82 | -- | ME |
| 33606 | 13740542.29 | 2083635.61 | -- | ME |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

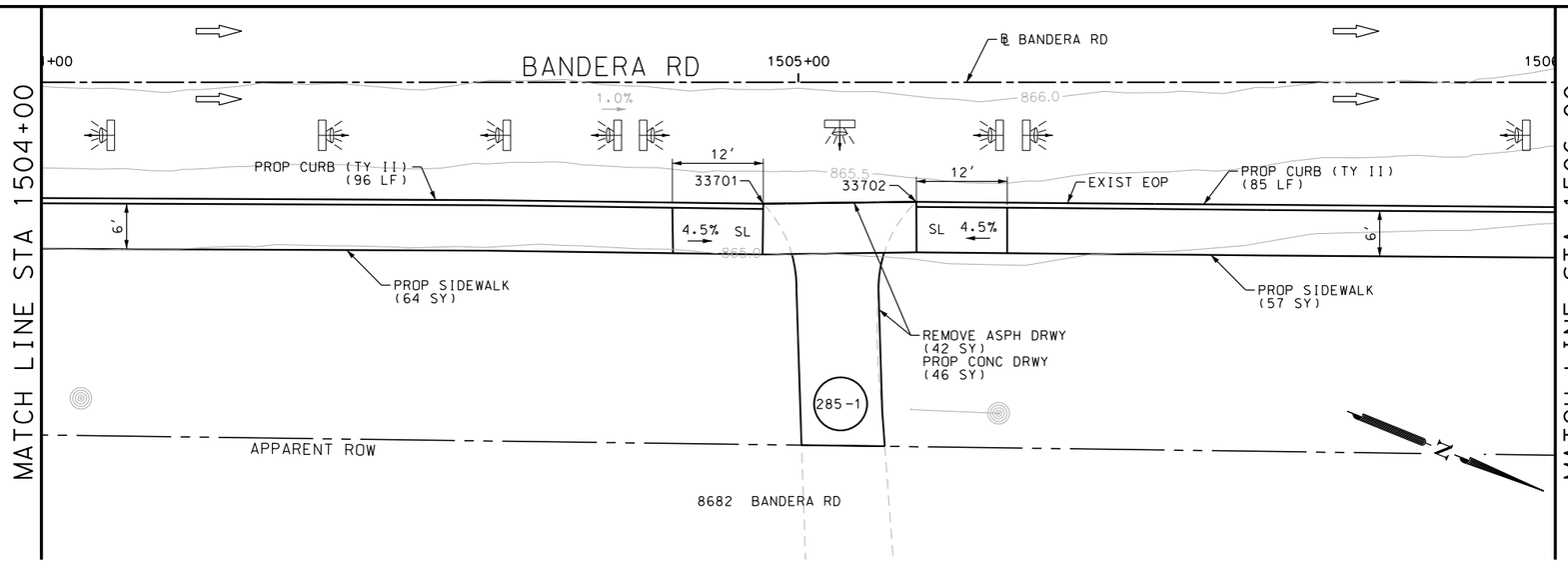
STA 1500+00 TO STA 1504+00

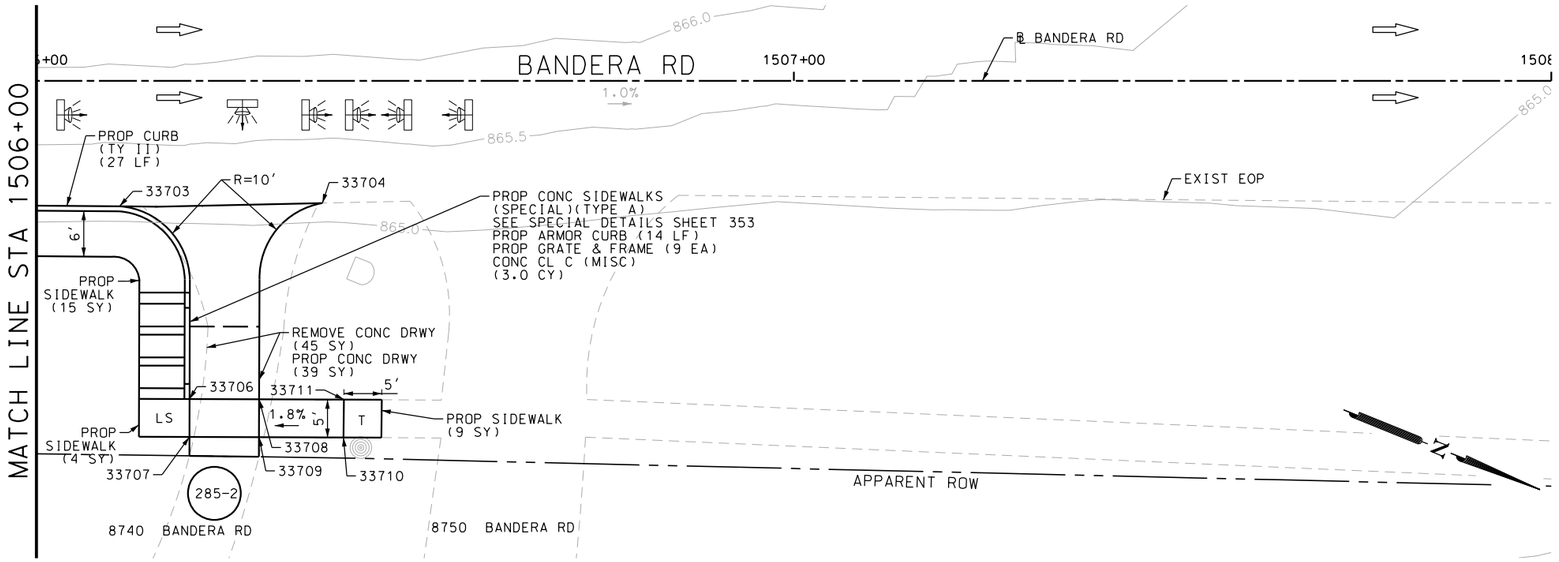


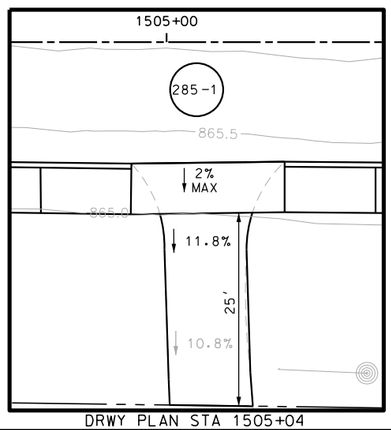
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 284 |

Plotted on: 4/2/2019

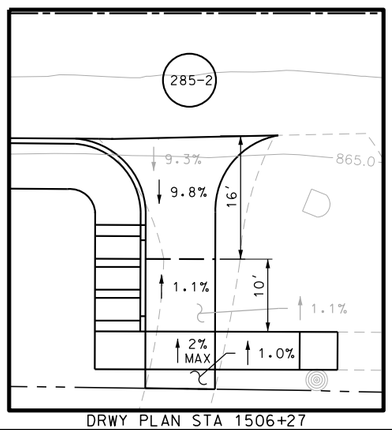
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*37.dgn




DRWY PLAN STA 1505+04




DRWY PLAN STA 1506+27

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 45 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 42 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 74 |
| 0162-6002 | BLOCK SODDING | SY | 74 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.15 |
| 0420-6074 | CL C CONC (MISC) | CY | 3.0 |
| 0471-6003 | GRATE & FRAME | EA | 9 |
| 0529-6002 | CONC CURB (TY II) | LF | 208 |
| 0529-6020 | CONC CURB & GUTTER (ARMOR CURB) | LF | 14 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 85 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 149 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 33701 | 13740834.72 | 2083487.10 | -- | ME |
| 33702 | 13740853.37 | 2083479.24 | -- | ME |
| 33703 | 13740942.03 | 2083444.07 | -- | ME |
| 33704 | 13740966.67 | 2083433.60 | -- | ME |
| 33706 | 13740960.17 | 2083464.17 | 864.38 | PROP |
| 33707 | 13740962.03 | 2083468.81 | 864.45 | PROP |
| 33708 | 13740968.69 | 2083460.74 | 864.45 | PROP |
| 33709 | 13740970.56 | 2083465.38 | 864.52 | PROP |
| 33710 | 13740980.91 | 2083461.21 | 864.72 | PROP |
| 33711 | 13740979.07 | 2083456.56 | 864.65 | PROP |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

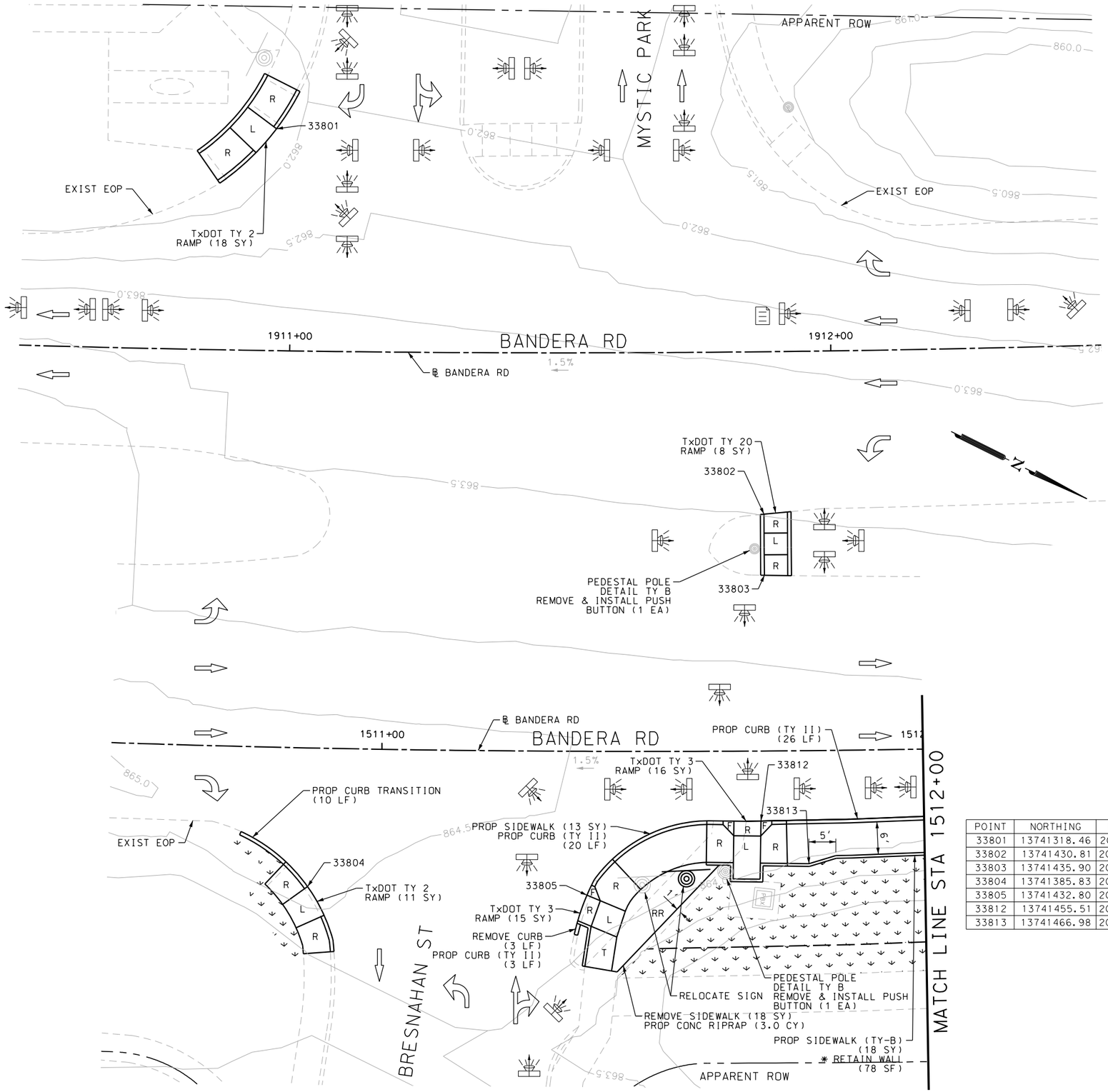
STA 1504+00 TO STA 1508+00

SHEET 60 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 285 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*38.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 3 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 18 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 106 |
| 0162-6002 | BLOCK SODDING | SY | 106 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.65 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 3 |
| 0529-6002 | CONC CURB (TY II) | LF | 59 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 13 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 29 |
| 0531-6020 | CURB RAMPS (TY 3) | SY | 31 |
| 0531-6029 | CURB RAMPS (TY 20) | SY | 8 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 18 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |
| 0688-6002 | PED DETECT PUSH BUTTON (STANDARD) | EA | 1 |
| 0690-6030 | REMOVAL OF PEDESTRIAN PUSH BUTTONS | EA | 1 |

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 33801 | 13741318.46 | 2083145.91 | -- | ME |
| 33802 | 13741430.81 | 2083169.69 | -- | ME |
| 33803 | 13741435.90 | 2083179.78 | -- | ME |
| 33804 | 13741385.83 | 2083268.84 | -- | ME |
| 33805 | 13741432.80 | 2083247.32 | -- | ME |
| 33812 | 13741455.51 | 2083220.75 | -- | ME |
| 33813 | 13741466.98 | 2083223.88 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

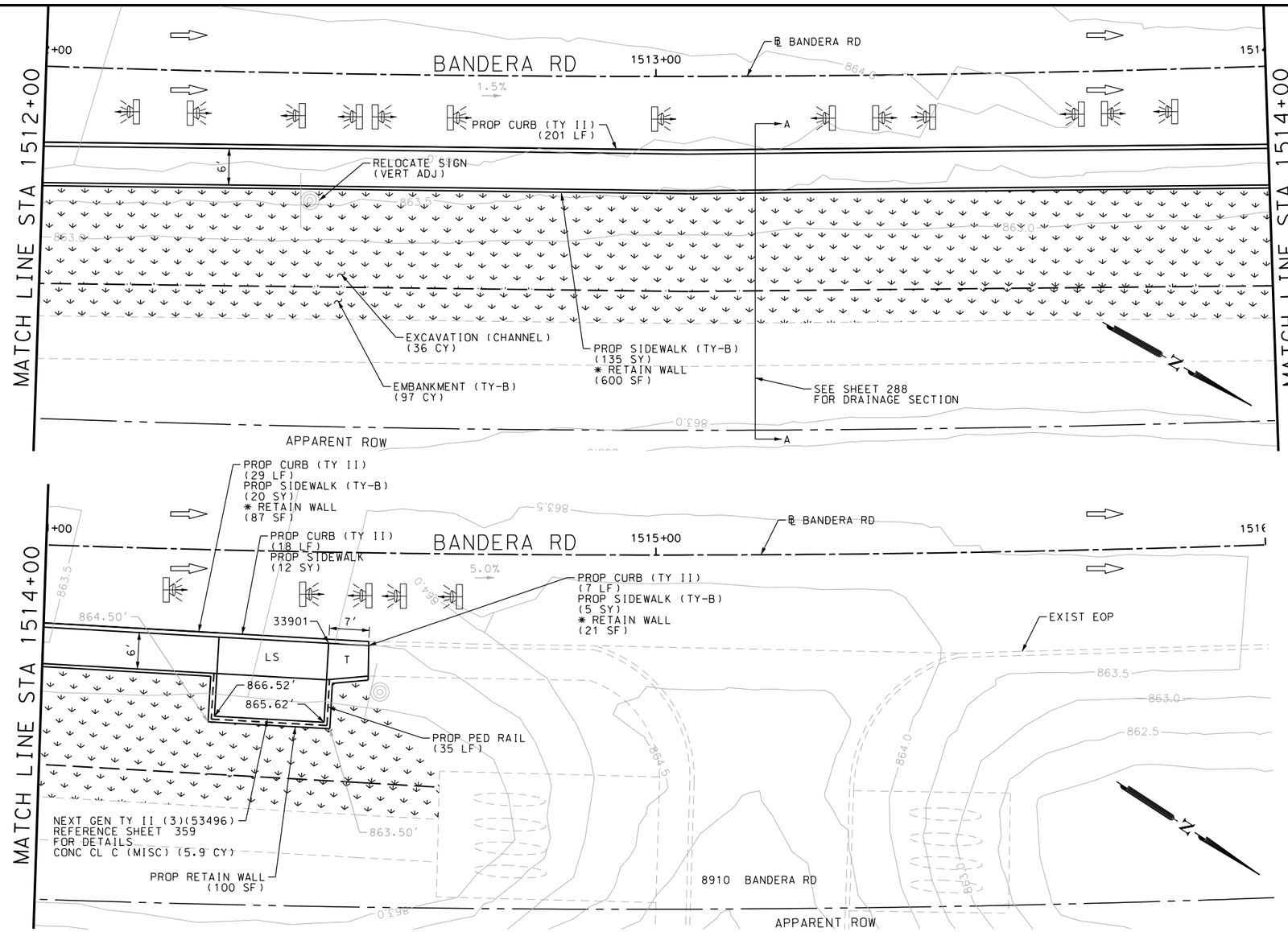
STA 1510+50 TO STA 1512+00
STA 1910+50 TO STA 1912+50

SHEET 61 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 286 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350 7*Bandera Dr*WB*39.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 36 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 97 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 610 |
| 0162-6002 | BLOCK SODDING | SY | 610 |
| 0168-6001 | VEGETATIVE WATERING | MG | 9.52 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 100 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 35 |
| 0529-6002 | CONC CURB (TY II) | LF | 255 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 12 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 160 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

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| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 33901 | 13741698.47 | 2083086.02 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

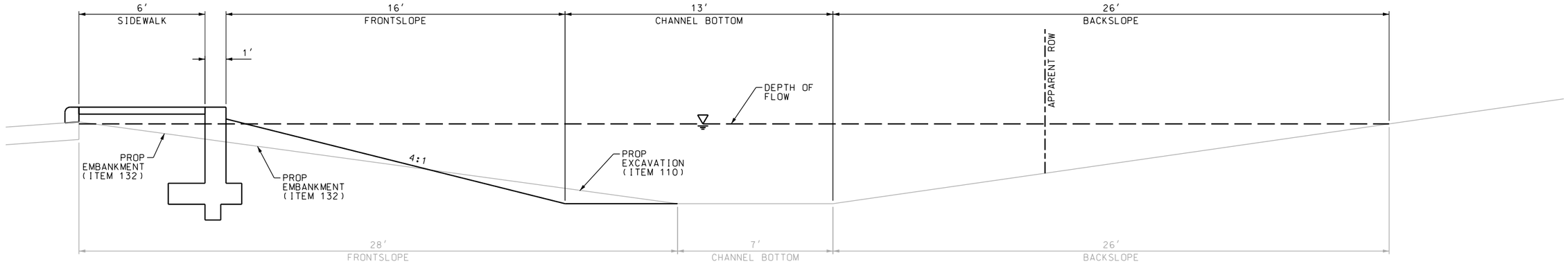
STA 1512+00 TO STA 1516+00

SHEET 62 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 287 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*40.dgn




# SECTION A-A

N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.004 | FT/FT | S | FL SLOPE | 0.004 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.030 | |
| A | AREA | 132.6 | SQ FT | A | AREA | 127.70 | SQ FT |
| P | WETTED PERIMETER | 62.9 | FT | P | WETTED PERIMETER | 55.20 | FT |
| R | HYDRAULIC RADIUS | 2.11 | FT | R | HYDRAULIC RADIUS | 2.31 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 683.0 | CFS | Q | DISCHARGE | 699.8 | CFS |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

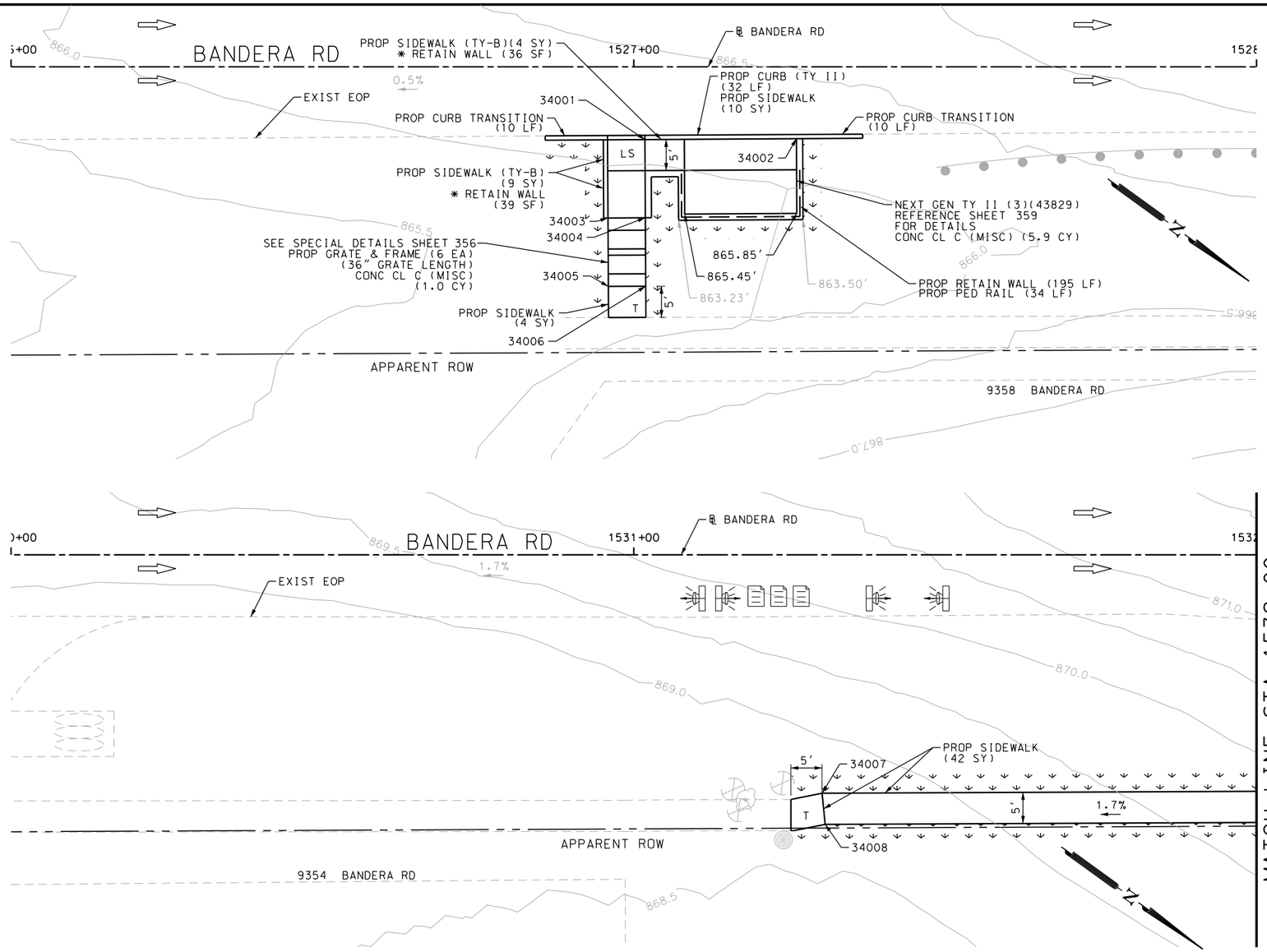
STA 1512+00 TO STA 1516+00

SHEET 63 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 288 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111507*Bandera Dr*WB*40*A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 90 |
| 0162-6002 | BLOCK SODDING | SY | 90 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.40 |
| 0420-6074 | CL C CONC (MISC) | CY | 6.9 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 195 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 34 |
| 0471-6003 | GRATE & FRAME | EA | 6 |
| 0529-6002 | CONC CURB (TY II) | LF | 52 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 56 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 13 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 34001 | 13742722.02 | 2082358.05 | -- | ME |
| 34002 | 13742741.66 | 2082343.66 | -- | ME |
| 34003 | 13742724.61 | 2082371.72 | 866.39 | PROP |
| 34004 | 13742729.45 | 2082368.18 | 866.46 | PROP |
| 34005 | 13742731.11 | 2082380.60 | 866.23 | PROP |
| 34006 | 13742735.95 | 2082377.05 | 866.30 | PROP |
| 34007 | 13743084.67 | 2082128.34 | 869.48 | PROP |
| 34008 | 13743088.01 | 2082132.09 | 869.55 | PROP |

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

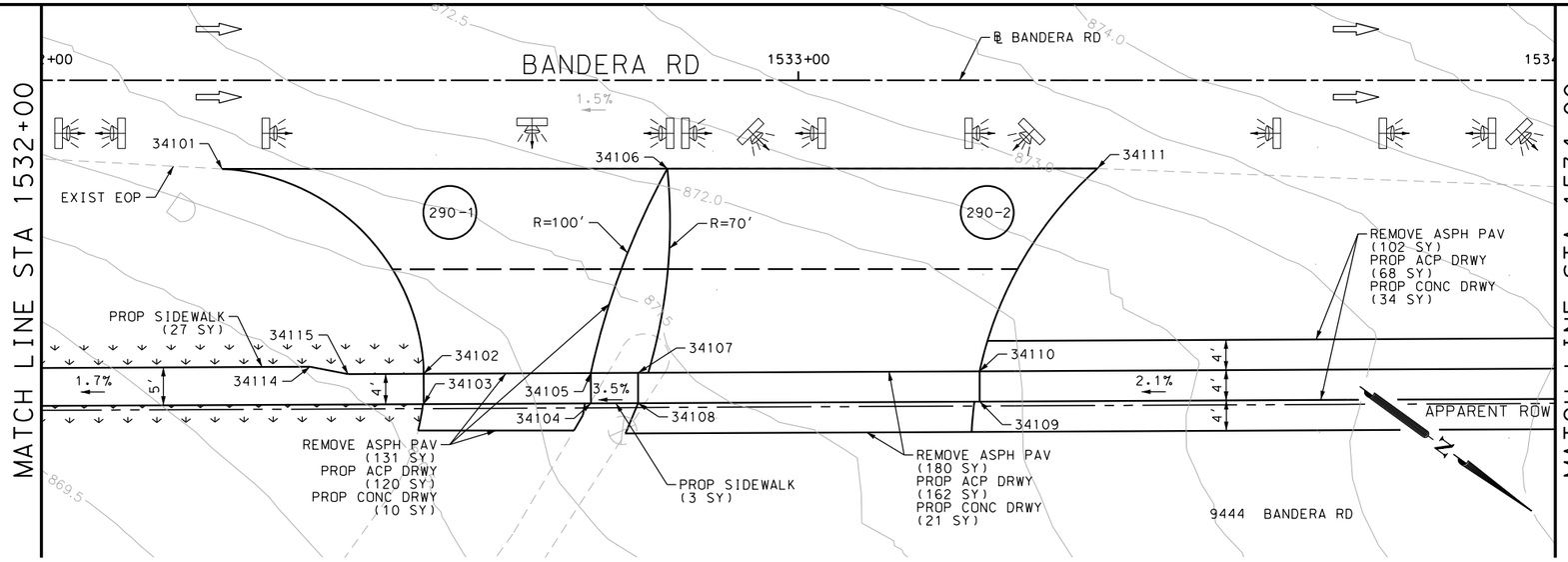
STA 1526+00 TO STA 1528+00
STA 1530+00 TO STA 1532+00

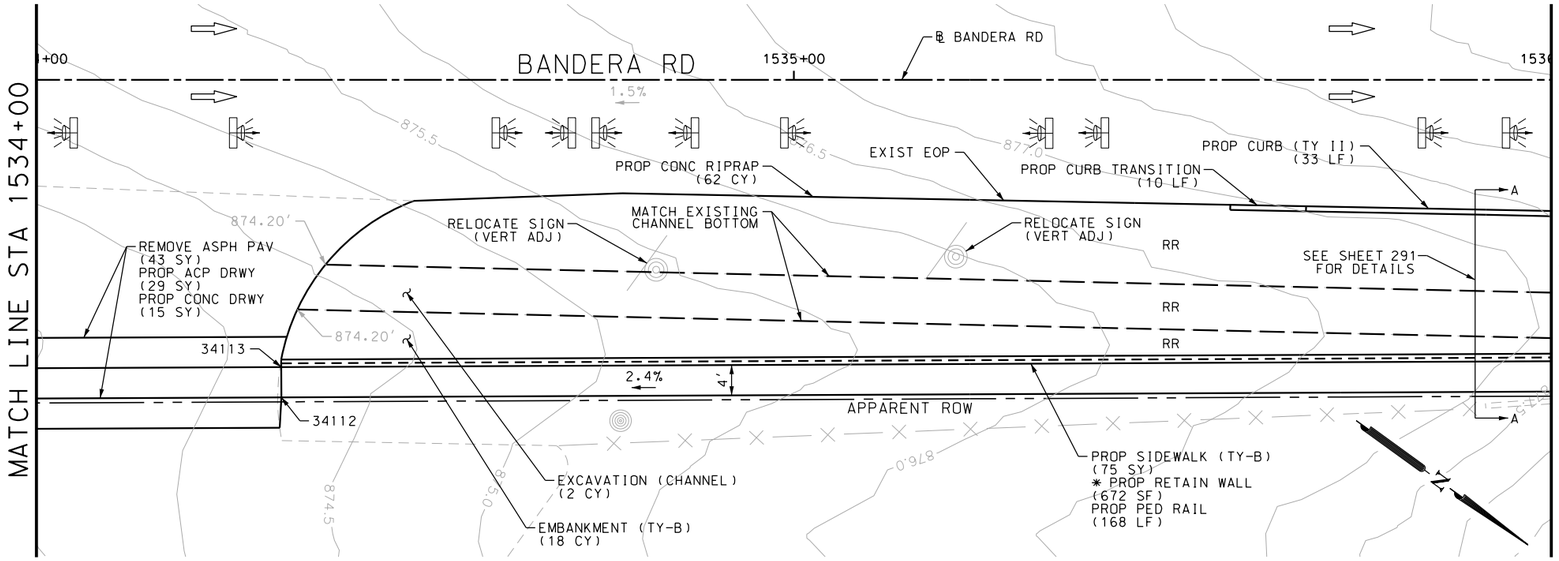
SHEET 64 OF 68

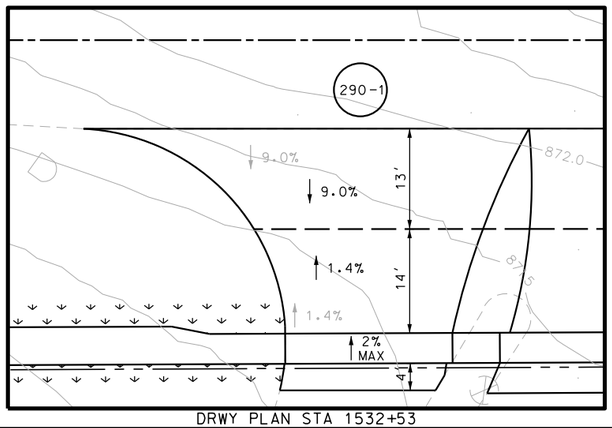
| DGNs | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGNs | 6 | TEXAS | | | | VARIES |
| DWGs | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWGs | SAT | BEXAR | 0915 | 12 | 576 | 289 |

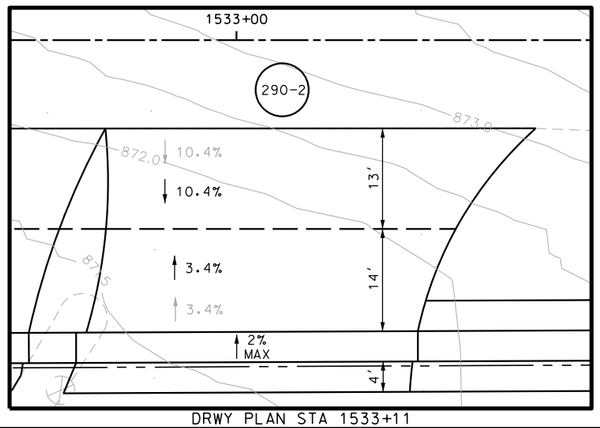
Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*41.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 465 |
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 2 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 18 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 37 |
| 0162-6002 | BLOCK SODDING | SY | 37 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.58 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 62 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 168 |
| 0529-6002 | CONC CURB (TY II) | LF | 43 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 80 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 379 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 30 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 75 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 2 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 34101 | 13743144.93 | 2082051.88 | -- | ME |
| 34102 | 13743182.37 | 2082058.16 | 871.49 | PROP |
| 34103 | 13743184.72 | 2082061.40 | 871.56 | PROP |
| 34104 | 13743202.55 | 2082048.37 | 871.78 | PROP |
| 34105 | 13743200.19 | 2082045.14 | 871.71 | PROP |
| 34106 | 13743192.56 | 2082017.36 | -- | ME |
| 34107 | 13743205.23 | 2082041.46 | 871.93 | PROP |
| 34108 | 13743207.59 | 2082044.69 | 872.00 | PROP |
| 34109 | 13743244.02 | 2082018.06 | 872.45 | PROP |
| 34110 | 13743241.66 | 2082014.83 | 872.38 | PROP |
| 34111 | 13743238.57 | 2081984.02 | -- | ME |
| 34112 | 13743331.52 | 2081954.10 | 874.72 | PROP |
| 34113 | 13743329.16 | 2081950.87 | 874.65 | PROP |
| 34114 | 13743169.66 | 2082066.22 | 871.24 | PROP |
| 34115 | 13743174.29 | 2082064.07 | 871.32 | PROP |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

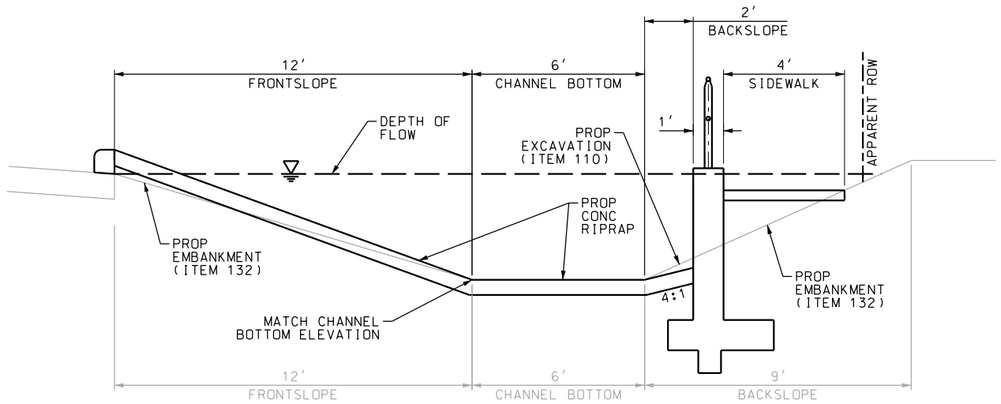
STA 1532+00 TO STA 1536+00

SHEET 65 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 290 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*42.dgn




# SECTION A–A

N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.020 | FT/FT | S | FL SLOPE | 0.020 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.015 | |
| A | AREA | 54.9 | SQ FT | A | AREA | 46.20 | SQ FT |
| P | WETTED PERIMETER | 26.6 | FT | P | WETTED PERIMETER | 23.10 | FT |
| R | HYDRAULIC RADIUS | 2.06 | FT | R | HYDRAULIC RADIUS | 2.00 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 623.4 | CFS | Q | DISCHARGE | 1027.5 | CFS |

NOTES:
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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20′

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
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| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

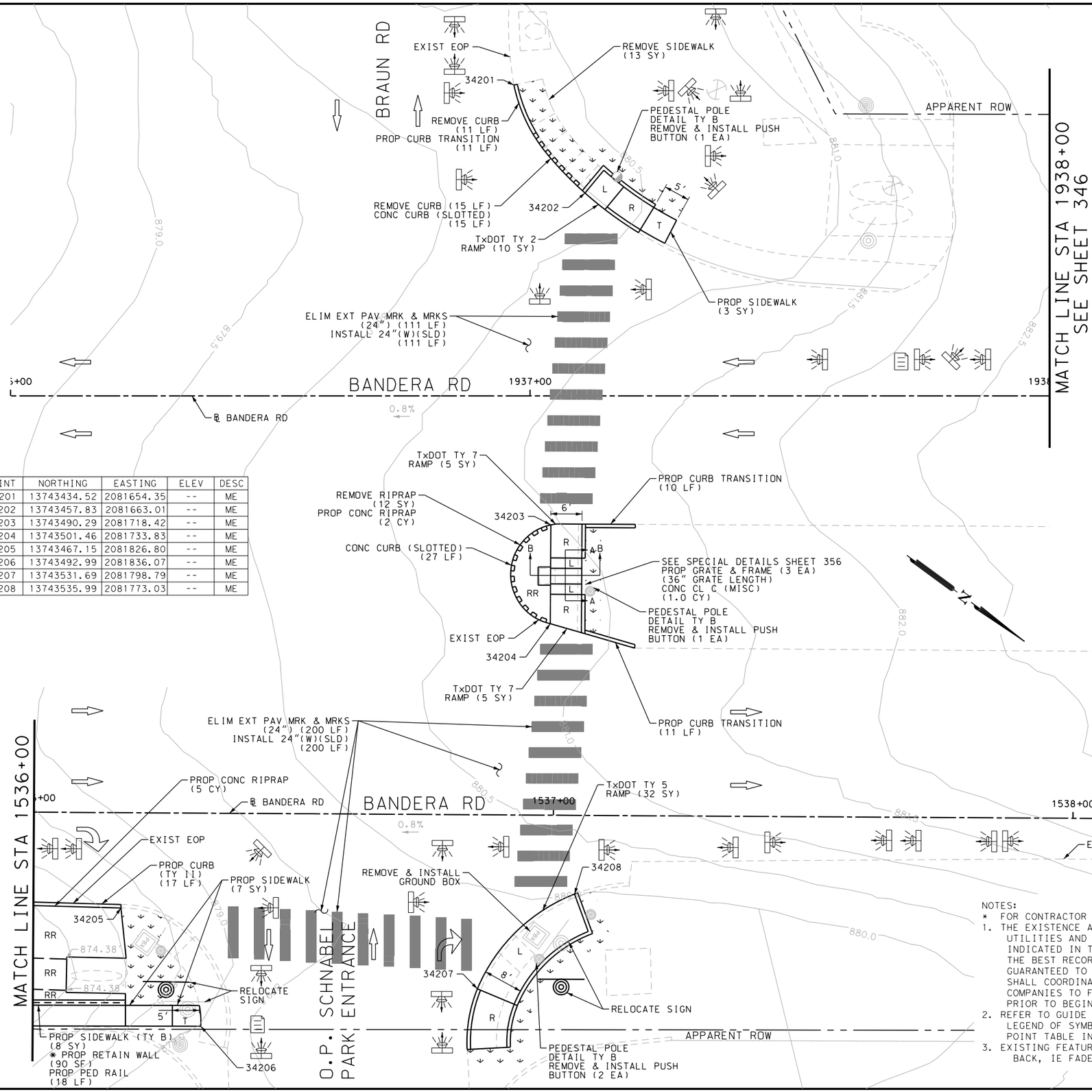
STA 1532+00 TO STA 1536+00

SHEET 66 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 291 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*42*A.dgn




| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 34201 | 13743434.52 | 2081654.35 | -- | ME |
| 34202 | 13743457.83 | 2081663.01 | -- | ME |
| 34203 | 13743490.29 | 2081718.42 | -- | ME |
| 34204 | 13743501.46 | 2081733.83 | -- | ME |
| 34205 | 13743467.15 | 2081826.80 | -- | ME |
| 34206 | 13743492.99 | 2081836.07 | -- | ME |
| 34207 | 13743531.69 | 2081798.79 | -- | ME |
| 34208 | 13743535.99 | 2081773.03 | -- | ME |

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 12 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 26 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 13 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 66 |
| 0162-6002 | BLOCK SODDING | SY | 66 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.03 |
| 0420-6074 | CL C CONC (MISC) | CY | 1.0 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 7 |
| 0471-6003 | GRATE & FRAME | EA | 3 |
| 0529-6002 | CONC CURB (TY II) | LF | 49 |
| 0529-6012 | CONC CURB (SLOTTED) | LF | 42 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 10 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 10 |
| 0531-6022 | CURB RAMPS (TY 5) | SY | 32 |
| 0531-6024 | CURB RAMPS (TY 7) | SY | 10 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 8 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 1 |
| 0624-6028 | REMOVE GROUND BOX | EA | 1 |
| 0644-6076 | REMOVE SM RD SN SUP&AM | EA | 2 |
| 0666-6048 | REFL PAV MRK TY I (W)24"(SLD)(100MIL) | LF | 311 |
| 0666-6230 | PAVEMENT SEALER 24" | LF | 311 |
| 0677-6007 | ELIM EXT PAV MRK & MRKS (24") | LF | 311 |
| 0678-6008 | PAV SURF PREP FOR MRK (24") | LF | 311 |
| 0688-6002 | PED DETECT PUSH BUTTON (STANDARD) | EA | 4 |
| 0690-6030 | REMOVAL OF PEDESTRIAN PUSH BUTTONS | EA | 4 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1536+00 TO STA 1538+00
STA 1936+00 TO STA 1938+00

SHEET 67 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 292 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*WB*43.dgn

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350 7*Bandera Dr*WB*43*A.dgn

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.

ENGINEER: JOHN A. TYLER

P.E. SERIAL NO: 105193

DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.

ENGINEER: JAMES A. LUTZ

P.E. SERIAL NO: 84722

DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

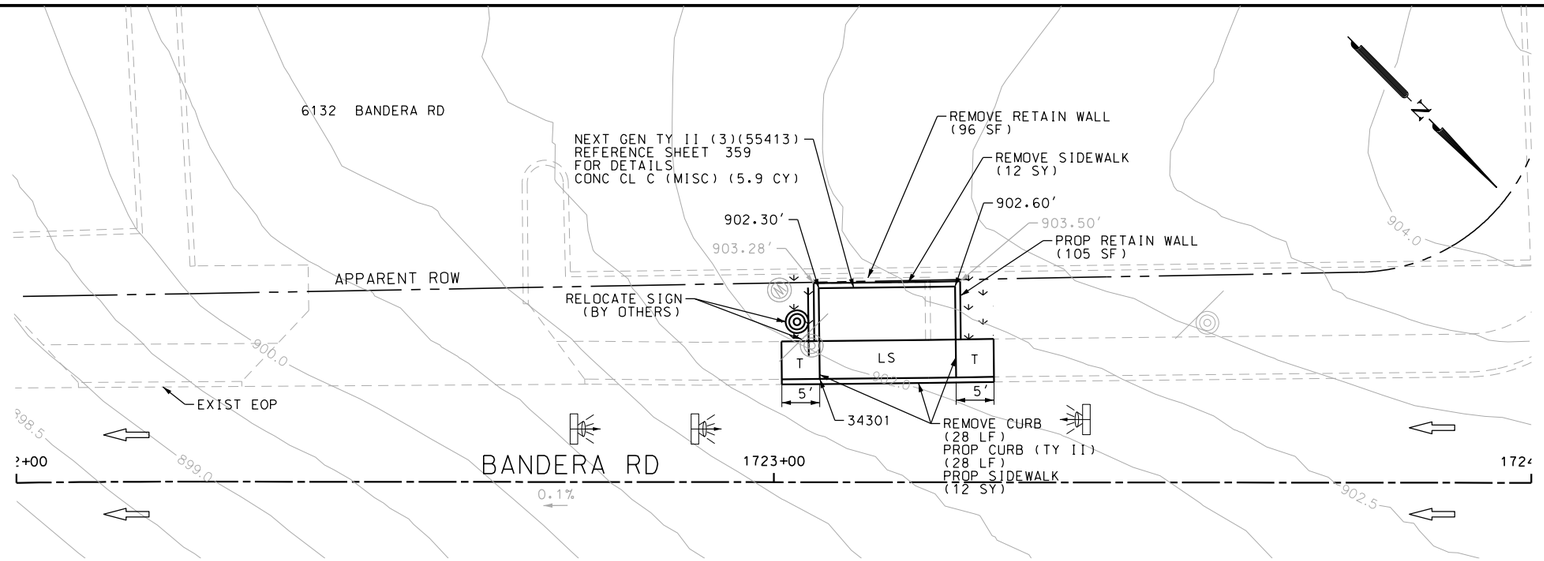
# SIDEWALK CONSTRUCTION PLAN

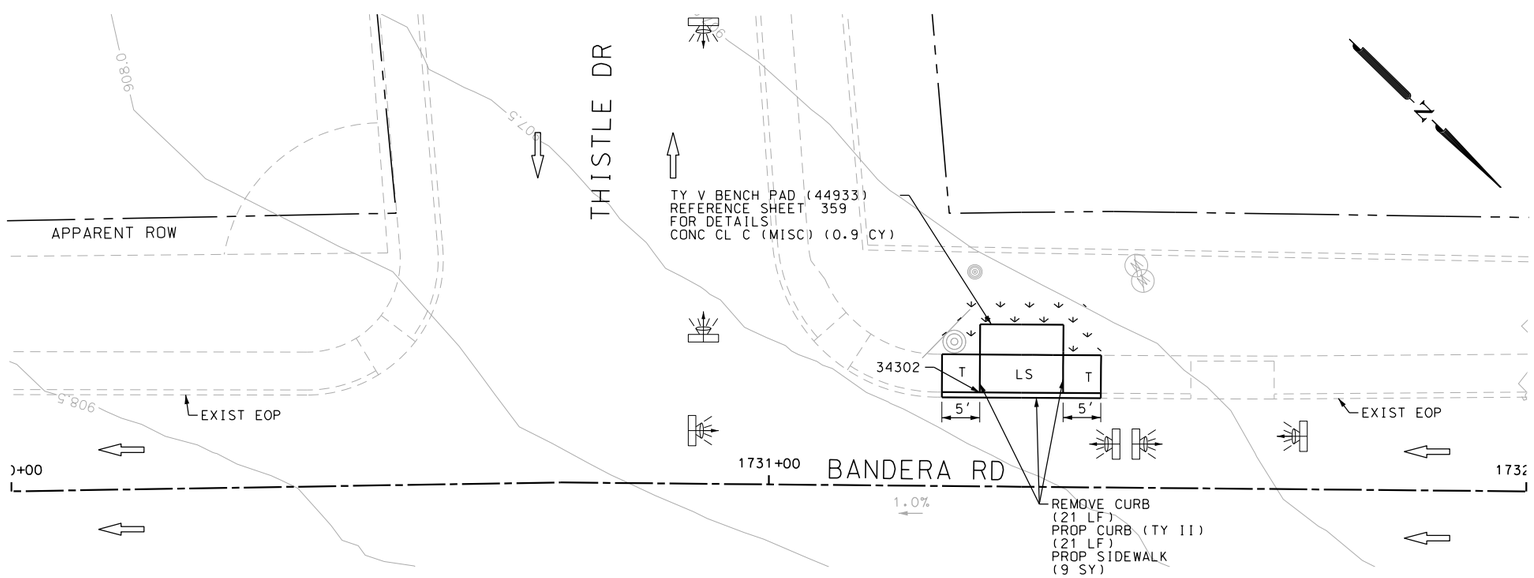
STA 1536+00 TO STA 1538+00

STA 1936+00 TO STA 1938+00

SHEET 68 OF 68

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 293 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6024 | REMOVING CONC (RETAINING WALLS) | SY | 96 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 49 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 12 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 21 |
| 0162-6002 | BLOCK SODDING | SY | 21 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.33 |
| 0420-6074 | CL C CONC (MISC) | CY | 6.8 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 105 |
| 0529-6002 | CONC CURB (TY II) | LF | 49 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 21 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 34301 | 13726490.05 | 2094166.59 | -- | ME |
| 34302 | 13727069.80 | 2093583.89 | -- | ME |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

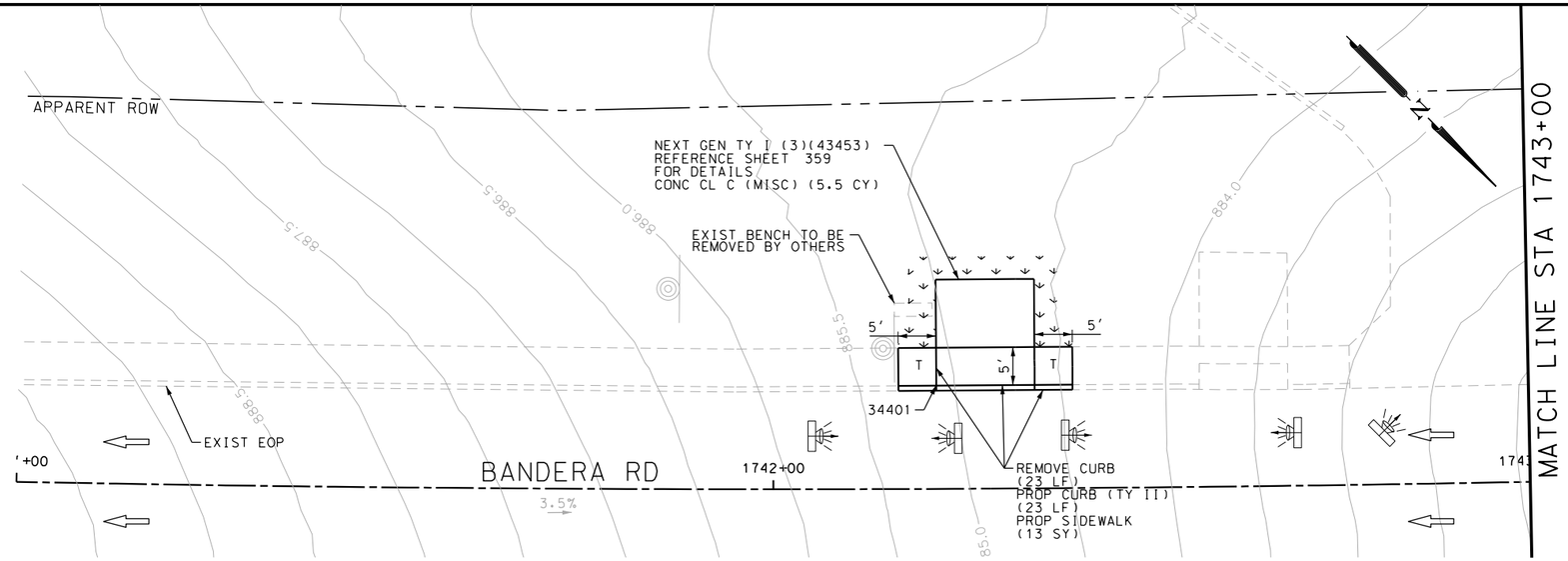
# SIDEWALK CONSTRUCTION PLAN

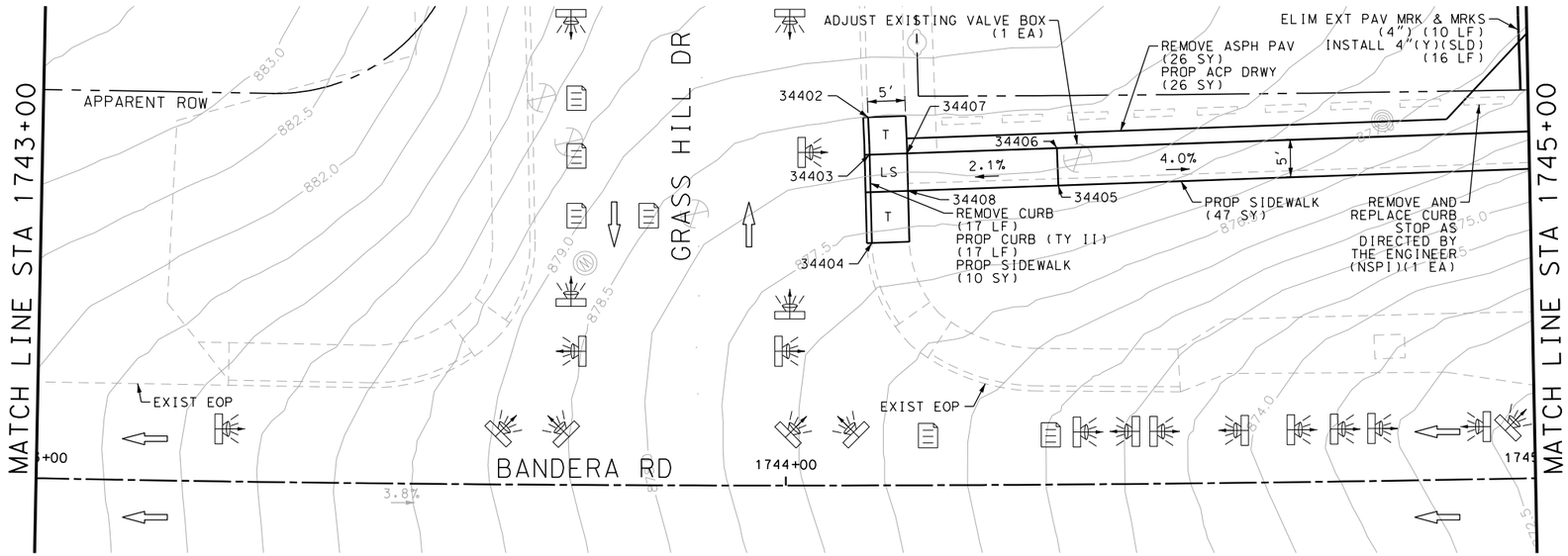
STA 1722+00 TO STA 1724+00
STA 1730+00 TO STA 1732+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 294 |

Plotted on: 4/2/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*44.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 40 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 26 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 15 |
| 0162-6002 | BLOCK SODDING | SY | 15 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.23 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0529-6002 | CONC CURB (TY II) | LF | 40 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 26 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 70 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 16 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 16 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 10 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 16 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 34401 | 13727869.02 | 2092838.07 | -- | ME |
| 34402 | 13727973.08 | 2092677.14 | -- | ME |
| 34403 | 13727976.89 | 2092680.38 | -- | ME |
| 34404 | 13727985.76 | 2092688.14 | -- | ME |
| 34405 | 13727996.95 | 2092664.65 | 878.75 | PROP |
| 34406 | 13727993.16 | 2092661.40 | 878.82 | PROP |
| 34407 | 13727980.14 | 2092676.58 | 878.40 | PROP |
| 34408 | 13727983.90 | 2092679.88 | 878.33 | PROP |

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

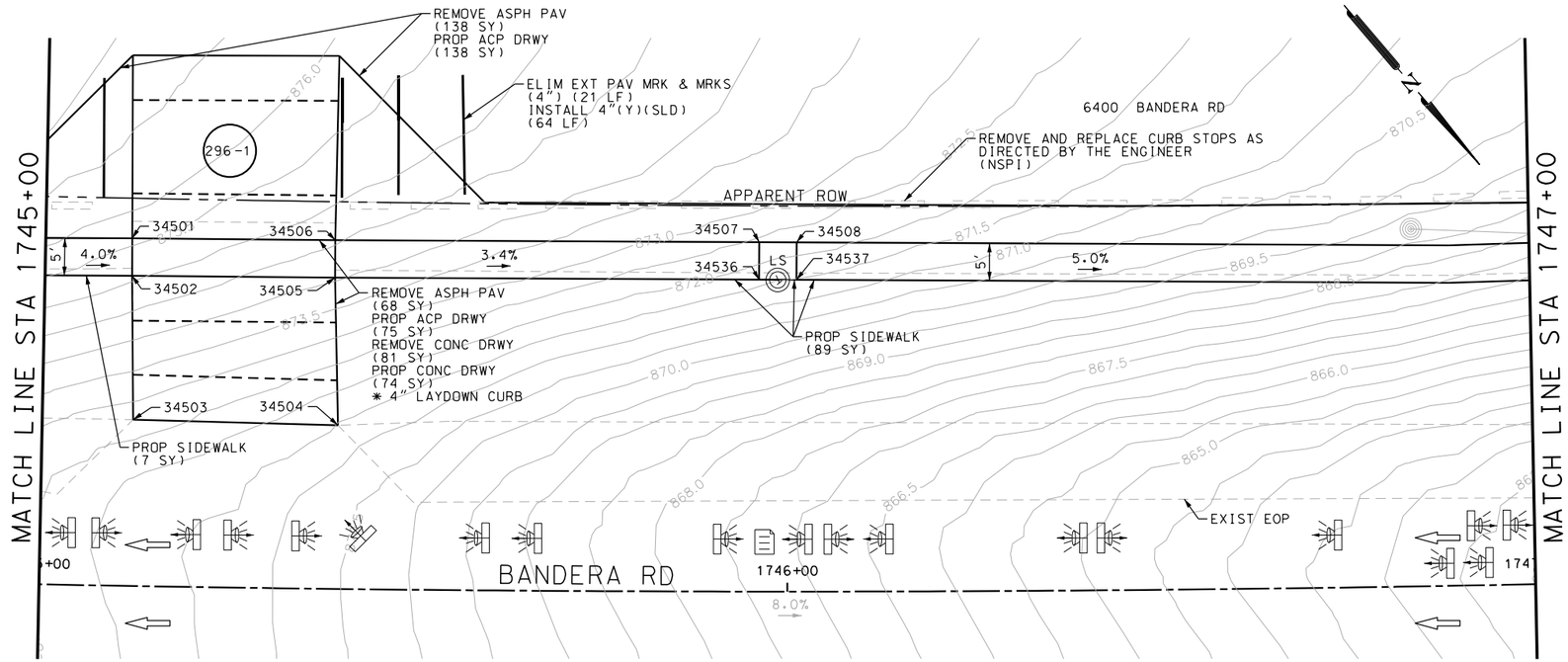
STA 1741+00 TO STA 1745+00

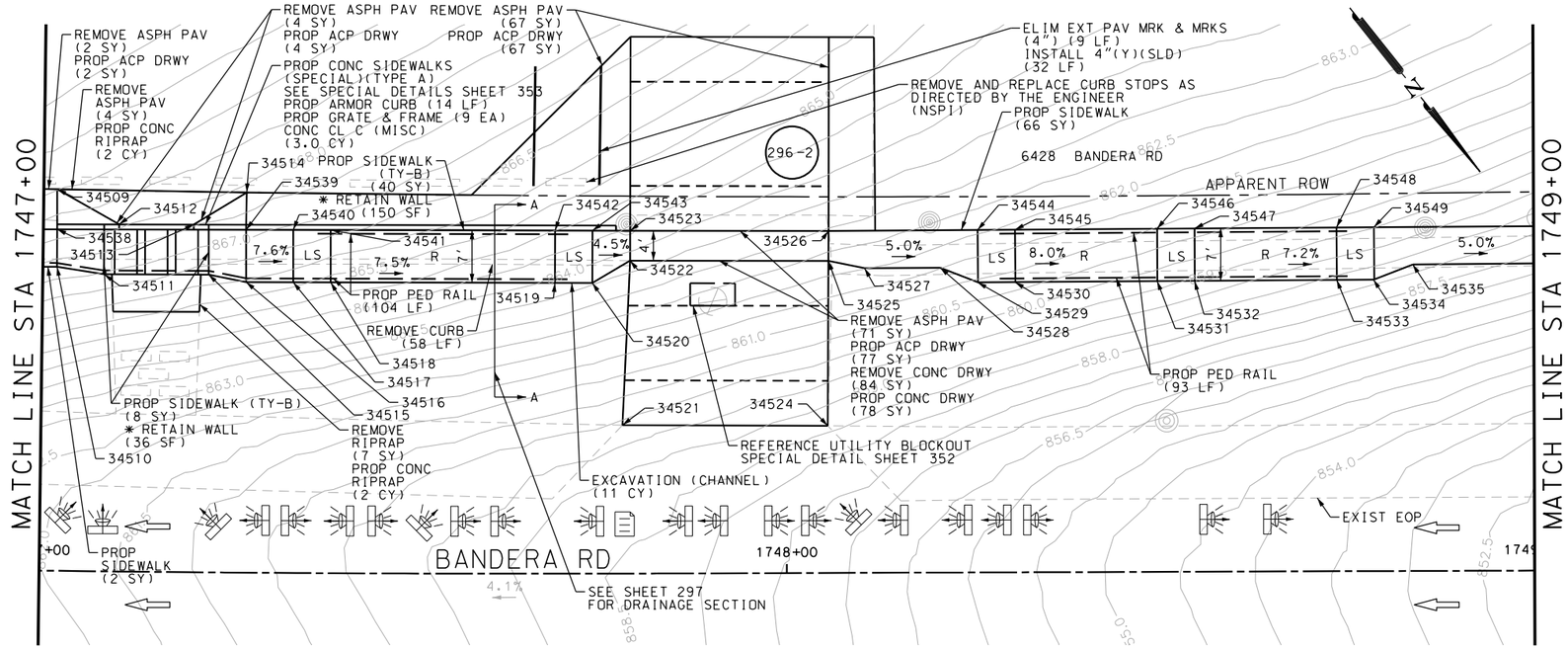


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 295 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350?*Bandera Dr*EB*45.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 7 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 165 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 58 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 354 |
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 11 |
| 0420-6074 | CL C CONC (MISC) | CY | 3.0 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 4 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 197 |
| 0471-6003 | GRATE & FRAME | EA | 9 |
| 0529-6020 | CONC CURB & GUTTER (ARMOR CURB) | LF | 14 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 152 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 363 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 164 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 48 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 96 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 96 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 30 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 96 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1745+00 TO STA 1749+00

SHEET 3 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 296 |

SEE SHEET 297 FOR POINT TABLE

Plotted on: 4/2/2019

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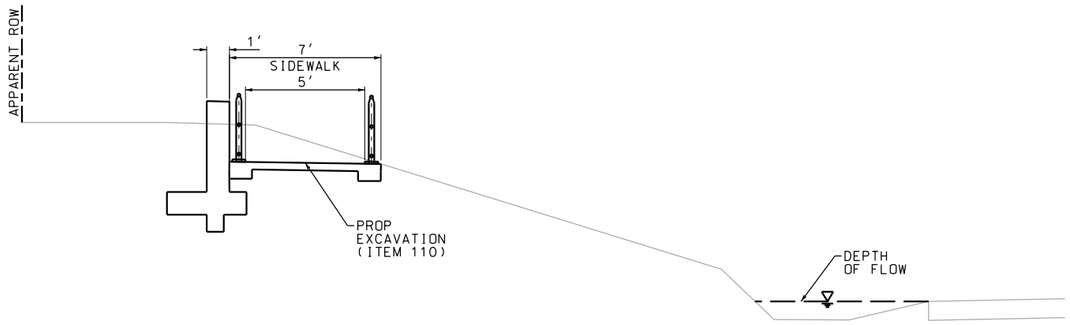
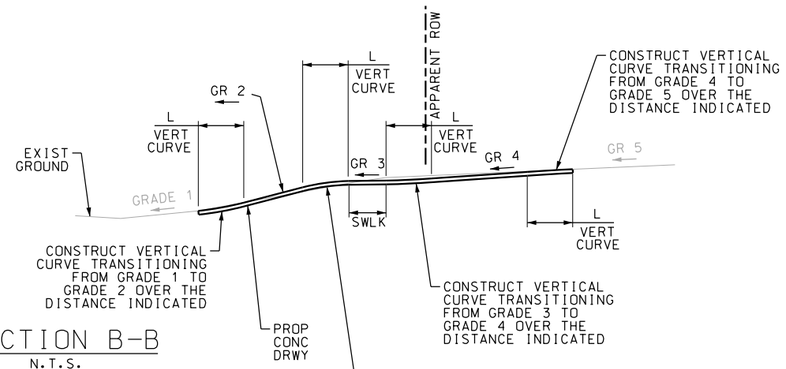



SECTION A-A
N.T.S.

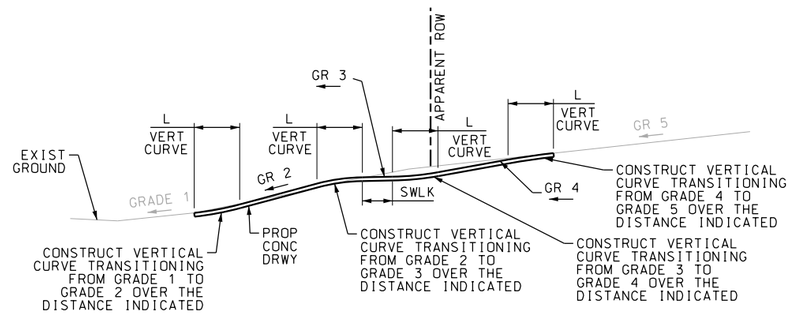
PROPOSED IMPROVEMENTS WILL NOT AFFECT EXISTING HYDRAULIC CAPACITY

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 34501 | 13728041.65 | 2092604.82 | 875.96 | PROP |
| 34502 | 13728045.44 | 2092608.07 | 875.89 | PROP |
| 34503 | 13728060.20 | 2092620.42 | -- | ME |
| 34504 | 13728078.49 | 2092600.05 | -- | ME |
| 34505 | 13728063.21 | 2092587.58 | 875.05 | PROP |
| 34506 | 13728059.42 | 2092584.32 | 875.12 | PROP |
| 34507 | 13728096.31 | 2092541.32 | 873.21 | PROP |
| 34508 | 13728099.57 | 2092537.53 | 873.14 | PROP |
| 34509 | 13728159.98 | 2092458.24 | -- | ME |
| 34510 | 13728168.06 | 2092464.70 | 867.88 | PROP |
| 34511 | 13728172.76 | 2092460.43 | 867.57 | PROP |
| 34512 | 13728168.80 | 2092454.70 | 867.56 | PROP |
| 34513 | 13728175.05 | 2092446.89 | 867.06 | PROP |
| 34514 | 13728176.08 | 2092438.69 | -- | ME |
| 34515 | 13728181.51 | 2092449.49 | 866.87 | PROP |
| 34516 | 13728185.41 | 2092446.21 | 866.80 | PROP |
| 34517 | 13728189.35 | 2092441.29 | 866.31 | PROP |
| 34518 | 13728192.47 | 2092437.39 | 866.24 | PROP |
| 34519 | 13728211.21 | 2092413.96 | 863.99 | PROP |
| 34520 | 13728214.33 | 2092410.05 | 863.92 | PROP |

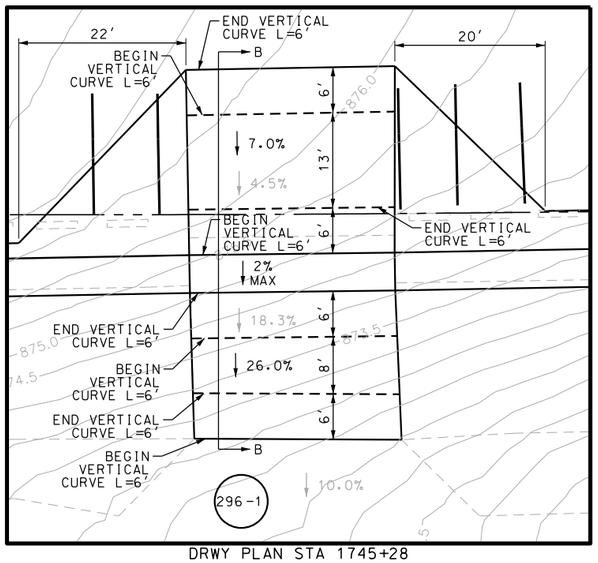
| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 34521 | 13728231.70 | 2092418.73 | -- | ME |
| 34522 | 13728215.13 | 2092404.25 | 863.73 | PROP |
| 34523 | 13728212.01 | 2092401.75 | 863.79 | PROP |
| 34524 | 13728248.87 | 2092397.30 | -- | ME |
| 34525 | 13728231.69 | 2092383.52 | 862.11 | PROP |
| 34526 | 13728228.57 | 2092381.02 | 862.17 | PROP |
| 34527 | 13728235.47 | 2092380.32 | 861.87 | PROP |
| 34528 | 13728241.71 | 2092372.36 | 861.40 | PROP |
| 34529 | 13728246.37 | 2092369.66 | 861.14 | PROP |
| 34530 | 13728249.46 | 2092365.73 | 861.07 | PROP |
| 34531 | 13728261.19 | 2092350.78 | 859.55 | PROP |
| 34532 | 13728264.27 | 2092346.84 | 859.48 | PROP |
| 34533 | 13728276.00 | 2092331.89 | 858.12 | PROP |
| 34534 | 13728279.08 | 2092327.96 | 858.05 | PROP |
| 34535 | 13728280.70 | 2092322.65 | 857.80 | PROP |
| 34536 | 13728100.10 | 2092544.58 | 873.14 | PROP |
| 34537 | 13728103.36 | 2092540.78 | 873.07 | PROP |
| 34538 | 13728164.15 | 2092461.58 | 867.90 | PROP |
| 34539 | 13728179.94 | 2092441.84 | 866.89 | PROP |
| 34540 | 13728183.88 | 2092436.92 | 866.41 | PROP |



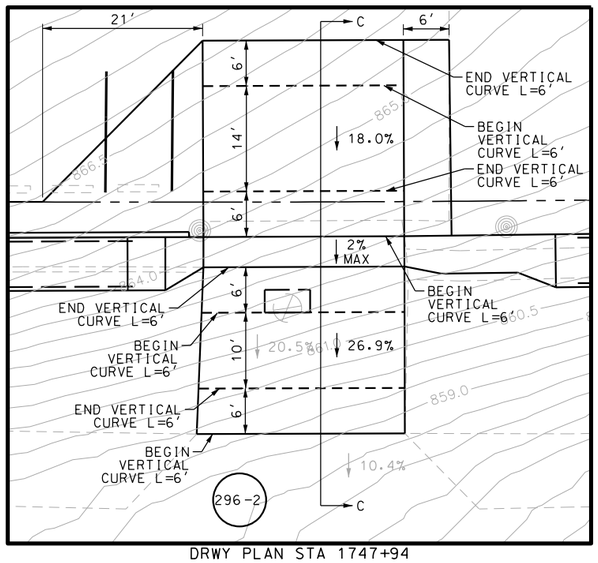

SECTION B-B
N.T.S.




SECTION C-C
N.T.S.




DRWY PLAN STA 1745+28




DRWY PLAN STA 1747+94

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

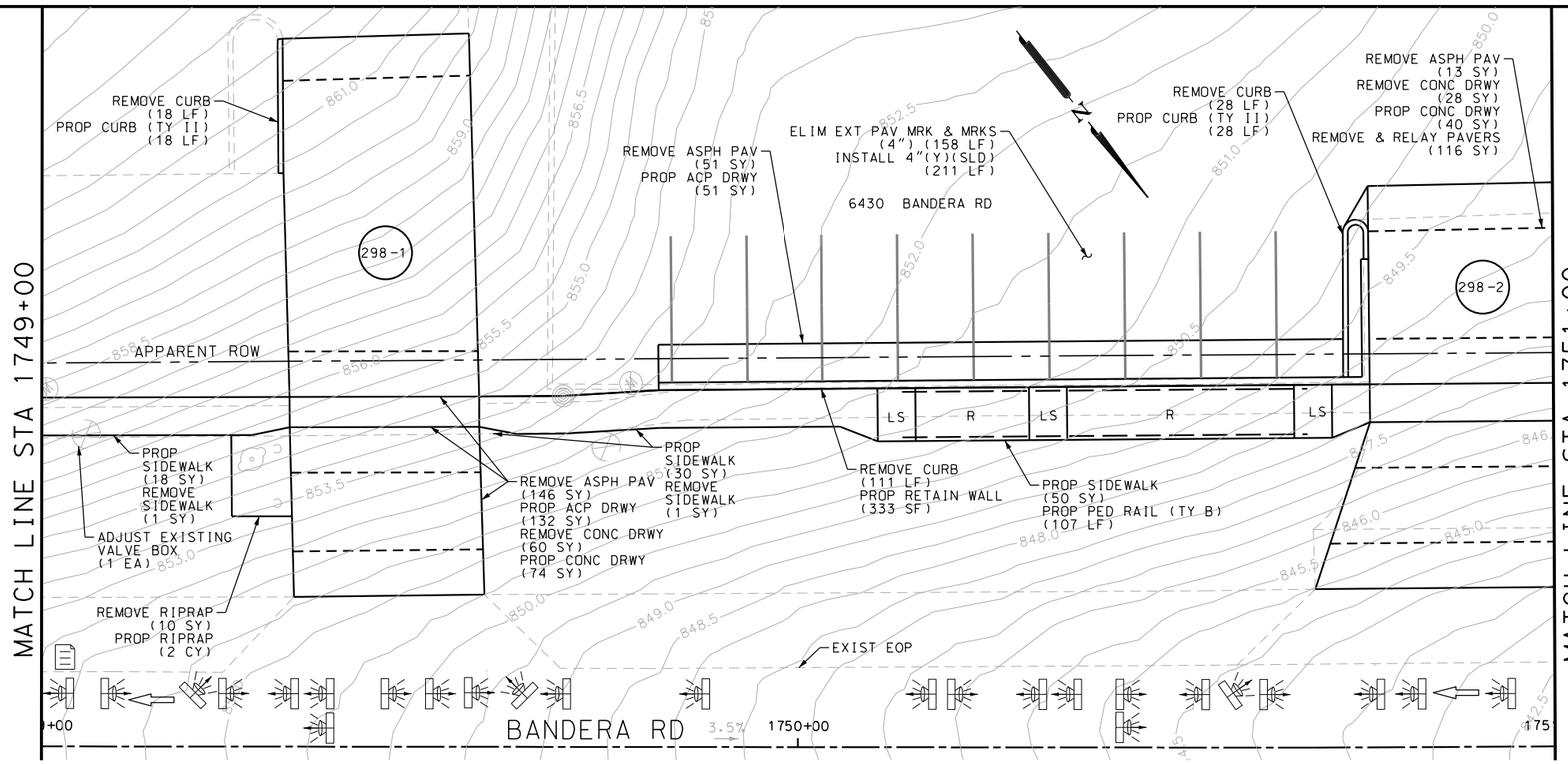
STA 1745+00 TO STA 1749+00

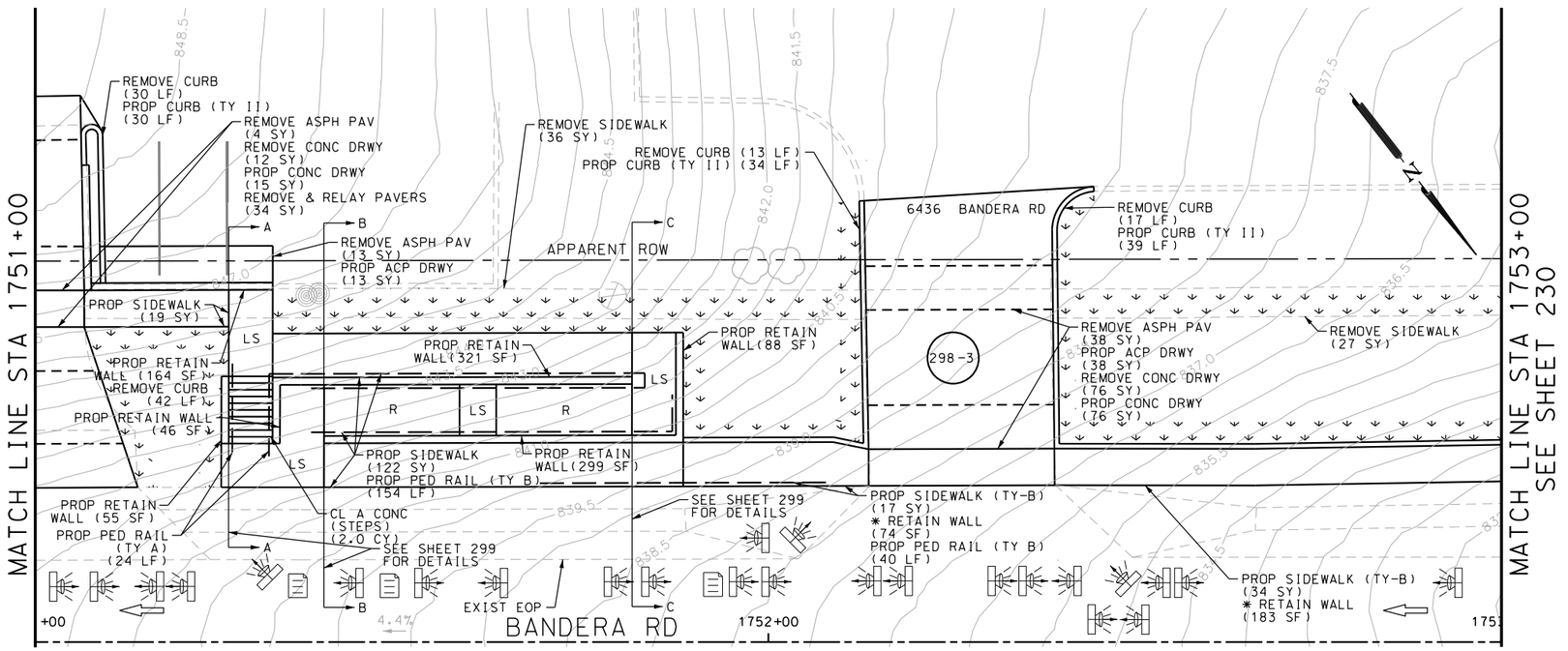
SHEET 4 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 297 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350 7*Bandera Dr*EB*46*A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 10 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 176 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 259 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 65 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 265 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 143 |
| 0162-6002 | BLOCK SODDING | SY | 143 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.23 |
| 0420-6132 | CL A CONC (STEPS) | CY | 2 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 1306 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 2 |
| 0450-6047 | RAIL (HANDRAIL)(TY A) | LF | 24 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 301 |
| 0528-6006 | REMOVE AND RELAY PAVERS | SY | 150 |
| 0529-6002 | CONC CURB (TY II) | LF | 149 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 205 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 234 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 239 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 51 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 211 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 211 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 158 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 211 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

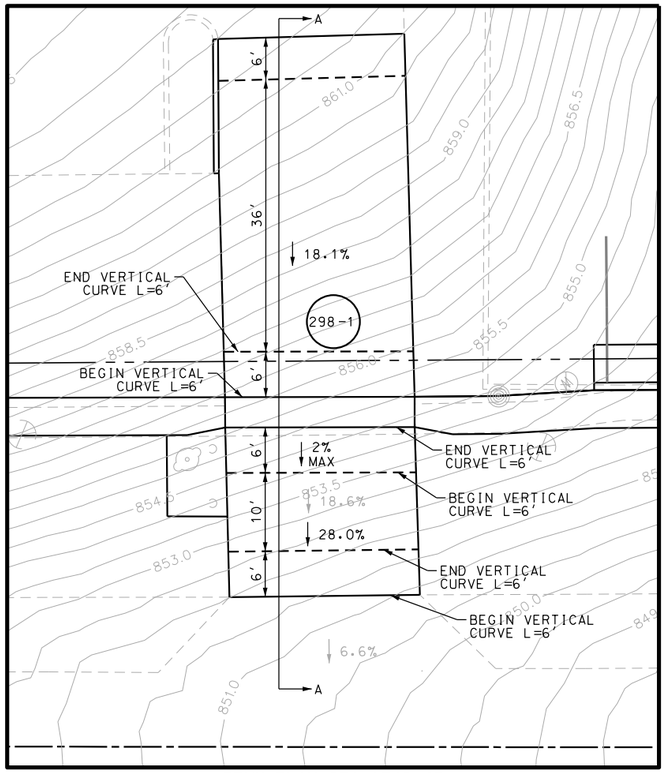
STA 1749+00 TO STA 1753+00

SHEET 5 OF 55

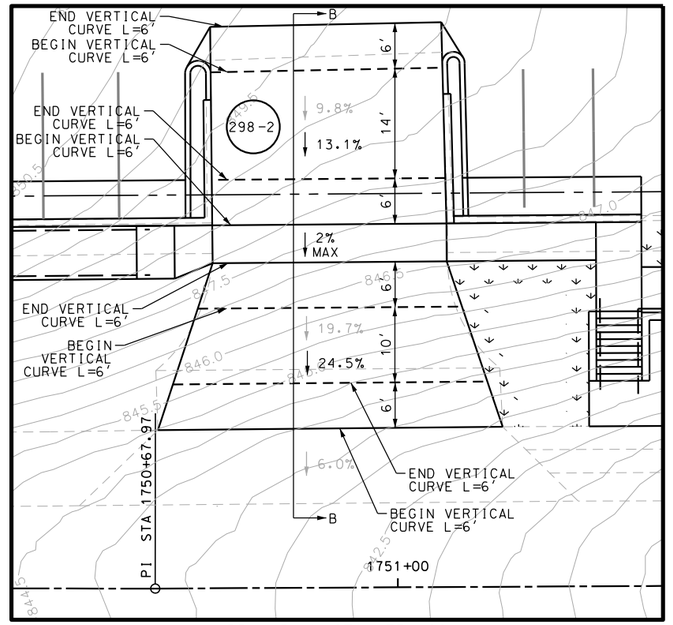
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 298 |

Plotted on: 4/2/2019

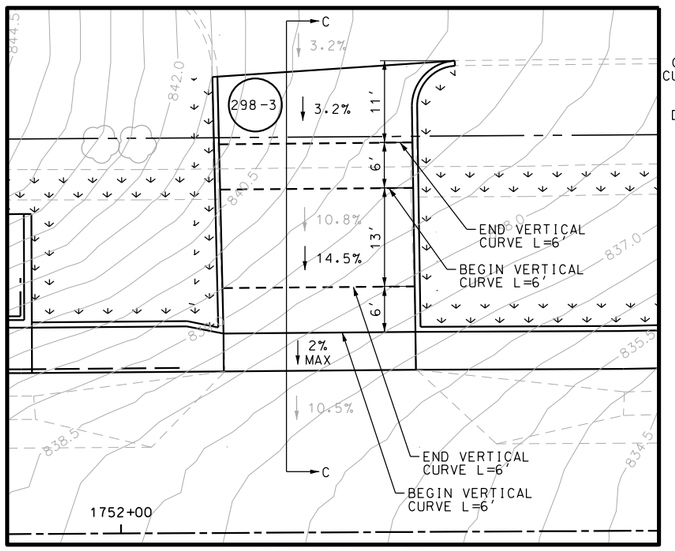
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*47.dgn



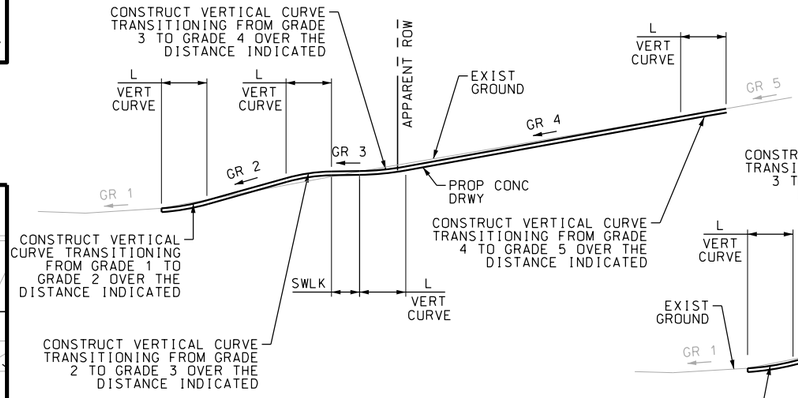

DRWY PLAN STA 1749+47



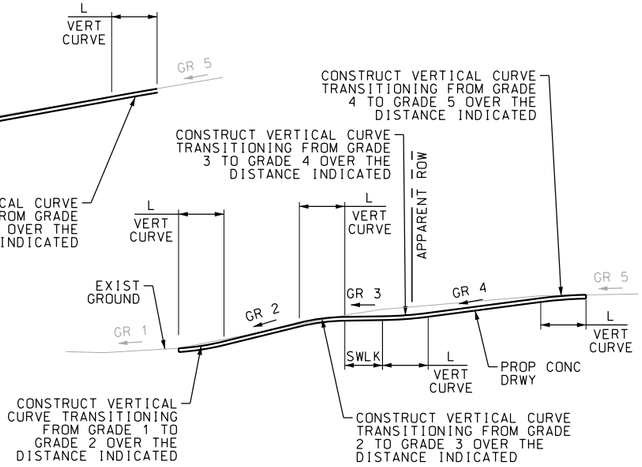

DRWY PLAN STA 1750+92



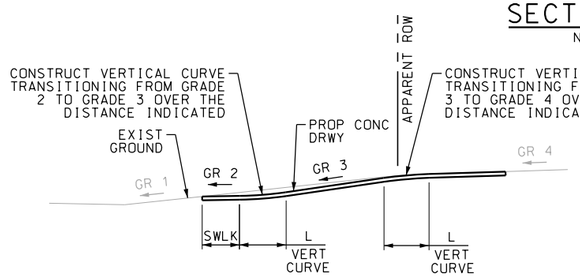

DRWY PLAN STA 1752+28




SECTION A-A
N.T.S.




SECTION B-B
N.T.S.




SECTION C-C
N.T.S.

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

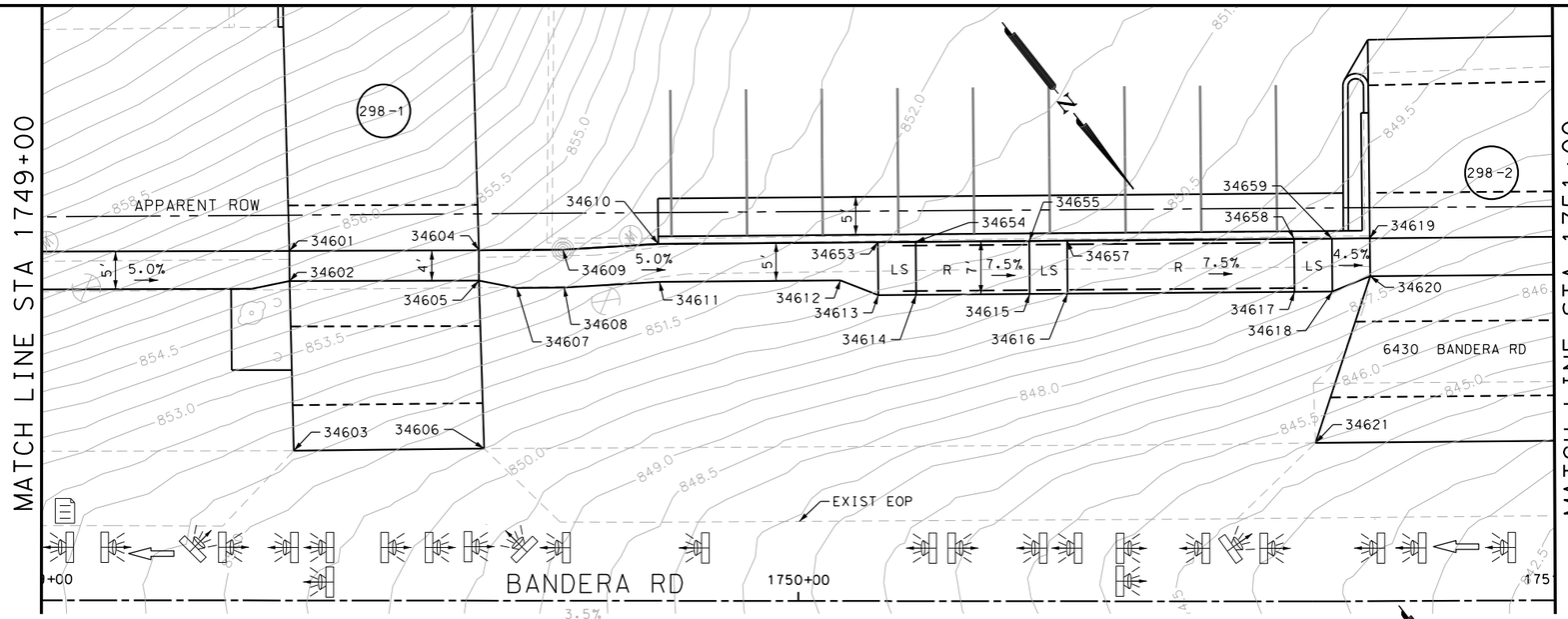
# SIDEWALK CONSTRUCTION PLAN

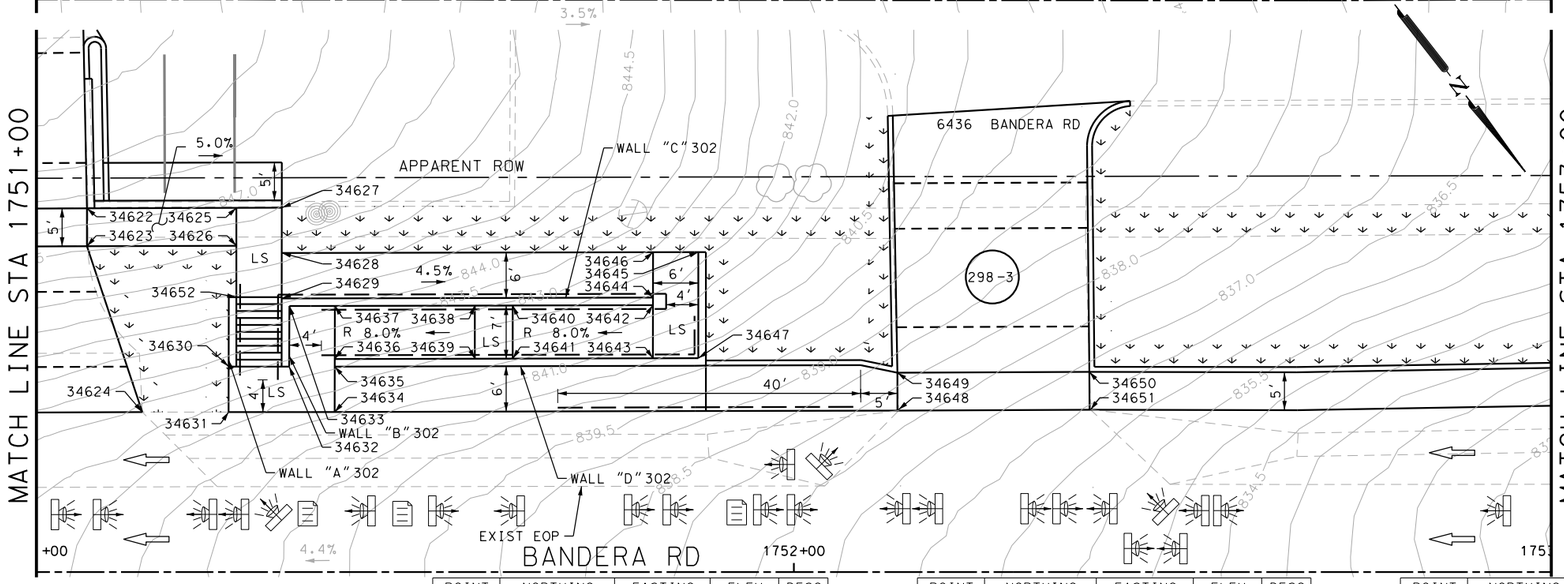
STA 1749+00 TO STA 1753+00

SHEET 6 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 299 |

Plotted on: 4/2/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111307*Bandera Dr*EB*47*A.dgn




| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 34601 | 13728306.93 | 2092281.10 | 855.45 | PROP |
| 34602 | 13728310.08 | 2092283.57 | 855.39 | PROP |
| 34603 | 13728328.02 | 2092296.98 | -- | ME |
| 34604 | 13728322.37 | 2092261.42 | 854.23 | PROP |
| 34605 | 13728325.52 | 2092263.88 | 854.20 | PROP |
| 34606 | 13728343.35 | 2092277.07 | -- | ME |
| 34607 | 13728329.37 | 2092260.55 | 853.95 | PROP |
| 34608 | 13728333.21 | 2092255.60 | 853.64 | PROP |
| 34609 | 13728329.18 | 2092252.64 | 853.71 | PROP |
| 34610 | 13728336.40 | 2092242.27 | 853.08 | PROP |
| 34611 | 13728340.43 | 2092245.23 | 853.01 | PROP |
| 34612 | 13728355.07 | 2092226.37 | 851.82 | PROP |
| 34613 | 13728359.71 | 2092223.64 | 851.56 | PROP |
| 34614 | 13728362.78 | 2092219.69 | 851.49 | PROP |
| 34615 | 13728371.97 | 2092207.84 | 850.36 | PROP |
| 34616 | 13728375.04 | 2092203.89 | 850.29 | PROP |
| 34617 | 13728393.42 | 2092180.19 | 848.03 | PROP |
| 34618 | 13728396.49 | 2092176.24 | 847.97 | PROP |
| 34619 | 13728394.02 | 2092168.00 | 847.83 | PROP |
| 34620 | 13728397.97 | 2092171.06 | 847.77 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 34621 | 13728410.80 | 2092190.37 | -- | ME |
| 34622 | 13728412.97 | 2092143.57 | 846.32 | PROP |
| 34623 | 13728416.92 | 2092146.63 | 846.26 | PROP |
| 34624 | 13728438.66 | 2092154.36 | -- | ME |
| 34625 | 13728425.07 | 2092127.97 | 845.44 | PROP |
| 34626 | 13728429.01 | 2092131.05 | 845.38 | PROP |
| 34627 | 13728428.75 | 2092123.23 | 845.37 | PROP |
| 34628 | 13728433.45 | 2092126.91 | 845.28 | PROP |
| 34629 | 13728438.17 | 2092130.60 | 845.19 | PROP |
| 34630 | 13728440.95 | 2092141.67 | 839.63 | PROP |
| 34631 | 13728445.70 | 2092145.38 | -- | ME |
| 34632 | 13728445.88 | 2092135.36 | 839.75 | PROP |
| 34633 | 13728439.57 | 2092130.43 | 839.86 | PROP |
| 34634 | 13728454.29 | 2092134.32 | -- | ME |
| 34635 | 13728449.56 | 2092130.62 | 839.84 | PROP |
| 34636 | 13728448.77 | 2092130.01 | 839.85 | PROP |
| 34637 | 13728443.26 | 2092125.70 | 839.95 | PROP |
| 34638 | 13728454.61 | 2092111.08 | 841.42 | PROP |
| 34639 | 13728460.12 | 2092115.40 | 841.32 | PROP |
| 34640 | 13728457.67 | 2092107.13 | 841.49 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 34641 | 13728463.19 | 2092111.45 | 841.39 | PROP |
| 34642 | 13728469.02 | 2092092.52 | 842.97 | PROP |
| 34643 | 13728474.53 | 2092096.83 | 842.87 | PROP |
| 34644 | 13728468.23 | 2092091.91 | 842.98 | PROP |
| 34645 | 13728467.18 | 2092083.47 | 843.10 | PROP |
| 34646 | 13728463.50 | 2092088.21 | 843.07 | PROP |
| 34647 | 13728478.21 | 2092092.09 | 842.96 | PROP |
| 34648 | 13728499.85 | 2092075.62 | -- | ME |
| 34649 | 13728495.90 | 2092072.55 | 837.05 | PROP |
| 34650 | 13728511.42 | 2092052.50 | 835.97 | PROP |
| 34651 | 13728515.38 | 2092055.57 | -- | ME |
| 34652 | 13728434.35 | 2092135.23 | 845.28 | PROP |
| 34653 | 13728354.18 | 2092219.35 | 851.66 | PROP |
| 34654 | 13728357.25 | 2092215.40 | 851.58 | PROP |
| 34655 | 13728366.44 | 2092203.55 | 850.46 | PROP |
| 34657 | 13728369.50 | 2092199.60 | 850.38 | PROP |
| 34658 | 13728387.89 | 2092175.90 | 848.13 | PROP |
| 34659 | 13728390.96 | 2092171.94 | 848.06 | PROP |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

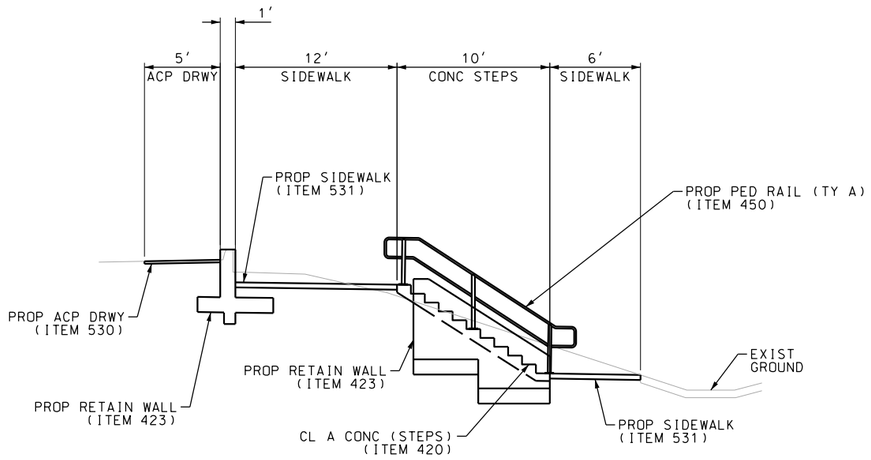
# SIDEWALK CONSTRUCTION PLAN

STA 1749+00 TO STA 1753+00

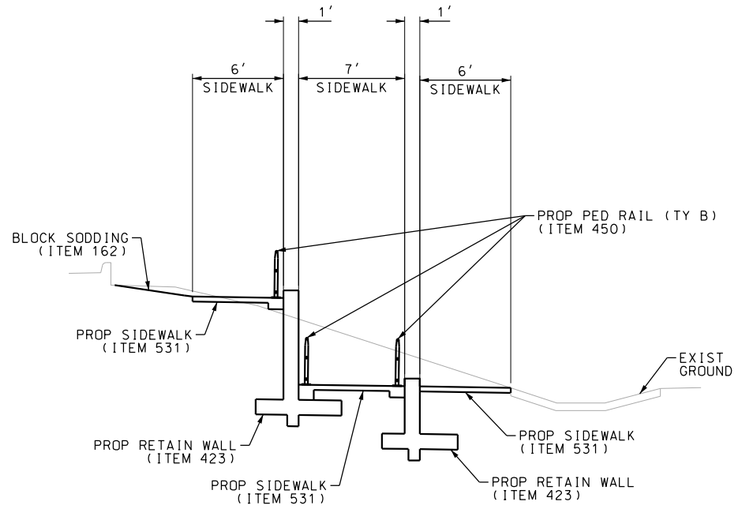
SHEET 7 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 300 |

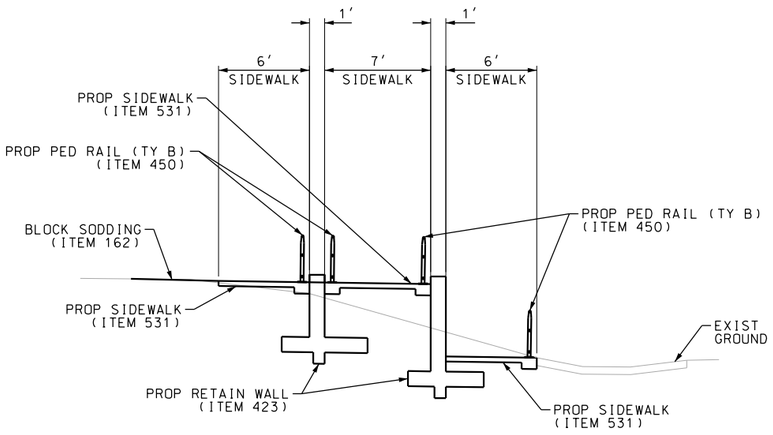
Plotted on: 4/2/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111507*Bandera Dr*EB*47*B.dgn




## SECTION A-A
N.T.S.




## SECTION B-B
N.T.S.




## SECTION C-C
N.T.S.

SEE SHEET 300 FOR HORIZONTAL AND VERTICAL CONTROL

NOTES:
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



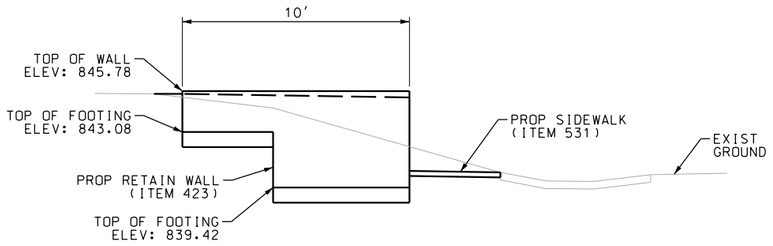
BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1749+00 TO STA 1753+00

SHEET 8 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 301 |

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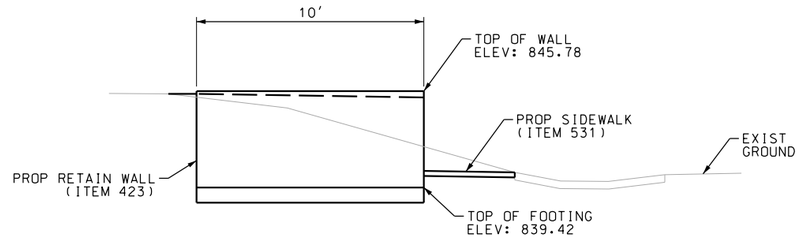
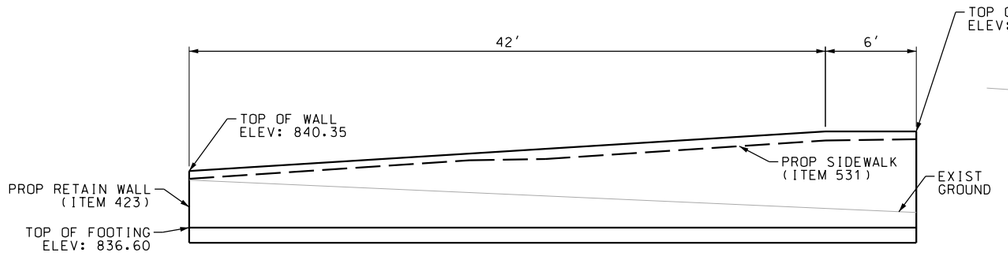
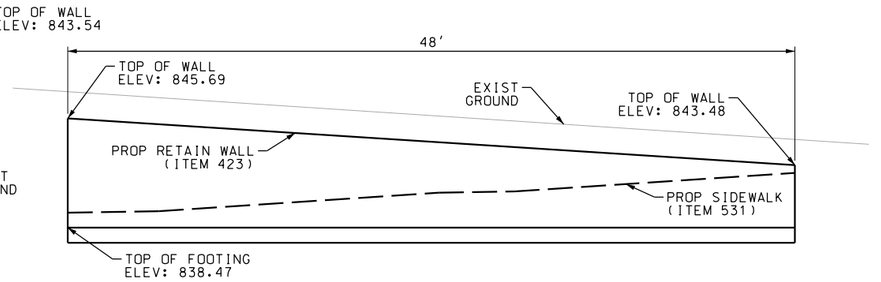
N.T.S.




WALL "B"
N.T.S.




WALL "D"
N.T.S.




WALL "C"
N.T.S.

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DESIGN

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DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

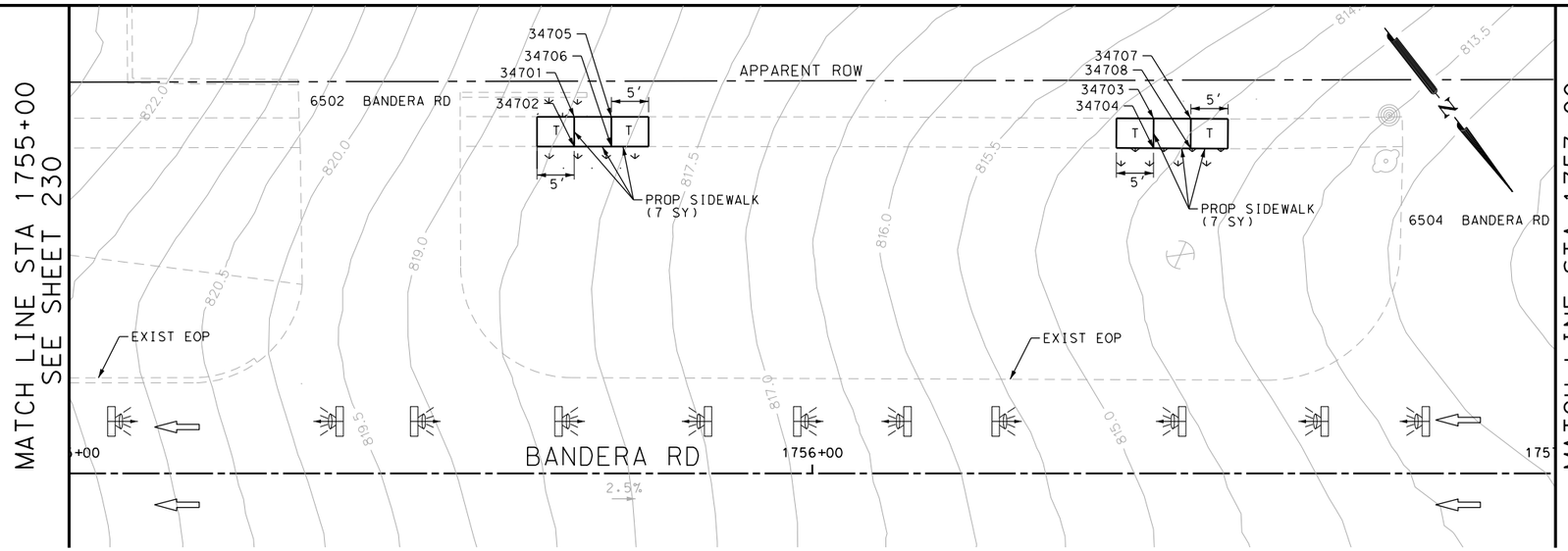
# SIDEWALK CONSTRUCTION PLAN

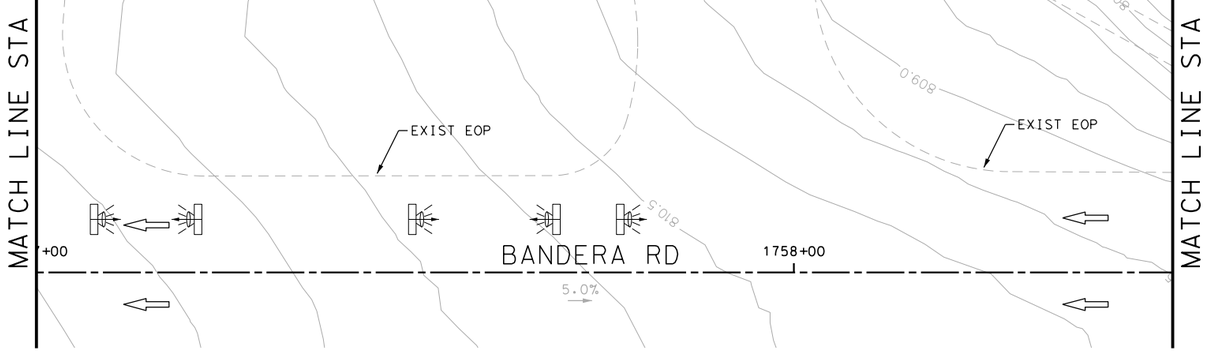
STA 1749+00 TO STA 1753+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 302 |

Plotted on: 4/2/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111507*Bandera Dr*EB*47*D.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 12 |
| 0162-6002 | BLOCK SODDING | SY | 12 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.19 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 14 |

NOTES:
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DESIGN

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DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 34701 | 13728696.76 | 2091779.90 | -- | ME |
| 34702 | 13728699.91 | 2091782.36 | -- | ME |
| 34703 | 13728744.91 | 2091718.57 | -- | ME |
| 34704 | 13728748.05 | 2091721.05 | -- | ME |
| 34705 | 13728699.84 | 2091775.96 | -- | ME |
| 34706 | 13728702.99 | 2091778.42 | -- | ME |
| 34707 | 13728748.01 | 2091714.65 | -- | ME |
| 34708 | 13728751.15 | 2091717.12 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

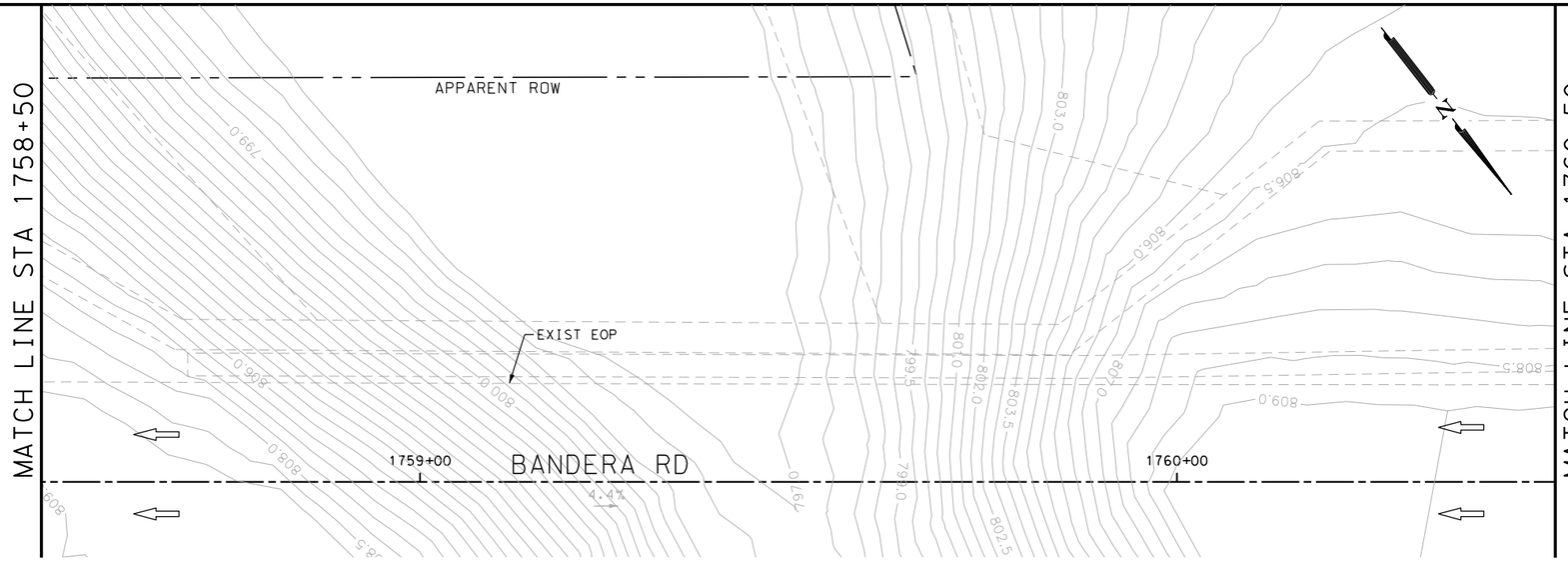
STA 1755+00 TO STA 1758+50

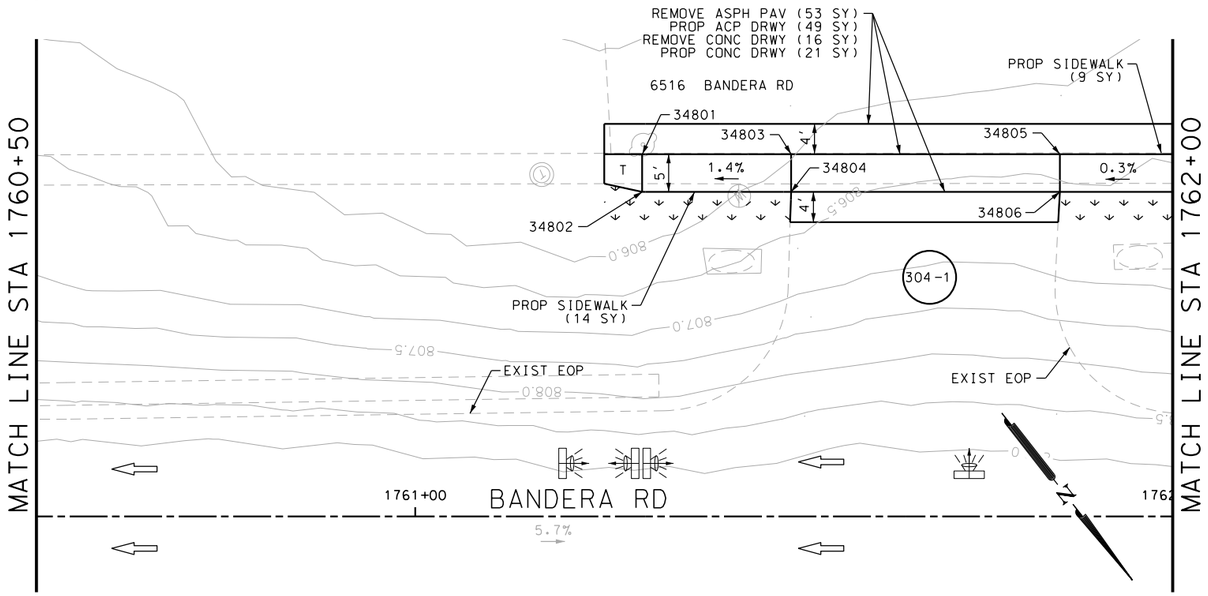
SHEET 10 OF 55

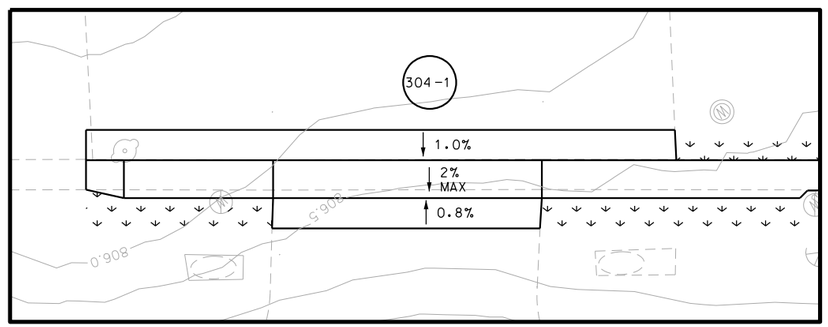
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 303 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*48.dgn




DRWY PLAN STA 1761+71

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 16 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 53 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 18 |
| 0162-6002 | BLOCK SODDING | SY | 18 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.28 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 21 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 49 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 23 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 34801 | 13729042.66 | 2091336.95 | 805.95 | PROP |
| 34802 | 13729046.60 | 2091340.03 | 805.88 | PROP |
| 34803 | 13729054.77 | 2091321.43 | 806.22 | PROP |
| 34804 | 13729058.71 | 2091324.51 | 806.15 | PROP |
| 34805 | 13729076.60 | 2091293.46 | 806.36 | PROP |
| 34806 | 13729080.54 | 2091296.53 | 806.29 | PROP |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

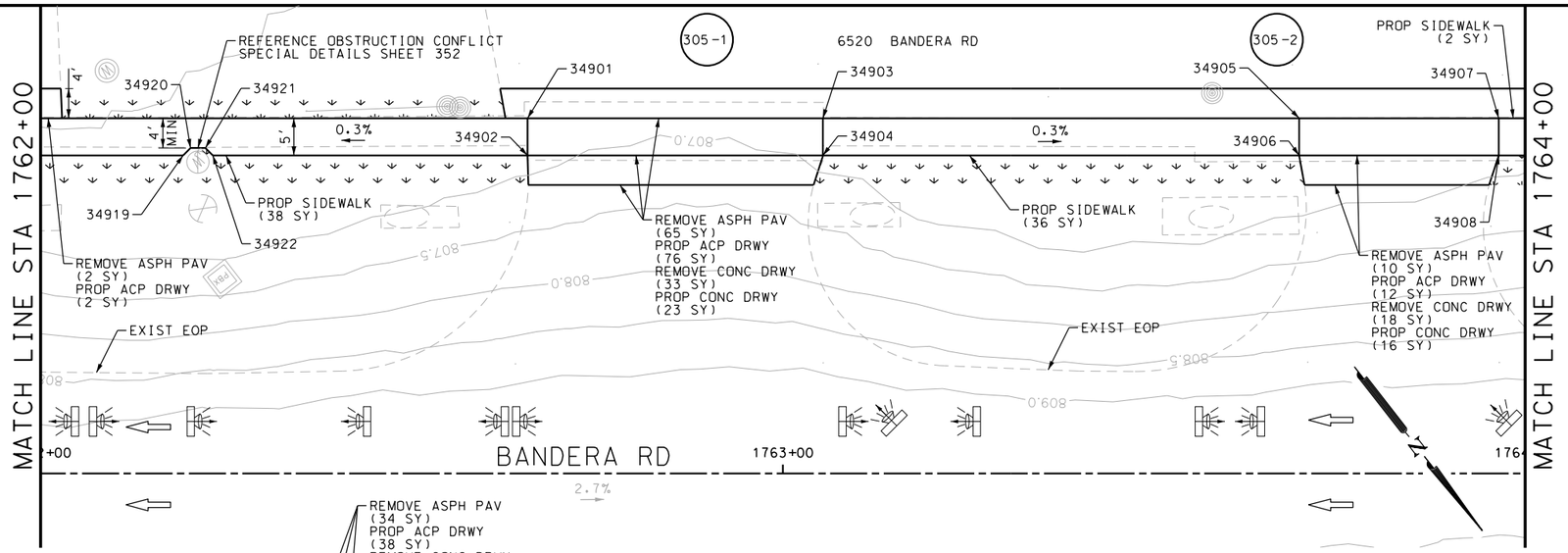
# SIDEWALK CONSTRUCTION PLAN

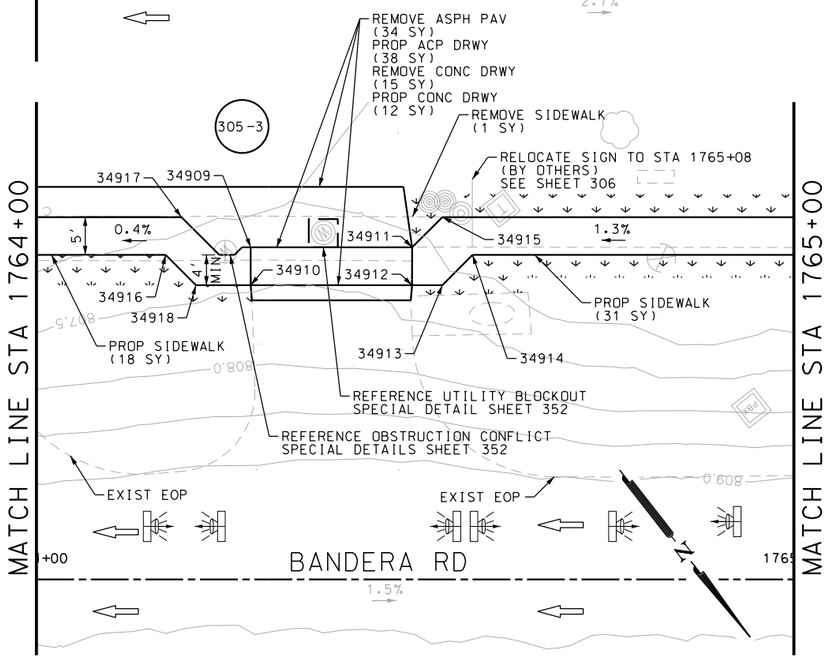
STA 1758+50 TO STA 1762+00

SHEET 11 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 304 |

Plotted on: 4/2/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*49.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 66 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 1 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 111 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 132 |
| 0162-6002 | BLOCK SODDING | SY | 132 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.06 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 51 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 128 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 125 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 34901 | 13729126.10 | 2091230.03 | 806.66 | PROP |
| 34902 | 13729130.04 | 2091233.10 | 806.60 | PROP |
| 34903 | 13729150.58 | 2091198.66 | 806.63 | PROP |
| 34904 | 13729154.52 | 2091201.73 | 806.56 | PROP |
| 34905 | 13729190.06 | 2091148.06 | 806.44 | PROP |
| 34906 | 13729194.00 | 2091151.14 | 806.37 | PROP |
| 34907 | 13729206.59 | 2091126.87 | 806.58 | PROP |
| 34908 | 13729210.54 | 2091129.95 | 806.51 | PROP |
| 34909 | 13729229.35 | 2091104.22 | 806.71 | PROP |
| 34910 | 13729233.29 | 2091107.29 | 806.64 | PROP |
| 34911 | 13729242.45 | 2091087.43 | 806.77 | PROP |
| 34912 | 13729246.39 | 2091090.51 | 806.70 | PROP |
| 34913 | 13729248.85 | 2091087.36 | 806.78 | PROP |
| 34914 | 13729248.16 | 2091081.74 | 806.78 | PROP |
| 34915 | 13729241.77 | 2091081.80 | 806.85 | PROP |
| 34916 | 13729223.23 | 2091113.69 | 806.67 | PROP |
| 34917 | 13729220.56 | 2091108.98 | 806.74 | PROP |
| 34918 | 13729228.84 | 2091113.00 | 806.66 | PROP |
| 34919 | 13729101.50 | 2091269.68 | -- | ME |
| 34920 | 13729101.32 | 2091268.28 | -- | ME |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 34921 | 13729102.55 | 2091266.70 | -- | ME |
| 34922 | 13729103.96 | 2091266.53 | -- | ME |

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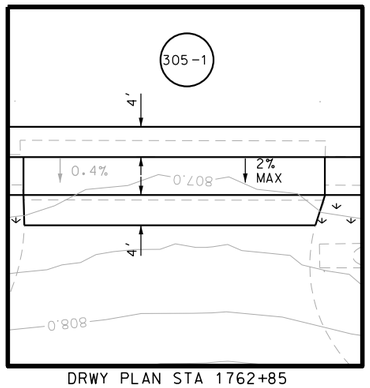
DESIGN

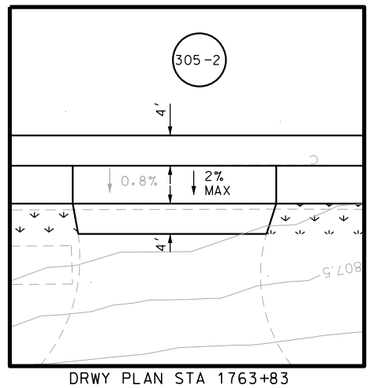
INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

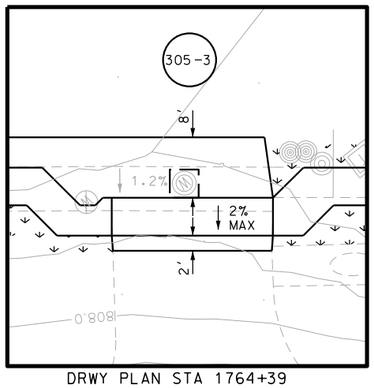
INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019



DRWY PLAN STA 1762+85



DRWY PLAN STA 1763+83



DRWY PLAN STA 1764+39

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

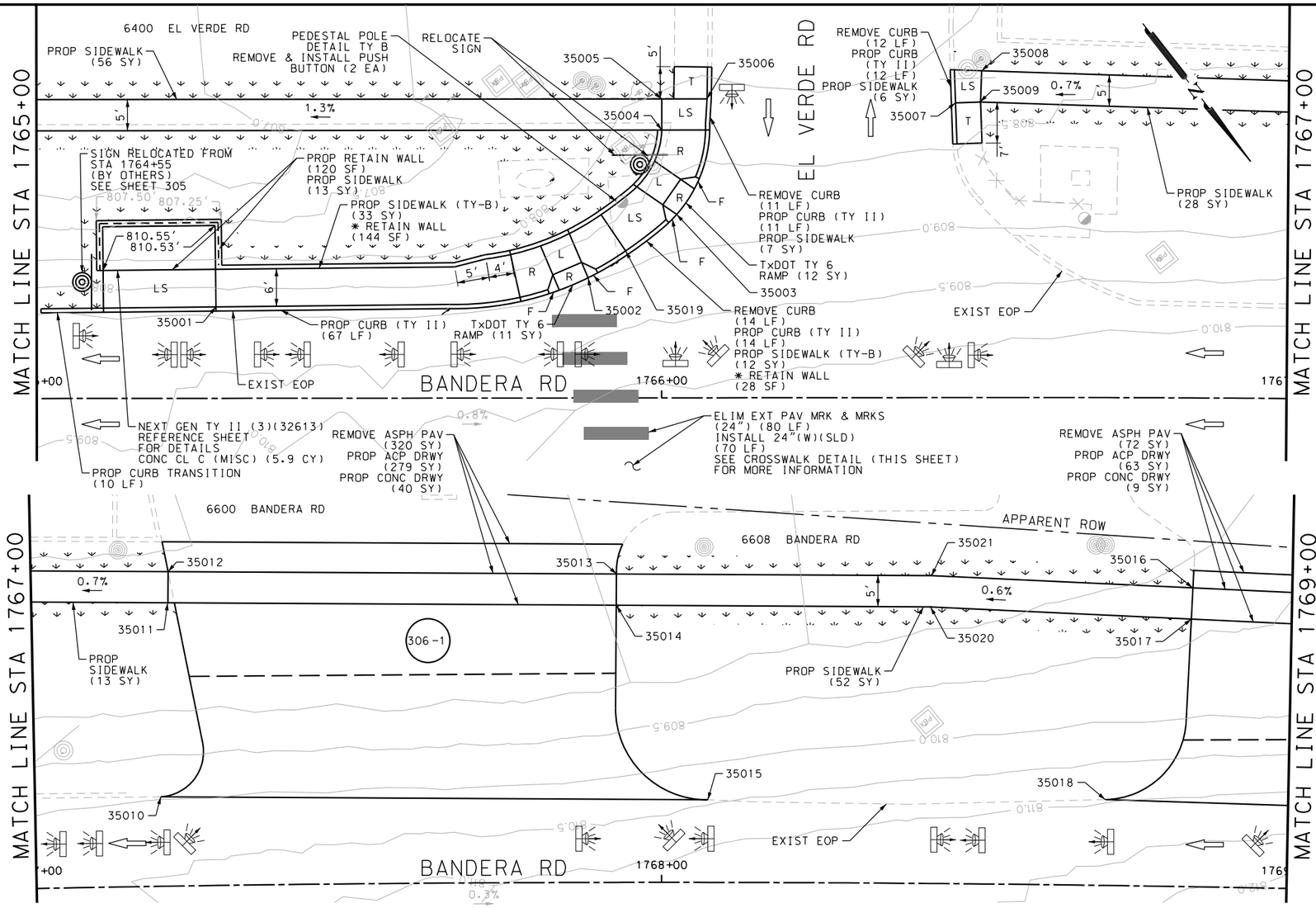
STA 1762+00 TO STA 1765+00

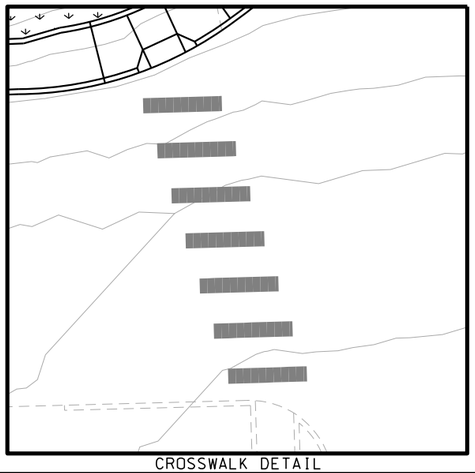
SHEET 12 OF 55

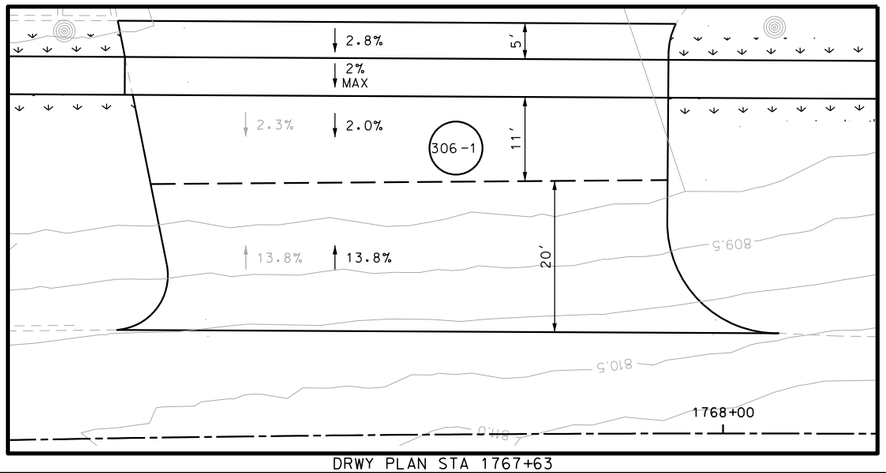
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 305 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*50.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 37 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 392 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 225 |
| 0162-6002 | BLOCK SODDING | SY | 225 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.51 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 120 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 34 |
| 0529-6002 | CONC CURB (TY II) | LF | 114 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 49 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 342 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 175 |
| 0531-6023 | CURB RAMPS (TY 6) | SY | 23 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 45 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |
| 0666-6048 | REFL PAV MRK TY I (W)24"(SLD)(100MIL) | LF | 70 |
| 0666-6230 | PAVEMENT SEALER 24" | LF | 70 |
| 0677-6007 | ELIM EXT PAV MRK & MRKS (24") | LF | 80 |
| 0678-6008 | PAV SURF PREP FOR MRK (24") | LF | 70 |
| 0688-6002 | PED DETECT PUSH BUTTON (STANDARD) | EA | 2 |
| 0690-6030 | REMOVAL OF PEDESTRIAN PUSH BUTTONS | EA | 2 |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1765+00 TO STA 1769+00

SHEET 13 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 306 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*51.dgn

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 35001 | 13729314.14 | 2091043.03 | -- | ME |
| 35002 | 13729347.16 | 2090993.24 | -- | ME |
| 35003 | 13729347.91 | 2090975.85 | -- | ME |
| 35004 | 13729335.81 | 2090969.41 | -- | ME |
| 35005 | 13729331.87 | 2090966.34 | -- | ME |
| 35006 | 13729336.33 | 2090960.63 | -- | ME |
| 35007 | 13729361.33 | 2090929.69 | -- | ME |
| 35008 | 13729359.86 | 2090923.25 | -- | ME |
| 35009 | 13729363.69 | 2090926.46 | -- | ME |
| 35010 | 13729432.61 | 2090892.43 | -- | ME |
| 35011 | 13729409.41 | 2090871.80 | 808.63 | PROP |
| 35012 | 13729405.58 | 2090868.60 | 808.70 | PROP |
| 35013 | 13729451.62 | 2090813.56 | 808.74 | PROP |
| 35014 | 13729455.45 | 2090816.77 | 808.67 | PROP |
| 35015 | 13729488.74 | 2090825.33 | -- | ME |
| 35016 | 13729512.15 | 2090743.91 | 809.30 | PROP |
| 35017 | 13729515.83 | 2090747.29 | 809.23 | PROP |
| 35018 | 13729529.28 | 2090776.32 | -- | ME |
| 35019 | 13729347.47 | 2090985.85 | -- | ME |
| 35020 | 13729487.72 | 2090778.20 | 808.97 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 35021 | 13729483.95 | 2090774.91 | 809.04 | PROP |

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1765+00 TO STA 1769+00

SHEET 14 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 307 |

Plotted on: 4/2/2019

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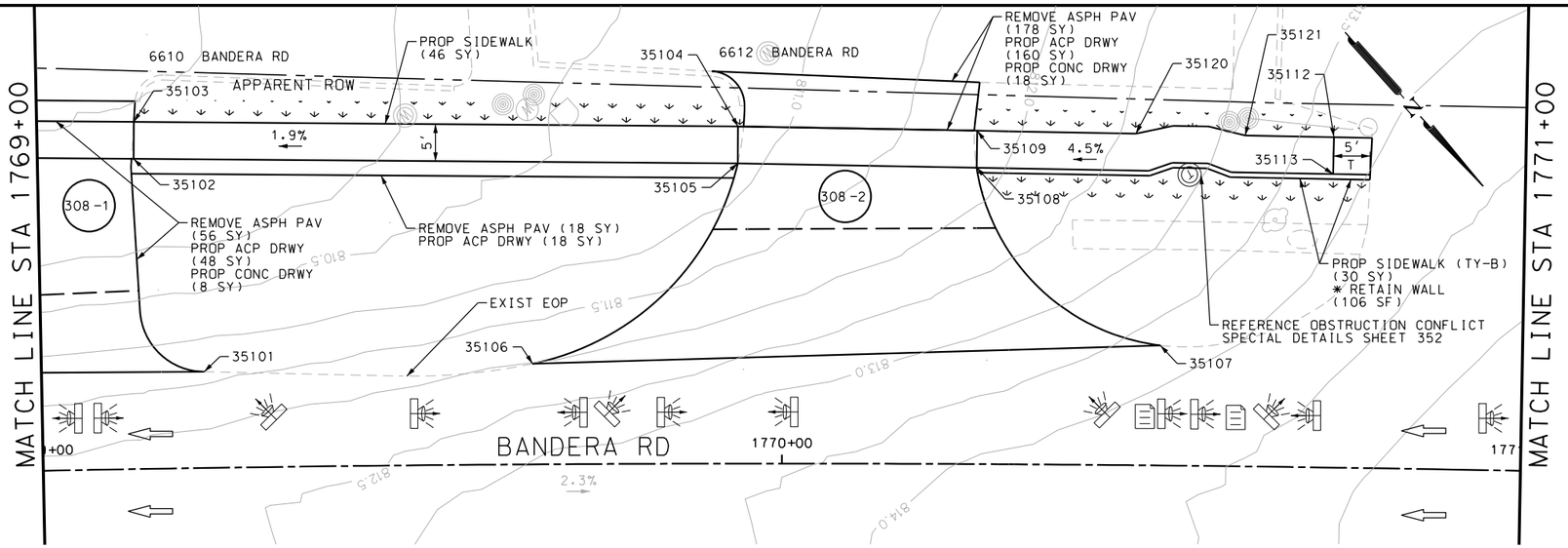
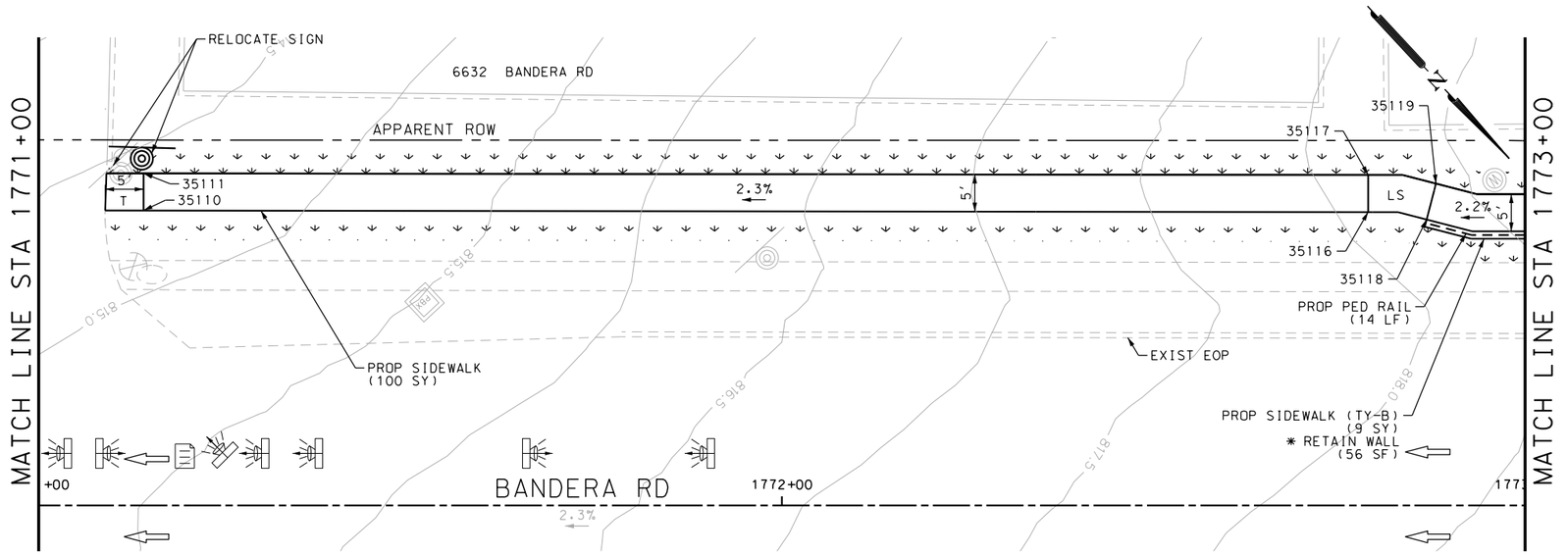
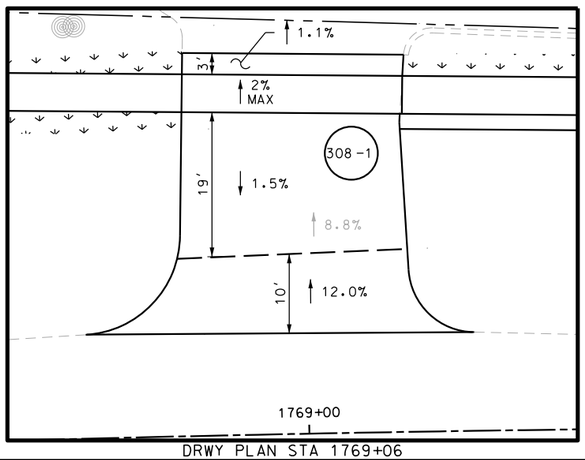
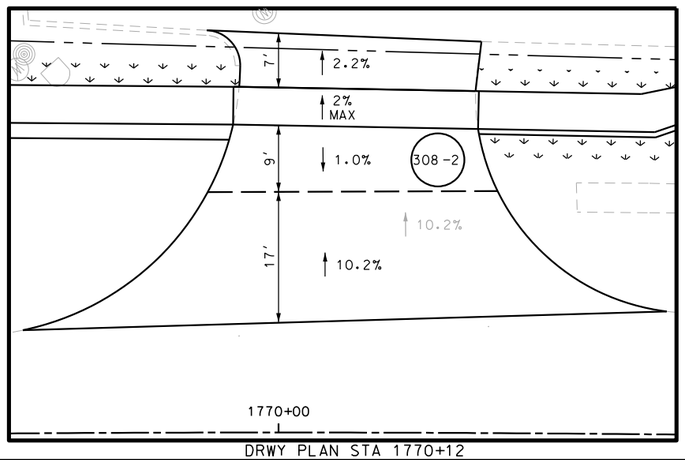



DRWY PLAN STA 1769+06




DRWY PLAN STA 1770+12

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 252 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 250 |
| 0162-6002 | BLOCK SODDING | SY | 250 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.90 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 14 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 26 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 226 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 146 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 39 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 35101 | 13729563.26 | 2090737.87 | -- | ME |
| 35102 | 13729535.41 | 2090725.76 | 809.66 | PROP |
| 35103 | 13729531.71 | 2090722.39 | 809.73 | PROP |
| 35104 | 13729586.75 | 2090661.87 | 811.26 | PROP |
| 35105 | 13729590.45 | 2090665.23 | 811.19 | PROP |
| 35106 | 13729592.13 | 2090704.02 | -- | ME |
| 35107 | 13729647.00 | 2090639.05 | -- | ME |
| 35108 | 13729612.46 | 2090641.53 | 812.02 | PROP |
| 35109 | 13729608.80 | 2090638.12 | 812.09 | PROP |
| 35110 | 13729672.67 | 2090576.72 | 815.15 | PROP |
| 35111 | 13729669.01 | 2090573.31 | 815.22 | PROP |
| 35112 | 13729641.66 | 2090602.75 | 814.26 | PROP |
| 35113 | 13729645.33 | 2090606.15 | 814.19 | PROP |
| 35116 | 13729784.93 | 2090456.11 | 819.13 | PROP |
| 35117 | 13729781.27 | 2090452.70 | 819.20 | PROP |
| 35118 | 13729791.02 | 2090451.02 | 819.33 | PROP |
| 35119 | 13729788.32 | 2090446.81 | 819.40 | PROP |
| 35120 | 13729633.51 | 2090611.52 | 813.72 | PROP |
| 35121 | 13729623.42 | 2090622.39 | 813.00 | PROP |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

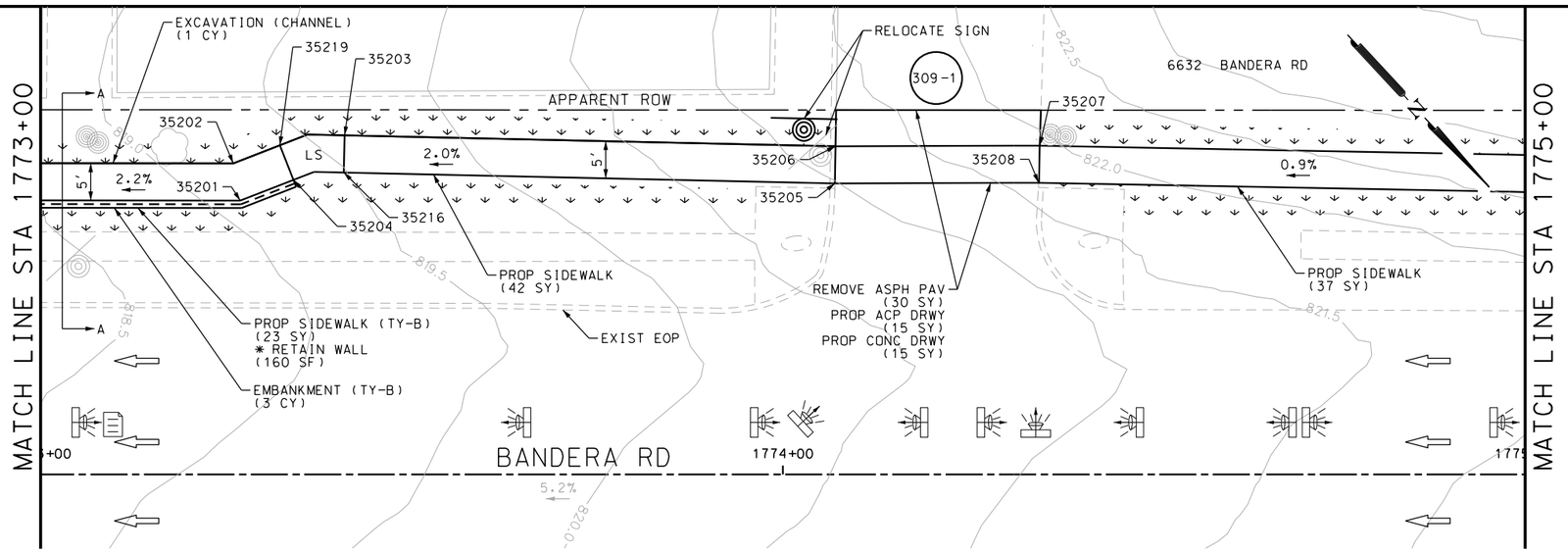
STA 1769+00 TO STA 1773+00

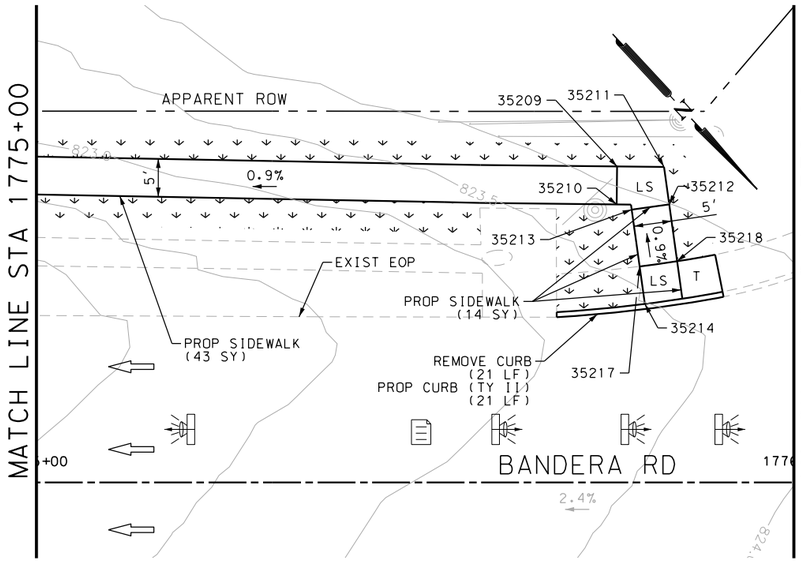
SHEET 15 OF 55

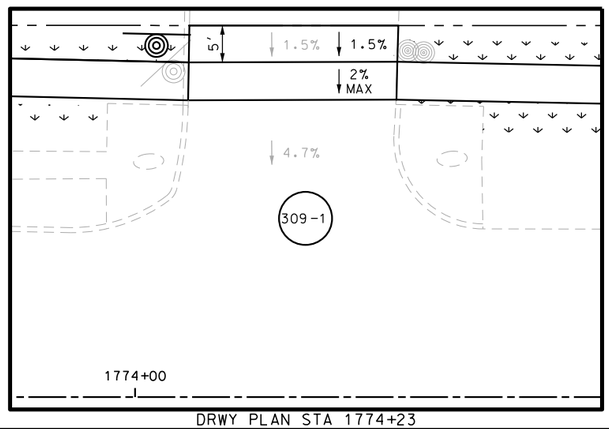
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 308 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*52.dgn



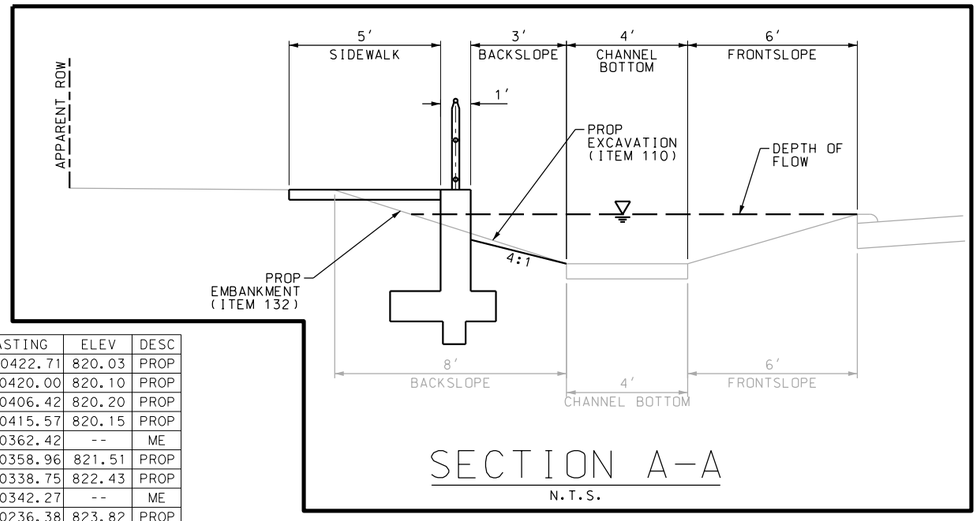




DRWY PLAN STA 1774+23

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 21 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 30 |
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 1 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 3 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 200 |
| 0162-6002 | BLOCK SODDING | SY | 200 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.12 |
| 0529-6002 | CONC CURB (TY II) | LF | 21 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 15 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 15 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 136 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 23 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.018 | FT/FT | S | FL SLOPE | 0.018 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.030 | |
| A | AREA | 15.3 | SQ FT | A | AREA | 15.00 | SQ FT |
| P | WETTED PERIMETER | 15.2 | FT | P | WETTED PERIMETER | 13.90 | FT |
| R | HYDRAULIC RADIUS | 1.01 | FT | R | HYDRAULIC RADIUS | 1.08 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 102.1 | CFS | Q | DISCHARGE | 104.9 | CFS |




SECTION A-A
N.T.S.

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 35201 | 13729819.52 | 2090422.71 | 820.03 | PROP |
| 35202 | 13729815.22 | 2090420.00 | 820.10 | PROP |
| 35203 | 13729822.65 | 2090406.42 | 820.20 | PROP |
| 35204 | 13729822.35 | 2090415.57 | 820.15 | PROP |
| 35205 | 13729872.33 | 2090362.42 | -- | ME |
| 35206 | 13729868.72 | 2090358.96 | 821.51 | PROP |
| 35207 | 13729887.39 | 2090338.75 | 822.43 | PROP |
| 35208 | 13729890.94 | 2090342.27 | -- | ME |
| 35209 | 13729985.91 | 2090236.38 | 823.82 | PROP |
| 35210 | 13729989.53 | 2090239.83 | 823.75 | PROP |
| 35211 | 13729990.18 | 2090231.89 | 823.82 | PROP |
| 35212 | 13729994.26 | 2090234.74 | 823.80 | PROP |
| 35213 | 13729991.40 | 2090238.84 | 823.75 | PROP |
| 35214 | 13730001.71 | 2090246.04 | -- | ME |
| 35216 | 13729826.24 | 2090409.91 | 820.13 | PROP |
| 35217 | 13729997.61 | 2090243.18 | -- | ME |
| 35218 | 13730000.48 | 2090239.08 | -- | ME |
| 35219 | 13729817.70 | 2090413.73 | 820.22 | PROP |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

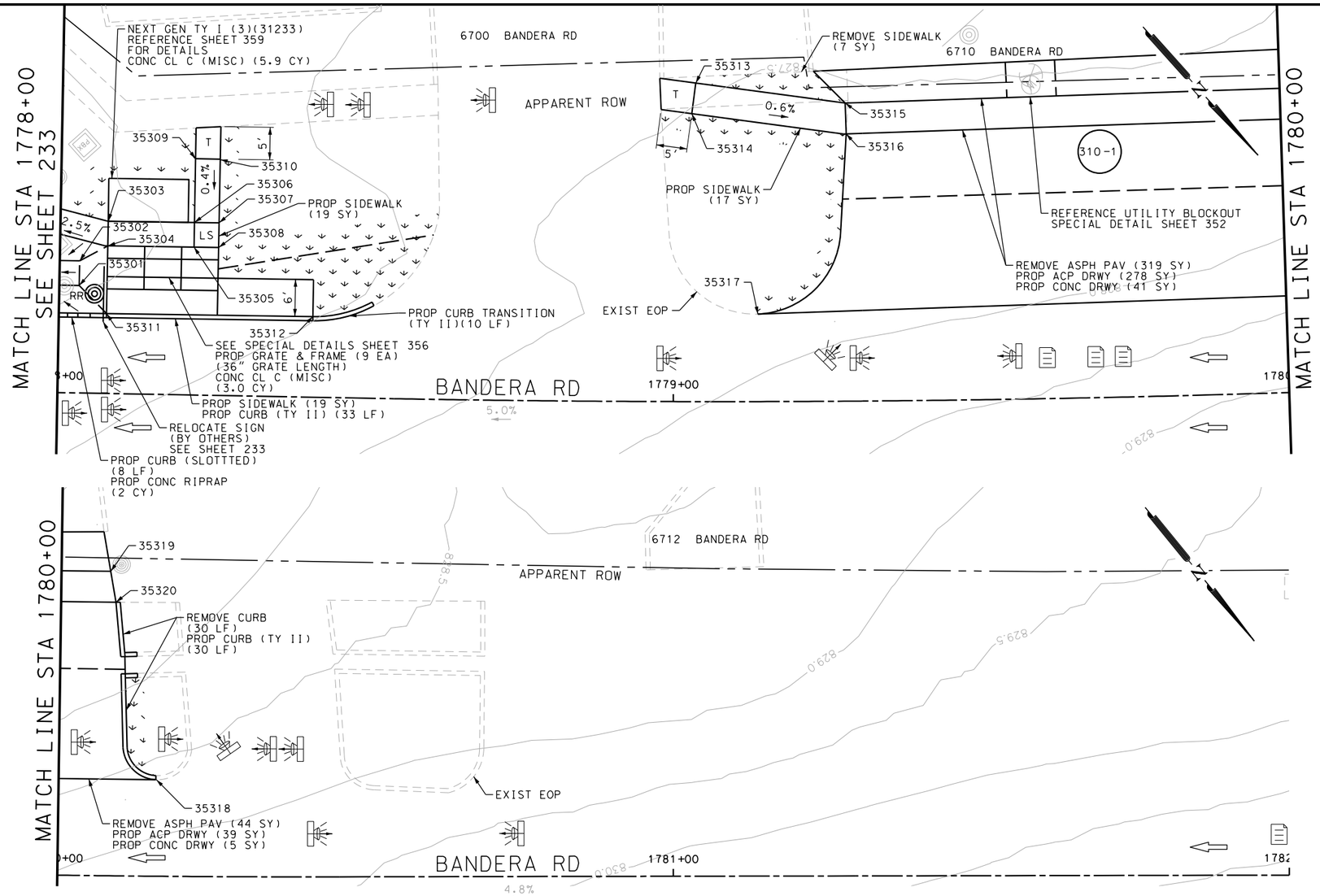
STA 1773+00 TO STA 1776+00

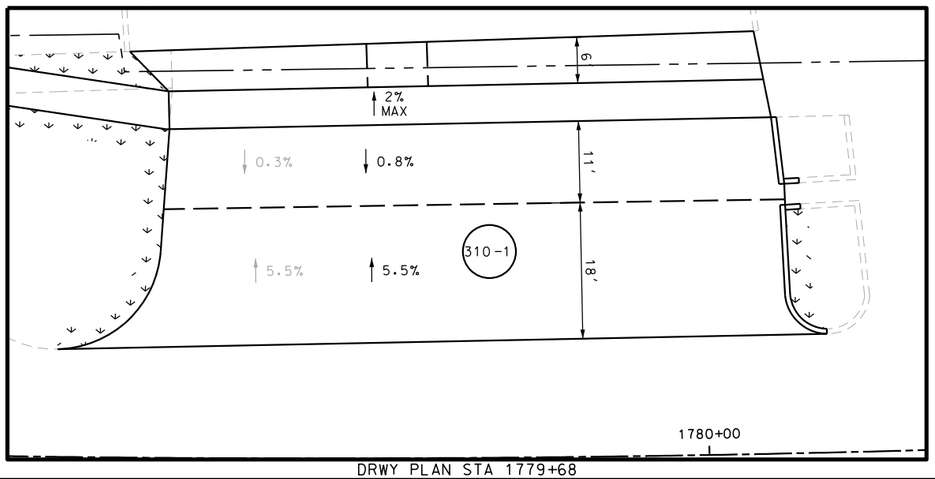
SHEET 16 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 309 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111507*Bandera Dr*EB*53.dgn




DRWY PLAN STA 1779+68

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 30 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 7 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 363 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 100 |
| 0162-6002 | BLOCK SODDING | SY | 100 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.56 |
| 0420-6074 | CL C CONC (MISC) | CY | 8.9 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 2 |
| 0471-6003 | GRATE & FRAME | EA | 9 |
| 0529-6002 | CONC CURB (TY II) | LF | 73 |
| 0529-6012 | CONC CURB (SLOTTED) | LF | 8 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 46 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 317 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 55 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 35301 | 13730157.85 | 2090086.83 | 826.40 | PROP |
| 35302 | 13730154.92 | 2090084.11 | 826.40 | PROP |
| 35303 | 13730153.22 | 2090076.37 | 827.68 | PROP |
| 35304 | 13730156.15 | 2090079.09 | 827.75 | PROP |
| 35305 | 13730165.64 | 2090068.80 | 827.95 | PROP |
| 35306 | 13730162.71 | 2090066.07 | 827.87 | PROP |
| 35307 | 13730165.41 | 2090063.14 | 827.95 | PROP |
| 35308 | 13730168.35 | 2090065.85 | 828.00 | PROP |
| 35309 | 13730155.12 | 2090059.03 | 827.03 | PROP |
| 35310 | 13730157.90 | 2090056.15 | 827.10 | PROP |
| 35311 | 13730164.21 | 2090086.58 | -- | ME |
| 35312 | 13730186.92 | 2090061.94 | -- | ME |
| 35313 | 13730200.13 | 2089990.34 | 828.02 | PROP |
| 35314 | 13730203.38 | 2089994.14 | 827.95 | PROP |
| 35315 | 13730218.71 | 2089974.44 | 827.88 | PROP |
| 35316 | 13730222.55 | 2089977.65 | 827.81 | PROP |
| 35317 | 13730234.78 | 2090007.83 | -- | ME |
| 35318 | 13730299.92 | 2089929.87 | -- | ME |
| 35319 | 13730269.07 | 2089914.17 | -- | ME |
| 35320 | 13730273.49 | 2089916.68 | -- | ME |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

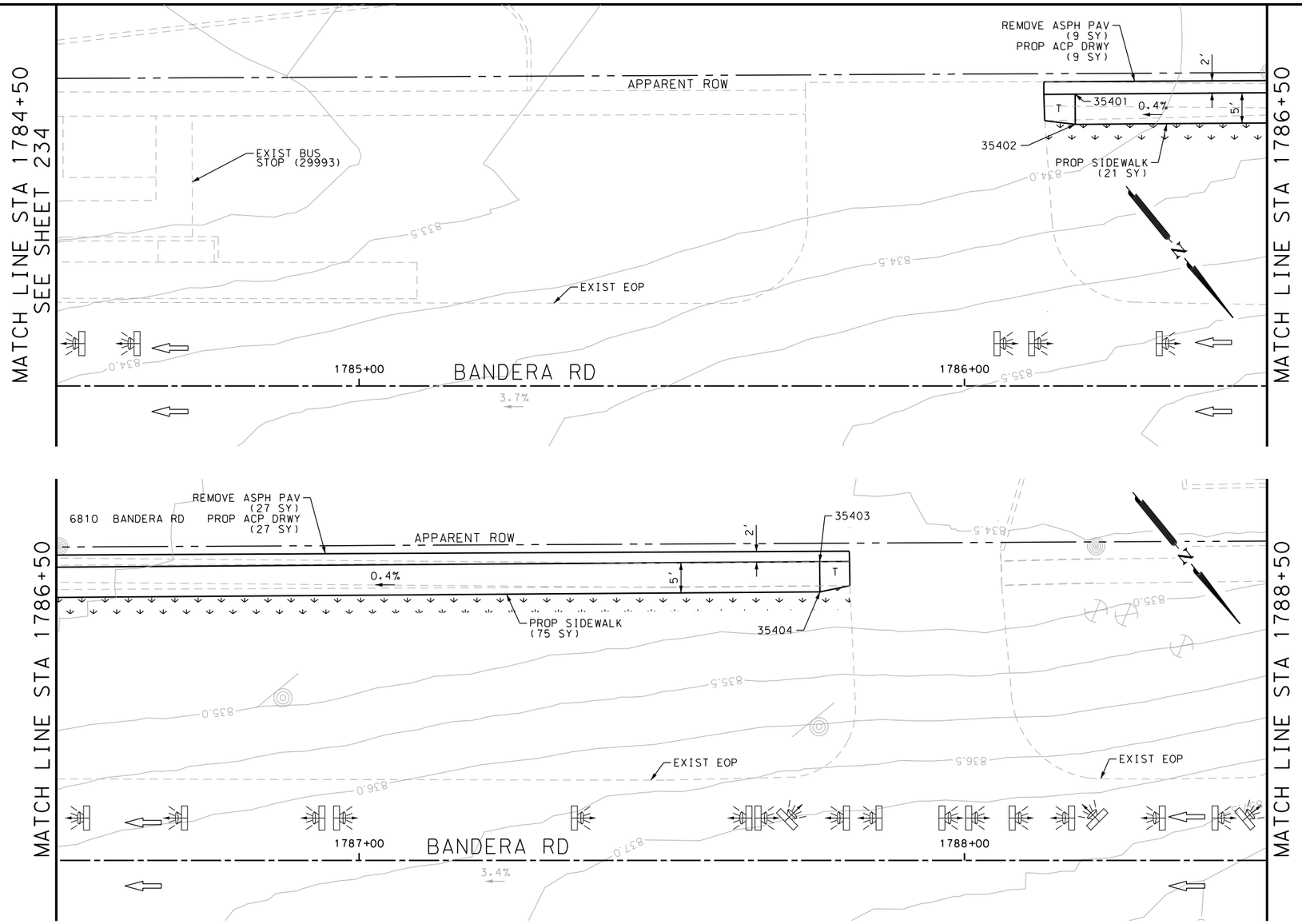
STA 1778+00 TO STA 1782+00

SHEET 17 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 310 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507+Bandera Dr*EB*54.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 36 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 60 |
| 0162-6002 | BLOCK SODDING | SY | 60 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.94 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 36 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 96 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 35401 | 13730654.61 | 2089442.08 | 833.60 | PROP |
| 35402 | 13730658.51 | 2089445.21 | 833.53 | PROP |
| 35403 | 13730753.25 | 2089318.89 | 834.30 | PROP |
| 35404 | 13730757.15 | 2089322.02 | 834.23 | PROP |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

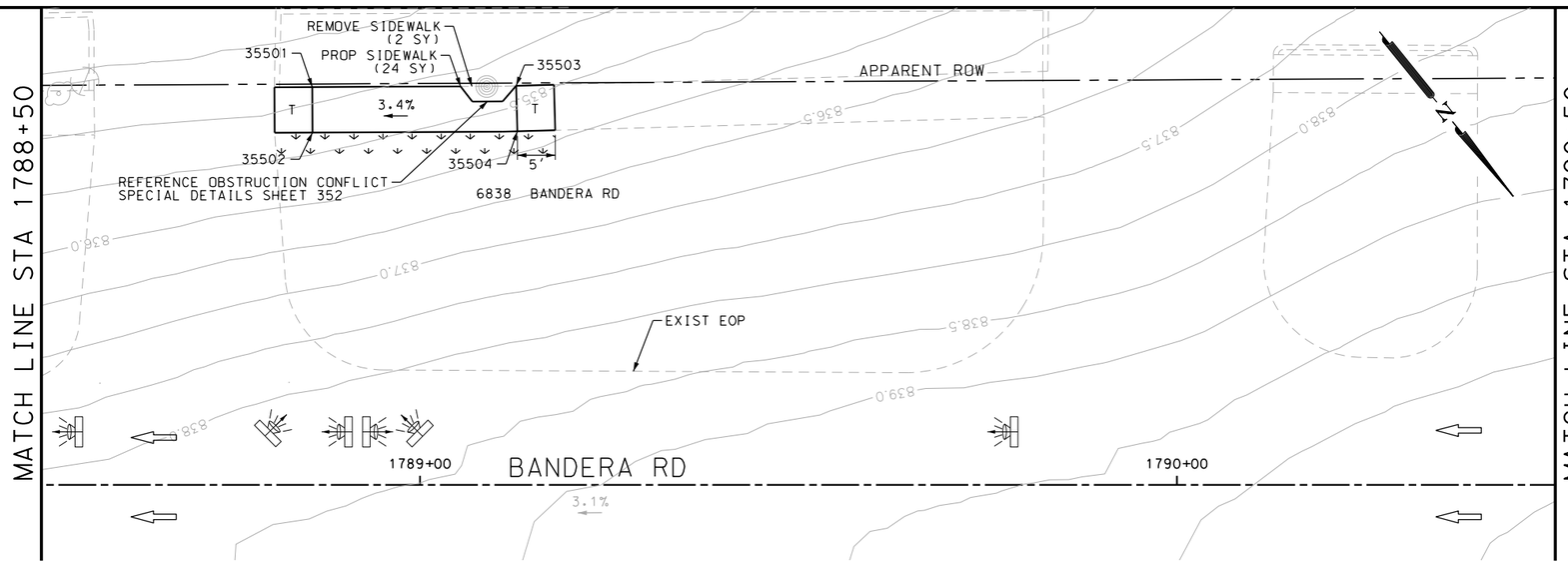
STA 1784+50 TO STA 1788+50

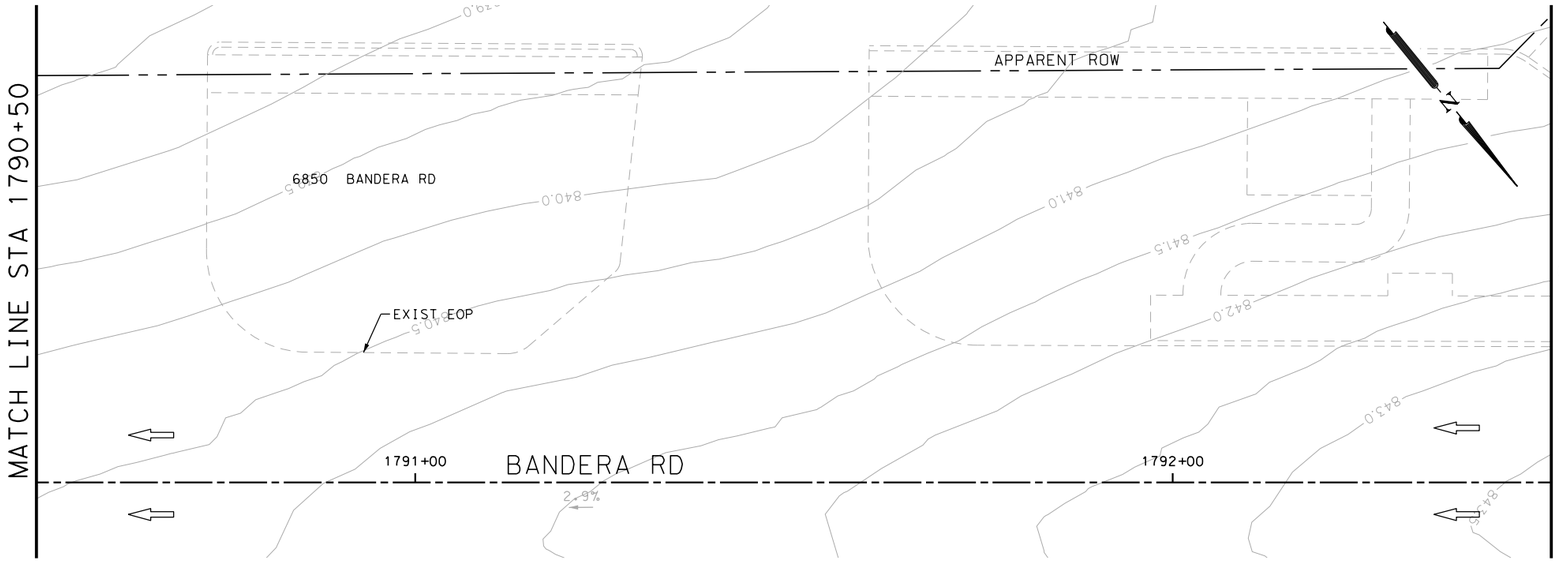
SHEET 18 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 311 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507+Bandera Dr*EB*55.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 2 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 13 |
| 0162-6002 | BLOCK SODDING | SY | 13 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.20 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 24 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 35501 | 13730819.96 | 2089231.77 | 835.20 | PROP |
| 35502 | 13730824.63 | 2089235.53 | 835.13 | PROP |
| 35503 | 13730836.82 | 2089210.77 | 836.13 | PROP |
| 35504 | 13730841.58 | 2089214.42 | 836.06 | PROP |

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P.E. SERIAL NO: 105193
DATE: 4/2/2019

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

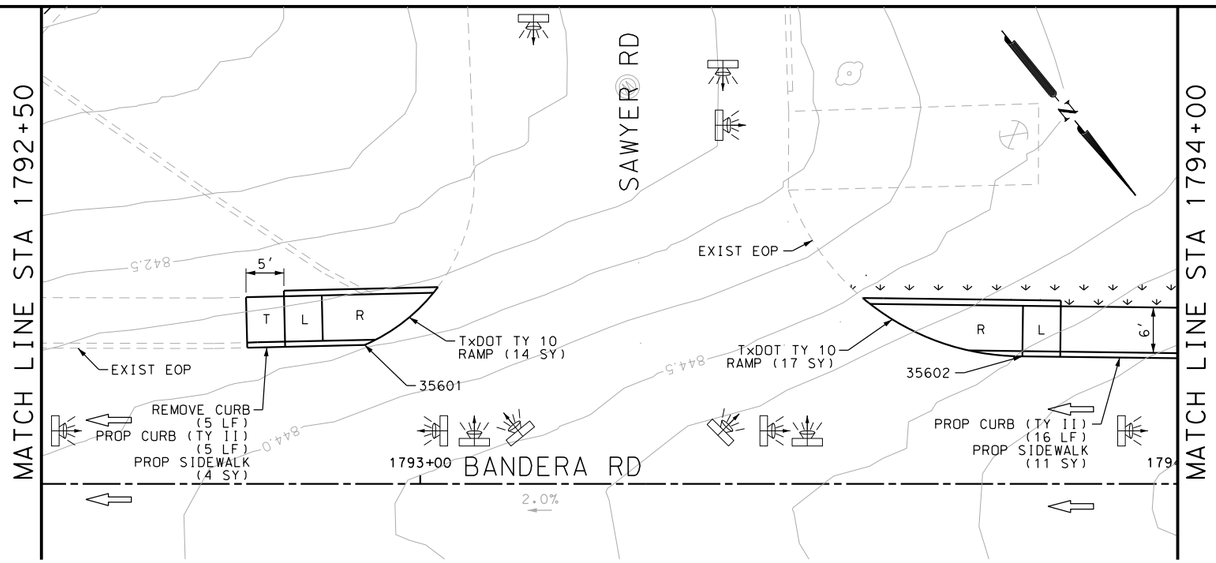
STA 1788+50 TO STA 1792+50

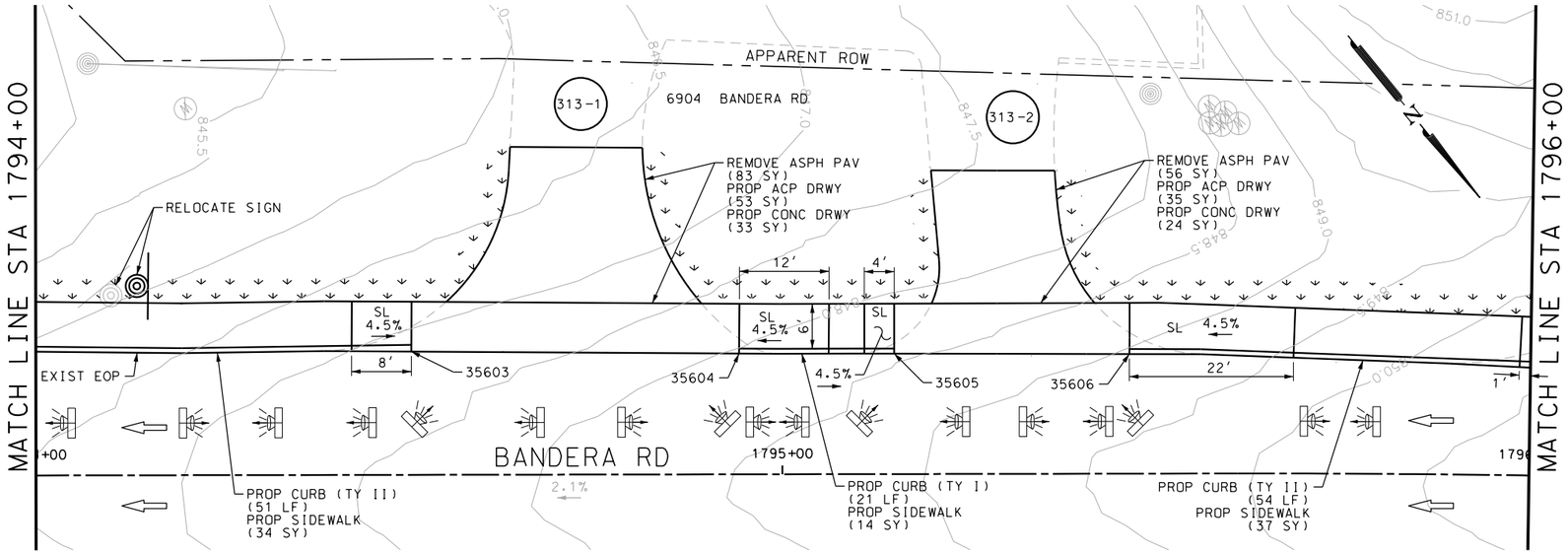
SHEET 19 OF 55

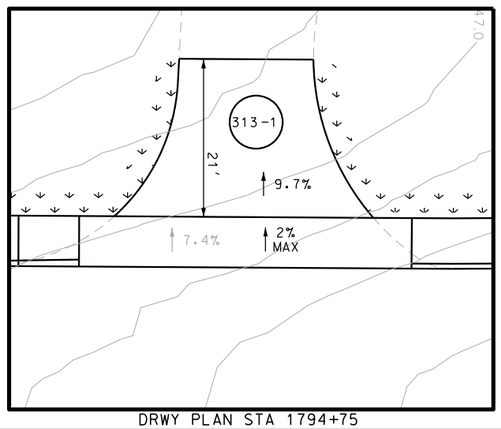
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 312 |

Plotted on: 4/2/2019

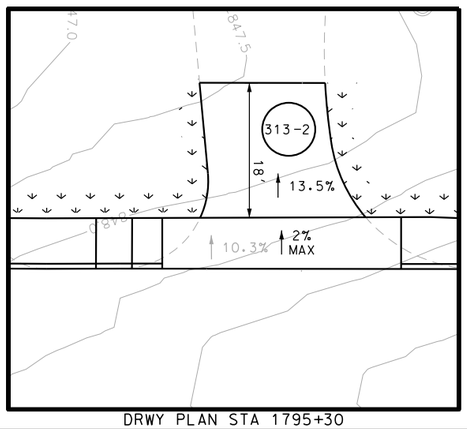
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111507*Bandera Dr*EB*56.dgn




DRWY PLAN STA 1794+75




DRWY PLAN STA 1795+30

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 5 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 139 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 87 |
| 0162-6002 | BLOCK SODDING | SY | 87 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.36 |
| 0529-6001 | CONC CURB (TY I) | LF | 21 |
| 0529-6002 | CONC CURB (TY II) | LF | 126 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 57 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 88 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 100 |
| 0531-6027 | CURB RAMPS (TY 10) | SY | 31 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 35601 | 13731103.08 | 2088937.55 | -- | ME |
| 35602 | 13731159.00 | 2088871.10 | -- | ME |
| 35603 | 13731203.91 | 2088816.36 | -- | ME |
| 35604 | 13731231.87 | 2088782.49 | -- | ME |
| 35605 | 13731245.00 | 2088766.40 | -- | ME |
| 35606 | 13731264.96 | 2088742.00 | -- | ME |

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DESIGN

INTERIM REVIEW
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

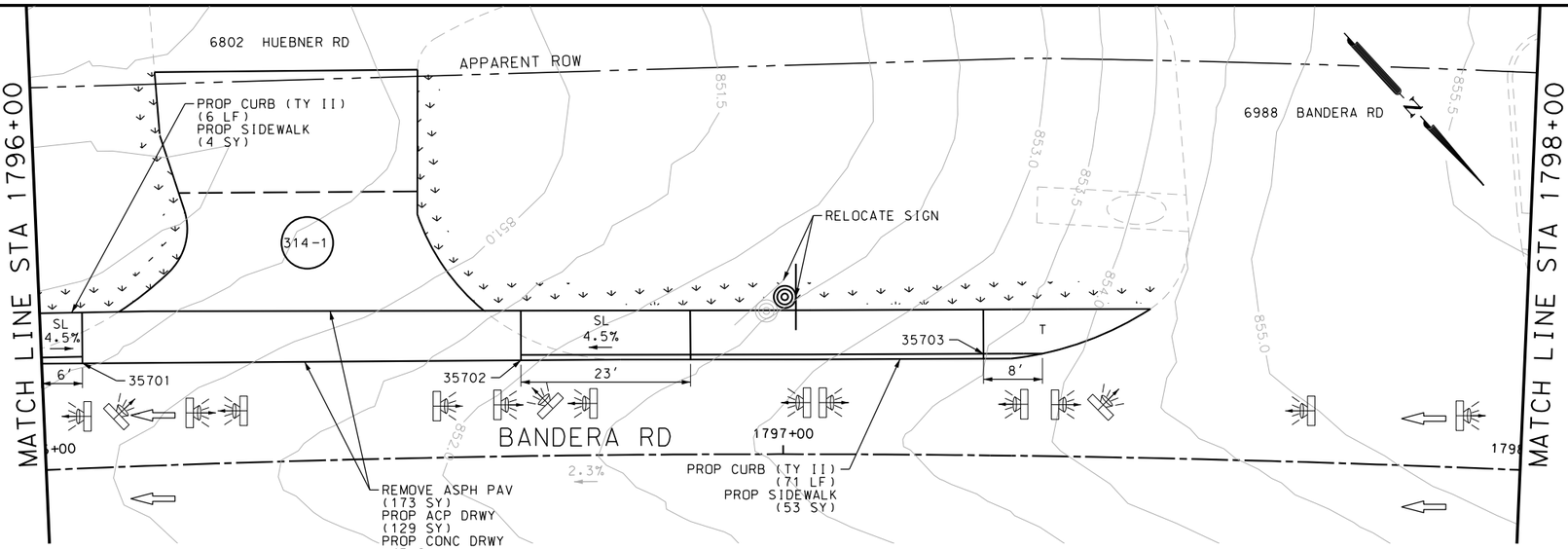
STA 1792+50 TO STA 1796+00

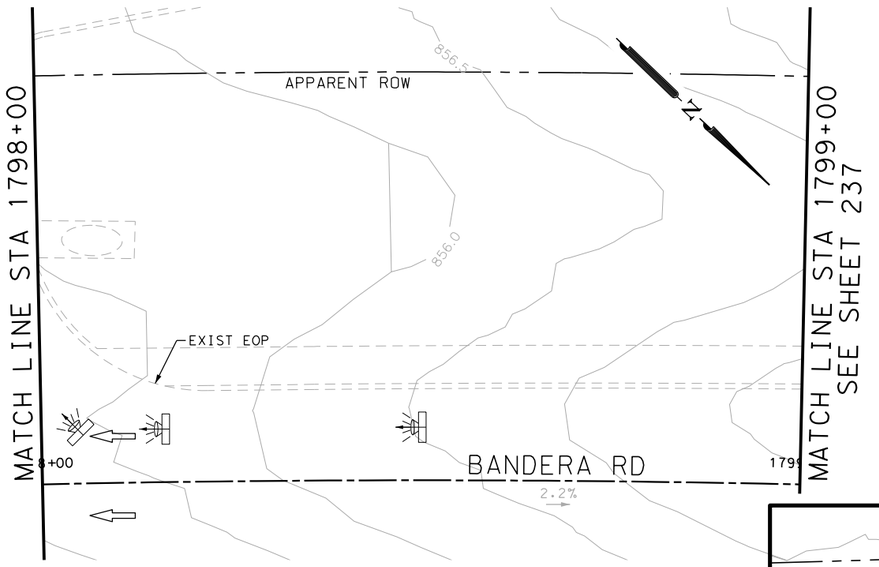
SHEET 20 OF 55

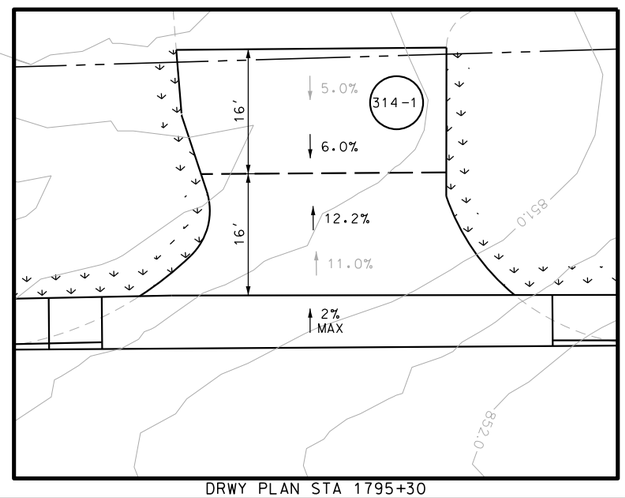
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 313 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*57.dgn




DRWY PLAN STA 1795+30

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 173 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 58 |
| 0162-6002 | BLOCK SODDING | SY | 58 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.90 |
| 0529-6002 | CONC CURB (TY II) | LF | 77 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 45 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 129 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 57 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 35701 | 13731304.04 | 2088697.41 | -- | ME |
| 35702 | 13731343.95 | 2088653.28 | -- | ME |
| 35703 | 13731385.68 | 2088606.45 | -- | ME |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

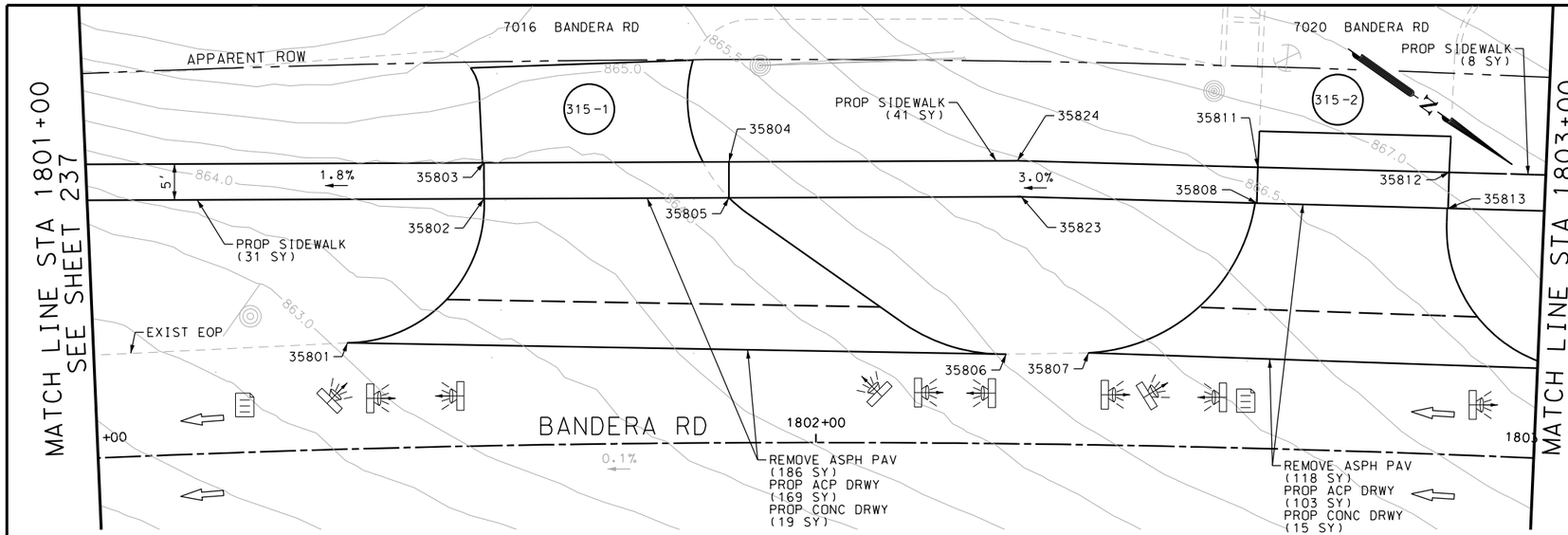
STA 1796+00 TO STA 1799+00

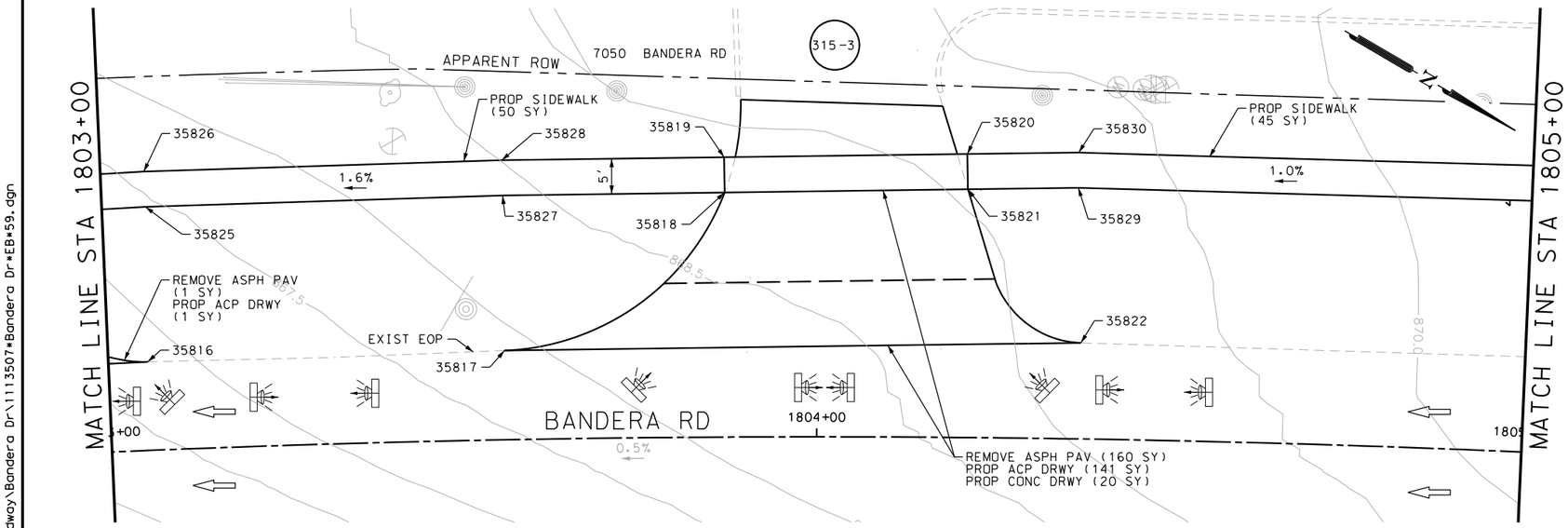
SHEET 21 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 314 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350 7*Bandera Dr*EB*58.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 465 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 278 |
| 0162-6002 | BLOCK SODDING | SY | 278 |
| 0168-6001 | VEGETATIVE WATERING | MG | 4.34 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 54 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 414 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 175 |

NOTES:
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DESIGN

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DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 35801 | 13731690.76 | 2088332.33 | -- | ME |
| 35802 | 13731694.75 | 2088304.96 | 863.83 | PROP |
| 35803 | 13731691.85 | 2088300.89 | 863.90 | PROP |
| 35804 | 13731719.64 | 2088281.13 | 864.47 | PROP |
| 35805 | 13731722.54 | 2088285.21 | 864.40 | PROP |
| 35806 | 13731766.62 | 2088280.77 | -- | ME |
| 35807 | 13731775.90 | 2088274.01 | -- | ME |
| 35808 | 13731783.06 | 2088243.45 | 866.66 | PROP |
| 35811 | 13731780.29 | 2088239.29 | 866.73 | PROP |
| 35812 | 13731802.48 | 2088224.52 | 867.22 | PROP |
| 35813 | 13731805.25 | 2088228.68 | 867.15 | PROP |
| 35816 | 13731832.94 | 2088236.64 | -- | ME |
| 35817 | 13731875.86 | 2088209.74 | -- | ME |
| 35818 | 13731891.52 | 2088174.66 | 868.81 | PROP |
| 35819 | 13731888.94 | 2088170.37 | 868.88 | PROP |
| 35820 | 13731918.52 | 2088152.57 | 869.11 | PROP |
| 35821 | 13731921.10 | 2088156.86 | 869.04 | PROP |
| 35822 | 13731945.93 | 2088167.57 | -- | ME |
| 35823 | 13731755.24 | 2088261.96 | 865.67 | PROP |
| 35824 | 13731752.41 | 2088257.84 | 865.74 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 35825 | 13731821.57 | 2088217.82 | 867.49 | PROP |
| 35826 | 13731818.86 | 2088213.62 | 867.56 | PROP |
| 35827 | 13731864.52 | 2088190.90 | 868.31 | PROP |
| 35828 | 13731861.90 | 2088186.64 | 868.38 | PROP |
| 35829 | 13731934.54 | 2088148.77 | 869.20 | PROP |
| 35830 | 13731932.05 | 2088144.43 | 869.27 | PROP |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

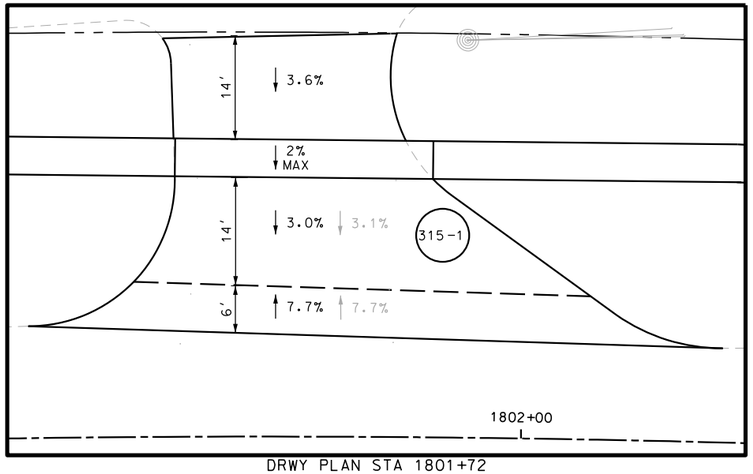
STA 1801+00 TO STA 1805+00

SHEET 22 OF 55

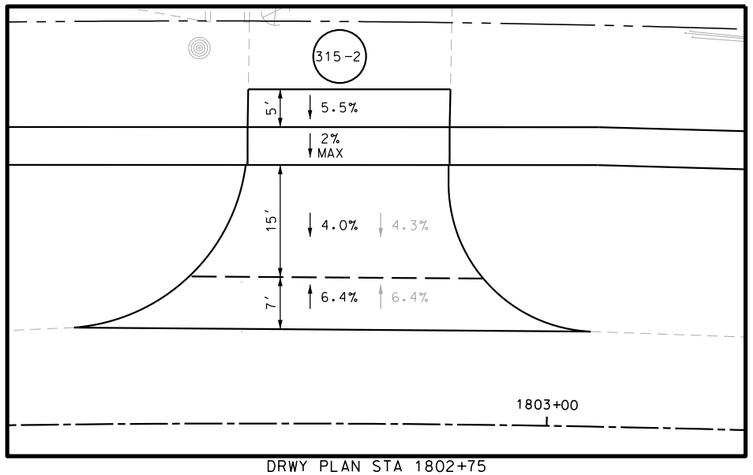
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 315 |

Plotted on: 4/2/2019

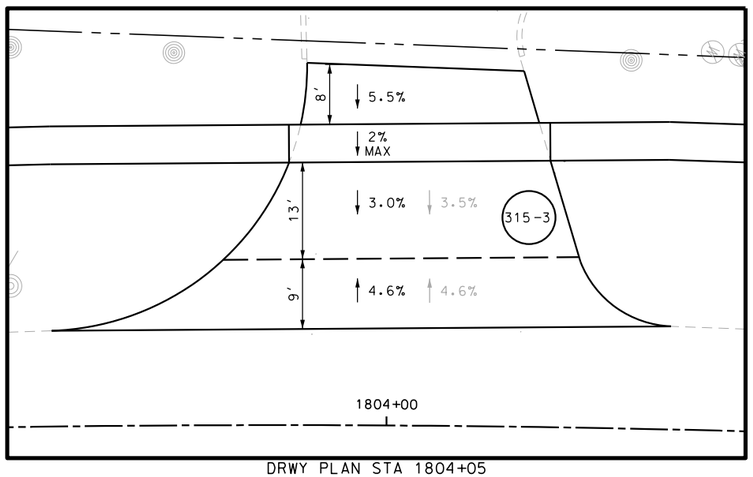
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*59.dgn




DRWY PLAN STA 1801+72




DRWY PLAN STA 1802+75




DRWY PLAN STA 1804+05

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

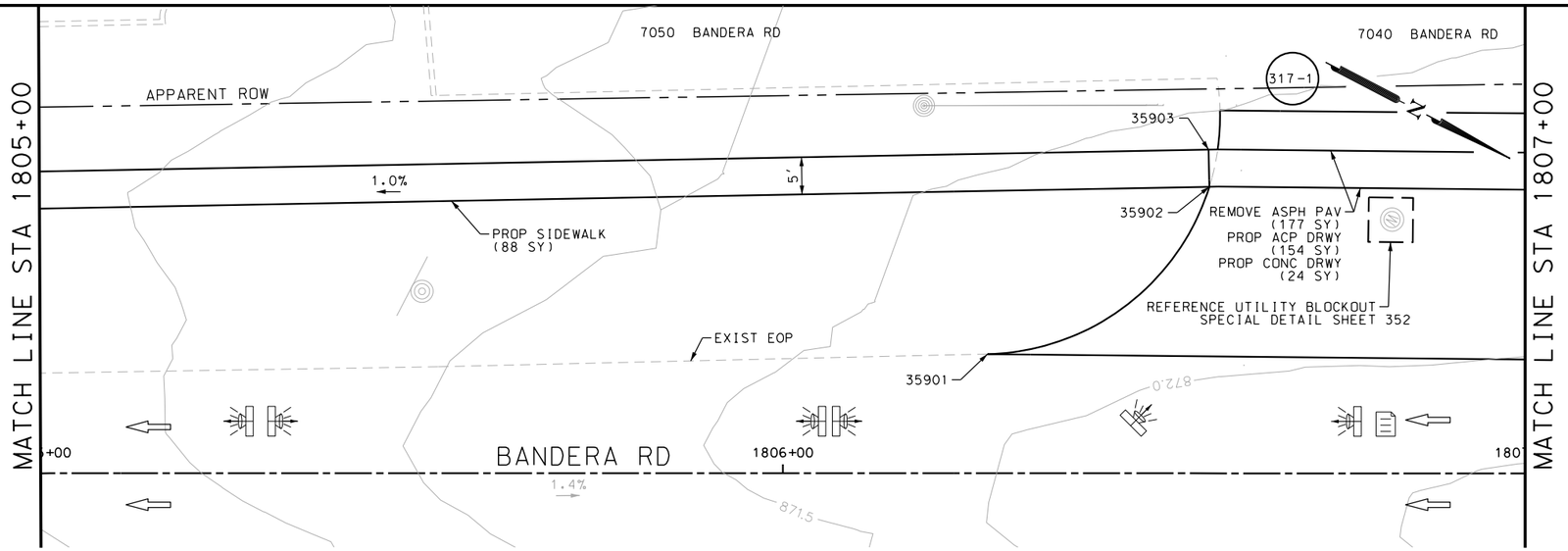
STA 1801+00 TO STA 1805+00

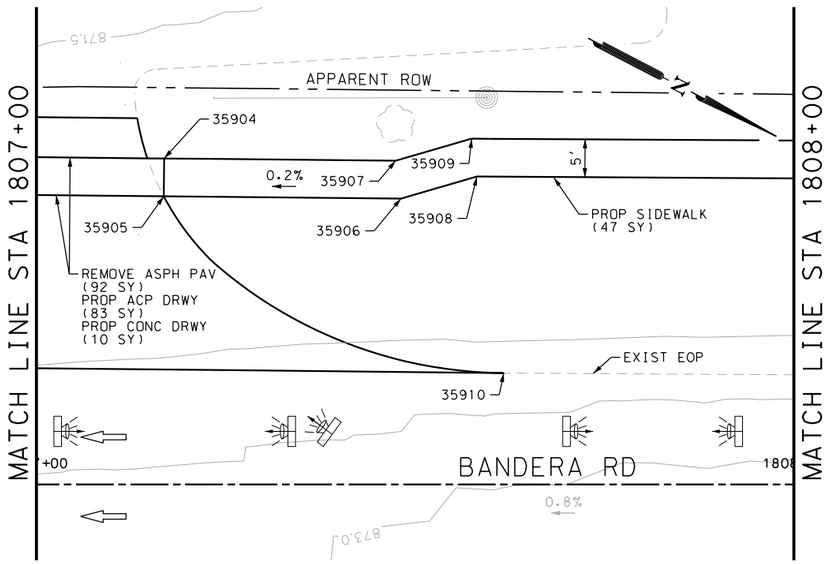
SHEET 23 OF 55

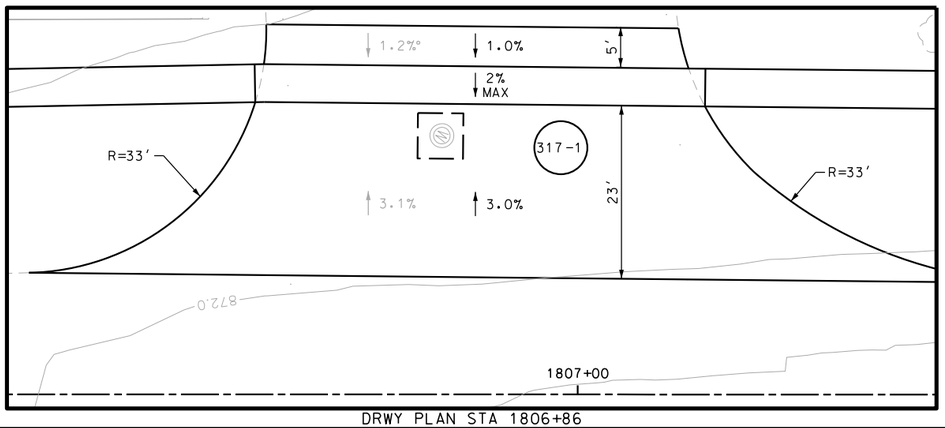
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 316 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*59A.dgn




DRWY PLAN STA 1806+86

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 269 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 190 |
| 0162-6002 | BLOCK SODDING | SY | 190 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.96 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 34 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 237 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 135 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 35901 | 13732113.35 | 2088076.20 | -- | ME |
| 35902 | 13732129.43 | 2088042.40 | 871.52 | PROP |
| 35903 | 13732127.03 | 2088038.01 | 871.59 | PROP |
| 35904 | 13732180.06 | 2088010.99 | 871.11 | PROP |
| 35905 | 13732182.33 | 2088015.45 | 871.04 | PROP |
| 35906 | 13732210.23 | 2088001.23 | 871.10 | PROP |
| 35907 | 13732207.31 | 2087997.10 | 871.17 | PROP |
| 35908 | 13732217.79 | 2087994.01 | 871.12 | PROP |
| 35909 | 13732214.86 | 2087989.89 | 871.19 | PROP |
| 35910 | 13732232.87 | 2088015.38 | -- | ME |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

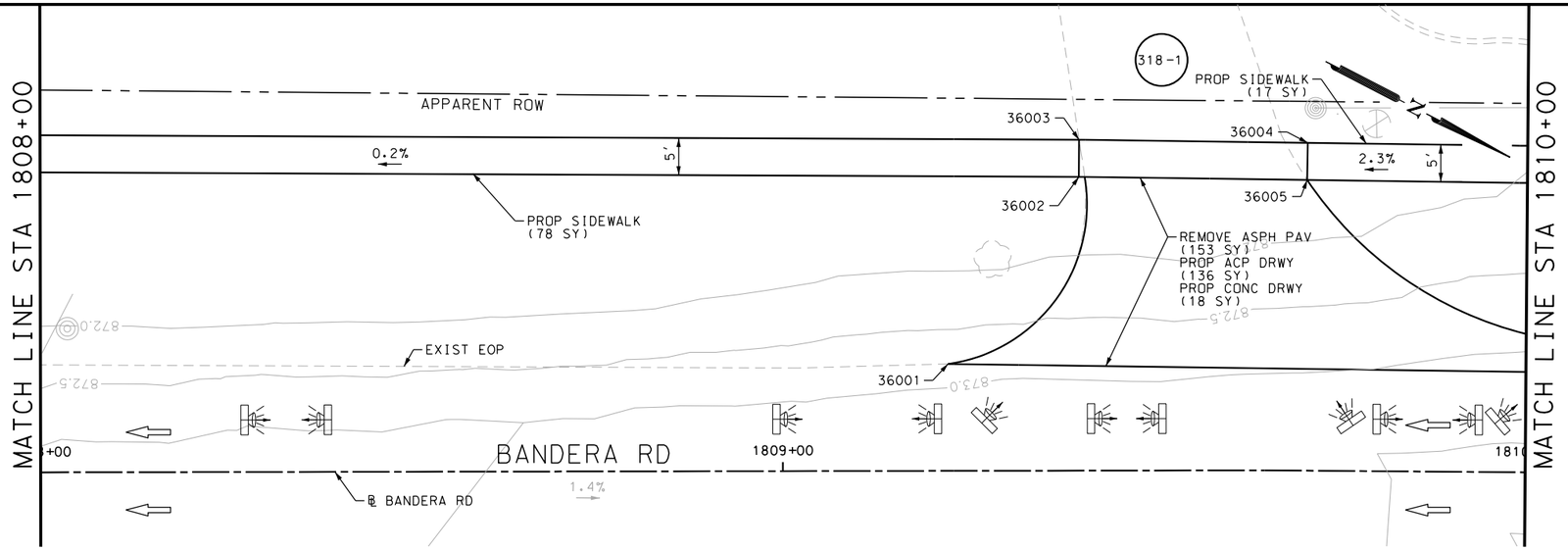
STA 1805+00 TO STA 1808+00

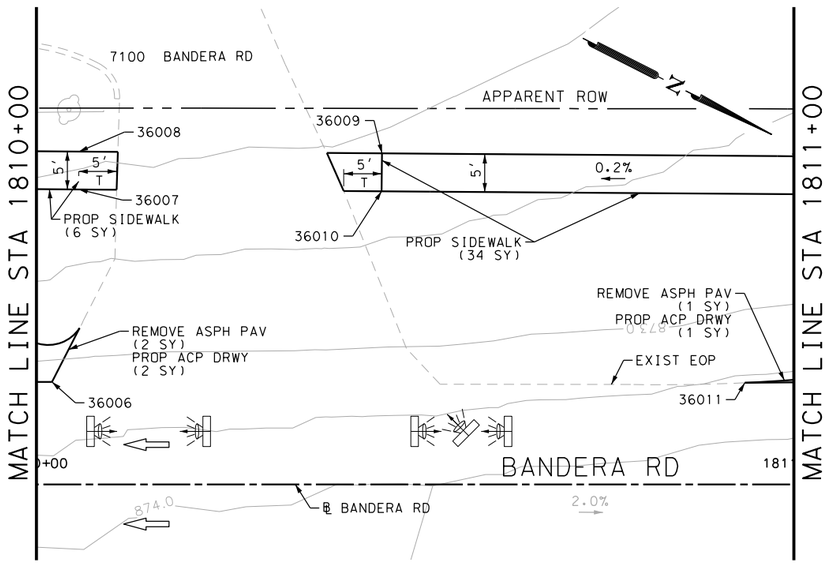
SHEET 24 OF 55

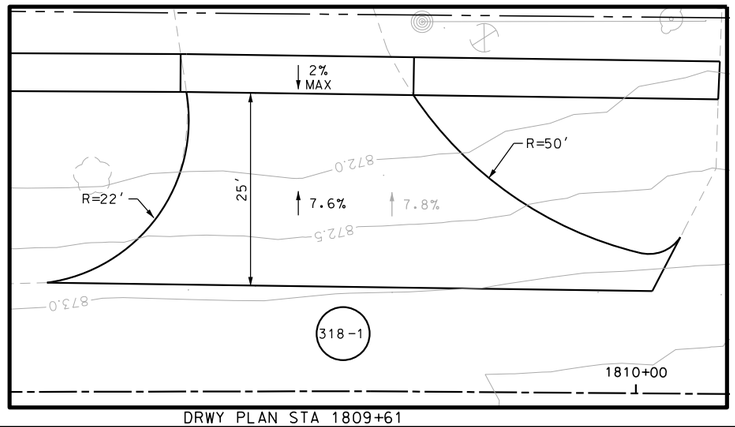
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 317 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*60.dgn




DRWY PLAN STA 1809+61

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 156 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 184 |
| 0162-6002 | BLOCK SODDING | SY | 184 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.87 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 18 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 139 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 135 |

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DESIGN

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DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 36001 | 13732375.43 | 2087941.37 | -- | ME |
| 36002 | 13732379.46 | 2087910.90 | 871.55 | PROP |
| 36003 | 13732377.18 | 2087906.45 | -- | ME |
| 36004 | 13732404.71 | 2087892.62 | -- | ME |
| 36005 | 13732406.95 | 2087897.09 | 871.65 | PROP |
| 36006 | 13732446.86 | 2087905.51 | -- | ME |
| 36007 | 13732438.44 | 2087881.27 | 872.45 | PROP |
| 36008 | 13732436.20 | 2087876.81 | 872.52 | PROP |
| 36009 | 13732471.96 | 2087858.86 | 872.52 | PROP |
| 36010 | 13732474.20 | 2087863.33 | 872.45 | PROP |
| 36011 | 13732528.41 | 2087864.09 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

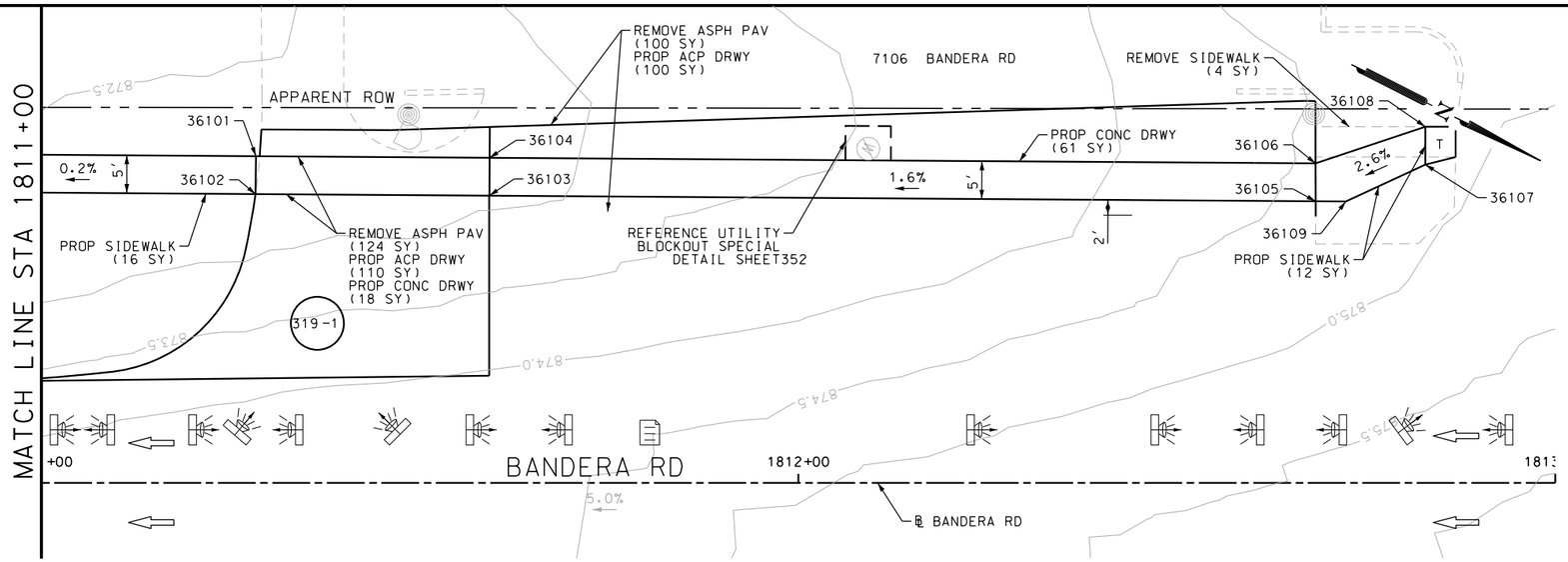
STA 1808+00 TO STA 1811+00

SHEET 25 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 318 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507+Bandera Dr*EB*61.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 4 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 224 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 45 |
| 0162-6002 | BLOCK SODDING | SY | 45 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.70 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 79 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 210 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 28 |

NOTES:
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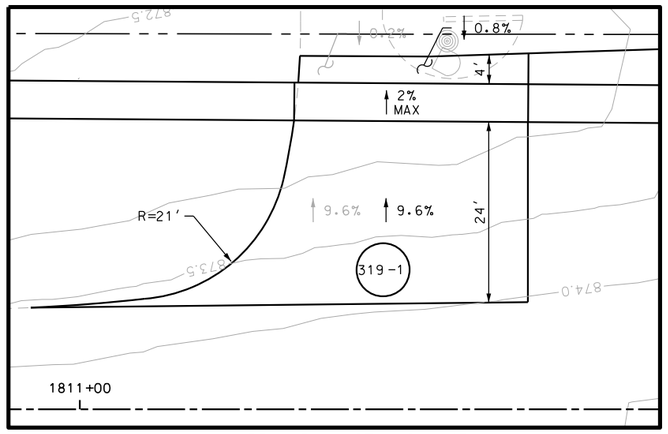
DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'




DRWY PLAN STA 1811+45

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 36101 | 13732545.91 | 2087821.81 | 872.73 | PROP |
| 36102 | 13732548.15 | 2087826.29 | 872.66 | PROP |
| 36103 | 13732575.77 | 2087812.45 | 872.83 | PROP |
| 36104 | 13732573.53 | 2087807.98 | 872.90 | PROP |
| 36105 | 13732673.38 | 2087763.56 | 874.56 | PROP |
| 36106 | 13732671.10 | 2087759.11 | 874.63 | PROP |
| 36107 | 13732684.09 | 2087752.66 | 874.96 | PROP |
| 36108 | 13732681.82 | 2087748.21 | 875.03 | PROP |
| 36109 | 13732676.95 | 2087761.77 | 874.63 | PROP |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

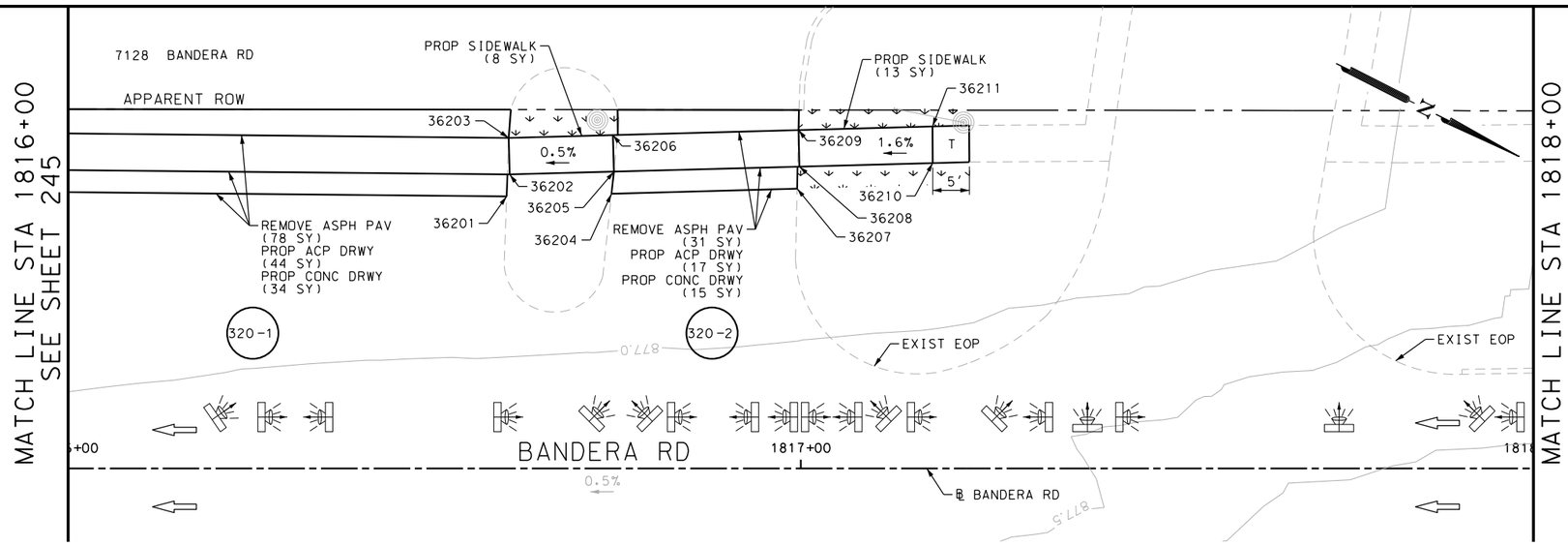
STA 1811+00 TO STA 1813+00

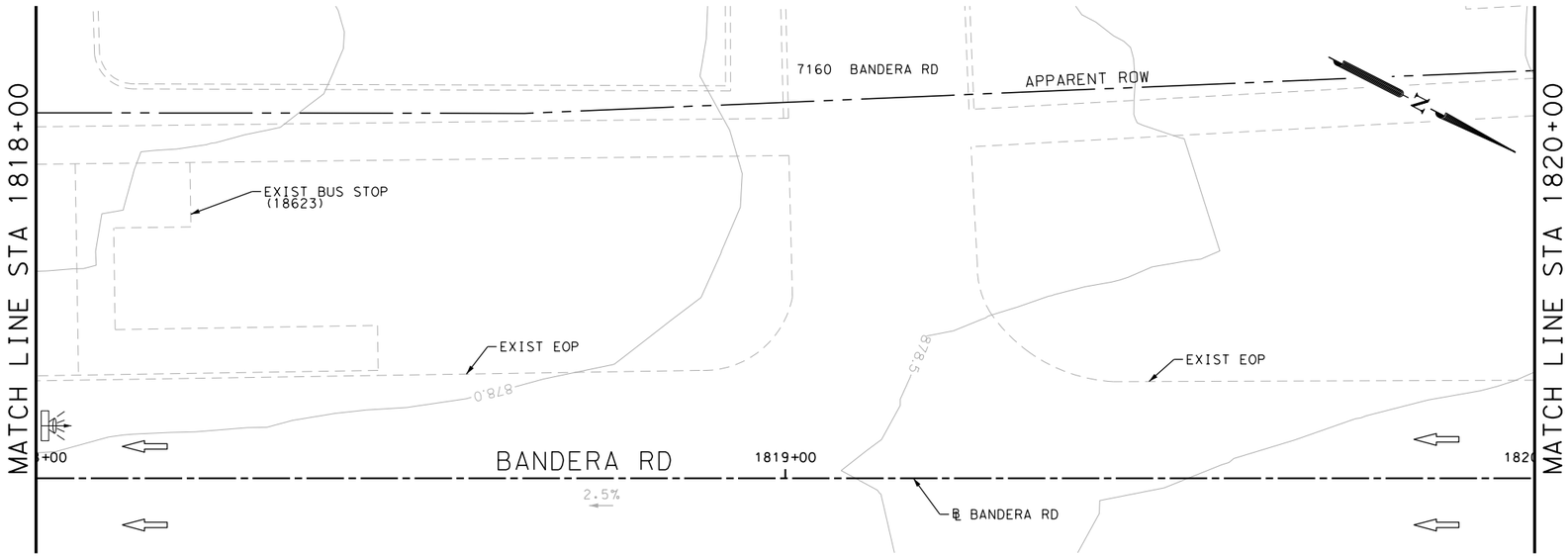
SHEET 26 OF 55

| DGNs | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGNs | 6 | TEXAS | | | | VARIES |
| DWGs | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWGs | SAT | BEXAR | 0915 | 12 | 576 | 319 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*62.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 109 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 19 |
| 0162-6002 | BLOCK SODDING | SY | 19 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.30 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 49 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 61 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 21 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 36201 | 13733022.25 | 2087585.91 | -- | ME |
| 36202 | 13733021.27 | 2087583.05 | 876.41 | PROP |
| 36203 | 13733018.88 | 2087578.65 | 876.48 | PROP |
| 36204 | 13733034.84 | 2087579.07 | -- | ME |
| 36205 | 13733033.76 | 2087576.25 | 876.48 | PROP |
| 36206 | 13733031.37 | 2087571.85 | 876.55 | PROP |
| 36207 | 13733057.10 | 2087566.96 | -- | ME |
| 36208 | 13733056.02 | 2087564.14 | 876.66 | PROP |
| 36209 | 13733053.63 | 2087559.74 | 876.73 | PROP |
| 36210 | 13733072.00 | 2087555.45 | 877.03 | PROP |
| 36211 | 13733069.70 | 2087551.00 | 877.10 | PROP |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

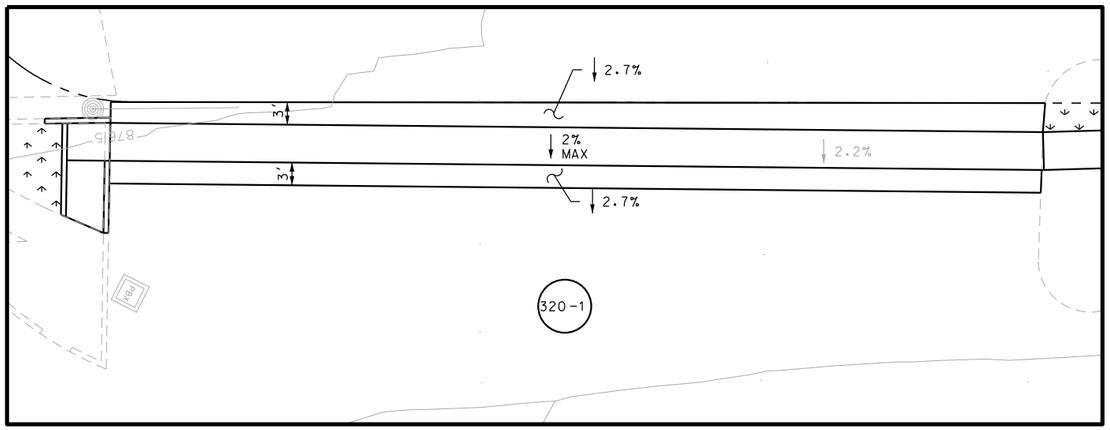
STA 1816+00 TO STA 1820+00

SHEET 27 OF 55

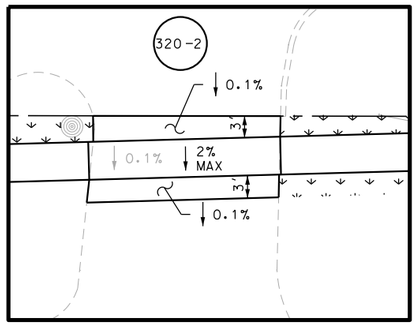
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 320 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*63.dgn




DRWY PLAN STA 1816+00




DRWY PLAN STA 1816+86

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

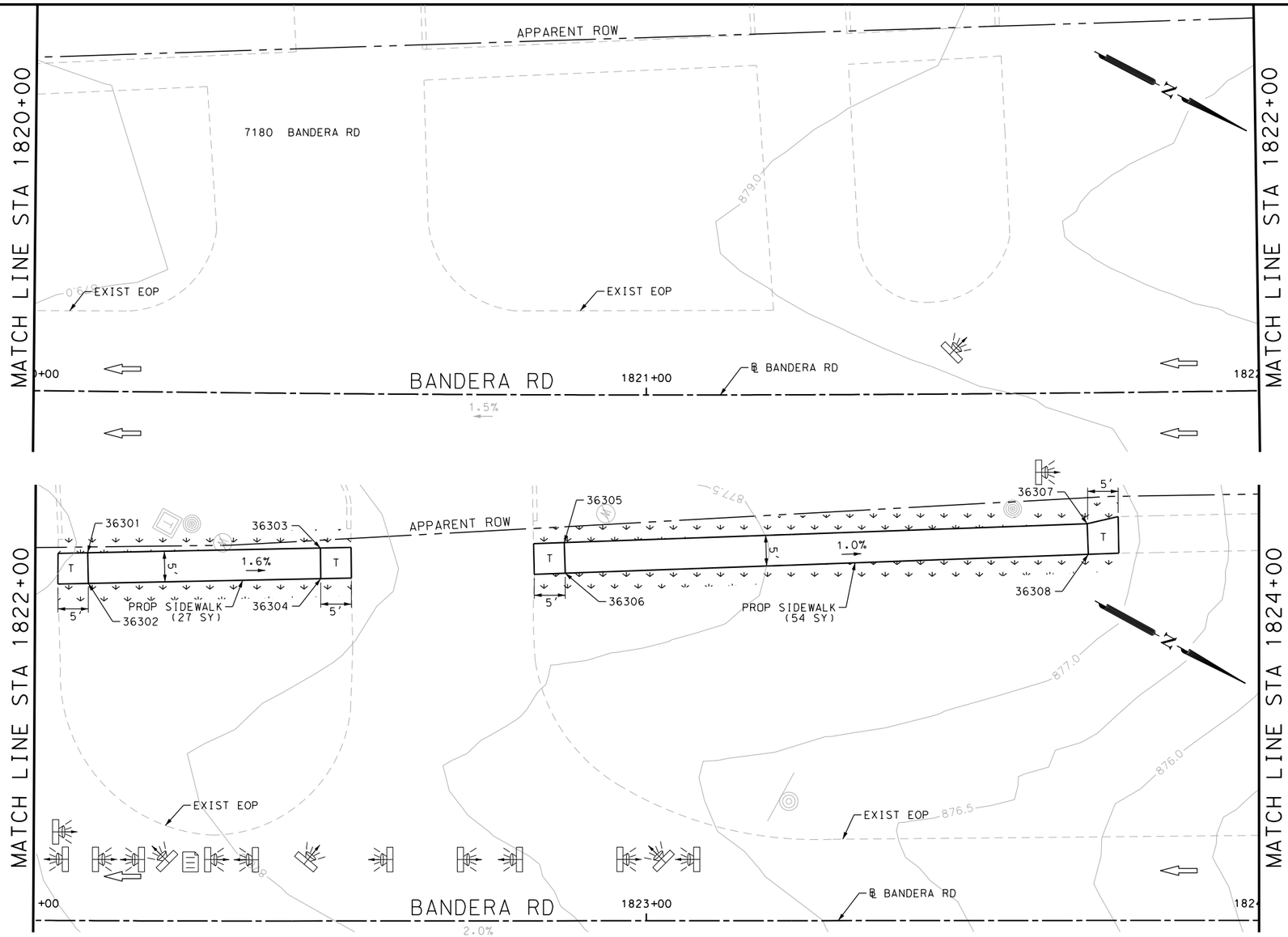
STA 1816+00 TO STA 1820+00

SHEET 28 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 321 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111507*Bandera Dr*EB*63*A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 89 |
| 0162-6002 | BLOCK SODDING | SY | 89 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.39 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 81 |

NOTES:
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INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 36301 | 13733498.36 | 2087315.10 | 878.75 | PROP |
| 36302 | 13733500.85 | 2087319.43 | 878.68 | PROP |
| 36303 | 13733531.28 | 2087296.16 | 878.15 | PROP |
| 36304 | 13733533.74 | 2087300.52 | 878.08 | PROP |
| 36305 | 13733565.74 | 2087276.26 | 878.00 | PROP |
| 36306 | 13733568.30 | 2087280.55 | 877.93 | PROP |
| 36307 | 13733639.08 | 2087232.53 | 877.15 | PROP |
| 36308 | 13733641.64 | 2087236.82 | 877.08 | PROP |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

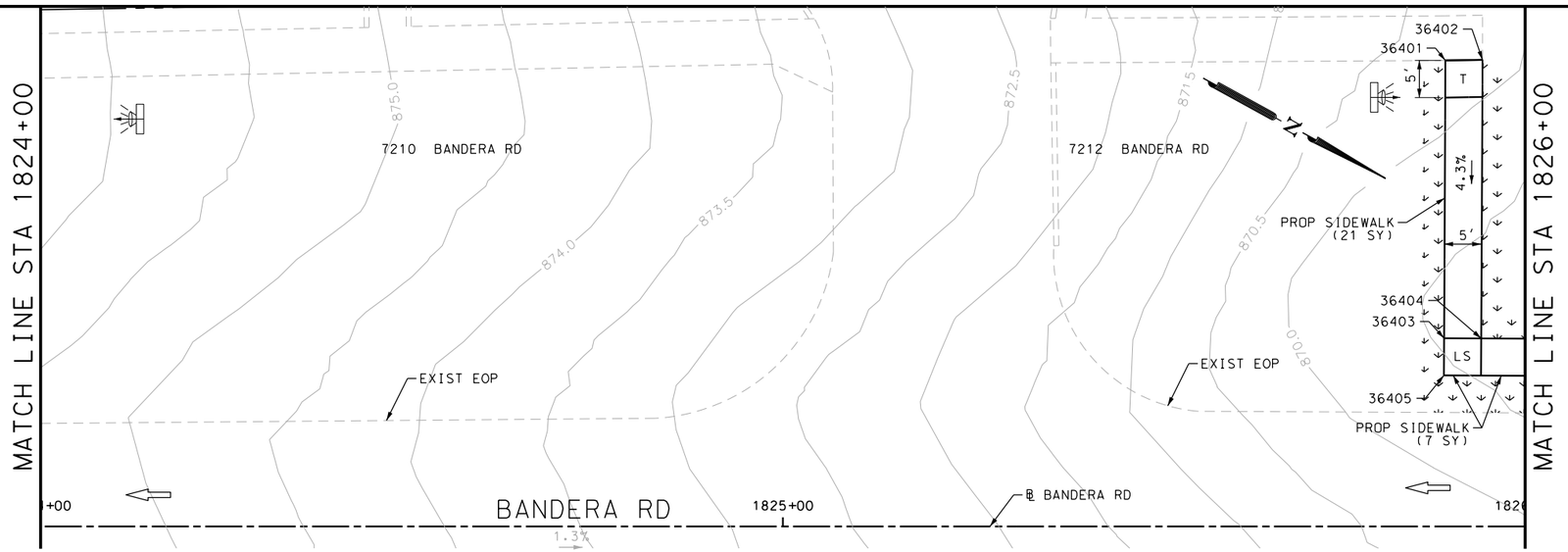
STA 1820+00 TO STA 1824+00

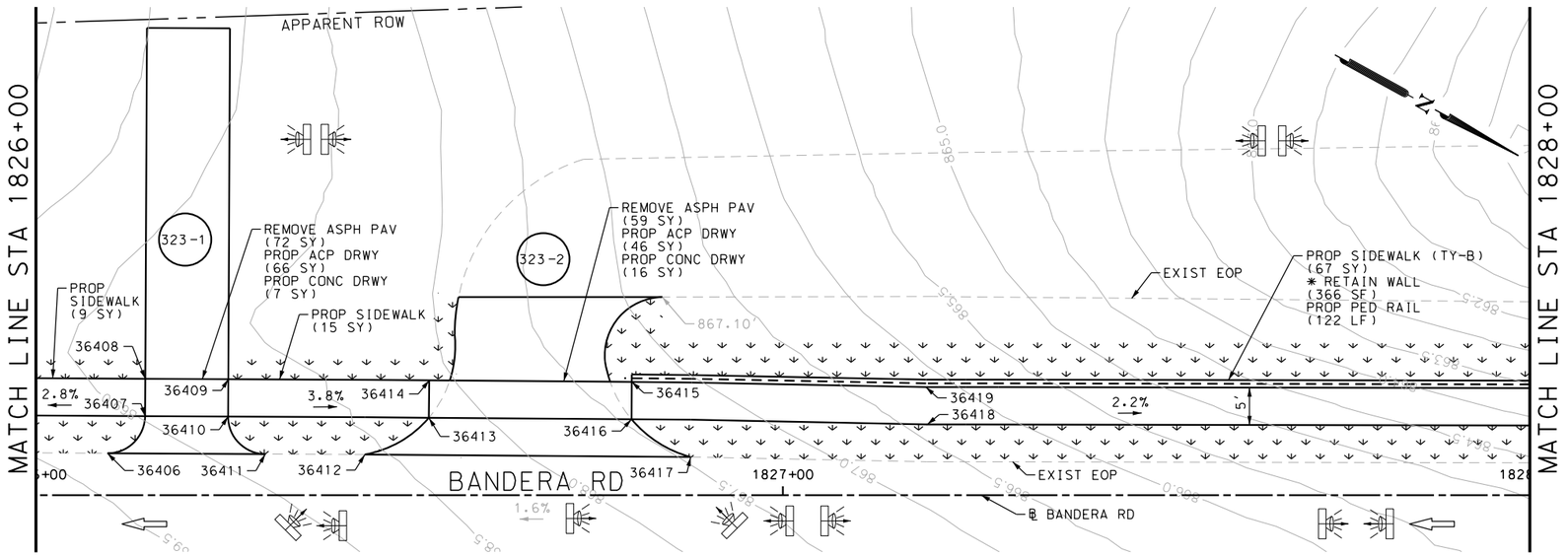
SHEET 29 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 322 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507+Bandera Dr+EB+64.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 131 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 211 |
| 0162-6002 | BLOCK SODDING | SY | 211 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.29 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 122 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 23 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 112 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 52 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 67 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 36401 | 13733830.48 | 2087129.67 | -- | ME |
| 36402 | 13733834.83 | 2087127.20 | -- | ME |
| 36403 | 13733848.32 | 2087162.53 | 869.50 | PROP |
| 36404 | 13733852.72 | 2087160.15 | 869.43 | PROP |
| 36405 | 13733850.71 | 2087166.93 | 869.50 | PROP |
| 36406 | 13733871.16 | 2087161.52 | -- | ME |
| 36407 | 13733873.17 | 2087154.74 | 868.78 | PROP |
| 36408 | 13733870.78 | 2087150.34 | 868.85 | PROP |
| 36409 | 13733880.56 | 2087145.04 | 868.75 | PROP |
| 36410 | 13733882.94 | 2087149.43 | 868.68 | PROP |
| 36411 | 13733889.72 | 2087151.44 | -- | ME |
| 36412 | 13733901.44 | 2087145.08 | -- | ME |
| 36413 | 13733906.58 | 2087136.63 | 867.67 | PROP |
| 36414 | 13733904.21 | 2087132.22 | 867.74 | PROP |
| 36415 | 13733928.09 | 2087119.35 | 867.10 | PROP |
| 36416 | 13733930.46 | 2087123.75 | 867.03 | PROP |
| 36417 | 13733939.83 | 2087124.38 | -- | ME |
| 36418 | 13733965.49 | 2087105.29 | 866.23 | PROP |
| 36419 | 13733962.93 | 2087100.98 | 866.30 | PROP |

PAPE-DAWSON ENGINEERS
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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

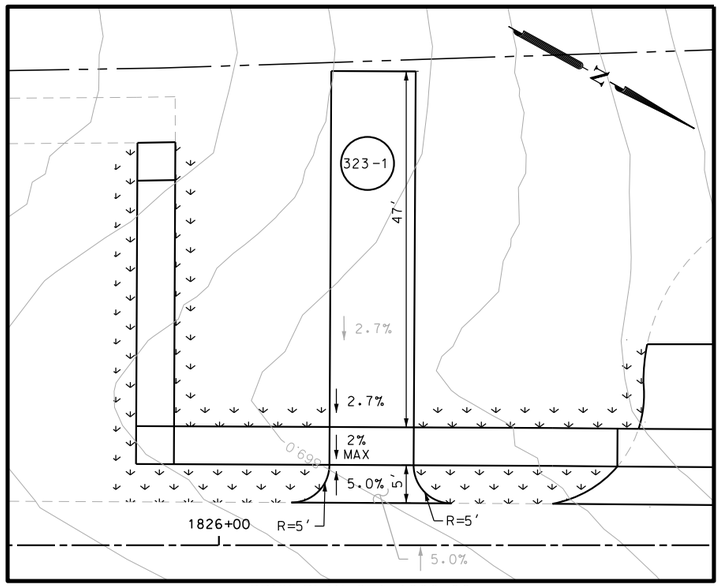
# SIDEWALK CONSTRUCTION PLAN

STA 1824+00 TO STA 1828+00

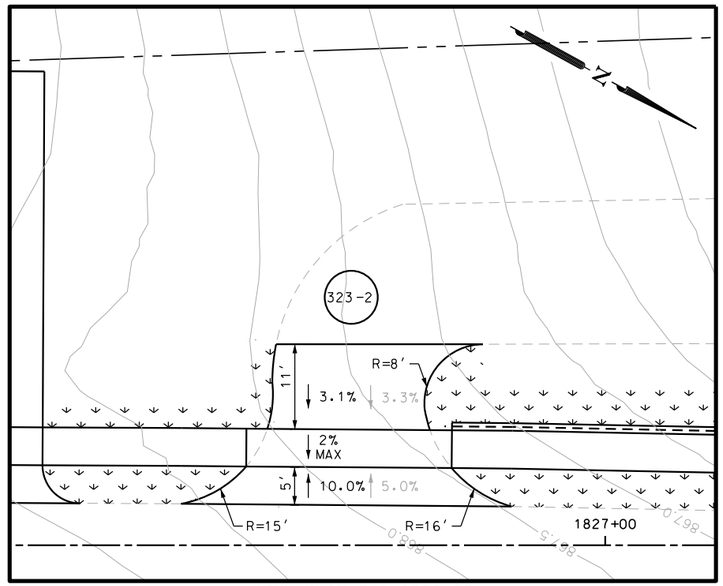
SHEET 30 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 323 |

Plotted on: 4/2/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*65.dgn




DRWY PLAN STA 1826+20




DRWY PLAN STA 1826+66

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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

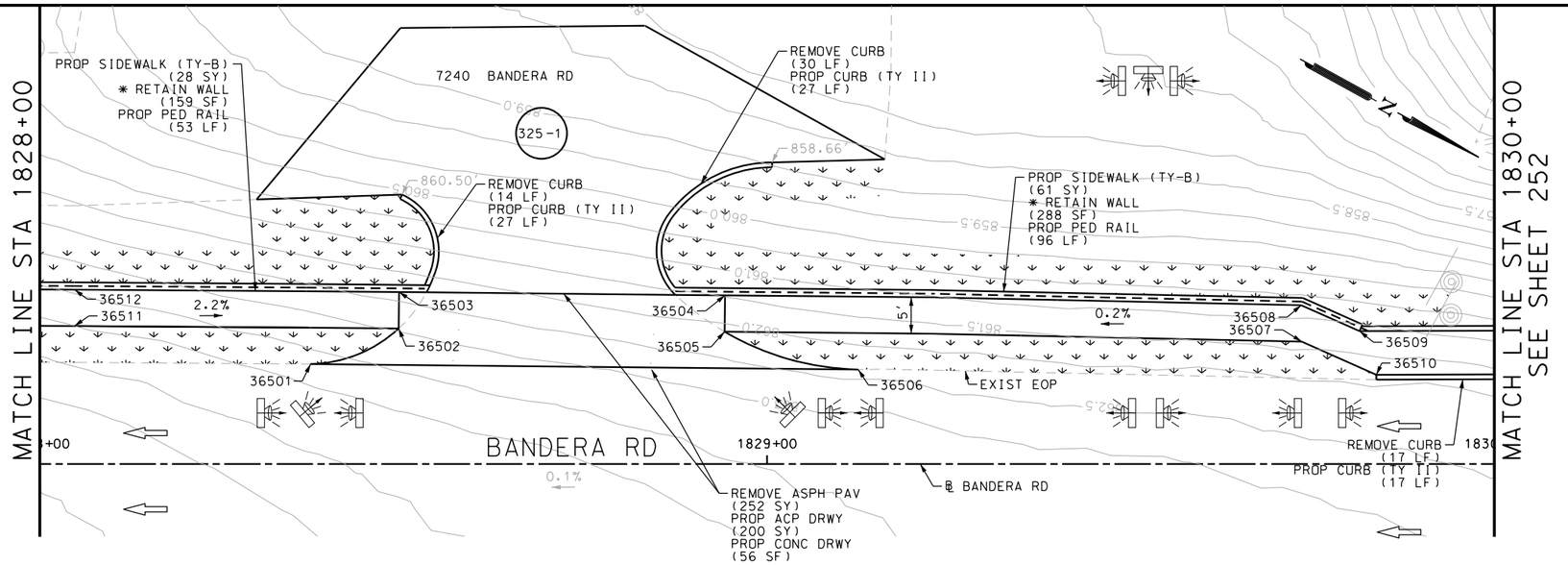
STA 1824+00 TO STA 1828+00

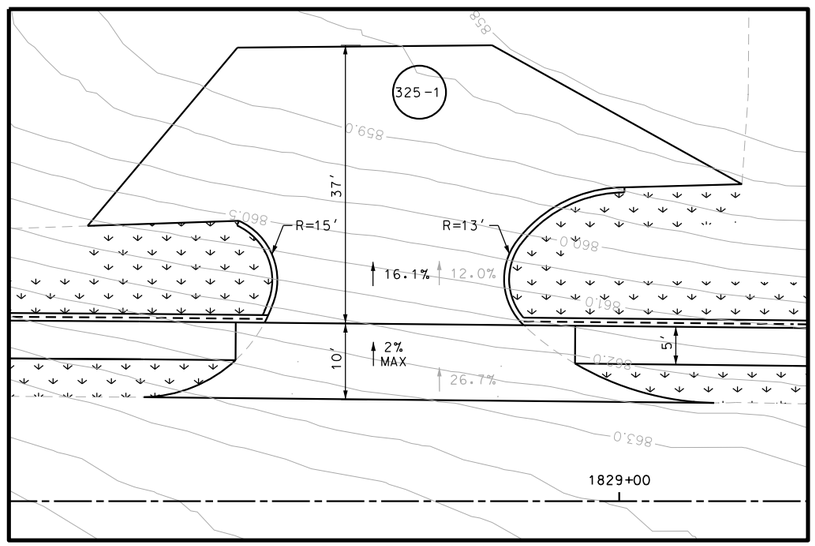
SHEET 31 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 324 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*65*A.dgn




DRWY PLAN STA 1828+72

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 61 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 252 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 199 |
| 0162-6002 | BLOCK SODDING | SY | 199 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.10 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 149 |
| 0529-6002 | CONC CURB (TY II) | LF | 71 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 56 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 200 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 89 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 36501 | 13734071.42 | 2087053.24 | -- | ME |
| 36502 | 13734079.70 | 2087043.13 | 863.50 | PROP |
| 36503 | 13734077.32 | 2087038.73 | 864.43 | PROP |
| 36504 | 13734116.82 | 2087017.54 | 862.61 | PROP |
| 36505 | 13734119.18 | 2087021.95 | 862.68 | PROP |
| 36506 | 13734137.77 | 2087017.65 | -- | ME |
| 36507 | 13734189.40 | 2086984.93 | 862.50 | PROP |
| 36508 | 13734186.90 | 2086980.59 | 862.43 | PROP |
| 36509 | 13734195.66 | 2086979.84 | 862.41 | PROP |
| 36510 | 13734200.56 | 2086983.99 | -- | ME |
| 36511 | 13734040.45 | 2087064.29 | 864.35 | PROP |
| 36512 | 13734038.06 | 2087059.90 | 864.42 | PROP |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

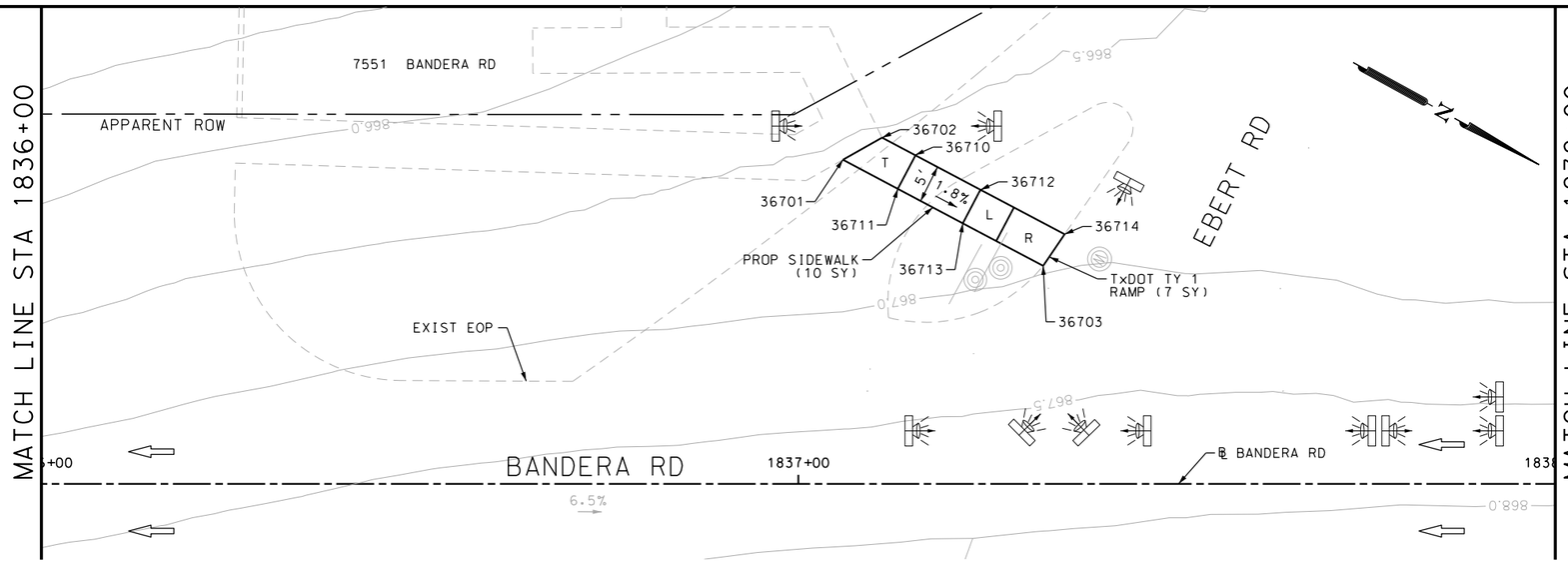
STA 1828+00 TO STA 1830+00

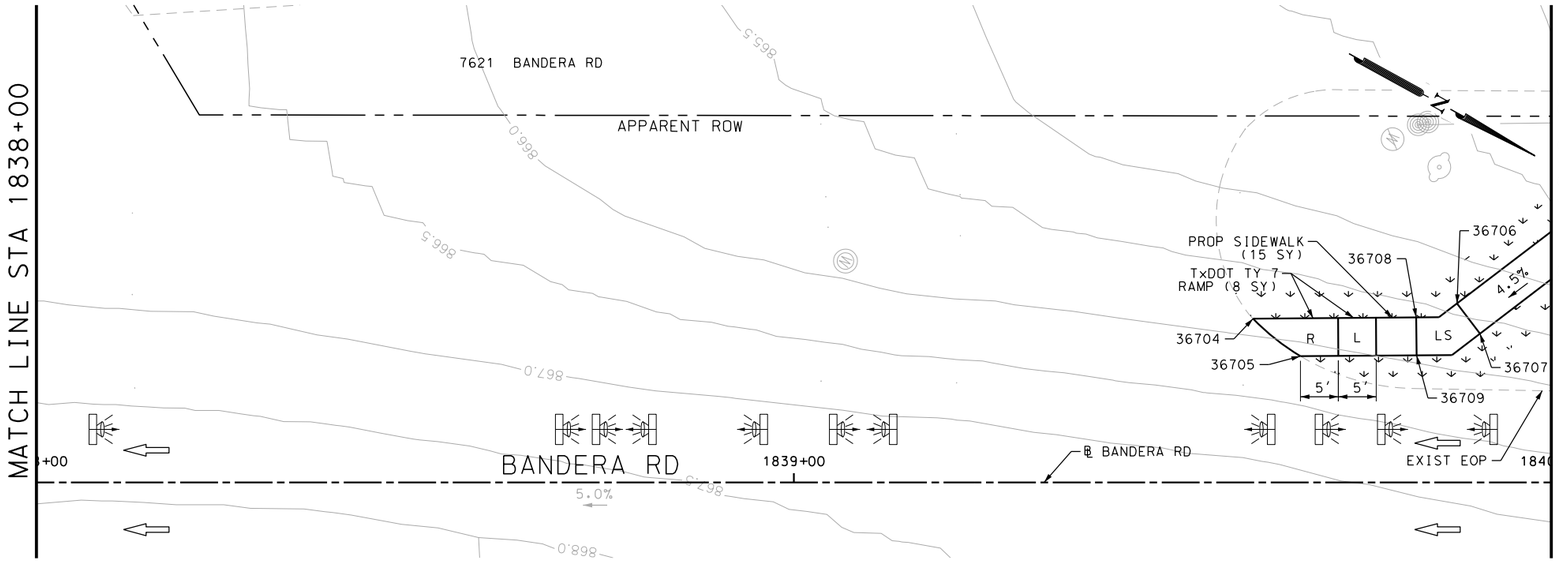
SHEET 32 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 325 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*66.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 36 |
| 0162-6002 | BLOCK SODDING | SY | 36 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.56 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 25 |
| 0531-6018 | CURB RAMPS (TY 1) | SY | 7 |
| 0531-6024 | CURB RAMPS (TY 7) | SY | 8 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 36701 | 13734818.81 | 2086609.58 | -- | ME |
| 36702 | 13734821.93 | 2086604.53 | -- | ME |
| 36703 | 13734848.72 | 2086609.13 | -- | ME |
| 36704 | 13735052.27 | 2086505.52 | -- | ME |
| 36705 | 13735060.14 | 2086506.84 | -- | ME |
| 36706 | 13735074.91 | 2086490.78 | 864.91 | PROP |
| 36707 | 13735079.48 | 2086492.81 | 864.98 | PROP |
| 36708 | 13735071.07 | 2086494.99 | 864.89 | PROP |
| 36709 | 13735073.52 | 2086499.35 | 864.96 | PROP |
| 36710 | 13734826.93 | 2086604.46 | 866.61 | PROP |
| 36711 | 13734827.00 | 2086609.45 | 866.68 | PROP |
| 36712 | 13734836.65 | 2086604.31 | 866.44 | PROP |
| 36713 | 13734836.72 | 2086609.31 | 866.37 | PROP |
| 36714 | 13734849.21 | 2086604.12 | -- | ME |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

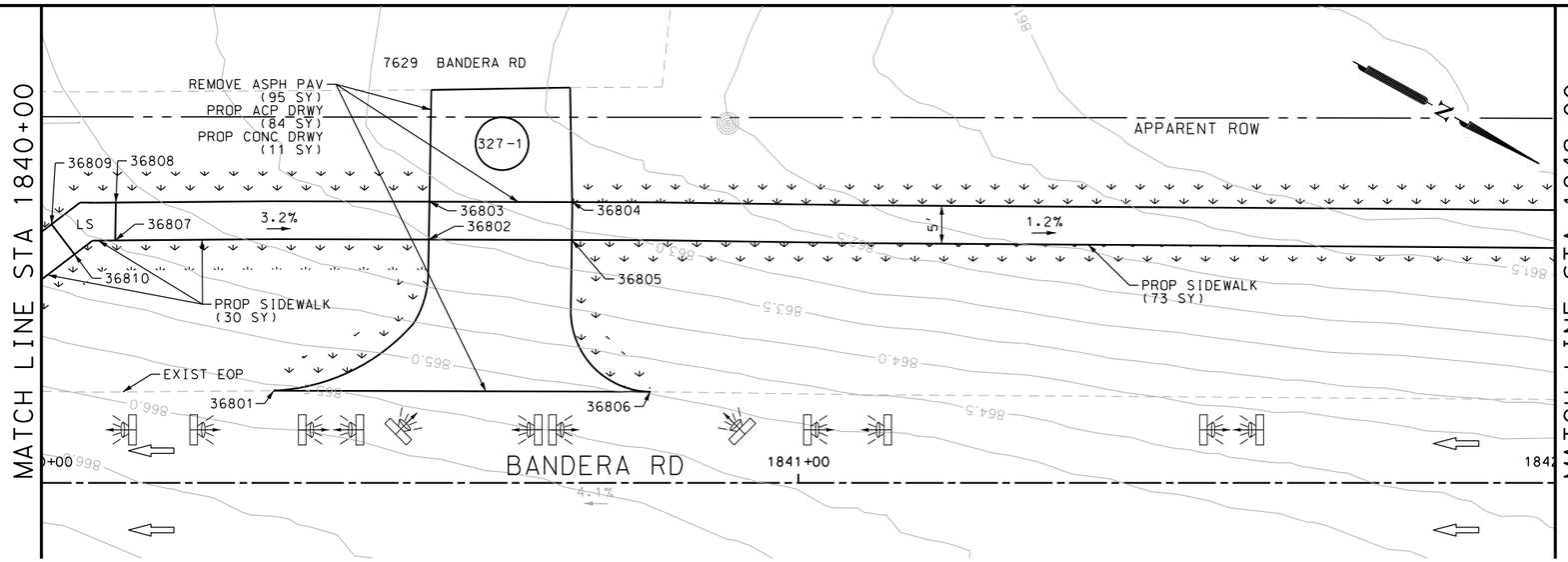
STA 1836+00 TO STA 1840+00

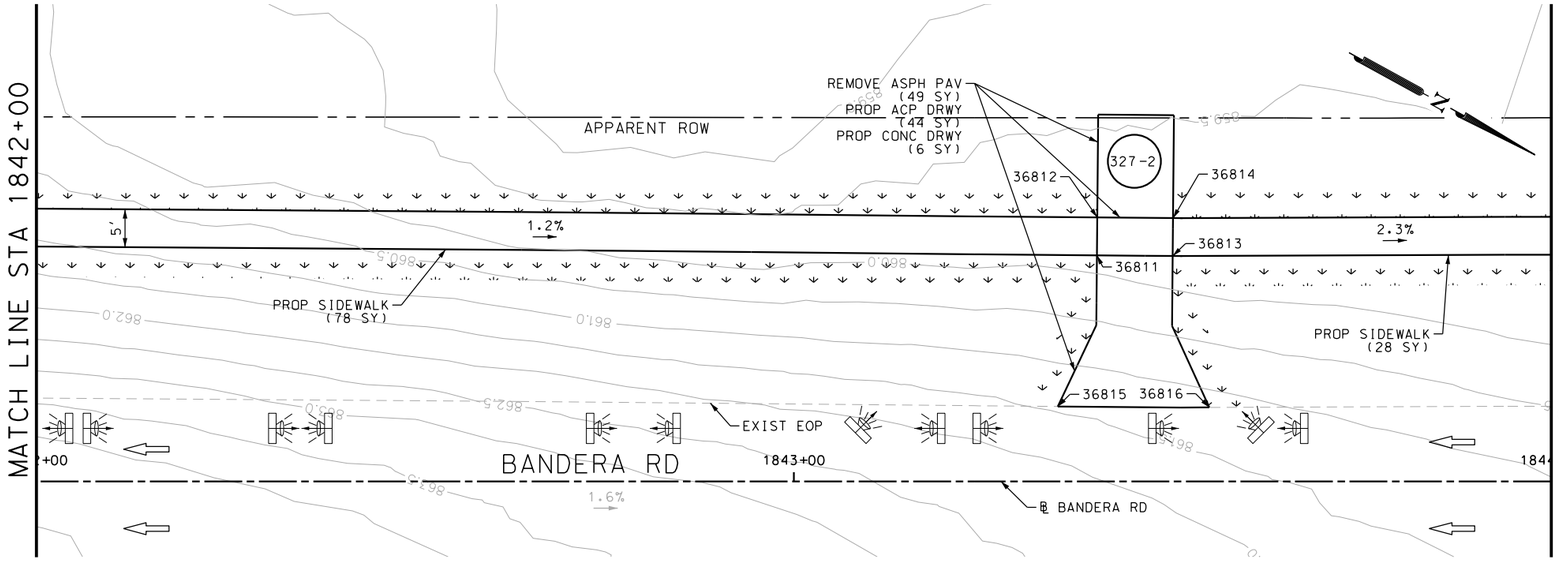
SHEET 33 OF 55

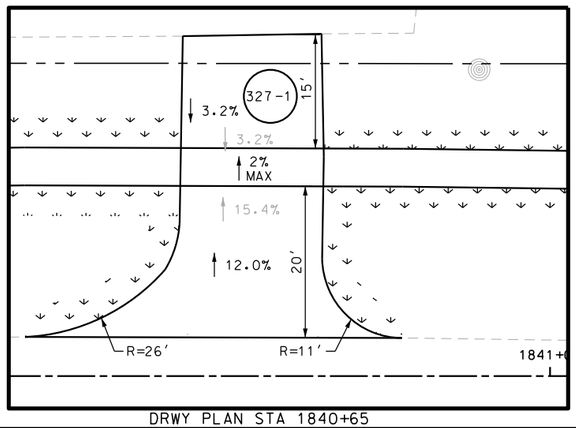
| DGNs | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGNs | 6 | TEXAS | | | | VARIES |
| DWGs | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWGs | SAT | BEXAR | 0915 | 12 | 576 | 326 |

Plotted on: 4/2/2019

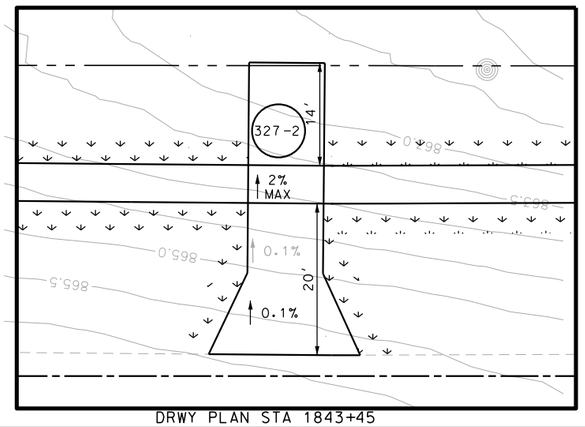
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*68.dgn




DRWY PLAN STA 1840+65




DRWY PLAN STA 1843+45

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 144 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 337 |
| 0162-6002 | BLOCK SODDING | SY | 337 |
| 0168-6001 | VEGETATIVE WATERING | MG | 5.26 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 17 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 128 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 209 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 36801 | 13735118.23 | 2086480.06 | -- | ME |
| 36802 | 13735126.59 | 2086452.71 | 862.79 | PROP |
| 36803 | 13735124.26 | 2086448.29 | 862.72 | PROP |
| 36804 | 13735140.81 | 2086439.26 | 862.29 | PROP |
| 36805 | 13735143.18 | 2086443.67 | 862.36 | PROP |
| 36806 | 13735161.88 | 2086456.25 | -- | ME |
| 36807 | 13735090.33 | 2086472.75 | 864.16 | PROP |
| 36808 | 13735087.99 | 2086468.33 | 864.09 | PROP |
| 36809 | 13735081.92 | 2086474.94 | 864.18 | PROP |
| 36810 | 13735086.50 | 2086476.96 | 864.25 | PROP |
| 36811 | 13735380.84 | 2086315.65 | 859.24 | PROP |
| 36812 | 13735378.47 | 2086311.24 | 859.17 | PROP |
| 36813 | 13735389.64 | 2086310.91 | 859.28 | PROP |
| 36814 | 13735387.27 | 2086306.50 | 859.21 | PROP |
| 36815 | 13735385.92 | 2086335.63 | -- | ME |
| 36816 | 13735403.50 | 2086326.11 | -- | ME |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

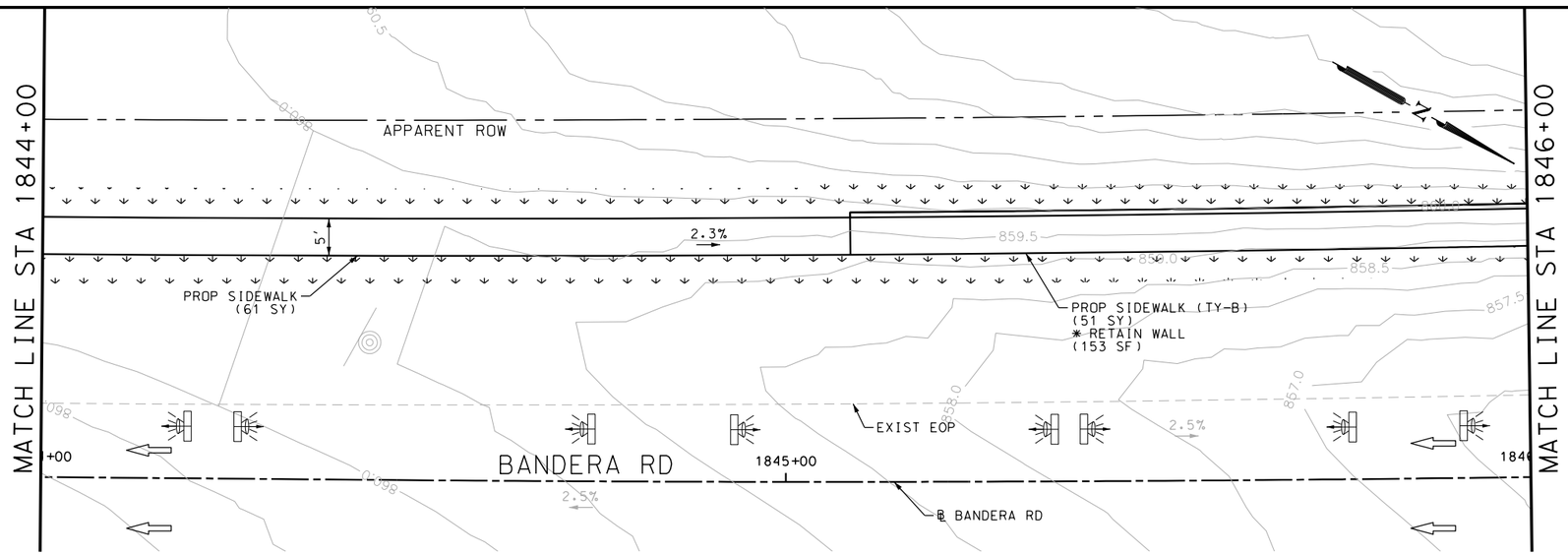
STA 1840+00 TO STA 1844+00

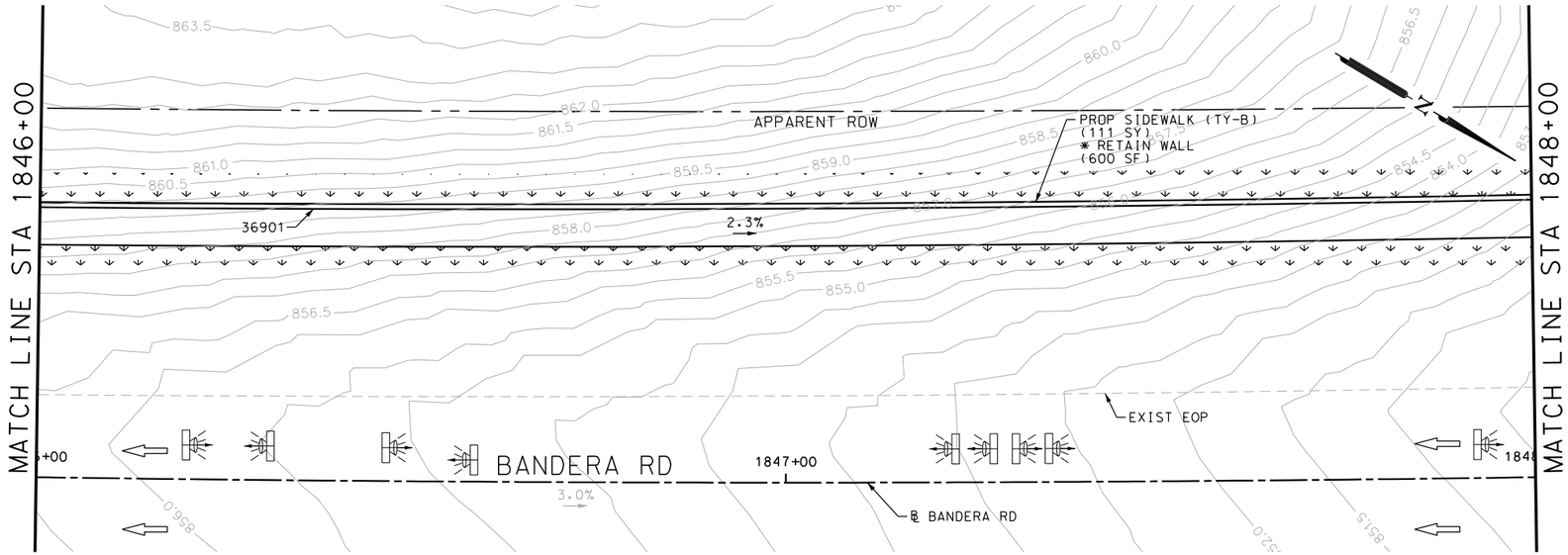
SHEET 34 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 327 |

Plotted on: 4/2/2019

Design Filename: P:\111350\7\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*69.dgn




| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 36901 | 13735635.62 | 2086165.48 | 852.73 | PROP |

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 361 |
| 0162-6002 | BLOCK SODDING | SY | 361 |
| 0168-6001 | VEGETATIVE WATERING | MG | 5.63 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 61 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 162 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

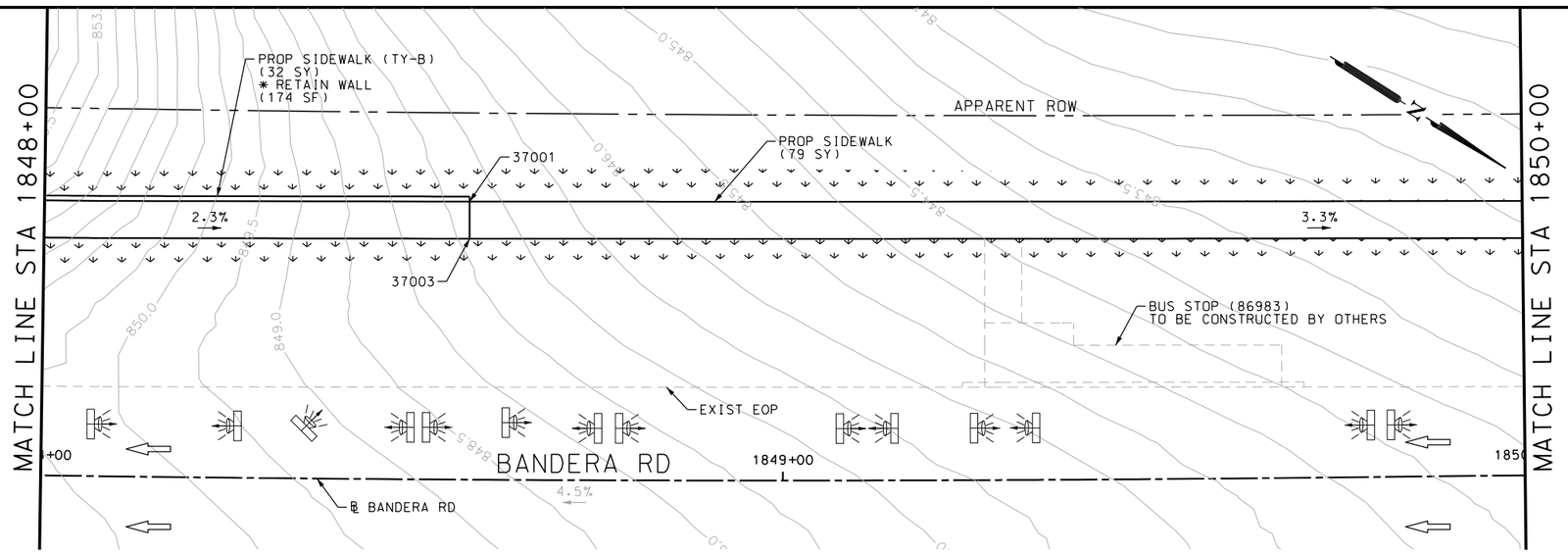
STA 1844+00 TO STA 1848+00

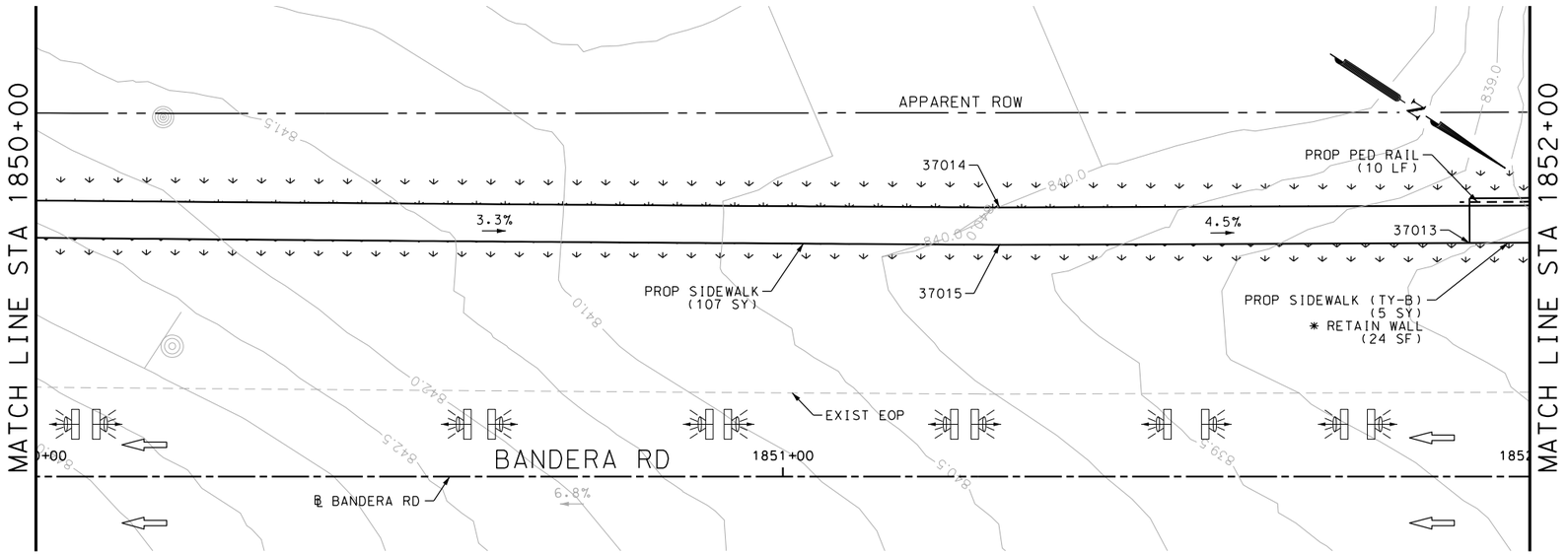
SHEET 35 OF 55

| DGNs | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGNs | 6 | TEXAS | | | | VARIES |
| DWGs | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWGs | SAT | BEXAR | 0915 | 12 | 576 | 328 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111507*Bandera Dr*EB*70.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 692 |
| 0162-6002 | BLOCK SODDING | SY | 692 |
| 0168-6001 | VEGETATIVE WATERING | MG | 10.80 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 10 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 186 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 37 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 37001 | 13735822.81 | 2086050.36 | 847.67 | PROP |
| 37003 | 13735825.49 | 2086054.58 | 847.74 | PROP |
| 37013 | 13736106.10 | 2085873.82 | 835.05 | PROP |
| 37014 | 13736050.82 | 2085904.26 | 837.88 | PROP |
| 37015 | 13736053.55 | 2085908.45 | 837.81 | PROP |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1848+00 TO STA 1852+00

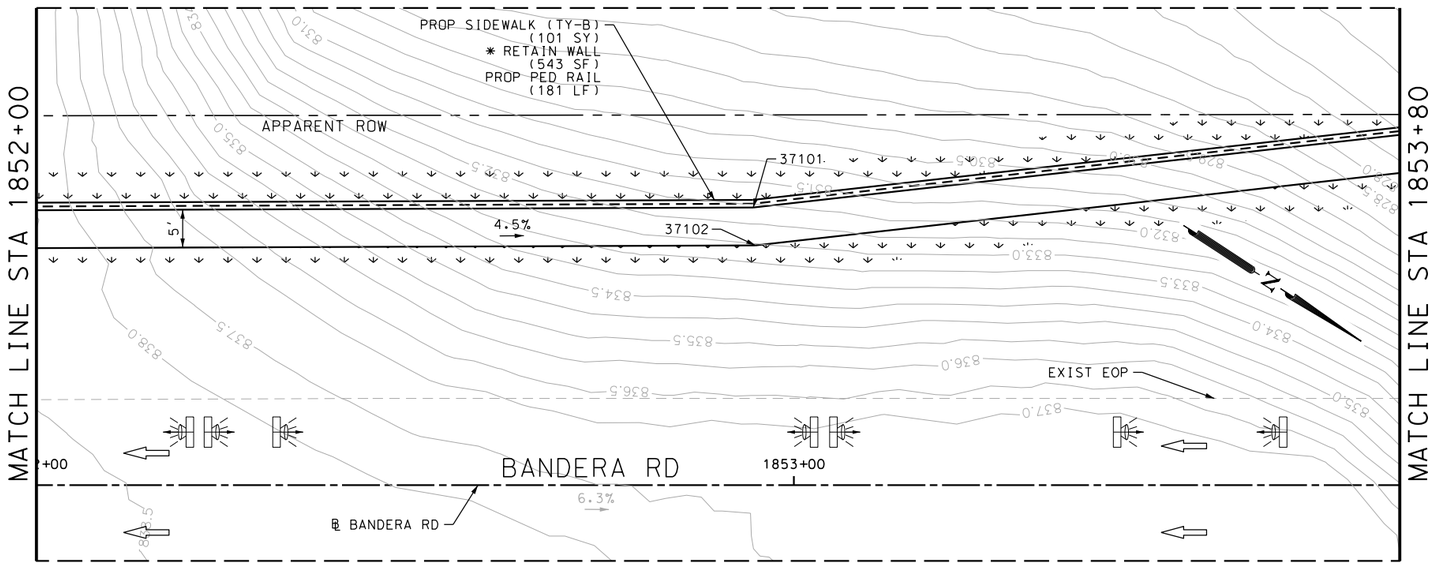


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 329 |

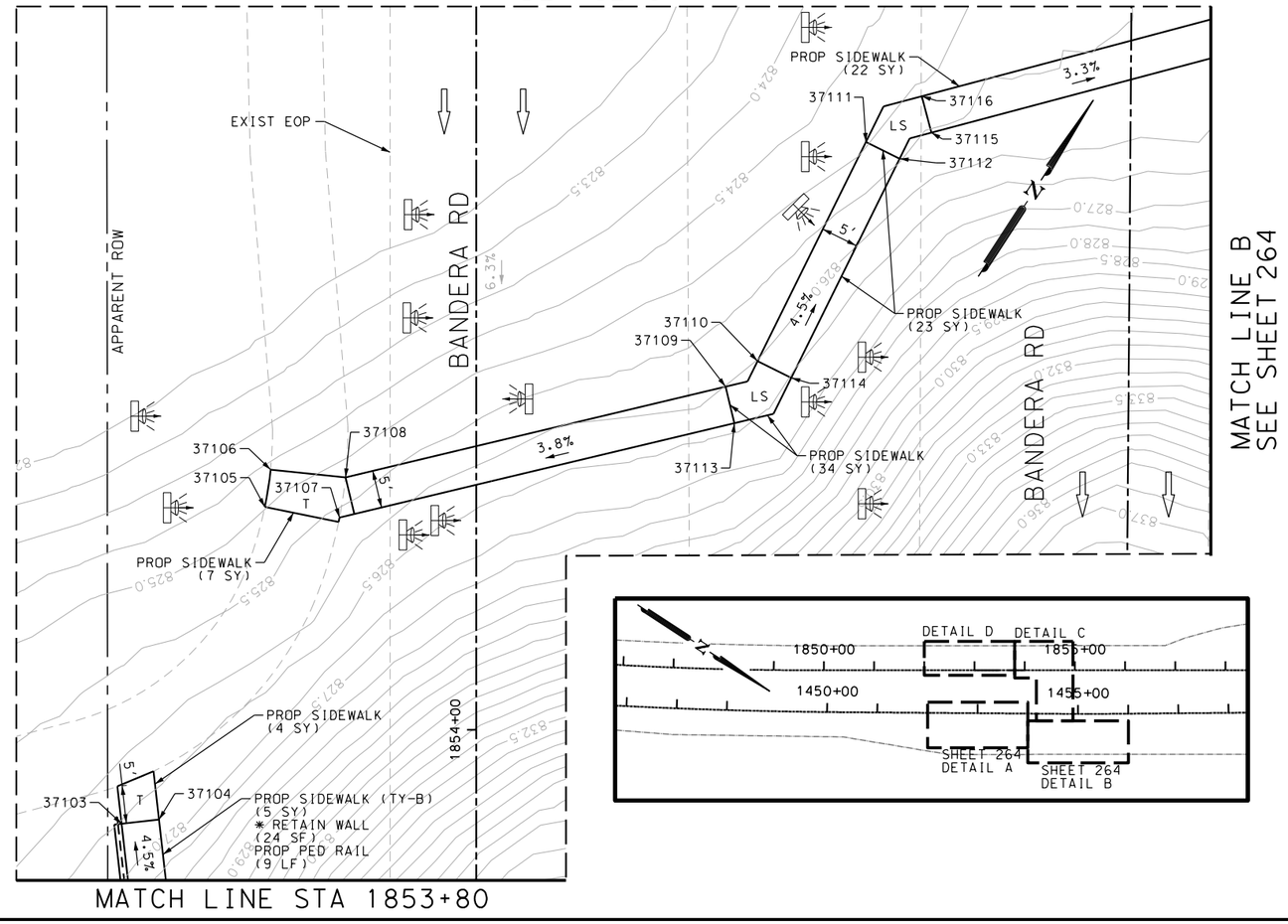
Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350 7*Bandera Dr*EB*7l.dgn

## DETAIL D




## DETAIL C







| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 229 |
| 0162-6002 | BLOCK SODDING | SY | 229 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.57 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 190 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 90 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 106 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 37101 | 13736189.11 | 2085813.15 | 830.43 | PROP |
| 37102 | 13736192.09 | 2085817.17 | 830.50 | PROP |
| 37103 | 13736261.18 | 2085753.58 | 826.23 | PROP |
| 37104 | 13736264.36 | 2085757.44 | 826.16 | PROP |
| 37105 | 13736306.83 | 2085746.48 | -- | ME |
| 37106 | 13736311.39 | 2085744.41 | -- | ME |
| 37107 | 13736311.08 | 2085755.55 | -- | ME |
| 37108 | 13736315.97 | 2085753.30 | 824.10 | PROP |
| 37109 | 13736353.68 | 2085788.97 | 826.06 | PROP |
| 37110 | 13736358.84 | 2085790.68 | 826.06 | PROP |
| 37111 | 13736391.09 | 2085786.80 | 824.60 | PROP |
| 37112 | 13736391.69 | 2085791.77 | 824.67 | PROP |
| 37113 | 13736350.25 | 2085792.60 | 826.13 | PROP |
| 37114 | 13736359.44 | 2085795.64 | 826.13 | PROP |
| 37116 | 13736400.24 | 2085789.70 | 824.60 | PROP |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



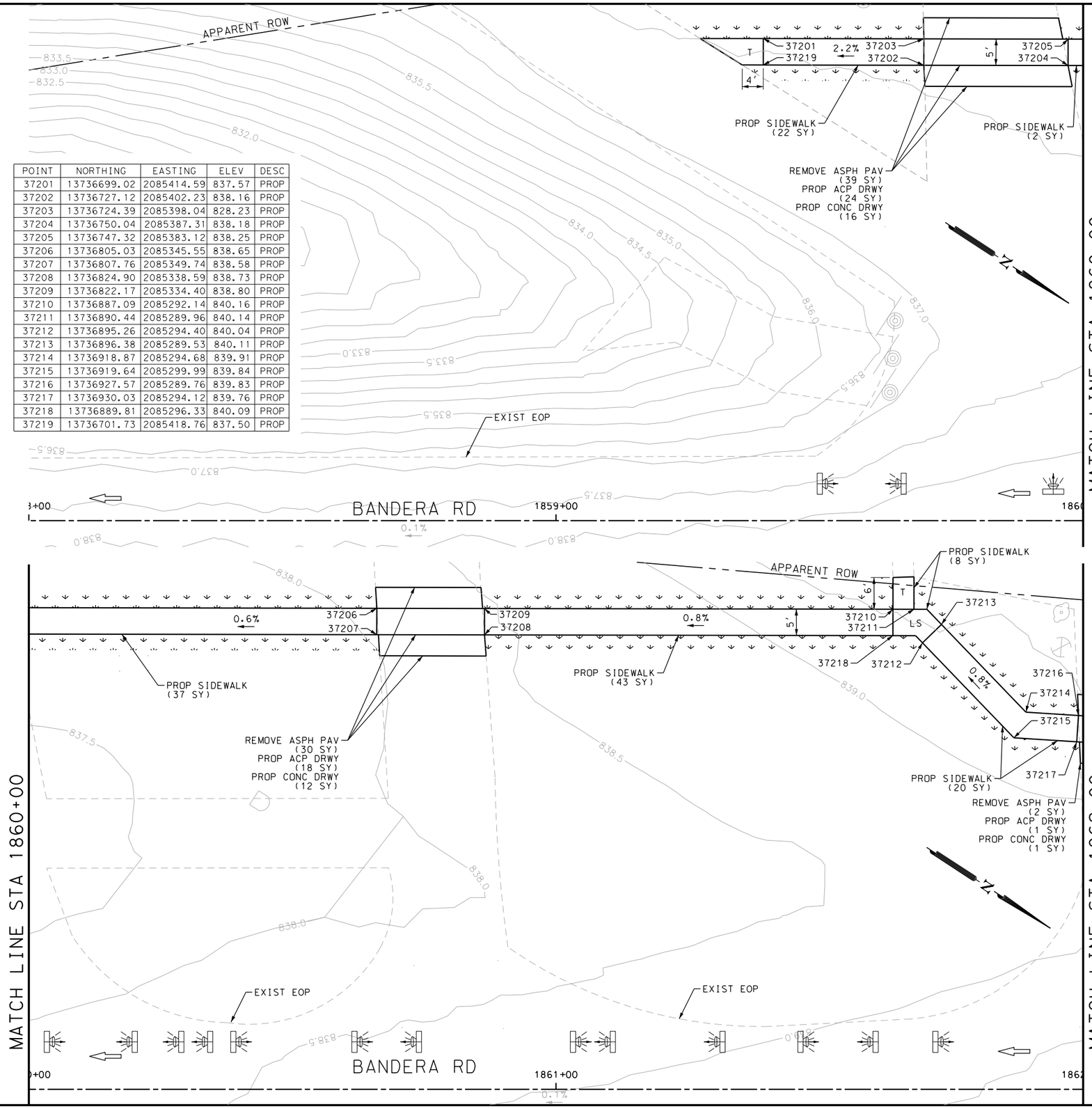
BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1852+00 TO STA 1856+00

SHEET 37 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 330 |




| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 37201 | 13736699.02 | 2085414.59 | 837.57 | PROP |
| 37202 | 13736727.12 | 2085402.23 | 838.16 | PROP |
| 37203 | 13736724.39 | 2085398.04 | 828.23 | PROP |
| 37204 | 13736750.04 | 2085387.31 | 838.18 | PROP |
| 37205 | 13736747.32 | 2085383.12 | 838.25 | PROP |
| 37206 | 13736805.03 | 2085345.55 | 838.65 | PROP |
| 37207 | 13736807.76 | 2085349.74 | 838.58 | PROP |
| 37208 | 13736824.90 | 2085338.59 | 838.73 | PROP |
| 37209 | 13736822.17 | 2085334.40 | 838.80 | PROP |
| 37210 | 13736887.09 | 2085292.14 | 840.16 | PROP |
| 37211 | 13736890.44 | 2085289.96 | 840.14 | PROP |
| 37212 | 13736895.26 | 2085294.40 | 840.04 | PROP |
| 37213 | 13736896.38 | 2085289.53 | 840.11 | PROP |
| 37214 | 13736918.87 | 2085294.68 | 839.91 | PROP |
| 37215 | 13736919.64 | 2085299.99 | 839.84 | PROP |
| 37216 | 13736927.57 | 2085289.76 | 839.83 | PROP |
| 37217 | 13736930.03 | 2085294.12 | 839.76 | PROP |
| 37218 | 13736889.81 | 2085296.33 | 840.09 | PROP |
| 37219 | 13736701.73 | 2085418.76 | 837.50 | PROP |

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 71 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 154 |
| 0162-6002 | BLOCK SODDING | SY | 154 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.40 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 29 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 43 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 132 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

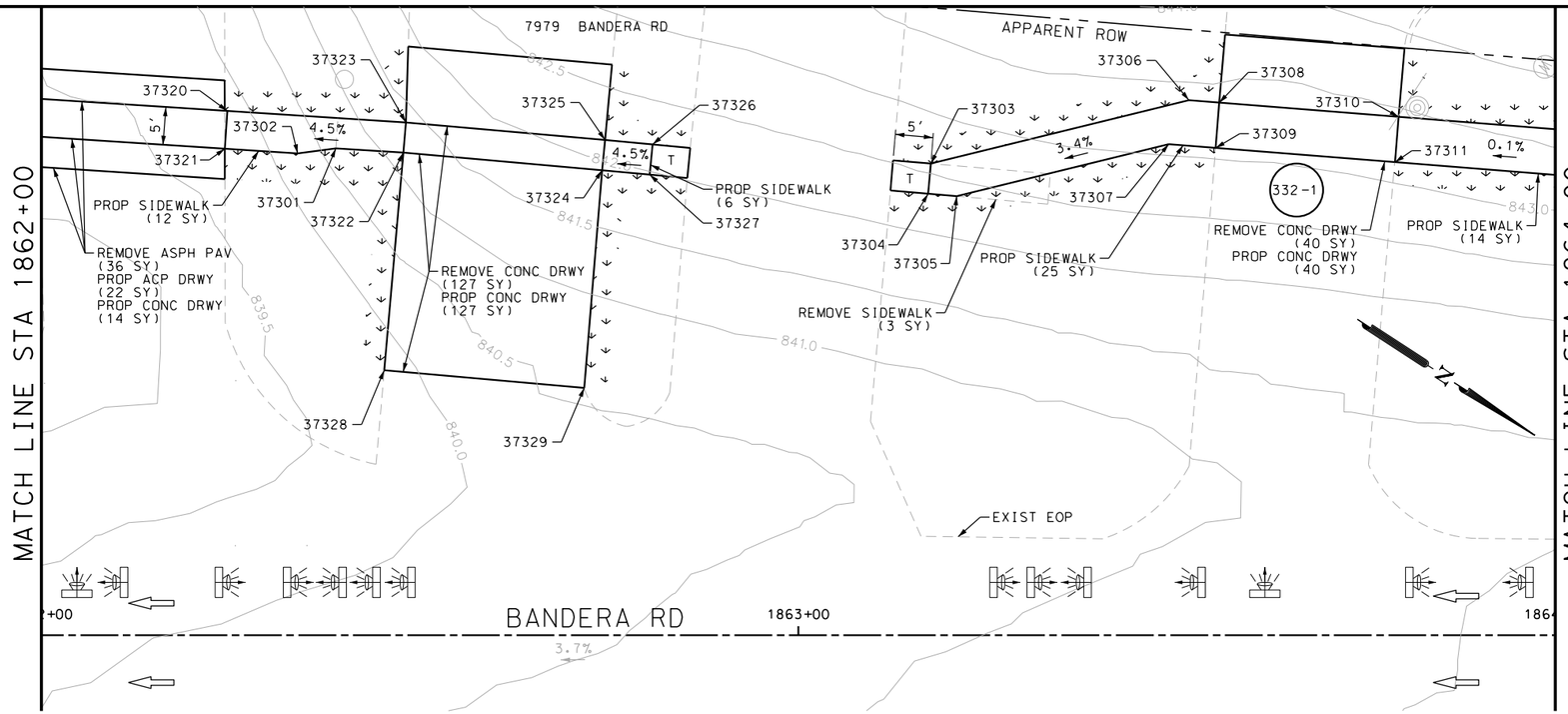
STA 1858+00 TO STA 1862+00

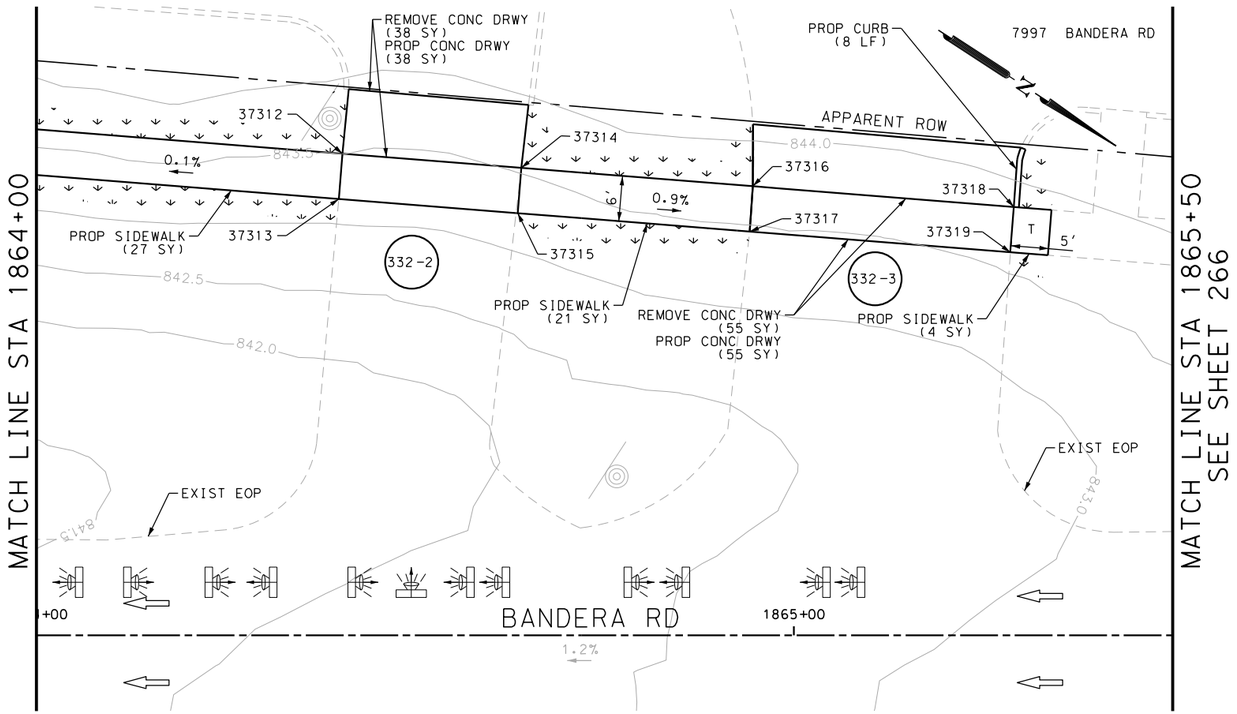
SHEET 38 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 331 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350?*Bandera Dr*EB*73.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 260 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 3 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 36 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 154 |
| 0162-6002 | BLOCK SODDING | SY | 154 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.40 |
| 0529-6002 | CONC CURB (TY II) | LF | 8 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 274 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 22 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 109 |

NOTES:
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1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

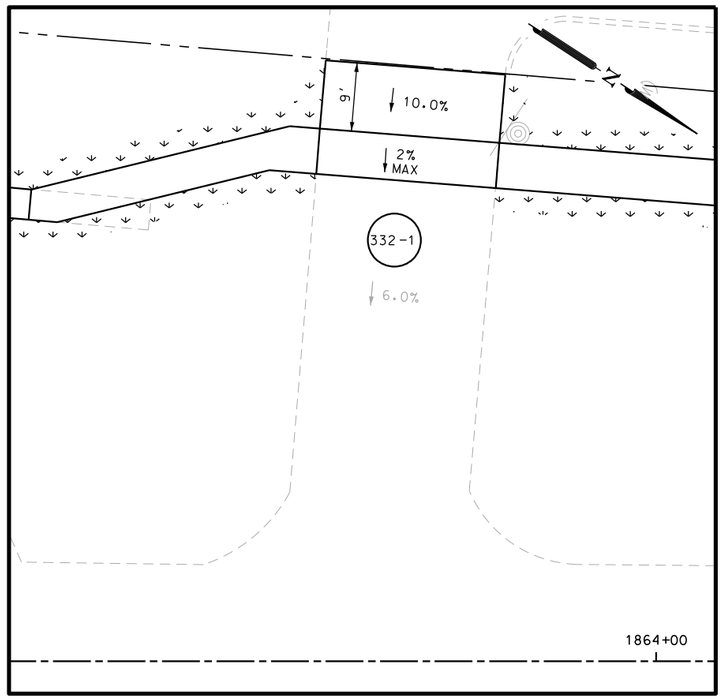
STA 1862+00 TO STA 1865+50

SHEET 39 OF 55

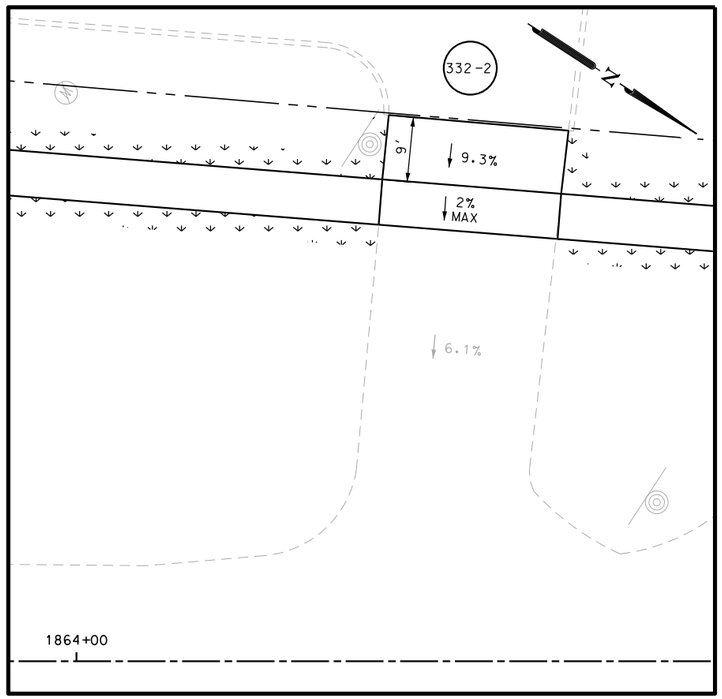
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 332 |

Plotted on: 4/2/2019

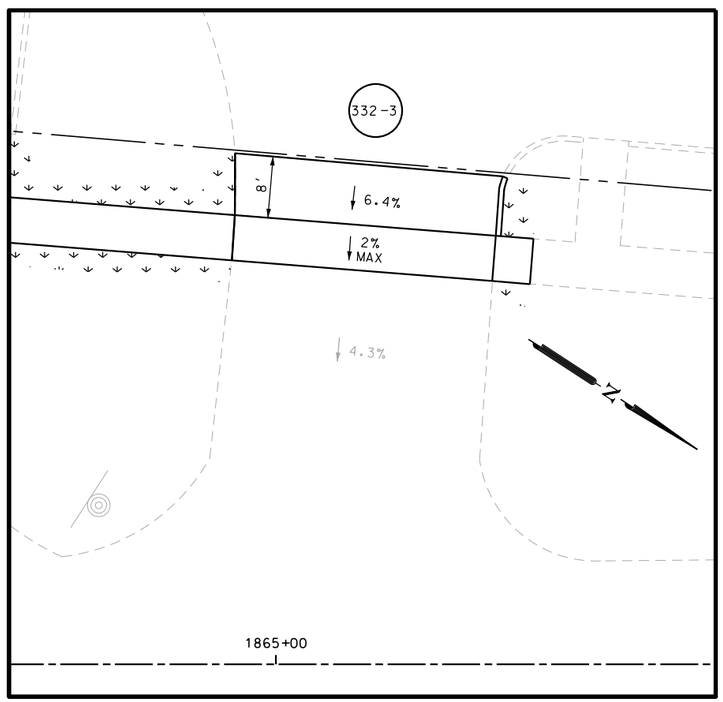
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*74.dgn




DRWY PLAN STA 1863+60




DRWY PLAN STA 1864+50




DRWY PLAN STA 1865+10

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 37301 | 13736964.49 | 2085273.50 | 840.62 | PROP |
| 37302 | 13736960.63 | 2085276.83 | 840.39 | PROP |
| 37303 | 13737031.39 | 2085232.20 | 843.00 | PROP |
| 37304 | 13737033.28 | 2085235.73 | 842.93 | PROP |
| 37305 | 13737036.60 | 2085233.94 | 843.00 | PROP |
| 37306 | 13737055.37 | 2085206.54 | 844.19 | PROP |
| 37307 | 13737056.30 | 2085212.87 | 844.12 | PROP |
| 37308 | 13737058.88 | 2085204.63 | 844.33 | PROP |
| 37309 | 13737061.76 | 2085209.89 | -- | ME |
| 37310 | 13737079.75 | 2085193.23 | 844.43 | PROP |
| 37311 | 13737082.63 | 2085198.50 | -- | ME |
| 37312 | 13737133.55 | 2085163.88 | 844.50 | PROP |
| 37313 | 13737136.42 | 2085169.15 | -- | ME |
| 37314 | 13737154.34 | 2085152.53 | 844.38 | PROP |
| 37315 | 13737157.21 | 2085157.80 | -- | ME |
| 37316 | 13737181.26 | 2085137.84 | 844.09 | PROP |
| 37317 | 13737184.20 | 2085143.07 | -- | ME |
| 37318 | 13737211.60 | 2085121.28 | 844.02 | PROP |
| 37319 | 13737214.48 | 2085126.55 | -- | ME |
| 37320 | 13736949.77 | 2085277.22 | 840.03 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 37321 | 13736952.23 | 2085281.58 | 839.96 | PROP |
| 37322 | 13736972.26 | 2085269.11 | 841.02 | PROP |
| 37323 | 13736970.37 | 2085265.59 | 841.09 | PROP |
| 37324 | 13736995.52 | 2085256.68 | 842.22 | PROP |
| 37325 | 13736993.65 | 2085253.15 | 842.29 | PROP |
| 37326 | 13736999.23 | 2085250.20 | 842.57 | PROP |
| 37327 | 13737001.10 | 2085253.73 | 842.50 | PROP |
| 37328 | 13736985.87 | 2085294.54 | -- | ME |
| 37329 | 13737009.24 | 2085282.03 | -- | ME |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

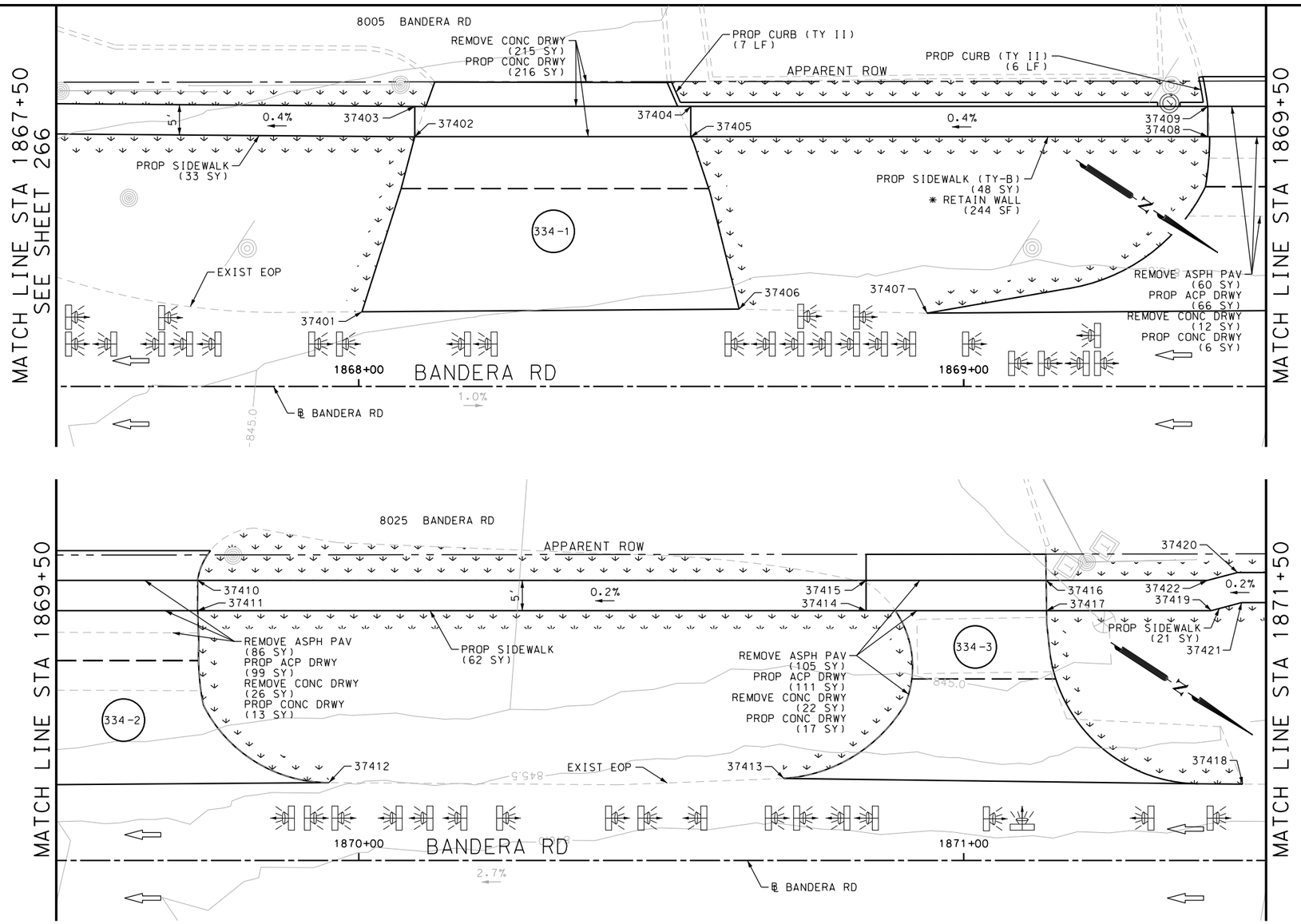
STA 1862+00 TO STA 1865+50

SHEET 40 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 333 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*74A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 275 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 251 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 295 |
| 0162-6002 | BLOCK SODDING | SY | 295 |
| 0168-6001 | VEGETATIVE WATERING | MG | 4.60 |
| 0529-6002 | CONC CURB (TY II) | LF | 13 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 252 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 276 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 116 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 48 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 37401 | 13737463.08 | 2085009.80 | -- | ME |
| 37402 | 13737454.56 | 2084980.79 | 845.01 | PROP |
| 37403 | 13737451.83 | 2084976.62 | 845.08 | PROP |
| 37404 | 13737490.02 | 2084951.64 | 845.20 | PROP |
| 37405 | 13737492.76 | 2084955.83 | 845.13 | PROP |
| 37406 | 13737515.03 | 2084975.32 | -- | ME |
| 37407 | 13737541.41 | 2084958.88 | -- | ME |
| 37408 | 13737564.30 | 2084909.09 | 845.43 | PROP |
| 37409 | 13737561.56 | 2084904.90 | 845.50 | PROP |
| 37410 | 13737589.20 | 2084886.84 | 844.96 | PROP |
| 37411 | 13737591.94 | 2084891.03 | 844.89 | PROP |
| 37412 | 13737625.65 | 2084902.95 | -- | ME |
| 37413 | 13737688.23 | 2084861.24 | -- | ME |
| 37414 | 13737684.44 | 2084830.59 | 845.08 | PROP |
| 37415 | 13737681.70 | 2084826.40 | 845.15 | PROP |
| 37416 | 13737706.62 | 2084810.12 | 845.50 | PROP |
| 37417 | 13737709.42 | 2084814.26 | 845.43 | PROP |
| 37418 | 13737752.25 | 2084820.54 | -- | ME |
| 37419 | 13737732.21 | 2084799.37 | 845.47 | PROP |
| 37420 | 13737732.39 | 2084791.70 | 845.54 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 37421 | 13737735.67 | 2084795.53 | 845.47 | PROP |
| 37422 | 13737728.93 | 2084795.54 | 845.54 | PROP |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

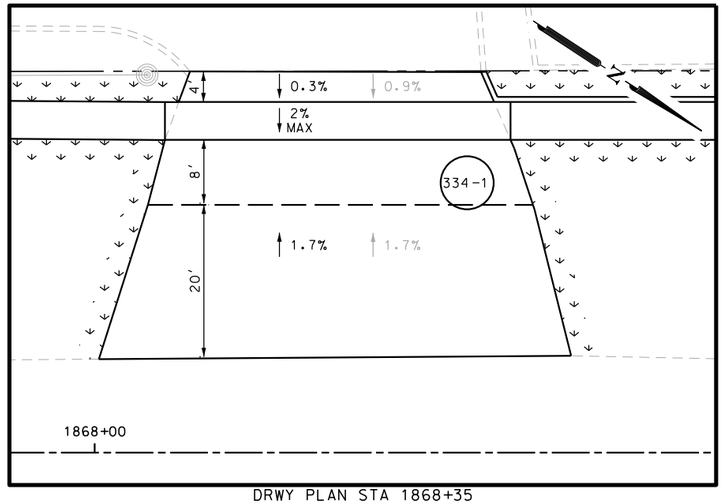
STA 1867+50 TO STA 1871+50

SHEET 41 OF 55

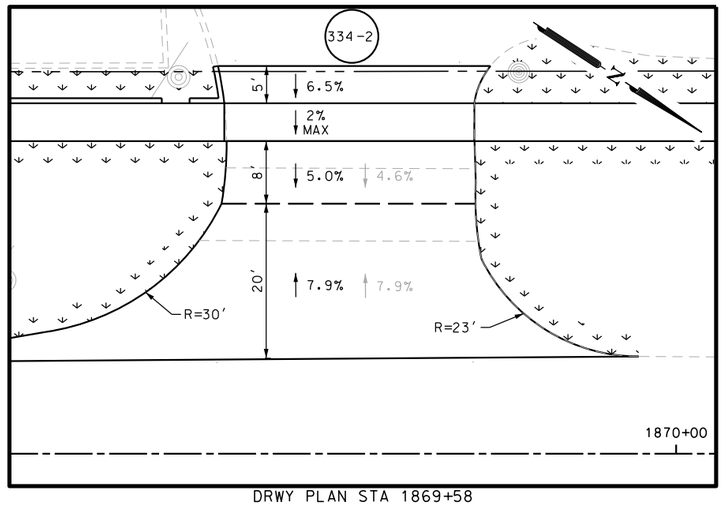
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 334 |

Plotted on: 4/2/2019

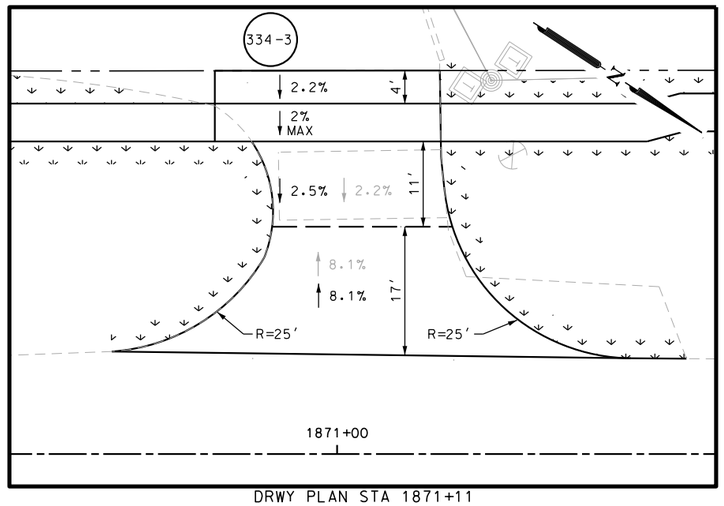
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*75.dgn




DRWY PLAN STA 1868+35




DRWY PLAN STA 1869+58




DRWY PLAN STA 1871+11

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

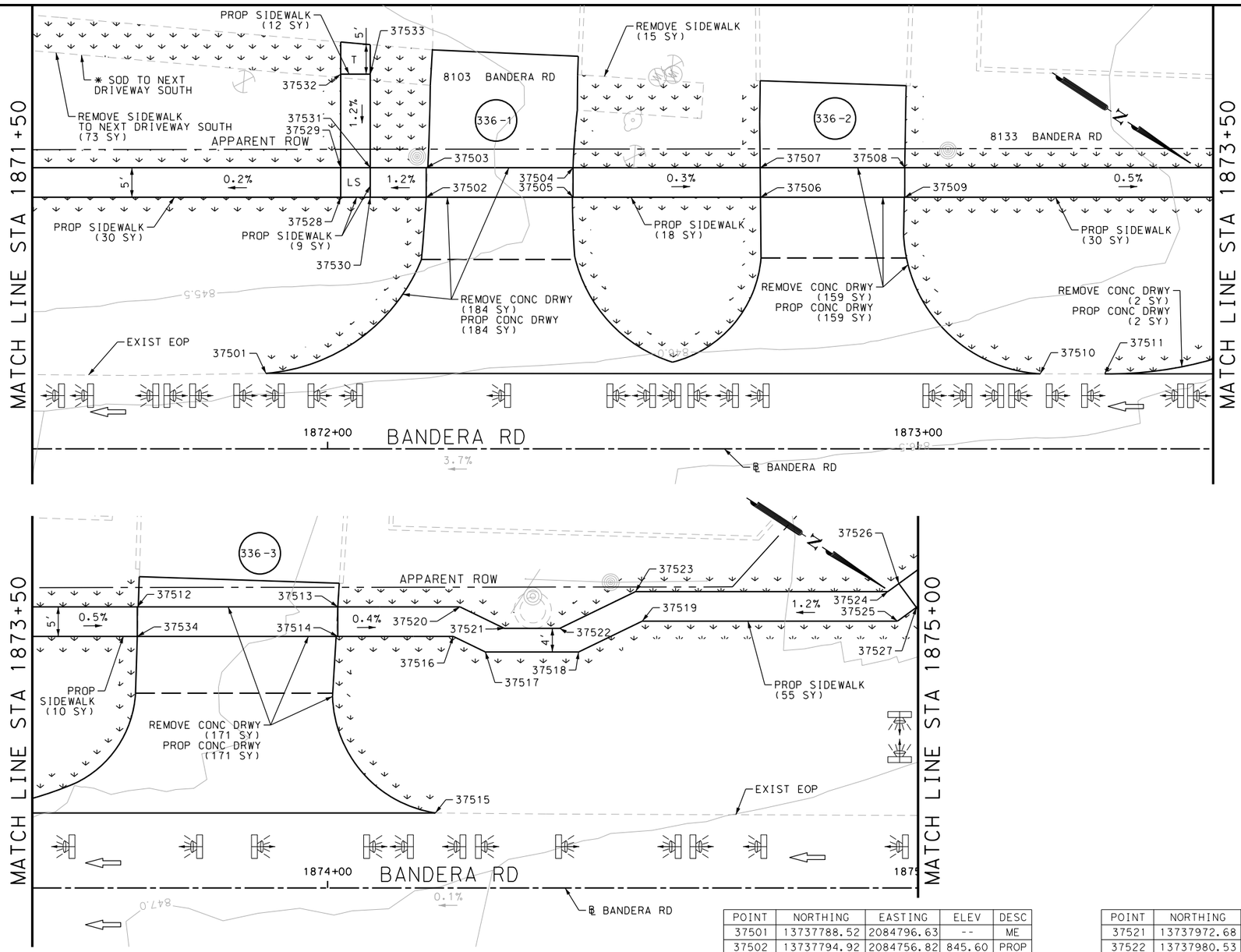
STA 1867+50 TO STA 1871+50

SHEET 42 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 335 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*75A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 516 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 88 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 363 |
| 0162-6002 | BLOCK SODDING | SY | 363 |
| 0168-6001 | VEGETATIVE WATERING | MG | 5.66 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 516 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 164 |

NOTES:
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DESIGN

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DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1871+50 TO STA 1875+00

SHEET 43 OF 55

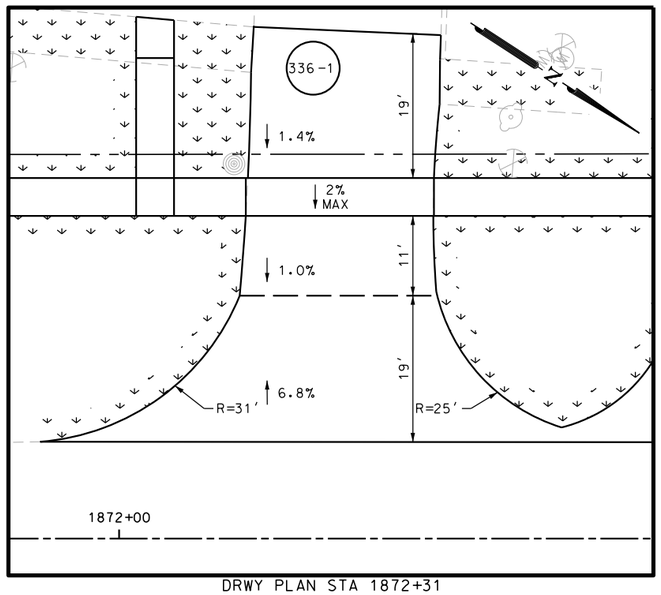
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 336 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 37501 | 13737788.52 | 2084796.63 | -- | ME |
| 37502 | 13737794.92 | 2084756.82 | 845.60 | PROP |
| 37503 | 13737792.18 | 2084752.63 | 845.67 | PROP |
| 37504 | 13737813.00 | 2084739.03 | 845.80 | PROP |
| 37505 | 13737815.73 | 2084743.22 | 845.73 | PROP |
| 37506 | 13737842.31 | 2084725.85 | 845.62 | PROP |
| 37507 | 13737839.54 | 2084721.69 | 845.69 | PROP |
| 37508 | 13737860.04 | 2084708.30 | 845.80 | PROP |
| 37509 | 13737862.77 | 2084712.48 | 845.73 | PROP |
| 37510 | 13737898.33 | 2084724.97 | -- | ME |
| 37511 | 13737907.49 | 2084719.00 | -- | ME |
| 37512 | 13737918.66 | 2084669.99 | 846.47 | PROP |
| 37513 | 13737947.08 | 2084651.42 | 846.56 | PROP |
| 37514 | 13737949.82 | 2084655.61 | 846.49 | PROP |
| 37515 | 13737980.02 | 2084671.60 | -- | ME |
| 37516 | 13737966.18 | 2084644.92 | 846.41 | PROP |
| 37517 | 13737972.18 | 2084644.14 | 846.39 | PROP |
| 37518 | 13737985.41 | 2084635.50 | 846.38 | PROP |
| 37519 | 13737991.58 | 2084625.24 | 846.55 | PROP |
| 37520 | 13737964.41 | 2084640.10 | 846.48 | PROP |

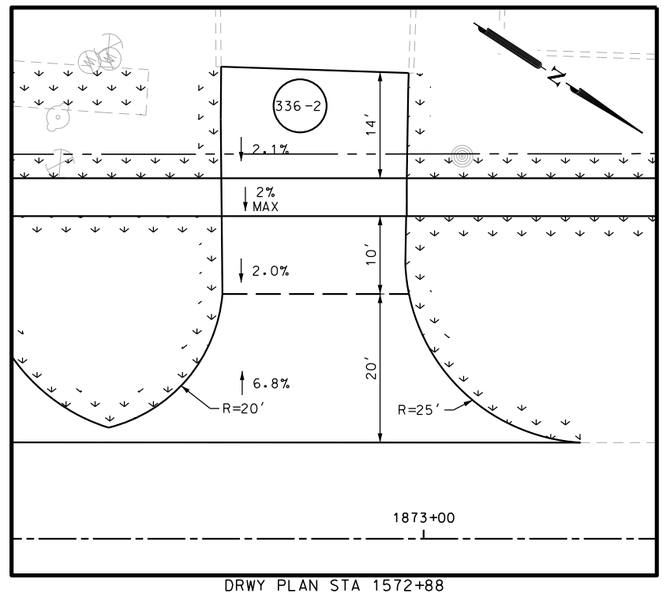
| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 37521 | 13737972.68 | 2084639.04 | 846.45 | PROP |
| 37522 | 13737980.53 | 2084633.91 | 846.44 | PROP |
| 37523 | 13737987.89 | 2084621.68 | 846.62 | PROP |
| 37524 | 13738023.67 | 2084598.30 | 847.13 | PROP |
| 37525 | 13738027.77 | 2084601.59 | 847.06 | PROP |
| 37526 | 13738024.48 | 2084596.14 | 847.16 | PROP |
| 37527 | 13738029.16 | 2084597.91 | 847.09 | PROP |
| 37528 | 13737782.80 | 2084764.74 | 845.58 | PROP |
| 37529 | 13737780.07 | 2084760.55 | 845.65 | PROP |
| 37530 | 13737786.99 | 2084762.00 | 845.58 | PROP |
| 37531 | 13737784.25 | 2084757.81 | 845.65 | PROP |
| 37532 | 13737771.40 | 2084747.29 | 845.84 | PROP |
| 37533 | 13737775.59 | 2084744.55 | 845.84 | PROP |
| 37534 | 13737921.39 | 2084674.18 | 846.40 | PROP |

Plotted on: 4/2/2019

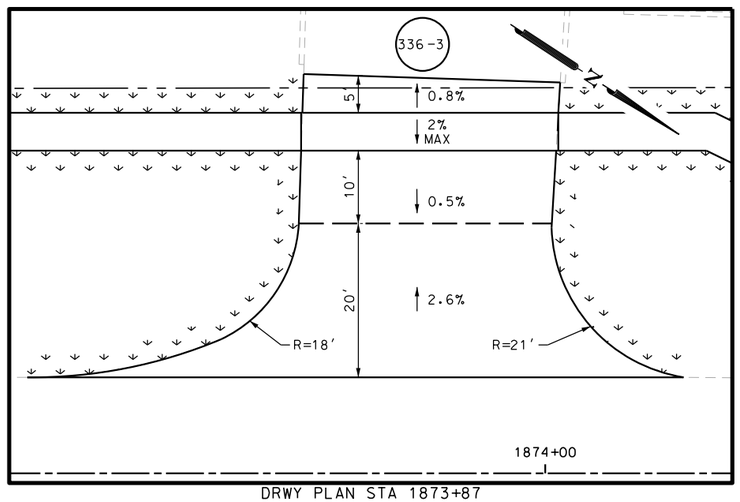
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*76.dgn




DRWY PLAN STA 1872+31




DRWY PLAN STA 1572+88




DRWY PLAN STA 1873+87

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

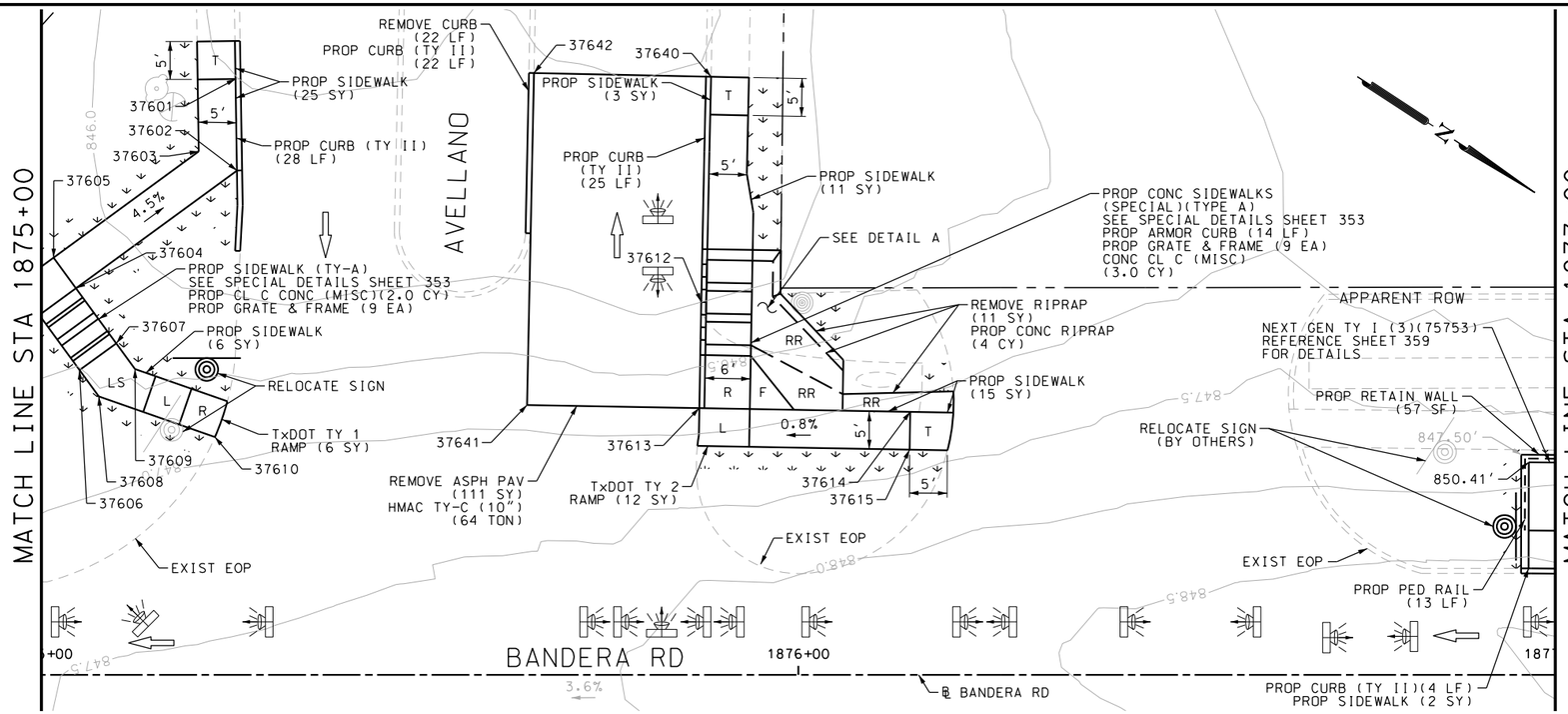
# SIDEWALK CONSTRUCTION PLAN

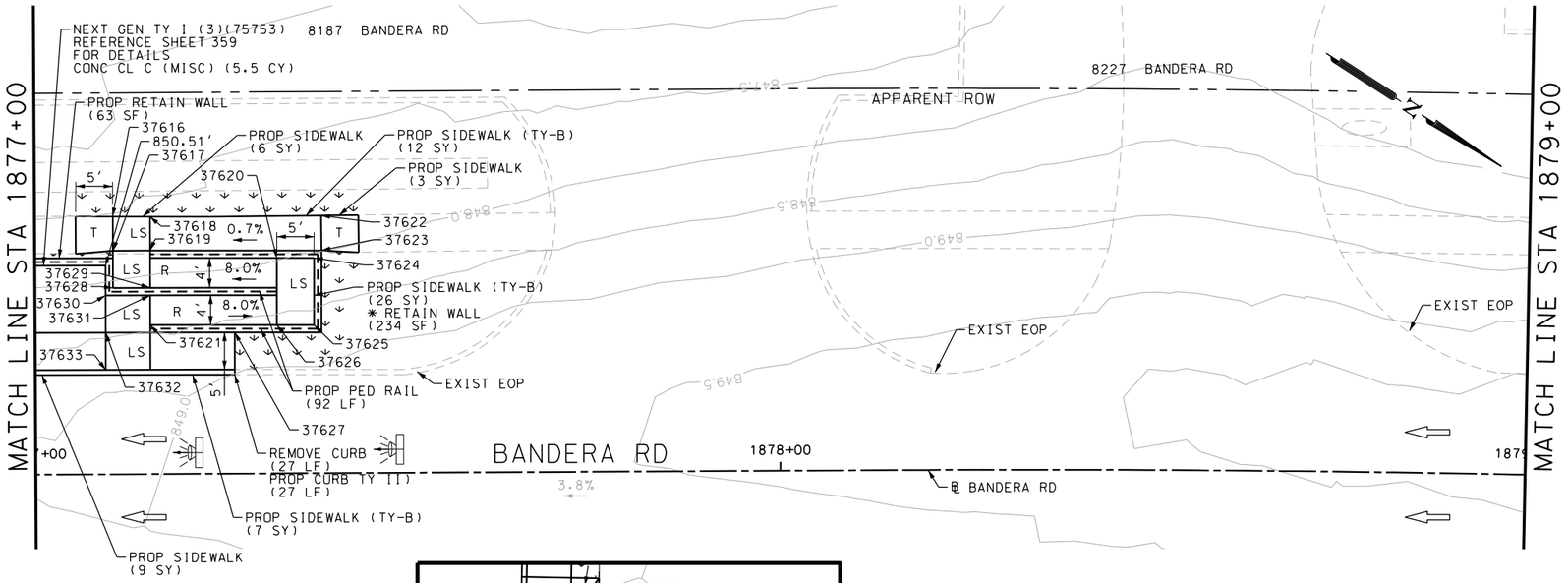
STA 1871+50 TO STA 1875+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 337 |

Plotted on: 4/2/2019
Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111507*Bandera Dr*EB*76A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 11 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 49 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 111 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 98 |
| 0162-6002 | BLOCK SODDING | SY | 98 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.53 |
| 0340-6066 | D-GR HMA(SQ) TY-C PG76-22 | TON | 64.0 |
| 0420-6074 | CL C CONC (MISC) | CY | 10.5 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 120 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 4 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 105 |
| 0471-6003 | GRATE & FRAME | EA | 18 |
| 0529-6002 | CONC CURB (TY II) | LF | 106 |
| 0529-6020 | CONC CURB & GUTTER (ARMOR CURB) | LF | 14 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 80 |
| 0531-6018 | CURB RAMPS (TY 1) | SY | 6 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 12 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 45 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 1875+00 TO STA 1879+00

SHEET 45 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 338 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*77.dgn

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 37601 | 13738033.80 | 2084557.63 | -- | ME |
| 37602 | 13738040.57 | 2084567.64 | -- | ME |
| 37603 | 13738034.98 | 2084568.30 | -- | ME |
| 37604 | 13738031.28 | 2084592.29 | 847.09 | PROP |
| 37605 | 13738026.60 | 2084590.53 | 847.16 | PROP |
| 37606 | 13738037.58 | 2084601.08 | 847.15 | PROP |
| 37607 | 13738039.70 | 2084595.47 | 847.22 | PROP |
| 37608 | 13738041.62 | 2084602.60 | 847.17 | PROP |
| 37609 | 13738043.63 | 2084596.95 | 847.24 | PROP |
| 37610 | 13738057.39 | 2084598.68 | -- | ME |
| 37612 | 13738101.43 | 2084548.65 | 845.50 | PROP |
| 37613 | 13738108.87 | 2084560.48 | -- | ME |
| 37614 | 13738132.45 | 2084545.66 | 847.60 | PROP |
| 37615 | 13738135.12 | 2084549.89 | 847.67 | PROP |
| 37616 | 13738212.68 | 2084493.41 | 847.42 | PROP |
| 37617 | 13738215.18 | 2084497.24 | 847.48 | PROP |
| 37618 | 13738216.89 | 2084490.71 | 847.48 | PROP |
| 37619 | 13738219.37 | 2084494.52 | 847.55 | PROP |
| 37620 | 13738234.20 | 2084486.10 | 848.92 | PROP |
| 37621 | 13738224.82 | 2084502.91 | 850.38 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 37622 | 13738236.11 | 2084478.10 | 847.63 | PROP |
| 37623 | 13738238.70 | 2084482.01 | 847.70 | PROP |
| 37624 | 13738238.40 | 2084483.40 | 848.95 | PROP |
| 37625 | 13738243.29 | 2084490.96 | 849.09 | PROP |
| 37626 | 13738239.09 | 2084493.67 | 849.06 | PROP |
| 37627 | 13738234.87 | 2084497.58 | -- | ME |
| 37628 | 13738217.90 | 2084501.44 | 847.55 | PROP |
| 37629 | 13738222.09 | 2084498.71 | 847.62 | PROP |
| 37630 | 13738218.44 | 2084502.28 | 850.37 | PROP |
| 37631 | 13738222.64 | 2084499.55 | 850.44 | PROP |
| 37632 | 13738221.17 | 2084506.47 | 850.33 | PROP |
| 37633 | 13738223.33 | 2084511.03 | -- | ME |
| 37634 | 13738104.09 | 2084540.35 | 846.00 | PROP |
| 37635 | 13738106.41 | 2084538.90 | 845.56 | PROP |
| 37636 | 13738108.94 | 2084542.87 | 845.57 | PROP |
| 37637 | 13738122.08 | 2084545.98 | 845.70 | PROP |
| 37638 | 13738123.71 | 2084548.58 | -- | ME |
| 37639 | 13738110.03 | 2084549.81 | 846.51 | PROP |
| 37640 | 13738085.66 | 2084523.38 | -- | ME |
| 37641 | 13738089.60 | 2084572.59 | -- | ME |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 37642 | 13738066.38 | 2084535.41 | -- | ME |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

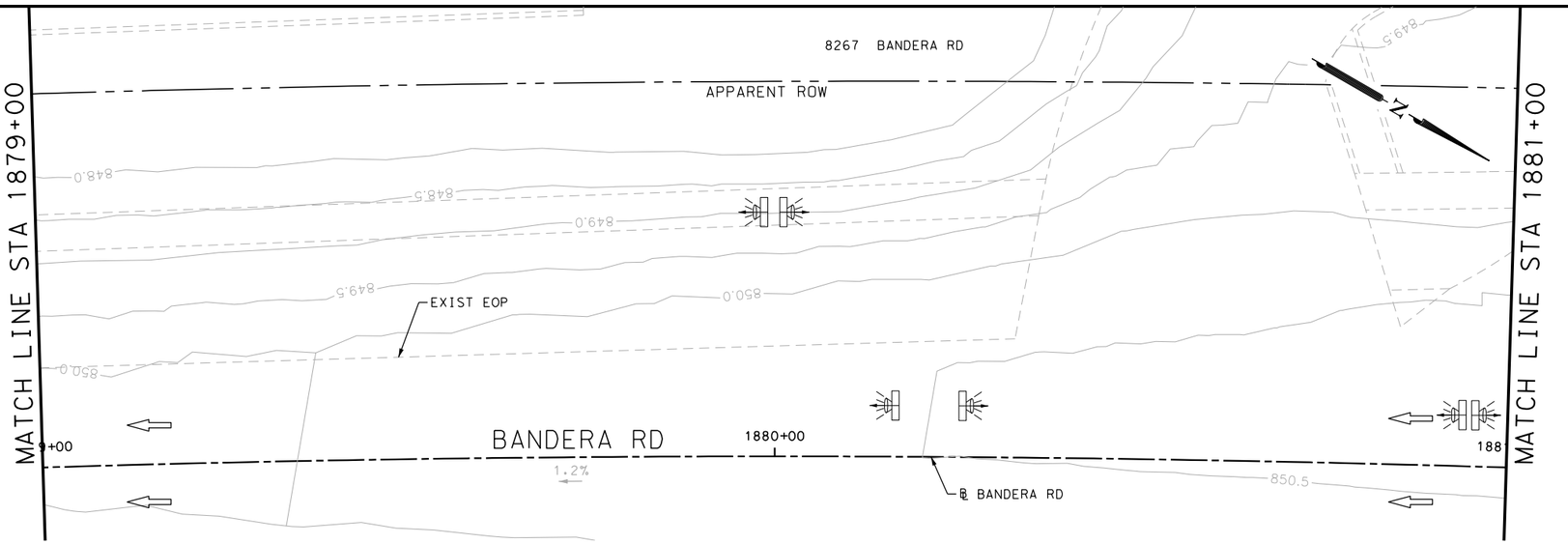
STA 1875+00 TO STA 1879+00

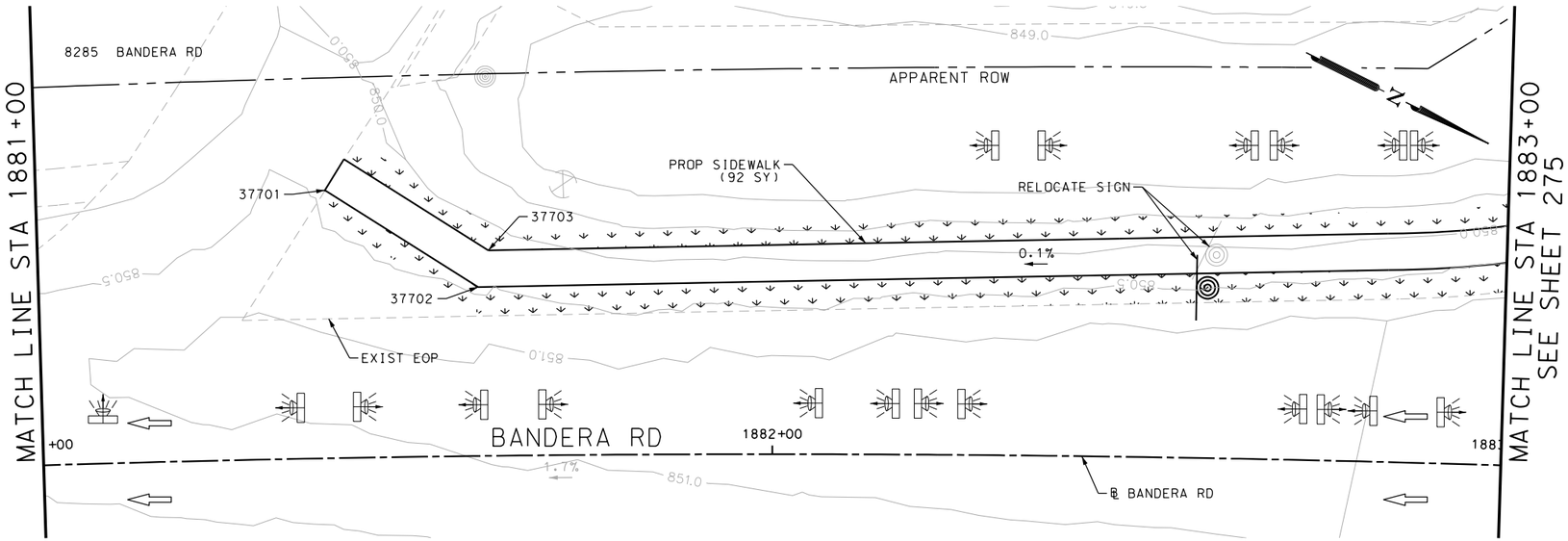
SHEET 46 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 339 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111350 7*Bandera Dr*EB*77*A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 126 |
| 0162-6002 | BLOCK SODDING | SY | 126 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.97 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 92 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 37701 | 13738581.70 | 2084268.77 | -- | ME |
| 37702 | 13738606.50 | 2084271.27 | 851.07 | PROP |
| 37703 | 13738605.51 | 2084266.15 | 851.00 | PROP |

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

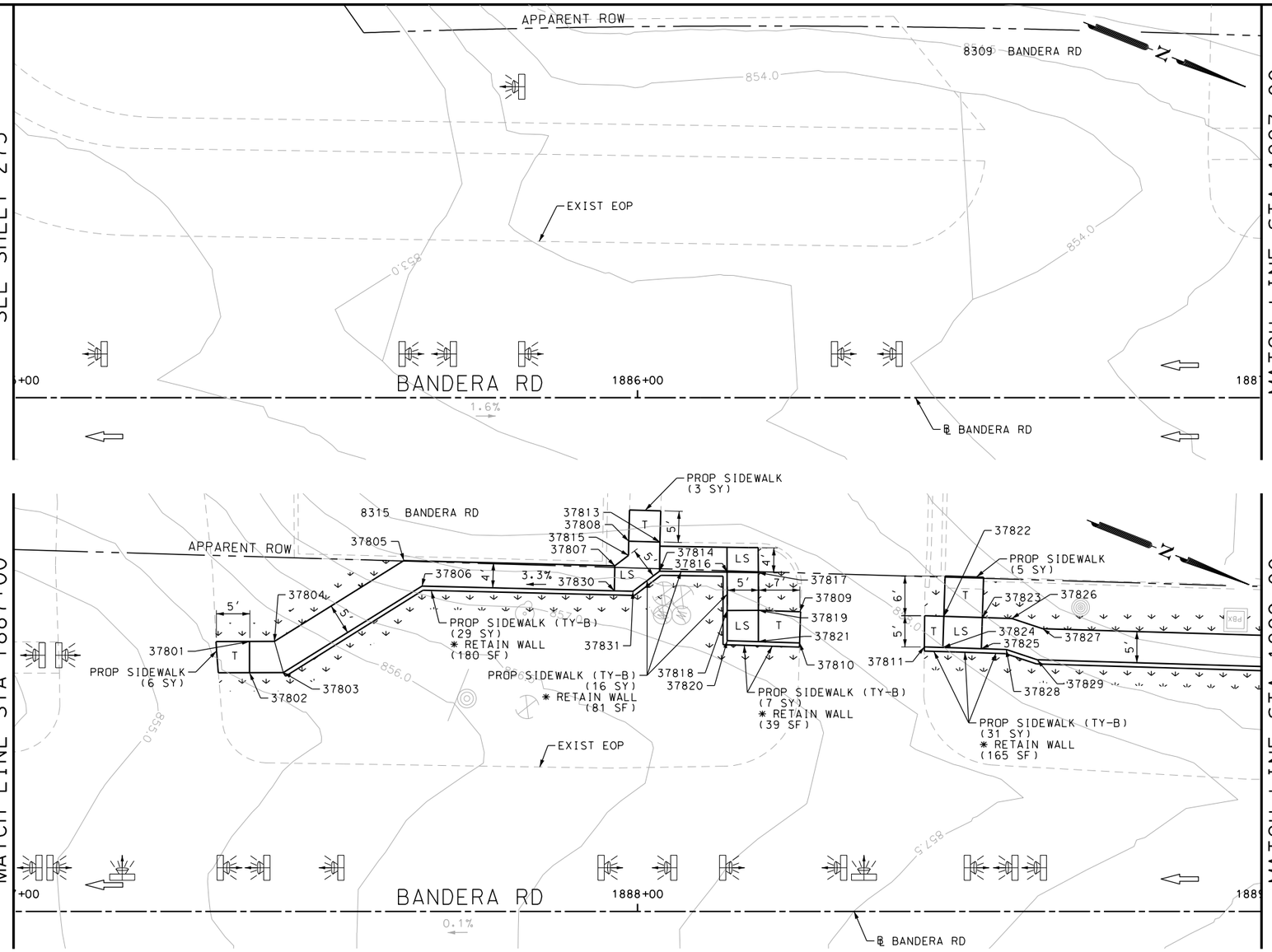
STA 1879+00 TO STA 1883+00

SHEET 47 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 340 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*78.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 90 |
| 0162-6002 | BLOCK SODDING | SY | 90 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.40 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 14 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 83 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 37801 | 13739131.90 | 2084024.01 | 855.48 | PROP |
| 37802 | 13739133.76 | 2084028.65 | 855.41 | PROP |
| 37803 | 13739138.79 | 2084026.63 | 855.58 | PROP |
| 37804 | 13739135.61 | 2084022.52 | 855.65 | PROP |
| 37805 | 13739150.06 | 2084002.81 | 856.38 | PROP |
| 37806 | 13739154.28 | 2084005.52 | 856.44 | PROP |
| 37807 | 13739181.79 | 2083991.05 | 857.77 | PROP |
| 37808 | 13739182.39 | 2083986.54 | -- | ME |
| 37809 | 13739212.17 | 2083986.85 | -- | ME |
| 37810 | 13739213.87 | 2083991.55 | -- | ME |
| 37811 | 13739232.67 | 2083984.73 | -- | ME |
| 37813 | 13739187.08 | 2083984.81 | -- | ME |
| 37814 | 13739188.74 | 2083989.18 | 857.80 | PROP |
| 37815 | 13739183.21 | 2083988.69 | 857.80 | PROP |
| 37816 | 13739198.87 | 2083985.32 | 857.95 | PROP |
| 37817 | 13739203.54 | 2083983.54 | 857.90 | PROP |
| 37818 | 13739201.16 | 2083991.02 | 857.80 | PROP |
| 37819 | 13739205.80 | 2083989.16 | 857.74 | PROP |
| 37820 | 13739202.96 | 2083995.51 | 857.80 | PROP |
| 37821 | 13739207.66 | 2083993.80 | 857.74 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 37822 | 13739233.76 | 2083979.01 | 858.65 | PROP |
| 37823 | 13739239.56 | 2083976.91 | 858.72 | PROP |
| 37824 | 13739235.47 | 2083983.71 | 858.58 | PROP |
| 37825 | 13739241.27 | 2083981.61 | 858.65 | PROP |
| 37826 | 13739244.01 | 2083975.29 | 858.79 | PROP |
| 37827 | 13739249.22 | 2083974.99 | 858.86 | PROP |
| 37828 | 13739245.03 | 2083980.24 | 858.72 | PROP |
| 37829 | 13739250.24 | 2083979.94 | 858.79 | PROP |
| 37830 | 13739183.18 | 2083994.80 | 857.70 | PROP |
| 37831 | 13739186.00 | 2083993.76 | 857.74 | PROP |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

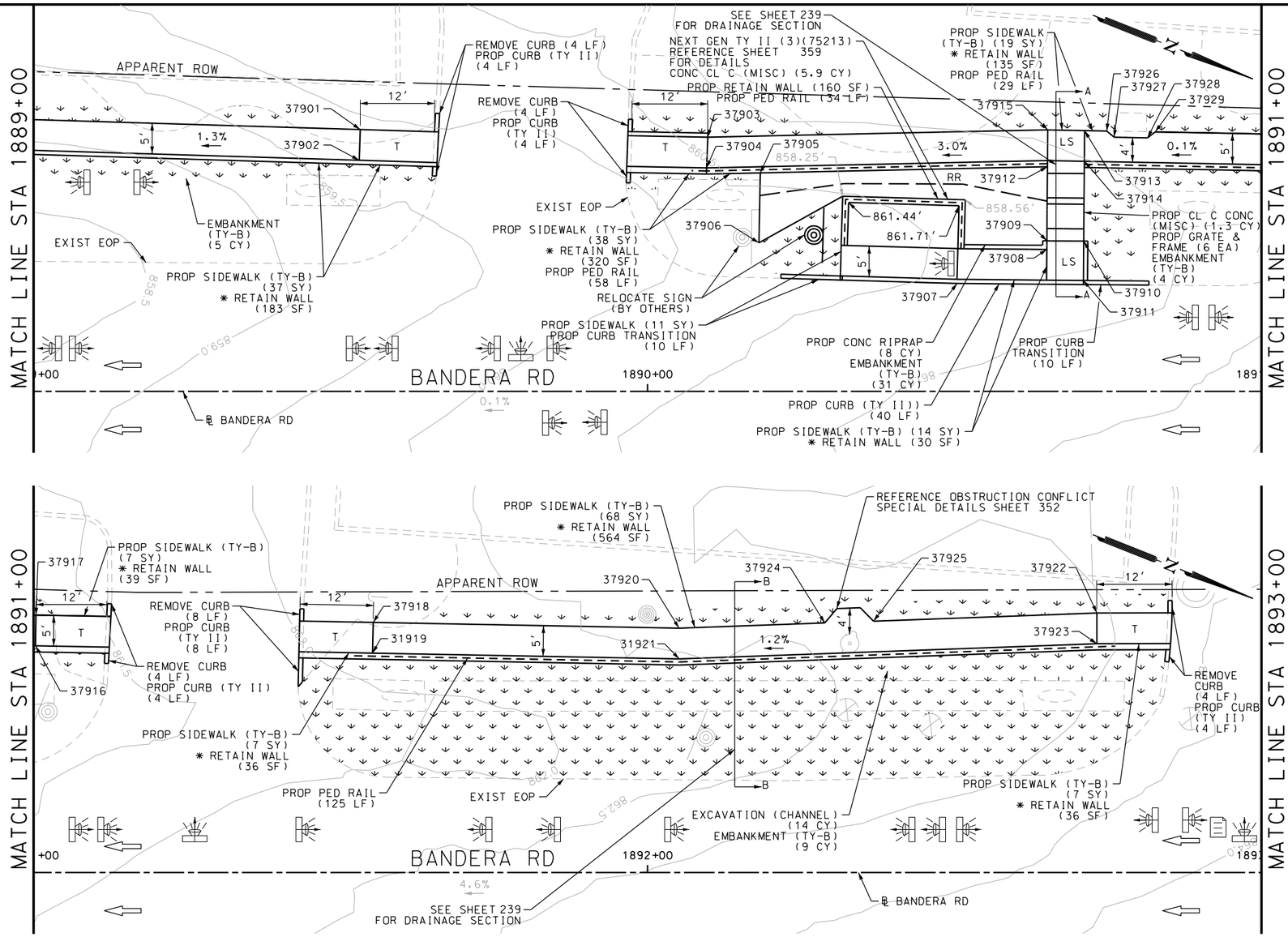
STA 1885+00 TO STA 1889+00

SHEET 48 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 341 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507+Bandera Dr+EB+79.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 24 |
| 0110-6002 | EXCAVATION (CHANNEL) | CY | 14 |
| 0132-6003 | EMBANKMENT (FINAL)(ORD COMP)(TY B) | CY | 49 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 430 |
| 0162-6002 | BLOCK SODDING | SY | 430 |
| 0168-6001 | VEGETATIVE WATERING | MG | 6.71 |
| 0420-6074 | CL C CONC (MISC) | CY | 7.2 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 160 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 8 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 212 |
| 0471-6003 | GRATE & FRAME | EA | 6 |
| 0529-6002 | CONC CURB (TY II) | LF | 84 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 11 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 197 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 37901 | 13739332.18 | 2083944.76 | 860.04 | PROP |
| 37902 | 13739333.89 | 2083949.46 | 859.97 | PROP |
| 37903 | 13739385.21 | 2083924.93 | 860.17 | PROP |
| 37904 | 13739386.90 | 2083929.64 | 860.10 | PROP |
| 37905 | 13739395.32 | 2083927.16 | -- | ME |
| 37906 | 13739399.33 | 2083937.84 | -- | ME |
| 37907 | 13739431.78 | 2083932.01 | -- | ME |
| 37908 | 13739443.28 | 2083921.45 | 861.72 | PROP |
| 37909 | 13739442.77 | 2083920.14 | 861.73 | PROP |
| 37910 | 13739448.36 | 2083917.97 | 861.80 | PROP |
| 37911 | 13739450.69 | 2083923.93 | -- | ME |
| 37912 | 13739438.03 | 2083907.96 | 861.79 | PROP |
| 37913 | 13739441.83 | 2083901.19 | 861.93 | PROP |
| 37914 | 13739443.65 | 2083905.85 | 861.86 | PROP |
| 37915 | 13739436.22 | 2083903.31 | 861.86 | PROP |
| 37916 | 13739470.93 | 2083895.55 | 861.91 | PROP |
| 37917 | 13739469.16 | 2083890.87 | 861.98 | PROP |
| 37918 | 13739520.62 | 2083871.66 | 862.50 | PROP |
| 37919 | 13739522.38 | 2083876.33 | 862.43 | PROP |
| 37920 | 13739567.23 | 2083854.05 | 863.03 | PROP |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 37921 | 13739569.13 | 2083858.68 | 862.98 | PROP |
| 37922 | 13739629.52 | 2083826.54 | 863.74 | PROP |
| 37923 | 13739631.38 | 2083831.18 | 863.67 | PROP |
| 37924 | 13739588.95 | 2083844.45 | 863.28 | PROP |
| 37925 | 13739596.22 | 2083841.24 | 863.33 | PROP |
| 37926 | 13739445.20 | 2083899.92 | 861.94 | PROP |
| 37927 | 13739446.69 | 2083900.42 | 861.94 | PROP |
| 37928 | 13739451.80 | 2083898.49 | 861.95 | PROP |
| 37929 | 13739452.58 | 2083897.13 | 861.95 | PROP |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

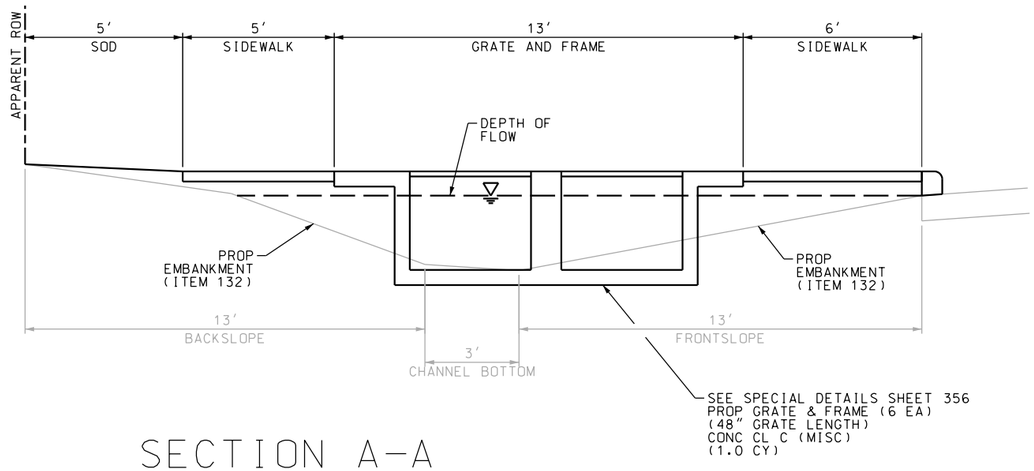
STA 1889+00 TO STA 1893+00

SHEET 49 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 342 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*80.dgn




# SECTION A–A

N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.021 | FT/FT | S | FL SLOPE | 0.021 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.015 | |
| A | AREA | 30.8 | SQ FT | A | AREA | 19.60 | SQ FT |
| P | WETTED PERIMETER | 23.2 | FT | P | WETTED PERIMETER | 17.80 | FT |
| R | HYDRAULIC RADIUS | 1.33 | FT | R | HYDRAULIC RADIUS | 1.10 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 267.1 | CFS | Q | DISCHARGE | 300.0 | CFS |

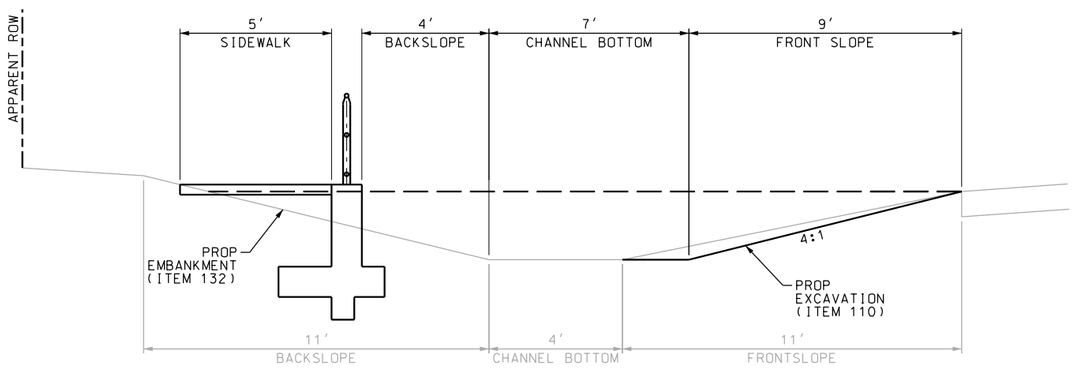
NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019




# SECTION B–B

N.T.S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.013 | FT/FT | S | FL SLOPE | 0.013 | FT/FT |
| n | MANNING'S N-VALUE | 0.03 | | n | MANNING'S N-VALUE | 0.030 | |
| A | AREA | 32.9 | SQ FT | A | AREA | 32.30 | SQ FT |
| P | WETTED PERIMETER | 25.4 | FT | P | WETTED PERIMETER | 21.40 | FT |
| R | HYDRAULIC RADIUS | 1.30 | FT | R | HYDRAULIC RADIUS | 1.51 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 220.8 | CFS | Q | DISCHARGE | 240.0 | CFS |

SCALE: PLAN 1"= 20′

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

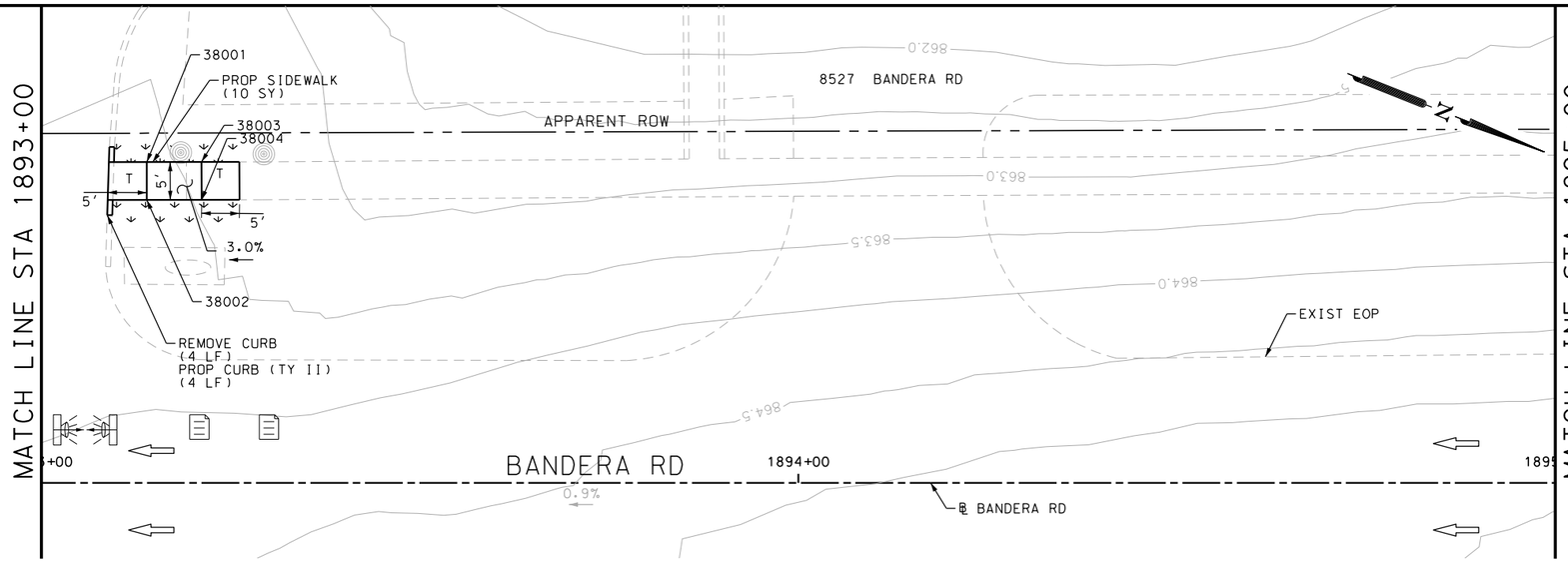
STA 1889+00 TO STA 1893+00

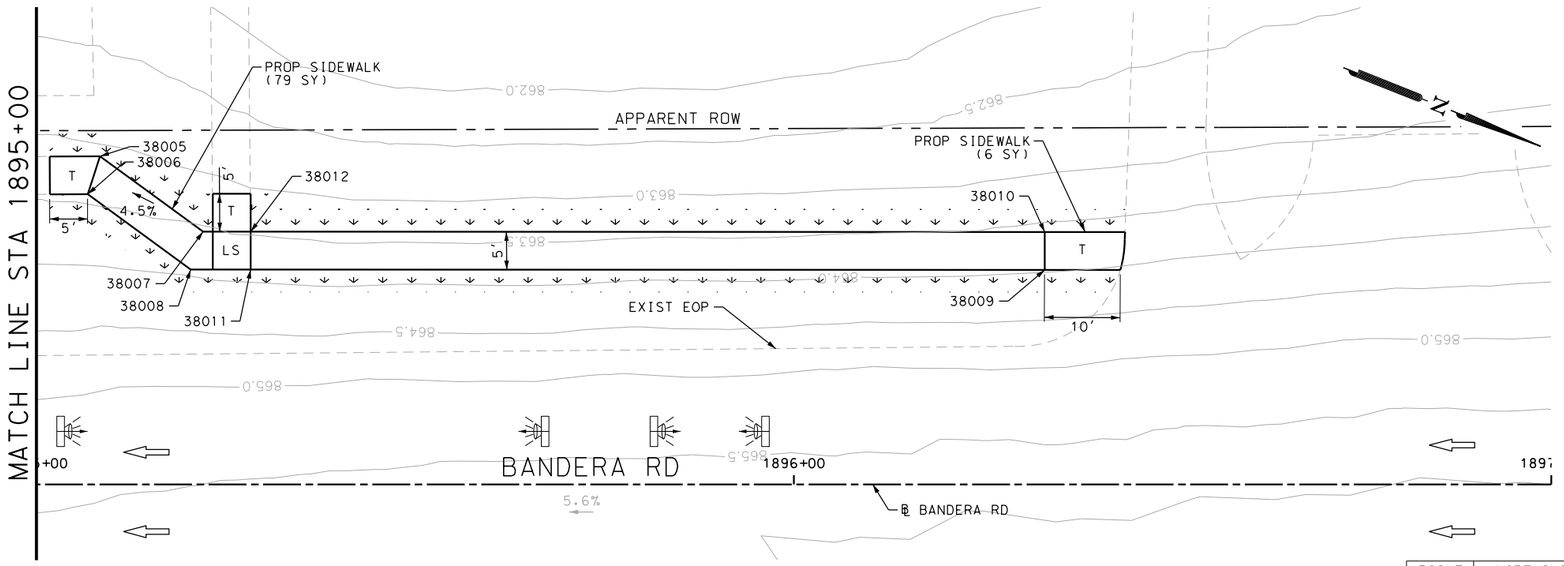
SHEET 50 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DW: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DW: | SAT | BEXAR | 0915 | 12 | 576 | 343 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\111507*Bandera Dr*EB*80*A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 4 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 106 |
| 0162-6002 | BLOCK SODDING | SY | 106 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.65 |
| 0529-6002 | CONC CURB (TY II) | LF | 4 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 95 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 38001 | 13739667.32 | 2083811.35 | 863.77 | PROP |
| 38002 | 13739669.18 | 2083815.99 | 863.70 | PROP |
| 38003 | 13739674.03 | 2083808.65 | 863.98 | PROP |
| 38004 | 13739675.90 | 2083813.29 | 863.91 | PROP |
| 38005 | 13739847.58 | 2083738.38 | 862.44 | PROP |
| 38006 | 13739847.93 | 2083743.63 | 862.51 | PROP |
| 38007 | 13739863.91 | 2083742.57 | 863.58 | PROP |
| 38008 | 13739864.25 | 2083747.82 | 863.65 | PROP |
| 38009 | 13739968.98 | 2083706.08 | 864.00 | PROP |
| 38010 | 13739967.13 | 2083701.44 | 863.93 | PROP |
| 38011 | 13739871.60 | 2083744.89 | 863.57 | PROP |
| 38012 | 13739869.74 | 2083740.25 | 863.50 | PROP |

NOTES:
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2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

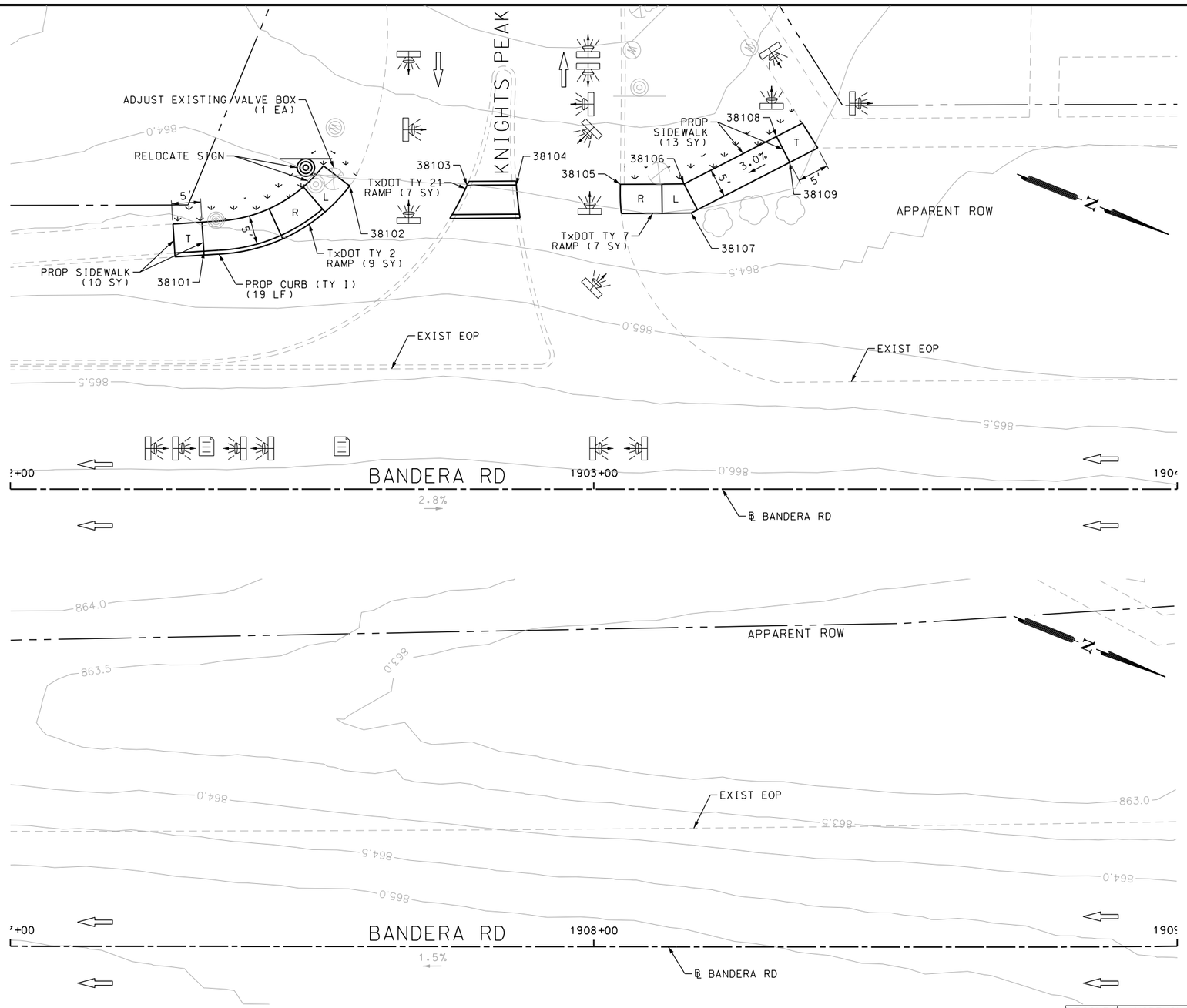
STA 1893+00 TO STA 1897+00

SHEET 51 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 344 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*81.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 24 |
| 0162-6002 | BLOCK SODDING | SY | 24 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.37 |
| 0529-6001 | CONC CURB (TY I) | LF | 19 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 23 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 9 |
| 0531-6024 | CURB RAMPS (TY 7) | SY | 7 |
| 0531-6030 | CURB RAMPS (TY 21) | SY | 7 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 38101 | 13740521.67 | 2083472.08 | -- | ME |
| 38102 | 13740540.74 | 2083452.44 | -- | ME |
| 38103 | 13740559.39 | 2083444.87 | -- | ME |
| 38104 | 13740567.20 | 2083441.69 | -- | ME |
| 38105 | 13740583.74 | 2083434.97 | -- | ME |
| 38106 | 13740593.86 | 2083430.86 | 863.21 | PROP |
| 38107 | 13740596.85 | 2083435.05 | 863.28 | PROP |
| 38108 | 13740605.55 | 2083417.45 | 863.72 | PROP |
| 38109 | 13740609.32 | 2083420.73 | 863.79 | PROP |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

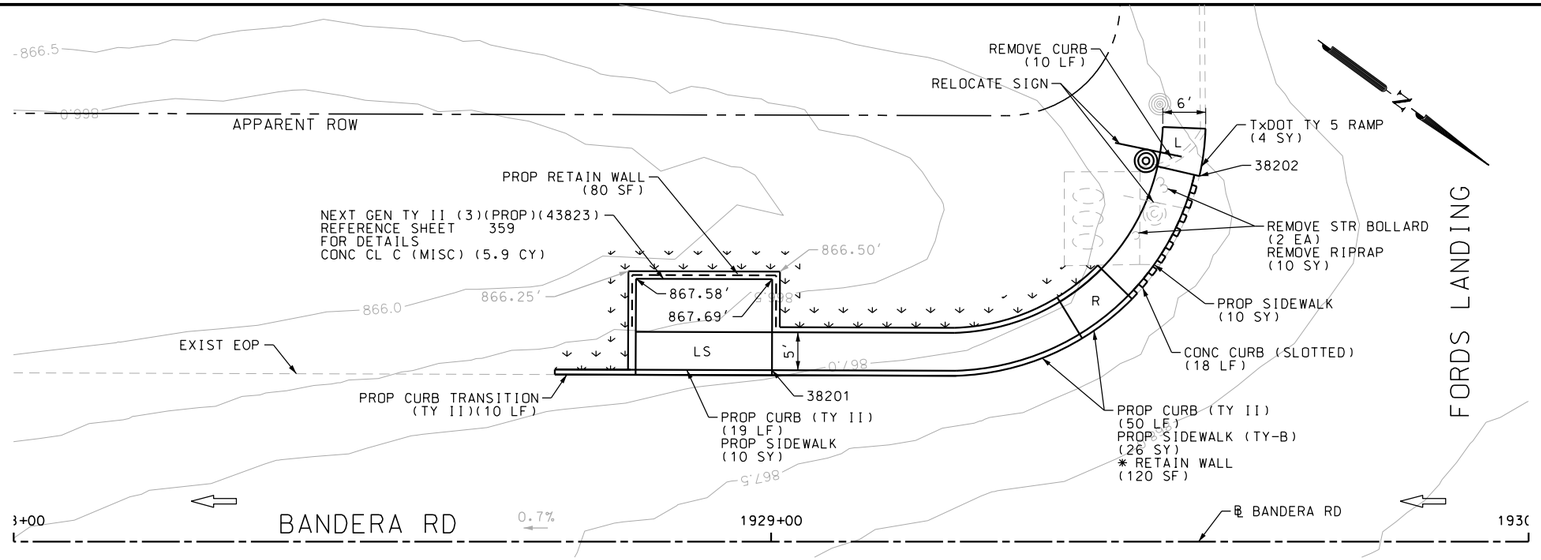
STA 1902+00 TO STA 1904+00
STA 1907+00 TO STA 1909+00

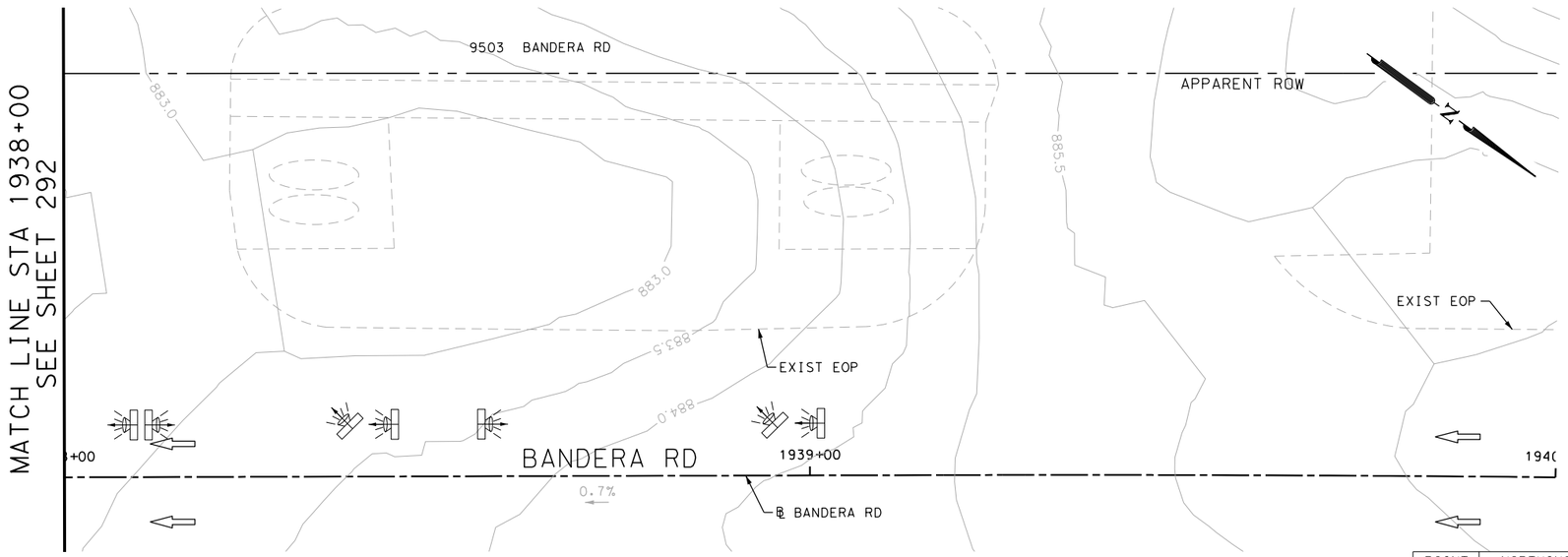


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 345 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*EB*82.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 10 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 40 |
| 0162-6002 | BLOCK SODDING | SY | 40 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.62 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 80 |
| 0450-6048 | RAIL (HANDRAIL)(TY B) | LF | 33 |
| 0496-6030 | REMOVE STR (BOLLARD) | EA | 2 |
| 0529-6002 | CONC CURB (TY II) | LF | 79 |
| 0529-6012 | CONC CURB (SLOTTED) | LF | 18 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 20 |
| 0531-6022 | CURB RAMPS (TY 5) | SY | 4 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 26 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 38201 | 13742813.89 | 2082155.40 | -- | ME |
| 38202 | 13742844.24 | 2082101.37 | -- | ME |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

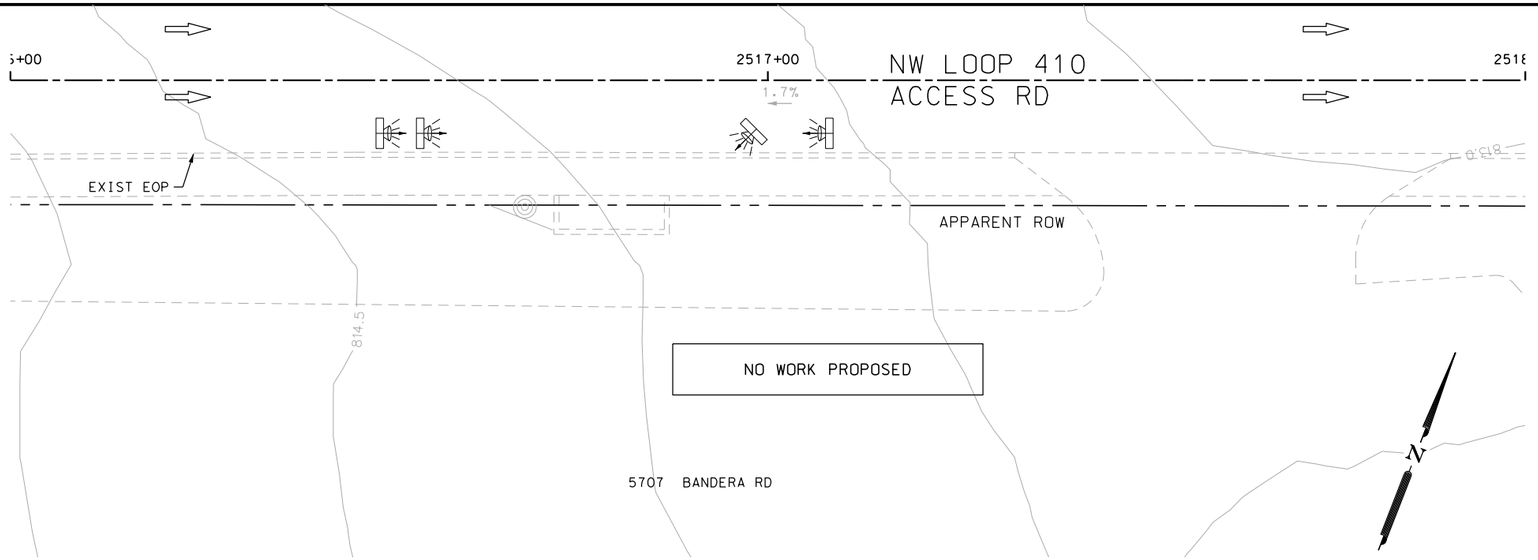
# SIDEWALK CONSTRUCTION PLAN
STA 1928+00 TO STA 1930+00
STA 1938+00 TO STA 1940+00

SHEET 53 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 346 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507+Bandera Dr+EB+83.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 38301 | 13725734.80 | 2096811.17 | -- | ME |
| 38302 | 13725745.31 | 2096838.20 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

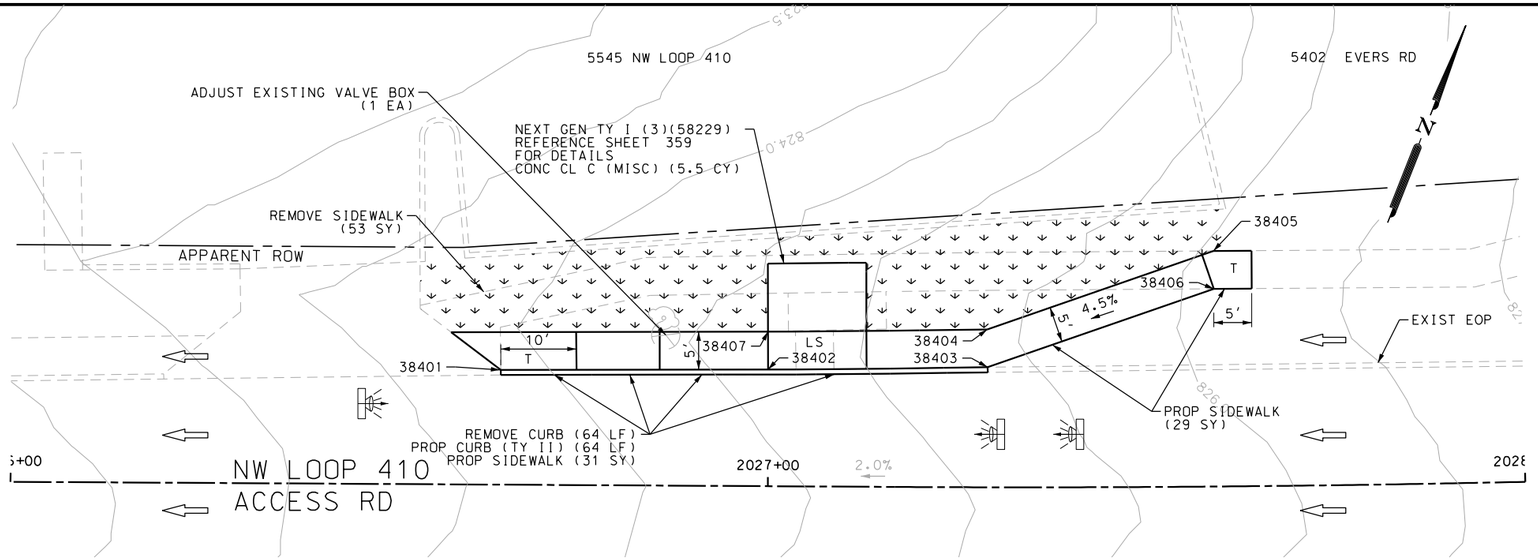
STA 2516+00 TO STA 2518+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 347 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*410 EB*01.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 64 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 53 |
| 0160-6003 | FURNISHING AND PLACING TOPSOIL (4") | SY | 120 |
| 0162-6002 | BLOCK SODDING | SY | 120 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.87 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0529-6002 | CONC CURB (TY II) | LF | 64 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 60 |
| 7196-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 38401 | 13726380.34 | 2097709.70 | -- | ME |
| 38402 | 13726393.44 | 2097742.48 | -- | ME |
| 38403 | 13726404.41 | 2097769.31 | -- | ME |
| 38404 | 13726409.03 | 2097767.41 | -- | ME |
| 38405 | 13726429.68 | 2097791.33 | 826.91 | PROP |
| 38406 | 13726425.06 | 2097793.24 | 826.98 | PROP |
| 38407 | 13726397.71 | 2097739.69 | -- | ME |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 97 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



BANDERA RD

# SIDEWALK CONSTRUCTION PLAN

STA 2026+00 TO STA 2028+00

SHEET 55 OF 55

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 576 | 348 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\07\design\Civil\Roadway\Bandera Dr\1113507*Bandera Dr*410 WB*02.dgn

| FED. RD. DIV. NO. | FEDERAL AID PROJECT NO. | | SHEET NO. |
|---|---|---|---|
| 6 | | | 1 |
| STATE | STATE DIST. | COUNTY | |
| TEXAS | SAT | BEXAR | |
| CONT. | SECT. | JOB | HIGHWAY NO. |
| 0915 | 12 | 574 | VARIES |

# STATE OF TEXAS
## DEPARTMENT OF TRANSPORTATION

## PLANS OF PROPOSED
## STATE HIGHWAY IMPROVEMENT

FEDERAL AID PROJECT.

## BEXAR COUNTY
## VARIES

PROJ NO:
CSJ: 0915-12-574
FROM: VARIOUS LOCATIONS IN BEXAR COUNTY
TO: ON STATE SYSTEM
NET LENGTH: 0.001 MI
CONSTRUCT CURB RAMPS, SIDEWALKS AND OTHER PEDESTRIAN RELATED INFRASTRUCTURE

DESIGN SPEED = N/A
AREA OF DISTURBED SOIL = 0.55 ACRES
ADT: N/A

INDEX OF SHEETS

| SHEET NO. | DESCRIPTION |
|---|---|
| SEE SHEETS 2-4 FOR INDEX OF SHEETS | |

CSJ 0915-12-574
BEGIN LOOP 410-B
STA 1303+00

CSJ 0915-12-574
END LOOP 410-B
STA 1460+00

CSJ 0915-12-574
BEGIN FREDERICKSBURG RD
STA 909+00

CSJ 0915-12-574
END FREDERICKSBURG RD
STA 1088+00

CSJ 0915-12-574
BEGIN CULEBRA RD
STA 800+00

CSJ 0915-12-574
END CULEBRA RD
STA 859+00

CSJ 915-12-574
END NOGALITOS ST
STA 144+00

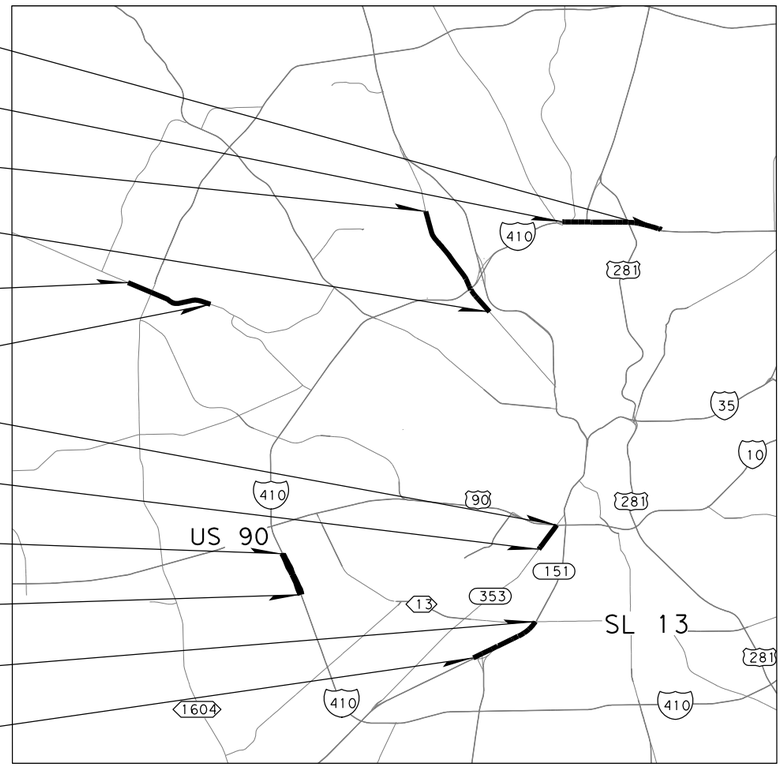
CSJ 0915-12-574
BEGIN NOGALITOS ST
STA 100+00

CSJ 0915-12-574
END SW LOOP 410
STA 253+00

CSJ 0915-12-574
BEGIN SW LOOP 410
STA 200+00

CSJ 0915-12-574
END IH 35 ACCESS RD
STA 557+00

CSJ 0915-12-574
BEGIN IH 35 ACCESS RD
STA 452+00




N

LOCATION MAP NOT TO SCALE

EXCEPTIONS: NONE
EQUATIONS: NONE
RR X-ING'S: NONE

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, NOVEMBER 1, 2014 AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS, SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHWA 1273, MAY, 2012).



REGISTERED ACCESSIBILITY SPECIALIST (RAS) INSPECTION REQUIRED. TDLR NO. EABPRJ: _____

FINAL PLANS

LETTING DATE: _____

DATE CONTRACTOR BEGAN WORK: _____

DATE WORK WAS ACCEPTED: _____

FINAL CONTRACT COST: $ _____

CONTRACTOR: _____

FINAL PLANS STATEMENT:

THE CONSTRUCTION WORK WAS PERFORMED IN ACCORDANCE WITH THE PLANS.

_____ P.E. _____
AREA ENGINEER DATE

TEXAS DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR LETTING

DESIGN SUPPORT DIRECTOR

RECOMMENDED FOR LETTING

DIRECTOR OF TRANSPORTATION, PLANNING & DEVELOPMENT

APPROVED FOR LETTING

DISTRICT ENGINEER

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\1113508_TitleSht.dgn

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\1113508_Index01.dgn

| SHEET NO. | DESCRIPTION |
|---|---|
| | GENERAL |
| 1 | TITLE SHEET |
| 2-4 | INDEX OF SHEETS |
| 5-8 | PROJECT LAYOUT MAPS |
| 9-14 | TYPICAL SECTIONS |
| 15-27 | GENERAL NOTES |
| 28 | ESTIMATE AND QUANTITIES |
| 29-31 | SUMMARY OF ROADWAY QUANTITIES |
| 32-33 | SUMMARY OF SIGNAGE AND PAVEMENT MARKINGS QUANTITIES |
| 34 | SUMMARY OF UTILITY QUANTITIES |
| 35 | SUMMARY OF INDEFINITE QUANTITIES |
| | TRAFFIC CONTROL PLAN |
| 36-39 | TRAFFIC CONTROL PLAN ADVANCE WARNING DEVICES |
| 40 | NARRATIVE |
| | TRAFFIC CONTROL PLAN STANDARDS |
| 41 | *BC(1)-14 |
| 42 | *BC(2)-14 |
| 43 | *BC(3)-14 |
| 44 | *BC(4)-14 |
| 45 | *BC(5)-14 |
| 46 | *BC(6)-14 |
| 47 | *BC(7)-14 |
| 48 | *BC(8)-14 |
| 49 | *BC(9)-14 |
| 50 | *BC(10)-14 |
| 51 | *BC(11)-14 |
| 52 | *BC(12)-14 |
| 53 | *TCP(1-1)-18 |
| 54 | *TCP(1-4)-18 |
| 55 | *TCP(2-6)-18 |
| 56 | *WZ(BTS-1)-13 |
| 57 | *WZ(BTS-2)-13 |
| 58 | *WZ(UL)-13 |
| | ROADWAY DETAILS |
| 59-75 | HORIZONTAL AND VERTICAL CONTROL SHEETS |
| 76-88 | HORIZONTAL ALIGNMENT DATA SHEET |
| 89 | SAMPLE PLAN LAYOUT AND LEGEND OF SYMBOLS |
| | SL 353 NOGALITOS ST |
| 349 | SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 102+00 |
| 350 | SIDEWALK CONSTRUCTION PLAN STA 102+00 TO STA 104+00 |
| 351 | SIDEWALK CONSTRUCTION PLAN STA 104+00 TO STA 106+00 |
| 352 | SIDEWALK CONSTRUCTION PLAN STA 106+00 TO STA 107+50 |
| 353 | SIDEWALK CONSTRUCTION PLAN STA 107+50 TO STA 109+50 |
| 354 | SIDEWALK CONSTRUCTION PLAN STA 109+50 TO STA 111+00 |
| 355 | SIDEWALK CONSTRUCTION PLAN STA 111+00 TO STA 113+00 |
| 356 | SIDEWALK CONSTRUCTION PLAN STA 113+00 TO STA 114+50 |
| 357 | SIDEWALK CONSTRUCTION PLAN STA 114+50 TO STA 116+50 |
| 358 | SIDEWALK CONSTRUCTION PLAN STA 114+50 TO STA 116+50 POINT TABLES |
| 359 | SIDEWALK CONSTRUCTION PLAN STA 116+50 TO STA 118+00 |
| 360 | SIDEWALK CONSTRUCTION PLAN STA 118+00 TO STA 119+50 |
| 361 | SIDEWALK CONSTRUCTION PLAN STA 119+50 TO STA 121+50 |
| 362 | SIDEWALK CONSTRUCTION PLAN STA 121+50 TO STA 123+00 |
| 363 | SIDEWALK CONSTRUCTION PLAN STA 123+00 TO STA 125+00 |
| 364 | SIDEWALK CONSTRUCTION PLAN STA 123+00 TO STA 125+00 DETAILS |
| 365 | SIDEWALK CONSTRUCTION PLAN STA 125+00 TO STA 127+00 |
| 366 | SIDEWALK CONSTRUCTION PLAN STA 125+00 TO STA 127+00 DETAILS |
| 367 | SIDEWALK CONSTRUCTION PLAN STA 127+00 TO STA 128+50 |
| 368 | SIDEWALK CONSTRUCTION PLAN STA 127+00 TO STA 128+50 DETAILS |
| 369 | SIDEWALK CONSTRUCTION PLAN STA 128+50 TO STA 130+50 |
| 370 | SIDEWALK CONSTRUCTION PLAN STA 128+50 TO STA 130+50 DETAILS |
| 371 | SIDEWALK CONSTRUCTION PLAN STA 130+50 TO STA 132+00 |
| 372 | SIDEWALK CONSTRUCTION PLAN STA 132+00 TO STA 134+00 |
| 373 | SIDEWALK CONSTRUCTION PLAN STA 132+00 TO STA 134+00 DETAILS |
| 374 | SIDEWALK CONSTRUCTION PLAN STA 134+00 TO STA 135+50 |
| 375 | SIDEWALK CONSTRUCTION PLAN STA 134+00 TO STA 135+50 DETAILS |
| 376 | SIDEWALK CONSTRUCTION PLAN STA 135+50 TO STA 136+75 |
| 377 | SIDEWALK CONSTRUCTION PLAN STA 136+75 TO STA 138+75 |
| 378 | SIDEWALK CONSTRUCTION PLAN STA 136+75 TO STA 138+75 DETAILS |
| 379 | SIDEWALK CONSTRUCTION PLAN STA 138+75 TO STA 140+75 |
| 380 | SIDEWALK CONSTRUCTION PLAN STA 138+75 TO STA 140+75 DETAILS |
| 381 | SIDEWALK CONSTRUCTION PLAN STA 140+75 TO STA 142+75 |
| 382 | SIDEWALK CONSTRUCTION PLAN STA 140+75 TO STA 142+75 DETAILS |
| 383 | SIDEWALK CONSTRUCTION PLAN STA 142+75 TO END PROJECT |
| 384 | SIDEWALK CONSTRUCTION PLAN STA 142+75 TO END PROJECT DETAILS |

| SHEET NO. | DESCRIPTION |
|---|---|
| | SL 13 SW MILITARY B CONT |
| | SW LOOP 410 |
| 385 | NB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 209+00, STA 216+00 TO STA 218+00 |
| 386 | NB SIDEWALK CONSTRUCTION PLAN STA 223+00 TO END PROJECT |
| 387 | SB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO 284+00 |
| 388 | SB SIDEWALK CONSTRUCTION PLAN STA 284+00 TO 288+00 |
| 389 | SB SIDEWALK CONSTRUCTION PLAN STA 291+00 TO 295+00 |
| 390 | SB SIDEWALK CONSTRUCTION PLAN STA 295+00 TO 299+00 |
| 391 | SB SIDEWALK CONSTRUCTION PLAN STA 329+00 TO END PROJECT |
| | IH 35 ACCESS RD |
| 392 | SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 361+00 |
| 393 | SIDEWALK CONSTRUCTION PLAN STA 361+00 TO STA 365+00 |
| 394 | SIDEWALK CONSTRUCTION PLAN STA 365+00 TO STA 369+00 |
| 395 | SIDEWALK CONSTRUCTION PLAN STA 369+00 TO STA 373+00 |
| 396 | SIDEWALK CONSTRUCTION PLAN STA 373+00 TO STA 377+00 |
| 397 | SIDEWALK CONSTRUCTION PLAN STA 377+00 TO STA 381+00 |
| 398 | SIDEWALK CONSTRUCTION PLAN STA 381+00 TO STA 385+00 |
| 399 | SIDEWALK CONSTRUCTION PLAN STA 385+00 TO STA 389+00 |
| 400 | SIDEWALK CONSTRUCTION PLAN STA 389+00 TO STA 393+00 |
| 401 | SIDEWALK CONSTRUCTION PLAN STA 393+00 TO STA 397+00 |
| 402 | SIDEWALK CONSTRUCTION PLAN STA 397+00 TO STA 401+00 |
| 403 | SIDEWALK CONSTRUCTION PLAN STA 409+00 TO STA 413+00 |
| 404 | SIDEWALK CONSTRUCTION PLAN STA 427+00 TO END PROJECT |
| 405 | SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 456+00 |
| 406 | SIDEWALK CONSTRUCTION PLAN STA 456+00 TO STA 460+00 |
| 407 | SIDEWALK CONSTRUCTION PLAN STA 460+00 TO STA 464+00 |
| 408 | SIDEWALK CONSTRUCTION PLAN STA 464+00 TO STA 467+50 |
| 409 | SIDEWALK CONSTRUCTION PLAN STA 467+50 TO STA 471+00 |
| 410 | SIDEWALK CONSTRUCTION PLAN STA 471+00 TO STA 475+00 |
| 411 | SIDEWALK CONSTRUCTION PLAN STA 475+00 TO STA 479+00 |
| 412 | SIDEWALK CONSTRUCTION PLAN STA 479+00 TO STA 483+00 |
| 413 | SIDEWALK CONSTRUCTION PLAN STA 483+00 TO STA 487+00 |
| 414 | SIDEWALK CONSTRUCTION PLAN STA 487+00 TO STA 491+00 |
| 415 | SIDEWALK CONSTRUCTION PLAN STA 491+00 TO STA 495+00 |
| 416 | SIDEWALK CONSTRUCTION PLAN STA XXX+XX TO STA XXX+XX |
| 417 | SIDEWALK CONSTRUCTION PLAN STA 503+00 TO STA 507+00 |
| 418 | SIDEWALK CONSTRUCTION PLAN STA 507+00 TO STA 511+00 |
| 419 | SIDEWALK CONSTRUCTION PLAN STA 511+00 TO STA 515+00 |
| 420 | SIDEWALK CONSTRUCTION PLAN STA 515+00 TO STA 518+00 |
| 421 | SIDEWALK CONSTRUCTION PLAN STA 518+00 TO STA 522+00 |
| 422 | SIDEWALK CONSTRUCTION PLAN STA 522+00 TO STA 526+00 |
| 423 | SIDEWALK CONSTRUCTION PLAN STA 532+00 TO STA 536+00 |
| 424 | SIDEWALK CONSTRUCTION PLAN STA 536+00 TO STA 540+00 |
| 425 | SIDEWALK CONSTRUCTION PLAN STA 540+00 TO STA 544+00 |
| 426 | SIDEWALK CONSTRUCTION PLAN STA 544+00 TO STA 547+00 |
| 427 | SIDEWALK CONSTRUCTION PLAN STA 547+00 TO STA 551+00 |
| 428 | SIDEWALK CONSTRUCTION PLAN STA 551+00 TO STA 555+00 |
| 429 | SIDEWALK CONSTRUCTION PLAN STA 555+00 TO STA END PROJECT |
| | SL 345 FREDERICKSBURG RD |
| 430 | SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 911+00, STA 913+00 TO STA 915+00 |
| 431 | SIDEWALK CONSTRUCTION PLAN STA 927+50 TO STA 929+50, STA 939+00 TO STA 941+00 |
| 432 | SIDEWALK CONSTRUCTION PLAN STA 952+25 TO STA 954+00, STA 1152+50 TO STA 1154+25 |
| 433 | SIDEWALK CONSTRUCTION PLAN STA 977+00 TO STA 981+00 |
| 434 | SIDEWALK CONSTRUCTION PLAN STA 983+00 TO STA 985+00, STA 1183+00 TO STA 1185+00 |
| 435 | SIDEWALK CONSTRUCTION PLAN STA 997+00 TO STA 999+00, STA 1008+00 TO STA 1010+00 |
| 436 | SIDEWALK CONSTRUCTION PLAN STA 1013+75 TO STA 1015+50, STA 1213+50 TO STA 1215+50 |
| 437 | SIDEWALK CONSTRUCTION PLAN STA 1027+00 TO STA 1029+00, STA 1035+00 TO STA 1037+00 |
| 438 | SIDEWALK CONSTRUCTION PLAN STA 1043+50 TO STA 1045+50, STA 1243+50 TO STA 1245+00 |
| 439 | SIDEWALK CONSTRUCTION PLAN STA 1045+50 TO STA 1048+50 |
| 440 | SIDEWALK CONSTRUCTION PLAN STA 1048+50 TO STA 1050+50, STA 1248+00 TO STA 1250+00 |
| 441 | SIDEWALK CONSTRUCTION PLAN STA 1050+50 TO STA 1054+50 |
| 442 | SIDEWALK CONSTRUCTION PLAN STA 1054+50 TO STA 1056+50, STA 1254+00 TO STA 1256+00 |
| 443-444 | SIDEWALK CONSTRUCTION PLAN STA 1056+50 TO STA 1058+50, STA 1256+00 TO STA 1258+00 |
| 445 | SIDEWALK CONSTRUCTION PLAN STA 1058+50 TO STA 1060+50 |
| 446 | SIDEWALK CONSTRUCTION PLAN STA 1060+50 TO STA 1063+25 |
| 447 | SIDEWALK CONSTRUCTION PLAN STA 1063+25 TO STA 1065+25, STA 1263+00 TO STA 1265+00 |
| 448 | SIDEWALK CONSTRUCTION PLAN STA 1065+25 TO STA 1069+00 |
| 449 | SIDEWALK CONSTRUCTION PLAN STA 1069+00 TO STA 1071+00 |
| 450 | SIDEWALK CONSTRUCTION PLAN STA 1071+00 TO STA 1073+00, STA 1271+50 TO STA 1272+50 |
| 451 | SIDEWALK CONSTRUCTION PLAN STA 1073+00 TO STA 1076+50 |
| 452 | SIDEWALK CONSTRUCTION PLAN STA 1076+50 TO STA 1080+00 |
| 453 | SIDEWALK CONSTRUCTION PLAN STA 1080+00 TO STA 1083+00 |
| 454-455 | SIDEWALK CONSTRUCTION PLAN STA 1083+00 TO END PROJECT |
| 456 | SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 1113+00, STA 1175+00 TO STA 1177+00 |
| 457 | SIDEWALK CONSTRUCTION PLAN STA 1198+00 TO STA 1200+00, STA 1225+50 TO STA 1227+50 |
| 458 | SIDEWALK CONSTRUCTION PLAN STA 1245+00 TO STA 1248+00 |

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# INDEX OF SHEETS

SHEET 1 OF 3

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 2 |

DESIGN

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SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
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# INDEX OF SHEETS

SHEET 2 OF 3

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 3 |

Plotted on: 4/10/2019

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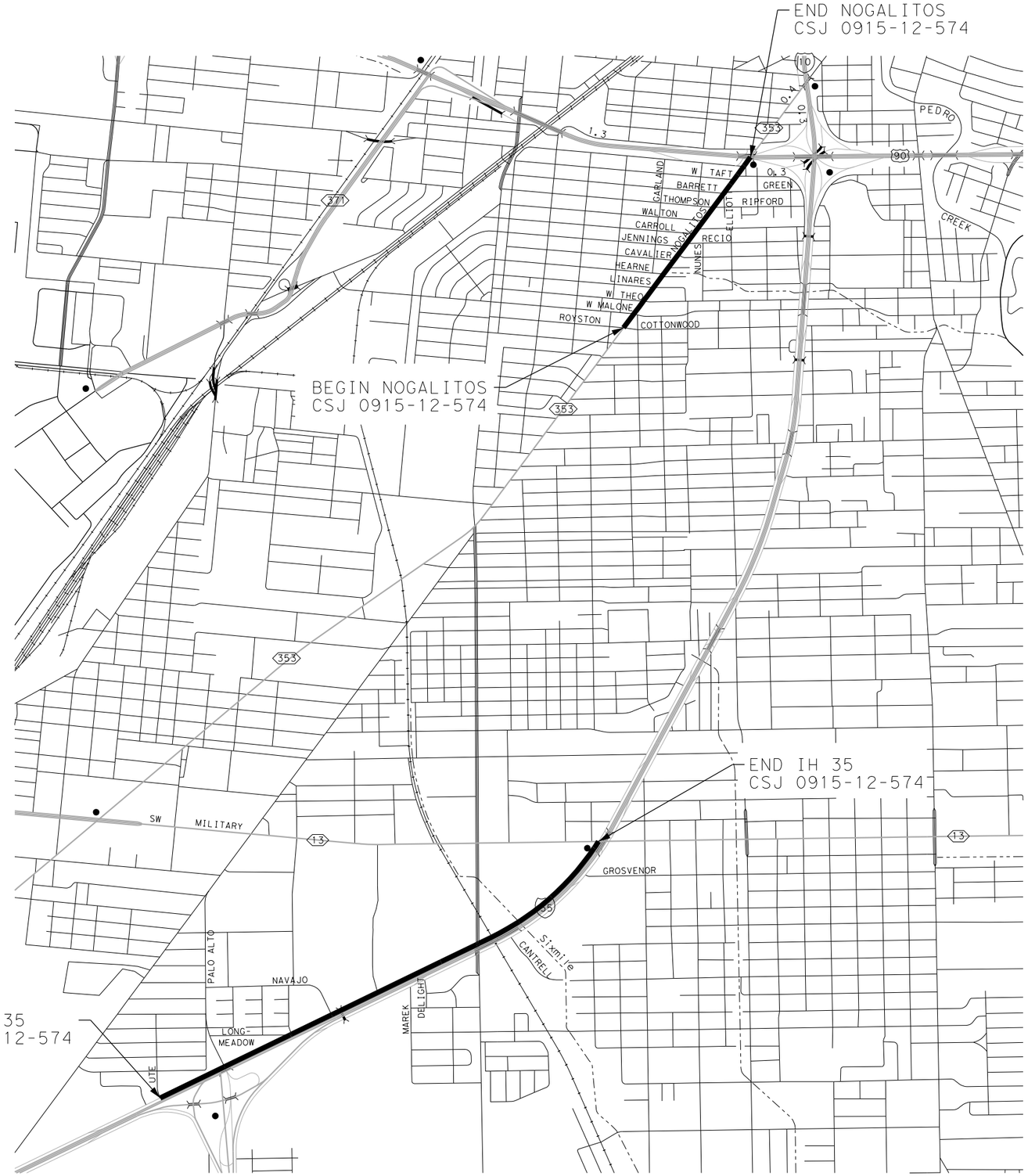


Plotted on: 4/10/2019

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SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




# PROJECT LAYOUT MAPS

SHEET 1 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 5 |

Plotted on: 4/10/2019

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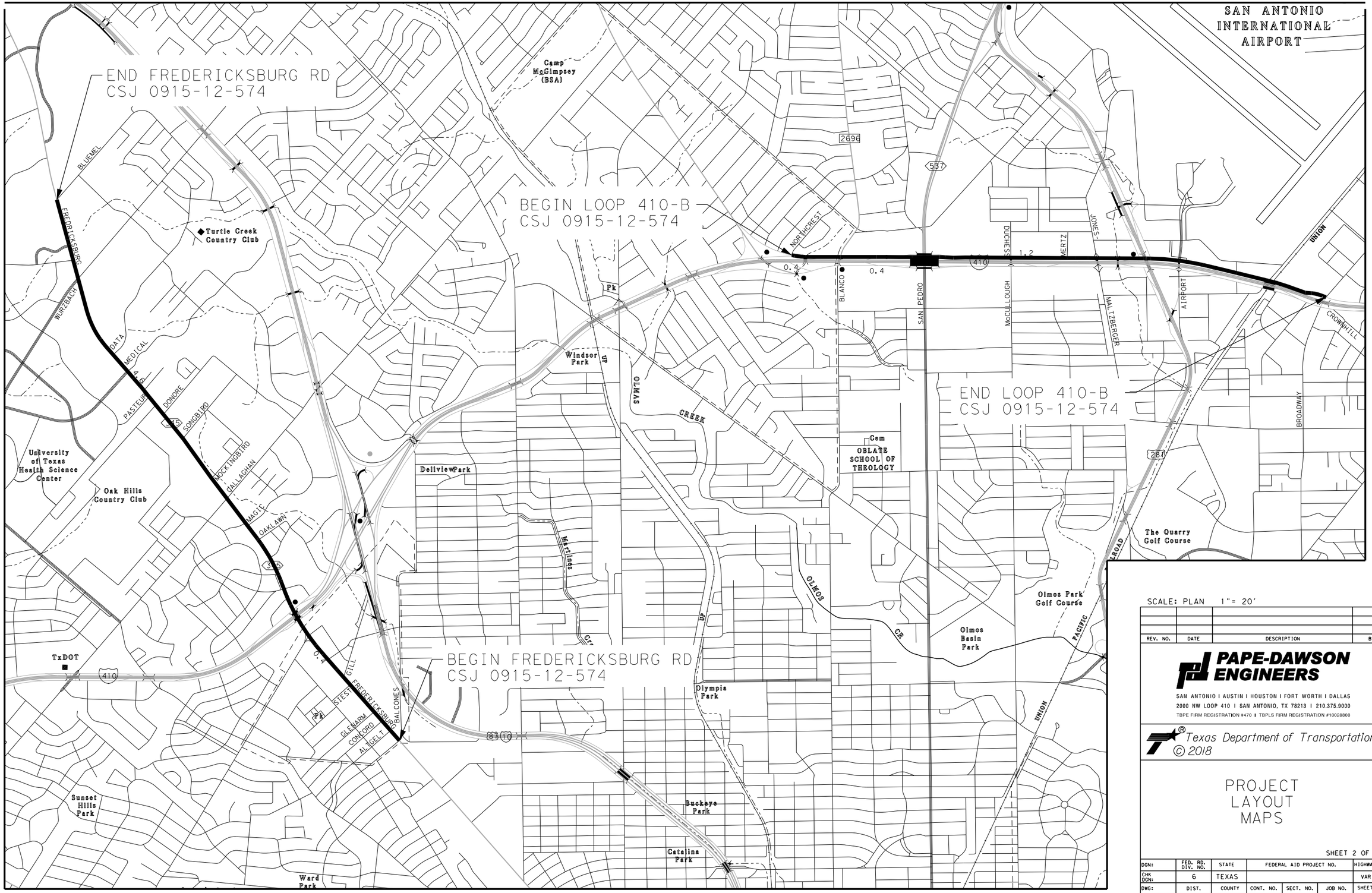


SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS

SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800




# PROJECT LAYOUT MAPS

SHEET 2 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 6 |

Plotted on: 4/10/2019

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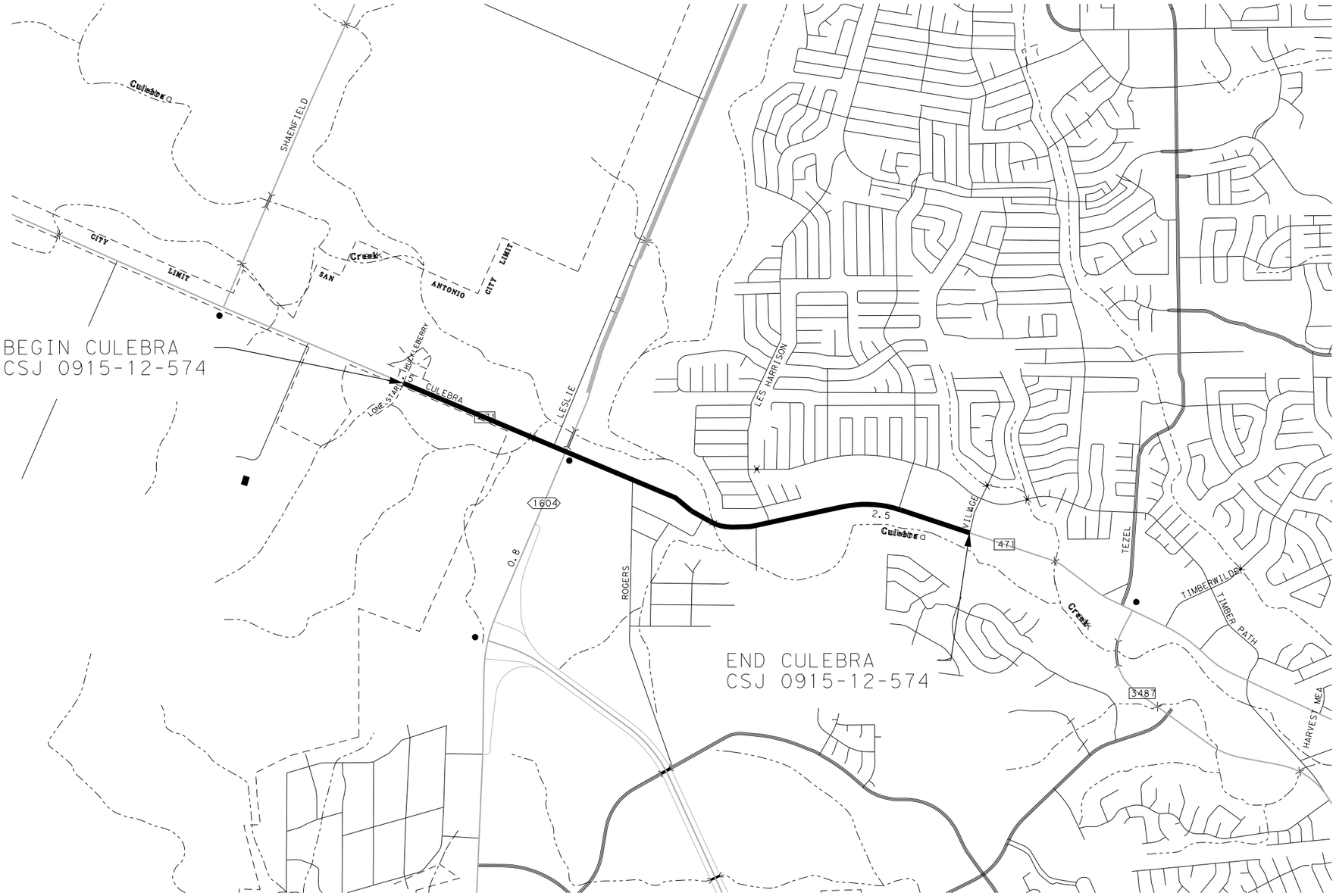


SCALE: PLAN 1"= 20'

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PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




# PROJECT LAYOUT MAPS

SHEET 3 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
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| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 7 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\1113508_ProjLayout.dgn


SCALE: PLAN 1"= 20'

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PAPE-DAWSON ENGINEERS

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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




# PROJECT LAYOUT MAPS

SHEET 4 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 8 |

Plotted on: 4/10/2019

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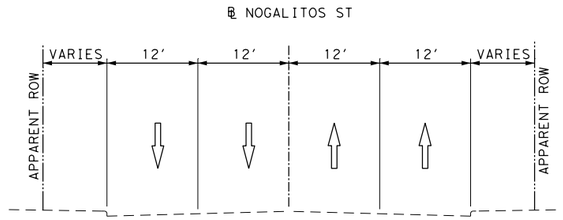
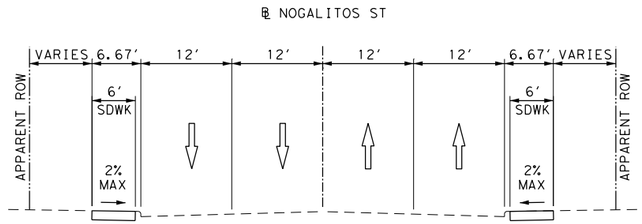



EXISTING TYPICAL SECTION

NOGALITOS ST (SL 353)

NOT TO SCALE

FROM BEGIN PROJECT TO END PROJECT




PROPOSED TYPICAL SECTION

NOGALITOS ST (SL 353)

NOT TO SCALE

FROM BEGIN PROJECT TO END PROJECT

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.

ENGINEER: JOHN A. TYLER

P.E. SERIAL NO: 105193

DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.

ENGINEER: JAMES A. LUTZ

P.E. SERIAL NO: 84722

DATE: 4/10/2019

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

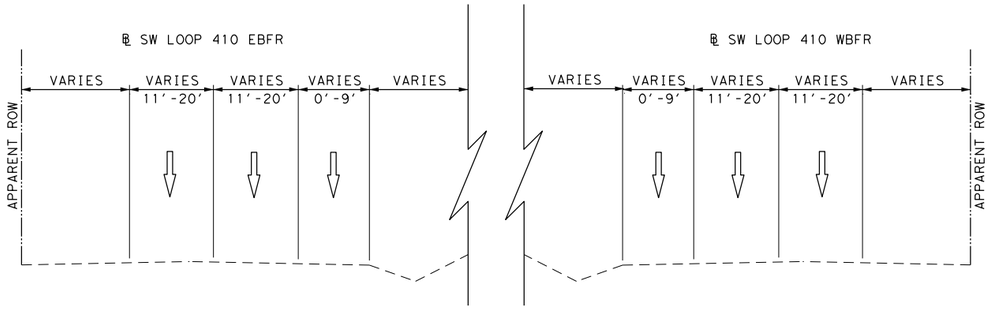
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# TYPICAL SECTIONS

SHEET 1 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 9 |

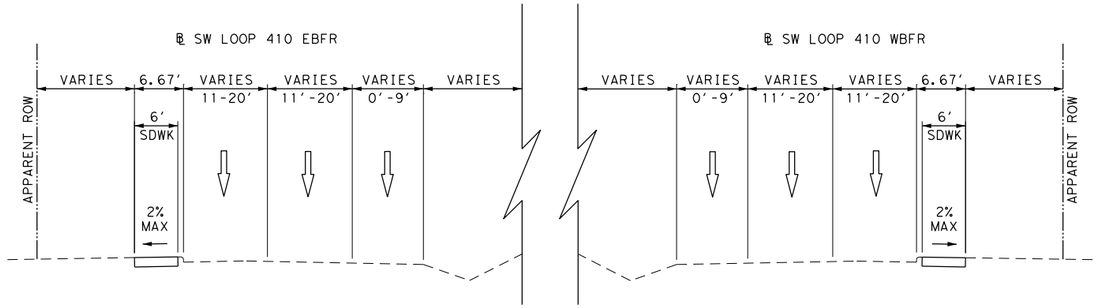



EXISTING TYPICAL SECTION

SW LOOP 410

NOT TO SCALE

FROM BEGIN PROJECT TO END PROJECT




PROPOSED TYPICAL SECTION

SW LOOP 410

NOT TO SCALE

FROM BEGIN PROJECT TO END PROJECT

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.

ENGINEER: JOHN A. TYLER

P.E. SERIAL NO: 105193

DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.

ENGINEER: JAMES A. LUTZ

P.E. SERIAL NO: 84722

DATE: 4/10/2019

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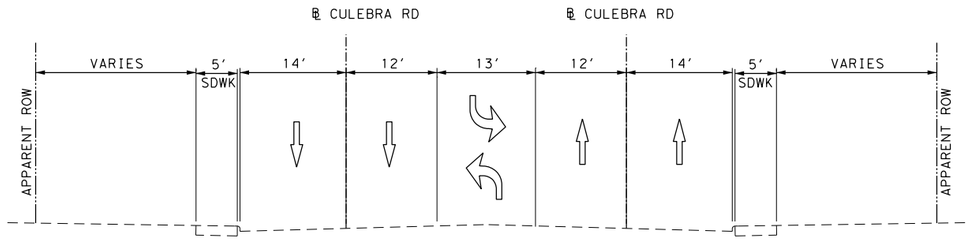
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



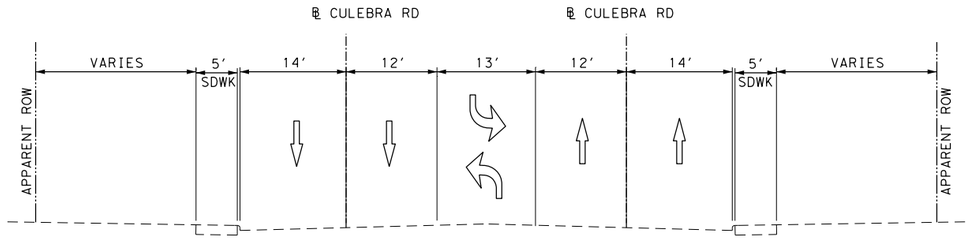
# TYPICAL SECTIONS

SHEET 2 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 10 |




EXISTING TYPICAL SECTION
CULEBRA RD
NOT TO SCALE




PROPOSED TYPICAL SECTION
CULEBRA RD
NOT TO SCALE

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
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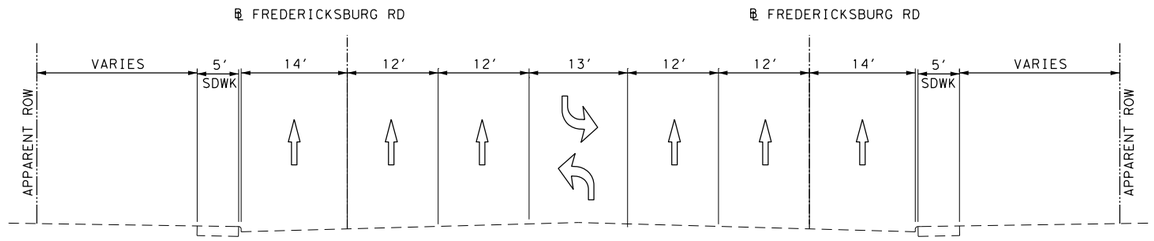
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



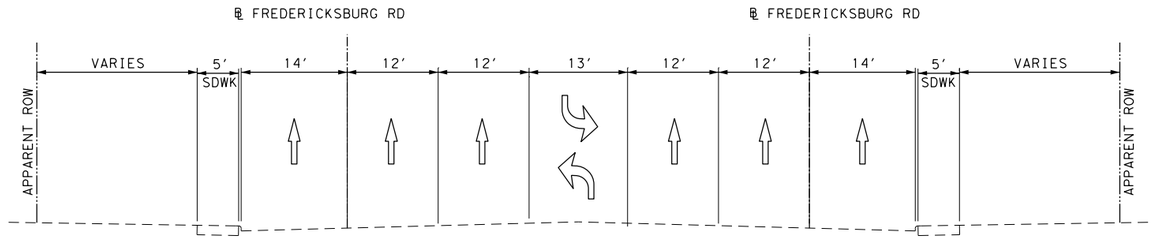
# TYPICAL SECTIONS

SHEET 3 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 11 |




EXISTING TYPICAL SECTION
FREDERICKSBURG RD
NOT TO SCALE




PROPOSED TYPICAL SECTION
FREDERICKSBURG RD
NOT TO SCALE

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

| REV. NO. | DATE | DESCRIPTION | BY |
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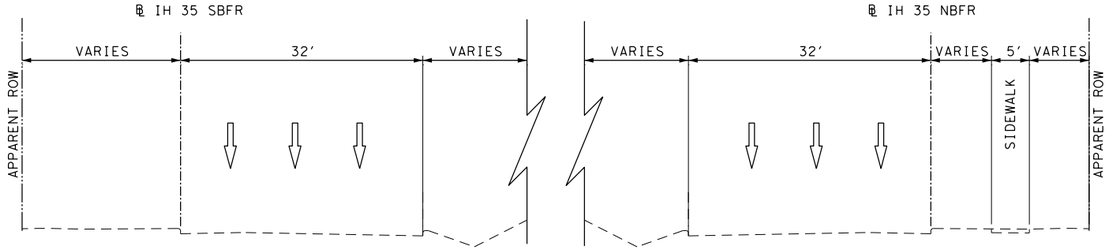
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# TYPICAL SECTIONS

SHEET 4 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 12 |

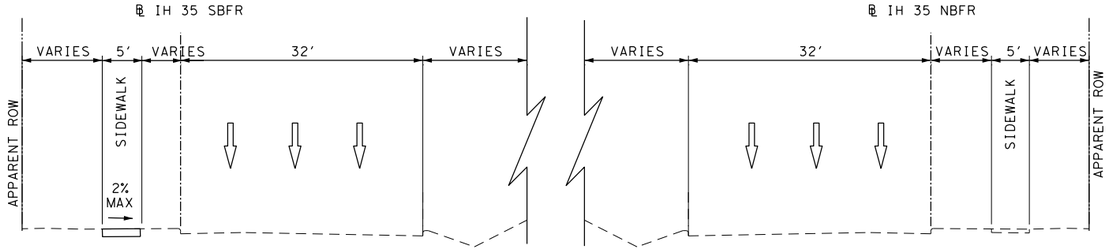



EXISTING TYPICAL SECTION

IH-35

NOT TO SCALE

FROM UTE ST TO BARLITE BLVD

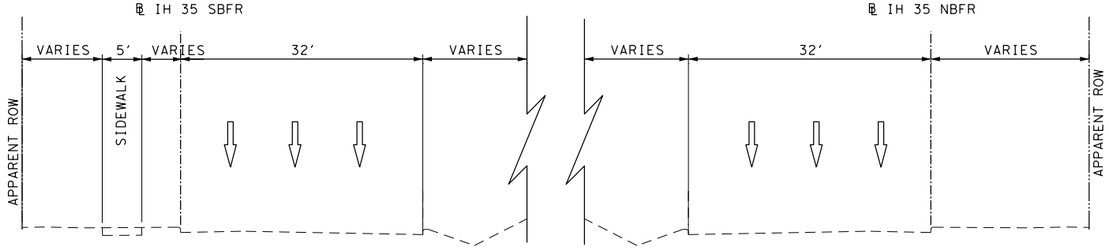



PROPOSED TYPICAL SECTION

IH-35

NOT TO SCALE

FROM UTE ST TO BARLITE BLVD

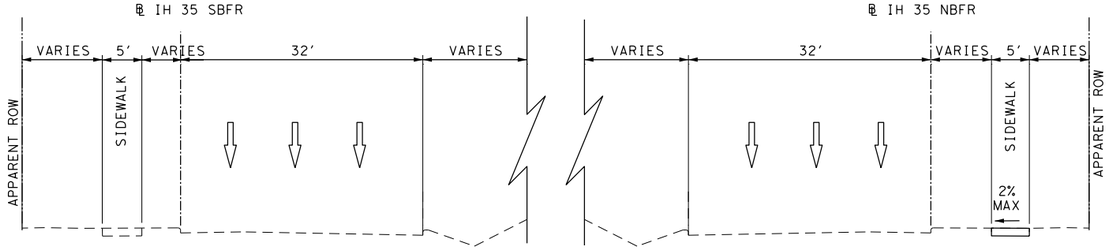



PROPOSED TYPICAL SECTION

IH-35

NOT TO SCALE

FROM BARLITE BLVD TO SW MILITARY DR




PROPOSED TYPICAL SECTION

IH-35

NOT TO SCALE

FROM BARLITE BLVD TO SW MILITARY DR

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.

ENGINEER: JOHN A. TYLER

P.E. SERIAL NO: 105193

DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW

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ENGINEER: JAMES A. LUTZ

P.E. SERIAL NO: 84722

DATE: 4/10/2019

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS

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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# TYPICAL SECTIONS

SHEET 5 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 13 |

Plotted on: 4/10/2019

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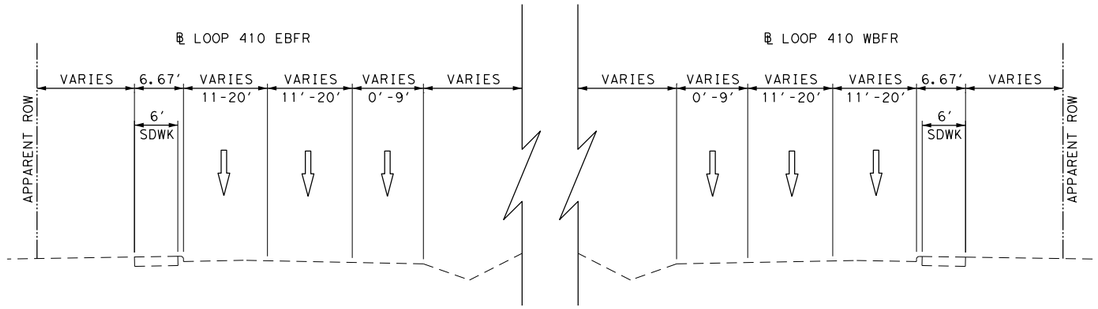
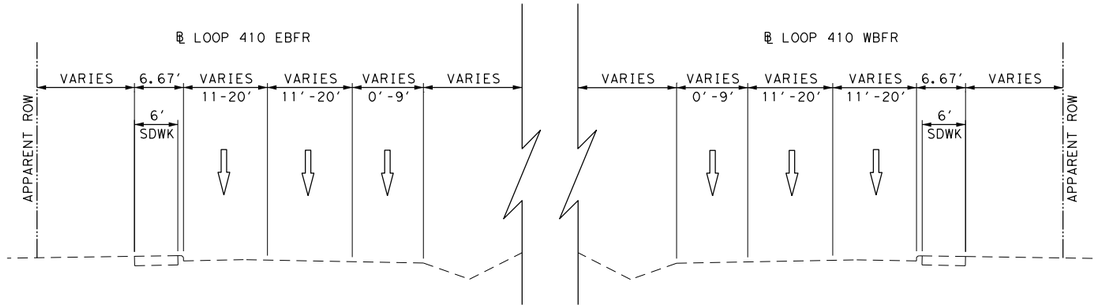



EXISTING TYPICAL SECTION

LOOP 410

NOT TO SCALE

FROM BEGIN PROJECT TO END PROJECT




PROPOSED TYPICAL SECTION

LOOP 410

NOT TO SCALE

FROM BEGIN PROJECT TO END PROJECT

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.

ENGINEER: JOHN A. TYLER

P.E. SERIAL NO: 105193

DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.

ENGINEER: JAMES A. LUTZ

P.E. SERIAL NO: 84722

DATE: 4/10/2019

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# TYPICAL SECTIONS

SHEET 6 OF 6

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 14 |

**********GENERAL NOTES**********
2014 Specification Book (Revised March 12, 2019)

========== **Basis of Estimate** ==========

| Item | Description | Rate/Area | Quant-Unit |
|---|---|---|---|
| 168 | Vegetative Watering | 1.3 GAL/SY-WEEK | MG |
| 340 | Hot Mix (All Types) | 115 LB/SY-IN | TON |

Note: The rates of asphalt and aggregate are for estimating purposes only and may be varied as directed.

G-3 Contact the Engineer or the City when construction operations are within 400 feet of a signalized intersection to determine/verify the location of loop detectors, conduit, ground-boxes, etc. Repair or replace any signal equipment damaged by construction operations. The method of repair or replacement shall be pre-approved and inspected. Depending on the type and extent of the damage, the Engineer reserves the right to perform the repair or replacement work and the Contractor will be billed for this work.

G-4 Remove existing raised pavement markings as the work progresses or as approved. This work is subsidiary to the various bid items. Properly dispose materials removed.

G-5 To better fit field conditions, the cross sections may be varied when approved.

G-6 If there are waste areas or material source areas, follow the Texas Aggregate Quarry and Pit Safety Act requirements.

G-7 Any materials removed and not reused and determined to be salvageable shall be stored within the project limits at an approved location or delivered undamaged to the storage yard as directed. Properly dispose unsalvageable materials in accordance with local, state, and federal regulations. Deface traffic signs so that they will not reappear in public as signs.

G-8 Any sign panels that are adjusted or removed and replaced, shall be done the same workday unless otherwise approved. This work shall be considered subsidiary to Item 502.

G-10 Locate and reference all manholes and valves within the construction area with station and offset. Each manhole and valve shall be identified by its owner (SAWS, CPS, etc.). No roadwork will begin until this list has been submitted. All valves and manhole covers have to be accessible at all times, therefore; temp. CTB, material stock piles, etc. cannot be placed over these valves or covers.



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

G-11 Adjust or construct all manholes and valves to final pavement elevations prior to the final mat of ACP. If, between the final elevation adjustment and the final mat of ACP, the manholes and valves are going to be exposed to traffic, place temporary asphalt around the manhole and valve to provide a +/- 50:1 taper. The cost of elevation adjustment will be part of the manhole and valve work, and asphalt tapers are part of the ACP work.

G-12 Hurricane Evacuation

Hurricane Season is from June 1 thru November 30. As the closest metropolitan city inland from the Texas Coast, the City of San Antonio is a major shelter destination during mandatory hurricane evacuations. As such, planned work zone lane or road closures may be restricted and/or suspended during mandatory hurricane evacuation operations. The District will coordinate these restrictions at a minimum H-120 from any projected impact to the Texas Coast.

No time charges will be made if the Engineer determines that work on the project was impacted by the hurricane.

The Engineer may order changes in the Traffic Control Plan to accommodate evacuation traffic, and may suspend the work, all or in part, to ensure timely completion of this work. All work to implement changes in the Traffic Control Plan will be paid through existing bid prices or through Item 9.5, Force Account. However, the Department will not entertain any request for delay damages, loss of efficiency that may be attributed to the restriction or suspension of road or lane closures, or to changes in the Traffic Control Plan.

Removal of existing foundations, miscellaneous concrete, and various structures identified on the plans or encountered in the field, are not paid for specifically but are subsidiary to the various bid items unless otherwise shown in the plans.

Saw cutting existing pavement, concrete, and riprap is not paid for separately but is subsidiary to various bid items.

Unless otherwise shown or directed by the Engineer, miscellaneous site grading, embankment, and excavation is not paid for separately and is subsidiary to the various bid items. This includes areas behind proposed retaining walls unless otherwise specified on the plans.

It is the Contractors responsibility to ensure compliance with the PED-12A standard along the accessible route when signs are adjusted.

Irrigation heads and fixture relocations in conflict with the proposed improvements are not paid for separately but are subsidiary to various bid items.

Buildings and Structures must be protected from concrete splash at all times. The Contractor is to install a material approved by the Engineer which will guard the buildings against concrete splash.



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# GENERAL NOTES

SHEET 1 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 15 |

This work is considered subsidiary to Item 531 and will not be paid separately. If concrete splash litters a building facade the Contractor, at their expense, is responsible for cleaning and remedying the concrete as approved by the Engineer.

Grade street intersections and median openings for surface drainage.

Sweep and remove all litter, construction debris and surplus material on the right-of-way within the project limits to keep the jobsite neat at all times. Keep roadways and sidewalks free of sediment. Consider subsidiary to pertinent items.

Construct all ramps, sidewalks, steps, curb ramps, handrails, and other pedestrian elements in accordance with Texas Accessibility Standards (TAS) issued by the Texas Department of Licensing and Regulation. Maintain one copy of TAS at the project site at all times.

When working near aerial electrical lines and / or utility poles, provide adequate safety measures, as needed, to comply with the appropriate sections of Federal and State regulations. For electrical lines and poles shown in the plans, if the lines need to be de-energized and / or if poles require bracing, contact the electrical company to coordinate the de-energizing and bracing. Work pertaining to de-energizing lines, bracing poles and any other protective measures required will not be paid at the expense of TxDOT.

All structures are to be backfilled with cement stabilized sand as directed by the engineer.

Personnel will be experienced in items of work in contract. Safety vests and hard hats will be pre-approved and worn at all times when outside vehicles within the work area.

Pavement markers will be left in place until such time as they are in conflict with the work in progress.

All pavement markings and/or striping that are in conflict with traffic operations will be removed by the contractor. Such removal will be considered subsidiary to the various bid items, and will not be paid for directly.

Single lane closures, except as otherwise shown in the plans, will be restricted to off-peak hours as defined in the following table:

| Peak Hours | | Off-Peak Hours | |
|---|---|---|---|
| 6 to 8:30 AM Monday through Friday | 3:30 to 7 PM Monday through Friday | 8:30 AM to 3:30 PM and 7 PM to 6 AM Monday through Friday | All day Saturday and Sunday |



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

Work that requires closure of multiple travel lanes in the same direction, except as otherwise shown in the plans, will be performed at night between the hours of 9 PM and 6 AM.

Existing storm sewers and utilities are shown from the best available information. Verify the location of all underground facilities prior to starting work.

For dimensions of right of way not shown on the plans, see right of way map on file at the TxDOT District Office.

The following Holiday/Event lane closure restriction requirements apply to this project: No work that restricts or interferes with traffic shall be allowed between 3 PM on the day preceding a Holiday or Event and 9 AM on the day after the Holiday or Event.

| **Holiday Lane Closure Restrictions** | |
|---|---|
| **New Year's Eve and New Year's Day** (December 31 through January 1) | 3 PM December 30 through 9 AM January 2 |
| **Easter Holiday Weekend** (Friday through Sunday) | 3PM Thursday through 9 AM Monday |
| **Memorial Day Weekend** (Friday through Monday) | 3 PM Thursday through 9 AM Tuesday |
| **Independence Day** (July 3 through July 5) | 3 PM July 2 through 9 AM July 6 |
| **Labor Day Weekend** (Friday through Monday) | 3 PM Thursday through 9 AM Tuesday |
| **Thanksgiving Holiday** (Wednesday through Sunday) | 3 PM Tuesday through 9 AM Monday |
| **Christmas Holiday** (December 23 through December 26) | 3 PM December 22 through 9 AM December 27 |

Plan work schedules around the appropriate dates above to ensure productive work is performed without lane closures.

**Modifications to Lane Closure / Work Restrictions:**
Submit a request in writing for approval by the Engineer a minimum of 10 days in advance of implementing a change to lane closure restrictions.

When deemed necessary, the Engineer will lengthen, shorten, or otherwise modify lane closure restrictions as traffic conditions warrant.





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# GENERAL NOTES

SHEET 2 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 16 |

When deemed necessary, the Engineer will modify the list of major events when new events develop, existing events are rescheduled, or when warranted.

Special Events/ Special Situations will be handled on a case by case basis. No work restricting lane closures is allowed from 3 PM a day before to 9 AM the day after the Special Event or Special Situation.

The Contractor's attention is directed to the list of temporary easements provided by TxDOT and their expiration dates as identified in the project's Right of Entry agreements.

Complete all work in these easement areas prior to the expiration dates shown. In any event that work is done after these expiration dates, all costs for extending these dates will be borne by the Contractor.

Erect temporary fencing in the easement areas as necessary to secure the property. Provide at least one week notice to the property owner prior to removing or relocating the fence. Restore permanent fencing to an equal or better condition.

Mail box manipulation made necessary because of construction will be in accordance with Item 560 "Mailbox Assemblies," except that this work will not be paid for directly but will subsidiary to the pertinent bid items.

Provide all-weather surface for temporary ingress and egress to adjacent property, as directed. Materials, labor, equipment and incidentals necessary to provide temporary ingress and egress will not be paid for directly, but will be subsidiary to the various bid items.

Where necessary, the governing slopes indicated herein may be varied from the limits shown, to the extent approved.

All driveway openings will be determined by the Engineer and will conform with Texas Department of Transportation "Regulations for Access Driveways to State Highways" adopted September 1953, and revised June 2004.

Take care that existing curb and curb and gutter is not discolored or damaged during construction operations. In the event of discoloration or damage, clean or repair as directed.

Provide temporary drain openings at all low points or other drainage structures, as required, at the Contractor's expense.

Remove any obstructions to existing drainage due to the contractor's operations, as required, at the Contractor's expense.



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

Install all required concrete riprap flumes immediately following the construction of ditches in which they are to be placed. In addition, apply all erosion control measures as shown on the plans or as directed, immediately following construction of channels to their required line, grade, and section.

**--Item 5--**

5-1 Reference all existing striping and other pavement markings to allow these markings to be re-established. Ensure the markings (lane lines, edge lines, ramp gores, etc.) are in line with signs, TMS arrows, etc. located on overhead sign supports.

5-2 Taper ACP placed at curb inlets, traffic inlets and slotted drains.

5-5 When working near aerial electrical lines or utility poles, comply with Federal, State and local regulations. A horizontal boom or equivalent equipment is required for construction in the vicinity of the CPS Energy electric lines in order to provide vertical clearance of equipment during construction. Contact CPS Energy Utility Coordination Group sixteen (16) week in anticipation of pole bracing. The estimated duration for pole bracing is 6 to 10 weeks (or longer if temporary construction easements are required) after invoice is paid. For de-energizing or sleeving of the overhead electrical lines depicted on the plans, please contact CPS Energy Utility Coordination Group sixteen (16) week in anticipation of needed de-energization. The estimated duration for de-energizing is approximately 4 to 6 weeks (after invoice is paid) but could vary on system scenario and backfeed requirements. De-energizing may not be possible in all instances or may be restricted during specific periods of time due to load demand. Contractor will be reimbursed for the invoice cost for pole bracing and/or de-energizing or sleeving through force account.

5-6 Prevention of Migratory Bird Nesting

It is anticipated that migratory birds, a protected group of species, may try to nest on bridges, culverts, vegetation, or gravel substrate, at any time of the year. The preferred nesting season for migratory birds is from February 15 through October 1. When practicable, schedule construction operations outside of the preferred nesting season. Otherwise, nests containing migratory birds must be avoided and no work will be performed in the nesting areas until the young birds have fledged.

Structures

Bridge and culvert construction operations can not begin until swallow nesting prevention is implemented, until after October 1 if it's determined that swallow nesting is actively occurring, or until it's determined swallow nests have been abandoned. If the State installed nesting deterrent on the bridges and culverts, maintain the existing nesting deterrent to prevent swallow nesting until October 1 or completion of the bridge and culvert work, whichever occurs earlier. If new nests are built and occupied after the beginning of the work, do not perform work that can



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# GENERAL NOTES

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interfere with or discourage swallows from returning to their nests. Prevention of swallow nesting can be performed by one of the following methods:

1. By February 15 begin the removal of any existing mud nests and all other mud placed by swallows for the construction of nests on any portion of the bridge and culverts. The Engineer will inspect the bridges and culverts for nest building activity. If swallows begin nest building, scrape or wash down all nest sites. Perform these activities daily unless the Engineer determines the need to do this work more frequently. Remove nests and mud through October 1 or until bridge and culvert construction operations are completed.

2. By February 15 place a nesting deterrent (which prevents access to the bridge and culvert by swallows) on the entire bridge (except deck and railing) and culverts.

No extension of time or compensation payment will be granted for a delay or suspension of work caused by nesting swallows. This work is subsidiary to the various bid items.

5-7 Provide a non-intrusive back-up alarm system on all heavy equipment used in close proximity to residential areas. This item is subsidiary to various bid items.

When shop drawings, shop details, erection drawings, working drawings, forming plans, or other drawings are required, the drawings will be prepared and submitted on sheets 8-1/2 by 11 inches, 17 by 22 inches, or full size drawings reduced to half scale if completely legible. If, in the opinion of the Engineer, the drawings are not completely legible, they will be prepared and submitted on sheets 22 by 34 inches, with a 1-1/2 inch left margin, and 1/2 inch top, right, and bottom margins.

All sheets submitted will have a title in the lower right hand corner. The title must include the sheet index data shown on the lower right corner of the project plans, name of the structure or element or stream, sheet numbering for the shop drawings, name of the fabricator and the name of the Contractor.

**--Item 6--**

6-1 Show the stockpile lot and/or sub lot numbers on all tickets for all materials.

**--Item 7--**

7-2 The total disturbed areas within the project is anticipated at less than one (1) acre. Due to this type of construction, the project qualifies for exclusion under the Construction General Permit (CGP) issued by the Texas Commission on Environmental Quality (TCEQ). However; should the sum of the Engineer's anticipated disturbances and the Contractor's (On ROW and off ROW) PSL's equal or exceed the one (1) acre threshold; both TxDOT and the Contractor have project responsibilities under the CGP that reverts to non-exclusion status. Obtain approval for all non-depicted areas of disturbance that increases the initial soil and vegetation disturbed area estimates before work starts at these locations.





7-3 Notify the Engineer of the disturbed acreage within one (1) mile of the project limits. Obtain authorization from the TCEQ for Contractor PSL's for construction support activities on or off ROW.

7-4 Roadway closures during the following key dates and/or special event are prohibited. See the TCP Narrative for these dates.

**--Item 8--**

8-1 Working days will be computed and charged in accordance with Article 8.3.1.4 standard work week.

8-3 Create and maintain a Bar Chart schedule.

**--Item 9--**

9-1 When approved, provide uniformed, off-duty law enforcement officers with marked vehicles during work that requires a lane closure. The officer in marked vehicles shall be located as approved to monitor or direct traffic during the closure. The method used to direct traffic at signalized intersections shall be as approved. Additional officers and vehicles may be provided when approved or directed.

Complete the daily tracking form provided by the department and submit invoices that agree with the tracking form for payment at the end of each month approved services were provided.

Show proof of certification by the Texas Commission on Law Enforcement Standards.

All law enforcement personnel used in Work Zone Traffic Control shall be trained for performing duties in work zones and are required to take "Safe and Effective Use of Law Enforcement Personnel in Work Zones" (Course #133119) which can be found online at the following site: www.nhi.fhwa.dot.gov

Certificates of completion should be available to all who finish the course. These should be kept by the officers in order to substantiate completion when reporting to the work site.

Minimums, scheduling fees, etc. will not be paid; TxDOT will consider paying cancellation fees on a case by case basis.

**--Item 104--**

In those areas where the pavement is not to be overlaid, provide a smooth surface after the curb removal. Planing or grinding is considered an acceptable method at these locations. Measurement and payment is in accordance with this item.

Removing concrete curb is paid as a separate bid item if the existing pavement on which it rests is not removed at the same time.



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Sawing of concrete or asphalt is not paid for directly, but is considered subsidiary to this item.

**--Item 105--**
Take possession of recycled asphalt pavement from the project and recycle the material.

Properly dispose of unsalvageable material at your own expense.

**--Item 110--**

110-1 Where excavation extends beyond a right of way fence, remove and replace the fence to a comparable condition. This work shall be considered subsidiary to the bid item.

An indefinite quantity is included for this item to account for any adjustments to field conditions as approved by the inspector.

**--Item 132--**

132-1 At no time shall the retaining wall backfill material exceed the adjacent embankment operation by more than one embankment lift. At no time will the embankment adjacent to the retaining wall backfill exceed the wall backfill by any elevation.

An indefinite quantity is included for this item to account for any adjustments to field conditions as approved by the inspector.

**--Item 162--**

162-1 Furnish and place block grass sod.

An indefinite quantity is included for this item to account for any adjustments to field conditions as approved by the inspector.

**--Item 168--**

168-1 Apply vegetative watering as needed to supplement natural rainfall during the vegetation establishment period. Plan quantity of irrigation water is based on the application of a total of 1.3 gal of water each week for each sq. yd. of area that is sodded or seeded. Establishment time is estimated to be 12 weeks for both sod and permanent seed mixes. Temporary seeding will require less time for establishment. Provide a schedule and coordinate watering cycles and rates per cycle with the Engineer. Obtain approval if the quantity of water to be applied is expected to exceed the plan quantity. Adjust the amount of water applied with each cycle and the number of cycles each wk. according to actual site conditions. Drought or other conditions, as determined by the Engineer, may require the application of supplemental irrigation during hours other than normal working hours.

An indefinite quantity is included for this item to account for any adjustments to field conditions as approved by the inspector.



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

**--Item 340, 341, 342, 344, 346, 347, & 348--**

1. Table 10, in Item 340, Table 10 in Item 341 and Table 11in Item 344, Hamburg Wheel Test Requirements tested in accordance with Tex-242-F are changed for PG 64-22 or lower and PG 70-22. Minimum number of passes at 1/2" Rut Depth, Tested at 122 degrees F will be 5,000 and 10,000 respectively.

2. Design all mixture types using a target laboratory-molded density of 96.5%, when the Texas Gyrator Compactor is utilized. Increase the target laboratory-molded density to 97.0% or 97.5% at the Contractor's discretion. When utilizing SGC, design all mixture types at 50 gyrations (N-Design) and a target laboratory-molded density of 96.0%, but may be reduced to no less than 35 gyrations at the Contractor's discretion.

3. The asphalt plant shall have truck scales as defined in Item 520. Give three weight tickets bearing the date, the truck number, the gross, net & tare weights to the truck driver for the State inspector at the spreading and finishing operation. Trucks may be required to weigh on public scales or portable platform scales to verify the weight of the ticket.

4. Submit a copy of the Tex 233-F production charts on a weekly basis. At the end of the ACP work, provide all originals.

5. Crushing of aggregate for hot mix and immediate use for production of the mix is not allowed. Stockpile the aggregate until enough material is available for five days of production unless prior approval is provided. Hold a pre-placement meeting one month prior to the placement of the hot mix.

6. The main purpose of hot mix cores taken by the State are for payment calculations. If (for quality control purposes) the core information is needed sooner, take additional cores.

7. Do not use diesel or solvents as asphalt release agents in production, transportation, or construction. A list of approved asphalt release agents is available from the District Laboratory.

8. No more than one hot mix lot will be open for any specific type of hot mix, unless authorized. After a lot is open and the Contractor gets approval to change plants, the previous lot will be closed and a new lot will be opened. The numbering for the lots produced at the new plant will start with No. 1. If allowed to switch back to the original or previous plant, the next lot from that plant will resume numbering sequentially from the last lot produced by that plant.

9. Schedule lay-down placement where uneven travel lanes are minimized and eliminated weekly.

10. If asphalt material is obtained from other than a commercial source presently inspected by TxDOT, furnish a Type D structure for the asphalt mix control laboratory for the Engineer's use. Provide a minimum height of 8 feet and a minimum of 400 square feet of gross floor area for



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permanently located asphalt plants or 200 square feet for a temporary plant. The floor area will be partitioned into a minimum of two rooms, with a minimum of two windows per room. The floor shall have an impervious cover and sufficient strength to support the testing equipment. Portable structures shall be support blocked for stability and shall be tied down.

11. The use of Recycled Asphalt Shingles (RAS) will not be allowed on the final riding surface.

12. When placing item 346 mixtures, utilize a material transfer vehicle as defined in the plans for item 320.

**Minimum Roadway Placement Temperature**
**--Item340, 341, & 344--**

1. Place mixture when the roadway surface temperature is equal to or higher than listed in Table 1 unless otherwise approved or shown on the plans. Measure the roadway surface temperature with a hand-held thermal camera or infrared thermometer. Placement may be allowed to begin prior to the roadway surface reaching the required temperature if conditions are such that the roadway surface will reach the required temperature within 2 hrs. of beginning placement operations. Place mixtures only when weather and moisture conditions of the roadway surface are suitable in the opinion of the Engineer. The Engineer may restrict the Contractor from paving if the ambient temperature is likely to drop below 32°F within 12 hr. of paving.

Table 1
Minimum Pavement Surface Temperatures

| Specification Item Number | High Temperature Binder Grade | Minimum Pavement Surface Temperatures in Degrees Fahrenheit * | |
|---|---|---|---|
| | | Subsurface Layers or Night Paving Operations | Surface Layers Placed in Daylight Operations |
| 340, 341, & 344 | PG 64 | 45 | 50 |
| | PG 70 | 55 | 60 |
| | PG 76 | 60 | 60 |

* Except for PG 64, may pave at temperatures 10º F lower than the values shown in Table 1when utilizing a Material Transfer Vehicle that is capable of providing a remixing, and continuous flow of material from the haul truck to the paver, such as a Roadtec SM-2500e/ex, that eliminates thermal segregation. In these cases, use either an infrared bar attached to the paver, or a hand held thermal camera or infrared thermometer, or a hand held infrared thermometer operated in accordance with Text Method 244-F to demonstrate that the uncompacted mat has no more than 10º F of thermal segregation.



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

**Substitute Binder**
**--Item340, 341 & 344--**
The Contractor may use a substitute PG binder for non-surface mixtures listed below in Table 1 instead of the PG binder originally specified in Table 5 of the Standard Specification, if the substitute PG binder and mixture made with the substitute PG binder meet the following:

- The substitute binder meets the specification requirements for the substitute binder grade in accordance with Section 300.2.10., "Performance-Graded Binders;" and
- The mixture has less than 10.0 mm of rutting on the Hamburg Wheel test (Tex-242-F) after the number of passes required for the originally specified binder. Use of substitute PG binders may only be allowed at the discretion of the Engineer if the Hamburg Wheel test results are between 10.0 mm and 12.5 mm.

Table 1
Allowable Substitute PG Binders and Maximum Recycled Binder Ratios

| Originally Specified PG Binder | Allowable Substitute PG Binder | Maximum Ratio of Recycled Binder[1] to Total Binder (%) | | |
|---|---|---|---|---|
| | | Surface | Intermediate | Base |
| **HMA** | | | | |
| 76-22[2,5] | 70-22 | 20.0 | 20.0 | 20.0 |
| | 70-28 | 20.0 | 35.0 | 40.0 |
| 70-22[2] | 64-22 | 20.0 | 20.0 | 20.0 |
| | 64-28 or 58-28 | 20.0 | 35.0 | 40.0 |
| 64-22[2] | 58-28 | 20.0 | 35.0 | 40.0 |
| 76-28[2,5] | 70-28 | 20.0 | 20.0 | 20.0 |
| | | | | |
| 70-28[2] | 64-28 or 58-28 | 20.0 | 20.0 | 20.0 |
| | 64-34 or 58-34 | 20.0 | 35.0 | 40.0 |
| 64-28[2] | 58-28 | 20.0 | 20.0 | 20.0 |
| | 58-34 | 20.0 | 35.0 | 40.0 |
| **WMA[3]** | | | | |
| 76-22[2,5] | 70- 22 | 20.0 | 35.0 | 40.0 |
| 70-22[2] | 64-22 or 58-28 | 20.0 | 35.0 | 40.0 |
| 64-22[4] | 58-28 | 20.0 | 35.0 | 40.0 |
| 76-28[2,5] | 70-28 | 20.0 | 35.0 | 40.0 |
| 70-28[2] | 64-28 or 58-28 | 20.0 | 35.0 | 40.0 |
| 64-28[4] | 58-28 | 20.0 | 35.0 | 40.0 |

1. Combined recycled binder from RAP and RAS.
2. Use no more than 20.0% recycled binder when using this originally specified PG binder.
3. WMA as defined in Section 341.2.6.2., "Warm Mix Asphalt (WMA)."
4. When used with WMA, this originally specified PG binder is allowed for use at the maximum recycled binder ratios shown in this table.
5. No more than 1-PG grade lower than what is show on the plans will be permitted for Surface mixtures

**--Item 354--**
Retain planed material.



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**--Item 420--**

420-1 Mass concrete will be measured in place.

**--Item 423--**

423-1 The backfill material for pre cast retaining walls shall be approved before placement. Build stockpile(s) in lifts not to exceed 2 feet and a minimum working face of not less than 10 feet, but not more than 20 feet.

**--Item 432--**

432-1 In all riprap slopes, provide 3 inch diameter weep holes at 10 foot maximum spacing and backed with loose graded gravel or crushed stone and galvanized hardware cloth.

432-2 In areas where guard fence posts are to be placed in riprap, the riprap shall have an 18 inch +/- blocked out area (round or square). After the posts are installed, the blocked out area shall be topped off with 4 inches of low strength grout/mortar consisting of about 1 sack of cement per cubic yard of mix.

432-3 Match the slope of the Riprap (Mow Strip) to the slope of the adjacent roadway.

In large areas of riprap, provide one-half (1/2)-inch thick expansion joint material at approximately 15-foot intervals, or as determined by the Engineer.

Place asphalt expansion joint material between proposed riprap and utility poles, guy wires, vent pipes, stand pipes and as directed.

Place felt or filter fabric at open joints as required by the Engineer. This will be considered subsidiary.

All concrete riprap will be 5" (.42') in thickness, unless otherwise shown on the plans, and must be reinforced.

An 8 inch (.67 ft.) by 18 inch (1.5 ft.) toe wall is required at the exposed edges of all concrete riprap, unless otherwise directed.

Locations and lengths of riprap flumes shown on the plans are approximate. Actual lengths and locations are to be determined in the field.

**--Item 450--**

An indefinite quantity is included for this item to account for any adjustments to field conditions as approved by the inspector.



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

**--Item 462--**

462-1 Use lean concrete or 2 sack flowable backfill for fill between pre-cast boxes. Lean concrete and 2 sack flowable backfill shall be considered subsidiary to this bid item.

**--Item 465--**

465-1 Concrete Class B invert shaping is required at all inlets, manholes and junction boxes in order to insure positive flow. The material and work performed for the placement of the inverts shall be considered subsidiary to this item.

**--Item 496--**

496-1 The Contractor will submit a demolition plan for all structures to be replaced and/or removed in accordance with Item 496.

**--Item 500--**

500-1 "Materials on Hand" payments will not be considered in determining percentages for mobilization payments.

**--Item 502--**

502-1 Place standard markings no later than 14 days after surface treatment operations are completed.

502-2 When advanced warning flashing arrow panels and/or changeable message sign is specified, have one standby unit in good condition at the job site. Standby time shall be considered subsidiary to the bid item.

502-3 Treat the pavement drop-offs as shown in the TCP.

502-4 After written notification, the time frame is provided on the Form 599 to provide properly maintained signs and barricades before considered in non-compliance. Failure to make corrections as noted may result in payment for this item being withheld.

502-6 Moving an existing sign to a temporary location is subsidiary to this Item. Installations with permanent supports at permanent locations will be paid for under the applicable bid item (s).

502-7 Mount temporary mailboxes on plastic drum in accordance with Compliant Work Zone Traffic Control Devices, Section K. Mounting and moving the mailbox as needed for the various construction phases is subsidiary to this Item.

502-8 Notify the Engineer in writing 10 business days in advance of any temporary or permanent lane, ramp, connector, etc. closures/detours, restrictions to lane widths, alterations to vertical clearances, or modifications to radii. Any other modifications to the roadway that may adversely affect the mobility of oversized/overweight trucks also require 10 business days advance written notice to the Engineer. Unless shown in the TCP, no lane, ramp, connector, etc. closures are



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allowed during special events. At least one lane has to remain open at all times. Lane closures will not be allowed if this reporting requirement is not met.

502-9 Avoid placing stockpiles within the roadway's horizontal clear zone. If a stockpile is placed within the clear zone, address in accordance with the TMUTCD.

502-10 Do not place barricades, signs, or any other traffic control devices where they interfere with sight distance at driveways or side streets.

502-11 In addition to providing a Contractor's Responsible Person and a phone number for emergency contact, have an employee available to respond on the project for emergencies and for taking corrective measures within 2 hours or within a reasonable time frame as specified by the Engineer.

502-12 Temporary Rumble Strips are to be used according to WZ (RS)-16.

502-13 If Nighttime work is required and work is not behind positive barrier then full TY 3 reflective gear is required to be worn by all workers, hard hat halos are required to be worn by the flaggers at flagging stations, TY III barricades are required to be spaced at 500 ft, and a mandatory night work meeting is required.

Prior to beginning construction, the Engineer shall approve the routing of traffic and sequence of work.

Additional signs and barricades as directed by the Engineer shall be considered subsidiary to Item 502.

Wash the channelizing devices and barricades following each rainfall or snowfall event and at times deemed necessary by the Engineer.

Fill any holes left by barricade or sign supports and restore the area to its original condition.

502-14 The Contractor Force Account "Safety Contingency" that has been established for this project is intended to be utilized for work zone enhancements, to improve the effectiveness of the Traffic Control Plan, that could not be foreseen in the project planning and design stage. These enhancements will be mutually agreed upon by the Engineer and the Contractor's Responsible Person based on weekly or more frequent traffic management reviews on the project. The Engineer may choose to use existing bid items if it does not slow the implementation of enhancement.

**--Item 506--**

506-1 An Inspector will perform a regularly scheduled SWP3 inspection every 7 calendar days.



**Control: 0915-12-576** **Sheet**

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506-3 Failure to address items noted on the SW3P inspection report within two report cycles may result in the Department stopping all construction operations, exclusive of time charges, or withholding that month's estimate until the SW3P deficiencies are corrected unless the Engineer determines that the area is too wet to correct SW3P deficiencies.

Erosion control logs, sandbags and other BMPs will be placed and relocated as directed by the Engineer in order to comply fully with the SW3P requirements.

Water pumped off the project must have sediment and any other solids in suspension removed before discharging.

Place one-half (1/2)-inch pre-molded expansion joint material at 40-foot intervals and at the beginning and end of all radii. Place 3/25-inch grooved or sawed construction joints, as directed by the Engineer, spaced equally, with the spacing not to exceed ten feet between joints.

Remove accumulated sediment or replace SW3P controls when the capacity has been reduced by 50% or when the depth of sediment at the control structure exceeds one foot.

506-4 Failure to correctly maintain daily monitoring reports and submitting to TxDOT on a daily/weekly basis may result in the monthly estimate being withheld.

**--Item 529--**

529-1 Class "C" concrete is required for machine extruded curb.

529-2 Curb inlets and extensions are based on an exposed curb height of 7 inches. The roadway curb height and shape will be transitioned to the inlet's curb with a 40: 1 taper.

**--Item 530--**

Use Class A Concrete for all concrete driveways.

**--Item 531--**

531-1 The curb ramp locations shown in the plans have taken into account the geometric features of the intersection, traffic signals, and the pavement markings. If anything changes during construction, the location of curb ramps must be adjusted to ensure they meet TAS requirements.

High early strength concrete for proposed driveways to be available as deemed necessary and as directed.

The furnishing and installation of the sand cushion in proposed sidewalks, sidewalk ramps, and driveways will not be paid for directly but will be subsidiary to this bid item.

Truncated dome pavers are prohibited.



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All detectable warning surfaces are to be prefabricated panels constructed of cast iron or composite materials of contrasting color to the surrounding material, as approved by the Engineer.

Proposed curb ramps, sidewalks, curbs, and riprap is to be doweled 8in minimum, unless otherwise shown, into existing concrete using ½ in reinforcement placed on 12 in centers.

Curb wall along ramps and landings, unless otherwise shown on the plans, is not paid for separately but is subsidiary to the ramp or landing. If the wall extends above the plane of the ramp, retaining wall, unless otherwise noted on the plans, should be utilized. Retaining wall quantities are shown for Contractor information only, payment is subsidiary to Item 531 Sidewalks. See special details sheets for more information.

Areas labeled with a "T" on the construction drawings allow the Contractor to transition to existing conditions. Slope and grade of all transitions must be approved by the Engineer.

For driveways and turnouts, coarse aggregate Grade No. 3 through No. 8 conforming to the gradation requirements specified in the Item, "Hydraulic Cement Concrete" will be permitted.

All compliant ramps are to remain in place.

Construct compliant curb ramps based upon referenced design criteria, Texas Accessibility Standards and TxDOT Pedestrian Facilities Standards. Consider the locations of existing traffic and pedestrian control devices including loop detectors and pedestrian push buttons during curb ramp construction at signalized intersections, and construct ramps to allow such existing facilities to remain undisturbed and reused to the fullest extent possible while providing for full ADA compliance. All corners are unique and it may be necessary to use various combinations of ramp elements to achieve a compliant ramp configuration.

Review the curb ramp location and layout with the inspector prior to demolition so that both parties agree that the curb ramp can be installed properly. Should it become apparent at any time during the ramp layout and construction process that a curb ramp cannot be installed as indicated on the Project Drawings, promptly notify the inspector.

Any approval, inspection, or checking of the Contractor's layout and the acceptance of all or any part of it shall not relieve the Contractor of his responsibility to secure the proper dimensions, grades and elevations of the various parts of the work.

Construction of each curb ramp is to be completed within seven (7) working days after start of construction process. Construction process of curb ramps shall include: demolition of existing conditions, placement of concrete or brick, removal of lips, street surface patching in front of the curb or ramp, adjustment of counter slope within 24-inches of the bottom of the ramp or curb and gutter, street level landings, backfill, placement of topsoil, grading and sodding, and clean-up. All other related work such as adjustment of crosswalk, special heat-welds, asphalt overlays, and other work that does not affect accessibility shall be completed per a schedule pre-approved by TxDOT.



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

Contractor is to match existing concrete color and texturing at various locations which, as directed by the Engineer, require matching.

The furnishing and installation of the sand cushion in the proposed sidewalks, sidewalk ramps and driveways will not be paid for directly but shall be considered subsidiary to this bid item.

The furnishing and installation of pipe underdrains, filter material, and other incidentals to ensure proper drainage of special concrete sidewalk with retaining wall per Concrete Sidewalk (Special)(Type B) will not be paid for directly but shall be considered subsidiary to this bid item and in accordance with Item 556.

Removal of existing concrete, surfaces, asphalt, base material, sign posts, miscellaneous materials, and all incidentals is included in this pay item within the footprint of the proposed work. If additional work related to the removal of existing is required beyond the quantity identified for Contractors information only, no additional payment will be made.

In areas where there is no curb fillet or concrete pavement, saw cut the existing curb and gutter and remove the curb.

When lack of right of way width or obstructions creates insufficient space, the ramp may be relocated within the right of way when authorized by the Engineer. All deficient ramps will be removed and replaced at the Contractor's expense.

For curb ramps, form tooled joints on each side of the ramp section where it meets a flare or curb wall, at each break in ramp slope or geometry, and at intervals equivalent to the width of the sidewalk for the purpose of cracking control. Place expansion joint material between proposed ramps and existing concrete.

Place expansion joint material between proposed sidewalk and utility poles, guy wires, vent pipes, stand pipes and as directed.

Construct concrete steps, as shown in the plans or as directed by the Engineer, measured by the cubic yard and paid for as Item 420 Concrete Substructures.

Notify the Engineer 48 hours in advance of beginning operations at a new location.

Schedule work such that two-way traffic is provided through all intersections and intersecting streets at all times, unless otherwise authorized by the Engineer.

Limit operations such that no more than 12 separate curb ramp locations are under construction and incomplete at any time, unless otherwise authorized by the Engineer.



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# GENERAL NOTES

SHEET 9 OF 13

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**--Item 560--**
Move and replace all mailboxes within the project limits such that they may be served by the mail carrier from his car at all times during and after construction. This work will be considered subsidiary to the various bid items of this contract.

**--Item 610--**

610-1 Fabricate steel roadway illumination poles in accordance with the RIP standards. Poles fabricated according to RIP require no shop drawings. Alternate designs or the use of aluminum to fabricate poles will require the submission of shop drawings electronically.

For instructions on submitting shop drawings electronically go to: http://www.txdot.gov/business/resources/specifications/shop-drawings.html File is titled: Guide to Electronic Shop Drawing Submittal.

Provide lamps from the pre-qualified Materials Producers List, Category is "Roadway Illumination and Electrical Supplies" located on the Construction Divisions (CST) web site.

610-2 Ballast/capacitors removed from the light assembly, will remain the property of the State. Assume all ballast/capacitors contain Polychlorinated Biphenyl (PCB), unless a notation appears on the outside of the unit that specifies it does not contain PCB's. All ballast/capacitors with PCB's shall be placed in 55 gallon open top drum in accordance with Department of Transportation (DOT) specifications. Place six (6) inches of sawdust or other absorbent material in the bottom of the drum. Furnish and place a DOT approved PCB warning label on the outside of the drum. Do not fill a drum more than ¾ of capacity. Avoid rupturing the ballast/capacitor(s). If a ballast/capacitor is ruptured, use proper procedures, specialist trained staff and personal protective equipment for the clean-up operations.

610-3 The lamps in light fixtures may contain hazardous levels of mercury, halide, and sodium vapors. Observe and comply with all federal, state and local laws, ordinances and regulations regarding the management of these lamps. Prevent the breakage of the lamps. At a minimum, package all lamps removed from the light fixture(s) in a container that minimizes the breakage of the lamps. Broken lamps shall be collected in a sealed plastic bag (i.e. Ziploc). Broken lamps shall be stored in separate containers from unbroken lamps. Furnish a suitable container and attach a label stating "Universal Waste Lamps" on the container. Write the date the first lamp was placed in the container on the "Universal Waste Lamp" label. Within one (1) week after the first lamp is placed in a container, notify the Engineer. The lamps and PCB containing ballast/capacitors, placed in properly labeled containers, will remain the property of the State. Place the container in an area where it is protected from damage and the elements. The Engineer will make arrangements to collect, transport, and dispose/recycle the container. The ballast/capacitor and lamp's removal and storage is subsidiary to this item.



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

610-4 Stencil each illumination assembly with the circuit, light and relay numbers in black paint on the roadway side of the pole at a 45 degree angle. The numbers shall be in 3" tall and begin 6' from the top of the foundation. This work will be considered subsidiary to this item.

**--Item 613--**

613-1 Use an electrically conducting protective thread lubricant compound (Crouse-Hinds TL-2, 0Z/Gedney STL, Thomas & Betts Kopr-Shield) for the pipe joint compound to coat the threads of the anchor bolts, prior to installation of nuts.

**--Item 614--**

614-1 Fabricate high mast ring assemblies in accordance with shop drawings approved by the Department. Submit shop drawings for each project, or use pre-approved standard shop drawings.

For project specific shop drawings, furnish seven sets of drawings of the complete assembly in accordance with Item 441, "Steel Structures". Deliver shop drawings to the Director of Traffic Operations Division, Texas Department of Transportation, 125 East 11th Street, Austin, Texas 78701-2483.

To be eligible to use pre-approved standard shop drawings, the shop drawing must be submitted and approved by the Department prior to use on the project. Deviation from the pre-approved standard shop drawing will require resubmission of the shop drawings. The Engineer may approve, in writing, the use of updated standard drawings in cases where the standard drawings have been updated and the updated version has been approved by the Department.

For pre-approval and updates to previously approved standard shop drawings, furnish seven sets of drawings of the complete assembly in accordance with Item 441, "Steel Structures" to the Director of Traffic Operations Division, Texas Department of Transportation, 125 East 11th Street, Austin, Texas 78701-2483.

Copies of the standard shop drawings are on file with Traffic Operations Division, Bridge Division, and the Materials Section of Construction Division. Additional shop drawings for high mast illumination assemblies built in accordance with these drawings are not required. Pre-approved shop drawing manufacturers and assembly model numbers can be found on the Materials Produce list of the Construction Divisions (CST) web site.

Category is roadway illumination and electrical supplies.

**--Item 618--**

618-1 It might be necessary to cut concrete for placement of conduit. Saw cut existing concrete, remove the concrete from the steel reinforcement (bars or fabric) and bend the steel to install the conduit. After the conduit has been placed, bend the steel back to its original position and back-fill the trench with an approved concrete. This work is subsidiary to this Item.



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# GENERAL NOTES

SHEET 10 OF 13

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618-2 The conduit depth for illumination under the City of San Antonio streets is 36 inches.

618-3 Use materials from Material Producers list as shown on the Construction Division's (CST) web site. Category is "Roadway Illumination and Electrical Supplies."

The location of conduit is diagrammatic and may be varied to meet local conditions upon approval of the Engineer. Ensure all couplings and connectors are made wrench tight. Trenching depths shall provide a minimum of 2.5 feet (30 inches) of cover unless otherwise approved by the Engineer. The Contractor must ensure that conduit is not damaged during trench or bore pit backfilling operations. No conductors shall be pulled through conduit until all backfilling for the conduit run is complete and the template, having a diameter of not less than 75 percent of the inside diameter of the conduit, has been drawn through the conduit. Open ends of all conduit shall be fitted with temporary caps or plugs to prevent entry of dirt or debris during construction operations. A non-metallic pull rope shall be used to pull electrical conductors and traffic signal cables through non-metallic conduit. A 1/4-inch nylon or polypropylene pull rope shall be pulled through each conduit run and shall remain in the conduit for future use. A minimum of three feet of pull rope shall be neatly left coiled in the ground boxes at each end of the conduit run. The pull rope will not be paid for directly but shall be considered subsidiary to Item 618, "Conduit." After the work is completed, the Contractor shall restore any curbs, walks, driveways or raised concrete medians which have been damaged or disturbed to an equivalent original condition and to the satisfaction of the Engineer. This work shall not be paid for directly but shall be considered subsidiary to Item 618, "Conduit."

Use Schedule 80 PVC conduit for all traffic and illumination portion of this project. Bored conduit runs placed under driveways and streets or highway approaches shall maintain a minimum of 30 inches below the proposed natural ground elevation or 36 inches below the existing driveway or proposed top of pavement backfill and compact trenches the same day or erect plastic fencing to discourage entry into the trenched area by pedestrians or vehicles.

**--Item 620--**
Grounding conductors that share the same conduit, junction box, ground box or structure shall be bonded together at every accessible point in accordance with the electrical detail sheets (ED), and the latest edition of the National Electrical Code. See Item 7 Section 19.13 "Electrical Requirements" for additional details.

**--Item 644--**
644-1 The wedge anchor system shown on State Standard Sheet SMD (TWT) is not allowed.

644-2 The set screw type for Triangular Slipbase Systems is not allowed. Use the following products for the Triangular Slipbase System.



**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

Triangular Slip Base Systems
(For use with 10 BWG and Schedule 80 Round Posts)

| | | |
|---|---|---|
| Southern Plains Fabrication | SPF Triangular Slipbase Housing | Info@SouthernPlainsFabrication.com<br>http://SouthernPlainsFabrication.com<br>(806) 241-0060 |
| Structural and Steel Products | Triangular Slipbase Breakaway Support | CustServ@s-steel.com<br>http://s-steelcom<br>(800) 782-5804 |

*This note was added because the set screw type triangular slipbase system doesn't have enough surface contact/friction to keep the wind from causing the signs to rotate and eventually stripping the set screw.*

**--Item 658--**
658-1 CTB reflectors will not be paid for directly but will be considered subsidiary to the barrier.

**--Item 666--**
666-1 Use TY II material (vs. an acrylic or epoxy) as the sealer for the TY I markings, place the TY II a minimum of 14 calendar days (to provide adequate curing) before placing the TY I markings.

Collection of retroreflectivity readings using a mobile retroreflectometer is the preferred method. If retroreflectivity readings are collected using a portable or handheld unit, then measurement is defined as a collective average of at least 20 readings taken along a 200-foot test section. A minimum of three measurements will be required per mile of roadway. Measurements collected on a centerline stripe will be averaged separately for stripe in each direction of travel. A TxDOT inspector must witness the calibration and collection of all retro-reflectivity data.

666-2 Failure to provide the retroflectometer testing data within the time specified in the specifications will result in non-payment of the bid item.

**--Item 672--**
672-1 Place all adhesive material directly from the heated dispenser to the pavement. Do not use portable or non-heated containers. Use adhesive of sufficient thickness so that when the marker is pressed into the adhesive, 1/8" or more adhesive will remain under 100% of the marker. The adhesive should extend not less than 1/2" but not more than 1 1/2" beyond the perimeter of the marker.

**--Item 677--**
677-1 Obtain approval before using the mechanical method for the elimination of existing thermoplastic pavement markings.



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# GENERAL NOTES

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**--Item 682--**

682-1 Provide all signal heads from the same manufacturer. Pedestrian signals may be by a different manufacturer than the vehicle signal heads.

682-2 Cover all signal faces until placed in operation.

682-3 All pedestrian signal faces shall be single section LED Type. Die cast polycarbonate is acceptable in lieu of die cast aluminum. All mounting attachments shall be constructed of steel pipe and mounted as shown on the plans.

**--Item 684--**

684-1 Provide an extra 10' for each cable terminating in the controller cabinet. All cables shall be continuous without splices from terminal point to terminal point. All proposed signal cable shall be #12 AWG stranded copper.

**--Item 686 & 687--**

686-1 Provide all signal poles from the same manufacturer. Pedestrian poles may be from a different manufacturer.

**--Item 688--**

688-1 The sealant used for vehicle loop wire must be approved.

688-2 The pedestrian push button shall be raised or flush and a minimum of 2 inches in the smallest dimension. The force to activate the control shall be no greater than 5 lb/f. The button placement has to be coordinated with the concrete pad to access the button. The concrete pad (if required) shall be paid separately.

688-3 The pedestrian push button shall be wired with a 2/C#14 loop detector cable in lieu of a #12 A.W.G. XHHW wire.

Provide push buttons for pedestrian actuation meeting current ADA requirements.

Vehicle loop detectors are to be placed where construction activities impact the functionality of the system. Areas outside of the limits of construction where vehicle loop detectors are destroyed are to be replaced at the contractor's expense. Use of vehicle loop detectors must be approved by the engineer prior to placement. Sealing existing saw cut lines in not paid for separately and is incidental to this pay item.

Any deviation of location for proposed loop detector work shall be as approved.
Install loop vehicle detectors in accordance with plan Standard Sheet LD1-03 (Loop Detector Installation Details). All loop detectors shall be rectangular.

Use 2/c #14 AWG shielded for loop lead-ins and #14 AWG for loop wire in pavement.





Splices for loop wire will be permitted only at ground boxes or pole base with approved weather-proof splice kits.

A minimum length of 2 feet for each cable shall be left in each ground box.
All wiring not covered by the plans and specifications shall be in accordance with the latest edition of the National Electrical Code.

Plugging and patching existing holes where existing push buttons or pedestrian signals are relocating is not paid for separately but is subsidiary to the corresponding removal item. Use a method approved by the engineer to repair the area impacted by the removal.

Provide pedestrian push buttons a minimum of 2 in. diameter in the smallest dimension.
Install a rubber grommet or bushing between the push button assembly and the signal pole to protect the conductors.

If existing audible pedestrian push buttons are encountered and shown for adjustment, proposed buttons should also be audible. No additional payment will be made for audible push buttons.
When an existing push button is adjusted, pay item includes payment for a new pedestrian push button assembly. The Engineer may approve use of the existing button if it is compliant and only requires adjustment.

**--Item 5003--**
Apply an approved surface applied detectable warning surface to otherwise compliant existing curb ramp as directed.

Truncated dome pavers are prohibited.

All detectable warning surfaces are to be prefabricated panels constructed of cast iron or composite materials of contrasting color to the surrounding material, as approved by the Engineer.

**--Item 6001--**
Provide all portable changeable message signs and arrow panels with a photoelectric device to allow for automatic dimming of operations to approximately 50% of their normal brightness when ambient light drops to approximately five footcandles, and then increase back again for daytime operations.

2 electronic portable changeable message sign unit(s) will be required. Individual or collective use of signs will be required by the Engineer when deemed necessary to supplement the traffic control plan.



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# GENERAL NOTES

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**Control: 0915-12-576** **Sheet**

**County:** Bexar

**Highway:** Various

Each sign must have programmed in its permanent memory the following 15 messages:

1. Right Lane
2. Left Lane
3. Closed Ahead
4. Two Lane
5. Detour Ahead
6. Thru Traffic
7. Prepare To Stop
8. Merging Traffic
9. Expect 15 Minute Delay
10. Merge Right
11. Merge Left





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# GENERAL NOTES

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# ESTIMATE AND QUANTITY

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| | ITEM | 0104-6009 | 0104-6017 | 0104-6024 | 0104-6029 | 0104-6036 | 0105-6037 | 0162-6002 | 0168-6001 | 0420-6074 | 0423-6008 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | REMOVING CONC (RIPRAP) | REMOVING CONC (DRIVEWAYS) | REMOVING CONC (RETAINING WALLS) | REMOVING CONC (CURB OR CURB & GUTTER) | REMOVING CONC (SIDEWALK OR RAMP) | REMOVING STAB BASE AND ASPH PAV(0"-16") | BLOCK SODDING | VEGETATIVE WATERING | CL C CONC (MISC) | RETAINING WALL (CAST - IN - PLACE) |
| SHT NO | | SY | SY | SY | LF | SY | SY | SY | MG | CY | SF |
| 101 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 102+00 | | 13 | | 48 | | 17 | 11 | 0.17 | | |
| 102 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 102+00 TO STA 104+00 | | 99 | | 163 | 7 | 224 | 112 | 1.75 | | |
| 103 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 104+00 TO STA 106+00 | | 99 | | 149 | 6 | 103 | 6 | 0.09 | | |
| 104 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 106+00 TO STA 107+50 | | 74 | | 275 | 3 | 89 | 39 | 0.61 | 0.9 | |
| 105 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 107+50 TO STA 109+50 | | | | 121 | | 23 | | | | |
| 106 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 109+50 TO STA 111+00 | | 266 | | 73 | 3 | 68 | | | | |
| 107 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 111+00 TO STA 113+00 | | 73 | 2 | 175 | 4 | 217 | | | | |
| 108 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 113+00 TO STA 114+50 | | 318 | | 128 | 13 | 88 | | | | |
| 109 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 114+50 TO STA 116+50 | | 101 | | 202 | 2 | 69 | 51 | 0.80 | | |
| 111 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 116+50 TO STA 118+00 | | 216 | | 109 | 3 | 36 | 64 | 1.00 | 1.5 | |
| 112 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 118+00 TO STA 119+50 | | 104 | 21 | 112 | 4 | 87 | | | | |
| 113 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 119+50 TO STA 121+50 | | 272 | | 130 | 7 | 166 | | | | |
| 114 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 121+50 TO STA 123+00 | | 161 | | 77 | 5 | 95 | | | | |
| 115 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 123+00 TO STA 125+00 | | 167 | 1 | 126 | 12 | 194 | | | | |
| 117 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 125+00 TO STA 127+00 | | 139 | 3 | 149 | 17 | 167 | | | | |
| 119 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 127+00 TO STA 128+50 | | 98 | | 87 | 14 | 137 | | | | |
| 121 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 128+50 TO STA 130+50 | | 150 | 10 | 117 | 12 | 216 | | | | |
| 123 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 130+50 TO STA 132+00 | | 67 | | 133 | | 54 | | | | |
| 124 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 132+00 TO STA 134+00 | | 134 | | 107 | | 66 | | | | |
| 126 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 134+00 TO STA 135+50 | | 253 | | 149 | 15 | 64 | | | | |
| 128 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 135+50 TO STA 136+75 | | 41 | | 24 | 5 | | | | | |
| 129 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 136+75 TO STA 138+75 | | 156 | 12 | 182 | 19 | 139 | 14 | 0.22 | | |
| 131 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 138+75 TO STA 140+75 | | 145 | | 153 | 5 | 64 | | | | |
| 133 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 140+75 TO STA 142+75 | | 256 | 4 | 104 | 6 | 168 | 29 | 0.45 | 1.5 | 173 |
| 135 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 142+75 TO END PROJECT | | 85 | | 14 | 2 | 80 | | | | |
| 137 | SW LOOP 410 NB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 209+00, STA 216+00 TO STA 218+00 | | | | 4 | | | 99 | 1.54 | 6.9 | 105 |
| 138 | SW LOOP 410 NB SIDEWALK CONSTRUCTION PLAN STA 223+00 TO END PROJECT | | 167 | | 252 | 5 | 18 | 96 | 1.50 | 5.9 | |
| 139 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO 284+00 | | | | | | | 281 | 4.38 | | |
| 140 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN STA 284+00 TO 288+00 | 9 | | | 15 | | | 275 | 4.29 | 5.9 | 105 |
| 141 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN STA 291+00 TO 295+00 | 6 | | 5 | 251 | | | 110 | 1.72 | 5.9 | |
| 142 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN STA 295+00 TO 299+00 | 1 | 19 | | | | | 148 | 2.31 | | |
| 143 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN STA 329+00 TO END PROJECT | | | | | | | 62 | 0.97 | 6.9 | |
| | TOTALS (CSJ 0915-12-586) | 16 | 3673 | 58 | 3629 | 169 | 2649 | 1397 | 21.79 | 35.4 | 383 |

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# SUMMARY OF ROADWAY QUANTITIES

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Plotted on: 4/10/2019

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| ITEM | | 0432-6003 | 0471-6003 | 0529-6001 | 0529-6002 | 0530-6004 | 0530-6005 | 0531-6001 | 0531-6019 | 0531-6020 | 0531-6023 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | RIPRAP (CONC)(6 IN) | GRATE & FRAME | CONC CURB (TY I) | CONC CURB (TY II) | DRIVEWAYS (CONC) | DRIVEWAYS (ACP) | CONC SIDEWALKS (4") | CURB RAMPS (TY 2) | CURB RAMPS (TY 3) | CURB RAMPS (TY 6) |
| SHT NO | | CY | EA | LF | LF | SY | SY | SY | SY | SY | SY |
| 101 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 102+00 | | | 6 | 44 | 13 | 17 | 22 | | | |
| 102 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 102+00 TO STA 104+00 | | | | 164 | 104 | 224 | 158 | | | |
| 103 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 104+00 TO STA 106+00 | | | 7 | 137 | 104 | 103 | 59 | | | |
| 104 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 106+00 TO STA 107+50 | | | 6 | 274 | 77 | 89 | 143 | | | |
| 105 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 107+50 TO STA 109+50 | | | | 121 | | 23 | 78 | | | |
| 106 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 109+50 TO STA 111+00 | | | 21 | 52 | 269 | 68 | 54 | | | |
| 107 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 111+00 TO STA 113+00 | | | | 178 | 73 | 220 | 131 | | 39 | |
| 108 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 113+00 TO STA 114+50 | | | 26 | 88 | 319 | 99 | 74 | | | |
| 109 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 114+50 TO STA 116+50 | | | 7 | 182 | 97 | 76 | 76 | | | |
| 111 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 116+50 TO STA 118+00 | | | 36 | 72 | 211 | 44 | 41 | | | |
| 112 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 118+00 TO STA 119+50 | | | 22 | 65 | 90 | 116 | 70 | | | |
| 113 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 119+50 TO STA 121+50 | | | 75 | 52 | 256 | 192 | 76 | | | |
| 114 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 121+50 TO STA 123+00 | | | 68 | 6 | 138 | 121 | 47 | | | |
| 115 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 123+00 TO STA 125+00 | | | 63 | 74 | 160 | 212 | 97 | | | |
| 117 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 125+00 TO STA 127+00 | | | 32 | 124 | 92 | 224 | 62 | | | |
| 119 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 127+00 TO STA 128+50 | | | 38 | 44 | 75 | 173 | 48 | | | |
| 121 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 128+50 TO STA 130+50 | | | 6 | 115 | 133 | 236 | 41 | | | |
| 123 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 130+50 TO STA 132+00 | | | 20 | 114 | 67 | 54 | 43 | | | |
| 124 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 132+00 TO STA 134+00 | | | 34 | 73 | 91 | 109 | 43 | | | |
| 126 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 134+00 TO STA 135+50 | 2 | | 48 | 125 | 322 | | 84 | | | |
| 128 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 135+50 TO STA 136+75 | 1 | | | 24 | 41 | | 11 | | | |
| 129 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 136+75 TO STA 138+75 | | | 61 | 135 | 149 | 155 | 49 | | | |
| 131 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 138+75 TO STA 140+75 | 1 | | | 156 | 168 | 81 | 18 | | | |
| 133 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 140+75 TO STA 142+75 | | | 122 | | 274 | 160 | 63 | | | |
| 135 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 142+75 TO END PROJECT | | | | 5 | 87 | 80 | 22 | | | |
| 137 | SW LOOP 410 NB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 209+00, STA 216+00 TO STA 218+00 | | 3 | | 55 | | | 58 | | | 17 |
| 138 | SW LOOP 410 NB SIDEWALK CONSTRUCTION PLAN STA 223+00 TO END PROJECT | | | 13 | 274 | 168 | 11 | 157 | | | |
| 139 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO 284+00 | | | | | | | 190 | | | |
| 140 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN STA 284+00 TO 288+00 | 1 | | | 56 | | | 178 | | | |
| 141 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN STA 291+00 TO 295+00 | | | | 275 | | | 182 | 18 | | |
| 142 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN STA 295+00 TO 299+00 | | | | 25 | 19 | | 106 | 6 | | |
| 143 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN STA 329+00 TO END PROJECT | | 3 | | 109 | | | 67 | | | |
| | TOTALS (CSJ 0915-12-586) | 5 | 6 | 711 | 3218 | 3597 | 2887 | 2548 | 24 | 39 | 17 |

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



# SUMMARY OF ROADWAY QUANTITIES

SHEET 2 OF 3

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 30 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\Summaries\1113508_Summaries_RDWY.dgn

| | ITEM | 0531-6033 | 0624-6009 | 0624-6028 |
|---|---|---|---|---|
| | CSJ 0915-12-576 | CONC SIDEWALKS (SPECIAL) (TYPE B) | GROUND BOX TY D (162922) | REMOVE GROUND BOX |
| SHT NO | | SY | EA | EA |
| 101 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 102+00 | 8 | | |
| 102 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 102+00 TO STA 104+00 | 20 | | |
| 103 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 104+00 TO STA 106+00 | 26 | | |
| 104 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 106+00 TO STA 107+50 | 10 | | |
| 105 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 107+50 TO STA 109+50 | 8 | | |
| 106 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 109+50 TO STA 111+00 | | | |
| 107 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 111+00 TO STA 113+00 | 3 | | |
| 108 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 113+00 TO STA 114+50 | | | |
| 109 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 114+50 TO STA 116+50 | 11 | | |
| 111 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 116+50 TO STA 118+00 | | | |
| 112 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 118+00 TO STA 119+50 | | | |
| 113 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 119+50 TO STA 121+50 | 10 | | |
| 114 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 121+50 TO STA 123+00 | | | |
| 115 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 123+00 TO STA 125+00 | | | |
| 117 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 125+00 TO STA 127+00 | 17 | | |
| 119 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 127+00 TO STA 128+50 | | | |
| 121 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 128+50 TO STA 130+50 | 26 | | |
| 123 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 130+50 TO STA 132+00 | 26 | | |
| 124 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 132+00 TO STA 134+00 | 17 | | |
| 126 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 134+00 TO STA 135+50 | | | |
| 128 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 135+50 TO STA 136+75 | | | |
| 129 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 136+75 TO STA 138+75 | 17 | | |
| 131 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 138+75 TO STA 140+75 | 58 | | |
| 133 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 140+75 TO STA 142+75 | 10 | 1 | 1 |
| 135 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 142+75 TO END PROJECT | | | |
| 137 | SW LOOP 410 NB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 209+00, STA 216+00 TO STA 218+00 | | | |
| 138 | SW LOOP 410 NB SIDEWALK CONSTRUCTION PLAN STA 223+00 TO END PROJECT | 3 | | |
| 139 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO 284+00 | | | |
| 140 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN STA 284+00 TO 288+00 | | | |
| 141 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN STA 291+00 TO 295+00 | | | |
| 142 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN STA 295+00 TO 299+00 | | | |
| 143 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN STA 329+00 TO END PROJECT | | | |
| | TOTALS (CSJ 0915-12-586) | 270 | 1 | 1 |

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# SUMMARY OF ROADWAY QUANTITIES

SHEET 3 OF 3

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 31 |

| | ITEM | 0644-6064 | 0644-6070 | 0666-6147 | 0666-6224 | 0666-6230 | 0666-6303 | 0666-6315 | 0677-6001 | 0677-6007 | 0678-6001 | 0678-6008 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CSJ 0915-12-576 | IN BRIDGE MNT CLEARANCE SGN ASSM(TY N) | RELOCATE SM RD SN SUP&AM TY S80 | REFL PAV MRK TY I (Y)24"(SLD)(100 MIL) | PAVEMENT SEALER 4" | PAVEMENT SEALER 24" | RE PM W/RET REQ TY I (W)4"(SLD)(100M IL) | RE PM W/RET REQ TY I (Y)4"(SLD)(100M IL) | ELIM EXT PAV MRK & MRKS (4") | ELIM EXT PAV MRK & MRKS (24") | PAV SURF PREP FOR MRK (4") | PAV SURF PREP FOR MRK (24") |
| SHT NO | | EA | EA | LF | LF | LF | LF | LF | LF | LF | LF | LF |
| 102 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 102+00 TO STA 104+00 | | | | 18 | | 18 | | | | 18 | |
| 104 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 106+00 TO STA 107+50 | | 1 | | | | | | | | | |
| 107 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 111+00 TO STA 113+00 | | 1 | | 193 | | | 193 | 125 | | 193 | |
| 112 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 118+00 TO STA 119+50 | 1 | | | | | | | | | | |
| 113 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 119+50 TO STA 121+50 | | 1 | | | | | | | | | |
| 114 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 121+50 TO STA 123+00 | | | | 103 | | | 103 | 22 | | 103 | |
| 115 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 123+00 TO STA 125+00 | | | | 51 | | | 51 | 2 | | 51 | |
| 119 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 127+00 TO STA 128+50 | | | | 127 | | | 127 | 81 | | 127 | |
| 121 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 128+50 TO STA 130+50 | | | | 20 | | | 20 | 16 | | 20 | |
| 126 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 134+00 TO STA 135+50 | | | | | | | | | | | |
| 135 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 142+75 TO END PROJECT | | | 70 | | 70 | | | | 70 | | 70 |
| 138 | SW LOOP 410 NB SIDEWALK CONSTRUCTION PLAN STA 223+00 TO END PROJECT | | 1 | | | | | | | | | |
| 140 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN STA 284+00 TO 288+00 | | 1 | | | | | | | | | |
| 143 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN STA 329+00 TO END PROJECT | | 1 | | | | | | | | | |
| | TOTALS (CSJ 0915-12-586) | 1 | 6 | 70 | 512 | 70 | 18 | 494 | 246 | 70 | 512 | 70 |

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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
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# SUMMARY OF SIGNING AND PAVEMENT MARKINGS QUANTITIES

SHEET 1 OF 2

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 32 |

Plotted on: 4/10/2019

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| | ITEM | 0685-6002 |
|---|---|---|
| | CSJ 0915-12-576 | RELOCATE RDSD FLASH BEACON ASSEMBLY |
| SHT NO | | EA |
| 102 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 102+00 TO STA 104+00 | |
| 104 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 106+00 TO STA 107+50 | |
| 107 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 111+00 TO STA 113+00 | |
| 112 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 118+00 TO STA 119+50 | |
| 113 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 119+50 TO STA 121+50 | |
| 114 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 121+50 TO STA 123+00 | |
| 115 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 123+00 TO STA 125+00 | |
| 119 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 127+00 TO STA 128+50 | 1 |
| 121 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 128+50 TO STA 130+50 | |
| 126 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 134+00 TO STA 135+50 | 1 |
| 135 | SL 353 NOGALITOS ST SIDEWALK CONSTRUCTION PLAN STA 142+75 TO END PROJECT | |
| 138 | SW LOOP 410 NB SIDEWALK CONSTRUCTION PLAN STA 223+00 TO END PROJECT | |
| 140 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN STA 284+00 TO 288+00 | |
| 143 | SW LOOP 410 SB SIDEWALK CONSTRUCTION PLAN STA 329+00 TO END PROJECT | |
| | TOTALS (CSJ 0915-12-586) | 2 |

| REV. NO. | DATE | DESCRIPTION | BY |
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2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



# SUMMARY OF SIGNING AND PAVEMENT MARKINGS QUANTITIES

SHEET 2 OF 2

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 33 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\Summaries\1113508_Summaries_SPM.dgn

| | ITEM | 7027-6001 |
|---|---|---|
| | CSJ 0915-12-576 | ADJUST GAS FACILITY ACCESS COVER |
| SHT NO | | EA |
| 107 | US 87 RIGSBY AVE WB SIDEWALK CONSTRUCTION PLAN STA 633+00 TO STA 637+00 | 2 |
| 120 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN BEGIN PROJECT TO STA 508+00 | 1 |
| 142 | SL 13 SW MILITARY B EB SIDEWALK CONSTRUCTION PLAN STA 589+50 TO STA 593+50 | 1 |
| 189 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 852+00 TO STA 856+00 | 1 |
| 195 | SL 13 SW MILITARY B WB SIDEWALK CONSTRUCTION PLAN STA 885+00 TO STA 889+00 | 1 |
| 228 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1353+00 TO 1355+00, STA 1753+00 TO STA 1755+00 | 2 |
| 273 | BANDERA RD WB SIDEWALK CONSTRUCTION PLAN STA 1483+00 TO 1485+00, STA 1883+00 TO STA 1885+00 | 2 |
| | TOTALS (CSJ 0915-12-586) | 10 |

Plotted on: 4/10/2019

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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
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# SUMMARY OF UTILITY QUANTITIES

SHEET 1 OF 1

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 34 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\Summaries\1113508_Summaries_INDEF.dgn

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PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

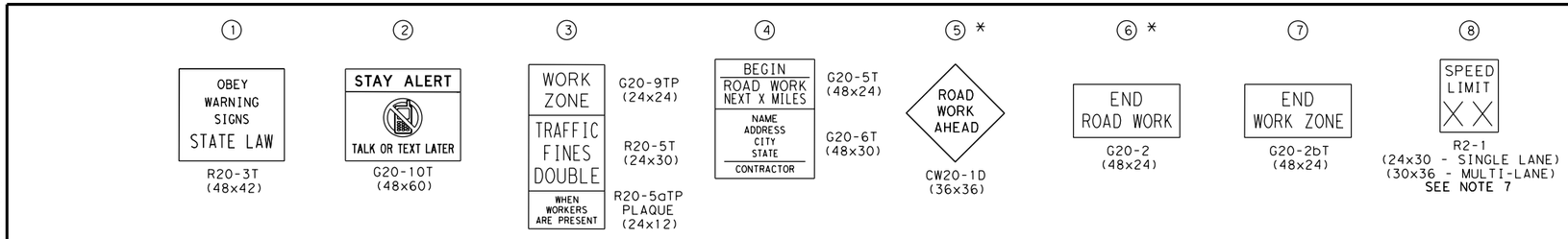
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

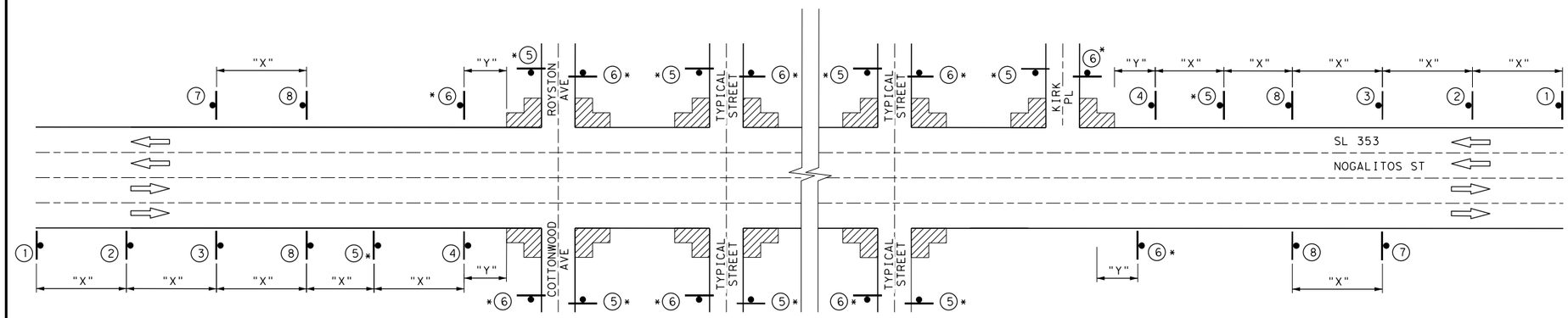



# SUMMARY OF INDEFINITE QUANTITIES

SHEET 1 OF 1

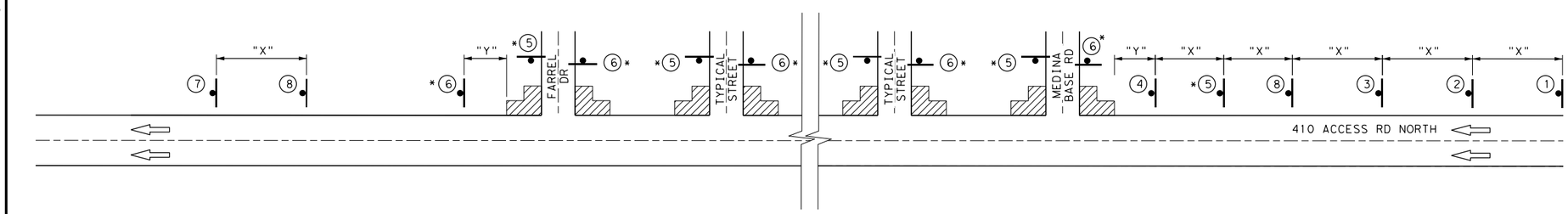
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 35 |



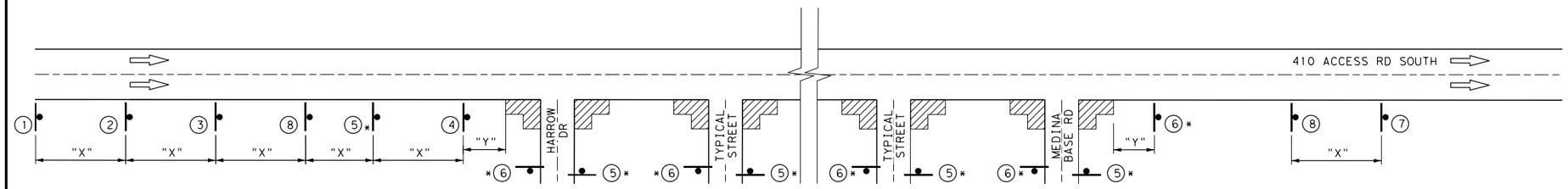

NOGALITOS ST FROM COTTONWOOD AVE TO KIRK PL

SHEETS 349 - 384- REFER TO TCP (1-4a) FOR ADDITIONAL INFORMATION




410 ACCESS RD NORTHBOUND FROM MEDINA BASE RD TO FARREL DR

SHEETS 385 - 386- REFER TO TCP (1-4a) FOR ADDITIONAL INFORMATION




410 ACCESS RD SOUTHBOUD FROM HARROW DR TO MEDINA BASE RD

SHEETS 387 - 391- REFER TO TCP (1-4a) FOR ADDITIONAL INFORMATION

NOTE:

1. CONTRACTOR SHALL PLACE ADVANCE WARNING SIGNS ACCORDING TO DISTANCE "X" ON STANDARD BC(2)-14
2. CONTRACTOR SHALL FIELD VERIFY POSTED SPEED FOR "X" SPACING
3. SIGN LOCATIONS MAY BE ADJUSTED DUE TO CONDITIONS AS APPROVED BY THE ENGINEER
4. CONFLICTING SIGNS SHALL BE COVERED BY CONTRACTOR OR AS DIRECTED BY THE ENGINEER
5. SIGNS SHOWN SHALL BE COORDINATED WITH SPECIFIC WORK TRAFFIC CONTROL DETAILS INCLUDED IN THE PLANS
6. SIGNS 5 & 6 TO BE MOVED AND PLACED ONLY IN ADVANCE OF WHERE WORK IS BEING PERFORMED
7. SIGN 8 SHALL DISPLAY APPROPRIATE SPEED LIMIT IN PLACE OF "XX"

LEGEND

- CONSTRUCTION WARNING SIGN
- TRAFFIC FLOW
- WORK ZONE

| POSTED SPEED | LONGITUDINAL BUFFER SPACE "Y" DISTANCE |
|---|---|
| MPH | FT (APPROX) |
| 30 | 90 |
| 35 | 120 |
| 40 | 155 |
| 45 | 195 |
| 50 | 240 |
| 55 | 295 |
| 60 | 350 |
| 65 | 410 |
| 70 | 475 |

* SEE NOTE 6 FOR TYPICAL USE OF SIGNS 5 & 6

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# TRAFFIC CONTROL PLAN ADVANCE WARNING DEVICES

SHEET 1 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 36 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\TCP\1113508_TCP_LINEDIAGRAMS02.dgn

① OBEY WARNING SIGNS STATE LAW — R20-3T (48x42)

② STAY ALERT / TALK OR TEXT LATER — G20-10T (48x60)

③ WORK ZONE / TRAFFIC FINES DOUBLE / WHEN WORKERS ARE PRESENT — G20-9TP (24x24); R20-5T (24x30); R20-5aTP PLAQUE (24x12)

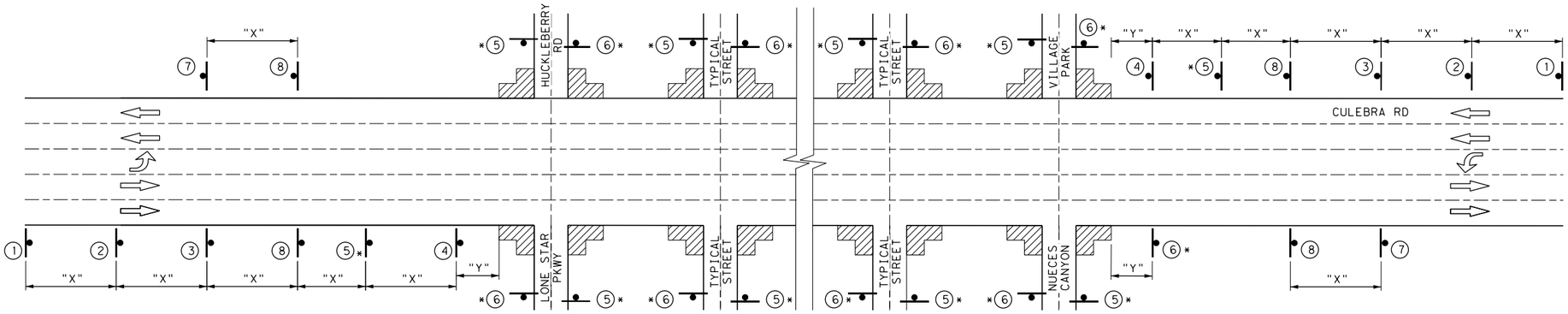
④ BEGIN ROAD WORK NEXT X MILES / NAME ADDRESS CITY STATE / CONTRACTOR — G20-5T (48x24); G20-6T (48x30)

⑤ * ROAD WORK AHEAD — CW20-1D (36x36)

⑥ * END ROAD WORK — G20-2 (48x24)

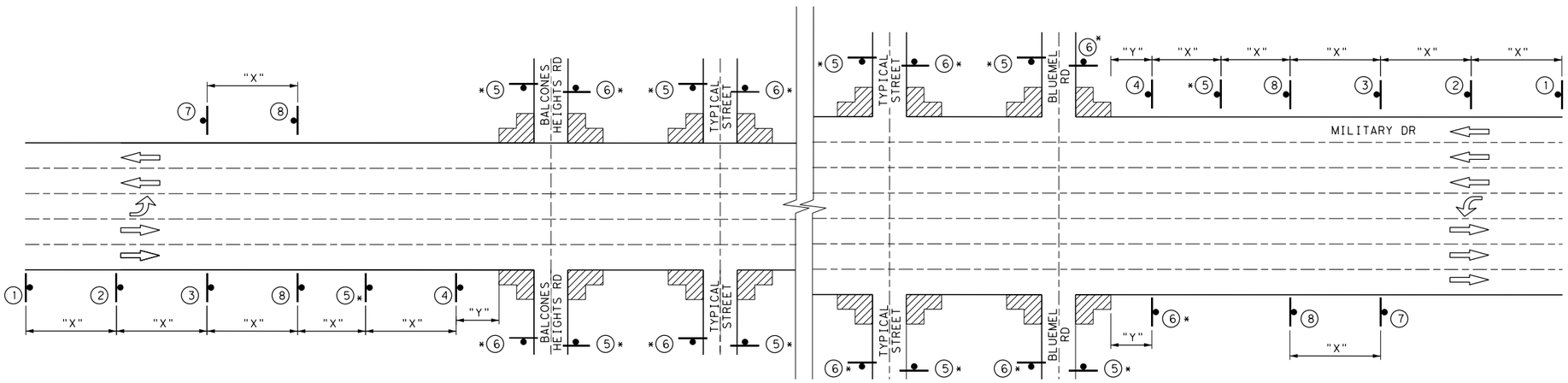
⑦ END WORK ZONE — G20-2bT (48x24)

⑧ SPEED LIMIT XX — R2-1 (24x30 - SINGLE LANE) (30x36 - MULTI-LANE) SEE NOTE 7




CULEBRA RD FROM HUCKLEBERRY/LONESTAR PKWY TO VILLAGE PARK/NUECES CANYON

SHEETS 465 - 473 - REFER TO TCP (1-1a) FOR ADDITIONAL INFORMATION




FREDERICKSBURG RD FROM BALCONES HEIGHTS RD TO BLUEMEL RD

SHEETS 430 - 464 - REFER TO TCP (1-4a) FOR ADDITIONAL INFORMATION

NOTE:

1. CONTRACTOR SHALL PLACE ADVANCE WARNING SIGNS ACCORDING TO DISTANCE "X" ON STANDARD BC(2)-14
2. CONTRACTOR SHALL FIELD VERIFY POSTED SPEED FOR "X" SPACING
3. SIGN LOCATIONS MAY BE ADJUSTED DUE TO CONDITIONS AS APPROVED BY THE ENGINEER
4. CONFLICTING SIGNS SHALL BE COVERED BY CONTRACTOR OR AS DIRECTED BY THE ENGINEER
5. SIGNS SHOWN SHALL BE COORDINATED WITH SPECIFIC WORK TRAFFIC CONTROL DETAILS INCLUDED IN THE PLANS
6. SIGNS 5 & 6 TO BE MOVED AND PLACED ONLY IN ADVANCE OF WHERE WORK IS BEING PERFORMED
7. SIGN 8 SHALL DISPLAY APPROPRIATE SPEED LIMIT IN PLACE OF "XX"

LEGEND

- CONSTRUCTION WARNING SIGN
- TRAFFIC FLOW
- WORK ZONE

| POSTED SPEED | LONGITUDINAL BUFFER SPACE "Y" DISTANCE |
|---|---|
| MPH | FT (APPROX) |
| 30 | 90 |
| 35 | 120 |
| 40 | 155 |
| 45 | 195 |
| 50 | 240 |
| 55 | 295 |
| 60 | 350 |
| 65 | 410 |
| 70 | 475 |

* SEE NOTE 6 FOR TYPICAL USE OF SIGNS 5 & 6

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# TRAFFIC CONTROL PLAN ADVANCE WARNING DEVICES

SHEET 2 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 37 |

① OBEY WARNING SIGNS STATE LAW
R20-3T (48x42)

② STAY ALERT — TALK OR TEXT LATER
G20-10T (48x60)

③ WORK ZONE / TRAFFIC FINES DOUBLE / WHEN WORKERS ARE PRESENT
G20-9TP (24x24)
R20-5T (24x30)
R20-5aTP PLAQUE (24x12)

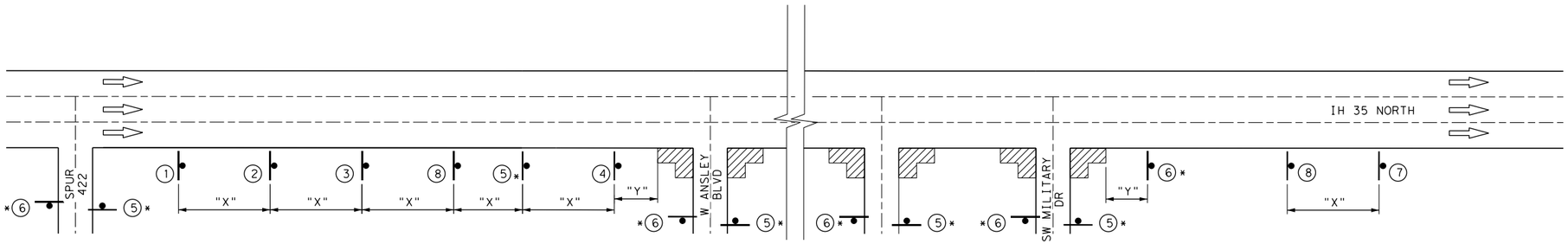
④ BEGIN ROAD WORK NEXT X MILES / NAME ADDRESS CITY STATE / CONTRACTOR
G20-5T (48x24)
G20-6T (48x30)

⑤ * ROAD WORK AHEAD
CW20-1D (36x36)

⑥ * END ROAD WORK
G20-2 (48x24)

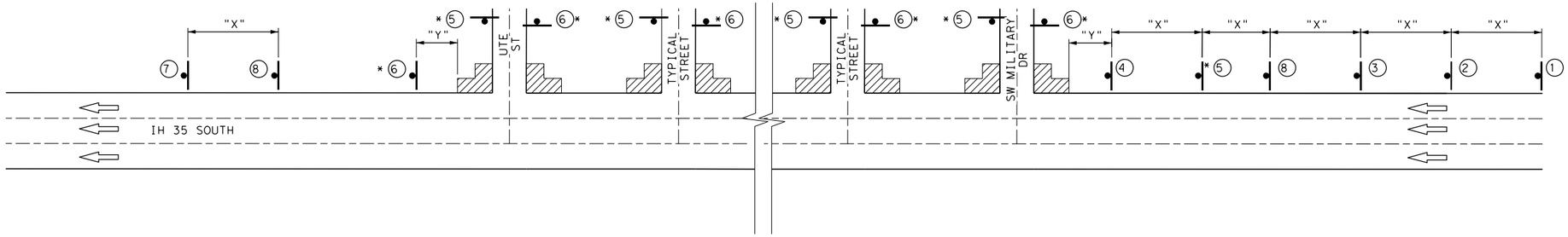
⑦ END WORK ZONE
G20-2bT (48x24)

⑧ SPEED LIMIT XX
R2-1
(24x30 - SINGLE LANE)
(30x36 - MULTI-LANE)
SEE NOTE 7




IH 35 NORTHBOUND FROM TO SW MILITARY DR

SHEETS 392 - 404 - REFER TO TCP (1-1a) FOR ADDITIONAL INFORMATION




IH 35 SOUTHBOUND FROM SW MILITARY DR TO UTE ST

SHEETS 405 - 429 - REFER TO TCP (1-1a) FOR ADDITIONAL INFORMATION

NOTE:

1. CONTRACTOR SHALL PLACE ADVANCE WARNING SIGNS ACCORDING TO DISTANCE "X" ON STANDARD BC(2)-14
2. CONTRACTOR SHALL FIELD VERIFY POSTED SPEED FOR "X" SPACING
3. SIGN LOCATIONS MAY BE ADJUSTED DUE TO CONDITIONS AS APPROVED BY THE ENGINEER
4. CONFLICTING SIGNS SHALL BE COVERED BY CONTRACTOR OR AS DIRECTED BY THE ENGINEER
5. SIGNS SHOWN SHALL BE COORDINATED WITH SPECIFIC WORK TRAFFIC CONTROL DETAILS INCLUDED IN THE PLANS
6. SIGNS 5 & 6 TO BE MOVED AND PLACED ONLY IN ADVANCE OF WHERE WORK IS BEING PERFORMED
7. SIGN 8 SHALL DISPLAY APPROPRIATE SPEED LIMIT IN PLACE OF "XX"

LEGEND
- CONSTRUCTION WARNING SIGN
- TRAFFIC FLOW
- WORK ZONE

| POSTED SPEED | LONGITUDINAL BUFFER SPACE "Y" DISTANCE |
|---|---|
| MPH | FT (APPROX) |
| 30 | 90 |
| 35 | 120 |
| 40 | 155 |
| 45 | 195 |
| 50 | 240 |
| 55 | 295 |
| 60 | 350 |
| 65 | 410 |
| 70 | 475 |

* SEE NOTE 6 FOR TYPICAL USE OF SIGNS 5 & 6

DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW
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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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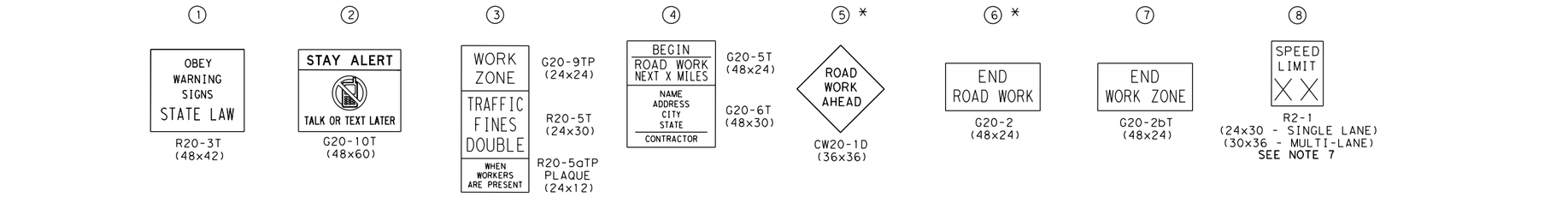
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

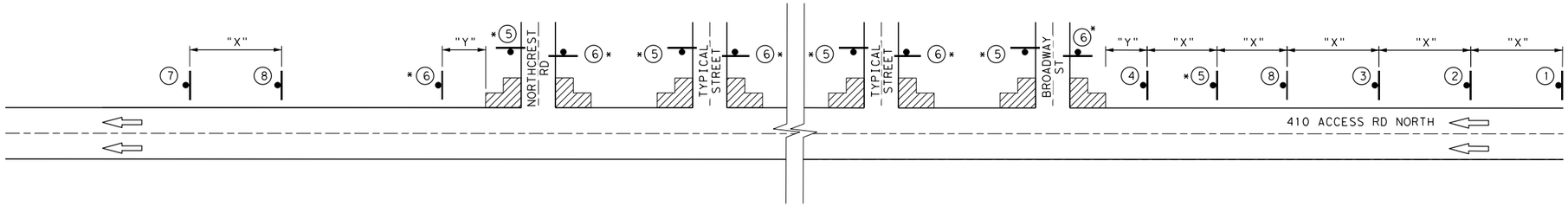


# TRAFFIC CONTROL PLAN ADVANCE WARNING DEVICES



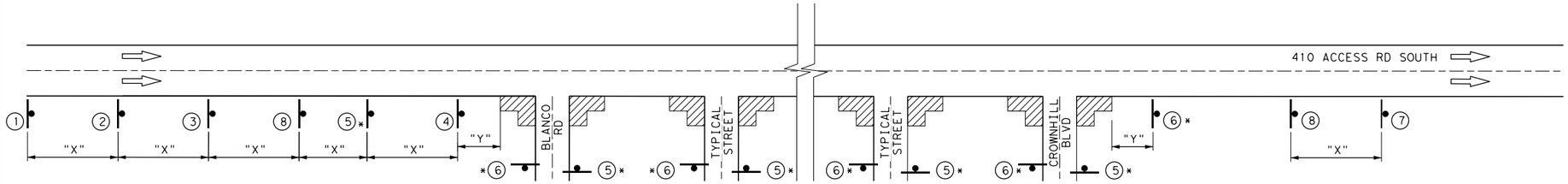
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 38 |




LOOP 410-B WESTBOUND FROM CROWNHILL BLVD TO NORTHCREST DR

SHEETS 486 - 496 - REFER TO TCP (1-4a) FOR ADDITIONAL INFORMATION




LOOP 410-B SOUTHBOUD FROM NORTHCREST RD TO CROWNHILL BLVD

SHEETS 474 - 485 - REFER TO TCP (1-4a) FOR ADDITIONAL INFORMATION

NOTE:

1. CONTRACTOR SHALL PLACE ADVANCE WARNING SIGNS ACCORDING TO DISTANCE "X" ON STANDARD BC(2)-14
2. CONTRACTOR SHALL FIELD VERIFY POSTED SPEED FOR "X" SPACING
3. SIGN LOCATIONS MAY BE ADJUSTED DUE TO CONDITIONS AS APPROVED BY THE ENGINEER
4. CONFLICTING SIGNS SHALL BE COVERED BY CONTRACTOR OR AS DIRECTED BY THE ENGINEER
5. SIGNS SHOWN SHALL BE COORDINATED WITH SPECIFIC WORK TRAFFIC CONTROL DETAILS INCLUDED IN THE PLANS
6. SIGNS 5 & 6 TO BE MOVED AND PLACED ONLY IN ADVANCE OF WHERE WORK IS BEING PERFORMED
7. SIGN 8 SHALL DISPLAY APPROPRIATE SPEED LIMIT IN PLACE OF "XX"

LEGEND

- CONSTRUCTION WARNING SIGN
- TRAFFIC FLOW
- WORK ZONE

| POSTED SPEED | LONGITUDINAL BUFFER SPACE "Y" DISTANCE |
|---|---|
| MPH | FT (APPROX) |
| 30 | 90 |
| 35 | 120 |
| 40 | 155 |
| 45 | 195 |
| 50 | 240 |
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| 60 | 350 |
| 65 | 410 |
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* SEE NOTE 6 FOR TYPICAL USE OF SIGNS 5 & 6

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P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

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# TRAFFIC CONTROL PLAN ADVANCE WARNING DEVICES

SHEET 4 OF 4

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 39 |

Plotted on: 4/10/2019

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Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\TCP\111308_TCP_NARRATIVE.dgn

## DETOURS, BARRICADES, WARNING SIGNS, SEQUENCE OF WORK, ETC.

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE REQUIREMENTS OF ITEM 7, "LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC", OF THE STANDARD SPECIFICATIONS. IN ADDITION TO THESE REQUIREMENTS, THE FOLLOWING PROVISIONS SHALL ALSO GOVERN ON THIS CONTRACT:

### 1. GENERAL

1. TRAFFIC MUST BE HANDLED THROUGHOUT THE PROJECT DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A SAFE AND COMFORTABLE PASSAGE FOR VEHICULAR AND PEDESTRIAN TRAFFIC WITH MINIMALINCONVENIENCE TO THE PUBLIC, AS SHOWN IN THE PLANS OR AS DIRECTED/APPROVED BY THE ENGINEER.

2. THE CONTRACTOR MAY PROPOSE/RECOMMEND MODIFICATIONS TO THE SEQUENCE OF WORK FOR CONSIDERATION BY THE ENGINEER. ANY MAJOR RECOMMENDED MODIFICATION BY THE CONTRACTOR SHALL INCLUDE ANY CHANGES TO THE VARIOUS BID ITEMS, IMPACT TO TRAFFIC, EFFECT OF OVERALL PROJECT IN TIME AND COST, ETC. IF THIS PROPOSAL IS IMPLEMENTED, THE CONTRACTOR WILL BE RESPONSIBLE FOR DEVELOPING DETAILED PLAN SHEETS TO BE SEALED BY A LICENSED PROFESSIONAL ENGINEER FOR INCLUSION WITH THE CHANGE ORDER. THE CONTRACTOR CANNOT PROCEED WITH ANY CONSTRUCTION OPERATIONS BASED ON A REVISED PHASE/SEQUENCE UNTIL WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. IF AT ANY TIME DURING CONSTRUCTION THE CONTRACTOR'S PROPOSED PLAN OF OPERATION FOR HANDLING TRAFFIC DOES NOT PROVIDE FOR SAFE AND COMFORTABLE MOVEMENT, THE CONTRACTOR WILL IMMEDIATELY CHANGE THEIR OPERATION TO CORRECT THE UNSATISFACTORY CONDITION.

3. DO NOT STORE ANY CONSTRUCTION MATERIAL OR EQUIPMENT AT ANY LOCATION THAT WILL CONSTITUTE A HAZARD AND WILL ENDANGER TRAFFIC..

4. THE CONTRACTOR WILL PROVIDE ADVANCE NOTIFICATION TO THE ENGINEER OF IMPENDING / UPCOMING LANE CLOSURES FOR ALL TEMPORARY AND / OR PERMANENT LANE, RAMP, CONNECTOR, FRONTAGE, SHOULDER, ETC. CLOSURES OR DETOURS. SEE GENERAL NOTES FOR NOTIFICATION REQUIREMENTS.

5. ACCESS TO ADJOINING PROPERTY MUST BE MAINTAINED AT ALL TIMES.

6. TEMPORARY DRAINAGE IS THE RESPONSIBILITY OF THE CONTRACTOR.

7. AT NO TIME SHALL TWO CONSEQUTIVE INTERSECTING ROADWAYS BE CLOSED AT ONE TIME DURING CONSTRUCTION.

8. AT NO TIME SHALL TWO CONSEQUTIVE RAMPS BE CLOSED AT ONE TIME DURING CONSTRUCTION OR OVERLAY OPERATIONS.

9. UNLESS OTHERWISE NOTED IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER, DAILY LANE CLOSURES SHALL BE LIMITED ACCORDING TO THE FOLLOWING RESTRICTIONS:

NIGHTTIME : ASK AREA ENGINEER AND CONSTRUCTION ENGINEER. (WITH UNIFORMED OFF DUTY LAW ENFORCEMENT OFFICERS)

WEEKEND CLOSURES WHEN APPROVED BY THE ENGINEER: ASK AREA ENGINEER AND CONSTRUCTION ENGINEER.

NO LANE CLOSURES OR ROADWAY CLOSURES WILL BE PERMITTED FOR THE FOLLOWING KEY DATES AND/OR SPECIAL EVENTS:

BETWEEN DECEMBER 15 AND JANUARY 1.
FIESTA WEEK AND TAX FREE WEEKEND. (BEXAR COUNTY ONLY)
WEDNESDAY BEFORE THANKSGIVING THRU THE SUNDAY AFTER THANKSGIVING
SATURDAY AND SUNDAY BEFORE MEMORIAL DAY AND LABOR DAY.
SATURDAY OR SUNDAY WHEN JULY 4 FALLS ON A FRIDAY OR MONDAY.
ELECTION DAYS (BEXAR COUNTY ONLY)
DURING MAJOR EVENTS AT THE AT&T CENTER (SPURS HOME GAMES, RODEO, CONCERTS, ETC.), ALAMODOME AND OR CONVENTION CENTER

10. REMOVAL AND DISPOSAL OF EXISTING ABANDONED UTILITIES (EITHER PREVIOUSLY ABANDONED OR ABANDONED DURING THIS PROJECT) REQUIRED TO SUPPORT THIS PROJECT'S CONSTRUCTION SHALL BE PERFORMED UNDER THE OVERALL PREPARE RIGHT-OF-WAY ITEM (ITEM 100).

11. COORDINATE WITH ADJACENT PROJECTS.

12. COVER PERMANENT SIGNS IF NOT USED. THIS IS SUBSIDARY TO ITEM 502.

13. EXCAVATION WITHIN 5 FEET OF AN EXISTING CPS ENERGY POLE WILL REQUIRE POLE BRACING. CONTACT CPS ENERGY UTILTY COORDINATION TO REQUEST POLE BRACING (JOHN OFFER, JFOFFER@CPSENERGY.COM). THE ESTIMATED DURATION FOR THE POLE BRACING PROCESS IS APPROXIMATELY 6 TO 8 WEEKS.

14. COORDINATE WITH THE CITY OF SAN ANTONIO OR TXDOT FOR SIGNAL TIMING REVISIONS, AS NECESSARY.

15. ADVANCE WARNING SIGNS AND LANE CLOSURES MUST BE MOVED UP PERIODICALLY IN ORDER TO KEEP UP WITH THE MOVING WORK ZONE. AS WORK PROGRESSES, THE LANE CLOSURE SIGNING AND APPROPRIATE BARRICADES MUST FOLLOW APPLICABLE STANDARDS.

16. CONTRACTOR SHALL NOT REMOVE OR ADJUST ANY VIA ASSETS.

17. CONTRACTOR SHALL CONTACT VIA THIRTY (30) DAYS PRIOR, FOR:

(A) THE REMOVAL OF BENCHES, STOP POLES AND ANY OTHER VIA AMENITIES WITHIN THE PROJECT LIMITS.

(B) THE REMOVAL OF SHELTERS.

(C) THE COORDINATION OF TEMPORARY BUS STOPS.

18. THE CONTRACTOR WILL BE LIABLE FOR ANY DAMAGES TO VIA FACILITIES NOT REMOVED BY VIA.

19. THE CONTRACTOR IS REQUIRED TO REPLACE ALL FLATWORK REMOVED OR DAMAGED IN THE COURSE OF EXECUTING THE CONTRACT UNLESS OTHERWISE NOTED BY VIA.

20. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING VIA FACILITIES IF ADJACENT TO WORK AREA.

21. CONCERNING NEW VIA RELATED FLATWORK: THE CONTRACTOR SHALL SCHEDULE WITH VIA A PRE-POUR INSPECTION FOR ANY SHELTER SLAB, PAD, ADA CONNECTOR OR OTHER REPLACEMENT THAT DIRECTLY AFFECTS VIA AMENITIES NOT TO INCLUDE SIDEWALKS.

### 2. SEQUENCE OF WORK

1. THIS PROJECT WILL BE CONSTRUCTED IN (#) PHASES. BEFORE THE COMMENCEMENT OF EACH PHASE, INSTALL ADVANCE WARNING SIGNS, TEMPORARY SIGNS AND BARRICADES AS SHOWN ON THE PLANS AND/OR AS DIRECTED/APPROVED BY THE ENGINEER. DAILY LANE CLOSURES WILL BE USED IN ACCORDANCE WITH STATE TCP STANDARDS. DROP OFF CONDITIONS OF GREATER THAN 2" MUST HAVE A 3:1 SLOPE AT THE END OF EACH DAY, AS WELL AS THROUGHOUT THE PROJECT WHERE ACCESS TO ADJACENT PROPERTIES IS ALLOWED TO DRIVEWAYS AND SIDE STREETS.

2. PREPARING ROW / REMOVAL OF EXISTING ITEMS TO BE DONE ONLY IN AREAS WHERE WORK IS OCCURING, AS PER THE PHASES NOTED BELOW.

3. PLANING, SURFACE TREATMENTS AND OVERLAYS SHALL BE PERFORMED IN THE DIRECTION OF TRAFFIC. BEGIN SURFACE CONSTRUCTION ON HIGH SIDE OF ROAD TO AVOID WATER PONDING ISSUES.

4. A BRIEF DESCRIPTION OF THESE PHASES ARE AS FOLLOWS:

NOGALITOS; SW LOOP-410; CULEBRA; FREDERICKSBURG; IH-35; LOOP 410-B

1. NOTIFY AFFECTED BUSINESS OWNERS 2 WEEKS PRIOR TO CONSTRUCTION, MAINTAIN TEMPORARY ACCESS AT ALL TIMES.

2. CLOSE SIDEWALK TO PEDESTRIAN TRAFFIC, DETOUR PEDESTRIANS PER TxDOT STANDARD WZ(BTS-2)-13. SEE ADVANCE WARNING SIGN LAYOUT SHEETS FOR THE INITIAL ADVANCE WARNING SIGN SETUP.

3. INSTALL SW3P IN ACCORDANCE WITH STORM WATER POLLUTION PREVENTION PLAN.

4. REMOVE EXISTING SIDEWALK, DRAINAGE STRUCTURES, AND EXISTING ROAD MATERIAL, SEE TYPICAL SECTIONS, PAVEMENT DETAILS AND PLAN LAYOUT SHEETS FOR ADDITIONAL INFORMATION. ENSURE POSITIVE DRAINAGE AROUND INTERSECTION RETURNS. CONTRACTOR SHALL INSTALL METAL PLATE OVER OPEN TRENCHES, UNCOVERED MANHOLES AND INLETS ADJACENT TO TRAFFIC OVER NIGHT OR WHEN NO WORK IS BEING PERFORMED. INSTALL TEMPORARY PAVEMENT MARKINGS AS NEEDED OR AS DIRECTED BY THE ENGINEER.

5. CONSTRUCT RETAINING WALL FOOTINGS AND WALLS, INSTALL DRAINAGE ELEMENTS FROM DOWNSTREAM TO UPSTREAM. ENSURE POSITIVE DRAINAGE FROM EXISTING TO PROPOSED DRAINAGE STRUCTURES. WORK AT EACH LOCATION MUST BE COMPLETED PER THE GENERAL NOTES WITHIN OFF-PEAK HOURS.

6. FORM SIDEWALKS, CURB RAMPS AND STEPS.

7. CONSTRUCT SIDEWALKS, CURB RAMPS, STEPS, AND INSTALL PEDESTRIAN RAILS.

8. OPEN COMPLETED SIDEWALK TO PEDESTRIANS AS SOON AS POSSIBLE, WITH THE APPROVAL OF THE ENGINEER.

9. ADJUST PEDESTRIAN PUSH BUTTONS.

10. AFTER ALL SIDEWALK AND DRAINAGE IMPROVEMENTS ARE COMPLETE FOR ALL CORNERS, PLANE ASPHALT AS INDICATED AND INSTALL TEMPORARY PAVEMENT MARKINGS AS NEEDED OR AS DIRECTED BY THE ENGINEER.

11. INSTALL PERMANENT PAVEMENT MARKINGS.

12. INSTALL/RELOCATE PERMANENT SIGNING.

13. REMOVE SW3P ITEMS.

### 3. SAFETY

1. THE CONTRACTOR WILL PROVIDE, CONSTRUCT AND MAINTAIN BARRICADES AND SIGNS IN ACCORDANCE WITH STATE STANDARDS BC (1 - 12)-14. ANY SIGNS REQUIRED THAT ARE NOT DETAILED IN THE STANDARD SHEETS SHALL BE IN CONFORMANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AND THE "STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS."

2. BARRICADES AND WARNING SIGNS SHALL BE PLACED AS INDICATED ON THE PLANS. THIS SHALL BE CONSIDERED THE MINIMUM REQUIRED TO PROVIDE FOR THE SAFETY OF TRAFFIC DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN OTHER SUCH BARRICADES AND SIGNS DEEMED NECESSARY BY THE ENGINEER OR AS DIRECTED BY FIELD CONDITIONS, TO PROVIDE FOR THE PASSAGE OF TRAFFIC IN SAFETY AT ALL TIMES.

3. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN FLAGGERS AS DIRECTED/APPROVED BY THE ENGINEER, AT SUCH POINTS, AND FOR SUCH PERIODS OF TIME AS MAY BE REQUIRED, TO PROVIDE FOR THE SAFETY OF THE TRAVELING PUBLIC AND THE CONTRACTOR'S PERSONNEL.

4. THE CONTRACTOR SHALL KEEP THE ROADWAY CLEAN AND FREE OF DIRT OR OTHER MATERIALS DURING HAULING OPERATIONS. IF THE CONTRACTOR DOES NOT MAINTAIN A CLEAN ROADWAY, THEY SHALL CEASE ALL CONSTRUCTION OPERATIONS, WHEN DIRECTED BY THE ENGINEER, TO CLEAN THE ROADWAY TO THE SATISFACTION OF THE ENGINEER.

### 4. HAULING EQUIPMENT

1. THE USE OF RUBBER-TIRED EQUIPMENT WILL BE REQUIRED FOR MOVING DIRT OR OTHER MATERIALS ALONG OR ACROSS PAVEMENTED SURFACES. WHERE THE CONTRACTOR DESIRES TO MOVE ANY EQUIPMENT NOT LICENSED FOR OPERATION ON PUBLIC HIGHWAYS, ON OR ACROSS PAVEMENT. THEY SHALL PROTECT THE PAVEMENT FROM DAMAGE AS DIRECTED / APPROVED BY THE ENGINEER.

2. THROUGHOUT CONSTRUCTION OPERATIONS, THE CONTRACTOR WILL BE REQUIRED TO CONDUCT THEIR HAULING OPERATIONS IN A MANNER SUCH THAT VEHICLES WILL NOT HAUL OVER PREVIOUSLY RECOMPACTED SUBGRADE OR COMPACTED BASE MATERIAL, EXCEPT IN SHORT SECTIONS FOR DUMPING MANIPULATIONS.

### 5. FINAL CLEAN UP

UPON COMPLETION OF THE WORK AND BEFORE FINAL ACCEPTANCE AND FINAL PAYMENT IS MADE, THE CONTRACTOR SHALL CLEAR AND REMOVE FROM THE SITE ALL SURPLUS AND DISCARDED MATERIALS AND DEBRIS OF EVERY KIND AND LEAVE THE ENTIRE PROJECT IN A SMOOTH, NEAT AND SIGHTLY CONDITION.

### 6. PAYMENT

ALL BARRICADES, SIGNS, AND FLAGGERS SHALL BE SUBSIDIARY TO ITEM 502 BARRICADES, SIGNS AND TRAFFIC HANDLING. ALL EROSION AND SEDIMENT CONTROL DEVICES WILL BE PAID FOR UNDER ITEM 506 TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL CONTROLS. ALL WORK ZONE PAVEMENT MARKINGS WILL BE PAID FOR UNDER ITEM 662 WORK ZONE PAVEMENT MARKINGS. ALL OTHER WORK AND MATERIALS SHALL BE SUBSIDIARY TO THE VARIOUS BID ITEMS UNLESS OTHERWISE INDICATED IN THE PLANS.

DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# TRAFFIC CONTROL PLAN NARRATIVE

SHEET 1 OF 1

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 40 |

## BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

1. The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).

2. The development and design of the Traffic Control Plan (TCP)is the responsibility of the Engineer.

3. The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.

4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.

5. Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets," the TxDOT "Roadway Design Manual" or engineering judgment.

6. When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.

7. The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.

8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.

9. The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.

10. As shown on BC(2), the OBEY WARNING SIGNS STATE LAW sign, STAY ALERT TALK OR TEXT LATER (see Sign Detail G20-10T) and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. However, the TRAFFIC FINES DOUBLE sign will not be required on projects consisting solely of mobile operation work, such as striping or milling edgeline rumble strips. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits.

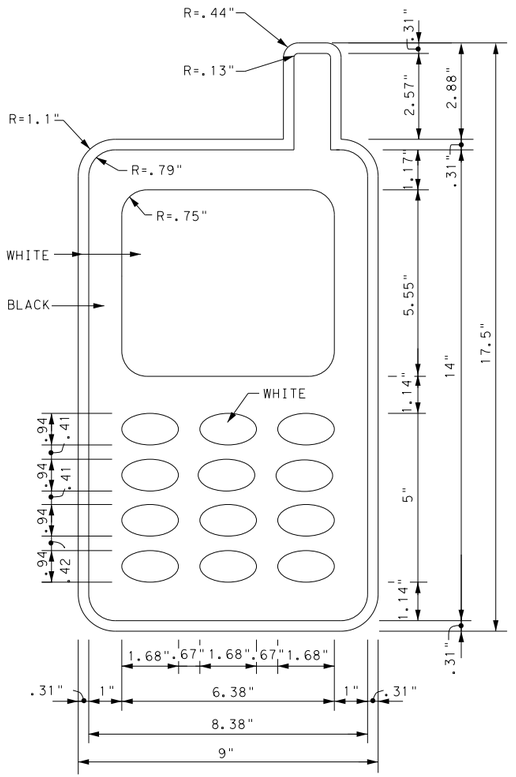
11. Except for devices required by Note 10, traffic control devices should be in place only while work is actually in progress or a definite need exists.

12. The Engineer has the final decision on the location of all traffic control devices.

13. Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

## WORKER SAFETY APPAREL NOTES:

1. Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear high-visibility safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel," or equivalent revisions, and labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.





3.0" Radius, 1.25" Border, 0.75" Indent, Black on Yellow;
[STAY ALERT] Font: D
3.0" Radius, 1.25" Border, 0.75" Indent, Black on Orange;
[TALK OR TEXT LATER] Font: C specified length;

SIGN DETAIL (G20-10T)

Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be found on-line at the web address given below or by contacting:

Texas Department of Transportation
Traffic Operations Division - TE
Phone (512) 416-3118

| THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT http://www.txdot.gov |
|---|
| COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICES LIST (CWZTCD) |
| DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS) |
| MATERIAL PRODUCER LIST (MPL) |
| ROADWAY DESIGN MANUAL - SEE "MANUALS (ONLINE MANUALS)" |
| STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS (SHSD) |
| TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) |
| TRAFFIC ENGINEERING STANDARD SHEETS |



Texas Department of Transportation | Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

# BC(1)-14

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|---|---|---|---|---|
| ©TxDOT November 2002 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| 4-03 5-10 8-14 | DIST | COUNTY | | SHEET NO. |
| 9-07 7-13 | SAT | BEXAR | | 41 |



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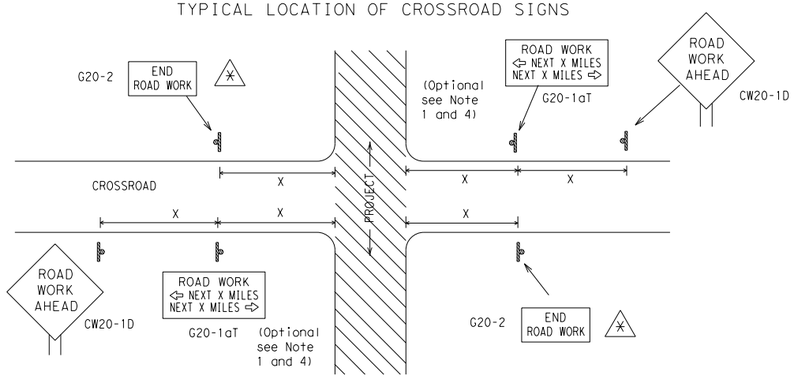
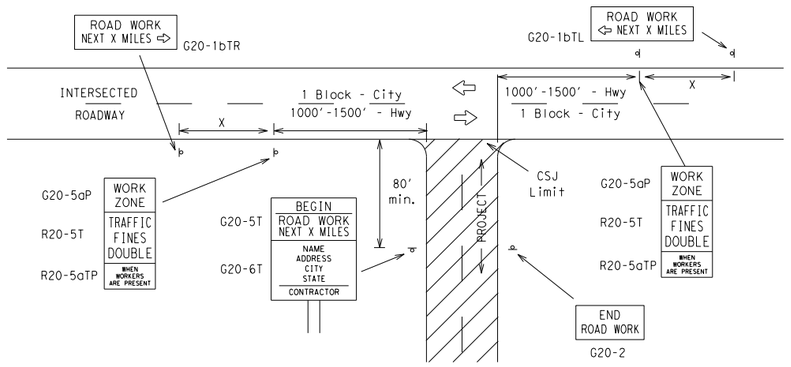
## TYPICAL LOCATION OF CROSSROAD SIGNS




✳ May be mounted on back of "ROAD WORK AHEAD"(CW20-1D) sign with approval of Engineer. (See note 2 below)

1. The typical minimum signing on a crossroad approach should be a "ROAD WORK AHEAD" (CW20-1D)sign and a (G20-2) "END ROAD WORK" sign, unless noted otherwise in plans.
2. The Engineer may use the reduced size 36" x 36" ROAD WORK AHEAD (CW20-1D) sign mounted back to back with the reduced size 36" x 18" "END ROAD WORK"(G20-2) sign on low volume crossroads (see Note 4 under "Typical Construction Warning Sign Size and Spacing"). See the "Standard Highway Sign Designs for Texas" manual for sign details. The Engineer may omit the advance warning signs on low volume crossroads. The Engineer will determine whether a road is low volume. This information shall be shown in the plans.
3. Based on existing field conditions, the Engineer/Inspector may require additional signs such as FLAGGER AHEAD, LOOSE GRAVEL, or other appropriate signs. When additional signs are required, these signs will be considered part of the minimum requirements. The Engineer/Inspector will determine the proper location and spacing of any sign not shown on the BC sheets, Traffic Control Plan sheets or the Work Zone Standard Sheets.
4. The "ROAD WORK NEXT X MILES"(G20-1aT)sign shall be required at high volume crossroads to advise motorists of the length of construction in either direction from the intersection. The Engineer will determine whether a roadway is considered high volume.
5. Additional traffic control devices may be shown elsewhere in the plans for higher volume crossroads.
6. When work occurs in the intersection area, appropriate traffic control devices, as shown elsewhere in the plans or as determined by the Engineer/Inspector, shall be in place.

## T-INTERSECTION




## CSJ LIMITS AT T-INTERSECTION

1. The Engineer will determine the types and location of any additional traffic control devices, such as a flagger and accompanying signs, or other signs, that should be used when work is being performed at or near an intersection.
2. If construction closes the road at a T-intersection the Contractor shall place the "CONTRACTOR NAME"(G20-6T) sign behind the Type 3 Barricades for the road closure (see BC(10) also). The "ROAD WORK NEXT X MILES" left arrow(G20-1bTL) and "ROAD WORK NEXT X MILES" right arrow (G20-1bTR)" signs shall be replaced by the detour signing called for in the plans.

## TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING[1,5,6]

| SIZE | | | SPACING | |
|---|---|---|---|---|
| Sign Number or Series | Conventional Road | Expressway/ Freeway | Posted Speed | Sign Spacing "X" △ |
| | | | MPH | Feet (Apprx.) |
| CW20[4] CW21 CW22 CW23 CW25 | 48" x 48" | 48" x 48" | 30 | 120 |
| | | | 35 | 160 |
| | | | 40 | 240 |
| | | | 45 | 320 |
| CW1, CW2, CW7, CW8, CW9, CW11, CW14 | 36" x 36" | 48" x 48" | 50 | 400 |
| | | | 55 | 500[2] |
| | | | 60 | 600[2] |
| CW3, CW4, CW5, CW6, CW8-3, CW10, CW12 | 48" x 48" | 48" x 48" | 65 | 700[2] |
| | | | 70 | 800[2] |
| | | | 75 | 900[2] |
| | | | 80 | 1000[2] |
| | | | ✳ | ✳ [3] |

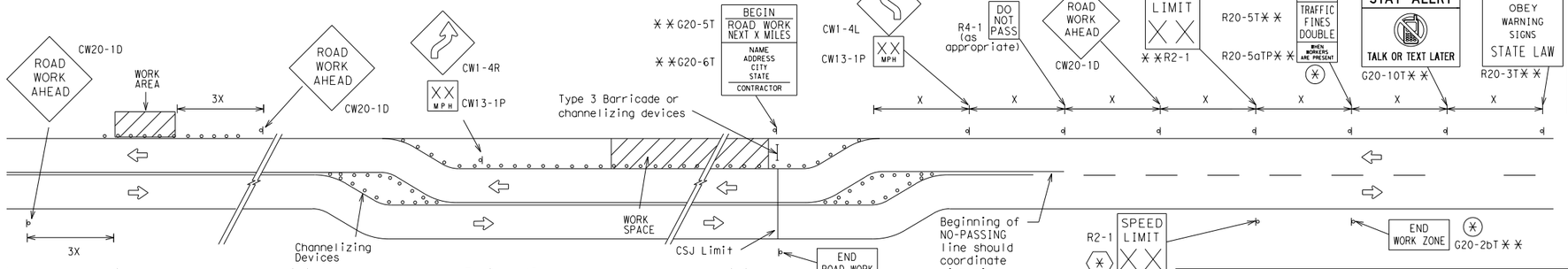
✳ For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

△ Minimum distance from work area to first Advance Warning sign nearest the work area and/or distance between each additional sign.

## GENERAL NOTES

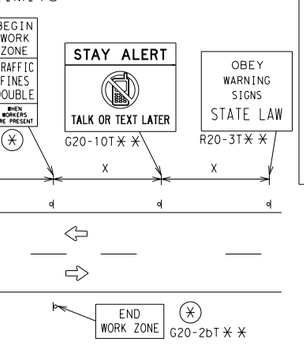
1. Special or larger size signs may be used as necessary.
2. Distance between signs should be increased as required to have 1500 feet advance warning.
3. Distance between signs should be increased as required to have 1/2 mile or more advance warning.
4. 36" x 36" "ROAD WORK AHEAD" (CW20-1D)signs may be used on low volume crossroads at the discretion of the Engineer. See Note 2 under "Typical Location of Crossroad Signs".
5. Only diamond shaped warning sign sizes are indicated.
6. See sign size listing in "TMUTCD", Sign Appendix or the "Standard Highway Sign Designs for Texas" manual for complete list of available sign design sizes.

## WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS

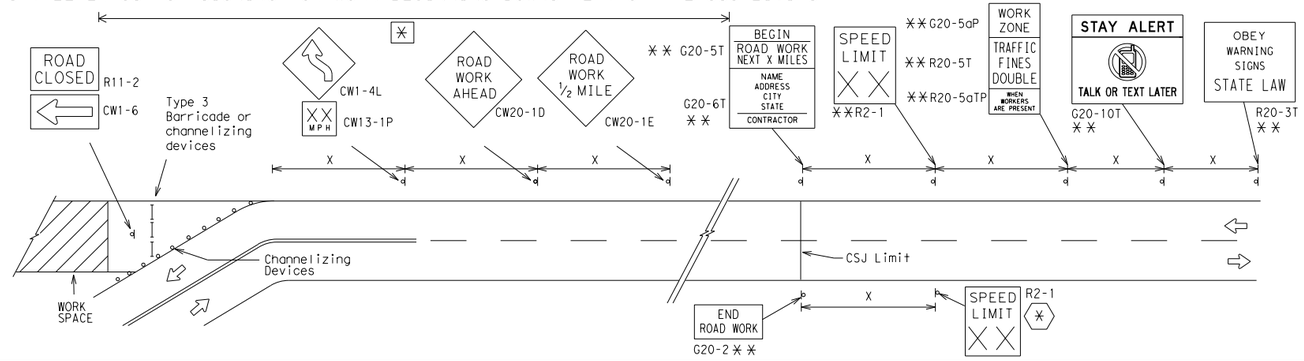



When extended distances occur between minimal work spaces, the Engineer/Inspector should ensure additional "ROAD WORK AHEAD"(CW20-1D)signs are placed in advance of these work areas to remind drivers they are still within the project limits. See the applicable TCP sheets for exact location and spacing of signs and channelizing devices.

## SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT THE CSJ LIMITS




## SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING DOWNSTREAM OF THE CSJ LIMITS




## NOTES

The Contractor shall determine the appropriate distance to be placed on the G20-1 series signs and "BEGIN ROAD WORK NEXT X MILES"(G20-5T)sign for each specific project. This distance shall replace the "X" and shall be rounded to the nearest whole mile with the approval of the Engineer. No decimals shall be used.

(✳) The "BEGIN WORK ZONE"(G20-9TP) and "END WORK ZONE" (G20-2bT) shall be used as shown on the sample layout when advance signs are required outside the CSJ Limits. They inform the motorist of entering or leaving a part of the work zone lying outside the CSJ Limits where traffic fines may double if workers are present.

✳✳ Required CSJ Limit signing. See Note 10 on BC(1). TRAFFIC FINES DOUBLE signs will not be required on projects consisting solely of mobile operations work.

[✳] Area for placement of "ROAD WORK AHEAD" (CW20-1D)sign and other signs or devices as called for on the Traffic Control Plan.

(✳) Contractor will install a regulatory speed limit sign at the end of the work zone.

| LEGEND | |
|---|---|
| ⊢⊣ | Type 3 Barricade |
| ○ ○ ○ | Channelizing Devices |
| ▬ | Sign |
| X | See Typical Construction Warning Sign Size and Spacing chart or the TMUTCD for sign spacing requirements. |



Texas Department of Transportation

Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION PROJECT LIMIT

## BC(2)-14

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| ©TxDOT November 2002 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| 9-07 8-14 | DIST | COUNTY | | SHEET NO. |
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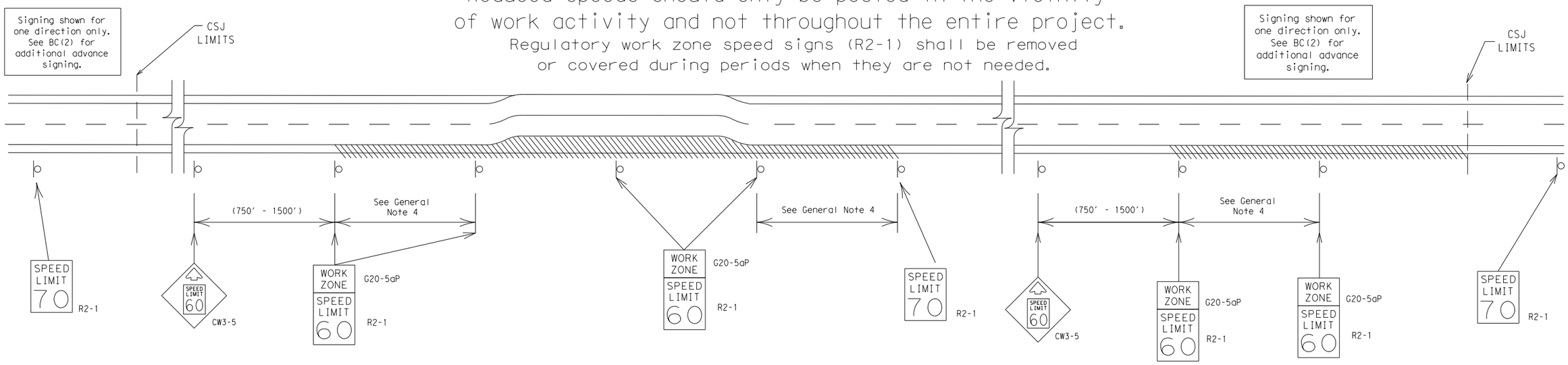
# TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

Work zone speed limits shall be regulatory, established in accordance with the "Procedures for Establishing Speed Zones," and approved by the Texas Transportation Commission, or by City Ordinance when within Incorporated City Limits.

Reduced speeds should only be posted in the vicinity of work activity and not throughout the entire project.

Regulatory work zone speed signs (R2-1) shall be removed or covered during periods when they are not needed.




## GUIDANCE FOR USE:

### LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed are present in the work zone and modification of the geometrics to a higher design speed is not feasible.

Long/Intermediate Term Work Zone Speed Limit signs, when approved as described above, should be posted and visible to the motorist when work activity is present. Work activity may also be defined as a change in the roadway that requires a reduced speed for motorists to safely negotiate the work area, including:

a) rough road or damaged pavement surface
b) substantial alteration of roadway geometrics (diversions)
c) construction detours
d) grade
e) width
f) other conditions readily apparent to the driver

As long as any of these conditions exist, the work zone speed limit signs should remain in place.

### SHORT TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit may be included on the design of the traffic control plans when workers or equipment are not behind concrete barrier, when work activity is within 10 feet of the traveled way or actually in the travelled way.

Short Term Work Zone Speed Limit signs should be posted and visible to the motorists only when work activity is present. When work activity is not present, signs shall be removed or covered.
(See Removing or Covering on BC(4)).

## GENERAL NOTES

1. Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.
2. Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height.
3. Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
4. Frequency of work zone speed limit signs should be:
   40 mph and greater 0.2 to 2 miles
   35 mph and less 0.2 to 1 mile
5. Regulatory speed limit signs shall have black legend and border on a white reflective background (See "Reflective Sheeting" on BC(4)).
6. Fabrication, erection and maintenance of the"ADVANCE SPEED LIMIT"(CW3-5)sign, "WORK ZONE"(G20-5aP) plaque and the "SPEED LIMIT"(R2-1)signs shall not be paid for directly, but shall be considered subsidiary to Item 502.
7. Turning signs from view, laying signs over or down will not be allowed, unless as otherwise noted under "REMOVING OR COVERING" on BC(4).
8. Techniques that may help reduce traffic speeds include but are not limited to:
   A. Law enforcement.
   B. Flagger stationed next to sign.
   C. Portable changeable message sign (PCMS).
   D. Low-power (drone) radar transmitter.
   E. Speed monitor trailers or signs.
9. Speeds shown on details above are for illustration only. Work Zone Speed Limits should only be posted as approved for each project.
10. For more specific guidance concerning the type of work, work zone conditions and factors impacting allowable regulatory construction speed zone reduction see TxDOT form #1204 in the TxDOT e-form system.



Texas Department of Transportation

Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT

## BC(3)-14

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|---|---|---|---|---|
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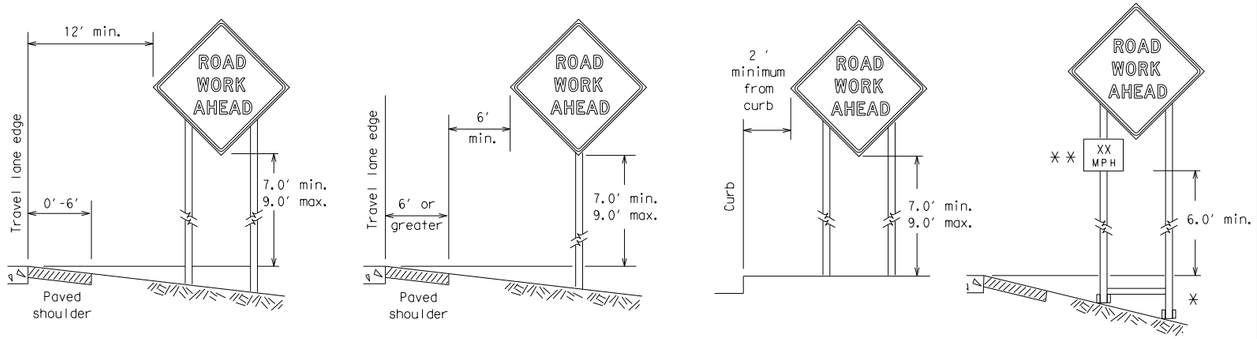
| REVISIONS 9-07 8-14 7-13 | 0915 | 12 | 574 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 43 |

97

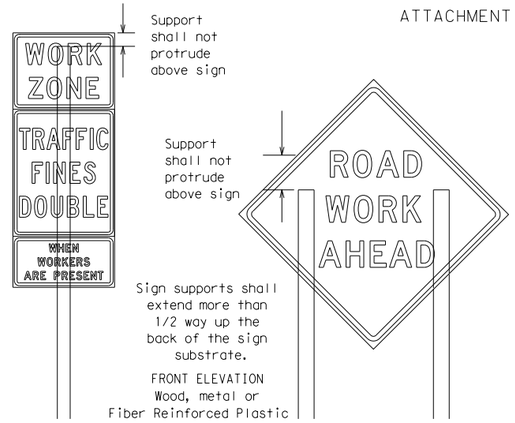
## TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS




⁎ When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

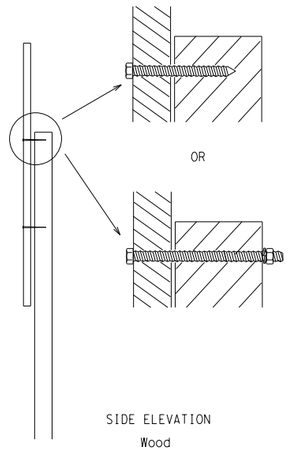
⁎⁎ When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.

## ATTACHMENT FOR SIGN SUPPORTS




FRONT ELEVATION
Wood, metal or
Fiber Reinforced Plastic

Splicing embedded perforated square metal tubing in order to extend post height will only be allowed when the splice is made using four bolts, two above and two below the spice point. Splice must be located entirely behind the sign substrate, not near the base of the support. Splice insert lengths should be at least 5 times nominal post size, centered on the splice and of at least the same gauge material.



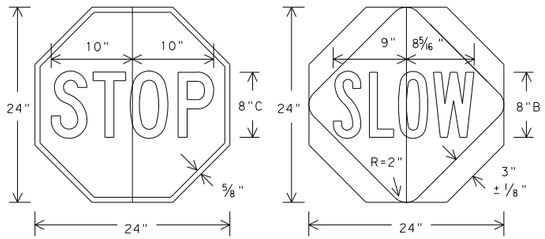

SIDE ELEVATION
Wood

Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

Nails shall NOT be allowed. Each sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Wood supports shall not be extended or repaired by splicing or other means.

## STOP/SLOW PADDLES

1. STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24" as detailed below.
2. When used at night, the STOP/SLOW paddle shall be retroreflectorized.
3. STOP/SLOW paddles may be attached to a staff with a minimum length of 6′ to the bottom of the sign.
4. Any lights incorporated into the STOP or SLOW paddle faces shall only be as specifically described in Section 6E.03 Hand Signaling Devices in the TMUTCD.




Background - Red
Legend & Border - White

Background - Orange
Legend & Border - Black

## CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.
2. When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition.
3. When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
4. If existing signs are to be relocated on their original supports, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
5. If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC sheets or the CWZTCD. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
6. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

## GENERAL NOTES FOR WORK ZONE SIGNS

1. Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
5. The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
6. The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD). The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
7. The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
8. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1 inch.
9. The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.

## DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part 6)

1. The types of sign supports, sign mounting height, the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations in regard to crashworthiness and duration of work requirements.
   a. Long-term stationary - work that occupies a location more than 3 days.
   b. Intermediate-term stationary - work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than one hour.
   c. Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
   d. Short, duration - work that occupies a location up to 1 hour.
   e. Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

## SIGN MOUNTING HEIGHT

1. The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface, except as shown for supplemental plaques mounted below other signs.
2. The bottom of Short-term/Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above the ground.
3. Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
4. Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the workday or raised to appropriate Long-term/Intermediate sign height.
5. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

## SIZE OF SIGNS

1. The Contractor shall furnish the sign sizes shown on BC (2) unless otherwise shown in the plans or as directed by the Engineer.

## SIGN SUBSTRATES

1. The Contractor shall ensure the sign substrate is installed in accordance with the manufacturer's recommendations for the type of sign support that is being used. The CWZTCD lists each substrate that can be used on the different types and models of sign supports.
2. "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
3. All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleat, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods of splicing the sign face.

## REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 for rigid signs or DMS-8310 for roll-up signs. The web address for DMS specifications is shown on BC(1).
2. White sheeting, meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
3. Orange sheeting, meeting the requirements of DMS-8300 Type $B_{FL}$ or Type $C_{FL}$, shall be used for rigid signs with orange backgrounds.

## SIGN LETTERS

1. All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration (FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

## REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
2. Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This technique may not be used for signs installed in the median of divided highways or near any intersections where the sign may be seen from approaching traffic.
3. Signs installed on wooden skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
4. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night, without damaging the sign sheeting.
5. Burlap shall NOT be used to cover signs.
6. Duct tape or other adhesive material shall NOT be affixed to a sign face.
7. Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

## SIGN SUPPORT WEIGHTS

1. Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall NOT be used.
6. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

## FLAGS ON SIGNS

1. Flags may be used to draw attention to warning signs. When used the flag shall be 16 inches square or larger and shall be orange or fluorescent red-orange in color. Flags shall not be allowed to cover any portion of the sign face.



Texas Department of Transportation

Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

# BC(4)-14

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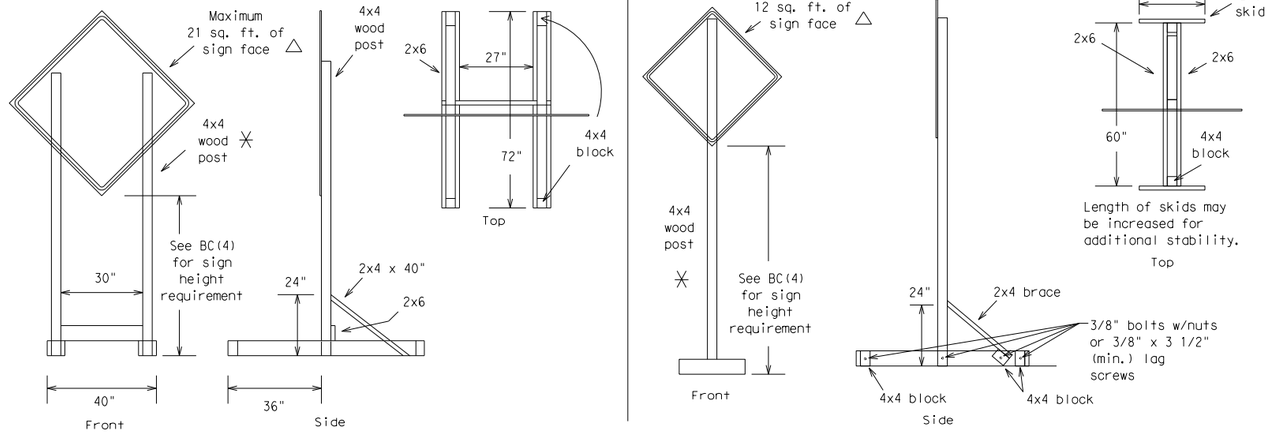
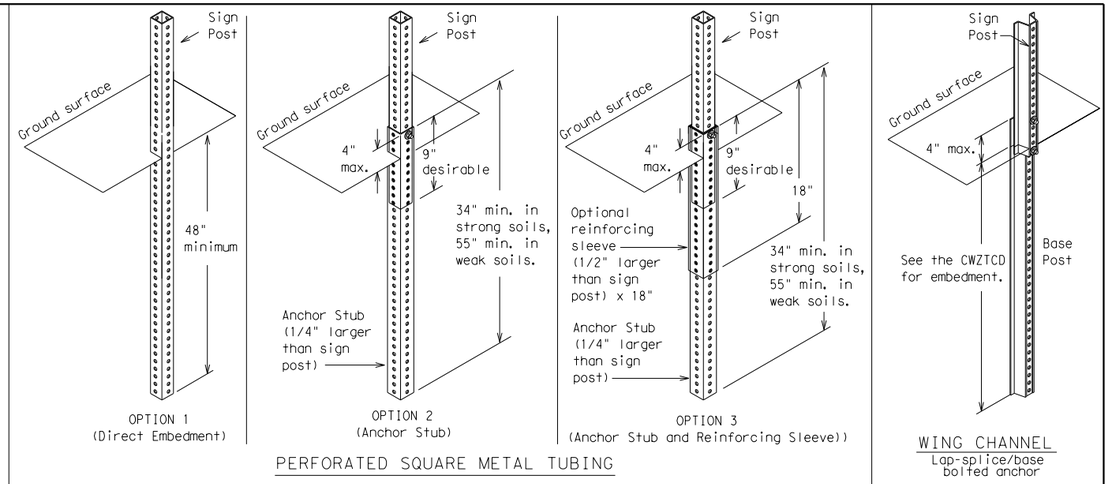


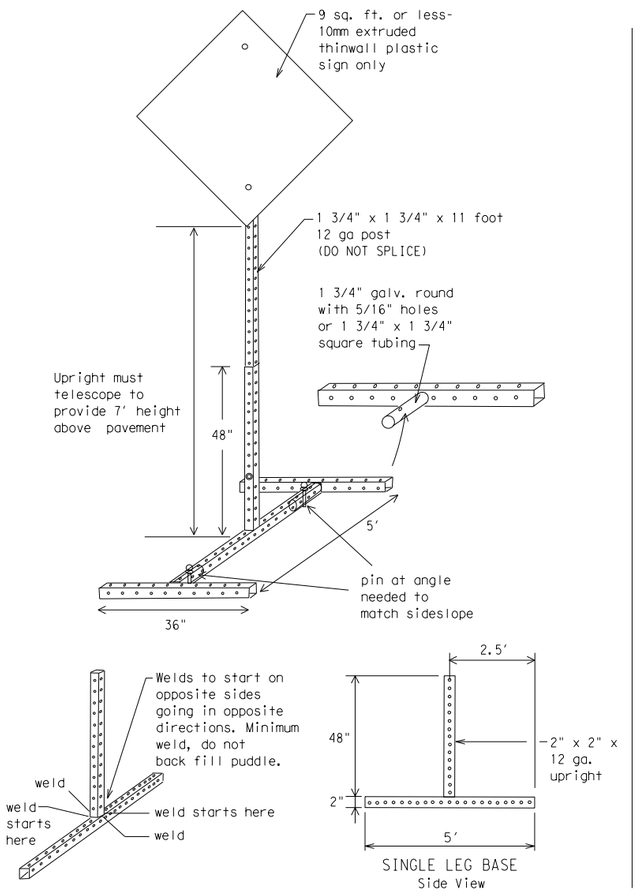

## SKID MOUNTED WOOD SIGN SUPPORTS

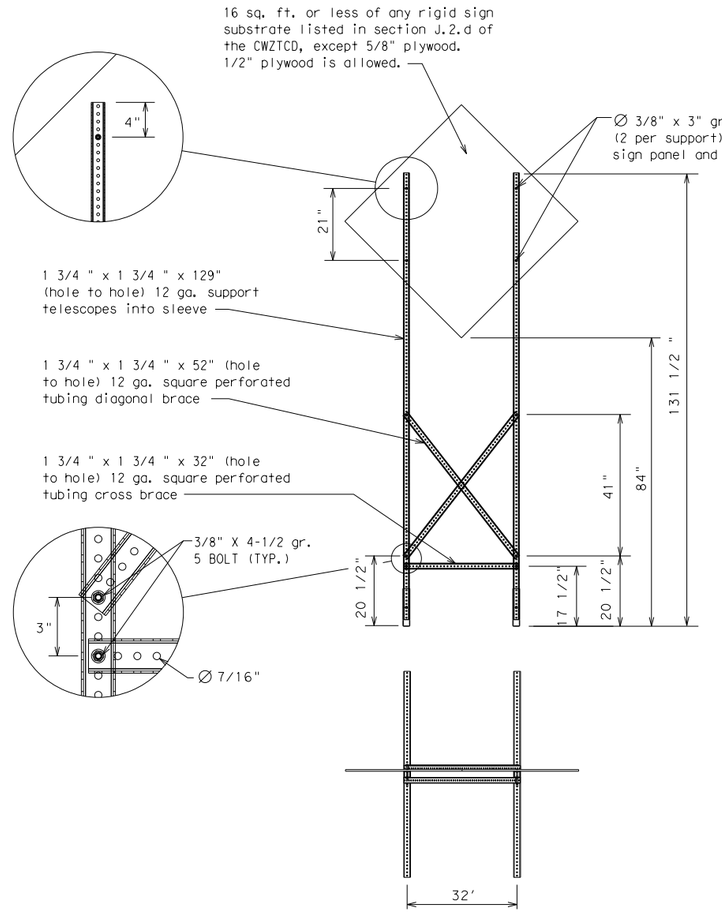
LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS □

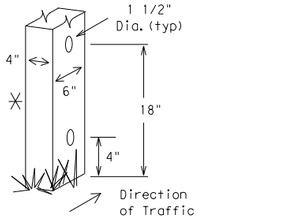



## GROUND MOUNTED SIGN SUPPORTS

Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support.
The maximum sign square footage shall adhere to the manufacturer's recommendation.
Two post installations can be used for larger signs.

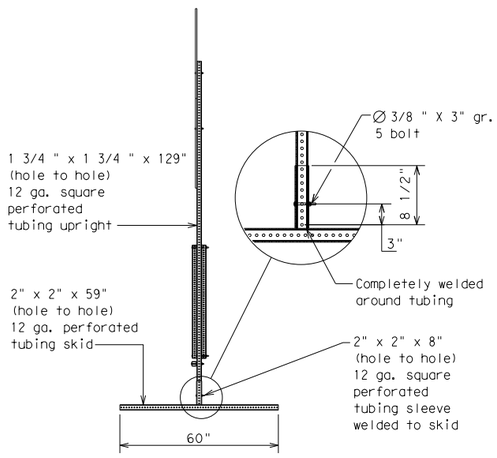



| Nominal Post Size | Number of Posts | Maximum Sq. feet of Sign Face | Minimum Soil Embedment | Drilled Hole(s) Required |
|---|---|---|---|---|
| 4 x 4 | 1 | 12 | 36" | NO |
| 4 x 4 | 2 | 21 | 36" | NO |
| 4 x 6 | 1 | 21 | 36" | YES |
| 4 x 6 | 2 | 36 | 36" | YES |

WOOD POST SYSTEM FOR GROUND MOUNTED SIGN SUPPORTS




## WEDGE ANCHORS

Both steel and plastic Wedge Anchor Systems as shown on the SMD Standard Sheets may be used as temporary sign supports for signs up to 10 square feet of sign face. They may be set in concrete or in sturdy soils if approved by the Engineer. (See web address for "Traffic Engineering Standard Sheets" on BC(1)).

## OTHER DESIGNS

MORE DETAILS OF APPROVED LONG/INTERMEDIATE AND SHORT TERM SUPPORTS CAN BE FOUND ON THE CWZTCD LIST. SEE BC(1) FOR WEBSITE LOCATION.

### GENERAL NOTES

1. Nails may be used in the assembly of wooden sign supports, but 3/8" bolts with nuts or 3/8" x 3 1/2" lag screws must be used on every joint for final connection.
2. No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on the CWZTCD List.
3. When project is completed, all sign supports and foundations shall be removed from the project site. This will be considered subsidiary to Item 502.

□ See BC(4) for definition of "Work Duration."

✳ Wood sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.

△ See the CWZTCD for the type of sign substrate that can be used for each approved sign support.

SHEET 5 OF 12

Texas Department of Transportation | Traffic Operations Division Standard

## BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

## BC(5)-14

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WHEN NOT IN USE, REMOVE THE PCMS FROM THE RIGHT-OF-WAY OR PLACE THE PCMS BEHIND BARRIER OR GUARDRAIL WITH SIGN PANEL TURNED PARALLEL TO TRAFFIC

## PORTABLE CHANGEABLE MESSAGE SIGNS

1. The Engineer/Inspector shall approve all messages used on portable changeable message signs (PCMS).
2. Messages on PCMS should contain no more than 8 words (about four to eight characters per word), not including simple words such as "TO," "FOR," "AT," etc.
3. Messages should consist of a single phase, or two phases that alternate. Three-phase messages are not allowed. Each phase of the message should convey a single thought, and must be understood by itself.
4. Use the word "EXIT" to refer to an exit ramp on a freeway; i.e., "EXIT CLOSED." Do not use the term "RAMP."
5. Always use the route or interstate designation (IH, US, SH, FM) along with the number when referring to a roadway.
6. When in use the bottom of a stationary PCMS message panel should be a minimum 7 feet above the roadway, where possible.
7. The message term "WEEKEND" should be used only if the work is to start on Saturday morning and end by Sunday evening at midnight. Actual days and hours of work should be displayed on the PCMS if work is to begin on Friday evening and/or continue into Monday morning.
8. The Engineer/Inspector may select one of two options which are available for displaying a two-phase message on a PCMS. Each phase may be displayed for either four seconds each or for three seconds each.
9. Do not "flash" messages or words included in a message. The message should be steady burn or continuous while displayed.
10. Do not present redundant information on a two-phase message; i.e., keeping two lines of the message the same and changing the third line.
11. Do not use the word "Danger" in message.
12. Do not display the message "LANES SHIFT LEFT" or "LANES SHIFT RIGHT" on a PCMS. Drivers do not understand the message.
13. Do not display messages that scroll horizontally or vertically across the face of the sign.
14. The following table lists abbreviated words and two-word phrases that are acceptable for use on a PCMS. Both words in a phrase must be displayed together. Words or phrases not on this list should not be abbreviated, unless shown in the TMUTCD.
15. PCMS character height should be at least 18 inches for trailer mounted units. They should be visible from at least 1/2 (.5) mile and the text should be legible from at least 600 feet at night and 800 feet in daylight. Truck mounted units must have a character height of 10 inches and must be legible from at least 400 feet.
16. Each line of text should be centered on the message board rather than left or right justified.
17. If disabled, the PCMS should default to an illegible display that will not alarm motorists and will only be used to alert workers that the PCMS has malfunctioned. A pattern such as a series of horizontal solid bars is appropriate.

| WORD OR PHRASE | ABBREVIATION |
|---|---|
| Access Road | ACCS RD |
| Alternate | ALT |
| Avenue | AVE |
| Best Route | BEST RTE |
| Boulevard | BLVD |
| Bridge | BRDG |
| Cannot | CANT |
| Center | CTR |
| Construction Ahead | CONST AHD |
| CROSSING | XING |
| Detour Route | DETOUR RTE |
| Do Not | DONT |
| East | E |
| Eastbound | (route) E |
| Emergency | EMER |
| Emergency Vehicle | EMER VEH |
| Entrance, Enter | ENT |
| Express Lane | EXP LN |
| Expressway | EXPWY |
| XXXX Feet | XXXX FT |
| Fog Ahead | FOG AHD |
| Freeway | FRWY, FWY |
| Freeway Blocked | FWY BLKD |
| Friday | FRI |
| Hazardous Driving | HAZ DRIVING |
| Hazardous Material | HAZMAT |
| High-Occupancy | HOV |
| Vehicle Highway | HWY |
| Hour(s) | HR, HRS |
| Information | INFO |
| It Is | ITS |
| Junction | JCT |
| Left | LFT |
| Left Lane | LFT LN |
| Lane Closed | LN CLOSED |
| Lower Level | LWR LEVEL |
| Maintenance | MAINT |

| WORD OR PHRASE | ABBREVIATION |
|---|---|
| Major | MAJ |
| Miles | MI |
| Miles Per Hour | MPH |
| Minor | MNR |
| Monday | MON |
| Normal | NORM |
| North | N |
| Northbound | (route) N |
| Parking | PKING |
| Road | RD |
| Right Lane | RT LN |
| Saturday | SAT |
| Service Road | SERV RD |
| Shoulder | SHLDR |
| Slippery | SLIP |
| South | S |
| Southbound | (route) S |
| Speed | SPD |
| Street | ST |
| Sunday | SUN |
| Telephone | PHONE |
| Temporary | TEMP |
| Thursday | THURS |
| To Downtown | TO DWNTN |
| Traffic | TRAF |
| Travelers | TRVLRS |
| Tuesday | TUES |
| Time Minutes | TIME MIN |
| Upper Level | UPR LEVEL |
| Vehicles (s) | VEH, VEHS |
| Warning | WARN |
| Wednesday | WED |
| Weight Limit | WT LIMIT |
| West | W |
| Westbound | (route) W |
| Wet Pavement | WET PVMT |
| Will Not | WONT |

Roadway designation # IH-number, US-number, SH-number, FM-number

# RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

(The Engineer may approve other messages not specifically covered here.)

## Phase 1: Condition Lists

### Road/Lane/Ramp Closure List

| | |
|---|---|
| FREEWAY CLOSED X MILE | FRONTAGE ROAD CLOSED |
| ROAD CLOSED AT SH XXX | SHOULDER CLOSED XXX FT |
| ROAD CLSD AT FM XXXX | RIGHT LN CLOSED XXX FT |
| RIGHT X LANES CLOSED | RIGHT X LANES OPEN |
| CENTER LANE CLOSED | DAYTIME LANE CLOSURES |
| NIGHT LANE CLOSURES | I-XX SOUTH EXIT CLOSED |
| VARIOUS LANES CLOSED | EXIT XXX CLOSED X MILE |
| EXIT CLOSED | RIGHT LN TO BE CLOSED |
| MALL DRIVEWAY CLOSED | X LANES CLOSED TUE - FRI |
| XXXXXXXX BLVD CLOSED | |

### Other Condition List

| | |
|---|---|
| ROADWORK XXX FT | ROAD REPAIRS XXXX FT |
| FLAGGER XXXX FT | LANE NARROWS XXXX FT |
| RIGHT LN NARROWS XXXX FT | TWO-WAY TRAFFIC XX MILE |
| MERGING TRAFFIC XXXX FT | CONST TRAFFIC XXX FT |
| LOOSE GRAVEL XXXX FT | UNEVEN LANES XXXX FT |
| DETOUR X MILE | ROUGH ROAD XXXX FT |
| ROADWORK PAST SH XXXX | ROADWORK NEXT FRI-SUN |
| BUMP XXXX FT | US XXX EXIT X MILES |
| TRAFFIC SIGNAL XXXX FT | LANES SHIFT * |

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

## Phase 2: Possible Component Lists

### Action to Take/Effect on Travel List

| | |
|---|---|
| MERGE RIGHT | FORM X LINES RIGHT |
| DETOUR NEXT X EXITS | USE XXXXX RD EXIT |
| USE EXIT XXX | USE EXIT I-XX NORTH |
| STAY ON US XXX SOUTH | USE I-XX E TO I-XX N |
| TRUCKS USE US XXX N | WATCH FOR TRUCKS |
| WATCH FOR TRUCKS | EXPECT DELAYS |
| EXPECT DELAYS | PREPARE TO STOP |
| REDUCE SPEED XXX FT | END SHOULDER USE |
| USE OTHER ROUTES | WATCH FOR WORKERS |
| STAY IN LANE * | |

### Location List

| |
|---|
| AT FM XXXX |
| BEFORE RAILROAD CROSSING |
| NEXT X MILES |
| PAST US XXX EXIT |
| XXXXXXX TO XXXXXXX |
| US XXX TO FM XXXX |

### Warning List

| |
|---|
| SPEED LIMIT XX MPH |
| MAXIMUM SPEED XX MPH |
| MINIMUM SPEED XX MPH |
| ADVISORY SPEED XX MPH |
| RIGHT LANE EXIT |
| USE CAUTION |
| DRIVE SAFELY |
| DRIVE WITH CARE |

### ** Advance Notice List

| |
|---|
| TUE-FRI XX AM- X PM |
| APR XX-XX X PM-X AM |
| BEGINS MONDAY |
| BEGINS MAY XX |
| MAY X-X XX PM - XX AM |
| NEXT FRI-SUN |
| XX AM TO XX PM |
| NEXT TUE AUG XX |
| TONIGHT XX PM- XX AM |

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

** See Application Guidelines Note 6.

## APPLICATION GUIDELINES

1. Only 1 or 2 phases are to be used on a PCMS.
2. The 1st phase (or both) should be selected from the "Road/Lane/Ramp Closure List" and the "Other Condition List".
3. A 2nd phase can be selected from the "Action to Take/Effect on Travel, Location, General Warning, or Advance Notice Phase Lists".
4. A Location Phase is necessary only if a distance or location is not included in the first phase selected.
5. If two PCMS are used in sequence, they must be separated by a minimum of 1000 ft. Each PCMS shall be limited to two phases, and should be understandable by themselves.
6. For advance notice, when the current date is within seven days of the actual work date, calendar days should be replaced with days of the week. Advance notification should typically be for no more than one week prior to the work.

## WORDING ALTERNATIVES

1. The words RIGHT, LEFT and ALL can be interchanged as appropriate.
2. Roadway designations IH, US, SH, FM and LP can be interchanged as appropriate.
3. EAST, WEST, NORTH and SOUTH (or abbreviations E, W, N and S) can be interchanged as appropriate.
4. Highway names and numbers replaced as appropriate.
5. ROAD, HIGHWAY and FREEWAY can be interchanged as needed.
6. AHEAD may be used instead of distances if necessary.
7. FT and MI, MILE and MILES interchanged as appropriate.
8. AT, BEFORE and PAST interchanged as needed.
9. Distances or AHEAD can be eliminated from the message if a location phase is used.

PCMS SIGNS WITHIN THE R.O.W. SHALL BE BEHIND GUARDRAIL OR CONCRETE BARRIER OR SHALL HAVE A MINIMUM OF FOUR (4) PLASTIC DRUMS PLACED PERPENDICULAR TO TRAFFIC ON THE UPSTREAM SIDE OF THE PCMS, WHEN EXPOSED TO ONE DIRECTION OF TRAFFIC. WHEN EXPOSED TO TWO WAY TRAFFIC, THE FOUR DRUMS SHOULD BE PLACED WITH ONE DRUM AT EACH OF THE FOUR CORNERS OF THE UNIT.

## FULL MATRIX PCMS SIGNS

1. When Full Matrix PCMS signs are used, the character height and legibility/visibility requirements shall be maintained as listed in Note 15 under "PORTABLE CHANGEABLE MESSAGE SIGNS" above.
2. When symbol signs, such as the "Flagger Symbol"(CW20-7) are represented graphically on the Full Matrix PCMS sign and, with the approval of the Engineer, it shall maintain the legibility/visibility requirement listed above.
3. When symbol signs are represented graphically on the Full Matrix PCMS, they shall only supplement the use of the static sign represented, and shall not substitute for, or replace that sign.
4. A full matrix PCMS may be used to simulate a flashing arrow board provided it meets the visibility, flash rate and dimming requirements on BC(7), for the same size arrow.



Texas Department of Transportation

Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

# BC(6)-14

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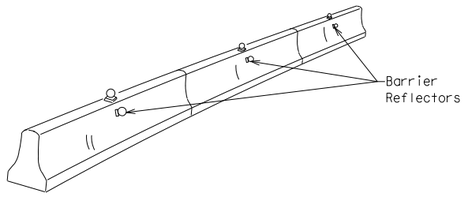
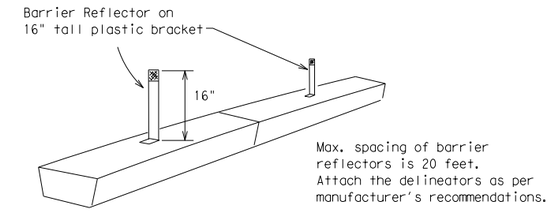
1. Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
2. Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 512.

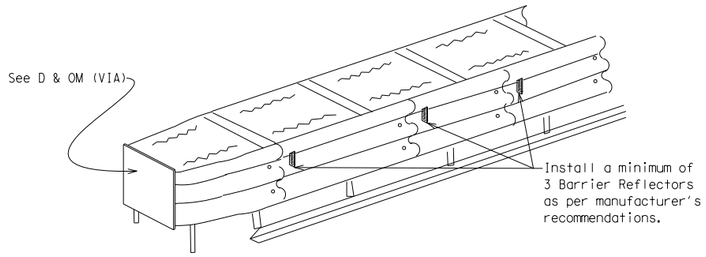



CONCRETE TRAFFIC BARRIER (CTB)

3. Where traffic is on one side of the CTB, two (2) Barrier Reflectors shall be mounted in approximately the midsection of each section of CTB. An alternate mounting location is uniformly spaced at one end of each CTB. This will allow for attachment of a barrier grapple without damaging the reflector. The Barrier Reflector mounted on the side of the CTB shall be located directly below the reflector mounted on top of the barrier, as shown in the detail above.
4. Where CTB separates two-way traffic, three barrier reflectors shall be mounted on each section of CTB. The reflector unit on top shall have two yellow reflective faces (Bi-Directional)while the reflectors on each side of the barrier shall have one yellow reflective face, as shown in the detail above.
5. When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
6. Barrier Reflector units shall be yellow or white in color to match the edgeline being supplemented.
7. Maximum spacing of Barrier Reflectors is forty (40) feet.
8. Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
9. Attachment of Barrier Reflectors to CTB shall be per manufacturer's recommendations.
10. Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer.
11. Single slope barriers shall be delineated as shown on the above detail.




LOW PROFILE CONCRETE BARRIER (LPCB)

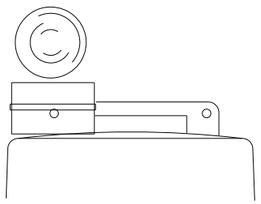



DELINEATION OF END TREATMENTS

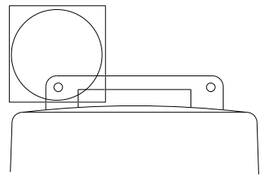
END TREATMENTS FOR
CTB'S USED
IN WORK ZONES

End treatments used on CTB's in work zones shall meet crashworthy standards as defined in the National Cooperative Highway Research Report 350. Refer to the CWZTCD List for approved end treatments and manufacturers.

# BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS



Type C Warning Light or approved substitute mounted on a drum adjacent to the travel way.



Warning reflector may be round or square.Must have a yellow reflective surface area of at least 30 square inches

## WARNING LIGHTS

1. Warning lights shall meet the requirements of the TMUTCD.
2. Warning lights shall NOT be installed on barricades.
3. Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type $B_{FL}$ or $C_{FL}$ Sheeting meeting the requirements of Departmental Material Specification DMS-8300.
4. Type-C and Type D 360 degree Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
5. The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
6. When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights.
7. When used to delineate curves, Type-C and Type D Steady Burn Lights should only be placed on the outside of the curve, not the inside.
8. The location of warning lights and warning reflectors on drums shall be as shown elsewhere in the plans.

## WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

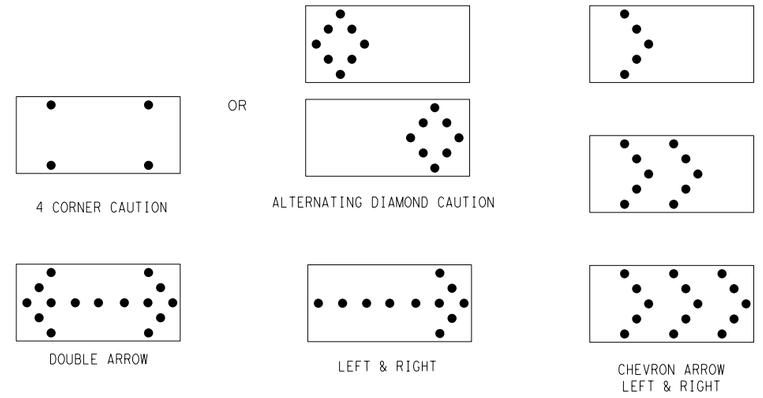
1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing devices to form a merging taper may be used for delineation. If used, the successive flashing of the sequential warning lights should occur from the beginning of the taper to the end of the merging taper in order to identify the desired vehicle path. The rate of flashing for each light shall be 65 flashes per minute, plus or minus 10 flashes.
4. Type C and D steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
5. Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
6. Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
7. The maximum spacing for warning lights on drums should be identical to the channelizing device spacing.

## WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C (STEADY BURN) WARNING LIGHTS

1. A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
2. The warning reflector shall be yellow in color and shall be manufactured using a sign substrate approved for use with plastic drums listed on the CWZTCD.
3. The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
4. Round reflectors shall be fully reflectorized, including the area where attached to the drum.
5. Square substrates must have a minimum of 30 square inches of reflectorized sheeting. They do not have to be reflectorized where it attaches to the drum.
6. The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type B or Type C.
7. When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
8. The warning reflector should be mounted on the side of the handle nearest approaching traffic.
9. The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.

Arrow Boards may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

1. The Flashing Arrow Board should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
2. Flashing Arrow Boards should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
3. The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Board.
4. The Flashing Arrow Board should be able to display the following symbols:




5. The "CAUTION" display consists of four corner lamps flashing simultaneously, or the Alternating Diamond Caution mode as shown.
6. The straight line caution display is NOT ALLOWED.
7. The Flashing Arrow Board shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
8. Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
9. The sequential arrow display is NOT ALLOWED.
10. The flashing arrow display is the TxDOT standard; however, the sequential Chevron display may be used during daylight operations.
11. The Flashing Arrow Board shall be mounted on a vehicle, trailer or other suitable support.
12. A Flashing Arrow Board SHALL NOT BE USED to laterally shift traffic.
13. A full matrix PCMS may be used to simulate a Flashing Arrow Board provided it meets visibility, flash rate and dimming requirements on this sheet for the same size arrow.
14. Minimum mounting height of trailer mounted Arrow Boards should be 7 feet from roadway to bottom of panel.

| REQUIREMENTS | | | |
|---|---|---|---|
| TYPE | MINIMUM SIZE | MINIMUM NUMBER OF PANEL LAMPS | MINIMUM VISIBILITY DISTANCE |
| B | 30 x 60 | 13 | 3/4 mile |
| C | 48 x 96 | 15 | 1 mile |

| ATTENTION |
|---|
| Flashing Arrow Boards shall be equipped with automatic dimming devices. |

WHEN NOT IN USE, REMOVE THE ARROW BOARD FROM THE RIGHT-OF-WAY OR PLACE THE ARROW BOARD BEHIND CONCRETE TRAFFIC BARRIER OR GUARDRAIL.

# FLASHING ARROW BOARDS

## TRUCK-MOUNTED ATTENUATORS

1. Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the National Cooperative Highway Research Report No. 350 (NCHRP 350) or the Manual for Assessing Safety Hardware (MASH).
2. Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
3. Refer to the CWZTCD for a list of approved TMAs.
4. TMAs are required on freeways unless otherwise noted in the plans.
5. A TMA should be used anytime that it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
6. The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is an extended distance from the TMA.



Texas Department of Transportation

Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR

# BC(7)-14

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## GENERAL NOTES

1. For long term stationary work zones on freeways, drums shall be used as the primary channelizing device.
2. For intermediate term stationary work zones on freeways, drums should be used as the primary channelizing device but may be replaced in tangent sections by vertical panels, or 42" two-piece cones. In tangent sections one-piece cones may be used with the approval of the Engineer but only if personnel are present on the project at all times to maintain the cones in proper position and location.
3. For short term stationary work zones on freeways, drums are the preferred channelizing device but may be replaced in tapers, transitions and tangent sections by vertical panels, two-piece cones or one-piece cones as approved by the Engineer.
4. Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
5. Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
6. The Contractor shall have a maximum of 24 hours to replace any plastic drums identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

## GENERAL DESIGN REQUIREMENTS

Pre-qualified plastic drums shall meet the following requirements:

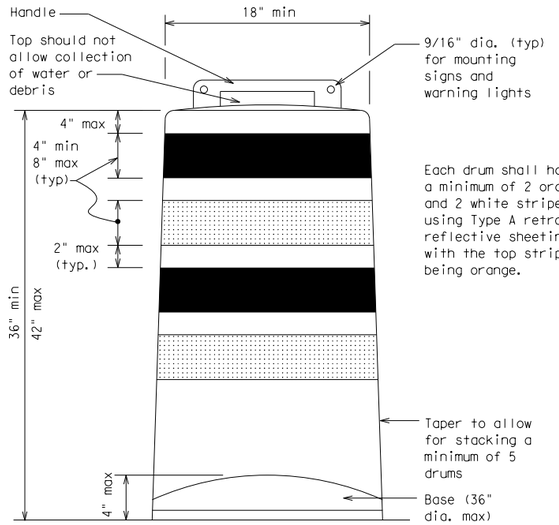
1. Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles.
3. Plastic drums shall be constructed of lightweight flexible, and deformable materials. The Contractor shall NOT use metal drums or single piece plastic drums as channelization devices or sign supports.
4. Drums shall present a profile that is a minimum of 18 inches in width at the 36 inch height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.
5. The top of the drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 9/16 inch diameter holes to allow attachment of a warning light, warning reflector unit or approved compliant sign.
6. The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectorized space between any two adjacent stripes shall not exceed 2 inches in width.
7. Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.
8. Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
9. Drum body shall have a maximum unballasted weight of 11 lbs.
10. Drum and base shall be marked with manufacturer's name and model number.

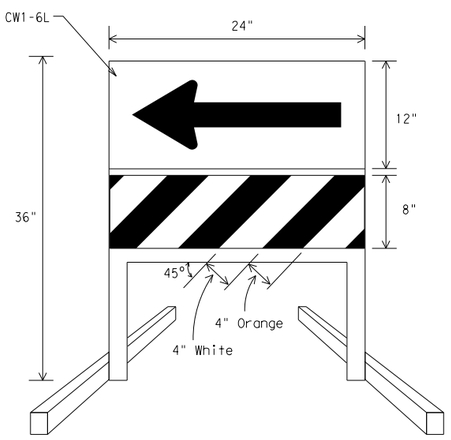
## RETROREFLECTIVE SHEETING

1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials." Type A reflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, cracking, or loss of retroreflectivity other than that loss due to abrasion of the sheeting surface.

## BALLAST

1. Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of sandbags will be allowed, however height of sandbags above pavement surface may not exceed 12 inches.
2. Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs. Built-in ballast can be constructed of an integral crumb rubber base or a solid rubber base.
3. Recycled truck tire sidewalls may be used for ballast on drums approved for this type of ballast on the CWZTCD list.
4. The ballast shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle.
5. When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle.
6. Ballast shall not be placed on top of drums.
7. Adhesives may be used to secure base of drums to pavement.

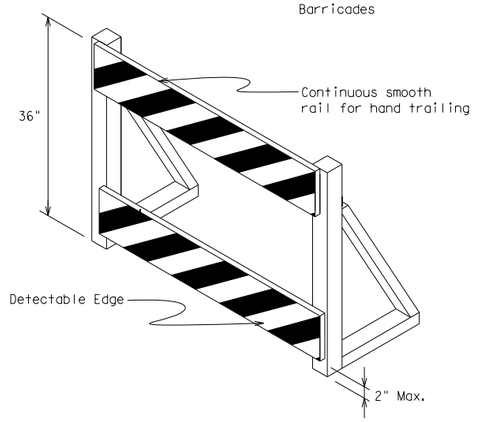



## DIRECTION INDICATOR BARRICADE

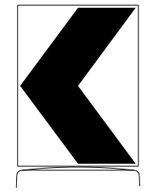
1. The Direction Indicator Barricade may be used in tapers, transitions, and other areas where specific directional guidance to drivers is necessary.
2. If used, the Direction Indicator Barricade should be used in series to direct the driver through the transition and into the intended travel lane.
3. The Direction Indicator Barricade shall consist of One-Direction Large Arrow (CW1-6) sign in the size shown with a black arrow on a background of Type $B_{FL}$ or Type $C_{FL}$ Orange retroreflective sheeting above a rail with Type A retroreflective sheeting in alternating 4" white and orange stripes sloping downward at an angle of 45 degrees in the direction road users are to pass. Sheeting types shall be as per DMS 8300.
4. Double arrows on the Direction Indicator Barricade will not be allowed.
5. Approved manufacturers are shown on the CWZTCD List. Ballast shall be as approved by the manufacturers instructions.

This detail is not intended for fabrication. See note 3 and the CWZTCD list for providers of approved Detectable Pedestrian Barricades

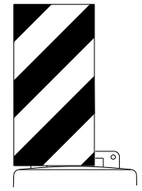



## DETECTABLE PEDESTRIAN BARRICADES

1. When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility.
2. Where pedestrians with visual disabilities normally use the closed sidewalk, a device that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.
3. Detectable pedestrian barricades similar to the one pictured above, longitudinal channelizing devices, some concrete barriers, and wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.
4. Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)" and should not be used as a control for pedestrian movements.
5. Warning lights shall not be attached to detectable pedestrian barricades.
6. Detectable pedestrian barricades may use 8" nominal barricade rails as shown on BC(10) provided that the top rail provides a smooth continuous rail suitable for hand trailing with no splinters, burrs, or sharp edges.



18" x 24" Sign
(Maximum Sign Dimension)
Chevron CW1-8, Opposing Traffic Lane Divider, Driveway sign D70a, Keep Right R4 series or other signs as approved by Engineer



12" x 24" Vertical Panel mount with diagonals sloping down towards travel way

Plywood, Aluminum or Metal sign substrates shall NOT be used on plastic drums

## SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

1. Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
2. Chevrons and other work zone signs with an orange background shall be manufactured with Type $B_{FL}$ or Type $C_{FL}$ Orange sheeting meeting the color and retroreflectivity requirements of DMS-8300, "Sign Face Material," unless otherwise specified in the plans.
3. Vertical Panels shall be manufactured with orange and white sheeting meeting the requirements of DMS-8300 Type A Diagonal stripes on Vertical Panels shall slope down toward the intended traveled lane.
4. Other sign messages (text or symbolic) may be used as approved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height, except for the R9 series signs discussed in note 8 below.
5. Signs shall be installed using a 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection.
6. Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.
7. Chevrons may be placed on drums on the outside of curves, on merging tapers or on shifting tapers. When used in these locations they may be placed on every drum or spaced not more than on every third drum. A minimum of three (3) should be used at each location called for in the plans.
8. R9-9, R9-10, R9-11 and R9-11a Sidewalk Closed signs which are 24 inches wide may be mounted on plastic drums, with approval of the Engineer.



Texas Department of Transportation | Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

# BC(8)-14

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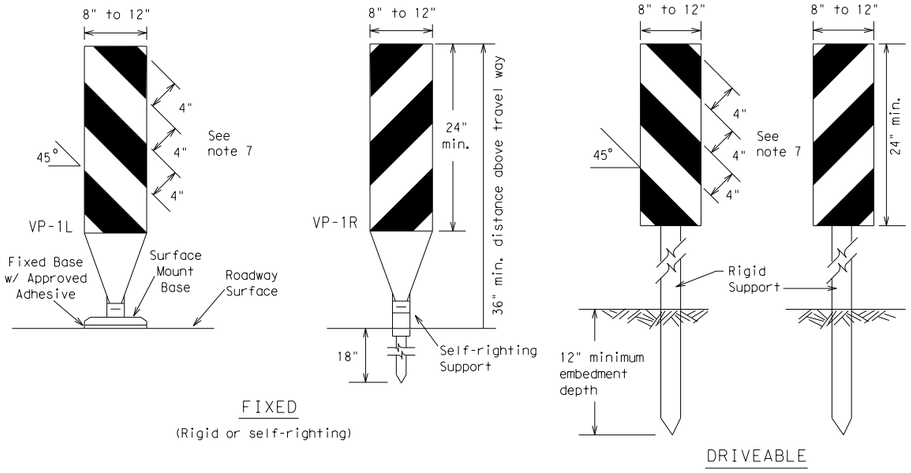
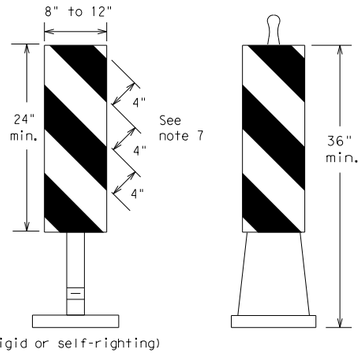



FIXED

(Rigid or self-righting)

DRIVEABLE

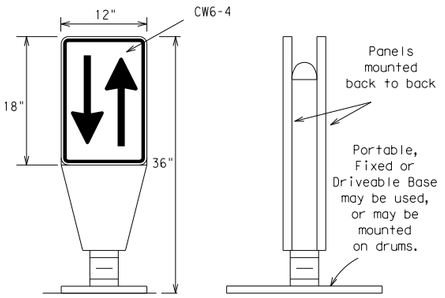



(Rigid or self-righting)

PORTABLE

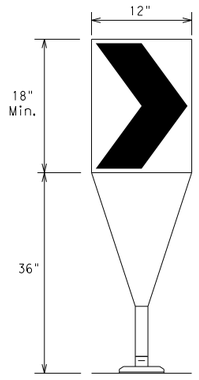
1. Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual Appendix B "Treatment of Pavement Drop-offs in Work Zones" for additional guidelines on the use of VP's for drop-offs.
3. VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.
4. VP's used on expressways and freeways or other high speed roadways, may have more than 270 square inches of retroreflective area facing traffic.
5. Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
6. Sheeting for the VP's shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
7. Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.

## VERTICAL PANELS (VPs)




1. Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust.
2. The OTLD may be used in combination with 42" cones or VPs.
3. Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
4. The OTLD shall be orange with a black non-reflective legend. Sheeting for the OTLD shall be retroreflective Type $B_{FL}$ or Type $C_{FL}$ conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.

## OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



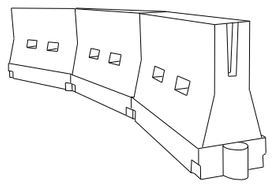

Fixed Base w/ Approved Adhesive (Driveable Base, or Flexible Support can be used)

1. The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
2. Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
3. Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates its need.
4. To be effective, the chevron should be visible for at least 500 feet.
5. Chevrons shall be orange with a black nonreflective legend. Sheeting for the chevron shall be retroreflective Type $B_{FL}$ or Type $C_{FL}$ conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.
6. For Long Term Stationary use on tapers or transitions on freeways and divided highways self-righting chevrons may be used to supplement plastic drums but not to replace plastic drums.

## CHEVRONS

### GENERAL NOTES

1. Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Engineer/Inspector shall ensure that spacing and placement is uniform and in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
2. Channelizing devices shown on this sheet may have a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other plan sheets.
3. Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles or vehicle related wind gusts making alignment of the channelizing devices difficult to maintain. Locations of these devices shall be detailed elsewhere in the plans. These devices shall conform to the TMUTCD and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
4. The Contractor shall maintain devices in a clean condition and replace damaged, nonreflective, faded, or broken devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
5. Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh a minimum of 30 lbs.
6. Pavement surfaces shall be prepared in a manner that ensures proper bonding between the adhesives, the fixed mount bases and the pavement surface. Adhesives shall be prepared and applied according to the manufacturer's recommendations.
7. The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveable bases shall not be permitted on final pavement surfaces. The Engineer/Inspector shall approve all application and removal procedures of fixed bases.



### LONGITUDINAL CHANNELIZING DEVICES (LCD)

1. LCDs are crashworthy, lightweight, deformable devices that are highly visible, have good target value and can be connected together. They are not designed to contain or redirect a vehicle on impact.
2. LCDs may be used instead of a line of cones or drums.
3. LCDs shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. LCDs should not be used to provide positive protection for obstacles, pedestrians or workers.
5. LCDs shall be supplemented with retroreflective delineation as required for temporary barriers on BC(7) when placed roughly parallel to the travel lanes.
6. LCDs used as barricades placed perpendicular to traffic should have at least one row of reflective sheeting meeting the requirements for barricade rails as shown on BC(10) placed near the top of the LCD along the full length of the device.

### WATER BALLASTED SYSTEMS USED AS BARRIERS

1. Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the work space per the appropriate NCHRP 350 crashworthiness requirements based on roadway speed and barrier application.
2. Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
3. Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
5. When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flared to a point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long canes and the top of the unit shall not be less than 32 inches in height.

## HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS

| Posted Speed * | Formula | Minimum Desirable Taper Lengths * * 10' Offset | 11' Offset | 12' Offset | Suggested Maximum Spacing of Channelizing Devices On a Taper | On a Tangent |
|---|---|---|---|---|---|---|
| 30 | $L = \frac{WS^2}{60}$ | 150' | 165' | 180' | 30' | 60' |
| 35 | | 205' | 225' | 245' | 35' | 70' |
| 40 | | 265' | 295' | 320' | 40' | 80' |
| 45 | L = WS | 450' | 495' | 540' | 45' | 90' |
| 50 | | 500' | 550' | 600' | 50' | 100' |
| 55 | | 550' | 605' | 660' | 55' | 110' |
| 60 | | 600' | 660' | 720' | 60' | 120' |
| 65 | | 650' | 715' | 780' | 65' | 130' |
| 70 | | 700' | 770' | 840' | 70' | 140' |
| 75 | | 750' | 825' | 900' | 75' | 150' |
| 80 | | 800' | 880' | 960' | 80' | 160' |

* * Taper lengths have been rounded off.
L=Length of Taper (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

## SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

SHEET 9 OF 12

Texas Department of Transportation | Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

# BC(9)-14

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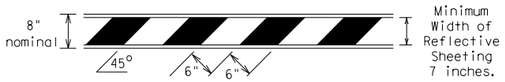
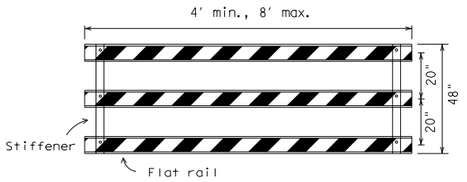
## TYPE 3 BARRICADES

1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type 3 Barricades and a list of all materials used in the construction of Type 3 Barricades.
2. Type 3 Barricades shall be used at each end of construction projects closed to all traffic.
3. Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed road striping should slope downward in both directions toward the center of roadway.
4. Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
5. Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
6. Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Sand bags shall not be stacked in a manner that covers any portion of a barricade rails reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.
9. Sheeting for barricades shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.



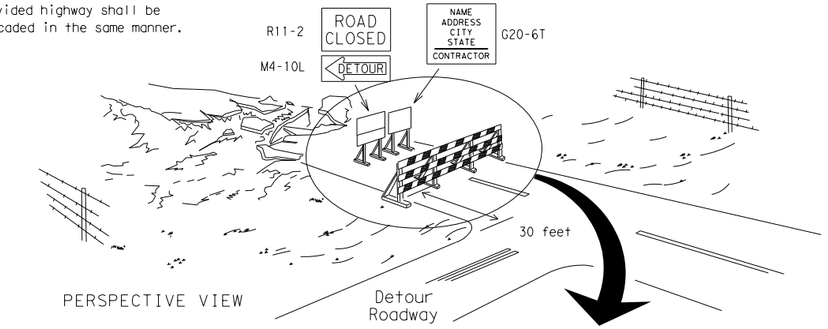

TYPICAL STRIPING DETAIL FOR BARRICADE RAIL




Stiffener may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

TYPICAL PANEL DETAIL
FOR SKID OR POST TYPE BARRICADES

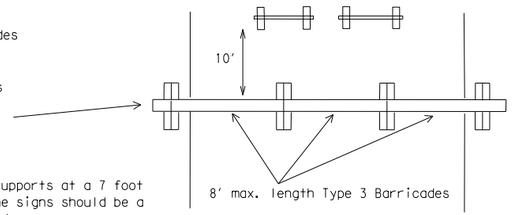
Each roadway of a divided highway shall be barricaded in the same manner.




PERSPECTIVE VIEW

The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.

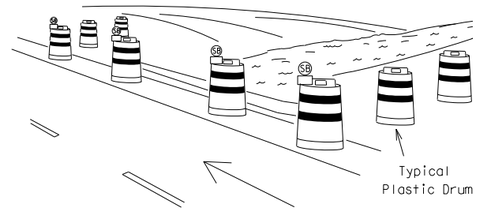
Barricade striping should slant downward in the direction of detour.




PLAN VIEW

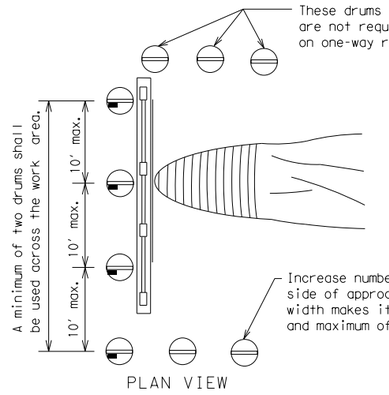
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION




PERSPECTIVE VIEW

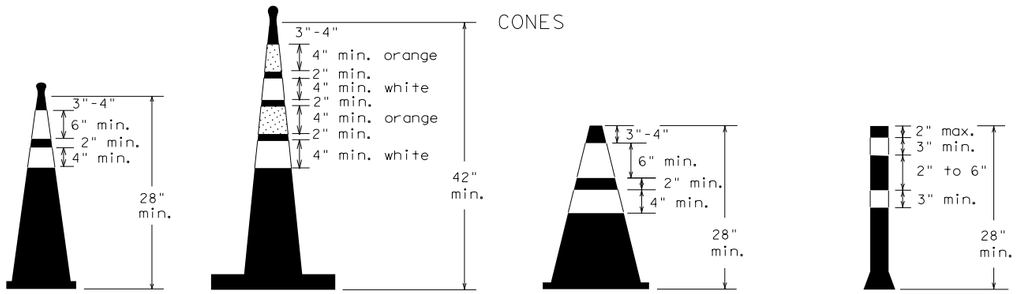
1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
5. Drums must extend the length of the culvert widening.




| LEGEND | |
|---|---|
| | Plastic drum |
| | Plastic drum with steady burn light or yellow warning reflector |
| SB | Steady burn warning light or yellow warning reflector |

PLAN VIEW

CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS




Two-Piece cones

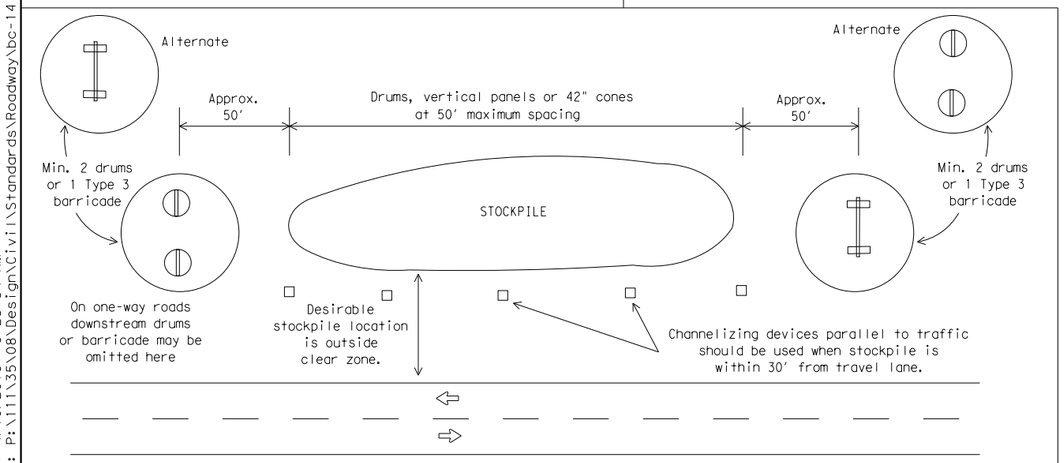
One-Piece cones

Tubular Marker

28" Cones shall have a minimum weight of 9 1/2 lbs.

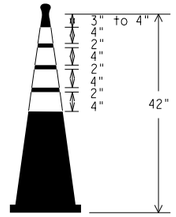
42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

1. Traffic cones and tubular markers shall be predominantly orange, and meet the height and weight requirements shown above.
2. One-piece cones have the body and base of the cone molded in one consolidated unit. Two-piece cones have a cone shaped body and a separate rubber base, or ballast, that is added to keep the device upright and in place.
3. Two-piece cones may have a handle or loop extending up to 8" above the minimum height shown, in order to aid in retrieving the device.
4. Cones or tubular markers used at night shall have white or white and orange reflective bands as shown above. The reflective bands shall have a smooth, sealed outer surface and meet the requirements of Departmental Material Specification DMS-8300 Type A.
5. 28" cones and tubular markers are generally suitable for short duration and short-term stationary work as defined on BC(4). These should not be used for intermediate-term or long-term stationary work unless personnel is on-site to maintain them in their proper upright position.
6. 42" two-piece cones, vertical panels or drums are suitable for all work zone durations.
7. Cones or tubular markers used on each project should be of the same size and shape.




TRAFFIC CONTROL FOR MATERIAL STOCKPILES

THIS DEVICE SHALL NOT BE USED ON PROJECTS LET AFTER MARCH 2014.




EDGELINE CHANNELIZER

1. This device is intended only for use in place of a vertical panel to channelize traffic by indicating the edge of the travel lane. It is not intended to be used in transitions or tapers.
2. This device shall not be used to separate lanes of traffic (opposing or otherwise) or warn of objects.
3. This device is based on a 42 inch, two-piece cone with an alternate striping pattern: four 4 inch retroreflective bands, with an approximate 2 inch gap between bands. The color of the band should correspond to the color of the edgeline (yellow for left edgeline, white for right edgeline) for which the device is substituted or for which it supplements. The reflectorized bands shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
4. The base must weigh a minimum of 30 lbs.



Texas Department of Transportation

Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

## BC(10)-14

| FILE: bc-14.dgn | DN: TxDOT | CK: TxDOT | DW: TxDOT | CK: TxDOT |
|---|---|---|---|---|
| ©TxDOT November 2002 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS 9-07 8-14 7-13 | 0915 | 12 | 574 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 50 |

104

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# WORK ZONE PAVEMENT MARKINGS

## GENERAL

1. The Contractor shall be responsible for maintaining work zone and existing pavement markings, in accordance with the standard specifications and special provisions, on all roadways open to traffic within the CSJ limits unless otherwise stated in the plans.
2. Color, patterns and dimensions shall be in conformance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
3. Additional supplemental pavement marking details may be found in the plans or specifications.
4. Pavement markings shall be installed in accordance with the TMUTCD and as shown on the plans.
5. When short term markings are required on the plans, short term markings shall conform with the TMUTCD, the plans and details as shown on the Standard Plan Sheet WZ(STPM).
6. When standard pavement markings are not in place and the roadway is opened to traffic, DO NOT PASS signs shall be erected to mark the beginning of the sections where passing is prohibited and PASS WITH CARE signs at the beginning of sections where passing is permitted.
7. All work zone pavement markings shall be installed in accordance with Item 662, "Work Zone Pavement Markings."

## RAISED PAVEMENT MARKERS

1. Raised pavement markers are to be placed according to the patterns on BC(12).
2. All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and Departmental Material Specification DMS-4200 or DMS-4300.

## PREFABRICATED PAVEMENT MARKINGS

1. Removable prefabricated pavement markings shall meet the requirements of DMS-8241.
2. Non-removable prefabricated pavement markings (foil back) shall meet the requirements of DMS-8240.

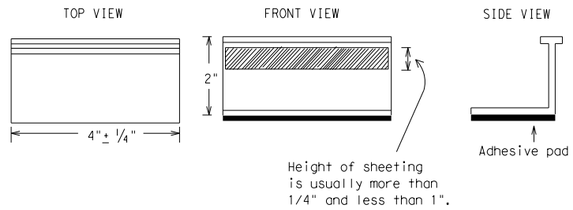
## MAINTAINING WORK ZONE PAVEMENT MARKINGS

1. The Contractor will be responsible for maintaining work zone pavement markings within the work limits.
2. Work zone pavement markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspections as required by Form 599.
3. The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 160 feet when illuminated by automobile low-beam headlights at night, unless sight distance is restricted by roadway geometrics.
4. Markings failing to meet this criteria within the first 30 days after placement shall be replaced at the expense of the Contractor as per Specification Item 662.

## REMOVAL OF PAVEMENT MARKINGS

1. Pavement markings that are no longer applicable, could create confusion or direct a motorist toward or into the closed portion of the roadway shall be removed or obliterated before the roadway is opened to traffic.
2. The above shall not apply to detours in place for less than three days, where flaggers and/or sufficient channelizing devices are used in lieu of markings to outline the detour route.
3. Pavement markings shall be removed to the fullest extent possible, so as not to leave a discernable marking. This shall be by any method approved by TxDOT Specification Item 677 for "Eliminating Existing Pavement Markings and Markers".
4. The removal of pavement markings may require resurfacing or seal coating portions of the roadway as described in Item 677.
5. Subject to the approval of the Engineer, any method that proves to be successful on a particular type pavement may be used.
6. Blast cleaning may be used but will not be required unless specifically shown in the plans.
7. Over-painting of the markings SHALL NOT BE permitted.
8. Removal of raised pavement markers shall be as directed by the Engineer.
9. Removal of existing pavement markings and markers will be paid for directly in accordance with Item 677, "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS," unless otherwise stated in the plans.
10. Black-out marking tape may be used to cover conflicting existing markings for periods less than two weeks when approved by the Engineer.

# Temporary Flexible-Reflective Roadway Marker Tabs




STAPLES OR NAILS SHALL NOT BE USED TO SECURE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS TO THE PAVEMENT SURFACE

1. Temporary flexible-reflective roadway marker tabs used as guidemarks shall meet the requirements of DMS-8242.
2. Tabs detailed on this sheet are to be inspected and accepted by the Engineer or designated representative. Sampling and testing is not normally required, however at the option of the Engineer, either "A" or "B" below may be imposed to assure quality before placement on the roadway.
   A. Select five (5) or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Pavement Section to determine specification compliance.
   B. Select five (5) tabs and perform the following test. Affix five (5) tabs at 24 inch intervals on an asphaltic pavement in a straight line. Using a medium size passenger vehicle or pickup, run over the markers with the front and rear tires at a speed of 35 to 40 miles per hour, four (4) times in each direction. No more than one (1) out of the five (5) reflective surfaces shall be lost or displaced as a result of this test.
3. Small design variances may be noted between tab manufacturers.
4. See Standard Sheet WZ(STPM) for tab placement on new pavements. See Standard Sheet TCP(7-1) for tab placement on seal coat work.

## RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

1. Raised pavement markers used as guidemarks shall be from the approved product list, and meet the requirements of DMS-4200.
2. All temporary construction raised pavement markers provided on a project shall be of the same manufacturer.
3. Adhesive for guidemarks shall be bituminous material hot applied or butyl rubber pad for all surfaces, or thermoplastic for concrete surfaces.

Guidemarks shall be designated as:
YELLOW - (two amber reflective surfaces with yellow body).
WHITE - (one silver reflective surface with white body).

| DEPARTMENTAL MATERIAL SPECIFICATIONS | |
|---|---|
| PAVEMENT MARKERS (REFLECTORIZED) | DMS-4200 |
| TRAFFIC BUTTONS | DMS-4300 |
| EPOXY AND ADHESIVES | DMS-6100 |
| BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS | DMS-6130 |
| PERMANENT PREFABRICATED PAVEMENT MARKINGS | DMS-8240 |
| TEMPORARY REMOVABLE, PREFABRICATED PAVEMENT MARKINGS | DMS-8241 |
| TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS | DMS-8242 |

A list of prequalified reflective raised pavement markers, non-reflective traffic buttons, roadway marker tabs and other pavement markings can be found at the Material Producer List web address shown on BC(1).



Texas Department of Transportation

Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

## BC(11)-14

| FILE: bc-14.dgn | DN: TxDOT | CK: TxDOT | DW: TxDOT | CK: TxDOT |
|---|---|---|---|---|
| ©TxDOT February 1998 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| 2-98 9-07 | DIST | COUNTY | | SHEET NO. |
| 1-02 7-13 | SAT | BEXAR | | 51 |
| 11-02 8-14 | | | | |

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DATE: 4/10/2019 8:23:36 AM
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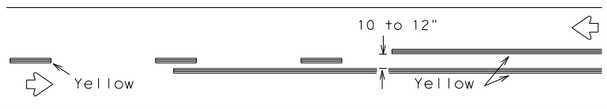
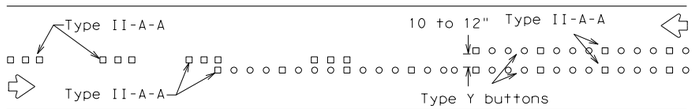
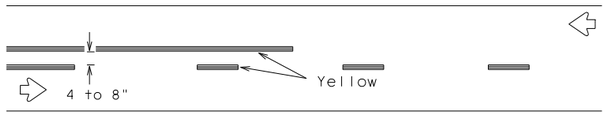
# PAVEMENT MARKING PATTERNS



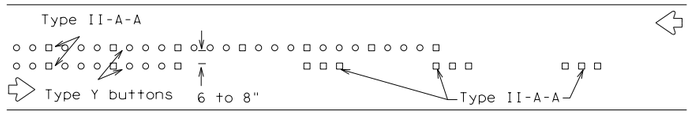

REFLECTORIZED PAVEMENT MARKINGS - PATTERN A




RAISED PAVEMENT MARKERS - PATTERN A



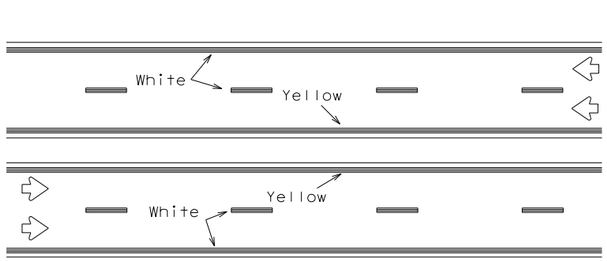

REFLECTORIZED PAVEMENT MARKINGS - PATTERN B



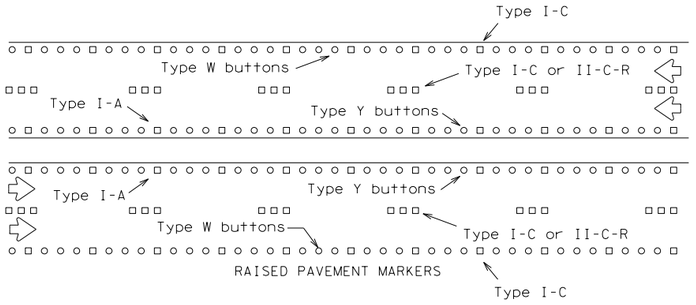

RAISED PAVEMENT MARKERS - PATTERN B

Pattern A is the TXDOT Standard, however Pattern B may be used if approved by the Engineer.
Prefabricated markings may be substituted for reflectorized pavement markings.

## CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO-LANE, TWO-WAY HIGHWAYS



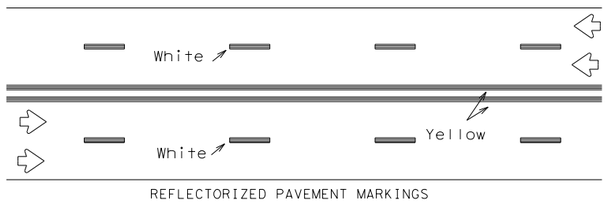

REFLECTORIZED PAVEMENT MARKINGS



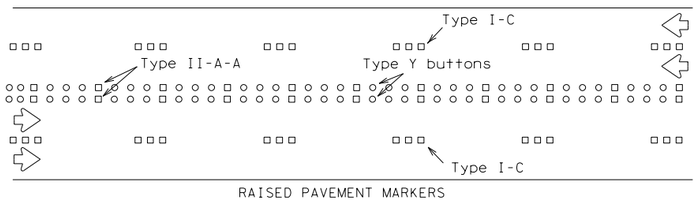

RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

## EDGE & LANE LINES FOR DIVIDED HIGHWAY



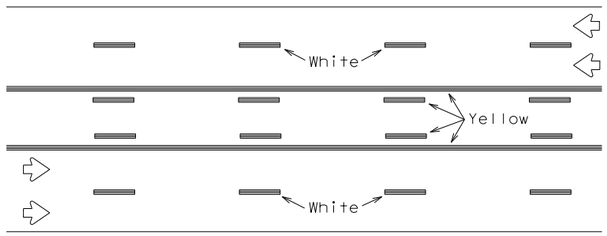

REFLECTORIZED PAVEMENT MARKINGS



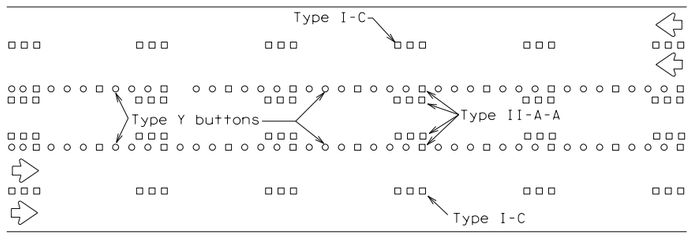

RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

## LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS




REFLECTORIZED PAVEMENT MARKINGS




RAISED PAVEMENT MARKERS

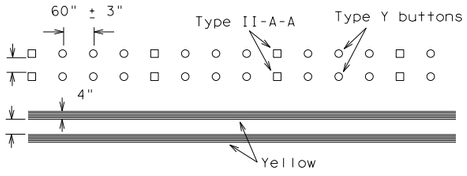
Prefabricated markings may be substituted for reflectorized pavement markings.

## TWO-WAY LEFT TURN LANE

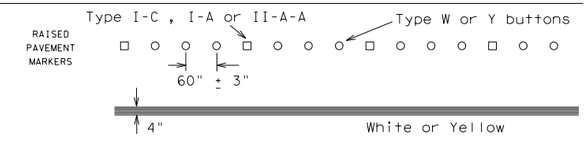
# STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS

## SOLID LINES

### DOUBLE NO-PASSING LINE

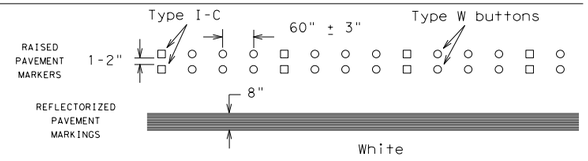



### EDGE LINE OR SINGLE NO-PASSING LINE



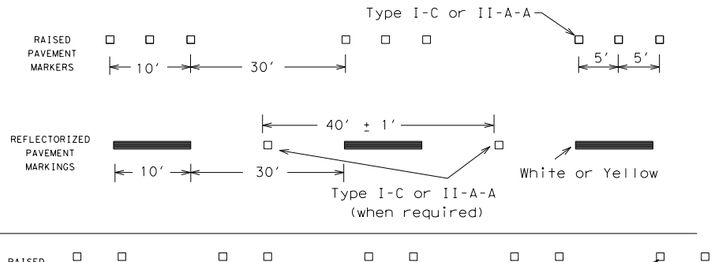

### WIDE LINE

(FOR LEFT TURN CHANNELIZING LINE OR CHANNELIZING LINE USED TO DISCOURAGE LANE CHANGING.)

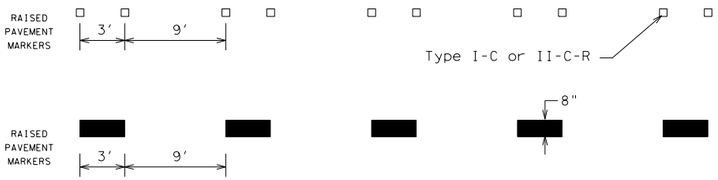



## BROKEN LINES

### CENTER LINE OR LANE LINE

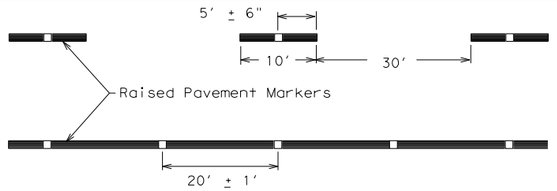



### AUXILIARY OR LANEDROP LINE




### REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

If raised pavement markers are used to supplement REMOVABLE markings, the markers shall be applied to the top of the tape at the approximate mid length of tape used for broken lines or at 20 foot spacing for solid lines. This allows an easier removal of raised pavement markers and tape.




Centerline only - not to be used on edge lines

Raised pavement markers used as standard pavement markings shall be from the approved products list and meet the requirements of Item 672 "RAISED PAVEMENT MARKERS."



Texas Department of Transportation

Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

## BC(12)-14

| FILE: bc-14.dgn | DN: TxDOT | CK: TxDOT | DW: TxDOT | CK: TxDOT |
|---|---|---|---|---|
| ©TxDOT February 1998 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| 1-97 9-07 | DIST | COUNTY | | SHEET NO. |
| 2-98 7-13 | SAT | BEXAR | | 52 |
| 11-02 8-14 | | | | |

106

DATE:
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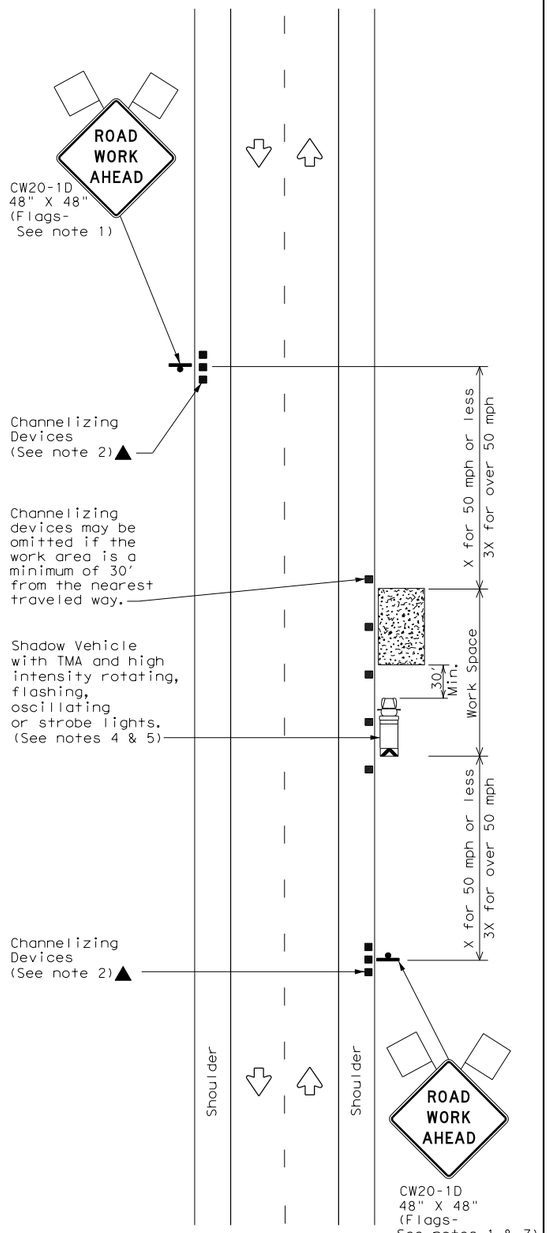
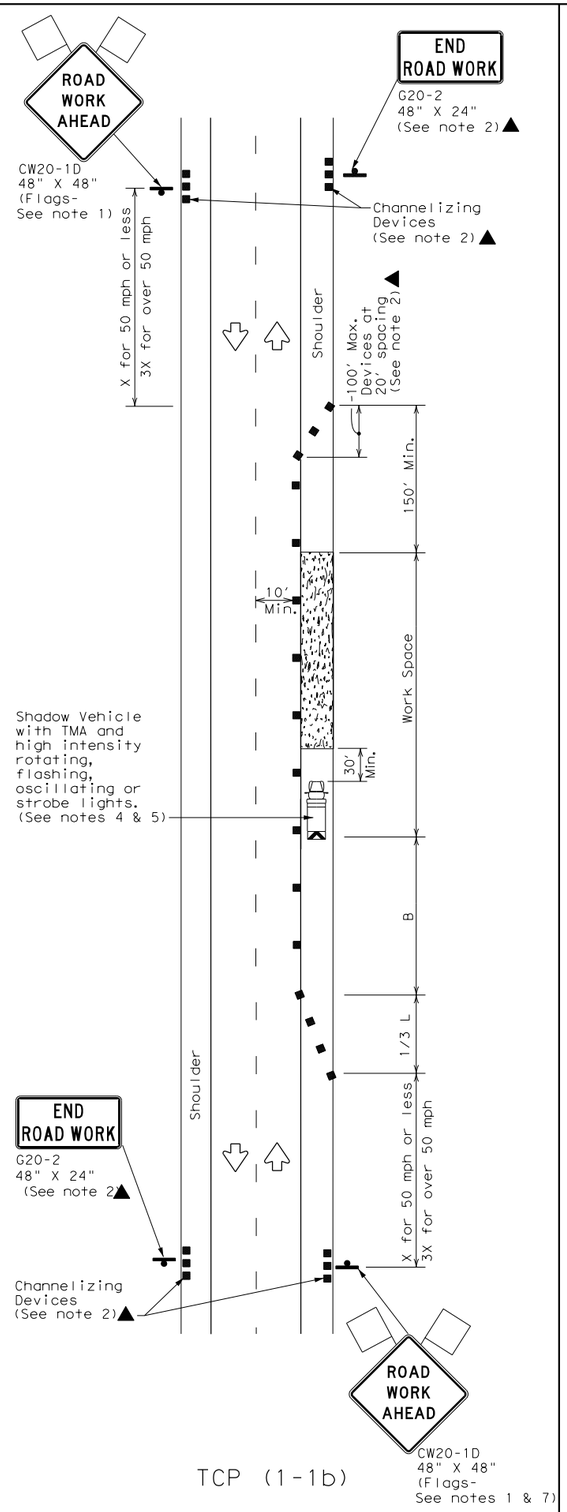


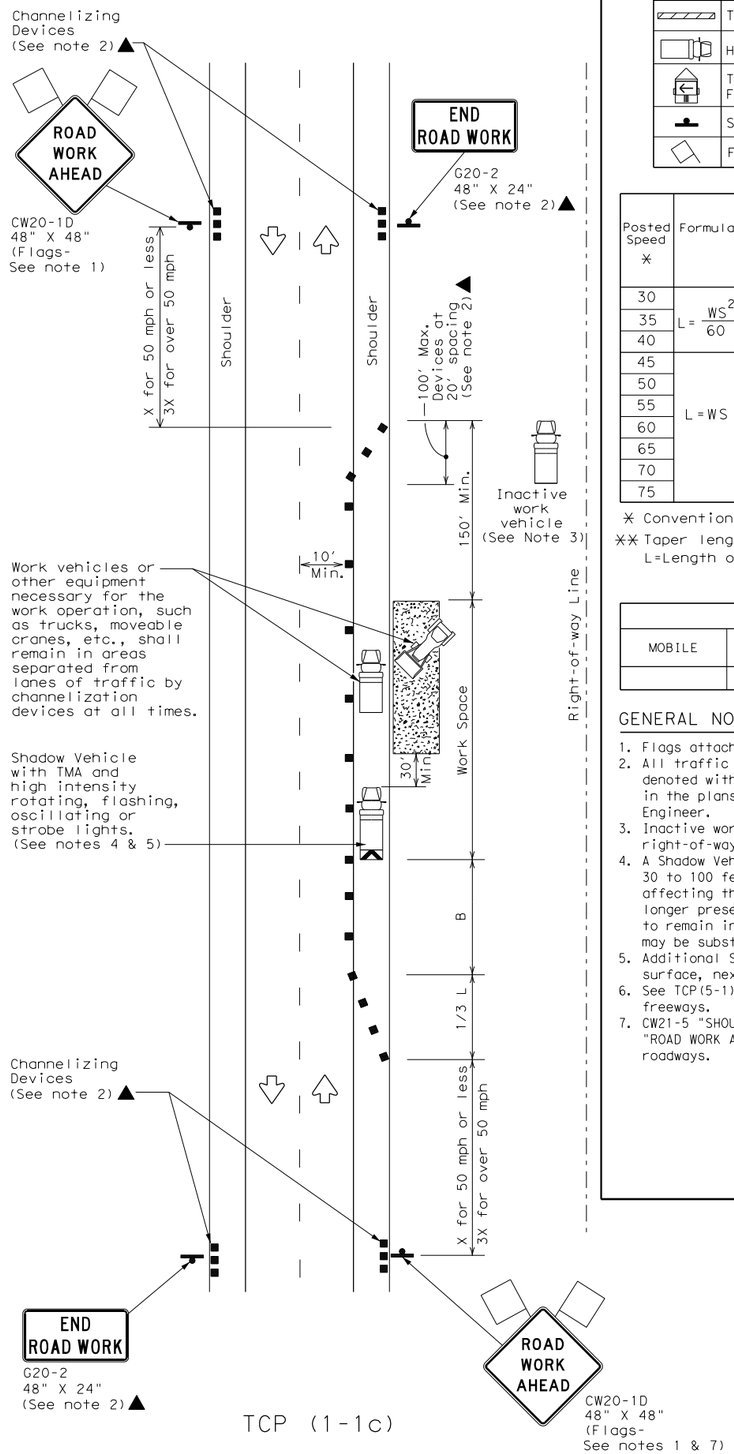

TCP (1-1a)

## WORK SPACE NEAR SHOULDER
Conventional Roads




TCP (1-1b)

## WORK SPACE ON SHOULDER
Conventional Roads




TCP (1-1c)

## WORK VEHICLES ON SHOULDER
Conventional Roads

| LEGEND | | | |
|---|---|---|---|
| | Type 3 Barricade | | Channelizing Devices |
| | Heavy Work Vehicle | | Truck Mounted Attenuator (TMA) |
| | Trailer Mounted Flashing Arrow Board | M | Portable Changeable Message Sign (PCMS) |
| | Sign | | Traffic Flow |
| | Flag | | Flagger |

| Posted Speed * | Formula | Minimum Desirable Taper Lengths ** 10' Offset | 11' Offset | 12' Offset | Suggested Maximum Spacing of Channelizing Devices On a Taper | On a Tangent | Minimum Sign Spacing "X" Distance | Suggested Longitudinal Buffer Space "B" |
|---|---|---|---|---|---|---|---|---|
| 30 | $L=\frac{WS^2}{60}$ | 150' | 165' | 180' | 30' | 60' | 120' | 90' |
| 35 | | 205' | 225' | 245' | 35' | 70' | 160' | 120' |
| 40 | | 265' | 295' | 320' | 40' | 80' | 240' | 155' |
| 45 | L=WS | 450' | 495' | 540' | 45' | 90' | 320' | 195' |
| 50 | | 500' | 550' | 600' | 50' | 100' | 400' | 240' |
| 55 | | 550' | 605' | 660' | 55' | 110' | 500' | 295' |
| 60 | | 600' | 660' | 720' | 60' | 120' | 600' | 350' |
| 65 | | 650' | 715' | 780' | 65' | 130' | 700' | 410' |
| 70 | | 700' | 770' | 840' | 70' | 140' | 800' | 475' |
| 75 | | 750' | 825' | 900' | 75' | 150' | 900' | 540' |

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

| TYPICAL USAGE | | | | |
|---|---|---|---|---|
| MOBILE | SHORT DURATION | SHORT TERM STATIONARY | INTERMEDIATE TERM STATIONARY | LONG TERM STATIONARY |
| | ✓ | ✓ | | |

## GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
4. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
6. See TCP(5-1) for shoulder work on divided highways, expressways and freeways.
7. CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

Texas Department of Transportation

Traffic Operations Division Standard

# TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

# TCP(1-1)-18

| FILE: tcp1-1-18.dgn | DN: | CK: | DW: | CK: |
|---|---|---|---|---|
| © TxDOT December 1985 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| 2-94 4-98 | DIST | COUNTY | | SHEET NO. |
| 8-95 2-12 | SAT | BEXAR | | 53 |
| 1-97 2-18 | | | | |

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DATE:
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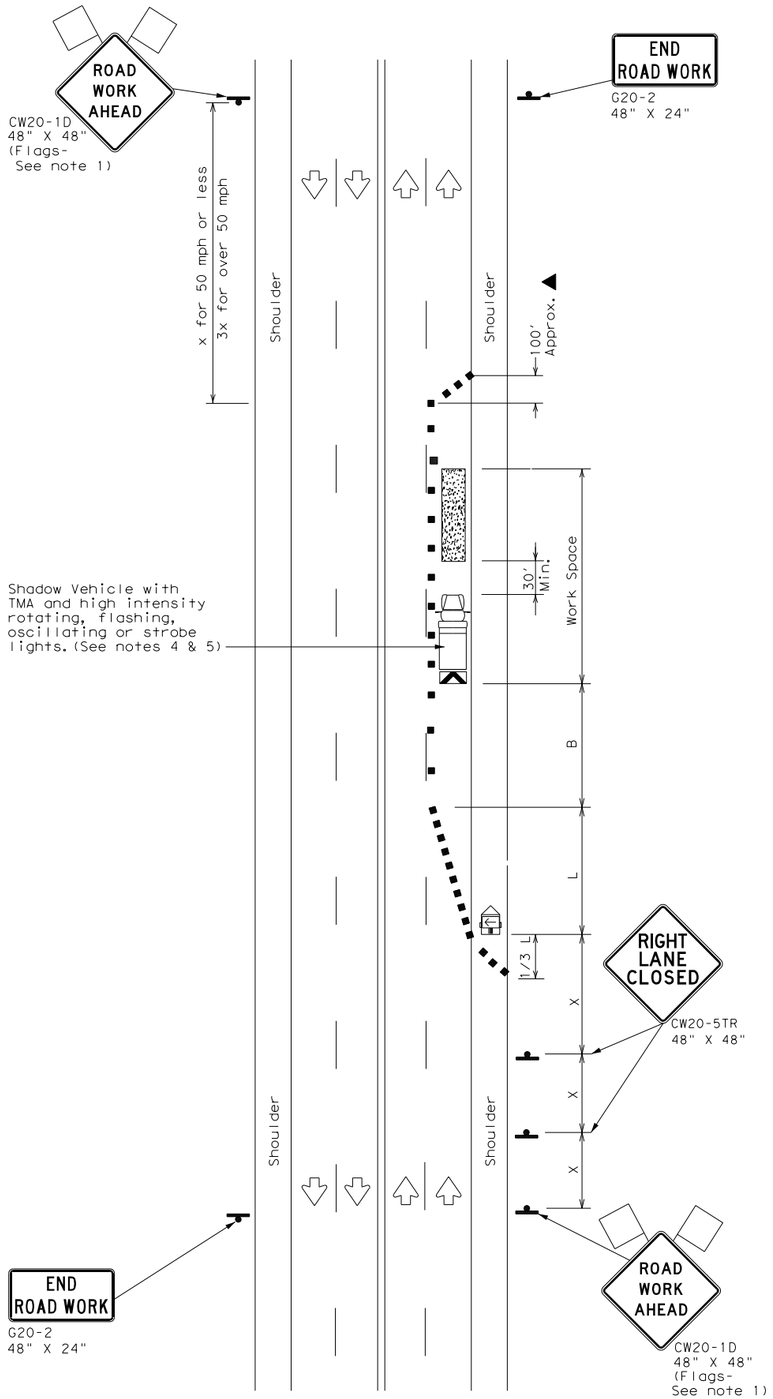
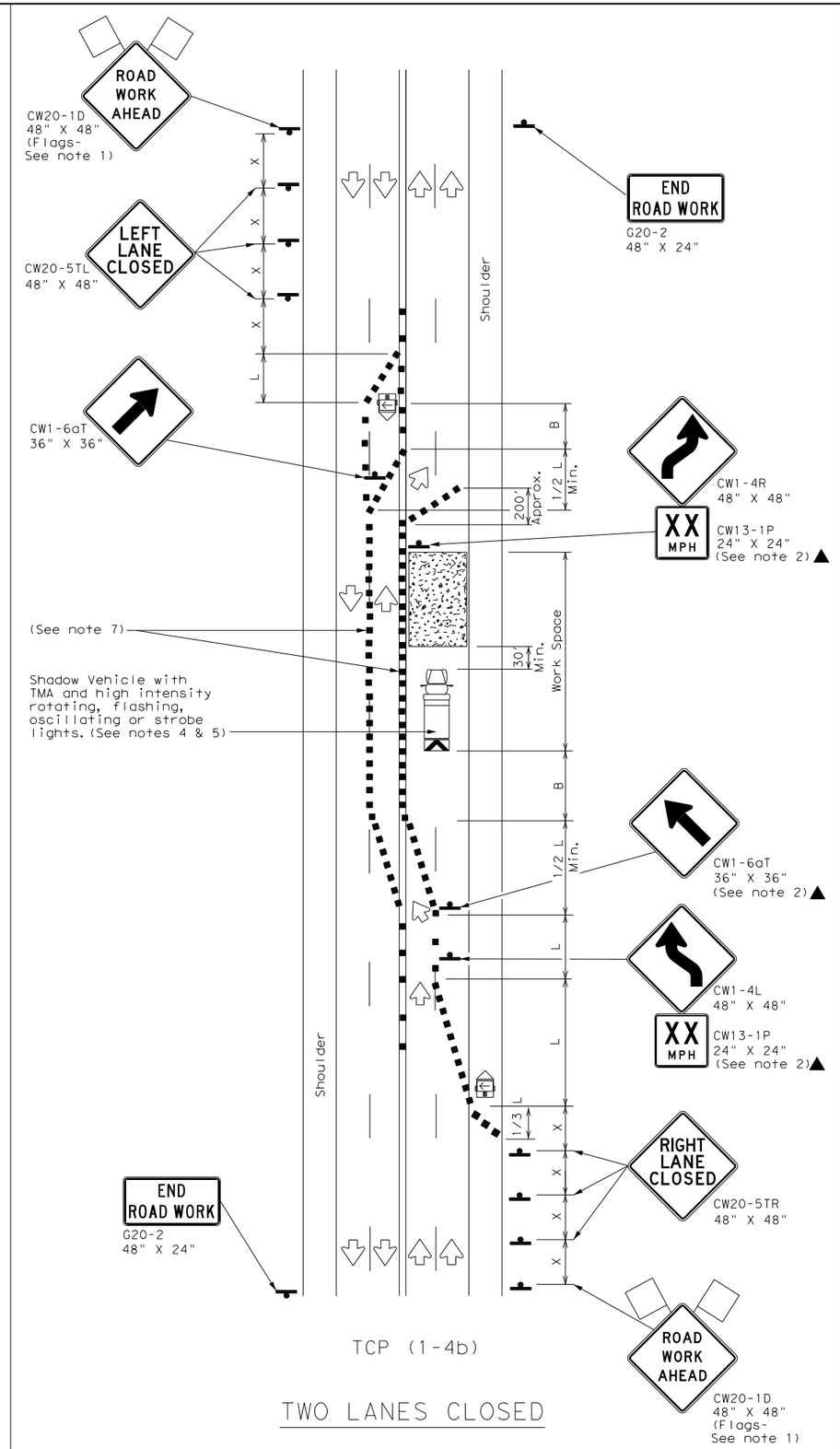



TCP (1-4a)

## ONE LANE CLOSED




TCP (1-4b)

## TWO LANES CLOSED

| LEGEND | | | |
|---|---|---|---|
| | Type 3 Barricade | | Channelizing Devices |
| | Heavy Work Vehicle | | Truck Mounted Attenuator (TMA) |
| | Trailer Mounted Flashing Arrow Board | M | Portable Changeable Message Sign (PCMS) |
| | Sign | | Traffic Flow |
| | Flag | | Flagger |

| Posted Speed * | Formula | Minimum Desirable Taper Lengths ** 10' Offset | 11' Offset | 12' Offset | Suggested Maximum Spacing of Channelizing Devices On a Taper | On a Tangent | Minimum Sign Spacing "X" Distance | Suggested Longitudinal Buffer Space "B" |
|---|---|---|---|---|---|---|---|---|
| 30 | $L=\frac{WS^2}{60}$ | 150' | 165' | 180' | 30' | 60' | 120' | 90' |
| 35 | | 205' | 225' | 245' | 35' | 70' | 160' | 120' |
| 40 | | 265' | 295' | 320' | 40' | 80' | 240' | 155' |
| 45 | L=WS | 450' | 495' | 540' | 45' | 90' | 320' | 195' |
| 50 | | 500' | 550' | 600' | 50' | 100' | 400' | 240' |
| 55 | | 550' | 605' | 660' | 55' | 110' | 500' | 295' |
| 60 | | 600' | 660' | 720' | 60' | 120' | 600' | 350' |
| 65 | | 650' | 715' | 780' | 65' | 130' | 700' | 410' |
| 70 | | 700' | 770' | 840' | 70' | 140' | 800' | 475' |
| 75 | | 750' | 825' | 900' | 75' | 150' | 900' | 540' |

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

| TYPICAL USAGE | | | | |
|---|---|---|---|---|
| MOBILE | SHORT DURATION | SHORT TERM STATIONARY | INTERMEDIATE TERM STATIONARY | LONG TERM STATIONARY |
| | ✓ | ✓ | | |

### GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW20-1D "ROAD WORK AHEAD" sign may be repeated if the visibility of the work zone is less than 1500 feet.
4. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

### TCP (1-4a)

6. If this TCP is used for a left lane closure , CW20-5TL "LEFT LANE CLOSED" signs shall be used and channelizing devices shall be placed on the centerline where needed to protect the work space from opposing traffic with the arrow panel placed in the closed lane near the end of the merging taper.

### TCP (1-4b)

7. Where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2S where S is the speed in mph. This tighter device spacing is intended for the areas of conflicting markings, not the entire work zone.

Texas Department of Transportation

Traffic Operations Division Standard

# TRAFFIC CONTROL PLAN LANE CLOSURES ON MULTILANE CONVENTIONAL ROADS

## TCP(1-4)-18

| FILE: tcp1-4-18.dgn | DN: | CK: | DW: | CK: |
|---|---|---|---|---|
| ©TxDOT December 1985 | CONT | SECT | JOB | HIGHWAY |
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| 2-94 4-98 | DIST | COUNTY | | SHEET NO. |
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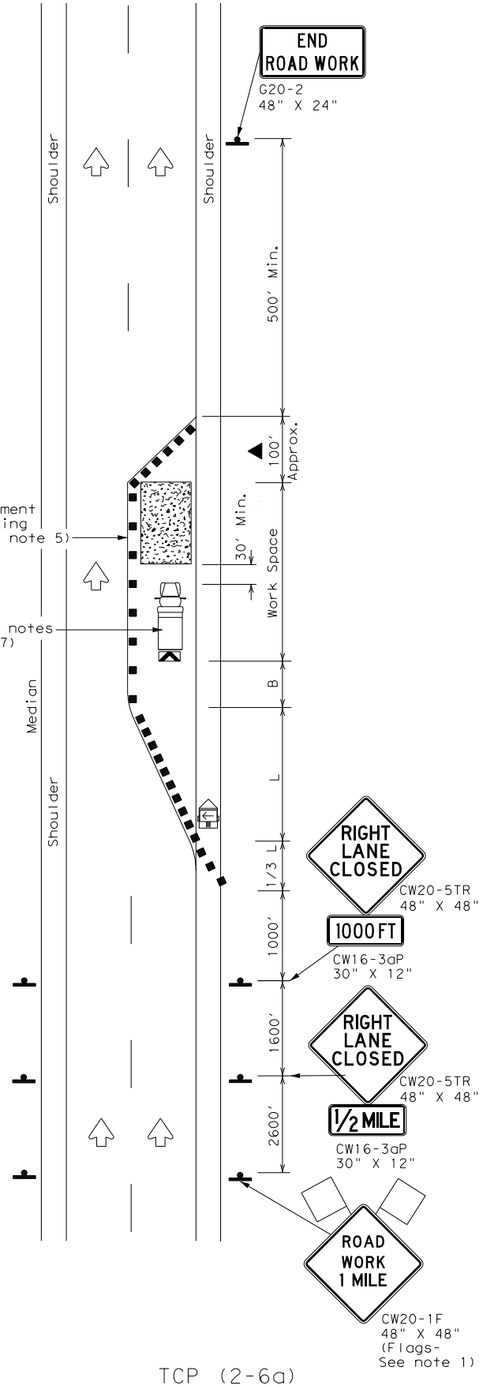
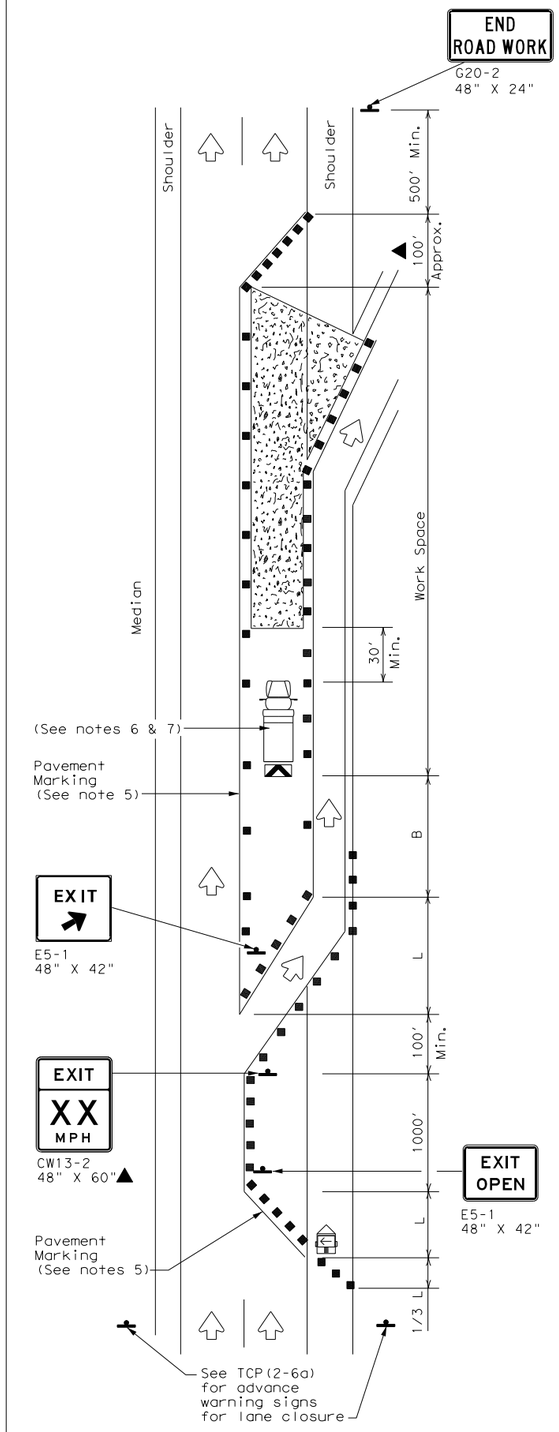


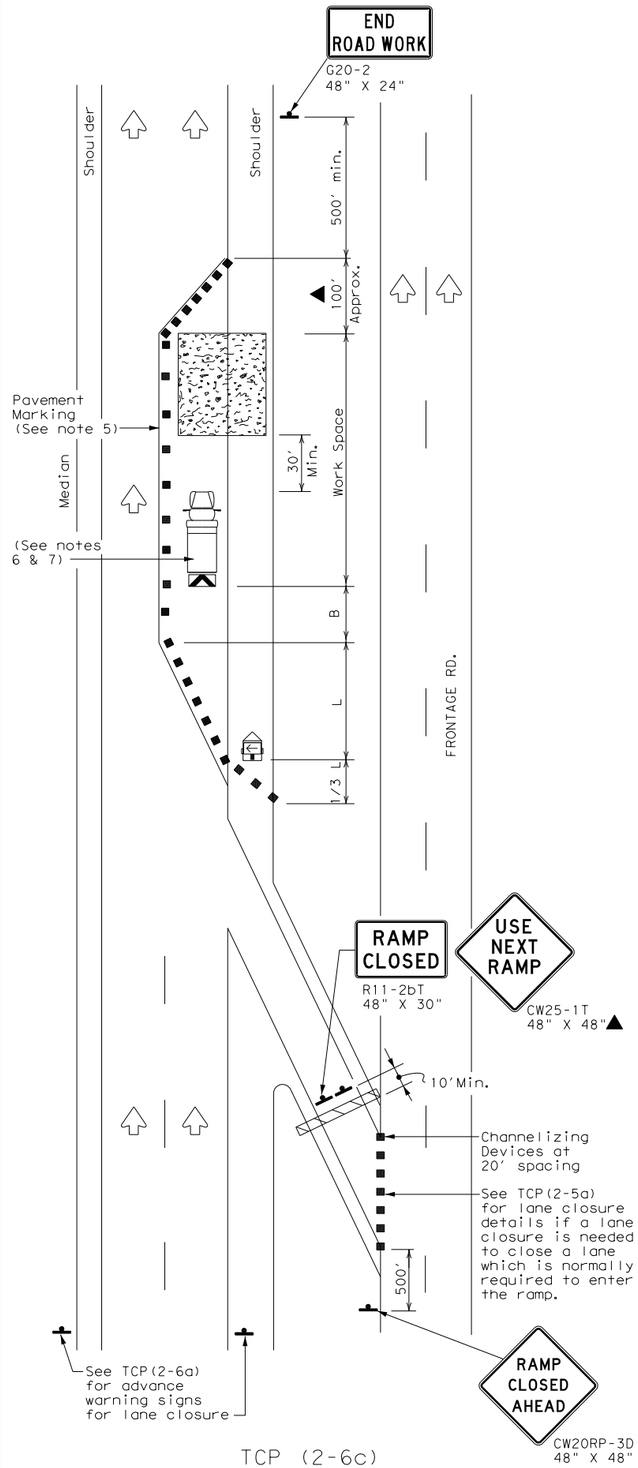

TCP (2-6a)

## ONE LANE CLOSURE




TCP (2-6b)

## LANE CLOSURE NEAR EXIT RAMPS




TCP (2-6c)

## LANE CLOSURE NEAR ENTRANCE RAMPS

| LEGEND | | | |
|---|---|---|---|
| | Type 3 Barricade | | Channelizing Devices |
| | Heavy Work Vehicle | | Truck Mounted Attenuator (TMA) |
| | Trailer Mounted Flashing Arrow Board | | Portable Changeable Message Sign (PCMS) |
| | Sign | | Traffic Flow |
| | Flag | | Flagger |

| Posted Speed * | Formula | Minimum Desirable Taper Lengths ** 10' Offset | 11' Offset | 12' Offset | Suggested Maximum Spacing of Channelizing Devices: On a Taper | On a Tangent | Minimum Sign Spacing "X" Distance | Suggested Longitudinal Buffer Space "B" |
|---|---|---|---|---|---|---|---|---|
| 30 | $L=\frac{WS^2}{60}$ | 150' | 165' | 180' | 30' | 60' | 120' | 90' |
| 35 | | 205' | 225' | 245' | 35' | 70' | 160' | 120' |
| 40 | | 265' | 295' | 320' | 40' | 80' | 240' | 155' |
| 45 | L=WS | 450' | 495' | 540' | 45' | 90' | 320' | 195' |
| 50 | | 500' | 550' | 600' | 50' | 100' | 400' | 240' |
| 55 | | 550' | 605' | 660' | 55' | 110' | 500' | 295' |
| 60 | | 600' | 660' | 720' | 60' | 120' | 600' | 350' |
| 65 | | 650' | 715' | 780' | 65' | 130' | 700' | 410' |
| 70 | | 700' | 770' | 840' | 70' | 140' | 800' | 475' |
| 75 | | 750' | 825' | 900' | 75' | 150' | 900' | 540' |

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

| TYPICAL USAGE | | | | |
|---|---|---|---|---|
| MOBILE | SHORT DURATION | SHORT TERM STATIONARY | INTERMEDIATE TERM STATIONARY | LONG TERM STATIONARY |
| | | | ✓ | ✓ |

## GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Channelizing devices used to close lanes may be supplemented with the Chevron Alignment Sign placed on every other channelizing device. Chevrons may be attached to plastic drums as per BC Standards.
4. Channelizing devices used along the work space or along tangent sections may be supplemented with vertical panels (VP) placed on everyother channelizing device. If night time conditions make it difficult to see at least two VPs, the VPs may be placed on each channelizing device.
5. The placement of pavement markings may be omitted on Intermediate-term stationary work zones with the approval of the Engineer.
6. Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
7. Additional Shadow Vehicles with TMAs may be positioned in each closed lane, on the shoulder or off the paved surface, next to those shown in order to protect a wider work space.

Texas Department of Transportation

*Traffic Operations Division Standard*

# TRAFFIC CONTROL PLAN LANE CLOSURES ON DIVIDED HIGHWAYS

# TCP(2-6)-18

| FILE: tcp2-6-18.dgn | DN: | CK: | DW: | CK: |
|---|---|---|---|---|
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| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 55 |

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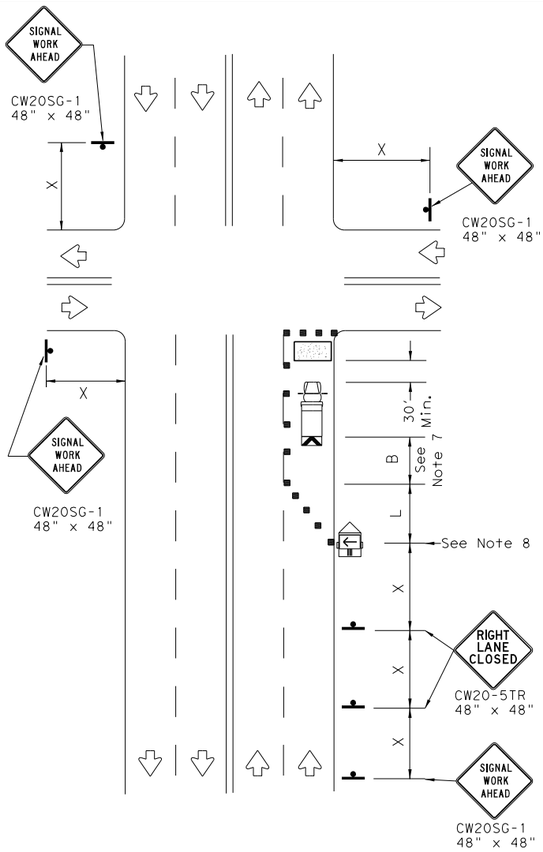
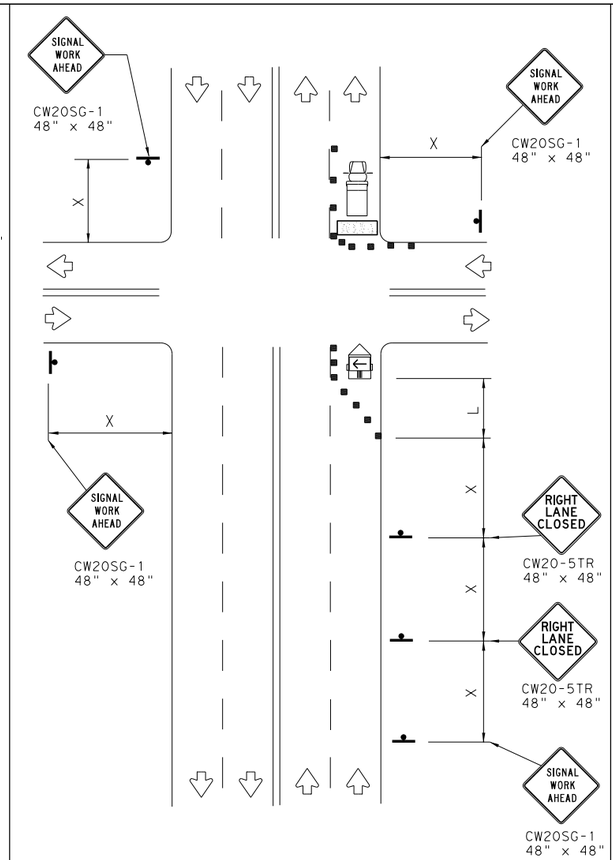


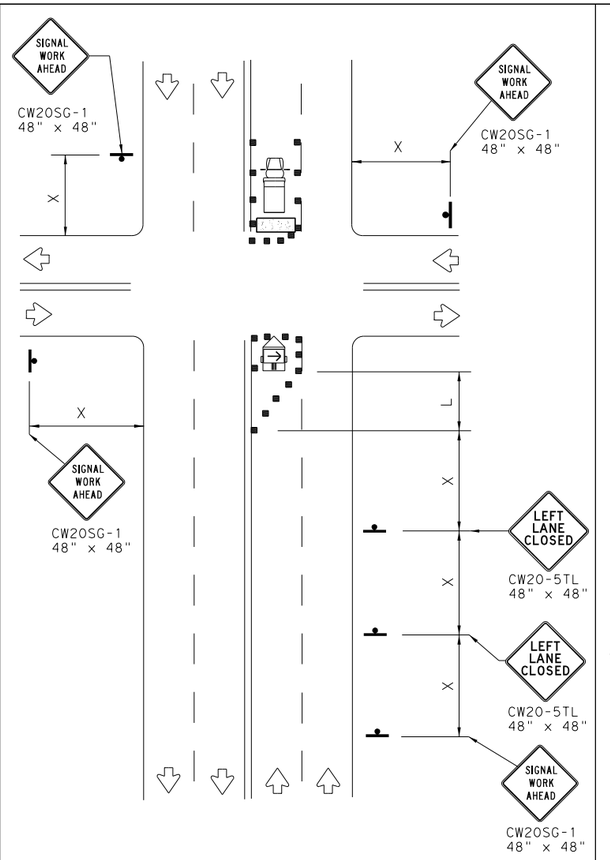

## NEAR SIDE LANE CLOSURE

SHORT DURATION OR SHORT TERM STATIONARY



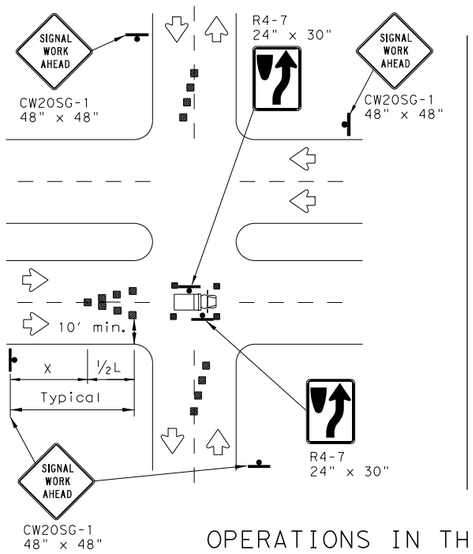

## FAR SIDE RIGHT LANE CLOSURE

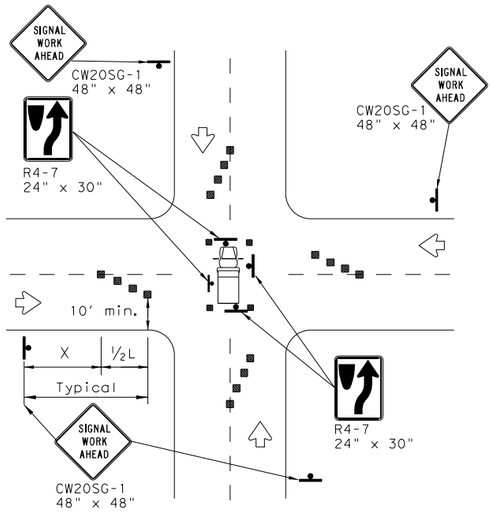
SHORT DURATION OR SHORT TERM STATIONARY




## FAR SIDE LEFT LANE CLOSURE

SHORT DURATION OR SHORT TERM STATIONARY




## OPERATIONS IN THE INTERSECTION

SHORT DURATION

| LEGEND | | | |
|---|---|---|---|
| | Type 3 Barricade | | Channelizing Devices |
| | Heavy Work Vehicle | | Truck Mounted Attenuator (TMA) |
| | Trailer Mounted Flashing Arrow Board | M | Portable Changeable Message Sign (PCMS) |
| | Sign | | Traffic Flow |
| | Flag | | Flagger |

| Posted Speed * | Formula | Minimum Desirable Taper Lengths ** 10' Offset | 11' Offset | 12' Offset | Suggested Maximum Spacing of Channelizing Devices On a Taper | On a Tangent | Minimum Sign Spacing "X" Distance | Suggested Longitudinal Buffer Space "B" |
|---|---|---|---|---|---|---|---|---|
| 30 | $L = \frac{WS^2}{60}$ | 150' | 165' | 180' | 30' | 60' | 120' | 90' |
| 35 | | 205' | 225' | 245' | 35' | 70' | 160' | 120' |
| 40 | | 265' | 295' | 320' | 40' | 80' | 240' | 155' |
| 45 | L = WS | 450' | 495' | 540' | 45' | 90' | 320' | 195' |
| 50 | | 500' | 550' | 600' | 50' | 100' | 400' | 240' |
| 55 | | 550' | 605' | 660' | 55' | 110' | 500' | 295' |
| 60 | | 600' | 660' | 720' | 60' | 120' | 600' | 350' |
| 65 | | 650' | 715' | 780' | 65' | 130' | 700' | 410' |
| 70 | | 700' | 770' | 840' | 70' | 140' | 800' | 475' |
| 75 | | 750' | 825' | 900' | 75' | 150' | 900' | 540' |

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

WORKERS IN BUCKET TRUCKS SHALL NOT WORK ABOVE OPEN LANES OF TRAFFIC.

## GENERAL NOTES

1. The minimum size channelizing device is the 28" cone. 42" Two-piece cones, drums, vertical panels or barricades will be required when the device must be left unattended at night.
2. Obstructions or hazards at the work area shall be clearly marked and delineated at all times.
3. Flaggers and Flagger Symbol (CW20-7) signs may be required according to field conditions.
4. Vehicles parked in roadway shall be equipped with at least two high intensity rotating, flashing, oscillating or strobe type lights.
5. High level warning devices (flag trees) may be used at corners of the vehicle.
6. When work operations are performed on existing signals, the signals may be placed in flashing red mode when approved by the engineer. If existing signals do not have power, All-Way Stop (R1-1 and R1-3P) signs may be implemented when approved by the engineer.
7. For Short-Term Stationary work the buffer space "B" from the above table should be used if field conditions permit. For Short Duration (less than 1 hour) any buffer space provided will enhance the safety of the setup.
8. The arrow board at this location may be omitted for Short Duration work if the work vehicle has an arrow board in operation. As an option, the arrow board may be placed at the end of the taper in the closed lane if space is not available at the beginning of the taper.
9. Signs and devices for the NEAR SIDE LANE CLOSURE may be altered for a left lane closure by using a LEFT LANE CLOSED (CW20-5TL) and adding channelizing devices on the centerline to protect the work space from opposing traffic.



Texas Department of Transportation | Traffic Operations Division Standard

# TRAFFIC SIGNAL WORK TYPICAL DETAILS

## WZ(BTS-1)-13

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|---|---|---|---|---|
| ©TxDOT April 1992 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| 2-98 10-99 7-13 | DIST | COUNTY | | SHEET NO. |
| 4-98 3-03 | SAT | BEXAR | | 56 |



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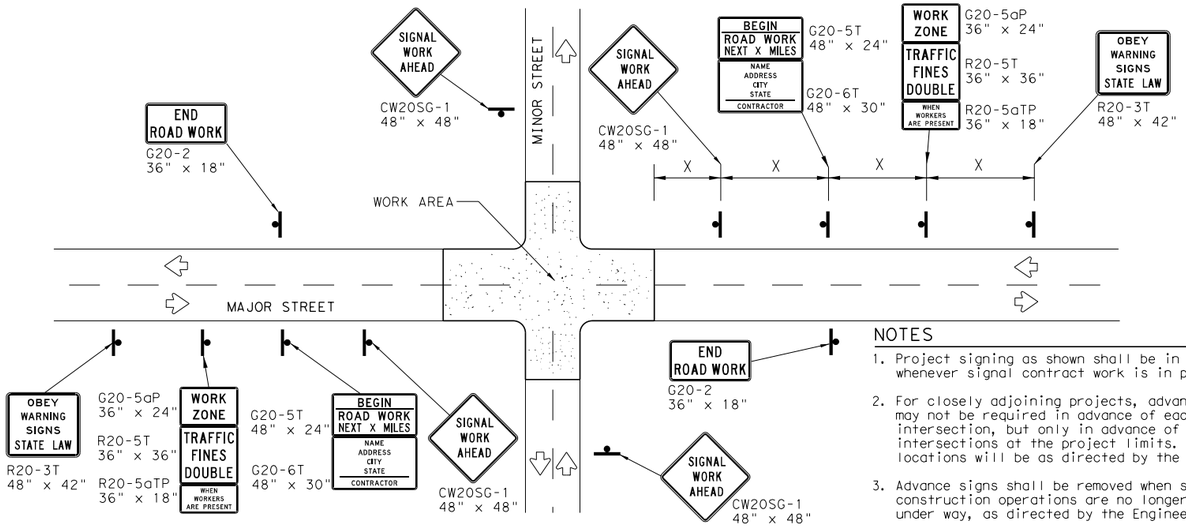



## TYPICAL ADVANCE SIGNAL PROJECT SIGNING

FOR LONG TERM and INTERMEDIATE-TERM STATIONARY WORK OPERATIONS

### NOTES

1. Project signing as shown shall be in place whenever signal contract work is in progress.
2. For closely adjoining projects, advance signing may not be required in advance of each intersection, but only in advance of the intersections at the project limits. Actual locations will be as directed by the Engineer.
3. Advance signs shall be removed when signal construction operations are no longer under way, as directed by the Engineer.
4. Warning sign spacing shown is typical for both directions.
5. See the Table on sheet 1 of 2 for Typical warning sign spacing.

## GENERAL NOTES FOR WORK ZONE SIGNS

1. Signs shall be installed and maintained in a straight and plumb condition.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. Nails shall NOT be used to attach signs to any support.
5. All signs shall be installed in accordance with the plans or as directed by the Engineer.
6. The Contractor shall furnish the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD).
7. The Contractor shall furnish sign supports and substrates listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD), installed as per the manufacturer's recommendations.
8. Temporary signs that have damaged or cracked substrates and/or damaged or marred reflective sheeting shall be replaced as directed by the Engineer.
9. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1".
10. Damaged wood posts shall be replaced. Splicing wood posts will not be allowed.

## DURATION OF WORK

1. Work zone durations are defined in Part 6, Section 6G.02 of the Texas Manual on Uniform Traffic Control Devices (TMUTCD).

## SIGN MOUNTING HEIGHT

1. Sign height of Long-term/Intermediate-term warning signs shall be as shown on Figure 6F-1 of the TMUTCD.
2. Sign height of Short-term/Short Duration warning signs shall be as shown on Figure 6F-2 of the TMUTCD.
3. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

## REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered, unless otherwise approved by the Engineer.
2. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night without damaging the sign sheeting. Burlap, or heavy materials such as plywood or aluminum shall not be used to cover signs.
3. Duct tape or other adhesive material shall NOT be affixed to a sign face.
4. Signs and anchor stubs shall be removed and holes back filled upon completion of the work.

## REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the requirements of the DMS and color usage table shown on this sheet.

## SIGN SUPPORT WEIGHTS

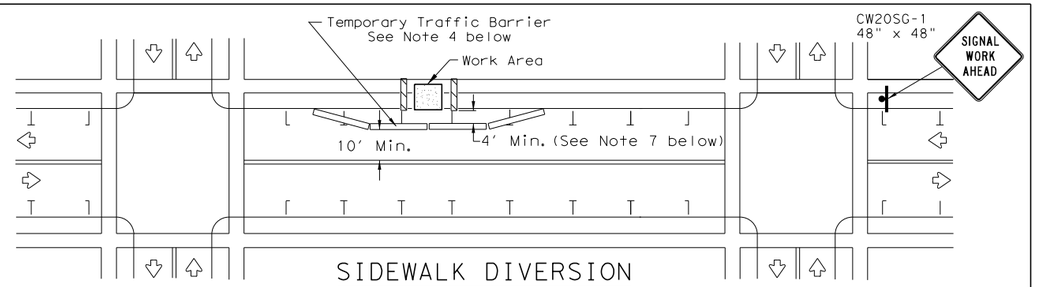
1. Weights used to keep signs from turning over should be sandbags filled with dry, cohesionless material.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects will not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber, such as tire inner tubes, shall not be used.
6. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fastners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

| LEGEND | |
|---|---|
| | Sign |
| | Channelizing Devices |
| | Type 3 Barricade |

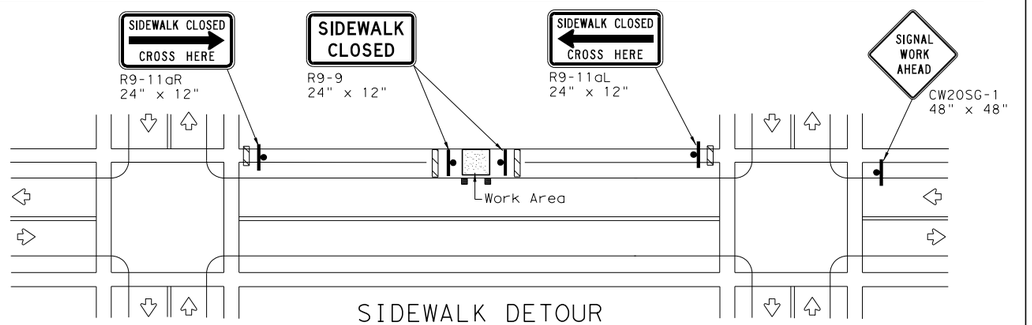
| DEPARTMENTAL MATERIAL SPECIFICATIONS | |
|---|---|
| SIGN FACE MATERIALS | DMS-8300 |
| FLEXIBLE ROLL-UP REFLECTIVE SIGNS | DMS-8310 |

| COLOR | USAGE | SHEETING MATERIAL |
|---|---|---|
| ORANGE | BACKGROUND | TYPE $B_{FL}$ OR TYPE $C_{FL}$ SHEETING |
| WHITE | BACKGROUND | TYPE A SHEETING |
| BLACK | LEGEND & BORDERS | ACRYLIC NON-REFLECTIVE SHEETING |

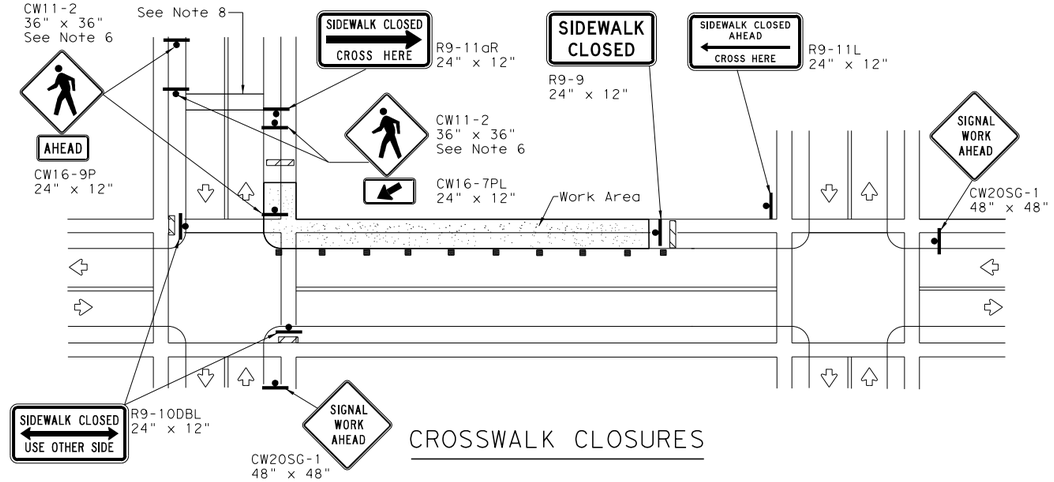
Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be found at the following web address:
http://www.txdot.gov/txdot_library/publications/construction.htm




## SIDEWALK DIVERSION




## SIDEWALK DETOUR




## CROSSWALK CLOSURES

## PEDESTRIAN CONTROL

1. Holes, trenches or other hazards shall be adequately protected by covering, delineating or surrounding the hazard with orange plastic pedestrian fencing or longitudinal channelizing devices, or as directed by the Engineer.
2. "CROSSWALK CLOSURES" as detailed above will require the Engineer's approval prior to installation.
3. R9 series signs shown may be placed on supports detailed on the BC standards or CWZTCD list, or when fabricated from approved lightweight plastic substrates, they may be mounted on top of a plastic drum at or near the location shown.
4. For speeds less than 45 mph longitudinal channelizing devices may be used instead of traffic barriers when approved by the Engineer. Attenuation of blunt ends and installation of water filled devices shall be as per BC(9) and manufacturer's recommendations.
5. Location of devices are for general guidance. Actual device spacing and location must be field adjusted to meet actual conditions.
6. Where pedestrians with visual disabilities normally use the closed sidewalk Detectable Pedestrian Barricades should be used instead of the Type 3 Barricades shown.
7. The width of existing sidewalk should be maintained if practical.
8. Pavement markings for mid-block crosswalks shall be paid for under the appropriate bid items.
9. When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.

SHEET 2 OF 2

Texas Department of Transportation | Traffic Operations Division Standard

# TRAFFIC SIGNAL WORK BARRICADES AND SIGNS

# WZ(BTS-2)-13

| FILE: wzbts-13.dgn | DN: TxDOT | CK: TxDOT | DW: TxDOT | CK: TxDOT |
|---|---|---|---|---|
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| 2-98 10-99 7-13 | DIST | COUNTY | | SHEET NO. |
| 4-98 3-03 | SAT | BEXAR | | 57 |

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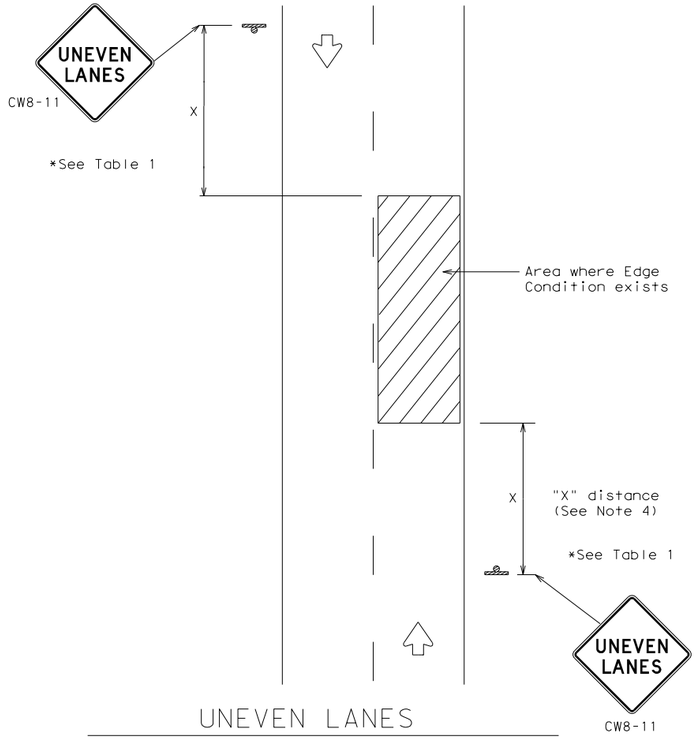
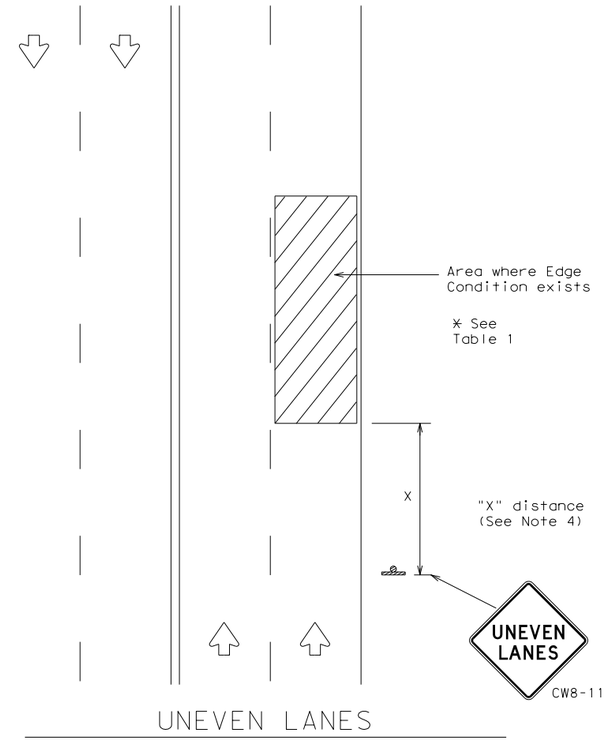
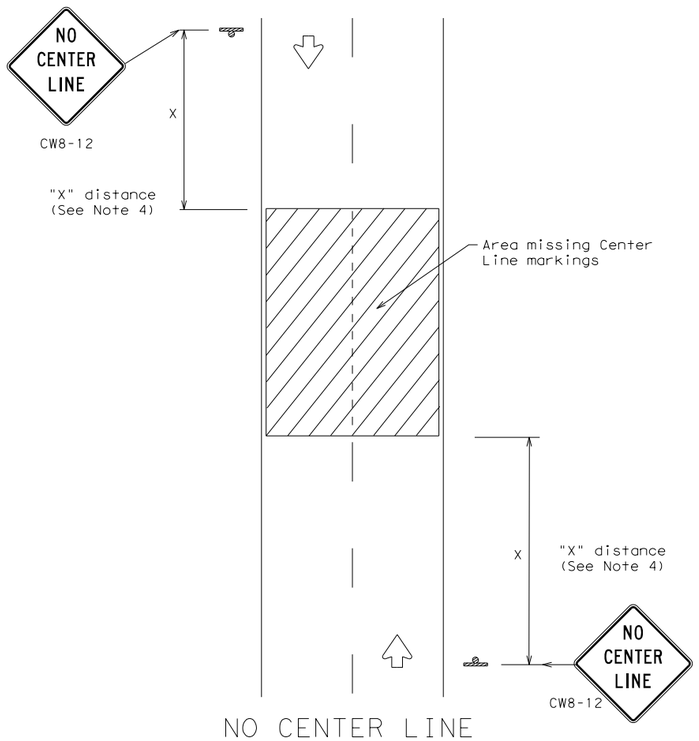


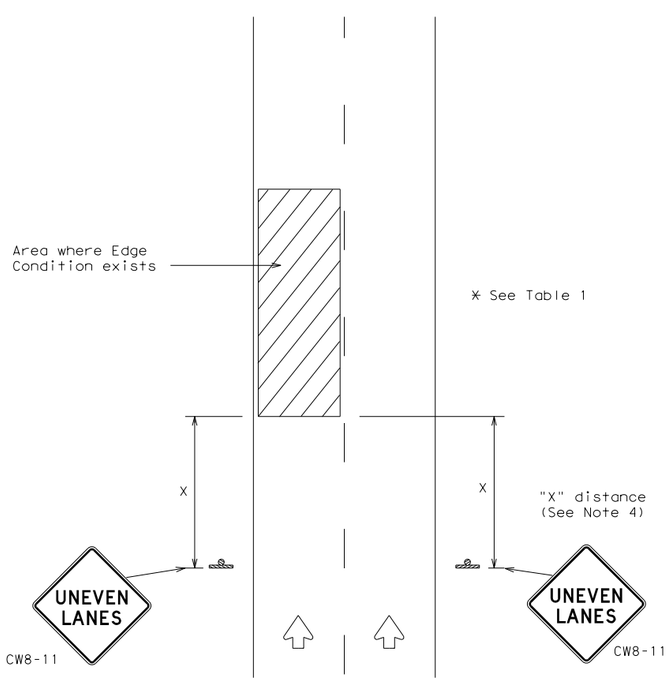

## UNEVEN LANES
## TWO LANE CONVENTIONAL ROAD




## UNEVEN LANES
## FOUR LANE CONVENTIONAL ROAD




## NO CENTER LINE
## TWO LANE CONVENTIONAL ROAD




## UNEVEN LANES
## DIVIDED ROADWAY

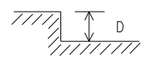
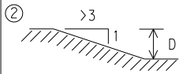
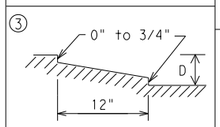
| DEPARTMENTAL MATERIAL SPECIFICATIONS | |
|---|---|
| PERMANENT PREFABRICATED PAVEMENT MARKINGS | DMS-8240 |
| TEMPORARY (REMOVABLE) PREFABRICATED PAVEMENT MARKINGS | DMS-8241 |
| SIGN FACE MATERIALS | DMS-8300 |

| COLOR | USAGE | SHEETING MATERIAL |
|---|---|---|
| ORANGE | BACKGROUND | TYPE $B_{FL}$ OR TYPE $C_{FL}$ SHEETING |
| BLACK | LEGEND & BORDERS | ACRYLIC NON-REFLECTIVE SHEETING |

## GENERAL NOTES

1. If spalling or holes occur, ROUGH ROAD (CW8-8) signs should be placed in advance of the condition and be repeated every two miles where the condition persists.
2. UNEVEN LANES (CW8-11) signs shall be installed in advance of the condition and repeated every mile. Signs installed along the uneven lane condition may be supplemented with the NEXT XX MILES (CW7-3aP) plaque or Advisory Speed (CW13-1P) plaque.
3. NO CENTER LINE (CW8-12) signs and temporary pavement markings as per the WZ(STPM) standard shall be installed if yellow centerlines separating two way traffic are obscured or obliterated. Repeat NO CENTER LINE signs every two miles where the center line markings are not in place. The signs and markings shall remain in place until permanent pavement markings are installed.
4. Signs shall be spaced at the distances recommended as per BC standards.
5. Additional signs may be required as directed by the Engineer. Signs shall remain in place until final surface is applied. Signs shall be considered subsidiary to Item 502 "BARRICADES, SIGNS AND TRAFFIC HANDLING."
6. Signs shall be fabricated and mounted on supports as shown on the BC standards and/or listed on the "Compliant Work Zone Traffic Control Devices" list.
7. Short term markings shall not be used to simulate edge lines.
8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition.

**TABLE 1**

| Edge Condition | Edge Height (D) | * Warning Devices |
|---|---|---|
| ①   | Less than or equal to: 1¼" (maximum-planing) 1½" (typical-overlay) | Sign: CW8-11 |
| | Distance "D" may be a maximum of 1 1/4 " for planing operations and 2" for overlay operations if uneven lanes with edge condition 1 are open to traffic after work operations cease. | |
| ②   | Less than or equal to 3" | Sign: CW8-11 |
| ③   Notched Wedge Joint | Distance "D" may be a maximum of 3" if uneven lanes with edge condition 2 or 3 are open to traffic after work operations cease. Uneven lanes should not be open to traffic when "D" is greater than 3". | |

TRAFFIC CONTROL DURING PLANING, OVERLAY AND LEVELING OPERATIONS ARE SHOWN ELSEWHERE IN THE PLANS.

| MINIMUM WARNING SIGN SIZE | |
|---|---|
| Conventional roads | 36" x 36" |
| Freeways/expressways, divided roadways | 48" x 48" |

Texas Department of Transportation

Traffic Operations Division Standard

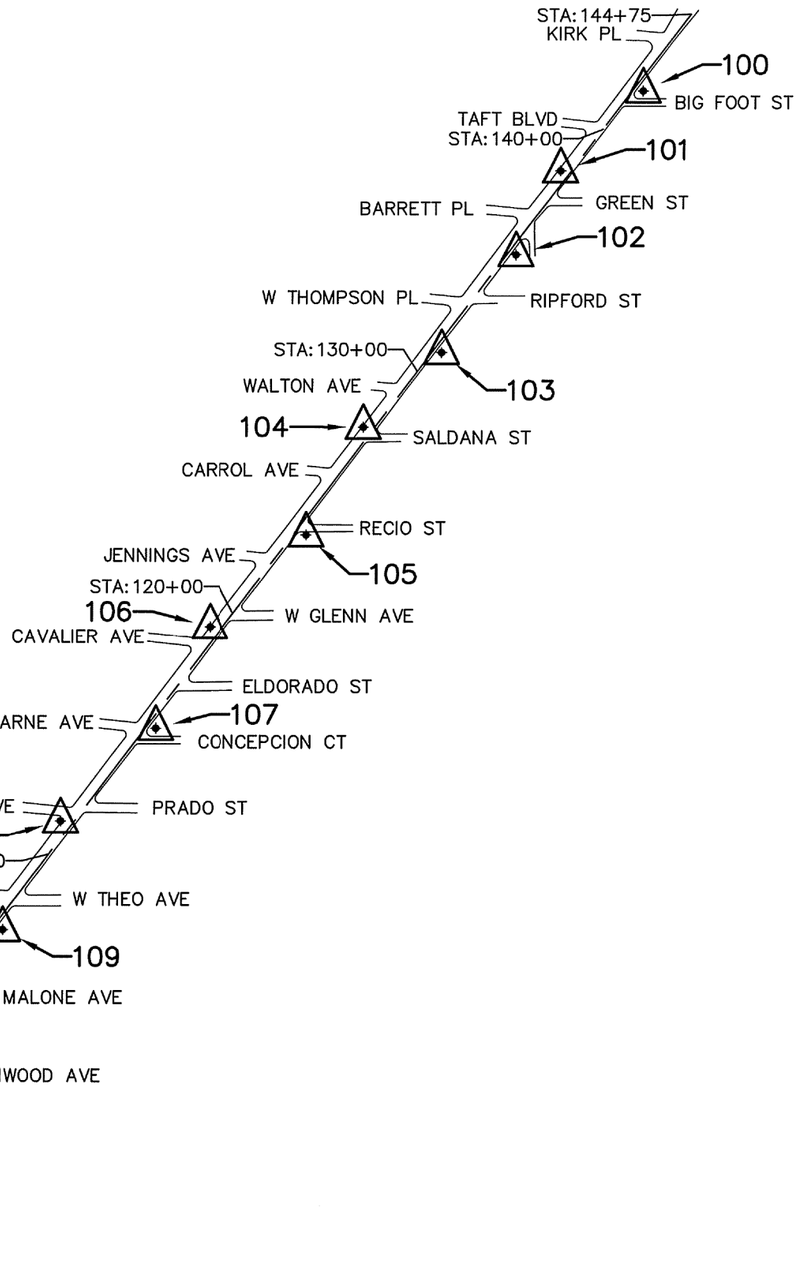
# SIGNING FOR UNEVEN LANES

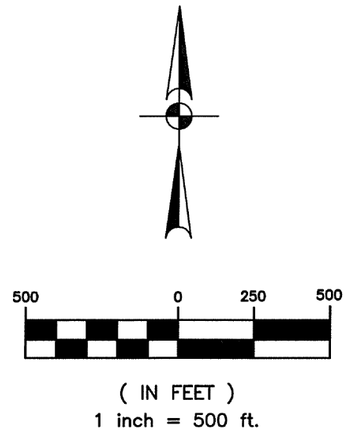
## WZ(UL)-13

| FILE: wzul-13.dgn | DN: TxDOT | CK: TxDOT | DW: TxDOT | CK: TxDOT |
|---|---|---|---|---|
| ©TxDOT April 1992 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| 8-95 2-98 7-13 | DIST | COUNTY | | SHEET NO. |
| 1-97 3-03 | SAT | BEXAR | | 58 |

112

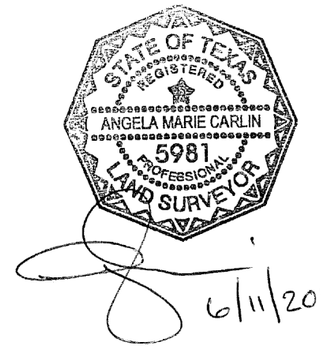
DATE: 4/10/2019 8:23:46 AM
FILE: P:\111\35\08\design\Civil\Standards\TCP\wzul-13 (1).dgn




NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS S0150014, Z0150603 AND Z0152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.




LEGEND

| | |
|---|---|
| △ | CONTROL POINT |
| — - — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# NOGALITOS ST (LOOP 353)

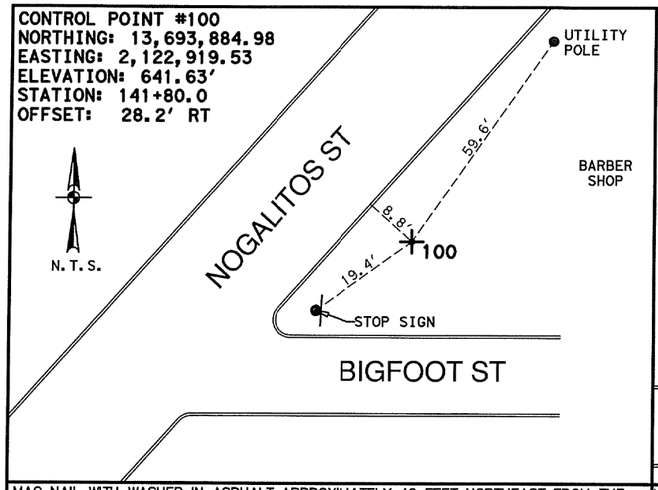
## HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 1 OF 3

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK CON: | 6 | TEXAS | | | | SL 353 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 59 |

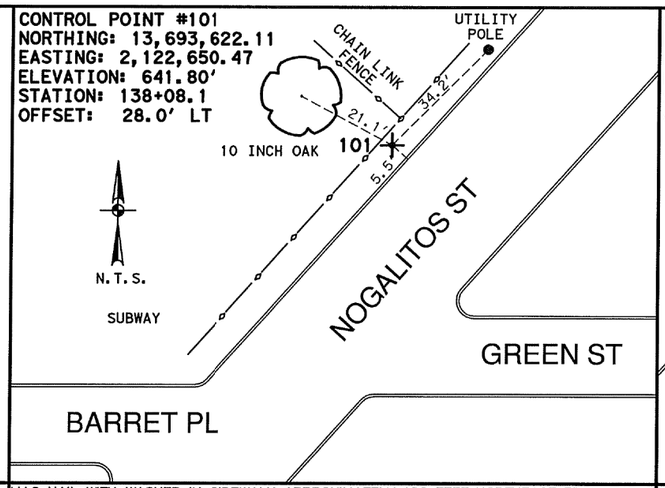
File: N:\Transpo\Civil\11135-01\dwg\CP - 11135-07.dwg

**CONTROL POINT #100**
NORTHING: 13,693,884.98
EASTING: 2,122,919.53
ELEVATION: 641.63'
STATION: 141+80.0
OFFSET: 28.2' RT



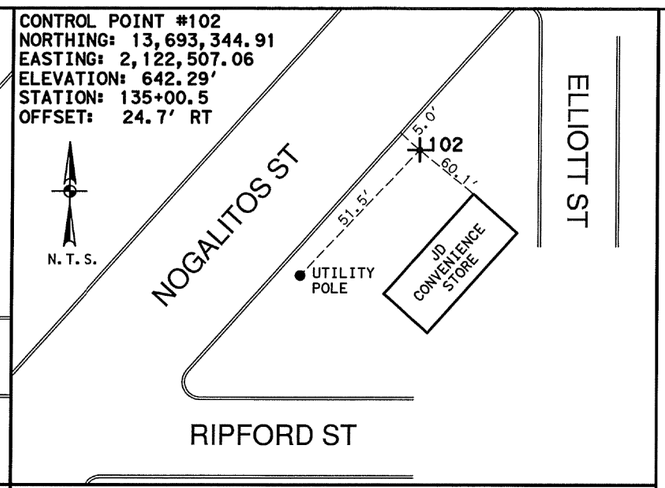

MAG NAIL WITH WASHER IN ASPHALT APPROXIMATELY 40 FEET NORTHEAST FROM THE INTERSECTION OF NOGALITOS STREET AND BIGFOOT STREET, ON THE EAST SIDE OF NOGALITOS STREET

**CONTROL POINT #101**
NORTHING: 13,693,622.11
EASTING: 2,122,650.47
ELEVATION: 641.80'
STATION: 138+08.1
OFFSET: 28.0' LT



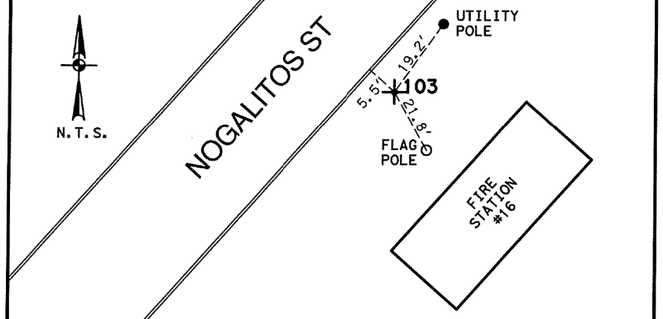

MAG NAIL WITH WASHER IN SIDEWALK APPROXIMATELY 180 FEET NORTHEAST FROM THE INTERSECTION OF NOGALITOS STREET AND BARRET PLACE, ON THE WEST SIDE OF NOGALITOS STREET

**CONTROL POINT #102**
NORTHING: 13,693,344.91
EASTING: 2,122,507.06
ELEVATION: 642.29'
STATION: 135+00.5
OFFSET: 24.7' RT



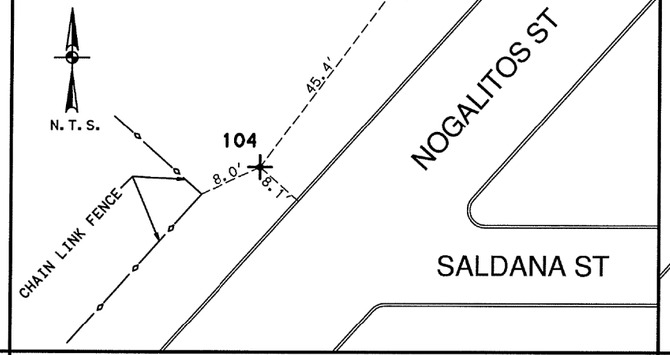

MAG NAIL WITH WASHER IN ASPHALT APPROXIMATELY 90 FEET NORTHEAST OF THE INTERSECTION OF NOGALITOS STREET AND RIPFORD STREET, ON THE EAST SIDE OF NOGALITOS STREET

**CONTROL POINT #103**
NORTHING: 13,693,022.45
EASTING: 2,122,264.61
ELEVATION: 642.82'
STATION: 130+97.1
OFFSET: 25.6' LT



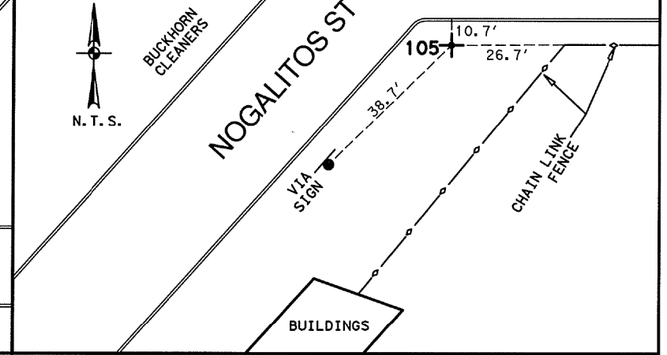

MAG NAIL WITH WASHER IN SIDEWALK APPROXIMATELY 230 FEET SOUTHWEST FROM THE INTERSECTION OF NOGALITOS STREET AND RIPFORD STREET, ON THE EAST SIDE OF NOGALITOS STREET

**CONTROL POINT #104**
NORTHING: 13,692,776.24
EASTING: 2,122,008.60
ELEVATION: 642.76'
STATION: 127+46.3
OFFSET: 30.2' LT



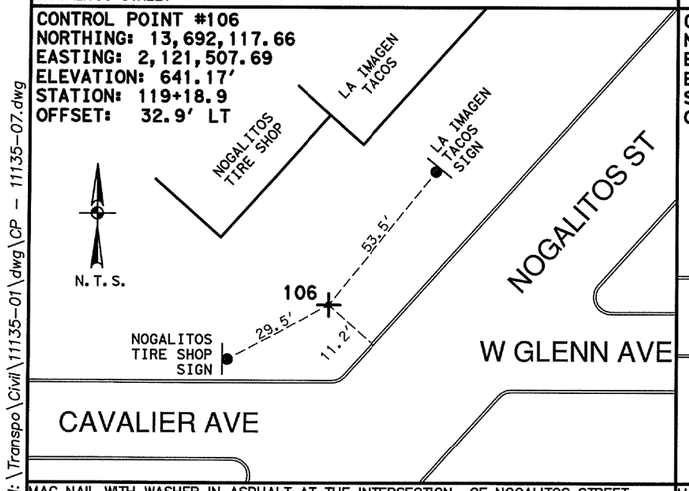

MAG NAIL WITH WASHER IN ASPHALT AT THE INTERSECTION OF NOGALITOS STREET AND SALDANA STREET, ON THE WEST SIDE OF NOGALITOS STREET

**CONTROL POINT #105**
NORTHING: 13,692,421.48
EASTING: 2,121,821.77
ELEVATION: 642.18'
STATION: 123+50.6
OFFSET: 34.5' RT



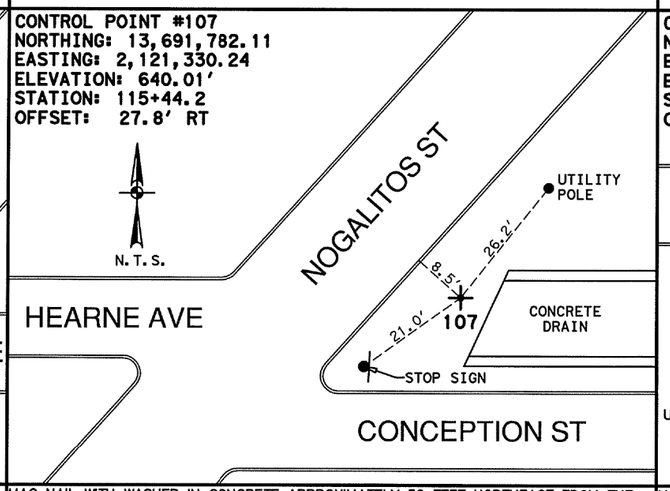

MAG NAIL WITH WASHER IN ASPHALT AT THE INTERSECTION OF NOGALITOS STREET AND RECIO STREET, ON THE EAST SIDE OF NOGALITOS STREET

**CONTROL POINT #106**
NORTHING: 13,692,117.66
EASTING: 2,121,507.69
ELEVATION: 641.17'
STATION: 119+18.9
OFFSET: 32.9' LT



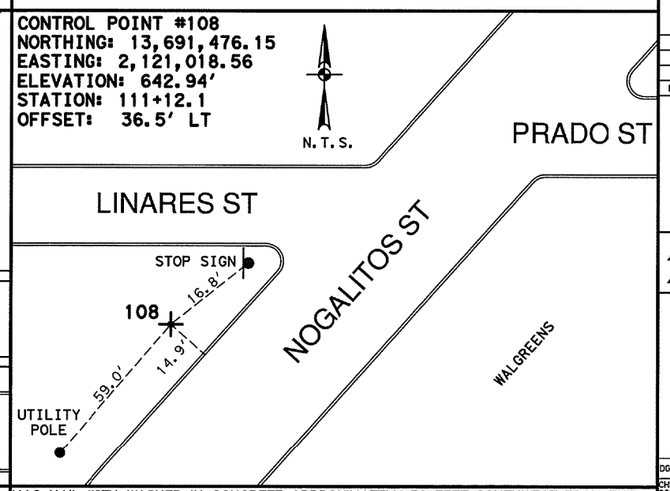

MAG NAIL WITH WASHER IN ASPHALT AT THE INTERSECTION OF NOGALITOS STREET AND CAVALIER AVENUE, ON THE WEST SIDE OF NOGALITOS STREET

**CONTROL POINT #107**
NORTHING: 13,691,782.11
EASTING: 2,121,330.24
ELEVATION: 640.01'
STATION: 115+44.2
OFFSET: 27.8' RT




MAG NAIL WITH WASHER IN CONCRETE APPROXIMATELY 50 FEET NORTHEAST FROM THE INTERSECTION OF NOGALITOS ST AND CONCEPTION ST, ON THE EAST SIDE OF NOGALITOS ST

**CONTROL POINT #108**
NORTHING: 13,691,476.15
EASTING: 2,121,018.56
ELEVATION: 642.94'
STATION: 111+12.1
OFFSET: 36.5' LT




MAG NAIL WITH WASHER IN CONCRETE APPROXIMATELY 50 FEET SOUTHWEST FROM THE INTERSECTION OF NOGALITOS ST AND LINARES ST

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS S0150014, Z0150603 AND Z0152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.

STATE OF TEXAS
REGISTERED
ANGELA MARIE CARLIN
5981
PROFESSIONAL
LAND SURVEYOR

6/11/2018

LEGEND

| | |
|---|---|
| + | CONTROL POINT |
| — — — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




# NOGALITOS ST (LOOP 353)
# HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 2 OF 3

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SL 353 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 60 |

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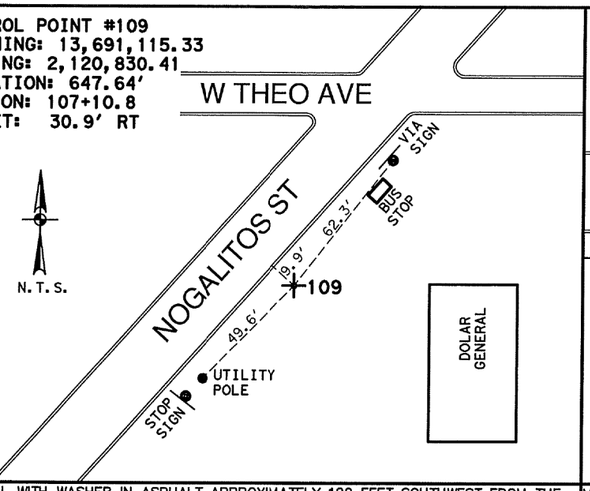
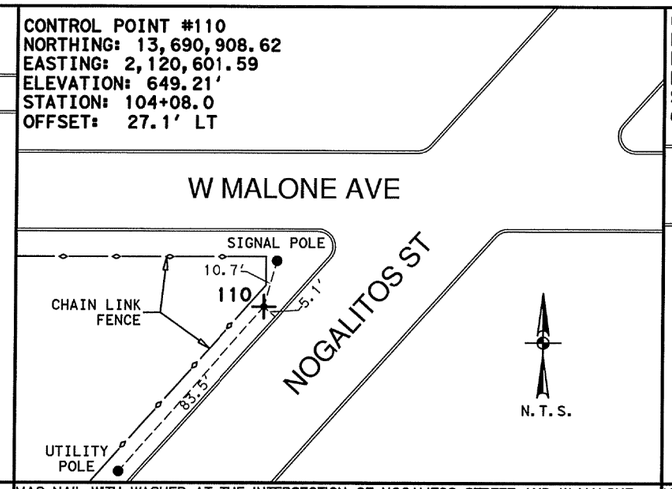
CONTROL POINT #109
NORTHING: 13,691,115.33
EASTING: 2,120,830.41
ELEVATION: 647.64'
STATION: 107+10.8
OFFSET: 30.9' RT



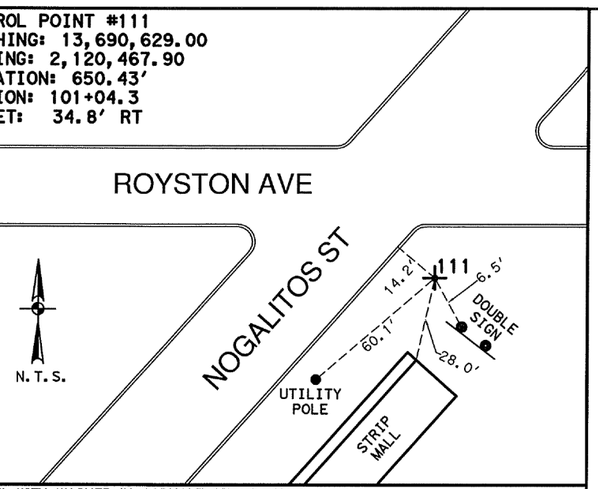

MAG NAIL WITH WASHER IN ASPHALT APPROXIMATELY 120 FEET SOUTHWEST FROM THE INTERSECTION OF NOGALITOS STREET AND THE W THEO AVENUE

CONTROL POINT #110
NORTHING: 13,690,908.62
EASTING: 2,120,601.59
ELEVATION: 649.21'
STATION: 104+08.0
OFFSET: 27.1' LT




MAG NAIL WITH WASHER AT THE INTERSECTION OF NOGALITOS STREET AND W MALONE AVENUE

CONTROL POINT #111
NORTHING: 13,690,629.00
EASTING: 2,120,467.90
ELEVATION: 650.43'
STATION: 101+04.3
OFFSET: 34.8' RT




MAG NAIL WITH WASHER IN ASPHALT AT THE INTERSECTION OF NOGALITOS STREET AND ROYSTON AVENUE

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS S0150014, Z0150603 AND Z0152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.

STATE OF TEXAS
REGISTERED
ANGELA MARIE CARLIN
5981
PROFESSIONAL
LAND SURVEYOR

6/11/2018

LEGEND

| | |
|---|---|
| + | CONTROL POINT |
| — — — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



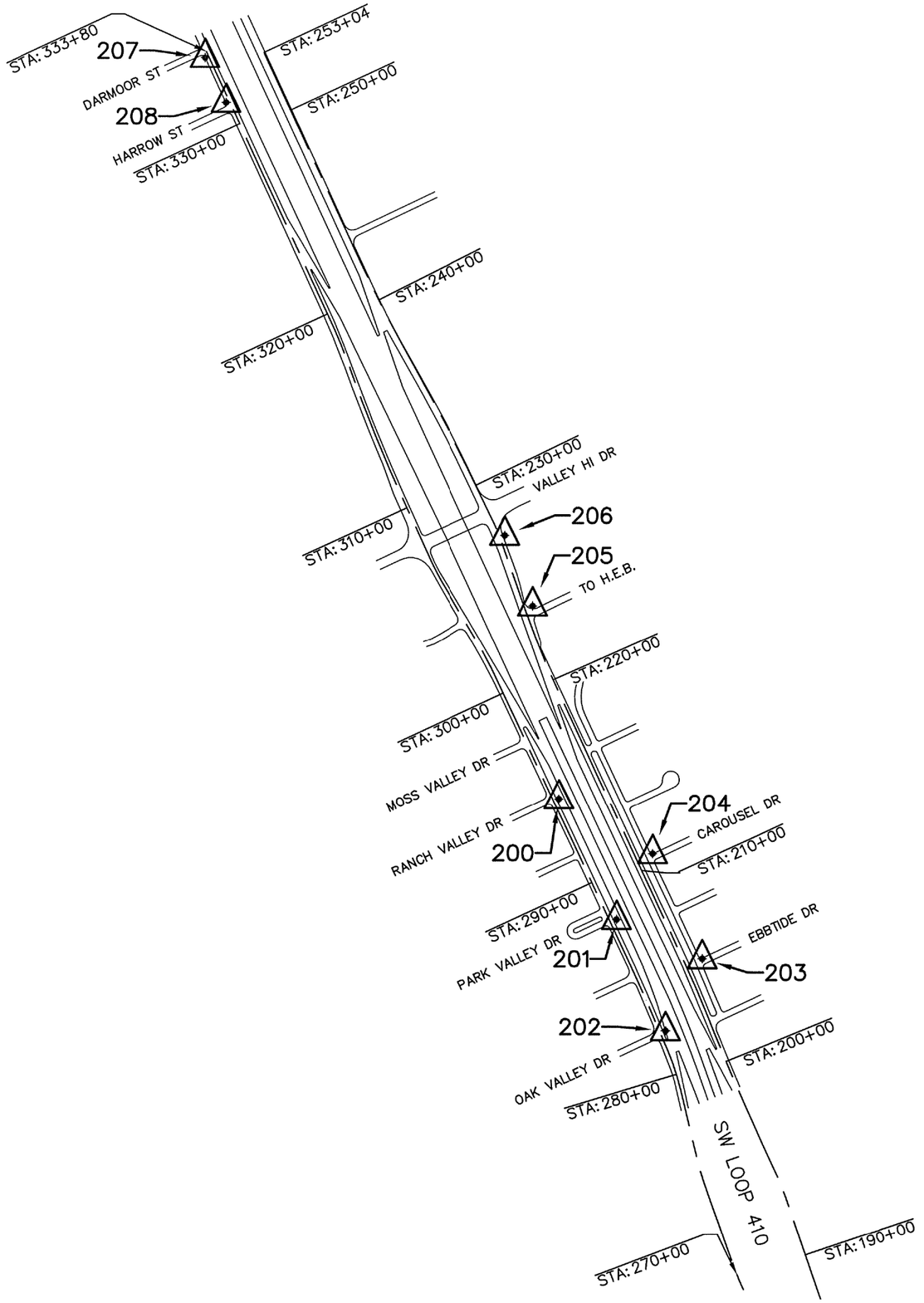
NOGALITOS ST
(LOOP 353)

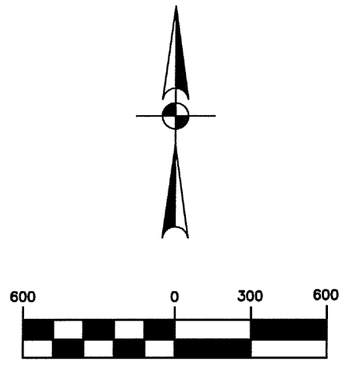
# HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 3 OF 3

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | SL 353 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | 15 | BEXAR | 0017 | 10 | 280 | 61 |

File: N:\Transpo\Civil\11135-01\dwg\CP - 11135-07.dwg




( IN FEET )
1 inch = 600 ft.

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS SO150014, Z0150603 AND Z0152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.


LEGEND

| | |
|---|---|
| △ | CONTROL POINT |
| — - — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SW LOOP 410

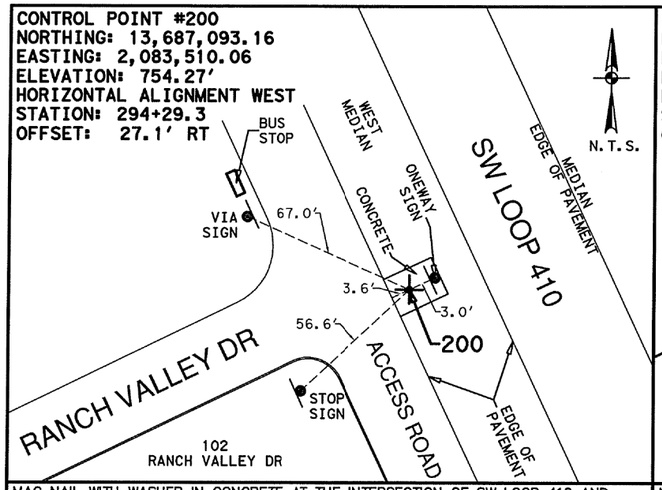
# HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 1 OF 2

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | IH 410 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK ENG: | 15 | BEXAR | 0017 | 10 | 280 | 62 |

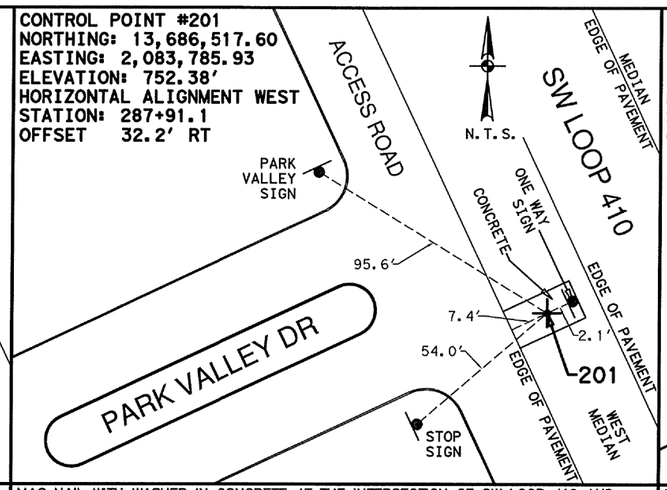
File: N:\Transpo\Civil\11135-01\dwg\CP - 11135-07.dwg

**CONTROL POINT #200**
**NORTHING: 13,687,093.16**
**EASTING: 2,083,510.06**
**ELEVATION: 754.27'**
**HORIZONTAL ALIGNMENT WEST**
**STATION: 294+29.3**
**OFFSET: 27.1' RT**



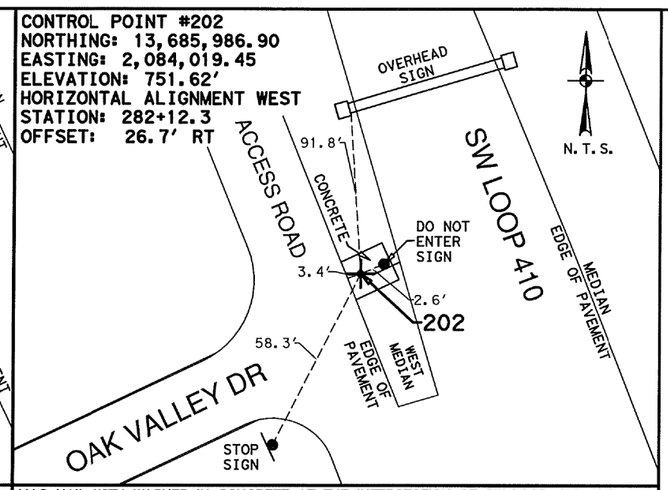

MAG NAIL WITH WASHER IN CONCRETE AT THE INTERSECTION OF SW LOOP 410 AND RANCH VALLEY DRIVE

**CONTROL POINT #201**
**NORTHING: 13,686,517.60**
**EASTING: 2,083,785.93**
**ELEVATION: 752.38'**
**HORIZONTAL ALIGNMENT WEST**
**STATION: 287+91.1**
**OFFSET 32.2' RT**



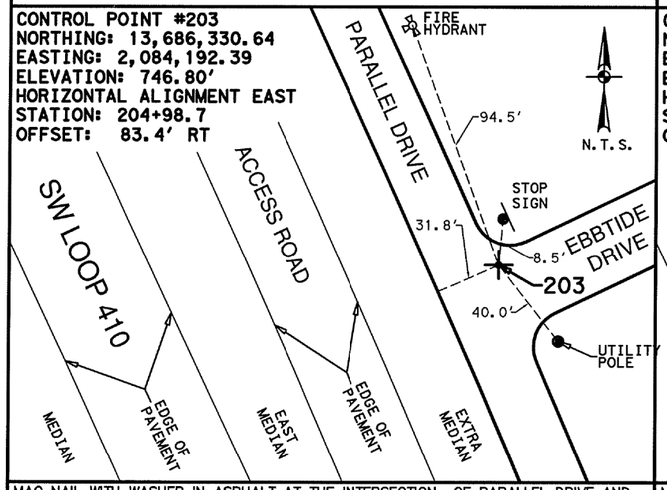

MAG NAIL WITH WASHER IN CONCRETE AT THE INTERSECTION OF SW LOOP 410 AND PARK VALLEY DRIVE

**CONTROL POINT #202**
**NORTHING: 13,685,986.90**
**EASTING: 2,084,019.45**
**ELEVATION: 751.62'**
**HORIZONTAL ALIGNMENT WEST**
**STATION: 282+12.3**
**OFFSET: 26.7' RT**



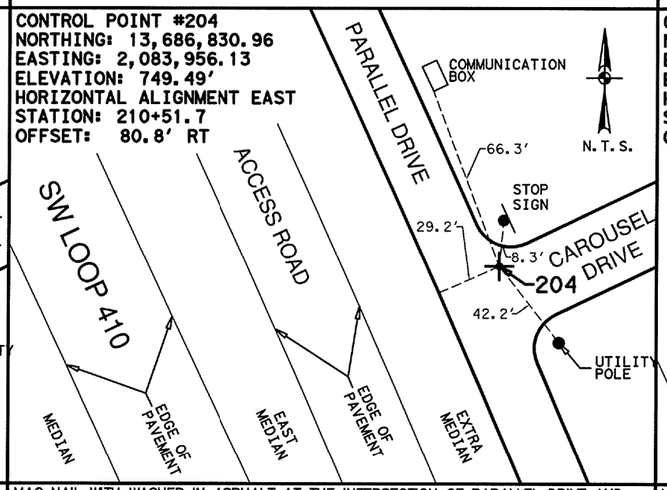

MAG NAIL WITH WASHER IN CONCRETE AT THE INTERSECTION OF SW LOOP 410 AND OAK VALLEY DRIVE

**CONTROL POINT #203**
**NORTHING: 13,686,330.64**
**EASTING: 2,084,192.39**
**ELEVATION: 746.80'**
**HORIZONTAL ALIGNMENT EAST**
**STATION: 204+98.7**
**OFFSET: 83.4' RT**



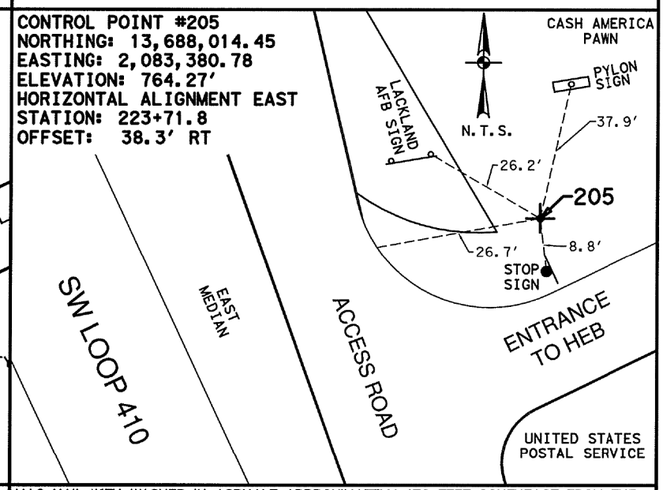

MAG NAIL WITH WASHER IN ASPHALT AT THE INTERSECTION OF PARALLEL DRIVE AND EBBTIDE DRIVE

**CONTROL POINT #204**
**NORTHING: 13,686,830.96**
**EASTING: 2,083,956.13**
**ELEVATION: 749.49'**
**HORIZONTAL ALIGNMENT EAST**
**STATION: 210+51.7**
**OFFSET: 80.8' RT**



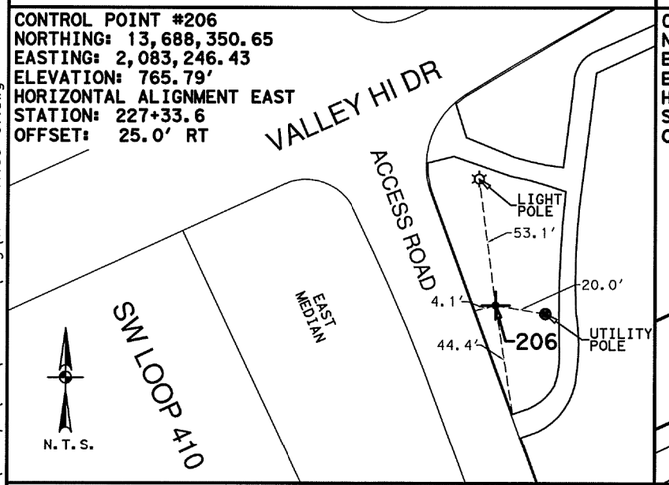

MAG NAIL WITH WASHER IN ASPHALT AT THE INTERSECTION OF PARALLEL DRIVE AND CAROUSEL DRIVE

**CONTROL POINT #205**
**NORTHING: 13,688,014.45**
**EASTING: 2,083,380.78**
**ELEVATION: 764.27'**
**HORIZONTAL ALIGNMENT EAST**
**STATION: 223+71.8**
**OFFSET: 38.3' RT**



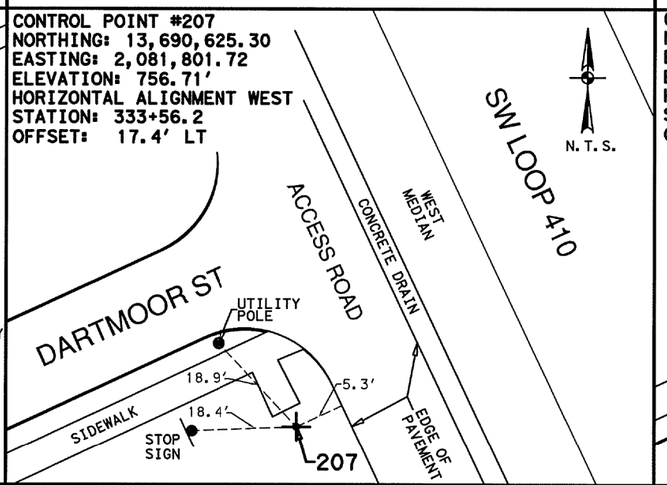

MAG NAIL WITH WASHER IN ASPHALT APPROXIMATELY 470 FEET SOUTHEAST FROM THE INTERSECTION OF SW LOOP 410 AND VALLEY HI DRIVE

**CONTROL POINT #206**
**NORTHING: 13,688,350.65**
**EASTING: 2,083,246.43**
**ELEVATION: 765.79'**
**HORIZONTAL ALIGNMENT EAST**
**STATION: 227+33.6**
**OFFSET: 25.0' RT**



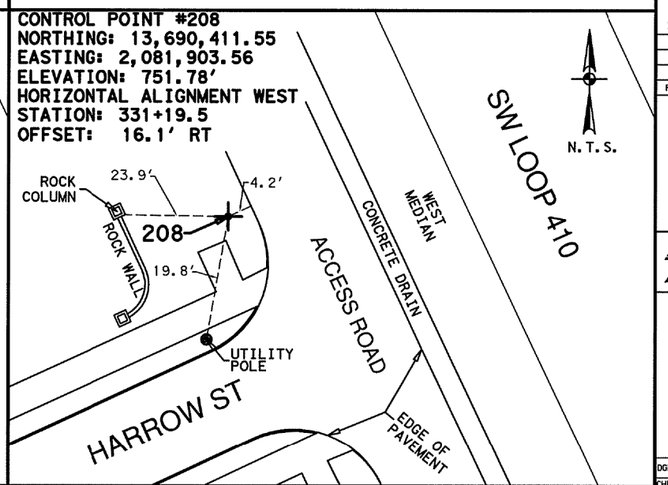

1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", APPROXIMATELY 120 FEET SOUTHEAST FROM THE INTERSECTION OF SW LOOP 410 AND VALLEY HI DRIVE

**CONTROL POINT #207**
**NORTHING: 13,690,625.30**
**EASTING: 2,081,801.72**
**ELEVATION: 756.71'**
**HORIZONTAL ALIGNMENT WEST**
**STATION: 333+56.2**
**OFFSET: 17.4' LT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", AT THE SOUTHWEST CORNER OF THE INTERSECTION OF SW LOOP 410 AND DARTMOOR STREET

**CONTROL POINT #208**
**NORTHING: 13,690,411.55**
**EASTING: 2,081,903.56**
**ELEVATION: 751.78'**
**HORIZONTAL ALIGNMENT WEST**
**STATION: 331+19.5**
**OFFSET: 16.1' RT**




1/2 INCH IRON ROD WITH RED CAP MARKED "TRAVERSE", AT THE INTERSECTION OF SW LOOP 410 AND HARROW STREET

NOTES:
1. COORDINATES SHOWN ARE DISPLAYED AS SURFACE VALUES IN US SURVEY FEET, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NA 2011), EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, WITH A SURFACE ADJUSTMENT FACTOR OF 1.00017 APPLIED, DERIVED BY AVERAGING MULTIPLE RTK OBSERVATIONS, AND VERIFIED BY OBSERVING TxDOT MONUMENTS S0150014, Z0150603 AND Z0152109.

2. ELEVATIONS SHOWN ARE BASED ON NAVD88 (GEOID 12A), OBTAINED BY RTK METHODS AND FINALIZED BY BALANCING A CLOSED, DOUBLE RUN LEVEL LOOP.

STATE OF TEXAS
REGISTERED
ANGELA MARIE CARLIN
5981
PROFESSIONAL
LAND SURVEYOR

07/13/2018

LEGEND

| | |
|---|---|
| + | CONTROL POINT |
| — — — | ALIGNMENT |
| N.T.S. | NOT TO SCALE |
| AVE | AVENUE |
| BLVD | BOULEVARD |
| DR | DRIVE |
| HWY | HIGHWAY |
| IH | INTERSTATE HIGHWAY |
| PL | PLACE |
| RD | ROAD |
| SH | STATE HIGHWAY |
| ST | STREET |
| US | U.S. HIGHWAY |

SCALE: NOT TO SCALE

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




**SW LOOP 410**

# HORIZONTAL AND VERTICAL CONTROL SHEETS

SHEET 2 OF 2

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK: | 6 | TEXAS | | | | IH 410 |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK: | 15 | BEXAR | 0017 | 10 | 280 | 63 |

File: N:\Transpo\Civil\11135-01\dwg\CP - 11135-07.dwg

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\1113508_HALN_Data01.dgn

# NOGALITOS HORIZONTAL ALIGNMENT

Beginning chain NOGALITOS description

Point RDCL762 N 13,690,566.7610 E 2,120,377.2875 Sta 100+00.00

Course from RDCL762 to RDCL761 N 37° 04′ 12.83" E Dist 4,475.0000

Point RDCL761 N 13,694,137.3512 E 2,123,074.7884 Sta 144+75.00

Ending chain NOGALITOS description

# SW LOOP 410 HORIZONTAL ALIGNMENT

Beginning chain SWLOOP410_1 description

Point RDCL1291 N 13,683,952.7590 E 2,084,970.2818 Sta 180+00.00

Course from RDCL1291 to PC RDCL129_3 N 19° 11′ 38.51" W Dist 238.6859

Curve Data

| | | | | | | |
|---|---|---|---|---|---|---|
| Curve RDCL129_3 | | | | | | |
| P.I. Station | 183+04.51 | N | 13,684,240.3460 | E | 2,084,870.1670 | |
| Delta = | 6° 16′ 47.66" | (RT) | | | | |
| Degree = | 4° 46′ 28.73" | | | | | |
| Tangent = | 65.8289 | | | | | |
| Length = | 131.5260 | | | | | |
| Radius = | 1,200.0000 | | | | | |
| External = | 1.8042 | | | | | |
| Long Chord = | 131.4602 | | | | | |
| Mid. Ord. = | 1.8015 | | | | | |
| P.C. Station | 182+38.69 | N | 13,684,178.1765 | E | 2,084,891.8095 | |
| P.T. Station | 183+70.21 | N | 13,684,304.5099 | E | 2,084,855.4549 | |
| C.C. | | N | 13,684,572.6984 | E | 2,086,025.1022 | |
| Back = N | 19° 11′ 38.51" W | | | | | |
| Ahead = N | 12° 54′ 50.85" W | | | | | |
| Chord Bear = N | 16° 03′ 14.68" W | | | | | |

Course from PT RDCL129_3 to PC RDCL129_6 N 12° 54′ 50.85" W Dist 282.5471

Curve Data

| | | | | | | |
|---|---|---|---|---|---|---|
| Curve RDCL129_6 | | | | | | |
| P.I. Station | 187+03.76 | N | 13,684,629.6257 | E | 2,084,780.9091 | |
| Delta = | 5° 50′ 23.10" | (LT) | | | | |
| Degree = | 5° 43′ 46.48" | | | | | |
| Tangent = | 51.0056 | | | | | |
| Length = | 101.9229 | | | | | |
| Radius = | 1,000.0000 | | | | | |
| External = | 1.2999 | | | | | |
| Long Chord = | 101.8788 | | | | | |
| Mid. Ord. = | 1.2983 | | | | | |
| P.C. Station | 186+52.76 | N | 13,684,579.9102 | E | 2,084,792.3083 | |
| P.T. Station | 187+54.68 | N | 13,684,677.9233 | E | 2,084,764.5106 | |
| C.C. | | N | 13,684,356.4198 | E | 2,083,817.6022 | |
| Back = N | 12° 54′ 50.85" W | | | | | |
| Ahead = N | 18° 45′ 13.95" W | | | | | |
| Chord Bear = N | 15° 50′ 02.40" W | | | | | |

Course from PT RDCL129_6 to PC RDCL129_9 N 18° 45′ 13.95" W Dist 544.3822

Curve Data

| | | | | | | |
|---|---|---|---|---|---|---|
| Curve RDCL129_9 | | | | | | |
| P.I. Station | 193+51.94 | N | 13,685,243.4690 | E | 2,084,572.4910 | |
| Delta = | 6° 03′ 11.28" | (LT) | | | | |
| Degree = | 5° 43′ 46.48" | | | | | |
| Tangent = | 52.8727 | | | | | |
| Length = | 105.6471 | | | | | |
| Radius = | 1,000.0000 | | | | | |
| External = | 1.3968 | | | | | |
| Long Chord = | 105.5980 | | | | | |
| Mid. Ord. = | 1.3948 | | | | | |
| P.C. Station | 192+99.06 | N | 13,685,193.4034 | E | 2,084,589.4898 | |
| P.T. Station | 194+04.71 | N | 13,685,291.4630 | E | 2,084,550.3076 | |
| C.C. | | N | 13,684,871.8999 | E | 2,083,642.5814 | |
| Back = N | 18° 45′ 13.95" W | | | | | |
| Ahead = N | 24° 48′ 25.23" W | | | | | |
| Chord Bear = N | 21° 46′ 49.59" W | | | | | |

Course from PT RDCL129_9 to PC RDCL129_12 N 24° 48′ 25.23" W Dist 174.9434

Curve Data

| | | | | | | |
|---|---|---|---|---|---|---|
| Curve RDCL129_12 | | | | | | |
| P.I. Station | 198+60.07 | N | 13,685,704.8003 | E | 2,084,359.2575 | |
| Delta = | 3° 12′ 44.77" | (RT) | | | | |
| Degree = | 0° 34′ 22.65" | | | | | |
| Tangent = | 280.4113 | | | | | |
| Length = | 560.6757 | | | | | |
| Radius = | 10,000.0000 | | | | | |
| External = | 3.9308 | | | | | |
| Long Chord = | 560.6022 | | | | | |
| Mid. Ord. = | 3.9292 | | | | | |
| P.C. Station | 195+79.65 | N | 13,685,450.2636 | E | 2,084,476.9078 | |
| P.T. Station | 201+40.33 | N | 13,685,965.5299 | E | 2,084,256.0559 | |
| C.C. | | N | 13,689,645.8950 | E | 2,093,554.1693 | |
| Back = N | 24° 48′ 25.23" W | | | | | |
| Ahead = N | 21° 35′ 40.47" W | | | | | |
| Chord Bear = N | 23° 12′ 02.85" W | | | | | |

Course from PT RDCL129_12 to PC RDCL129_15 N 21° 35′ 40.47" W Dist 73.5651

Curve Data

| | | | | | | |
|---|---|---|---|---|---|---|
| Curve RDCL129_15 | | | | | | |
| P.I. Station | 203+63.08 | N | 13,686,172.6464 | E | 2,084,174.0754 | |
| Delta = | 3° 25′ 05.07" | (LT) | | | | |
| Degree = | 1° 08′ 45.30" | | | | | |
| Tangent = | 149.1859 | | | | | |
| Length = | 298.2834 | | | | | |
| Radius = | 5,000.0000 | | | | | |
| External = | 2.2251 | | | | | |
| Long Chord = | 298.2391 | | | | | |
| Mid. Ord. = | 2.2242 | | | | | |
| P.C. Station | 202+13.90 | N | 13,686,033.9316 | E | 2,084,228.9813 | |
| P.T. Station | 205+12.18 | N | 13,686,307.8408 | E | 2,084,110.9969 | |
| C.C. | | N | 13,684,193.7491 | E | 2,079,579.9246 | |
| Back = N | 21° 35′ 40.47" W | | | | | |
| Ahead = N | 25° 00′ 45.54" W | | | | | |
| Chord Bear = N | 23° 18′ 13.00" W | | | | | |

Course from PT RDCL129_15 to PC RDCL129_18 N 25° 00′ 45.54" W Dist 1,416.2756

Curve Data

| | | | | | | |
|---|---|---|---|---|---|---|
| Curve RDCL129_18 | | | | | | |
| P.I. Station | 221+37.83 | N | 13,687,781.0256 | E | 2,083,423.6435 | |
| Delta = | 5° 19′ 39.92" | (RT) | | | | |
| Degree = | 1° 16′ 23.66" | | | | | |
| Tangent = | 209.3714 | | | | | |
| Length = | 418.4410 | | | | | |
| Radius = | 4,500.0000 | | | | | |
| External = | 4.8681 | | | | | |
| Long Chord = | 418.2902 | | | | | |
| Mid. Ord. = | 4.8628 | | | | | |
| P.C. Station | 219+28.45 | N | 13,687,591.2902 | E | 2,083,512.1696 | |
| P.T. Station | 223+46.90 | N | 13,687,978.1612 | E | 2,083,353.1174 | |
| C.C. | | N | 13,689,493.9728 | E | 2,087,590.1346 | |
| Back = N | 25° 00′ 45.54" W | | | | | |
| Ahead = N | 19° 41′ 05.62" W | | | | | |
| Chord Bear = N | 22° 20′ 55.58" W | | | | | |

Course from PT RDCL129_18 to PC RDCL129_21 N 19° 41′ 05.62" W Dist 398.7789

Curve Data

| | | | | | | |
|---|---|---|---|---|---|---|
| Curve RDCL129_21 | | | | | | |
| P.I. Station | 227+73.56 | N | 13,688,379.8952 | E | 2,083,209.3953 | |
| Delta = | 6° 23′ 06.95" | (LT) | | | | |
| Degree = | 11° 27′ 32.96" | | | | | |
| Tangent = | 27.8898 | | | | | |
| Length = | 55.7219 | | | | | |
| Radius = | 500.0000 | | | | | |
| External = | 0.7772 | | | | | |
| Long Chord = | 55.6931 | | | | | |
| Mid. Ord. = | 0.7760 | | | | | |
| P.C. Station | 227+45.67 | N | 13,688,353.6352 | E | 2,083,218.7899 | |
| P.T. Station | 228+01.40 | N | 13,688,404.9474 | E | 2,083,197.1385 | |
| C.C. | | N | 13,688,185.2117 | E | 2,082,748.0102 | |
| Back = N | 19° 41′ 05.62" W | | | | | |
| Ahead = N | 26° 04′ 12.57" W | | | | | |
| Chord Bear = N | 22° 52′ 39.09" W | | | | | |

Course from PT RDCL129_21 to PC RDCL129_24 N 26° 04′ 12.57" W Dist 323.7827

Curve Data

| | | | | | | |
|---|---|---|---|---|---|---|
| Curve RDCL129_24 | | | | | | |
| P.I. Station | 232+82.92 | N | 13,688,837.4828 | E | 2,082,985.5208 | |
| Delta = | 3° 00′ 43.25" | (LT) | | | | |
| Degree = | 0° 57′ 17.75" | | | | | |
| Tangent = | 157.7450 | | | | | |
| Length = | 315.4173 | | | | | |
| Radius = | 6,000.0000 | | | | | |
| External = | 2.0733 | | | | | |
| Long Chord = | 315.3809 | | | | | |
| Mid. Ord. = | 2.0725 | | | | | |
| P.C. Station | 231+25.18 | N | 13,688,695.7874 | E | 2,083,054.8452 | |
| P.T. Station | 234+40.60 | N | 13,688,975.3398 | E | 2,082,908.8468 | |
| C.C. | | N | 13,686,058.9591 | E | 2,077,665.3057 | |
| Back = N | 26° 04′ 12.57" W | | | | | |
| Ahead = N | 29° 04′ 55.82" W | | | | | |
| Chord Bear = N | 27° 34′ 34.19" W | | | | | |

Course from PT RDCL129_24 to PC RDCL129_27 N 29° 04′ 55.82" W Dist 334.1524

Curve Data

| | | | | | | |
|---|---|---|---|---|---|---|
| Curve RDCL129_27 | | | | | | |
| P.I. Station | 239+82.29 | N | 13,689,448.7365 | E | 2,082,645.5505 | |
| Delta = | 3° 57′ 43.63" | (RT) | | | | |
| Degree = | 0° 57′ 17.75" | | | | | |
| Tangent = | 207.5388 | | | | | |
| Length = | 414.9122 | | | | | |
| Radius = | 6,000.0000 | | | | | |
| External = | 3.5883 | | | | | |
| Long Chord = | 414.8295 | | | | | |
| Mid. Ord. = | 3.5861 | | | | | |
| P.C. Station | 237+74.75 | N | 13,689,267.3635 | E | 2,082,746.4275 | |
| P.T. Station | 241+89.66 | N | 13,689,636.6464 | E | 2,082,557.4469 | |
| C.C. | | N | 13,692,183.7443 | E | 2,087,989.9686 | |
| Back = N | 29° 04′ 55.82" W | | | | | |
| Ahead = N | 25° 07′ 12.19" W | | | | | |
| Chord Bear = N | 27° 06′ 04.00" W | | | | | |

Course from PT RDCL129_27 to RDCL12929 N 25° 07′ 12.19" W Dist 1,114.3744

Point RDCL12929 N 13,690,645.6236 E 2,082,084.3767 Sta 253+04.04

Ending chain SWLOOP410_1 description

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# HORIZONTAL ALIGNMENT DATA SHEET

SHEET 1 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 76 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\1113508_HALN_Data01.dgn

# SW LOOP 410 HORIZONTAL ALIGNMENT

Beginning chain SWLOOP410_2 description

Point RDCL1311 N 13,683,845.7786 E 2,084,764.0054 Sta 259+40.94

Course from RDCL1311 to PC RDCL131_3 N 19° 19′ 18.20" W Dist 479.2203

Curve Data

| Curve RDCL131_3 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 265+31.18 | N | 13,684,402.7724 | E | 2,084,568.7119 |
| Delta = | 8° 27′ 56.67" (LT) | | | | |
| Degree = | 3° 49′ 10.99" | | | | |
| Tangent = | 111.0184 | | | | |
| Length = | 221.6326 | | | | |
| Radius = | 1,500.0000 | | | | |
| External = | 4.1027 | | | | |
| Long Chord = | 221.4311 | | | | |
| Mid. Ord. = | 4.0916 | | | | |
| P.C. Station | 264+20.16 | N | 13,684,298.0071 | E | 2,084,605.4448 |
| P.T. Station | 266+41.79 | N | 13,684,500.9885 | E | 2,084,516.9559 |
| C.C. | | N | 13,683,801.6988 | E | 2,083,189.9314 |
| Back = N 19° 19′ 18.20" W | | | | | |
| Ahead = N 27° 47′ 14.87" W | | | | | |
| Chord Bear = N 23° 33′ 16.53" W | | | | | |

Course from PT RDCL131_3 to PC RDCL131_6 N 27° 47′ 14.87" W Dist 205.0972

Curve Data

| Curve RDCL131_6 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 269+41.79 | N | 13,684,766.3939 | E | 2,084,377.0977 |
| Delta = | 8° 28′ 50.45" (RT) | | | | |
| Degree = | 4° 28′ 34.44" | | | | |
| Tangent = | 94.9035 | | | | |
| Length = | 189.4602 | | | | |
| Radius = | 1,280.0000 | | | | |
| External = | 3.5134 | | | | |
| Long Chord = | 189.2873 | | | | |
| Mid. Ord. = | 3.5038 | | | | |
| P.C. Station | 268+46.89 | N | 13,684,682.4344 | E | 2,084,421.3410 |
| P.T. Station | 270+36.35 | N | 13,684,855.9602 | E | 2,084,345.7201 |
| C.C. | | N | 13,685,279.1616 | E | 2,085,553.7353 |
| Back = N 27° 47′ 14.87" W | | | | | |
| Ahead = N 19° 18′ 24.41" W | | | | | |
| Chord Bear = N 23° 32′ 49.64" W | | | | | |

Course from PT RDCL131_6 to PC RDCL131_9 N 19° 18′ 24.41" W Dist 426.0522

Curve Data

| Curve RDCL131_9 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 275+24.17 | N | 13,685,316.3503 | E | 2,084,184.4326 |
| Delta = | 5° 53′ 37.03" (RT) | | | | |
| Degree = | 4° 46′ 28.73" | | | | |
| Tangent = | 61.7723 | | | | |
| Length = | 123.4357 | | | | |
| Radius = | 1,200.0000 | | | | |
| External = | 1.5889 | | | | |
| Long Chord = | 123.3812 | | | | |
| Mid. Ord. = | 1.5868 | | | | |
| P.C. Station | 274+62.40 | N | 13,685,258.0519 | E | 2,084,204.8561 |
| P.T. Station | 275+85.84 | N | 13,685,376.4376 | E | 2,084,170.1032 |
| C.C. | | N | 13,685,654.8032 | E | 2,085,337.3703 |
| Back = N 19° 18′ 24.41" W | | | | | |
| Ahead = N 13° 24′ 47.39" W | | | | | |
| Chord Bear = N 16° 21′ 35.90" W | | | | | |

Course from PT RDCL131_9 to PC RDCL131_12 N 13° 24′ 47.39" W Dist 339.8418

Curve Data

| Curve RDCL131_12 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 280+27.46 | N | 13,685,806.0168 | E | 2,084,067.6587 |
| Delta = | 9° 41′ 47.14" (LT) | | | | |
| Degree = | 4° 46′ 28.73" | | | | |
| Tangent = | 101.7838 | | | | |
| Length = | 203.0815 | | | | |
| Radius = | 1,200.0000 | | | | |
| External = | 4.3089 | | | | |
| Long Chord = | 202.8392 | | | | |
| Mid. Ord. = | 4.2935 | | | | |
| P.C. Station | 279+25.68 | N | 13,685,707.0094 | E | 2,084,091.2696 |
| P.T. Station | 281+28.76 | N | 13,685,899.6330 | E | 2,084,027.7095 |
| C.C. | | N | 13,685,428.6437 | E | 2,082,924.0025 |
| Back = N 13° 24′ 47.39" W | | | | | |
| Ahead = N 23° 06′ 34.53" W | | | | | |
| Chord Bear = N 18° 15′ 40.96" W | | | | | |

Course from PT RDCL131_12 to PC RDCL131_15 N 23° 06′ 34.53" W Dist 253.5924

Curve Data

| Curve RDCL131_15 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 284+53.66 | N | 13,686,198.4637 | E | 2,083,900.1883 |
| Delta = | 2° 02′ 33.57" (LT) | | | | |
| Degree = | 1° 25′ 56.62" | | | | |
| Tangent = | 71.3098 | | | | |
| Length = | 142.6045 | | | | |
| Radius = | 4,000.0000 | | | | |
| External = | 0.6356 | | | | |
| Long Chord = | 142.5970 | | | | |
| Mid. Ord. = | 0.6355 | | | | |
| P.C. Station | 283+82.35 | N | 13,686,132.8761 | E | 2,083,928.1767 |
| P.T. Station | 285+24.96 | N | 13,686,263.0120 | E | 2,083,869.8798 |
| C.C. | | N | 13,684,562.9118 | E | 2,080,249.1535 |
| Back = N 23° 06′ 34.53" W | | | | | |
| Ahead = N 25° 09′ 08.10" W | | | | | |
| Chord Bear = N 24° 07′ 51.31" W | | | | | |

Course from PT RDCL131_15 to PC RDCL131_18 N 25° 09′ 08.10" W Dist 1,610.9264

Curve Data

| Curve RDCL131_18 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 301+72.29 | N | 13,687,754.1485 | E | 2,083,169.7215 |
| Delta = | 5° 33′ 29.95" (LT) | | | | |
| Degree = | 7° 38′ 21.97" | | | | |
| Tangent = | 36.4077 | | | | |
| Length = | 72.7582 | | | | |
| Radius = | 750.0000 | | | | |
| External = | 0.8832 | | | | |
| Long Chord = | 72.7297 | | | | |
| Mid. Ord. = | 0.8821 | | | | |
| P.C. Station | 301+35.88 | N | 13,687,721.1929 | E | 2,083,185.1957 |
| P.T. Station | 302+08.64 | N | 13,687,785.4503 | E | 2,083,151.1281 |
| C.C. | | N | 13,687,402.4241 | E | 2,082,506.3095 |
| Back = N 25° 09′ 08.10" W | | | | | |
| Ahead = N 30° 42′ 38.05" W | | | | | |
| Chord Bear = N 27° 55′ 53.07" W | | | | | |

Course from PT RDCL131_18 to PC RDCL131_21 N 30° 42′ 38.05" W Dist 410.0612

Curve Data

| Curve RDCL131_21 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 306+57.35 | N | 13,688,171.2292 | E | 2,082,921.9731 |
| Delta = | 5° 53′ 57.58" (RT) | | | | |
| Degree = | 7° 38′ 21.97" | | | | |
| Tangent = | 38.6451 | | | | |
| Length = | 77.2220 | | | | |
| Radius = | 750.0000 | | | | |
| External = | 0.9950 | | | | |
| Long Chord = | 77.1879 | | | | |
| Mid. Ord. = | 0.9937 | | | | |
| P.C. Station | 306+18.70 | N | 13,688,138.0037 | E | 2,082,941.7092 |
| P.T. Station | 306+95.93 | N | 13,688,206.3072 | E | 2,082,905.7564 |
| C.C. | | N | 13,688,521.0298 | E | 2,083,586.5278 |
| Back = N 30° 42′ 38.05" W | | | | | |
| Ahead = N 24° 48′ 40.47" W | | | | | |
| Chord Bear = N 27° 45′ 39.26" W | | | | | |

Course from PT RDCL131_21 to PC RDCL131_24 N 24° 48′ 40.47" W Dist 355.7596

Curve Data

| Curve RDCL131_24 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 313+88.67 | N | 13,688,835.1034 | E | 2,082,615.0620 |
| Delta = | 5° 00′ 42.27" (RT) | | | | |
| Degree = | 0° 44′ 38.76" | | | | |
| Tangent = | 336.9798 | | | | |
| Length = | 673.5298 | | | | |
| Radius = | 7,700.0000 | | | | |
| External = | 7.3702 | | | | |
| Long Chord = | 673.3151 | | | | |
| Mid. Ord. = | 7.3632 | | | | |
| P.C. Station | 310+51.69 | N | 13,688,529.2285 | E | 2,082,756.4689 |
| P.T. Station | 317+25.22 | N | 13,689,152.1622 | E | 2,082,500.9170 |
| C.C. | | N | 13,691,760.3809 | E | 2,089,745.7216 |
| Back = N 24° 48′ 40.47" W | | | | | |
| Ahead = N 19° 47′ 58.20" W | | | | | |
| Chord Bear = N 22° 18′ 19.34" W | | | | | |

Course from PT RDCL131_24 to PC RDCL131_27 N 19° 47′ 58.20" W Dist 34.9367

Curve Data

| Curve RDCL131_27 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 318+39.67 | N | 13,689,259.8486 | E | 2,082,462.1485 |
| Delta = | 5° 21′ 21.58" (LT) | | | | |
| Degree = | 3° 22′ 13.22" | | | | |
| Tangent = | 79.5157 | | | | |
| Length = | 158.9156 | | | | |
| Radius = | 1,700.0000 | | | | |
| External = | 1.8586 | | | | |
| Long Chord = | 158.8577 | | | | |
| Mid. Ord. = | 1.8566 | | | | |
| P.C. Station | 317+60.15 | N | 13,689,185.0336 | E | 2,082,489.0829 |
| P.T. Station | 319+19.07 | N | 13,689,331.8228 | E | 2,082,428.3483 |
| C.C. | | N | 13,688,609.1931 | E | 2,080,889.5805 |
| Back = N 19° 47′ 58.20" W | | | | | |
| Ahead = N 25° 09′ 19.78" W | | | | | |
| Chord Bear = N 22° 28′ 38.99" W | | | | | |

Course from PT RDCL131_27 to RDCL13129 N 25° 09′ 19.78" W Dist 1,380.9283

Point RDCL13129 N 13,690,581.7805 E 2,081,841.3484 Sta 333+00.00

Ending chain SWLOOP410_2 description

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

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TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



## HORIZONTAL ALIGNMENT DATA SHEET

SHEET 2 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 77 |

# IH 35 NBFR HORIZONTAL ALIGNMENT

Beginning chain IH35_RDCL_NB description
Feature: Road_Centerline

Point 27 N 13,674,842.45 E 2,112,786.82 Sta 350+00.00

Course from 27 to PC IH35_RDCL_EB_3 N 44° 43′ 22" E Dist 915.52

| Curve IH35_RDCL_EB_3 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 363+72.28 | N | 13,675,817.48 | E | 2,113,752.46 |
| Delta = | 19° 55′ 40" (RT) | | | | |
| Degree = | 2° 12′ 13" | | | | |
| Tangent = | 456.76 | | | | |
| Length = | 904.29 | | | | |
| Radius = | 2,600.00 | | | | |
| External = | 39.82 | | | | |
| Long Chord = | 899.74 | | | | |
| Mid. Ord. = | 39.22 | | | | |
| P.C. Station | 359+15.52 | N | 13,675,492.94 | E | 2,113,431.05 |
| P.T. Station | 368+19.81 | N | 13,676,013.03 | E | 2,114,165.24 |
| C.C. | | N | 13,673,663.38 | E | 2,115,278.40 |
| Back = N 44° 43′ 22" E | | | | | |
| Ahead = N 64° 39′ 02" E | | | | | |
| Chord Bear = N 54° 41′ 12" E | | | | | |

Course from PT IH35_RDCL_EB_3 to PC IH35_RDCL_EB_6 N 64° 39′ 02" E Dist 2,316.48

| Curve IH35_RDCL_EB_6 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 392+89.88 | N | 13,677,070.57 | E | 2,116,397.48 |
| Delta = | 1° 53′ 33" (RT) | | | | |
| Degree = | 0° 36′ 58" | | | | |
| Tangent = | 153.59 | | | | |
| Length = | 307.16 | | | | |
| Radius = | 9,300.00 | | | | |
| External = | 1.27 | | | | |
| Long Chord = | 307.15 | | | | |
| Mid. Ord. = | 1.27 | | | | |
| P.C. Station | 391+36.29 | N | 13,677,004.81 | E | 2,116,258.67 |
| P.T. Station | 394+43.45 | N | 13,677,131.71 | E | 2,116,538.38 |
| C.C. | | N | 13,668,600.27 | E | 2,120,240.36 |
| Back = N 64° 39′ 02" E | | | | | |
| Ahead = N 66° 32′ 34" E | | | | | |
| Chord Bear = N 65° 35′ 48" E | | | | | |

Course from PT IH35_RDCL_EB_6 to PC IH35_RDCL_EB_9 N 66° 32′ 34" E Dist 197.59

| Curve IH35_RDCL_EB_9 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 397+20.68 | N | 13,677,242.06 | E | 2,116,792.70 |
| Delta = | 1° 49′ 30" (LT) | | | | |
| Degree = | 1° 08′ 45" | | | | |
| Tangent = | 79.63 | | | | |
| Length = | 159.25 | | | | |
| Radius = | 5,000.00 | | | | |
| External = | 0.63 | | | | |
| Long Chord = | 159.25 | | | | |
| Mid. Ord. = | 0.63 | | | | |
| P.C. Station | 396+41.04 | N | 13,677,210.36 | E | 2,116,719.64 |
| P.T. Station | 398+00.30 | N | 13,677,276.07 | E | 2,116,864.70 |
| C.C. | | N | 13,681,797.15 | E | 2,114,729.33 |
| Back = N 66° 32′ 34" E | | | | | |
| Ahead = N 64° 43′ 05" E | | | | | |
| Chord Bear = N 65° 37′ 50" E | | | | | |

Course from PT IH35_RDCL_EB_9 to PC IH35_RDCL_EB_12 N 64° 43′ 05" E Dist 851.57

| Curve IH35_RDCL_EB_12 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 411+34.55 | N | 13,677,845.90 | E | 2,118,071.16 |
| Delta = | 12° 14′ 41" (LT) | | | | |
| Degree = | 1° 16′ 24" | | | | |
| Tangent = | 482.68 | | | | |
| Length = | 961.69 | | | | |
| Radius = | 4,500.00 | | | | |
| External = | 25.81 | | | | |
| Long Chord = | 959.86 | | | | |
| Mid. Ord. = | 25.67 | | | | |
| P.C. Station | 406+51.87 | N | 13,677,639.75 | E | 2,117,634.71 |
| P.T. Station | 416+13.56 | N | 13,678,139.91 | E | 2,118,453.96 |
| C.C. | | N | 13,681,708.73 | E | 2,115,712.87 |
| Back = N 64° 43′ 05" E | | | | | |
| Ahead = N 52° 28′ 24" E | | | | | |
| Chord Bear = N 58° 35′ 44" E | | | | | |

Course from PT IH35_RDCL_EB_12 to PC IH35_RDCL_EB_15 N 52° 28′ 24" E Dist 176.46

| Curve IH35_RDCL_EB_15 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 425+25.40 | N | 13,678,695.34 | E | 2,119,177.11 |
| Delta = | 13° 58′ 30" (LT) | | | | |
| Degree = | 0° 57′ 18" | | | | |
| Tangent = | 735.38 | | | | |
| Length = | 1,463.46 | | | | |
| Radius = | 6,000.00 | | | | |
| External = | 44.90 | | | | |
| Long Chord = | 1,459.84 | | | | |
| Mid. Ord. = | 44.56 | | | | |
| P.C. Station | 417+90.02 | N | 13,678,247.40 | E | 2,118,593.90 |
| P.T. Station | 432+53.48 | N | 13,679,270.87 | E | 2,119,634.88 |
| C.C. | | N | 13,683,005.82 | E | 2,114,939.12 |
| Back = N 52° 28′ 24" E | | | | | |
| Ahead = N 38° 29′ 54" E | | | | | |
| Chord Bear = N 45° 29′ 09" E | | | | | |

Course from PT IH35_RDCL_EB_15 to PC IH35_RDCL_EB_18 N 38° 29′ 54" E Dist 13.12

| Curve IH35_RDCL_EB_18 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 435+70.88 | N | 13,679,519.28 | E | 2,119,832.46 |
| Delta = | 6° 57′ 55" (LT) | | | | |
| Degree = | 1° 08′ 45" | | | | |
| Tangent = | 304.29 | | | | |
| Length = | 607.83 | | | | |
| Radius = | 5,000.00 | | | | |
| External = | 9.25 | | | | |
| Long Chord = | 607.45 | | | | |
| Mid. Ord. = | 9.23 | | | | |
| P.C. Station | 432+66.60 | N | 13,679,281.14 | E | 2,119,643.04 |
| P.T. Station | 438+74.42 | N | 13,679,778.64 | E | 2,119,991.60 |
| C.C. | | N | 13,682,393.59 | E | 2,115,729.91 |
| Back = N 38° 29′ 54" E | | | | | |
| Ahead = N 31° 31′ 59" E | | | | | |
| Chord Bear = N 35° 00′ 57" E | | | | | |

Course from PT IH35_RDCL_EB_18 to 28 N 31° 31′ 59" E Dist 187.47

Point 28 N 13,679,938.43 E 2,120,089.65 Sta 440+61.89

Ending chain IH35_RDCL_NB description

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



## HORIZONTAL ALIGNMENT DATA SHEET

SHEET 3 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 78 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\1113508_HALN_Data01.dgn

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\1113508_HALN_Data01.dgn

# IH 35 SBFR HORIZONTAL ALIGNMENT

Beginning chain IH35_RDCL_SB description
Feature: Road_Centerline

Point 29 N 13,674,384.79 E 2,110,145.88 Sta 450+00.00

Course from 29 to PC IH35_RDCL_WB_3 N 64° 40′ 52" E Dist 6,527.02

| Curve IH35_RDCL_WB_3 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 516+57.24 | N | 13,677,231.80 | E | 2,116,163.63 |
| Delta = | 0° 44′ 46" | (LT) | | | |
| Degree = | 0° 17′ 11" | | | | |
| Tangent = | 130.22 | | | | |
| Length = | 260.43 | | | | |
| Radius = | 20,000.00 | | | | |
| External = | 0.42 | | | | |
| Long Chord = | 260.43 | | | | |
| Mid. Ord. = | 0.42 | | | | |
| P.C. Station | 515+27.02 | N | 13,677,176.11 | E | 2,116,045.92 |
| P.T. Station | 517+87.45 | N | 13,677,289.01 | E | 2,116,280.60 |
| C.C. | | N | 13,695,254.94 | E | 2,107,492.81 |
| Back = N 64° 40′ 52" E | | | | | |
| Ahead = N 63° 56′ 06" E | | | | | |
| Chord Bear = N 64° 18′ 29" E | | | | | |

Course from PT IH35_RDCL_WB_3 to PC IH35_RDCL_WB_6 N 63° 56′ 06" E Dist 1,473.34

| Curve IH35_RDCL_WB_6 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 534+61.34 | N | 13,678,024.51 | E | 2,117,784.25 |
| Delta = | 5° 44′ 26" | (LT) | | | |
| Degree = | 1° 25′ 57" | | | | |
| Tangent = | 200.55 | | | | |
| Length = | 400.77 | | | | |
| Radius = | 4,000.00 | | | | |
| External = | 5.02 | | | | |
| Long Chord = | 400.61 | | | | |
| Mid. Ord. = | 5.02 | | | | |
| P.C. Station | 532+60.78 | N | 13,677,936.38 | E | 2,117,604.09 |
| P.T. Station | 536+61.56 | N | 13,678,130.21 | E | 2,117,954.69 |
| C.C. | | N | 13,681,529.57 | E | 2,115,846.54 |
| Back = N 63° 56′ 06" E | | | | | |
| Ahead = N 58° 11′ 40" E | | | | | |
| Chord Bear = N 61° 03′ 53" E | | | | | |

Course from PT IH35_RDCL_WB_6 to PC IH35_RDCL_WB_9 N 58° 11′ 40" E Dist 264.83

| Curve IH35_RDCL_WB_9 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 543+46.44 | N | 13,678,491.17 | E | 2,118,536.73 |
| Delta = | 11° 41′ 57" | (LT) | | | |
| Degree = | 1° 23′ 51" | | | | |
| Tangent = | 420.05 | | | | |
| Length = | 837.18 | | | | |
| Radius = | 4,100.00 | | | | |
| External = | 21.46 | | | | |
| Long Chord = | 835.73 | | | | |
| Mid. Ord. = | 21.35 | | | | |
| P.C. Station | 539+26.39 | N | 13,678,269.78 | E | 2,118,179.76 |
| P.T. Station | 547+63.57 | N | 13,678,780.34 | E | 2,118,841.40 |
| C.C. | | N | 13,681,754.13 | E | 2,116,018.90 |
| Back = N 58° 11′ 40" E | | | | | |
| Ahead = N 46° 29′ 43" E | | | | | |
| Chord Bear = N 52° 20′ 41" E | | | | | |

Course from PT IH35_RDCL_WB_9 to PC IH35_RDCL_WB_12 N 46° 29′ 43" E Dist 145.72

| Curve IH35_RDCL_WB_12 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 554+60.41 | N | 13,679,260.05 | E | 2,119,346.83 |
| Delta = | 12° 34′ 48" | (LT) | | | |
| Degree = | 1° 08′ 45" | | | | |
| Tangent = | 551.12 | | | | |
| Length = | 1,097.81 | | | | |
| Radius = | 5,000.00 | | | | |
| External = | 30.28 | | | | |
| Long Chord = | 1,095.60 | | | | |
| Mid. Ord. = | 30.10 | | | | |
| P.C. Station | 549+09.29 | N | 13,678,880.65 | E | 2,118,947.09 |
| P.T. Station | 560+07.09 | N | 13,679,717.40 | E | 2,119,654.33 |
| C.C. | | N | 13,682,507.23 | E | 2,115,505.01 |
| Back = N 46° 29′ 43" E | | | | | |
| Ahead = N 33° 54′ 55" E | | | | | |
| Chord Bear = N 40° 12′ 19" E | | | | | |

Course from PT IH35_RDCL_WB_12 to 30 N 33° 54′ 55" E Dist 274.31

Point 30 N 13,679,945.04 E 2,119,807.39 Sta 562+81.40

Ending chain IH35_RDCL_SB description

# FREDERICKSBURG NB HORIZONTAL ALIGNMENT

Beginning chain FREDBURG_NB description
Feature: Road_Centerline

Point 43 N 13,742,117.23 E 2,103,855.85 Sta 1100+00.00

Course from 43 to PC FREDBURG_WB_3 S 14° 27′ 03" E Dist 953.96

| Curve FREDBURG_WB_3 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1110+10.06 | N | 13,741,139.13 | E | 2,104,107.91 |
| Delta = | 0° 38′ 34" | (LT) | | | |
| Degree = | 0° 34′ 23" | | | | |
| Tangent = | 56.10 | | | | |
| Length = | 112.20 | | | | |
| Radius = | 10,000.00 | | | | |
| External = | 0.16 | | | | |
| Long Chord = | 112.20 | | | | |
| Mid. Ord. = | 0.16 | | | | |
| P.C. Station | 1109+53.96 | N | 13,741,193.46 | E | 2,104,093.91 |
| P.T. Station | 1110+66.16 | N | 13,741,084.97 | E | 2,104,122.51 |
| C.C. | | N | 13,743,688.96 | E | 2,113,777.52 |
| Back = S 14° 27′ 03" E | | | | | |
| Ahead = S 15° 05′ 37" E | | | | | |
| Chord Bear = S 14° 46′ 20" E | | | | | |

Course from PT FREDBURG_WB_3 to PC FREDBURG_WB_6 S 15° 05′ 37" E Dist 350.42

| Curve FREDBURG_WB_6 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1115+14.63 | N | 13,740,651.97 | E | 2,104,239.29 |
| Delta = | 0° 33′ 42" | (RT) | | | |
| Degree = | 0° 17′ 11" | | | | |
| Tangent = | 98.05 | | | | |
| Length = | 196.10 | | | | |
| Radius = | 20,000.00 | | | | |
| External = | 0.24 | | | | |
| Long Chord = | 196.10 | | | | |
| Mid. Ord. = | 0.24 | | | | |
| P.C. Station | 1114+16.58 | N | 13,740,746.64 | E | 2,104,213.76 |
| P.T. Station | 1116+12.67 | N | 13,740,557.06 | E | 2,104,263.90 |
| C.C. | | N | 13,735,538.65 | E | 2,084,903.74 |
| Back = S 15° 05′ 37" E | | | | | |
| Ahead = S 14° 31′ 55" E | | | | | |
| Chord Bear = S 14° 48′ 46" E | | | | | |

Course from PT FREDBURG_WB_6 to PC FREDBURG_WB_9 S 14° 31′ 55" E Dist 2,316.36

| Curve FREDBURG_WB_9 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1145+61.34 | N | 13,737,702.73 | E | 2,105,003.78 |
| Delta = | 26° 21′ 39" | (LT) | | | |
| Degree = | 2° 07′ 19" | | | | |
| Tangent = | 632.31 | | | | |
| Length = | 1,242.23 | | | | |
| Radius = | 2,700.00 | | | | |
| External = | 73.05 | | | | |
| Long Chord = | 1,231.30 | | | | |
| Mid. Ord. = | 71.13 | | | | |
| P.C. Station | 1139+29.03 | N | 13,738,314.80 | E | 2,104,845.12 |
| P.T. Station | 1151+71.26 | N | 13,737,224.75 | E | 2,105,417.71 |
| C.C. | | N | 13,738,992.29 | E | 2,107,458.74 |
| Back = S 14° 31′ 55" E | | | | | |
| Ahead = S 40° 53′ 34" E | | | | | |
| Chord Bear = S 27° 42′ 45" E | | | | | |

Course from PT FREDBURG_WB_9 to PC FREDBURG_WB_12 S 40° 53′ 34" E Dist 1,149.88

| Curve FREDBURG_WB_12 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1167+40.20 | N | 13,736,038.72 | E | 2,106,444.82 |
| Delta = | 4° 21′ 49" | (RT) | | | |
| Degree = | 0° 31′ 15" | | | | |
| Tangent = | 419.07 | | | | |
| Length = | 837.74 | | | | |
| Radius = | 11,000.00 | | | | |
| External = | 7.98 | | | | |
| Long Chord = | 837.53 | | | | |
| Mid. Ord. = | 7.97 | | | | |
| P.C. Station | 1163+21.13 | N | 13,736,355.51 | E | 2,106,170.47 |
| P.T. Station | 1171+58.87 | N | 13,735,701.98 | E | 2,106,694.26 |
| C.C. | | N | 13,729,154.41 | E | 2,097,855.18 |
| Back = S 40° 53′ 34" E | | | | | |
| Ahead = S 36° 31′ 45" E | | | | | |
| Chord Bear = S 38° 42′ 40" E | | | | | |

Course from PT FREDBURG_WB_12 to PC FREDBURG_WB_15 S 36° 31′ 45" E Dist 19.76

| Curve FREDBURG_WB_15 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1172+33.68 | N | 13,735,641.87 | E | 2,106,738.79 |
| Delta = | 1° 39′ 35" | (LT) | | | |
| Degree = | 1° 30′ 28" | | | | |
| Tangent = | 55.04 | | | | |
| Length = | 110.08 | | | | |
| Radius = | 3,800.00 | | | | |
| External = | 0.40 | | | | |
| Long Chord = | 110.07 | | | | |
| Mid. Ord. = | 0.40 | | | | |
| P.C. Station | 1171+78.63 | N | 13,735,686.10 | E | 2,106,706.03 |
| P.T. Station | 1172+88.71 | N | 13,735,598.60 | E | 2,106,772.82 |
| C.C. | | N | 13,737,947.98 | E | 2,109,759.53 |
| Back = S 36° 31′ 45" E | | | | | |
| Ahead = S 38° 11′ 20" E | | | | | |
| Chord Bear = S 37° 21′ 33" E | | | | | |

Course from PT FREDBURG_WB_15 to PC FREDBURG_WB_18 S 38° 11′ 20" E Dist 818.87

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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



## HORIZONTAL ALIGNMENT DATA SHEET



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 79 |

# FREDERICKSBURG NB HORIZONTAL ALIGNMENT CONT.

Curve Data

Curve FREDBURG_WB_18

| | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | 1182+67.04 | N | 13,734,829.66 | E | 2,107,377.68 |
| Delta = | 3° 05′ 46" | (RT) | | | |
| Degree = | 0° 58′ 16" | | | | |
| Tangent = | 159.45 | | | | |
| Length = | 318.83 | | | | |
| Radius = | 5,900.00 | | | | |
| External = | 2.15 | | | | |
| Long Chord = | 318.79 | | | | |
| Mid. Ord. = | 2.15 | | | | |
| P.C. Station | 1181+07.58 | N | 13,734,954.99 | E | 2,107,279.10 |
| P.T. Station | 1184+26.41 | N | 13,734,699.20 | E | 2,107,469.35 |
| C.C. | | N | 13,731,307.27 | E | 2,102,641.84 |

Back = S 38° 11′ 20" E
Ahead = S 35° 05′ 34" E
Chord Bear = S 36° 38′ 27" E

Course from PT FREDBURG_WB_18 to PC FREDBURG_WB_21 S 35° 05′ 34" E Dist 414.95

Curve Data

Curve FREDBURG_WB_21

| | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | 1190+55.75 | N | 13,734,184.26 | E | 2,107,831.16 |
| Delta = | 1° 53′ 23" | (LT) | | | |
| Degree = | 0° 26′ 27" | | | | |
| Tangent = | 214.39 | | | | |
| Length = | 428.74 | | | | |
| Radius = | 13,000.00 | | | | |
| External = | 1.77 | | | | |
| Long Chord = | 428.72 | | | | |
| Mid. Ord. = | 1.77 | | | | |
| P.C. Station | 1188+41.36 | N | 13,734,359.68 | E | 2,107,707.90 |
| P.T. Station | 1192+70.10 | N | 13,734,013.00 | E | 2,107,960.12 |
| C.C. | | N | 13,741,833.41 | E | 2,118,344.79 |

Back = S 35° 05′ 34" E
Ahead = S 36° 58′ 57" E
Chord Bear = S 36° 02′ 15" E

Course from PT FREDBURG_WB_21 to PC FREDBURG_WB_24 S 36° 58′ 57" E Dist 2,706.50

Curve Data

Curve FREDBURG_WB_24

| | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | 1224+86.73 | N | 13,731,443.49 | E | 2,109,895.16 |
| Delta = | 14° 11′ 06" | (RT) | | | |
| Degree = | 1° 23′ 51" | | | | |
| Tangent = | 510.13 | | | | |
| Length = | 1,015.05 | | | | |
| Radius = | 4,100.00 | | | | |
| External = | 31.61 | | | | |
| Long Chord = | 1,012.46 | | | | |
| Mid. Ord. = | 31.37 | | | | |
| P.C. Station | 1219+76.60 | N | 13,731,850.99 | E | 2,109,588.27 |
| P.T. Station | 1229+91.65 | N | 13,730,973.21 | E | 2,110,092.82 |
| C.C. | | N | 13,729,384.56 | E | 2,106,313.11 |

Back = S 36° 58′ 57" E
Ahead = S 22° 47′ 51" E
Chord Bear = S 29° 53′ 24" E

Course from PT FREDBURG_WB_24 to PC FREDBURG_WB_27 S 22° 47′ 51" E Dist 16.33

Curve Data

Curve FREDBURG_WB_27

| | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | 1231+19.52 | N | 13,730,855.33 | E | 2,110,142.36 |
| Delta = | 4° 15′ 30" | (RT) | | | |
| Degree = | 1° 54′ 35" | | | | |
| Tangent = | 111.53 | | | | |
| Length = | 222.96 | | | | |
| Radius = | 3,000.00 | | | | |
| External = | 2.07 | | | | |
| Long Chord = | 222.91 | | | | |
| Mid. Ord. = | 2.07 | | | | |
| P.C. Station | 1230+07.99 | N | 13,730,958.15 | E | 2,110,099.15 |
| P.T. Station | 1232+30.94 | N | 13,730,749.59 | E | 2,110,177.83 |
| C.C. | | N | 13,729,795.72 | E | 2,107,333.51 |

Back = S 22° 47′ 51" E
Ahead = S 18° 32′ 21" E
Chord Bear = S 20° 40′ 06" E

Course from PT FREDBURG_WB_27 to PC FREDBURG_WB_30 S 18° 32′ 21" E Dist 406.50

Curve Data

Curve FREDBURG_WB_30

| | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | 1237+87.26 | N | 13,730,222.14 | E | 2,110,354.71 |
| Delta = | 7° 47′ 30" | (LT) | | | |
| Degree = | 2° 36′ 16" | | | | |
| Tangent = | 149.82 | | | | |
| Length = | 299.17 | | | | |
| Radius = | 2,200.00 | | | | |
| External = | 5.10 | | | | |
| Long Chord = | 298.94 | | | | |
| Mid. Ord. = | 5.08 | | | | |
| P.C. Station | 1236+37.44 | N | 13,730,364.18 | E | 2,110,307.07 |
| P.T. Station | 1239+36.62 | N | 13,730,087.87 | E | 2,110,421.16 |
| C.C. | | N | 13,731,063.68 | E | 2,112,392.91 |

Back = S 18° 32′ 21" E
Ahead = S 26° 19′ 51" E
Chord Bear = S 22° 26′ 06" E

Course from PT FREDBURG_WB_30 to PC FREDBURG_WB_33 S 26° 19′ 51" E Dist 525.79

Curve Data

Curve FREDBURG_WB_33

| | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | 1249+06.87 | N | 13,729,218.28 | E | 2,110,851.52 |
| Delta = | 14° 04′ 36" | (LT) | | | |
| Degree = | 1° 35′ 30" | | | | |
| Tangent = | 444.47 | | | | |
| Length = | 884.45 | | | | |
| Radius = | 3,600.00 | | | | |
| External = | 27.33 | | | | |
| Long Chord = | 882.23 | | | | |
| Mid. Ord. = | 27.13 | | | | |
| P.C. Station | 1244+62.41 | N | 13,729,616.63 | E | 2,110,654.38 |
| P.T. Station | 1253+46.86 | N | 13,728,879.84 | E | 2,111,139.63 |
| C.C. | | N | 13,731,213.42 | E | 2,113,880.87 |

Back = S 26° 19′ 51" E
Ahead = S 40° 24′ 26" E
Chord Bear = S 33° 22′ 09" E

Course from PT FREDBURG_WB_33 to PC FREDBURG_WB_36 S 40° 24′ 26" E Dist 2,267.99

Curve Data

Curve FREDBURG_WB_36

| | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | 1277+62.72 | N | 13,727,040.27 | E | 2,112,705.63 |
| Delta = | 0° 40′ 40" | (LT) | | | |
| Degree = | 0° 13′ 45" | | | | |
| Tangent = | 147.87 | | | | |
| Length = | 295.74 | | | | |
| Radius = | 25,000.00 | | | | |
| External = | 0.44 | | | | |
| Long Chord = | 295.74 | | | | |
| Mid. Ord. = | 0.44 | | | | |
| P.C. Station | 1276+14.85 | N | 13,727,152.87 | E | 2,112,609.78 |
| P.T. Station | 1279+10.58 | N | 13,726,928.81 | E | 2,112,802.81 |
| C.C. | | N | 13,743,358.30 | E | 2,131,646.16 |

Back = S 40° 24′ 26" E
Ahead = S 41° 05′ 06" E
Chord Bear = S 40° 44′ 46" E

Course from PT FREDBURG_WB_36 to 44 S 41° 05′ 06" E Dist 1,429.13

Point 44 N 13,725,851.63 E 2,113,742.00 Sta 1293+39.71

==========

Ending chain FREDBURG_NB description

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



## HORIZONTAL ALIGNMENT DATA SHEET



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 80 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\1113508_HALN_Dat001.dgn

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\1113508_HALN_Data01.dgn

# FREDERICKSBURG SB HORIZONTAL ALIGNMENT

Beginning chain FREDBURG_SB description
Feature: Road_Centerline

Point 45 N 13,742,090.54 E 2,103,785.00 Sta 900+00.00

Course from 45 to PC FREDBURG_EB_3 S 15° 09′ 58" E Dist 1,113.00

| Curve FREDBURG_EB_3 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 912+17.90 | N | 13,740,915.06 | E | 2,104,103.62 |
| Delta = | 0° 45′ 05" | (RT) | | | |
| Degree = | 0° 21′ 29" | | | | |
| Tangent = | 104.90 | | | | |
| Length = | 209.80 | | | | |
| Radius = | 16,000.00 | | | | |
| External = | 0.34 | | | | |
| Long Chord = | 209.80 | | | | |
| Mid. Ord. = | 0.34 | | | | |
| P.C. Station | 911+13.00 | N | 13,741,016.31 | E | 2,104,076.18 |
| P.T. Station | 913+22.80 | N | 13,740,813.46 | E | 2,104,129.74 |
| C.C. | | N | 13,736,830.42 | E | 2,088,633.43 |
| Back = S 15° 09′ 58" E | | | | | |
| Ahead = S 14° 24′ 53" E | | | | | |
| Chord Bear = S 14° 47′ 26" E | | | | | |

Course from PT FREDBURG_EB_3 to PC FREDBURG_EB_6 S 14° 24′ 53" E Dist 1,584.10

| Curve FREDBURG_EB_6 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 929+59.47 | N | 13,739,228.31 | E | 2,104,537.17 |
| Delta = | 2° 00′ 28" | (RT) | | | |
| Degree = | 1° 54′ 35" | | | | |
| Tangent = | 52.57 | | | | |
| Length = | 105.13 | | | | |
| Radius = | 3,000.00 | | | | |
| External = | 0.46 | | | | |
| Long Chord = | 105.13 | | | | |
| Mid. Ord. = | 0.46 | | | | |
| P.C. Station | 929+06.90 | N | 13,739,279.23 | E | 2,104,524.08 |
| P.T. Station | 930+12.03 | N | 13,739,176.97 | E | 2,104,548.47 |
| C.C. | | N | 13,738,532.41 | E | 2,101,618.53 |
| Back = S 14° 24′ 53" E | | | | | |
| Ahead = S 12° 24′ 25" E | | | | | |
| Chord Bear = S 13° 24′ 39" E | | | | | |

Course from PT FREDBURG_EB_6 to PC FREDBURG_EB_9 S 12° 24′ 25" E Dist 42.52

| Curve FREDBURG_EB_9 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 930+80.58 | N | 13,739,110.01 | E | 2,104,563.19 |
| Delta = | 2° 58′ 59" | (LT) | | | |
| Degree = | 5° 43′ 46" | | | | |
| Tangent = | 26.04 | | | | |
| Length = | 52.07 | | | | |
| Radius = | 1,000.00 | | | | |
| External = | 0.34 | | | | |
| Long Chord = | 52.06 | | | | |
| Mid. Ord. = | 0.34 | | | | |
| P.C. Station | 930+54.54 | N | 13,739,135.44 | E | 2,104,557.60 |
| P.T. Station | 931+06.61 | N | 13,739,084.91 | E | 2,104,570.10 |
| C.C. | | N | 13,739,350.30 | E | 2,105,534.25 |
| Back = S 12° 24′ 25" E | | | | | |
| Ahead = S 15° 23′ 24" E | | | | | |
| Chord Bear = S 13° 53′ 55" E | | | | | |

Course from PT FREDBURG_EB_9 to PC FREDBURG_EB_12 S 15° 23′ 24" E Dist 844.96

| Curve FREDBURG_EB_12 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 946+05.65 | N | 13,737,639.62 | E | 2,104,967.93 |
| Delta = | 25° 25′ 14" | (LT) | | | |
| Degree = | 1° 58′ 33" | | | | |
| Tangent = | 654.09 | | | | |
| Length = | 1,286.65 | | | | |
| Radius = | 2,900.00 | | | | |
| External = | 72.85 | | | | |
| Long Chord = | 1,276.12 | | | | |
| Mid. Ord. = | 71.06 | | | | |
| P.C. Station | 939+51.56 | N | 13,738,270.25 | E | 2,104,794.35 |
| P.T. Station | 952+38.21 | N | 13,737,144.56 | E | 2,105,395.42 |
| C.C. | | N | 13,739,039.88 | E | 2,107,590.36 |
| Back = S 15° 23′ 24" E | | | | | |
| Ahead = S 40° 48′ 38" E | | | | | |
| Chord Bear = S 28° 06′ 01" E | | | | | |

Course from PT FREDBURG_EB_12 to PC FREDBURG_EB_15 S 40° 48′ 38" E Dist 1,325.99

| Curve FREDBURG_EB_15 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 968+39.49 | N | 13,735,932.59 | E | 2,106,441.95 |
| Delta = | 3° 50′ 44" | (RT) | | | |
| Degree = | 0° 41′ 55" | | | | |
| Tangent = | 275.28 | | | | |
| Length = | 550.36 | | | | |
| Radius = | 8,200.00 | | | | |
| External = | 4.62 | | | | |
| Long Chord = | 550.26 | | | | |
| Mid. Ord. = | 4.62 | | | | |
| P.C. Station | 965+64.20 | N | 13,736,140.95 | E | 2,106,262.04 |
| P.T. Station | 971+14.57 | N | 13,735,712.64 | E | 2,106,607.49 |
| C.C. | | N | 13,730,781.75 | E | 2,100,055.67 |
| Back = S 40° 48′ 38" E | | | | | |
| Ahead = S 36° 57′ 54" E | | | | | |
| Chord Bear = S 38° 53′ 16" E | | | | | |

Course from PT FREDBURG_EB_15 to PC FREDBURG_EB_18 S 36° 57′ 54" E Dist 149.84

| Curve FREDBURG_EB_18 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 973+82.22 | N | 13,735,498.79 | E | 2,106,768.43 |
| Delta = | 1° 21′ 00" | (LT) | | | |
| Degree = | 0° 34′ 23" | | | | |
| Tangent = | 117.81 | | | | |
| Length = | 235.61 | | | | |
| Radius = | 10,000.00 | | | | |
| External = | 0.69 | | | | |
| Long Chord = | 235.60 | | | | |
| Mid. Ord. = | 0.69 | | | | |
| P.C. Station | 972+64.41 | N | 13,735,592.92 | E | 2,106,697.59 |
| P.T. Station | 975+00.02 | N | 13,735,406.35 | E | 2,106,841.47 |
| C.C. | | N | 13,741,606.20 | E | 2,114,687.61 |
| Back = S 36° 57′ 54" E | | | | | |
| Ahead = S 38° 18′ 54" E | | | | | |
| Chord Bear = S 37° 38′ 24" E | | | | | |

Course from PT FREDBURG_EB_18 to PC FREDBURG_EB_21 S 38° 18′ 54" E Dist 650.56

| Curve FREDBURG_EB_21 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 982+61.16 | N | 13,734,809.15 | E | 2,107,313.37 |
| Delta = | 3° 10′ 02" | (RT) | | | |
| Degree = | 1° 25′ 57" | | | | |
| Tangent = | 110.59 | | | | |
| Length = | 221.12 | | | | |
| Radius = | 4,000.00 | | | | |
| External = | 1.53 | | | | |
| Long Chord = | 221.09 | | | | |
| Mid. Ord. = | 1.53 | | | | |
| P.C. Station | 981+50.57 | N | 13,734,895.91 | E | 2,107,244.81 |
| P.T. Station | 983+71.69 | N | 13,734,718.72 | E | 2,107,377.04 |
| C.C. | | N | 13,732,415.97 | E | 2,104,106.36 |
| Back = S 38° 18′ 54" E | | | | | |
| Ahead = S 35° 08′ 52" E | | | | | |
| Chord Bear = S 36° 43′ 53" E | | | | | |

Course from PT FREDBURG_EB_21 to PC FREDBURG_EB_24 S 35° 08′ 52" E Dist 491.64

| Curve FREDBURG_EB_24 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 990+01.86 | N | 13,734,203.45 | E | 2,107,739.81 |
| Delta = | 1° 45′ 49" | (LT) | | | |
| Degree = | 0° 38′ 12" | | | | |
| Tangent = | 138.53 | | | | |
| Length = | 277.03 | | | | |
| Radius = | 9,000.00 | | | | |
| External = | 1.07 | | | | |
| Long Chord = | 277.02 | | | | |
| Mid. Ord. = | 1.07 | | | | |
| P.C. Station | 988+63.33 | N | 13,734,316.72 | E | 2,107,660.07 |
| P.T. Station | 991+40.36 | N | 13,734,092.69 | E | 2,107,823.01 |
| C.C. | | N | 13,739,497.91 | E | 2,115,019.10 |
| Back = S 35° 08′ 52" E | | | | | |
| Ahead = S 36° 54′ 41" E | | | | | |
| Chord Bear = S 36° 01′ 47" E | | | | | |

Course from PT FREDBURG_EB_24 to PC FREDBURG_EB_27 S 36° 54′ 41" E Dist 2,967.92

| Curve FREDBURG_EB_27 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1024+23.24 | N | 13,731,467.82 | E | 2,109,794.64 |
| Delta = | 11° 59′ 11" | (RT) | | | |
| Degree = | 1° 54′ 35" | | | | |
| Tangent = | 314.95 | | | | |
| Length = | 627.61 | | | | |
| Radius = | 3,000.00 | | | | |
| External = | 16.49 | | | | |
| Long Chord = | 626.46 | | | | |
| Mid. Ord. = | 16.40 | | | | |
| P.C. Station | 1021+08.29 | N | 13,731,719.64 | E | 2,109,605.49 |
| P.T. Station | 1027+35.89 | N | 13,731,182.20 | E | 2,109,927.37 |
| C.C. | | N | 13,729,917.91 | E | 2,107,206.79 |
| Back = S 36° 54′ 41" E | | | | | |
| Ahead = S 24° 55′ 30" E | | | | | |
| Chord Bear = S 30° 55′ 06" E | | | | | |

Course from PT FREDBURG_EB_27 to PC FREDBURG_EB_30 S 24° 55′ 30" E Dist 201.24

| Curve FREDBURG_EB_30 | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1030+44.34 | N | 13,730,902.48 | E | 2,110,057.36 |
| Delta = | 6° 08′ 12" | (RT) | | | |
| Degree = | 2° 51′ 53" | | | | |
| Tangent = | 107.21 | | | | |
| Length = | 214.21 | | | | |
| Radius = | 2,000.00 | | | | |
| External = | 2.87 | | | | |
| Long Chord = | 214.11 | | | | |
| Mid. Ord. = | 2.87 | | | | |
| P.C. Station | 1029+37.13 | N | 13,730,999.71 | E | 2,110,012.18 |
| P.T. Station | 1031+51.34 | N | 13,730,800.99 | E | 2,110,091.89 |
| C.C. | | N | 13,730,156.84 | E | 2,108,198.46 |
| Back = S 24° 55′ 30" E | | | | | |
| Ahead = S 18° 47′ 18" E | | | | | |
| Chord Bear = S 21° 51′ 24" E | | | | | |

Course from PT FREDBURG_EB_30 to PC FREDBURG_EB_33 S 18° 47′ 18" E Dist 662.05

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2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



## HORIZONTAL ALIGNMENT DATA SHEET



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 81 |

# FREDERICKSBURG SB HORIZONTAL ALIGNMENT CONT.

Curve Data

Curve FREDBURG_EB_33

| | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1038+79.61 | N | 13,730,111.53 | E | 2,110,326.45 |
| Delta = | 7° 34′ 37" | (LT) | | | |
| Degree = | 5° 43′ 46" | | | | |
| Tangent = | 66.22 | | | | |
| Length = | 132.24 | | | | |
| Radius = | 1,000.00 | | | | |
| External = | 2.19 | | | | |
| Long Chord = | 132.15 | | | | |
| Mid. Ord. = | 2.19 | | | | |
| P.C. Station | 1038+13.39 | N | 13,730,174.22 | E | 2,110,305.12 |
| P.T. Station | 1039+45.63 | N | 13,730,052.20 | E | 2,110,355.85 |
| C.C. | | N | 13,730,496.29 | E | 2,111,251.83 |

Back = S 18° 47′ 18" E
Ahead = S 26° 21′ 56" E
Chord Bear = S 22° 34′ 37" E

Course from PT FREDBURG_EB_33 to PC FREDBURG_EB_36 S 26° 21′ 56" E Dist 450.53

Curve Data

Curve FREDBURG_EB_36

| | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1045+71.21 | N | 13,729,491.69 | E | 2,110,633.67 |
| Delta = | 6° 04′ 22" | (LT) | | | |
| Degree = | 1° 44′ 10" | | | | |
| Tangent = | 175.05 | | | | |
| Length = | 349.77 | | | | |
| Radius = | 3,300.00 | | | | |
| External = | 4.64 | | | | |
| Long Chord = | 349.60 | | | | |
| Mid. Ord. = | 4.63 | | | | |
| P.C. Station | 1043+96.17 | N | 13,729,648.53 | E | 2,110,555.93 |
| P.T. Station | 1047+45.93 | N | 13,729,343.96 | E | 2,110,727.56 |
| C.C. | | N | 13,731,114.04 | E | 2,113,512.67 |

Back = S 26° 21′ 56" E
Ahead = S 32° 26′ 18" E
Chord Bear = S 29° 24′ 07" E

Course from PT FREDBURG_EB_36 to PC FREDBURG_EB_39 S 32° 26′ 18" E Dist 39.94

Curve Data

Curve FREDBURG_EB_39

| | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1051+12.95 | N | 13,729,034.20 | E | 2,110,924.43 |
| Delta = | 7° 57′ 43" | (LT) | | | |
| Degree = | 1° 13′ 09" | | | | |
| Tangent = | 327.09 | | | | |
| Length = | 653.12 | | | | |
| Radius = | 4,700.00 | | | | |
| External = | 11.37 | | | | |
| Long Chord = | 652.59 | | | | |
| Mid. Ord. = | 11.34 | | | | |
| P.C. Station | 1047+85.87 | N | 13,729,310.25 | E | 2,110,748.99 |
| P.T. Station | 1054+38.99 | N | 13,728,785.11 | E | 2,111,136.42 |
| C.C. | | N | 13,731,831.28 | E | 2,114,715.65 |

Back = S 32° 26′ 18" E
Ahead = S 40° 24′ 00" E
Chord Bear = S 36° 25′ 09" E

Course from PT FREDBURG_EB_39 to PC FREDBURG_EB_42 S 40° 24′ 00" E Dist 564.10

Curve Data

Curve FREDBURG_EB_42

| | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1061+00.38 | N | 13,728,281.44 | E | 2,111,565.09 |
| Delta = | 2° 03′ 52" | (LT) | | | |
| Degree = | 1° 03′ 40" | | | | |
| Tangent = | 97.29 | | | | |
| Length = | 194.56 | | | | |
| Radius = | 5,400.00 | | | | |
| External = | 0.88 | | | | |
| Long Chord = | 194.55 | | | | |
| Mid. Ord. = | 0.88 | | | | |
| P.C. Station | 1060+03.09 | N | 13,728,355.53 | E | 2,111,502.03 |
| P.T. Station | 1061+97.65 | N | 13,728,209.67 | E | 2,111,630.77 |
| C.C. | | N | 13,731,855.38 | E | 2,115,614.33 |

Back = S 40° 24′ 00" E
Ahead = S 42° 27′ 52" E
Chord Bear = S 41° 25′ 56" E

Course from PT FREDBURG_EB_42 to PC FREDBURG_EB_45 S 42° 27′ 52" E Dist 87.24

Curve Data

Curve FREDBURG_EB_45

| | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1063+11.53 | N | 13,728,125.66 | E | 2,111,707.66 |
| Delta = | 2° 20′ 52" | (RT) | | | |
| Degree = | 4° 24′ 27" | | | | |
| Tangent = | 26.64 | | | | |
| Length = | 53.27 | | | | |
| Radius = | 1,300.00 | | | | |
| External = | 0.27 | | | | |
| Long Chord = | 53.27 | | | | |
| Mid. Ord. = | 0.27 | | | | |
| P.C. Station | 1062+84.89 | N | 13,728,145.31 | E | 2,111,689.67 |
| P.T. Station | 1063+38.16 | N | 13,728,105.28 | E | 2,111,724.82 |
| C.C. | | N | 13,727,267.64 | E | 2,110,730.67 |

Back = S 42° 27′ 52" E
Ahead = S 40° 07′ 00" E
Chord Bear = S 41° 17′ 26" E

Course from PT FREDBURG_EB_45 to PC FREDBURG_EB_48 S 40° 07′ 00" E Dist 692.06

Curve Data

Curve FREDBURG_EB_48

| | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1071+01.42 | N | 13,727,521.60 | E | 2,112,216.62 |
| Delta = | 0° 24′ 28" | (LT) | | | |
| Degree = | 0° 17′ 11" | | | | |
| Tangent = | 71.19 | | | | |
| Length = | 142.39 | | | | |
| Radius = | 20,000.00 | | | | |
| External = | 0.13 | | | | |
| Long Chord = | 142.39 | | | | |
| Mid. Ord. = | 0.13 | | | | |
| P.C. Station | 1070+30.22 | N | 13,727,576.04 | E | 2,112,170.74 |
| P.T. Station | 1071+72.61 | N | 13,727,467.48 | E | 2,112,262.88 |
| C.C. | | N | 13,740,462.95 | E | 2,127,465.44 |

Back = S 40° 07′ 00" E
Ahead = S 40° 31′ 28" E
Chord Bear = S 40° 19′ 14" E

Course from PT FREDBURG_EB_48 to PC FREDBURG_EB_51 S 40° 31′ 28" E Dist 958.61

Curve Data

Curve FREDBURG_EB_51

| | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1082+27.48 | N | 13,726,665.65 | E | 2,112,948.30 |
| Delta = | 0° 44′ 07" | (LT) | | | |
| Degree = | 0° 22′ 55" | | | | |
| Tangent = | 96.26 | | | | |
| Length = | 192.52 | | | | |
| Radius = | 15,000.00 | | | | |
| External = | 0.31 | | | | |
| Long Chord = | 192.52 | | | | |
| Mid. Ord. = | 0.31 | | | | |
| P.C. Station | 1081+31.22 | N | 13,726,738.82 | E | 2,112,885.76 |
| P.T. Station | 1083+23.74 | N | 13,726,593.29 | E | 2,113,011.78 |
| C.C. | | N | 13,736,485.42 | E | 2,124,287.68 |

Back = S 40° 31′ 28" E
Ahead = S 41° 15′ 36" E
Chord Bear = S 40° 53′ 32" E

Course from PT FREDBURG_EB_51 to 46 S 41° 15′ 36" E Dist 1,047.72

Point 46 N 13,725,805.69 E 2,113,702.73 Sta 1093+71.45

==========

Ending chain FREDBURG_SB description

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

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2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



## HORIZONTAL ALIGNMENT DATA SHEET

SHEET 7 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 82 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\113508_HALN_Data01.dgn

# CULEBRA EB HORIZONTAL ALIGNMENT

Beginning chain CULEBRA_EB description
Feature: Road_Centerline

Point 31 N 13,731,276.14 E 2,059,062.79 Sta 580+00.00

Course from 31 to PC CULEBRA_EB_3 S 67° 09′ 16" E Dist 712.88

| Curve Data | | | | | |
|---|---|---|---|---|---|
| Curve CULEBRA_EB_3 | | | | | |
| P.I. Station | 590+18.65 | N | 13,730,880.65 | E | 2,060,001.54 |
| Delta = | 1° 45′ 07" (RT) | | | | |
| Degree = | 0° 17′ 11" | | | | |
| Tangent = | 305.78 | | | | |
| Length = | 611.51 | | | | |
| Radius = | 20,000.00 | | | | |
| External = | 2.34 | | | | |
| Long Chord = | 611.48 | | | | |
| Mid. Ord. = | 2.34 | | | | |
| P.C. Station | 587+12.88 | N | 13,730,999.37 | E | 2,059,719.75 |
| P.T. Station | 593+24.38 | N | 13,730,753.37 | E | 2,060,279.57 |
| C.C. | | N | 13,712,568.26 | E | 2,051,954.81 |
| Back = S 67° 09′ 16" E | | | | | |
| Ahead = S 65° 24′ 10" E | | | | | |
| Chord Bear = S 66° 16′ 43" E | | | | | |

Course from PT CULEBRA_EB_3 to PC CULEBRA_EB_6 S 65° 24′ 10" E Dist 2,128.91

| Curve Data | | | | | |
|---|---|---|---|---|---|
| Curve CULEBRA_EB_6 | | | | | |
| P.I. Station | 615+17.32 | N | 13,729,840.59 | E | 2,062,273.51 |
| Delta = | 6° 06′ 28" (RT) | | | | |
| Degree = | 4° 46′ 29" | | | | |
| Tangent = | 64.02 | | | | |
| Length = | 127.92 | | | | |
| Radius = | 1,200.00 | | | | |
| External = | 1.71 | | | | |
| Long Chord = | 127.86 | | | | |
| Mid. Ord. = | 1.70 | | | | |
| P.C. Station | 614+53.30 | N | 13,729,867.24 | E | 2,062,215.30 |
| P.T. Station | 615+81.22 | N | 13,729,807.90 | E | 2,062,328.56 |
| C.C. | | N | 13,728,776.13 | E | 2,061,715.81 |
| Back = S 65° 24′ 10" E | | | | | |
| Ahead = S 59° 17′ 42" E | | | | | |
| Chord Bear = S 62° 20′ 56" E | | | | | |

Course from PT CULEBRA_EB_6 to PC CULEBRA_EB_9 S 59° 17′ 42" E Dist 212.17

| Curve Data | | | | | |
|---|---|---|---|---|---|
| Curve CULEBRA_EB_9 | | | | | |
| P.I. Station | 618+55.42 | N | 13,729,667.89 | E | 2,062,564.31 |
| Delta = | 7° 05′ 54" (LT) | | | | |
| Degree = | 5° 43′ 46" | | | | |
| Tangent = | 62.02 | | | | |
| Length = | 123.89 | | | | |
| Radius = | 1,000.00 | | | | |
| External = | 1.92 | | | | |
| Long Chord = | 123.81 | | | | |
| Mid. Ord. = | 1.92 | | | | |
| P.C. Station | 617+93.39 | N | 13,729,699.56 | E | 2,062,510.98 |
| P.T. Station | 619+17.28 | N | 13,729,643.05 | E | 2,062,621.14 |
| C.C. | | N | 13,730,559.37 | E | 2,063,021.60 |
| Back = S 59° 17′ 42" E | | | | | |
| Ahead = S 66° 23′ 35" E | | | | | |
| Chord Bear = S 62° 50′ 39" E | | | | | |

Course from PT CULEBRA_EB_9 to PC CULEBRA_EB_12 S 66° 23′ 35" E Dist 278.36

| Curve Data | | | | | |
|---|---|---|---|---|---|
| Curve CULEBRA_EB_12 | | | | | |
| P.I. Station | 623+13.36 | N | 13,729,484.44 | E | 2,062,984.08 |
| Delta = | 6° 07′ 34" (LT) | | | | |
| Degree = | 2° 36′ 16" | | | | |
| Tangent = | 117.72 | | | | |
| Length = | 235.22 | | | | |
| Radius = | 2,200.00 | | | | |
| External = | 3.15 | | | | |
| Long Chord = | 235.11 | | | | |
| Mid. Ord. = | 3.14 | | | | |
| P.C. Station | 621+95.64 | N | 13,729,531.58 | E | 2,062,876.21 |
| P.T. Station | 624+30.86 | N | 13,729,449.08 | E | 2,063,096.37 |
| C.C. | | N | 13,731,547.48 | E | 2,063,757.22 |
| Back = S 66° 23′ 35" E | | | | | |
| Ahead = S 72° 31′ 09" E | | | | | |
| Chord Bear = S 69° 27′ 22" E | | | | | |

Course from PT CULEBRA_EB_12 to PC CULEBRA_EB_15 S 72° 31′ 09" E Dist 124.62

| Curve Data | | | | | |
|---|---|---|---|---|---|
| Curve CULEBRA_EB_15 | | | | | |
| P.I. Station | 626+40.88 | N | 13,729,385.99 | E | 2,063,296.69 |
| Delta = | 5° 25′ 58" (RT) | | | | |
| Degree = | 3° 10′ 59" | | | | |
| Tangent = | 85.40 | | | | |
| Length = | 170.68 | | | | |
| Radius = | 1,800.00 | | | | |
| External = | 2.02 | | | | |
| Long Chord = | 170.61 | | | | |
| Mid. Ord. = | 2.02 | | | | |
| P.C. Station | 625+55.48 | N | 13,729,411.64 | E | 2,063,215.23 |
| P.T. Station | 627+26.16 | N | 13,729,352.74 | E | 2,063,375.35 |
| C.C. | | N | 13,727,694.77 | E | 2,062,674.54 |
| Back = S 72° 31′ 09" E | | | | | |
| Ahead = S 67° 05′ 11" E | | | | | |
| Chord Bear = S 69° 48′ 10" E | | | | | |

Course from PT CULEBRA_EB_15 to PC CULEBRA_EB_18 S 67° 05′ 11" E Dist 13.93

| Curve Data | | | | | |
|---|---|---|---|---|---|
| Curve CULEBRA_EB_18 | | | | | |
| P.I. Station | 629+10.41 | N | 13,729,281.00 | E | 2,063,545.06 |
| Delta = | 1° 01′ 38" (RT) | | | | |
| Degree = | 0° 18′ 06" | | | | |
| Tangent = | 170.31 | | | | |
| Length = | 340.62 | | | | |
| Radius = | 19,000.00 | | | | |
| External = | 0.76 | | | | |
| Long Chord = | 340.61 | | | | |
| Mid. Ord. = | 0.76 | | | | |
| P.C. Station | 627+40.09 | N | 13,729,347.31 | E | 2,063,388.19 |
| P.T. Station | 630+80.71 | N | 13,729,211.89 | E | 2,063,700.72 |
| C.C. | | N | 13,711,846.55 | E | 2,055,990.68 |
| Back = S 67° 05′ 11" E | | | | | |
| Ahead = S 66° 03′ 33" E | | | | | |
| Chord Bear = S 66° 34′ 22" E | | | | | |

Course from PT CULEBRA_EB_18 to PC CULEBRA_EB_21 S 66° 03′ 33" E Dist 149.27

| Curve Data | | | | | |
|---|---|---|---|---|---|
| Curve CULEBRA_EB_21 | | | | | |
| P.I. Station | 633+35.84 | N | 13,729,108.36 | E | 2,063,933.91 |
| Delta = | 1° 00′ 39" (RT) | | | | |
| Degree = | 0° 28′ 39" | | | | |
| Tangent = | 105.86 | | | | |
| Length = | 211.72 | | | | |
| Radius = | 12,000.00 | | | | |
| External = | 0.47 | | | | |
| Long Chord = | 211.72 | | | | |
| Mid. Ord. = | 0.47 | | | | |
| P.C. Station | 632+29.98 | N | 13,729,151.32 | E | 2,063,837.15 |
| P.T. Station | 634+41.70 | N | 13,729,063.70 | E | 2,064,029.89 |
| C.C. | | N | 13,718,183.73 | E | 2,058,967.65 |
| Back = S 66° 03′ 33" E | | | | | |
| Ahead = S 65° 02′ 54" E | | | | | |
| Chord Bear = S 65° 33′ 14" E | | | | | |

Course from PT CULEBRA_EB_21 to PC CULEBRA_EB_24 S 65° 02′ 54" E Dist 1,154.05

| Curve Data | | | | | |
|---|---|---|---|---|---|
| Curve CULEBRA_EB_24 | | | | | |
| P.I. Station | 648+47.98 | N | 13,728,470.46 | E | 2,065,304.91 |
| Delta = | 9° 36′ 42" (RT) | | | | |
| Degree = | 1° 54′ 35" | | | | |
| Tangent = | 252.23 | | | | |
| Length = | 503.27 | | | | |
| Radius = | 3,000.00 | | | | |
| External = | 10.58 | | | | |
| Long Chord = | 502.68 | | | | |
| Mid. Ord. = | 10.55 | | | | |
| P.C. Station | 645+95.75 | N | 13,728,576.86 | E | 2,065,076.23 |
| P.T. Station | 650+99.02 | N | 13,728,327.36 | E | 2,065,512.62 |
| C.C. | | N | 13,725,856.87 | E | 2,063,810.67 |
| Back = S 65° 02′ 54" E | | | | | |
| Ahead = S 55° 26′ 12" E | | | | | |
| Chord Bear = S 60° 14′ 33" E | | | | | |

Course from PT CULEBRA_EB_24 to PC CULEBRA_EB_27 S 55° 26′ 12" E Dist 210.16

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



## HORIZONTAL ALIGNMENT DATA SHEET

SHEET 8 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 83 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\1113508_HALN_Data01.dgn

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\1113508_HALN_Data01.dgn

## CULEBRA EB HORIZONTAL ALIGNMENT CONT.

Curve Data

Curve CULEBRA_EB_27
P.I. Station 655+60.35 N 13,728,065.64 E 2,065,892.52
Delta = 15° 53′ 14" (LT)
Degree = 3° 10′ 59"
Tangent = 251.17
Length = 499.11
Radius = 1,800.00
External = 17.44
Long Chord = 497.51
Mid. Ord. = 17.27
P.C. Station 653+09.19 N 13,728,208.14 E 2,065,685.69
P.T. Station 658+08.29 N 13,727,985.22 E 2,066,130.46
C.C. N 13,729,690.43 E 2,066,706.86
Back = S 55° 26′ 12" E
Ahead = S 71° 19′ 25" E
Chord Bear = S 63° 22′ 48" E

Course from PT CULEBRA_EB_27 to PC CULEBRA_EB_30 S 71° 19′ 25" E Dist 13.54

Curve Data

Curve CULEBRA_EB_30
P.I. Station 661+57.80 N 13,727,873.30 E 2,066,461.56
Delta = 30° 05′ 14" (LT)
Degree = 4° 35′ 01"
Tangent = 335.96
Length = 656.40
Radius = 1,250.00
External = 44.36
Long Chord = 648.89
Mid. Ord. = 42.84
P.C. Station 658+21.84 N 13,727,980.88 E 2,066,143.29
P.T. Station 664+78.24 N 13,727,939.77 E 2,066,790.88
C.C. N 13,729,165.06 E 2,066,543.57
Back = S 71° 19′ 25" E
Ahead = N 78° 35′ 20" E
Chord Bear = S 86° 22′ 02" E

Course from PT CULEBRA_EB_30 to PC CULEBRA_EB_33 N 78° 35′ 20" E Dist 2,152.49

Curve Data

Curve CULEBRA_EB_33
P.I. Station 691+94.90 N 13,728,477.25 E 2,069,453.83
Delta = 28° 09′ 09" (RT)
Degree = 2° 32′ 47"
Tangent = 564.17
Length = 1,105.54
Radius = 2,250.00
External = 69.65
Long Chord = 1,094.45
Mid. Ord. = 67.56
P.C. Station 686+30.73 N 13,728,365.63 E 2,068,900.82
P.T. Station 697+36.27 N 13,728,314.74 E 2,069,994.09
C.C. N 13,726,160.10 E 2,069,345.97
Back = N 78° 35′ 20" E
Ahead = S 73° 15′ 31" E
Chord Bear = S 87° 20′ 05" E

Course from PT CULEBRA_EB_33 to PC CULEBRA_EB_36 S 73° 15′ 31" E Dist 981.75

Curve Data

Curve CULEBRA_EB_36
P.I. Station 708+29.23 N 13,727,999.91 E 2,071,040.72
Delta = 2° 49′ 52" (RT)
Degree = 1° 16′ 24"
Tangent = 111.20
Length = 222.36
Radius = 4,500.00
External = 1.37
Long Chord = 222.33
Mid. Ord. = 1.37
P.C. Station 707+18.03 N 13,728,031.94 E 2,070,934.23
P.T. Station 709+40.38 N 13,727,962.66 E 2,071,145.49
C.C. N 13,723,722.67 E 2,069,638.00
Back = S 73° 15′ 31" E
Ahead = S 70° 25′ 39" E
Chord Bear = S 71° 50′ 35" E

Course from PT CULEBRA_EB_36 to 32 S 70° 25′ 39" E Dist 816.87

Point 32 N 13,727,689.01 E 2,071,915.16 Sta 717+57.25

==========
Ending chain CULEBRA_EB description

## CULEBRA WB HORIZONTAL ALIGNMENT

Beginning chain CULEBRA_WB description
Feature: Road_Centerline
==========

Point 41 N 13,731,310.43 E 2,059,079.77 Sta 750+00.00

Course from 41 to PC CULEBRA_WB_3 S 67° 05′ 24" E Dist 981.66

Curve Data

Curve CULEBRA_WB_3
P.I. Station 760+71.93 N 13,730,893.14 E 2,060,067.14
Delta = 1° 36′ 58" (RT)
Degree = 0° 53′ 43"
Tangent = 90.26
Length = 180.51
Radius = 6,400.00
External = 0.64
Long Chord = 180.51
Mid. Ord. = 0.64
P.C. Station 759+81.66 N 13,730,928.28 E 2,059,984.00
P.T. Station 761+62.18 N 13,730,855.67 E 2,060,149.26
C.C. N 13,725,033.13 E 2,057,492.57
Back = S 67° 05′ 24" E
Ahead = S 65° 28′ 26" E
Chord Bear = S 66° 16′ 55" E

Course from PT CULEBRA_WB_3 to PC CULEBRA_WB_6 S 65° 28′ 26" E Dist 2,297.29

Curve Data

Curve CULEBRA_WB_6
P.I. Station 785+65.18 N 13,729,858.16 E 2,062,335.45
Delta = 4° 10′ 31" (RT)
Degree = 1° 58′ 33"
Tangent = 105.71
Length = 211.33
Radius = 2,900.00
External = 1.93
Long Chord = 211.28
Mid. Ord. = 1.92
P.C. Station 784+59.47 N 13,729,902.05 E 2,062,239.27
P.T. Station 786+70.80 N 13,729,807.40 E 2,062,428.17
C.C. N 13,727,263.71 E 2,061,035.46
Back = S 65° 28′ 26" E
Ahead = S 61° 17′ 55" E
Chord Bear = S 63° 23′ 10" E

Course from PT CULEBRA_WB_6 to PC CULEBRA_WB_9 S 61° 17′ 55" E Dist 104.41

Curve Data

Curve CULEBRA_WB_9
P.I. Station 788+10.61 N 13,729,740.26 E 2,062,550.80
Delta = 5° 04′ 01" (LT)
Degree = 7° 09′ 43"
Tangent = 35.40
Length = 70.75
Radius = 800.00
External = 0.78
Long Chord = 70.73
Mid. Ord. = 0.78
P.C. Station 787+75.21 N 13,729,757.25 E 2,062,519.75
P.T. Station 788+45.96 N 13,729,726.06 E 2,062,583.23
C.C. N 13,730,458.96 E 2,062,903.95
Back = S 61° 17′ 55" E
Ahead = S 66° 21′ 57" E
Chord Bear = S 63° 49′ 56" E

Course from PT CULEBRA_WB_9 to PC CULEBRA_WB_12 S 66° 21′ 57" E Dist 424.17

Curve Data

Curve CULEBRA_WB_12
P.I. Station 793+00.68 N 13,729,543.77 E 2,062,999.81
Delta = 1° 45′ 02" (LT)
Degree = 2° 51′ 53"
Tangent = 30.55
Length = 61.11
Radius = 2,000.00
External = 0.23
Long Chord = 61.10
Mid. Ord. = 0.23
P.C. Station 792+70.13 N 13,729,556.01 E 2,062,971.82
P.T. Station 793+31.23 N 13,729,532.38 E 2,063,028.17
C.C. N 13,731,388.26 E 2,063,773.62
Back = S 66° 21′ 57" E
Ahead = S 68° 06′ 58" E
Chord Bear = S 67° 14′ 27" E

Course from PT CULEBRA_WB_12 to PC CULEBRA_WB_15 S 68° 06′ 58" E Dist 317.59

Curve Data

Curve CULEBRA_WB_15
P.I. Station 797+11.82 N 13,729,390.52 E 2,063,381.33
Delta = 1° 21′ 43" (RT)
Degree = 1° 04′ 52"
Tangent = 62.99
Length = 125.97
Radius = 5,300.00
External = 0.37
Long Chord = 125.97
Mid. Ord. = 0.37
P.C. Station 796+48.83 N 13,729,414.00 E 2,063,322.88
P.T. Station 797+74.80 N 13,729,365.66 E 2,063,439.20
C.C. N 13,724,495.91 E 2,061,347.44
Back = S 68° 06′ 58" E
Ahead = S 66° 45′ 16" E
Chord Bear = S 67° 26′ 07" E

Course from PT CULEBRA_WB_15 to PC CULEBRA_WB_18 S 66° 45′ 16" E Dist 377.32

Curve Data

Curve CULEBRA_WB_18
P.I. Station 802+52.94 N 13,729,176.96 E 2,063,878.53
Delta = 1° 46′ 38" (RT)
Degree = 0° 52′ 53"
Tangent = 100.81
Length = 201.61
Radius = 6,500.00
External = 0.78
Long Chord = 201.60
Mid. Ord. = 0.78
P.C. Station 801+52.12 N 13,729,216.74 E 2,063,785.90
P.T. Station 803+53.74 N 13,729,134.31 E 2,063,969.88
C.C. N 13,723,244.41 E 2,061,220.52
Back = S 66° 45′ 16" E
Ahead = S 64° 58′ 38" E
Chord Bear = S 65° 51′ 57" E

Course from PT CULEBRA_WB_18 to PC CULEBRA_WB_21 S 64° 58′ 38" E Dist 1,250.17

Curve Data

Curve CULEBRA_WB_21
P.I. Station 818+62.01 N 13,728,496.35 E 2,065,336.58
Delta = 9° 50′ 05" (RT)
Degree = 1° 54′ 35"
Tangent = 258.10
Length = 514.94
Radius = 3,000.00
External = 11.08
Long Chord = 514.31
Mid. Ord. = 11.04
P.C. Station 816+03.90 N 13,728,605.52 E 2,065,102.70
P.T. Station 821+18.84 N 13,728,348.83 E 2,065,548.38
C.C. N 13,725,887.10 E 2,063,833.77
Back = S 64° 58′ 38" E
Ahead = S 55° 08′ 33" E
Chord Bear = S 60° 03′ 36" E

Course from PT CULEBRA_WB_21 to PC CULEBRA_WB_24 S 55° 08′ 33" E Dist 199.64

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# HORIZONTAL ALIGNMENT DATA SHEET



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 84 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\111508_HALN_Data01.dgn

## CULEBRA WB HORIZONTAL ALIGNMENT CONT.

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve CULEBRA_WB_24 | | | | | |
| P.I. Station | 825+53.05 | N | 13,728,100.67 | E | 2,065,904.67 |
| Delta = | 15° 42′ 44" (LT) | | | | |
| Degree = | 3° 22′ 13" | | | | |
| Tangent = | 234.57 | | | | |
| Length = | 466.19 | | | | |
| Radius = | 1,700.00 | | | | |
| External = | 16.11 | | | | |
| Long Chord = | 464.73 | | | | |
| Mid. Ord. = | 15.96 | | | | |
| P.C. Station | 823+18.48 | N | 13,728,234.73 | E | 2,065,712.19 |
| P.T. Station | 827+84.67 | N | 13,728,023.74 | E | 2,066,126.27 |
| C.C. | | N | 13,729,629.71 | E | 2,066,683.80 |
| Back = S 55° 08′ 33" E | | | | | |
| Ahead = S 70° 51′ 17" E | | | | | |
| Chord Bear = S 62° 59′ 55" E | | | | | |

Course from PT CULEBRA_WB_24 to PC CULEBRA_WB_27 S 70° 51′ 17" E Dist 4.82

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve CULEBRA_WB_27 | | | | | |
| P.I. Station | 831+31.82 | N | 13,727,909.89 | E | 2,066,454.21 |
| Delta = | 30° 37′ 51" (LT) | | | | |
| Degree = | 4° 35′ 01" | | | | |
| Tangent = | 342.32 | | | | |
| Length = | 668.26 | | | | |
| Radius = | 1,250.00 | | | | |
| External = | 46.03 | | | | |
| Long Chord = | 660.33 | | | | |
| Mid. Ord. = | 44.39 | | | | |
| P.C. Station | 827+89.49 | N | 13,728,022.16 | E | 2,066,130.82 |
| P.T. Station | 834+57.75 | N | 13,727,978.05 | E | 2,066,789.68 |
| C.C. | | N | 13,729,203.02 | E | 2,066,540.78 |
| Back = S 70° 51′ 17" E | | | | | |
| Ahead = N 78° 30′ 52" E | | | | | |
| Chord Bear = S 86° 10′ 13" E | | | | | |

Course from PT CULEBRA_WB_27 to PC CULEBRA_WB_30 N 78° 30′ 52" E Dist 2,124.20

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve CULEBRA_WB_30 | | | | | |
| P.I. Station | 861+72.01 | N | 13,728,518.52 | E | 2,069,449.59 |
| Delta = | 28° 11′ 24" (RT) | | | | |
| Degree = | 2° 26′ 17" | | | | |
| Tangent = | 590.06 | | | | |
| Length = | 1,156.22 | | | | |
| Radius = | 2,350.00 | | | | |
| External = | 72.95 | | | | |
| Long Chord = | 1,144.59 | | | | |
| Mid. Ord. = | 70.75 | | | | |
| P.C. Station | 855+81.95 | N | 13,728,401.03 | E | 2,068,871.34 |
| P.T. Station | 867+38.17 | N | 13,728,348.92 | E | 2,070,014.75 |
| C.C. | | N | 13,726,098.09 | E | 2,069,339.28 |
| Back = N 78° 30′ 52" E | | | | | |
| Ahead = S 73° 17′ 44" E | | | | | |
| Chord Bear = S 87° 23′ 26" E | | | | | |

Course from PT CULEBRA_WB_30 to PC CULEBRA_WB_33 S 73° 17′ 44" E Dist 947.26

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve CULEBRA_WB_33 | | | | | |
| P.I. Station | 878+11.27 | N | 13,728,040.47 | E | 2,071,042.56 |
| Delta = | 2° 52′ 59" (RT) | | | | |
| Degree = | 1° 08′ 45" | | | | |
| Tangent = | 125.83 | | | | |
| Length = | 251.60 | | | | |
| Radius = | 5,000.00 | | | | |
| External = | 1.58 | | | | |
| Long Chord = | 251.58 | | | | |
| Mid. Ord. = | 1.58 | | | | |
| P.C. Station | 876+85.44 | N | 13,728,076.64 | E | 2,070,922.04 |
| P.T. Station | 879+37.04 | N | 13,727,998.29 | E | 2,071,161.10 |
| C.C. | | N | 13,723,287.64 | E | 2,069,484.87 |
| Back = S 73° 17′ 44" E | | | | | |
| Ahead = S 70° 24′ 45" E | | | | | |
| Chord Bear = S 71° 51′ 15" E | | | | | |

Course from PT CULEBRA_WB_33 to 42 S 70° 24′ 45" E Dist 810.04

Point 42 N 13,727,726.73 E 2,071,924.26 Sta 887+47.08

Ending chain CULEBRA_WB description

## LP 410-B EB HORIZONTAL ALIGNMENT

Beginning chain LOOP410B_EB_CL description
Feature: Road_Centerline

Point 55 N 13,739,152.32 E 2,124,420.25 Sta 1300+00.00

Course from 55 to PC LOOP410B_EB_C_3 N 89° 00′ 44" E Dist 207.50

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve LOOP410B_EB_C_3 | | | | | |
| P.I. Station | 1304+24.13 | N | 13,739,159.63 | E | 2,124,844.32 |
| Delta = | 17° 35′ 29" (LT) | | | | |
| Degree = | 4° 05′ 33" | | | | |
| Tangent = | 216.62 | | | | |
| Length = | 429.84 | | | | |
| Radius = | 1,400.00 | | | | |
| External = | 16.66 | | | | |
| Long Chord = | 428.15 | | | | |
| Mid. Ord. = | 16.46 | | | | |
| P.C. Station | 1302+07.50 | N | 13,739,155.90 | E | 2,124,627.73 |
| P.T. Station | 1306+37.34 | N | 13,739,228.65 | E | 2,125,049.65 |
| C.C. | | N | 13,740,555.69 | E | 2,124,603.59 |
| Back = N 89° 00′ 44" E | | | | | |
| Ahead = N 71° 25′ 15" E | | | | | |
| Chord Bear = N 80° 12′ 59" E | | | | | |

Course from PT LOOP410B_EB_C_3 to PC LOOP410B_EB_C_6 N 71° 25′ 15" E Dist 223.60

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve LOOP410B_EB_C_6 | | | | | |
| P.I. Station | 1310+33.24 | N | 13,739,354.79 | E | 2,125,424.92 |
| Delta = | 19° 33′ 09" (RT) | | | | |
| Degree = | 5° 43′ 46" | | | | |
| Tangent = | 172.30 | | | | |
| Length = | 341.25 | | | | |
| Radius = | 1,000.00 | | | | |
| External = | 14.74 | | | | |
| Long Chord = | 339.60 | | | | |
| Mid. Ord. = | 14.52 | | | | |
| P.C. Station | 1308+60.94 | N | 13,739,299.89 | E | 2,125,261.60 |
| P.T. Station | 1312+02.19 | N | 13,739,351.86 | E | 2,125,597.19 |
| C.C. | | N | 13,738,352.01 | E | 2,125,580.21 |
| Back = N 71° 25′ 15" E | | | | | |
| Ahead = S 89° 01′ 37" E | | | | | |
| Chord Bear = N 81° 11′ 49" E | | | | | |

Course from PT LOOP410B_EB_C_6 to PC LOOP410B_EB_C_9 S 89° 01′ 37" E Dist 547.72

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve LOOP410B_EB_C_9 | | | | | |
| P.I. Station | 1318+79.20 | N | 13,739,340.36 | E | 2,126,274.10 |
| Delta = | 1° 20′ 48" (LT) | | | | |
| Degree = | 0° 31′ 15" | | | | |
| Tangent = | 129.29 | | | | |
| Length = | 258.56 | | | | |
| Radius = | 11,000.00 | | | | |
| External = | 0.76 | | | | |
| Long Chord = | 258.56 | | | | |
| Mid. Ord. = | 0.76 | | | | |
| P.C. Station | 1317+49.91 | N | 13,739,342.56 | E | 2,126,144.84 |
| P.T. Station | 1320+08.47 | N | 13,739,341.21 | E | 2,126,403.39 |
| C.C. | | N | 13,750,340.97 | E | 2,126,331.67 |
| Back = S 89° 01′ 37" E | | | | | |
| Ahead = N 89° 37′ 35" E | | | | | |
| Chord Bear = S 89° 42′ 01" E | | | | | |

Course from PT LOOP410B_EB_C_9 to PC LOOP410B_EB__12 N 89° 37′ 35" E Dist 680.86

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve LOOP410B_EB__12 | | | | | |
| P.I. Station | 1328+54.85 | N | 13,739,346.72 | E | 2,127,249.75 |
| Delta = | 5° 24′ 54" (RT) | | | | |
| Degree = | 1° 38′ 13" | | | | |
| Tangent = | 165.51 | | | | |
| Length = | 330.78 | | | | |
| Radius = | 3,500.00 | | | | |
| External = | 3.91 | | | | |
| Long Chord = | 330.65 | | | | |
| Mid. Ord. = | 3.91 | | | | |
| P.C. Station | 1326+89.34 | N | 13,739,345.65 | E | 2,127,084.24 |
| P.T. Station | 1330+20.11 | N | 13,739,332.18 | E | 2,127,414.62 |
| C.C. | | N | 13,735,845.72 | E | 2,127,107.06 |
| Back = N 89° 37′ 35" E | | | | | |
| Ahead = S 84° 57′ 31" E | | | | | |
| Chord Bear = S 87° 39′ 58" E | | | | | |

Course from PT LOOP410B_EB__12 to PC LOOP410B_EB__15 S 84° 57′ 31" E Dist 343.20

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve LOOP410B_EB__15 | | | | | |
| P.I. Station | 1334+51.23 | N | 13,739,294.30 | E | 2,127,844.06 |
| Delta = | 4° 22′ 41" (LT) | | | | |
| Degree = | 2° 29′ 28" | | | | |
| Tangent = | 87.91 | | | | |
| Length = | 175.74 | | | | |
| Radius = | 2,300.00 | | | | |
| External = | 1.68 | | | | |
| Long Chord = | 175.70 | | | | |
| Mid. Ord. = | 1.68 | | | | |
| P.C. Station | 1333+63.31 | N | 13,739,302.02 | E | 2,127,756.49 |
| P.T. Station | 1335+39.06 | N | 13,739,293.28 | E | 2,127,931.97 |
| C.C. | | N | 13,741,593.13 | E | 2,127,958.60 |
| Back = S 84° 57′ 31" E | | | | | |
| Ahead = S 89° 20′ 12" E | | | | | |
| Chord Bear = S 87° 08′ 52" E | | | | | |

Course from PT LOOP410B_EB__15 to PC LOOP410B_EB__18 S 89° 20′ 12" E Dist 373.86

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve LOOP410B_EB__18 | | | | | |
| P.I. Station | 1340+15.93 | N | 13,739,287.76 | E | 2,128,408.82 |
| Delta = | 8° 25′ 01" (LT) | | | | |
| Degree = | 4° 05′ 33" | | | | |
| Tangent = | 103.02 | | | | |
| Length = | 205.66 | | | | |
| Radius = | 1,400.00 | | | | |
| External = | 3.79 | | | | |
| Long Chord = | 205.48 | | | | |
| Mid. Ord. = | 3.77 | | | | |
| P.C. Station | 1339+12.92 | N | 13,739,288.95 | E | 2,128,305.81 |
| P.T. Station | 1341+18.58 | N | 13,739,301.66 | E | 2,128,510.89 |
| C.C. | | N | 13,740,688.86 | E | 2,128,322.01 |
| Back = S 89° 20′ 12" E | | | | | |
| Ahead = N 82° 14′ 47" E | | | | | |
| Chord Bear = N 86° 27′ 18" E | | | | | |

Course from PT LOOP410B_EB__18 to PC LOOP410B_EB__21 N 82° 14′ 47" E Dist 150.06

Curve Data

| | | | | | |
|---|---|---|---|---|---|
| Curve LOOP410B_EB__21 | | | | | |
| P.I. Station | 1344+09.80 | N | 13,739,340.95 | E | 2,128,799.45 |
| Delta = | 8° 04′ 28" (RT) | | | | |
| Degree = | 2° 51′ 53" | | | | |
| Tangent = | 141.16 | | | | |
| Length = | 281.85 | | | | |
| Radius = | 2,000.00 | | | | |
| External = | 4.98 | | | | |
| Long Chord = | 281.62 | | | | |
| Mid. Ord. = | 4.96 | | | | |
| P.C. Station | 1342+68.64 | N | 13,739,321.90 | E | 2,128,659.58 |
| P.T. Station | 1345+50.49 | N | 13,739,340.16 | E | 2,128,940.60 |
| C.C. | | N | 13,737,340.19 | E | 2,128,929.40 |
| Back = N 82° 14′ 47" E | | | | | |
| Ahead = S 89° 40′ 45" E | | | | | |
| Chord Bear = N 86° 17′ 01" E | | | | | |

Course from PT LOOP410B_EB__21 to PC LOOP410B_EB__24 S 89° 40′ 45" E Dist 1,407.33

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# HORIZONTAL ALIGNMENT DATA SHEET



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 85 |

# LP 410-B EB HORIZONTAL ALIGNMENT CONT.

Curve Data

Curve LOOP410B_EB__24
P.I. Station 1361+99.85 N 13,739,330.92 E 2,130,589.94
Delta = 2° 08' 00" (RT)
Degree = 0° 26' 27"
Tangent = 242.03
Length = 484.01
Radius = 13,000.00
External = 2.25
Long Chord = 483.98
Mid. Ord. = 2.25
P.C. Station 1359+57.82 N 13,739,332.27 E 2,130,347.91
P.T. Station 1364+41.83 N 13,739,320.55 E 2,130,831.75
C.C. N 13,726,332.48 E 2,130,275.10
Back = S 89° 40' 45" E
Ahead = S 87° 32' 45" E
Chord Bear = S 88° 36' 45" E

Course from PT LOOP410B_EB__24 to PC LOOP410B_EB__27 S 87° 32' 45" E Dist 231.49

Curve Data

Curve LOOP410B_EB__27
P.I. Station 1367+59.17 N 13,739,306.97 E 2,131,148.80
Delta = 1° 45' 24" (LT)
Degree = 1° 01' 23"
Tangent = 85.85
Length = 171.69
Radius = 5,600.00
External = 0.66
Long Chord = 171.69
Mid. Ord. = 0.66
P.C. Station 1366+73.32 N 13,739,310.64 E 2,131,063.03
P.T. Station 1368+45.01 N 13,739,305.92 E 2,131,234.65
C.C. N 13,744,905.51 E 2,131,302.81
Back = S 87° 32' 45" E
Ahead = S 89° 18' 09" E
Chord Bear = S 88° 25' 27" E

Course from PT LOOP410B_EB__27 to PC LOOP410B_EB__30 S 89° 18' 09" E Dist 916.87

Curve Data

Curve LOOP410B_EB__30
P.I. Station 1378+36.05 N 13,739,293.86 E 2,132,225.62
Delta = 1° 31' 03" (LT)
Degree = 1° 01' 23"
Tangent = 74.17
Length = 148.33
Radius = 5,600.00
External = 0.49
Long Chord = 148.33
Mid. Ord. = 0.49
P.C. Station 1377+61.88 N 13,739,294.76 E 2,132,151.45
P.T. Station 1379+10.21 N 13,739,294.92 E 2,132,299.78
C.C. N 13,744,894.35 E 2,132,219.62
Back = S 89° 18' 09" E
Ahead = N 89° 10' 47" E
Chord Bear = N 89° 56' 19" E

Course from PT LOOP410B_EB__30 to PC LOOP410B_EB__33 N 89° 10' 47" E Dist 15.23

Curve Data

Curve LOOP410B_EB__33
P.I. Station 1380+07.15 N 13,739,296.31 E 2,132,396.71
Delta = 1° 02' 25" (RT)
Degree = 0° 38' 12"
Tangent = 81.71
Length = 163.41
Radius = 9,000.00
External = 0.37
Long Chord = 163.40
Mid. Ord. = 0.37
P.C. Station 1379+25.44 N 13,739,295.14 E 2,132,315.01
P.T. Station 1380+88.85 N 13,739,295.99 E 2,132,478.41
C.C. N 13,730,296.06 E 2,132,443.84
Back = N 89° 10' 47" E
Ahead = S 89° 46' 48" E
Chord Bear = N 89° 42' 00" E

Course from PT LOOP410B_EB__33 to PC LOOP410B_EB__36 S 89° 46' 48" E Dist 1,796.72

Curve Data

Curve LOOP410B_EB__36
P.I. Station 1401+13.32 N 13,739,288.22 E 2,134,502.86
Delta = 8° 40' 58" (RT)
Degree = 1° 54' 35"
Tangent = 227.75
Length = 454.63
Radius = 3,000.00
External = 8.63
Long Chord = 454.20
Mid. Ord. = 8.61
P.C. Station 1398+85.56 N 13,739,289.09 E 2,134,275.11
P.T. Station 1403+40.20 N 13,739,252.97 E 2,134,727.87
C.C. N 13,736,289.12 E 2,134,263.59
Back = S 89° 46' 48" E
Ahead = S 81° 05' 49" E
Chord Bear = S 85° 26' 19" E

Course from PT LOOP410B_EB__36 to PC LOOP410B_EB__39 S 81° 05' 49" E Dist 190.06

Curve Data

Curve LOOP410B_EB__39
P.I. Station 1406+58.48 N 13,739,203.71 E 2,135,042.32
Delta = 3° 40' 20" (RT)
Degree = 1° 25' 57"
Tangent = 128.23
Length = 256.36
Radius = 4,000.00
External = 2.05
Long Chord = 256.32
Mid. Ord. = 2.05
P.C. Station 1405+30.26 N 13,739,223.56 E 2,134,915.64
P.T. Station 1407+86.62 N 13,739,175.80 E 2,135,167.47
C.C. N 13,735,271.75 E 2,134,296.60
Back = S 81° 05' 49" E
Ahead = S 77° 25' 30" E
Chord Bear = S 79° 15' 40" E

Course from PT LOOP410B_EB__39 to PC LOOP410B_EB__42 S 77° 25' 30" E Dist 50.29

Curve Data

Curve LOOP410B_EB__42
P.I. Station 1409+51.37 N 13,739,139.93 E 2,135,328.27
Delta = 3° 02' 59" (RT)
Degree = 1° 19' 57"
Tangent = 114.46
Length = 228.87
Radius = 4,300.00
External = 1.52
Long Chord = 228.84
Mid. Ord. = 1.52
P.C. Station 1408+36.91 N 13,739,164.85 E 2,135,216.56
P.T. Station 1410+65.78 N 13,739,109.10 E 2,135,438.50
C.C. N 13,734,968.00 E 2,134,280.37
Back = S 77° 25' 30" E
Ahead = S 74° 22' 31" E
Chord Bear = S 75° 54' 01" E

Course from PT LOOP410B_EB__42 to PC LOOP410B_EB__45 S 74° 22' 31" E Dist 1,702.99

Curve Data

Curve LOOP410B_EB__45
P.I. Station 1430+12.03 N 13,738,584.91 E 2,137,312.83
Delta = 3° 05' 47" (LT)
Degree = 0° 38' 12"
Tangent = 243.26
Length = 486.40
Radius = 9,000.00
External = 3.29
Long Chord = 486.34
Mid. Ord. = 3.29
P.C. Station 1427+68.77 N 13,738,650.43 E 2,137,078.56
P.T. Station 1432+55.17 N 13,738,532.14 E 2,137,550.30
C.C. N 13,747,317.85 E 2,139,502.57
Back = S 74° 22' 31" E
Ahead = S 77° 28' 19" E
Chord Bear = S 75° 55' 25" E

Course from PT LOOP410B_EB__45 to PC LOOP410B_EB__48 S 77° 28' 19" E Dist 396.72

Curve Data

Curve LOOP410B_EB__48
P.I. Station 1439+81.39 N 13,738,374.61 E 2,138,259.23
Delta = 9° 25' 06" (RT)
Degree = 1° 25' 57"
Tangent = 329.50
Length = 657.52
Radius = 4,000.00
External = 13.55
Long Chord = 656.78
Mid. Ord. = 13.50
P.C. Station 1436+51.89 N 13,738,446.08 E 2,137,937.57
P.T. Station 1443+09.41 N 13,738,251.46 E 2,138,564.86
C.C. N 13,734,541.33 E 2,137,069.90
Back = S 77° 28' 19" E
Ahead = S 68° 03' 13" E
Chord Bear = S 72° 45' 46" E

Course from PT LOOP410B_EB__48 to PC LOOP410B_EB__51 S 68° 03' 13" E Dist 213.97

Curve Data

Curve LOOP410B_EB__51
P.I. Station 1448+06.15 N 13,738,065.81 E 2,139,025.60
Delta = 12° 54' 22" (LT)
Degree = 2° 17' 31"
Tangent = 282.76
Length = 563.13
Radius = 2,500.00
External = 15.94
Long Chord = 561.94
Mid. Ord. = 15.84
P.C. Station 1445+23.39 N 13,738,171.49 E 2,138,763.33
P.T. Station 1450+86.52 N 13,738,021.38 E 2,139,304.85
C.C. N 13,740,490.32 E 2,139,697.68
Back = S 68° 03' 13" E
Ahead = S 80° 57' 34" E
Chord Bear = S 74° 30' 24" E

Course from PT LOOP410B_EB__51 to PC LOOP410B_EB__54 S 80° 57' 34" E Dist 99.65

Curve Data

Curve LOOP410B_EB__54
P.I. Station 1452+48.35 N 13,737,995.95 E 2,139,464.67
Delta = 4° 44' 51" (LT)
Degree = 3° 49' 11"
Tangent = 62.18
Length = 124.29
Radius = 1,500.00
External = 1.29
Long Chord = 124.25
Mid. Ord. = 1.29
P.C. Station 1451+86.17 N 13,738,005.72 E 2,139,403.26
P.T. Station 1453+10.46 N 13,737,991.29 E 2,139,526.67
C.C. N 13,739,487.09 E 2,139,638.96
Back = S 80° 57' 34" E
Ahead = S 85° 42' 25" E
Chord Bear = S 83° 20' 00" E

Course from PT LOOP410B_EB__54 to 56 S 85° 42' 25" E Dist 880.11

Point 56 N 13,737,925.41 E 2,140,404.31 Sta 1461+90.57

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Ending chain LOOP410B_EB_CL description


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




## HORIZONTAL ALIGNMENT DATA SHEET



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 86 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\1113508_HALN_Data01.dgn

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\1113508_HALN_Data01.dgn

# LP 410-B WB HORIZONTAL ALIGNMENT

Beginning chain LOOP410B_CL_WB description
Feature: Road_Centerline

Point 53 N 13,739,649.45 E 2,124,574.45 Sta 1500+00.00

Course from 53 to PC LOOP410B_CL_W_3 S 86° 59′ 18" E Dist 169.54

Curve Data

| Curve LOOP410B_CL_W_3 | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | | 1502+86.29 | N | 13,739,634.41 | E | 2,124,860.34 |
| Delta | = | 1° 45′ 37" | (LT) | | | |
| Degree | = | 0° 45′ 14" | | | | |
| Tangent | = | 116.75 | | | | |
| Length | = | 233.48 | | | | |
| Radius | = | 7,600.00 | | | | |
| External | = | 0.90 | | | | |
| Long Chord | = | 233.47 | | | | |
| Mid. Ord. | = | 0.90 | | | | |
| P.C. Station | | 1501+69.54 | N | 13,739,640.54 | E | 2,124,743.75 |
| P.T. Station | | 1504+03.02 | N | 13,739,631.86 | E | 2,124,977.06 |
| C.C. | | | N | 13,747,230.04 | E | 2,125,143.06 |
| Back | = S 86° 59′ 18" E | | | | | |
| Ahead | = S 88° 44′ 55" E | | | | | |
| Chord Bear | = S 87° 52′ 06" E | | | | | |

Course from PT LOOP410B_CL_W_3 to PC LOOP410B_CL_W_6 S 88° 44′ 55" E Dist 780.50

Curve Data

| Curve LOOP410B_CL_W_6 | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | | 1514+33.58 | N | 13,739,609.35 | E | 2,126,007.38 |
| Delta | = | 1° 54′ 37" | (LT) | | | |
| Degree | = | 0° 22′ 55" | | | | |
| Tangent | = | 250.07 | | | | |
| Length | = | 500.09 | | | | |
| Radius | = | 15,000.00 | | | | |
| External | = | 2.08 | | | | |
| Long Chord | = | 500.07 | | | | |
| Mid. Ord. | = | 2.08 | | | | |
| P.C. Station | | 1511+83.52 | N | 13,739,614.81 | E | 2,125,757.38 |
| P.T. Station | | 1516+83.61 | N | 13,739,612.22 | E | 2,126,257.43 |
| C.C. | | | N | 13,754,611.23 | E | 2,126,085.00 |
| Back | = S 88° 44′ 55" E | | | | | |
| Ahead | = N 89° 20′ 29" E | | | | | |
| Chord Bear | = S 89° 42′ 13" E | | | | | |

Course from PT LOOP410B_CL_W_6 to PC LOOP410B_CL_W_9 N 89° 20′ 29" E Dist 910.89

Curve Data

| Curve LOOP410B_CL_W_9 | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | | 1527+72.21 | N | 13,739,624.74 | E | 2,127,345.96 |
| Delta | = | 6° 46′ 48" | (LT) | | | |
| Degree | = | 1° 54′ 35" | | | | |
| Tangent | = | 177.71 | | | | |
| Length | = | 355.00 | | | | |
| Radius | = | 3,000.00 | | | | |
| External | = | 5.26 | | | | |
| Long Chord | = | 354.79 | | | | |
| Mid. Ord. | = | 5.25 | | | | |
| P.C. Station | | 1525+94.50 | N | 13,739,622.69 | E | 2,127,168.27 |
| P.T. Station | | 1529+49.50 | N | 13,739,647.74 | E | 2,127,522.18 |
| C.C. | | | N | 13,742,622.50 | E | 2,127,133.78 |
| Back | = N 89° 20′ 29" E | | | | | |
| Ahead | = N 82° 33′ 41" E | | | | | |
| Chord Bear | = N 85° 57′ 05" E | | | | | |

Course from PT LOOP410B_CL_W_9 to PC LOOP410B_CL__12 N 82° 33′ 41" E Dist 120.52

Curve Data

| Curve LOOP410B_CL__12 | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | | 1531+96.24 | N | 13,739,679.69 | E | 2,127,766.84 |
| Delta | = | 8° 01′ 20" | (RT) | | | |
| Degree | = | 3° 10′ 59" | | | | |
| Tangent | = | 126.22 | | | | |
| Length | = | 252.03 | | | | |
| Radius | = | 1,800.00 | | | | |
| External | = | 4.42 | | | | |
| Long Chord | = | 251.82 | | | | |
| Mid. Ord. | = | 4.41 | | | | |
| P.C. Station | | 1530+70.02 | N | 13,739,663.35 | E | 2,127,641.68 |
| P.T. Station | | 1533+22.05 | N | 13,739,678.40 | E | 2,127,893.05 |
| C.C. | | | N | 13,737,878.50 | E | 2,127,874.72 |
| Back | = N 82° 33′ 41" E | | | | | |
| Ahead | = S 89° 24′ 59" E | | | | | |
| Chord Bear | = N 86° 34′ 21" E | | | | | |

Course from PT LOOP410B_CL__12 to PC LOOP410B_CL__15 S 89° 24′ 59" E Dist 372.78

Curve Data

| Curve LOOP410B_CL__15 | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | | 1538+31.96 | N | 13,739,673.21 | E | 2,128,402.94 |
| Delta | = | 5° 36′ 28" | (RT) | | | |
| Degree | = | 2° 02′ 47" | | | | |
| Tangent | = | 137.13 | | | | |
| Length | = | 274.05 | | | | |
| Radius | = | 2,800.00 | | | | |
| External | = | 3.36 | | | | |
| Long Chord | = | 273.94 | | | | |
| Mid. Ord. | = | 3.35 | | | | |
| P.C. Station | | 1536+94.83 | N | 13,739,674.60 | E | 2,128,265.82 |
| P.T. Station | | 1539+68.88 | N | 13,739,658.42 | E | 2,128,539.27 |
| C.C. | | | N | 13,736,874.75 | E | 2,128,237.30 |
| Back | = S 89° 24′ 59" E | | | | | |
| Ahead | = S 83° 48′ 31" E | | | | | |
| Chord Bear | = S 86° 36′ 45" E | | | | | |

Course from PT LOOP410B_CL__15 to PC LOOP410B_CL__18 S 83° 48′ 31" E Dist 144.08

Curve Data

| Curve LOOP410B_CL__18 | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | | 1542+72.87 | N | 13,739,625.63 | E | 2,128,841.50 |
| Delta | = | 2° 49′ 07" | (LT) | | | |
| Degree | = | 0° 52′ 53" | | | | |
| Tangent | = | 159.91 | | | | |
| Length | = | 319.76 | | | | |
| Radius | = | 6,500.00 | | | | |
| External | = | 1.97 | | | | |
| Long Chord | = | 319.73 | | | | |
| Mid. Ord. | = | 1.97 | | | | |
| P.C. Station | | 1541+12.96 | N | 13,739,642.88 | E | 2,128,682.52 |
| P.T. Station | | 1544+32.72 | N | 13,739,616.22 | E | 2,129,001.13 |
| C.C. | | | N | 13,746,104.97 | E | 2,129,383.54 |
| Back | = S 83° 48′ 31" E | | | | | |
| Ahead | = S 86° 37′ 38" E | | | | | |
| Chord Bear | = S 85° 13′ 05" E | | | | | |

Course from PT LOOP410B_CL__18 to PC LOOP410B_CL__21 S 86° 37′ 38" E Dist 119.73

Curve Data

| Curve LOOP410B_CL__21 | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | | 1546+26.40 | N | 13,739,604.83 | E | 2,129,194.47 |
| Delta | = | 2° 49′ 26" | (LT) | | | |
| Degree | = | 1° 54′ 35" | | | | |
| Tangent | = | 73.94 | | | | |
| Length | = | 147.85 | | | | |
| Radius | = | 3,000.00 | | | | |
| External | = | 0.91 | | | | |
| Long Chord | = | 147.84 | | | | |
| Mid. Ord. | = | 0.91 | | | | |
| P.C. Station | | 1545+52.46 | N | 13,739,609.18 | E | 2,129,120.66 |
| P.T. Station | | 1547+00.31 | N | 13,739,604.12 | E | 2,129,268.41 |
| C.C. | | | N | 13,742,603.98 | E | 2,129,297.15 |
| Back | = S 86° 37′ 38" E | | | | | |
| Ahead | = S 89° 27′ 04" E | | | | | |
| Chord Bear | = S 88° 02′ 21" E | | | | | |

Course from PT LOOP410B_CL__21 to PC LOOP410B_CL__24 S 89° 27′ 04" E Dist 3,489.52

Curve Data

| Curve LOOP410B_CL__24 | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | | 1582+24.73 | N | 13,739,570.36 | E | 2,132,792.67 |
| Delta | = | 1° 59′ 58" | (RT) | | | |
| Degree | = | 2° 51′ 53" | | | | |
| Tangent | = | 34.90 | | | | |
| Length | = | 69.79 | | | | |
| Radius | = | 2,000.00 | | | | |
| External | = | 0.30 | | | | |
| Long Chord | = | 69.79 | | | | |
| Mid. Ord. | = | 0.30 | | | | |
| P.C. Station | | 1581+89.83 | N | 13,739,570.69 | E | 2,132,757.78 |
| P.T. Station | | 1582+59.63 | N | 13,739,568.80 | E | 2,132,827.54 |
| C.C. | | | N | 13,737,570.78 | E | 2,132,738.62 |
| Back | = S 89° 27′ 04" E | | | | | |
| Ahead | = S 87° 27′ 06" E | | | | | |
| Chord Bear | = S 88° 27′ 05" E | | | | | |

Course from PT LOOP410B_CL__24 to PC LOOP410B_CL__27 S 87° 27′ 06" E Dist 74.73

Curve Data

| Curve LOOP410B_CL__27 | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | | 1583+62.22 | N | 13,739,564.24 | E | 2,132,930.03 |
| Delta | = | 1° 35′ 47" | (LT) | | | |
| Degree | = | 2° 51′ 53" | | | | |
| Tangent | = | 27.87 | | | | |
| Length | = | 55.73 | | | | |
| Radius | = | 2,000.00 | | | | |
| External | = | 0.19 | | | | |
| Long Chord | = | 55.73 | | | | |
| Mid. Ord. | = | 0.19 | | | | |
| P.C. Station | | 1583+34.35 | N | 13,739,565.48 | E | 2,132,902.19 |
| P.T. Station | | 1583+90.08 | N | 13,739,563.78 | E | 2,132,957.89 |
| C.C. | | | N | 13,741,563.50 | E | 2,132,991.12 |
| Back | = S 87° 27′ 06" E | | | | | |
| Ahead | = S 89° 02′ 53" E | | | | | |
| Chord Bear | = S 88° 15′ 00" E | | | | | |

Course from PT LOOP410B_CL__27 to PC LOOP410B_CL__30 S 89° 02′ 53" E Dist 851.98

Curve Data

| Curve LOOP410B_CL__30 | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | | 1592+91.60 | N | 13,739,548.80 | E | 2,133,859.29 |
| Delta | = | 0° 48′ 39" | (RT) | | | |
| Degree | = | 0° 49′ 07" | | | | |
| Tangent | = | 49.53 | | | | |
| Length | = | 99.07 | | | | |
| Radius | = | 7,000.00 | | | | |
| External | = | 0.18 | | | | |
| Long Chord | = | 99.06 | | | | |
| Mid. Ord. | = | 0.18 | | | | |
| P.C. Station | | 1592+42.06 | N | 13,739,549.63 | E | 2,133,809.76 |
| P.T. Station | | 1593+41.13 | N | 13,739,547.28 | E | 2,133,908.80 |
| C.C. | | | N | 13,732,550.59 | E | 2,133,693.47 |
| Back | = S 89° 02′ 53" E | | | | | |
| Ahead | = S 88° 14′ 14" E | | | | | |
| Chord Bear | = S 88° 38′ 34" E | | | | | |

Course from PT LOOP410B_CL__30 to PC LOOP410B_CL__33 S 88° 14′ 14" E Dist 486.11

Curve Data

| Curve LOOP410B_CL__33 | | | | | | |
|---|---|---|---|---|---|---|
| P.I. Station | | 1599+14.14 | N | 13,739,529.65 | E | 2,134,481.53 |
| Delta | = | 4° 58′ 33" | (RT) | | | |
| Degree | = | 2° 51′ 53" | | | | |
| Tangent | = | 86.90 | | | | |
| Length | = | 173.68 | | | | |
| Radius | = | 2,000.00 | | | | |
| External | = | 1.89 | | | | |
| Long Chord | = | 173.63 | | | | |
| Mid. Ord. | = | 1.89 | | | | |
| P.C. Station | | 1598+27.24 | N | 13,739,532.33 | E | 2,134,394.68 |
| P.T. Station | | 1600+00.93 | N | 13,739,519.46 | E | 2,134,567.83 |
| C.C. | | | N | 13,737,533.27 | E | 2,134,333.16 |
| Back | = S 88° 14′ 14" E | | | | | |
| Ahead | = S 83° 15′ 42" E | | | | | |
| Chord Bear | = S 85° 44′ 58" E | | | | | |

Course from PT LOOP410B_CL__33 to PC LOOP410B_CL__36 S 83° 15′ 42" E Dist 450.88

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



## HORIZONTAL ALIGNMENT DATA SHEET



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 87 |

# LP 410-B WB HORIZONTAL ALIGNMENT CONT.

Curve Data

Curve LOOP410B_CL__36

| | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1605+89.24 | N | 13,739,450.43 | E | 2,135,152.08 |
| Delta = | 6° 50′ 20" (RT) | | | | |
| Degree = | 2° 29′ 28" | | | | |
| Tangent = | 137.43 | | | | |
| Length = | 274.53 | | | | |
| Radius = | 2,300.00 | | | | |
| External = | 4.10 | | | | |
| Long Chord = | 274.37 | | | | |
| Mid. Ord. = | 4.09 | | | | |
| P.C. Station | 1604+51.81 | N | 13,739,466.55 | E | 2,135,015.60 |
| P.T. Station | 1607+26.34 | N | 13,739,418.16 | E | 2,135,285.67 |
| C.C. | | N | 13,737,182.44 | E | 2,134,745.72 |

Back = S 83° 15′ 42" E
Ahead = S 76° 25′ 21" E
Chord Bear = S 79° 50′ 32" E

Course from PT LOOP410B_CL__36 to PC LOOP410B_CL__39 S 76° 25′ 21" E Dist 228.63

Curve Data

Curve LOOP410B_CL__39

| | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1610+30.73 | N | 13,739,346.71 | E | 2,135,581.55 |
| Delta = | 3° 36′ 56" (RT) | | | | |
| Degree = | 2° 23′ 14" | | | | |
| Tangent = | 75.75 | | | | |
| Length = | 151.45 | | | | |
| Radius = | 2,400.00 | | | | |
| External = | 1.20 | | | | |
| Long Chord = | 151.43 | | | | |
| Mid. Ord. = | 1.19 | | | | |
| P.C. Station | 1609+54.98 | N | 13,739,364.49 | E | 2,135,507.91 |
| P.T. Station | 1611+06.43 | N | 13,739,324.32 | E | 2,135,653.91 |
| C.C. | | N | 13,737,031.56 | E | 2,134,944.49 |

Back = S 76° 25′ 21" E
Ahead = S 72° 48′ 25" E
Chord Bear = S 74° 36′ 53" E

Course from PT LOOP410B_CL__39 to PC LOOP410B_CL__42 S 72° 48′ 25" E Dist 135.10

Curve Data

Curve LOOP410B_CL__42

| | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1613+69.87 | N | 13,739,246.44 | E | 2,135,905.59 |
| Delta = | 2° 43′ 23" (LT) | | | | |
| Degree = | 1° 03′ 40" | | | | |
| Tangent = | 128.34 | | | | |
| Length = | 256.63 | | | | |
| Radius = | 5,400.00 | | | | |
| External = | 1.52 | | | | |
| Long Chord = | 256.61 | | | | |
| Mid. Ord. = | 1.52 | | | | |
| P.C. Station | 1612+41.53 | N | 13,739,284.38 | E | 2,135,782.98 |
| P.T. Station | 1614+98.17 | N | 13,739,214.37 | E | 2,136,029.86 |
| C.C. | | N | 13,744,443.08 | E | 2,137,379.18 |

Back = S 72° 48′ 25" E
Ahead = S 75° 31′ 48" E
Chord Bear = S 74° 10′ 06" E

Course from PT LOOP410B_CL__42 to PC LOOP410B_CL__45 S 75° 31′ 48" E Dist 546.16

Curve Data

Curve LOOP410B_CL__45

| | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1620+89.79 | N | 13,739,066.54 | E | 2,136,602.71 |
| Delta = | 2° 10′ 13" (LT) | | | | |
| Degree = | 2° 23′ 14" | | | | |
| Tangent = | 45.46 | | | | |
| Length = | 90.90 | | | | |
| Radius = | 2,400.00 | | | | |
| External = | 0.43 | | | | |
| Long Chord = | 90.90 | | | | |
| Mid. Ord. = | 0.43 | | | | |
| P.C. Station | 1620+44.33 | N | 13,739,077.90 | E | 2,136,558.69 |
| P.T. Station | 1621+35.23 | N | 13,739,056.86 | E | 2,136,647.12 |
| C.C. | | N | 13,741,401.77 | E | 2,137,158.39 |

Back = S 75° 31′ 48" E
Ahead = S 77° 42′ 00" E
Chord Bear = S 76° 36′ 54" E

Course from PT LOOP410B_CL__45 to PC LOOP410B_CL__48 S 77° 42′ 00" E Dist 827.48

Curve Data

Curve LOOP410B_CL__48

| | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1631+84.75 | N | 13,738,833.28 | E | 2,137,672.54 |
| Delta = | 4° 47′ 52" (RT) | | | | |
| Degree = | 1° 04′ 52" | | | | |
| Tangent = | 222.03 | | | | |
| Length = | 443.80 | | | | |
| Radius = | 5,300.00 | | | | |
| External = | 4.65 | | | | |
| Long Chord = | 443.67 | | | | |
| Mid. Ord. = | 4.64 | | | | |
| P.C. Station | 1629+62.72 | N | 13,738,880.58 | E | 2,137,455.61 |
| P.T. Station | 1634+06.52 | N | 13,738,768.00 | E | 2,137,884.76 |
| C.C. | | N | 13,733,702.24 | E | 2,136,326.55 |

Back = S 77° 42′ 00" E
Ahead = S 72° 54′ 08" E
Chord Bear = S 75° 18′ 04" E

Course from PT LOOP410B_CL__48 to PC LOOP410B_CL__51 S 72° 54′ 08" E Dist 676.01

Curve Data

Curve LOOP410B_CL__51

| | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1641+76.31 | N | 13,738,541.69 | E | 2,138,620.53 |
| Delta = | 4° 17′ 47" (RT) | | | | |
| Degree = | 2° 17′ 31" | | | | |
| Tangent = | 93.78 | | | | |
| Length = | 187.47 | | | | |
| Radius = | 2,500.00 | | | | |
| External = | 1.76 | | | | |
| Long Chord = | 187.43 | | | | |
| Mid. Ord. = | 1.76 | | | | |
| P.C. Station | 1640+82.53 | N | 13,738,569.26 | E | 2,138,530.90 |
| P.T. Station | 1642+70.00 | N | 13,738,507.48 | E | 2,138,707.85 |
| C.C. | | N | 13,736,179.74 | E | 2,137,795.89 |

Back = S 72° 54′ 08" E
Ahead = S 68° 36′ 21" E
Chord Bear = S 70° 45′ 15" E

Course from PT LOOP410B_CL__51 to PC LOOP410B_CL__54 S 68° 36′ 21" E Dist 87.11

Curve Data

Curve LOOP410B_CL__54

| | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1644+18.59 | N | 13,738,453.27 | E | 2,138,846.20 |
| Delta = | 7° 02′ 13" (LT) | | | | |
| Degree = | 5° 43′ 46" | | | | |
| Tangent = | 61.49 | | | | |
| Length = | 122.82 | | | | |
| Radius = | 1,000.00 | | | | |
| External = | 1.89 | | | | |
| Long Chord = | 122.74 | | | | |
| Mid. Ord. = | 1.88 | | | | |
| P.C. Station | 1643+57.11 | N | 13,738,475.70 | E | 2,138,788.95 |
| P.T. Station | 1644+79.93 | N | 13,738,438.03 | E | 2,138,905.77 |
| C.C. | | N | 13,739,406.79 | E | 2,139,153.74 |

Back = S 68° 36′ 21" E
Ahead = S 75° 38′ 34" E
Chord Bear = S 72° 07′ 28" E

Course from PT LOOP410B_CL__54 to PC LOOP410B_CL__57 S 75° 38′ 34" E Dist 685.76

Curve Data

Curve LOOP410B_CL__57

| | | | | | |
|---|---|---|---|---|---|
| P.I. Station | 1652+77.82 | N | 13,738,240.18 | E | 2,139,678.74 |
| Delta = | 8° 33′ 00" (LT) | | | | |
| Degree = | 3° 49′ 11" | | | | |
| Tangent = | 112.13 | | | | |
| Length = | 223.84 | | | | |
| Radius = | 1,500.00 | | | | |
| External = | 4.19 | | | | |
| Long Chord = | 223.63 | | | | |
| Mid. Ord. = | 4.17 | | | | |
| P.C. Station | 1651+65.69 | N | 13,738,267.98 | E | 2,139,570.12 |
| P.T. Station | 1653+89.53 | N | 13,738,228.83 | E | 2,139,790.30 |
| C.C. | | N | 13,739,721.13 | E | 2,139,942.07 |

Back = S 75° 38′ 34" E
Ahead = S 84° 11′ 35" E
Chord Bear = S 79° 55′ 05" E

Course from PT LOOP410B_CL__57 to 54 S 84° 11′ 35" E Dist 509.49

Point 54 N 13,738,177.28 E 2,140,297.18 Sta 1658+99.02

==========

Ending chain LOOP410B_CL_WB description


PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800




## HORIZONTAL ALIGNMENT DATA SHEET

SHEET 13 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 88 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\1113508_HALN_Data01.dgn

Plotted on: 4/10/2019

# SAMPLE POINT TABLE

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 09801 | 13709412.82 | 2137561.60 | -- | ME |
| 09802 | 13709407.82 | 2137561.65 | -- | ME |
| 09803 | 13709413.09 | 2137591.40 | -- | ME |
| 09804 | 13709408.09 | 2137591.44 | -- | ME |
| 09805 | 13709413.50 | 2137635.48 | -- | ME |
| 09806 | 13709408.50 | 2137635.53 | -- | ME |
| 09807 | 13709413.54 | 2137640.48 | -- | ME |
| 09808 | 13709408.54 | 2137640.53 | -- | ME |
| 09809 | 13709413.66 | 2137653.71 | 702.34 | PROP |
| 09810 | 13709408.66 | 2137653.75 | 702.26 | PROP |
| 09811 | 13709413.74 | 2137662.57 | 702.51 | PROP |
| 09812 | 13709408.74 | 2137662.62 | 702.44 | PROP |
| 09813 | 13709413.78 | 2137666.57 | 702.54 | PROP |
| 09814 | 13709408.78 | 2137666.62 | 702.46 | PROP |
| 09815 | 13709413.87 | 2137676.16 | 702.63 | PROP |
| 09816 | 13709408.87 | 2137676.21 | 702.70 | PROP |

POINTS ARE PROVIDED FOR HORIZONTAL CONTROL ONLY

MATCH ELEVATION FLUSH WITH ADJACENT SURFACE OR AS DIRECTED

POINTS ARE PROVIDED FOR HORIZONTAL AND VERTICAL CONTROL

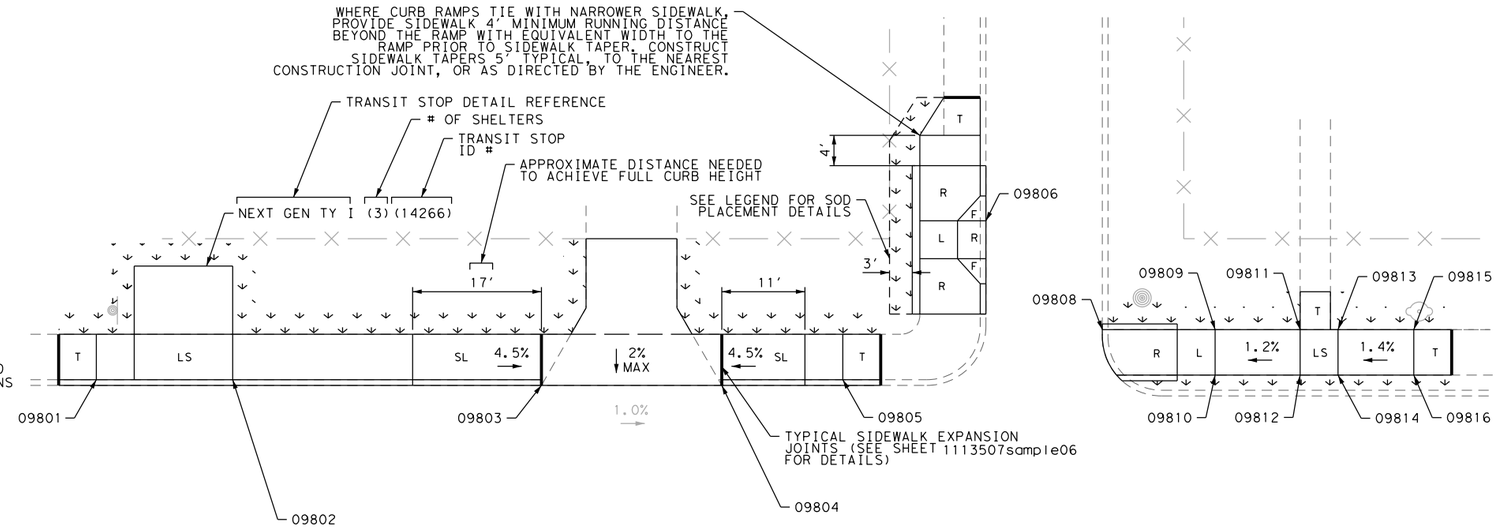
ELEVATIONS ESTABLISH DESIGN INTENT, HOWEVER, PLANAR SLOPE DESIGNATIONS (LS/SL/R/ETC.) SHALL CONTROL IN THE EVENT OF DISCREPANCIES BETWEEN PROVIDED ELEVATIONS AND FIELD CONDITIONS

SEE SURVEY CONTROL SHEETS FOR ADDITIONAL INFORMATION

PROP = PROPOSED ELEVATION

ME = CONTRACTOR SHALL MATCH PROPOSED IMPROVEMENTS FLUSH WITH SURROUNDINGS

# SAMPLE PLAN LAYOUT




# LEGEND OF SYMBOLS

- CAMERA POSITION
- DRAINAGE FLOW DIRECTION
- FIRE HYDRANT
- GAS METER
- GAS VALVE
- GROUND BOX
- GUY ANCHOR
- IRRIGATION
- JUNCTION BOX
- LIGHT POLE
- LUMINAIRE STANDARD
- MAIL BOX
- MANHOLE
- NSPI NO SEPARATE PAY ITEM
- PEDESTAL SIGNAL POLE
- PI POINT
- POWER/UTILITY POLE
- SEWER CLEANOUT
- SIGN
- TRAFFIC SIGNAL BOX
- TRAFFIC SIGNAL CONTROLLER
- TRAFFIC SIGNAL POLE
- TRANSFORMER
- TREE/BUSHES
- UTILITY PEDESTAL/MARKER
- UTILITY VAULT
- WATER METER
- WATER VALVE
- X.X% EXISTING ROADWAY OR DRIVEWAY SLOPE
- X.X% PROPOSED ROADWAY, SIDEWALK OR DRIVEWAY SLOPE

PLANAR SLOPE DESIGNATIONS

- F = FLARE (10:1 OR LESS) MEASURED AT FACE OF CURB
- R = RAMP (CROSS SLOPE NOT TO EXCEED 2 PERCENT; LONGITUDINAL NOT TO EXCEED 8.3 PERCENT)
- L = LANDING (SHALL NOT EXCEED 2 PERCENT SLOPE IN ANY DIRECTION)
- L1 = SHARED LANDING (SHALL NOT EXCEED 2 PERCENT SLOPE IN ANY DIRECTION)
- LS = LEVEL SIDEWALK (SHALL NOT EXCEED 2 PERCENT SLOPE IN ANY DIRECTION)
- SL = SLOPED SIDEWALK. IF INDICATED, CONSTRUCT SLOPED SIDEWALK AT LONGITUDINAL SLOPE SHOWN ON THE PLANS. OTHERWISE LONGITUDINAL SLOPES MAY NOT EXCEED 5 PERCENT, CROSS SLOPES MAY NOT EXCEED 2 PERCENT
- T = TAPER SIDEWALK WIDTH TO NEAREST EXISTING PANEL JOINT (5' TYP)

TOC = TOP OF CURB

FOC = FACE OF CURB

= BLOCK SOD; PLACED ADJACENT TO IMPROVEMENTS WHERE EXISTING VEGETATION IS DISTURBED, PLACED FULL LIMITS BETWEEN BACK OF CURB AND IMPROVEMENTS IF DIVORCED OR AS SHOWN ON THE PLANS

– X – = EXISTING FENCE

## NOTES

1. FLARE (F), RAMP (R), AND LANDING (L), DIRECTLY IN CONTACT WITH THE CURB RAMP ARE PAID FOR UNDER ITEM 531 "CURB RAMPS"
2. LEVEL SIDEWALK (LS) AND RAMPS (R) NOT DIRECTLY IN CONTACT WITH THE CURB RAMP ARE PAID FOR UNDER ITEM 531 "SIDEWALK"

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




SAMPLE PLAN LAYOUT AND LEGEND OF SYMBOLS

SHEET 1 OF 1

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 89 |

Design Filename: P:\111\35\08\Design\Civil\General\1113508_sample17.dgn

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_01.dgn

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 13 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 48 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 17 |
| 0162-6002 | BLOCK SODDING | SY | 11 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.17 |
| 0529-6001 | CONC CURB (TY I) | LF | 6 |
| 0529-6002 | CONC CURB (TY II) | LF | 44 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 13 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 17 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 22 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 8 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



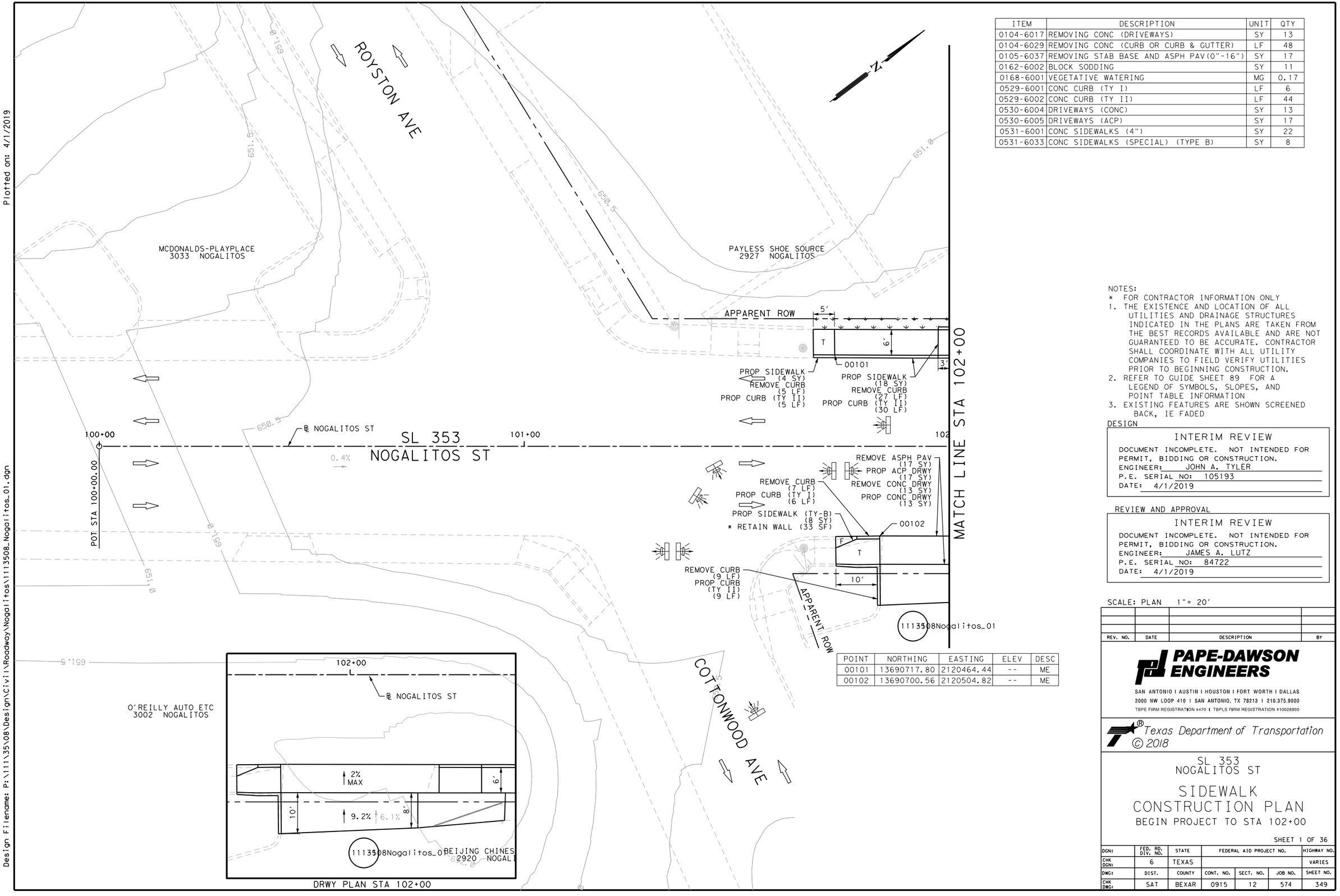
SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

BEGIN PROJECT TO STA 102+00

SHEET 1 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 349 |




| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 00101 | 13690717.80 | 2120464.44 | -- | ME |
| 00102 | 13690700.56 | 2120504.82 | -- | ME |

Plotted on: 4/1/2019

Design Filename: P:\1113508\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_02.dgn

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 99 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 163 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 7 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 224 |
| 0162-6002 | BLOCK SODDING | SY | 112 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.75 |
| 0529-6002 | CONC CURB (TY II) | LF | 164 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 104 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 224 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 158 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 20 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 18 |
| 0666-6303 | RE PM W/RET REQ TY I (W)4"(SLD)(100MIL) | LF | 18 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 18 |

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

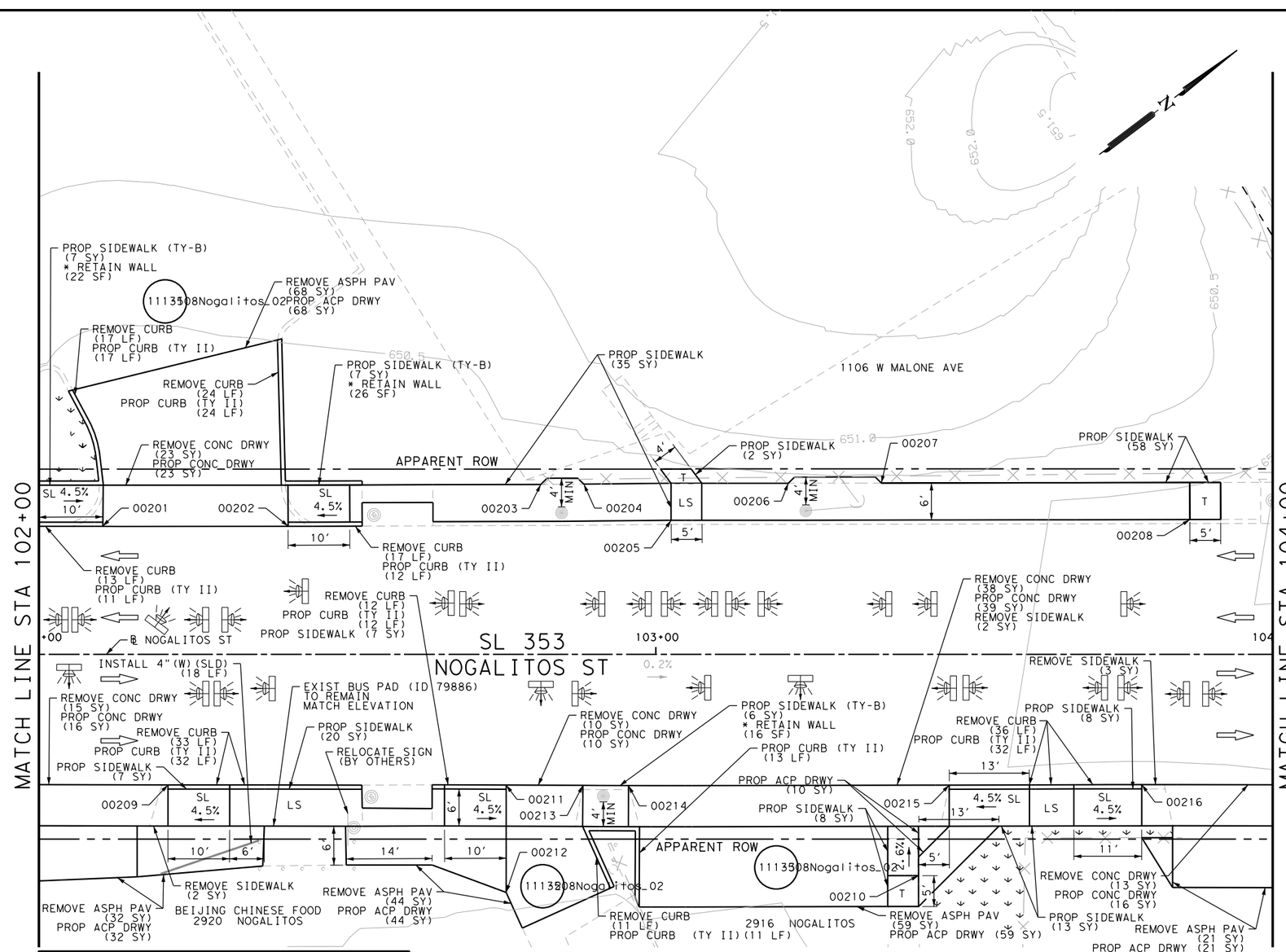


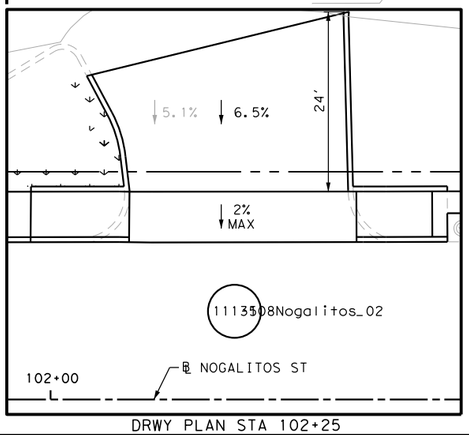
SL 353
NOGALITOS ST

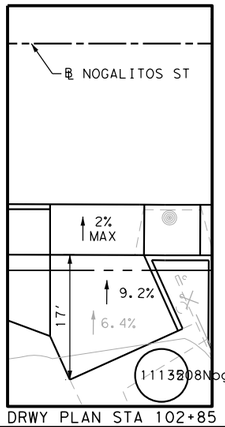
# SIDEWALK CONSTRUCTION PLAN
STA 102+00 TO STA 104+00

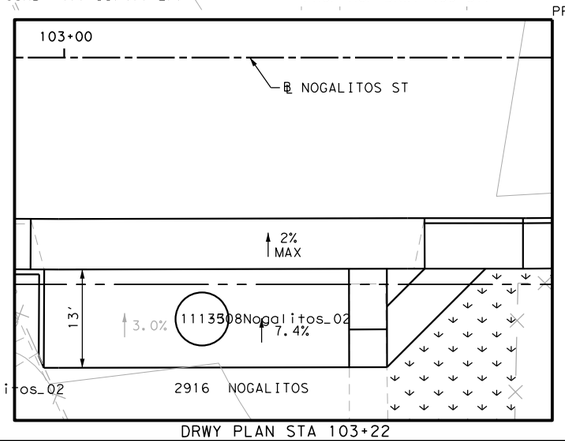
SHEET 2 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 350 |



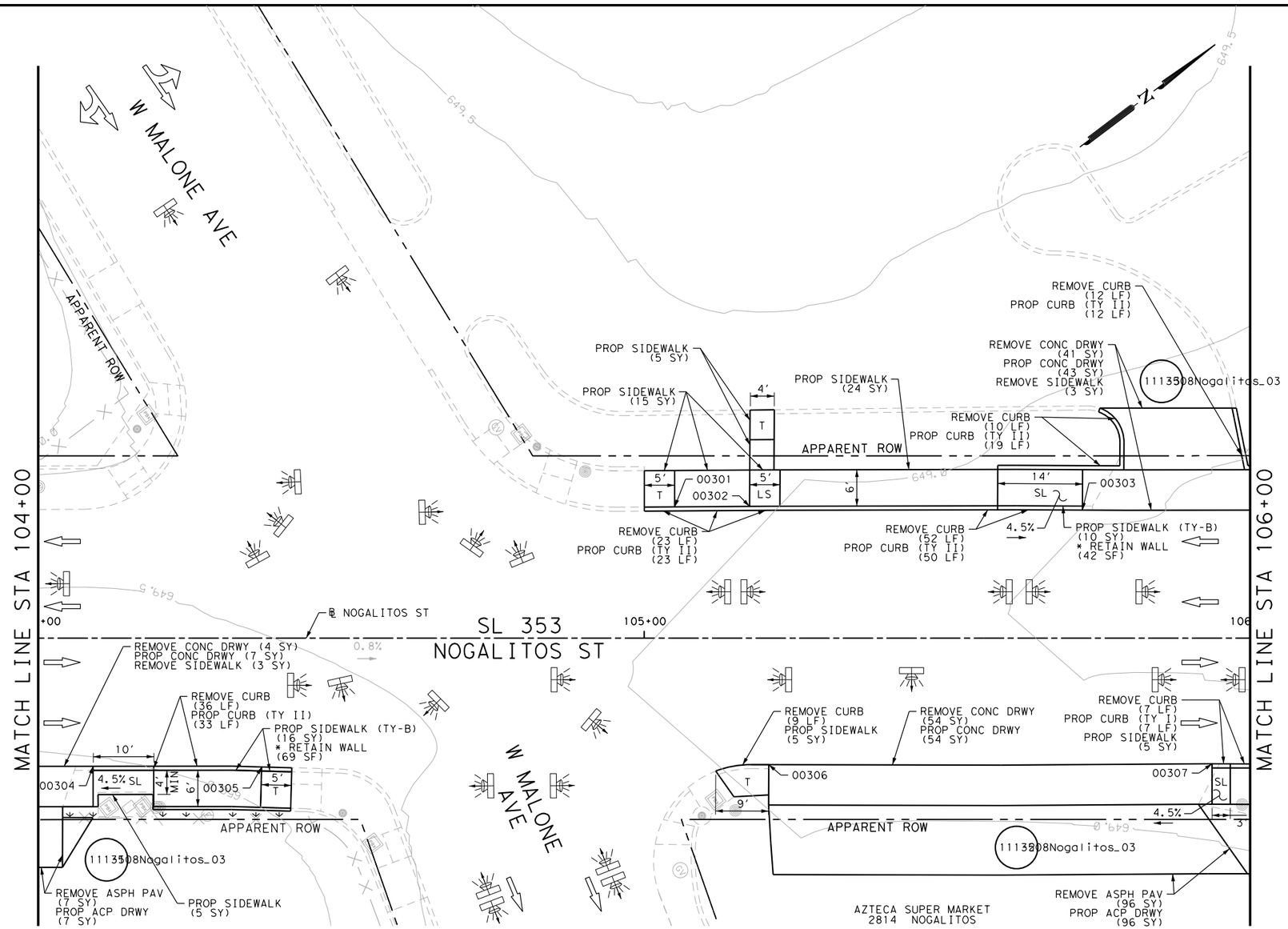



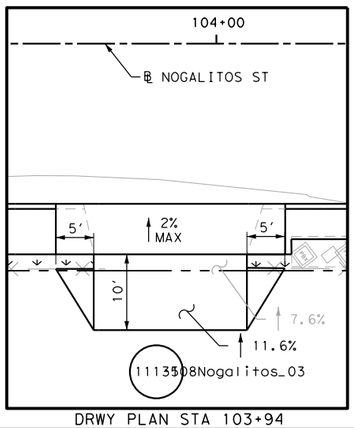

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 00201 | 13690747.12 | 2120487.54 | -- | ME |
| 00202 | 13690771.09 | 2120505.64 | -- | ME |
| 00203 | 13690807.85 | 2120524.91 | -- | ME |
| 00204 | 13690813.44 | 2120529.08 | -- | ME |
| 00205 | 13690821.23 | 2120542.31 | -- | ME |
| 00206 | 13690839.99 | 2120548.94 | -- | ME |
| 00207 | 13690852.05 | 2120558.03 | -- | ME |
| 00208 | 13690888.38 | 2120592.88 | -- | ME |
| 00209 | 13690730.28 | 2120527.35 | -- | ME |
| 00210 | 13690755.40 | 2120554.71 | -- | ME |
| 00211 | 13690774.00 | 2120560.41 | -- | ME |
| 00212 | 13690763.51 | 2120574.32 | -- | ME |
| 00213 | 13690783.91 | 2120567.95 | -- | ME |
| 00214 | 13690789.78 | 2120572.44 | -- | ME |
| 00215 | 13690831.32 | 2120603.72 | -- | ME |
| 00216 | 13690856.26 | 2120622.48 | -- | ME |

Plotted on: 4/1/2019

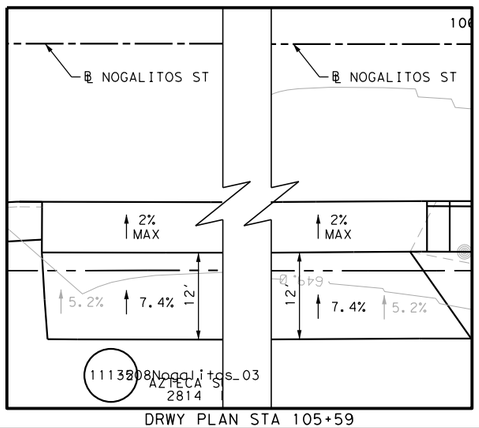
Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_03.dgn

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 99 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 149 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 6 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 103 |
| 0162-6002 | BLOCK SODDING | SY | 6 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.09 |
| 0529-6001 | CONC CURB (TY I) | LF | 7 |
| 0529-6002 | CONC CURB (TY II) | LF | 137 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 104 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 103 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 59 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 26 |

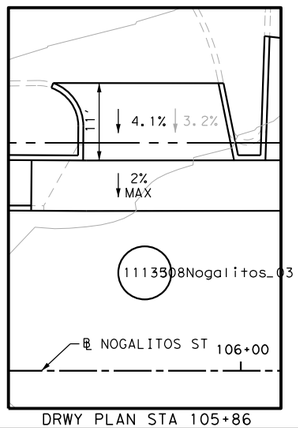



DRWY PLAN STA 103+94




DRWY PLAN STA 105+59




DRWY PLAN STA 105+86

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 00301 | 13690982.78 | 2120664.44 | -- | ME |
| 00302 | 13690992.69 | 2120671.83 | -- | ME |
| 00303 | 13691036.15 | 2120705.43 | -- | ME |
| 00304 | 13690880.44 | 2120640.75 | -- | ME |
| 00305 | 13690902.53 | 2120657.58 | -- | ME |
| 00306 | 13690969.53 | 2120707.73 | -- | ME |
| 00307 | 13691027.99 | 2120751.73 | -- | ME |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

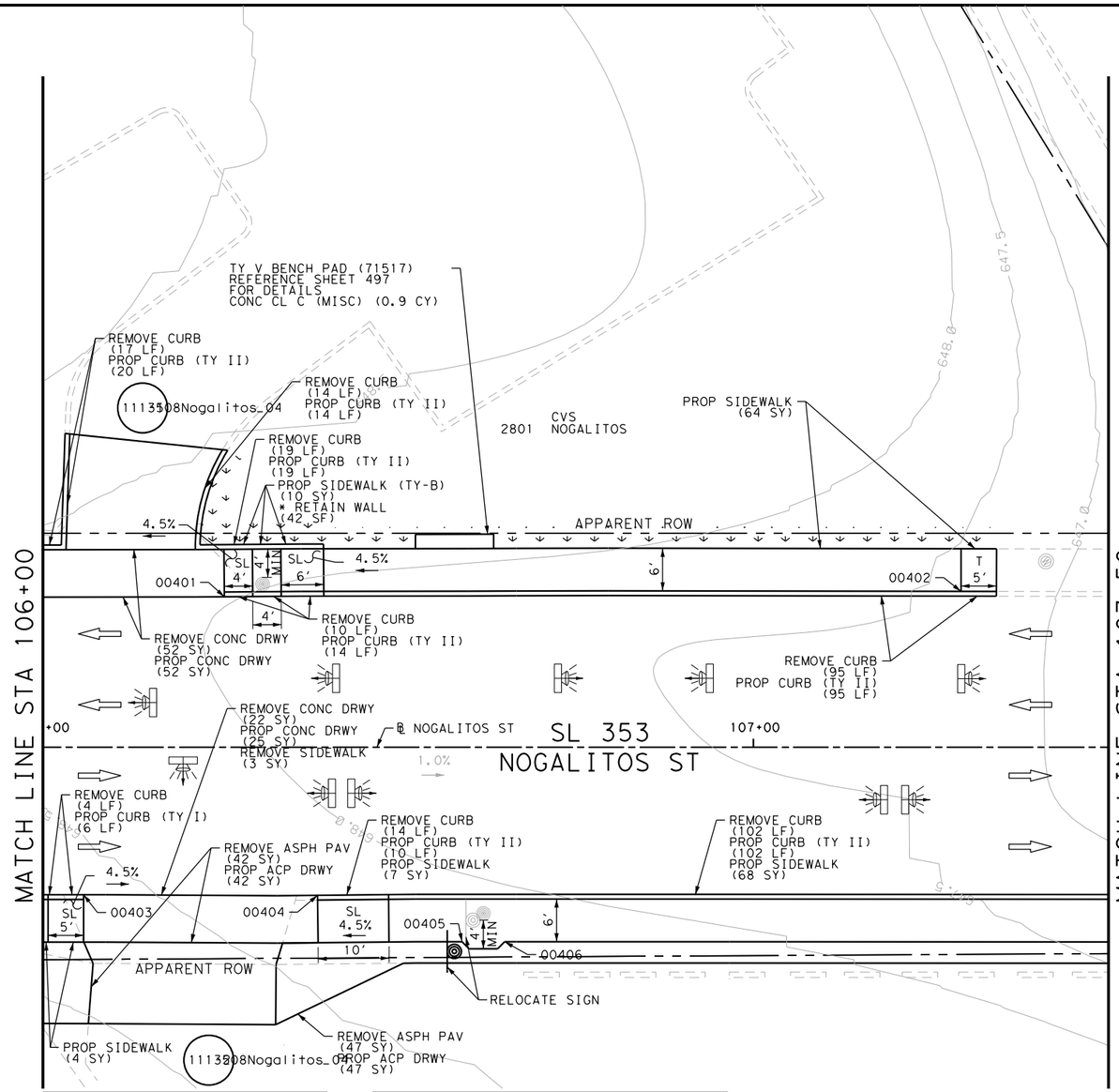
STA 104+00 TO STA 106+00

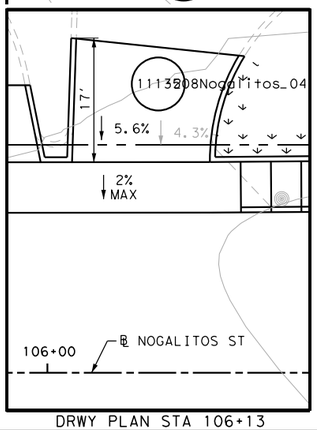
SHEET 3 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 351 |

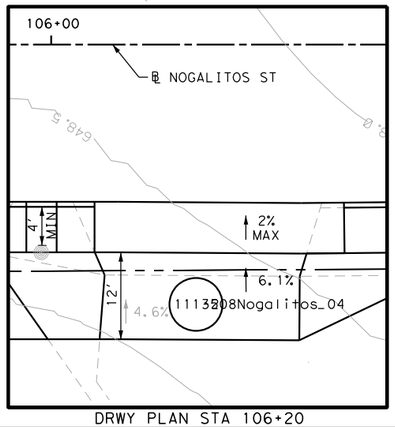
Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_04.dgn




DRWY PLAN STA 106+13




DRWY PLAN STA 106+20

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 74 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 275 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 3 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 89 |
| 0162-6002 | BLOCK SODDING | SY | 39 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.61 |
| 0420-6074 | CL C CONC (MISC) | CY | 0.9 |
| 0529-6001 | CONC CURB (TY I) | LF | 6 |
| 0529-6002 | CONC CURB (TY II) | LF | 274 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 77 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 89 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 143 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 10 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 00401 | 13691078.63 | 2120737.48 | -- | ME |
| 00402 | 13691161.83 | 2120799.36 | -- | ME |
| 00403 | 13691037.56 | 2120758.97 | -- | ME |
| 00404 | 13691063.78 | 2120778.90 | -- | ME |
| 00405 | 13691076.07 | 2120796.37 | -- | ME |
| 00406 | 13691080.86 | 2120799.99 | -- | ME |

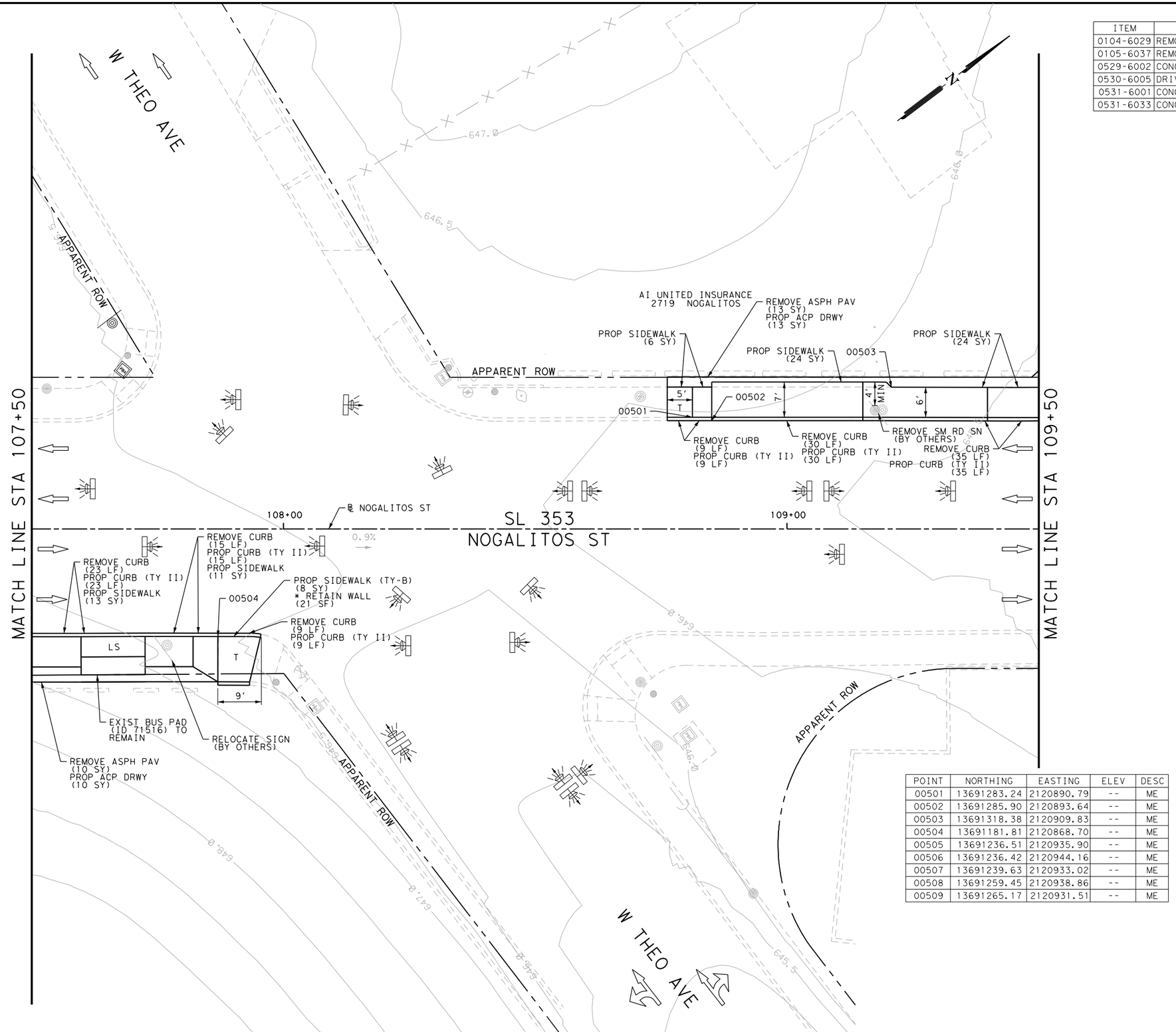
SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

STA 106+00 TO STA 107+50

SHEET 4 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 352 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 121 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 23 |
| 0529-6002 | CONC CURB (TY II) | LF | 121 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 23 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 78 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 8 |

NOTES:
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1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 00501 | 13691283.24 | 2120890.79 | -- | ME |
| 00502 | 13691285.90 | 2120893.64 | -- | ME |
| 00503 | 13691318.38 | 2120909.83 | -- | ME |
| 00504 | 13691181.81 | 2120868.70 | -- | ME |
| 00505 | 13691236.51 | 2120935.90 | -- | ME |
| 00506 | 13691236.42 | 2120944.16 | -- | ME |
| 00507 | 13691239.63 | 2120933.02 | -- | ME |
| 00508 | 13691259.45 | 2120938.86 | -- | ME |
| 00509 | 13691265.17 | 2120931.51 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



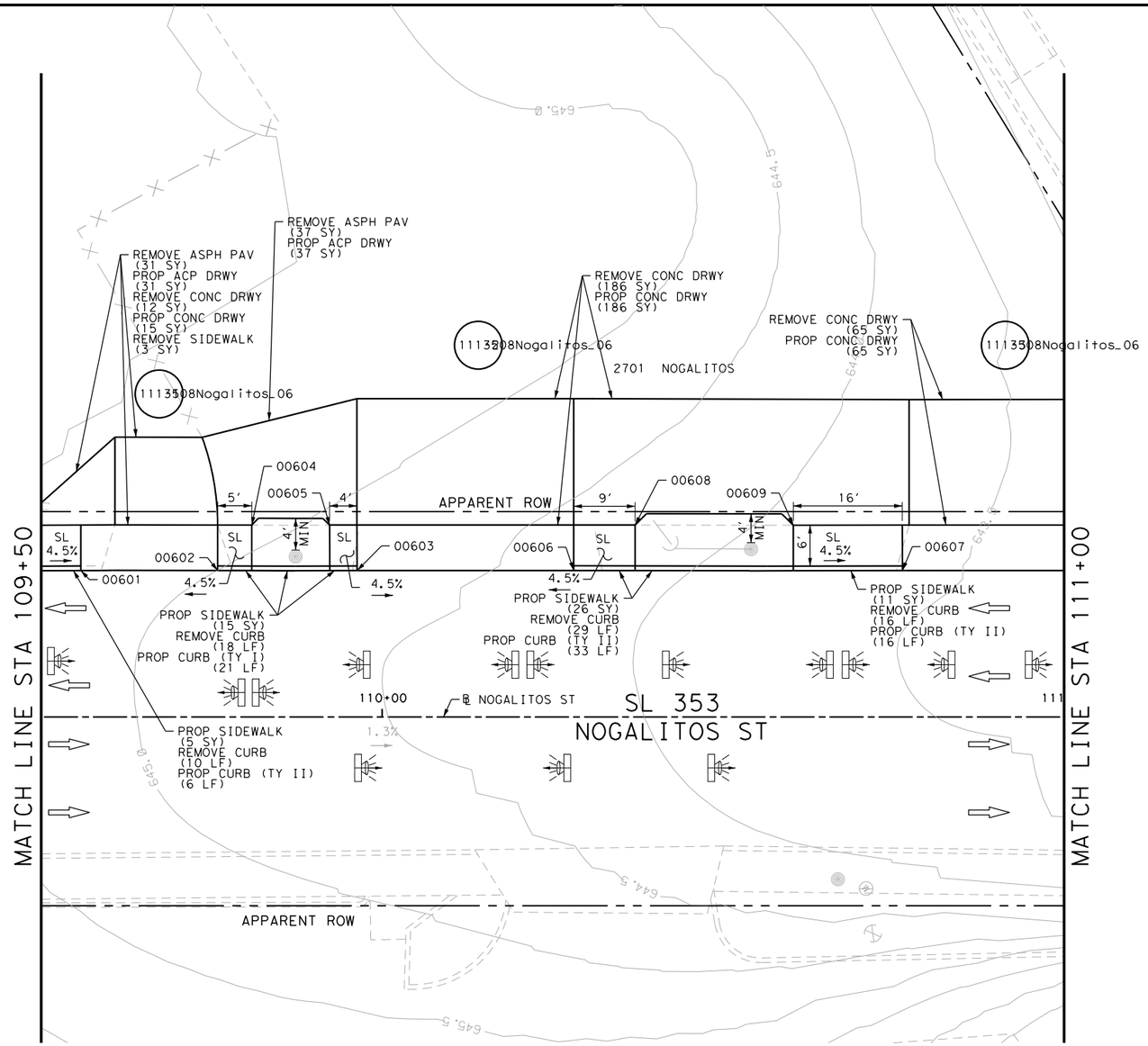
SL 353
NOGALITOS ST

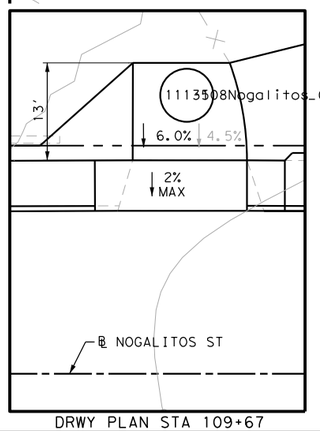
# SIDEWALK CONSTRUCTION PLAN

STA 107+50 TO STA 109+50

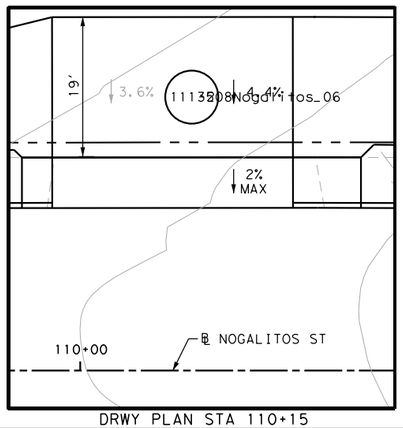
SHEET 5 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 353 |

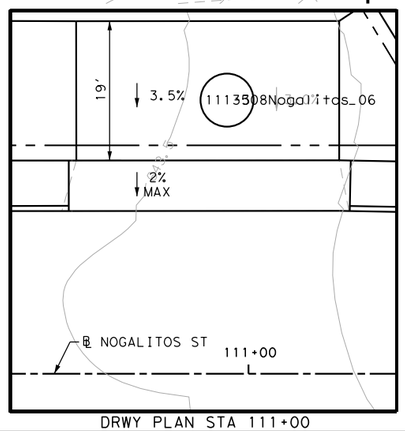



DRWY PLAN STA 109+67




DRWY PLAN STA 110+15




DRWY PLAN STA 111+00

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 266 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 73 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 3 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 68 |
| 0529-6001 | CONC CURB (TY I) | LF | 21 |
| 0529-6002 | CONC CURB (TY II) | LF | 52 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 269 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 68 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 54 |

NOTES:
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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 00601 | 13691342.35 | 2120936.31 | -- | ME |
| 00602 | 13691358.35 | 2120948.40 | -- | ME |
| 00603 | 13691374.66 | 2120960.73 | -- | ME |
| 00604 | 13691366.36 | 2120946.10 | -- | ME |
| 00605 | 13691375.47 | 2120952.99 | -- | ME |
| 00606 | 13691402.41 | 2120981.67 | -- | ME |
| 00607 | 13691438.47 | 2121008.93 | -- | ME |
| 00608 | 13691413.60 | 2120981.79 | -- | ME |
| 00609 | 13691429.70 | 2120993.98 | -- | ME |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 353
NOGALITOS ST

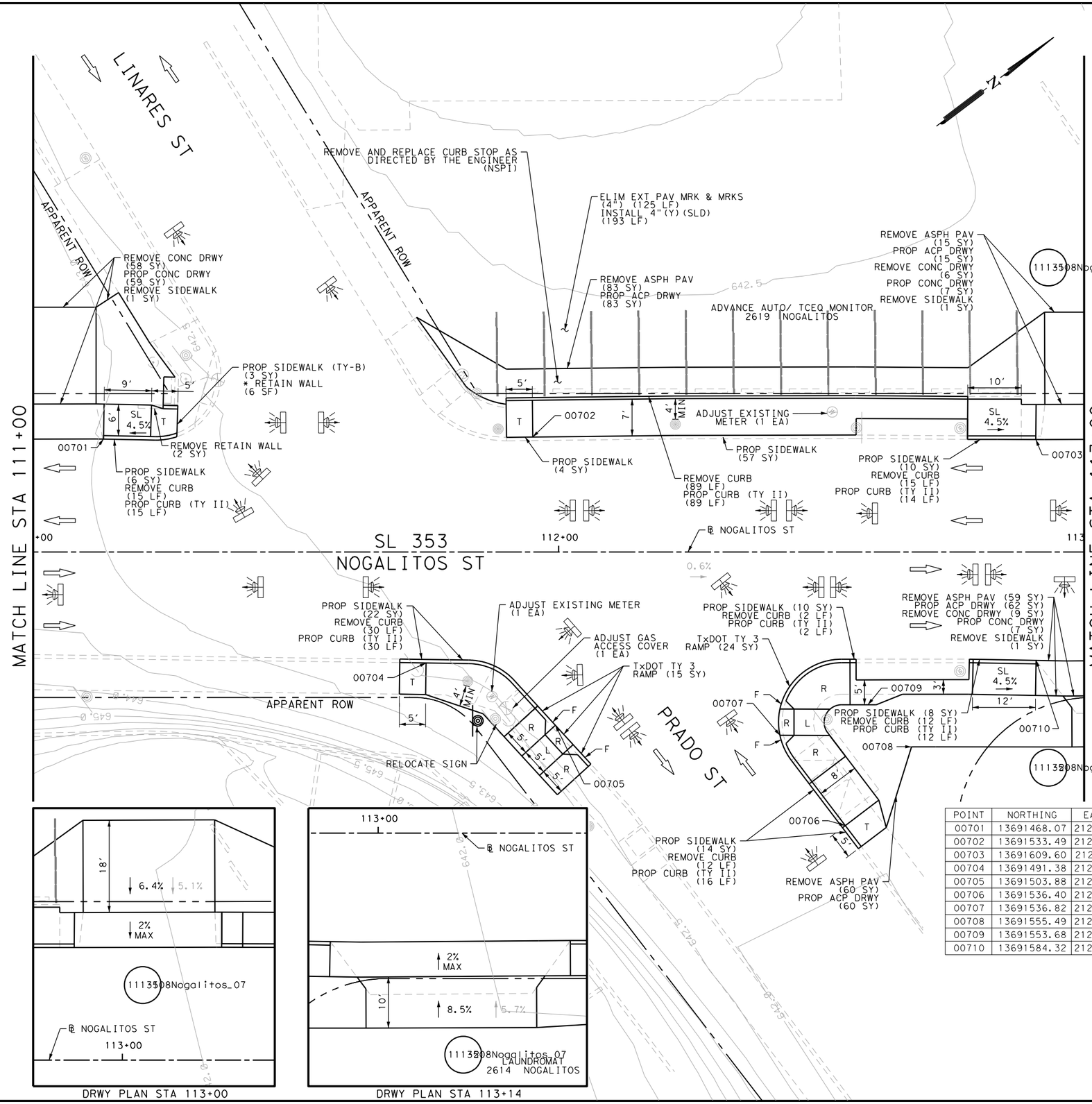
# SIDEWALK CONSTRUCTION PLAN
STA 109+50 TO STA 111+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 354 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_07.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 73 |
| 0104-6024 | REMOVING CONC (RETAINING WALLS) | SY | 2 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 175 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 4 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 217 |
| 0529-6002 | CONC CURB (TY II) | LF | 178 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 73 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 220 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 131 |
| 0531-6020 | CURB RAMPS (TY 3) | SY | 39 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 3 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 193 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 193 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 125 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 193 |
| 7027-6001 | ADJUST GAS FACILITY ACCESS COVER | EA | 1 |
| 7091-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 2 |

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 00701 | 13691468.07 | 2121031.30 | -- | ME |
| 00702 | 13691533.49 | 2121080.22 | -- | ME |
| 00703 | 13691609.60 | 2121138.31 | -- | ME |
| 00704 | 13691491.38 | 2121102.27 | -- | ME |
| 00705 | 13691503.88 | 2121126.58 | -- | ME |
| 00706 | 13691536.40 | 2121175.06 | -- | ME |
| 00707 | 13691536.82 | 2121153.86 | -- | ME |
| 00708 | 13691555.49 | 2121170.69 | -- | ME |
| 00709 | 13691553.68 | 2121159.30 | -- | ME |
| 00710 | 13691584.32 | 2121171.87 | -- | ME |



DRWY PLAN STA 113+00



DRWY PLAN STA 113+14

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

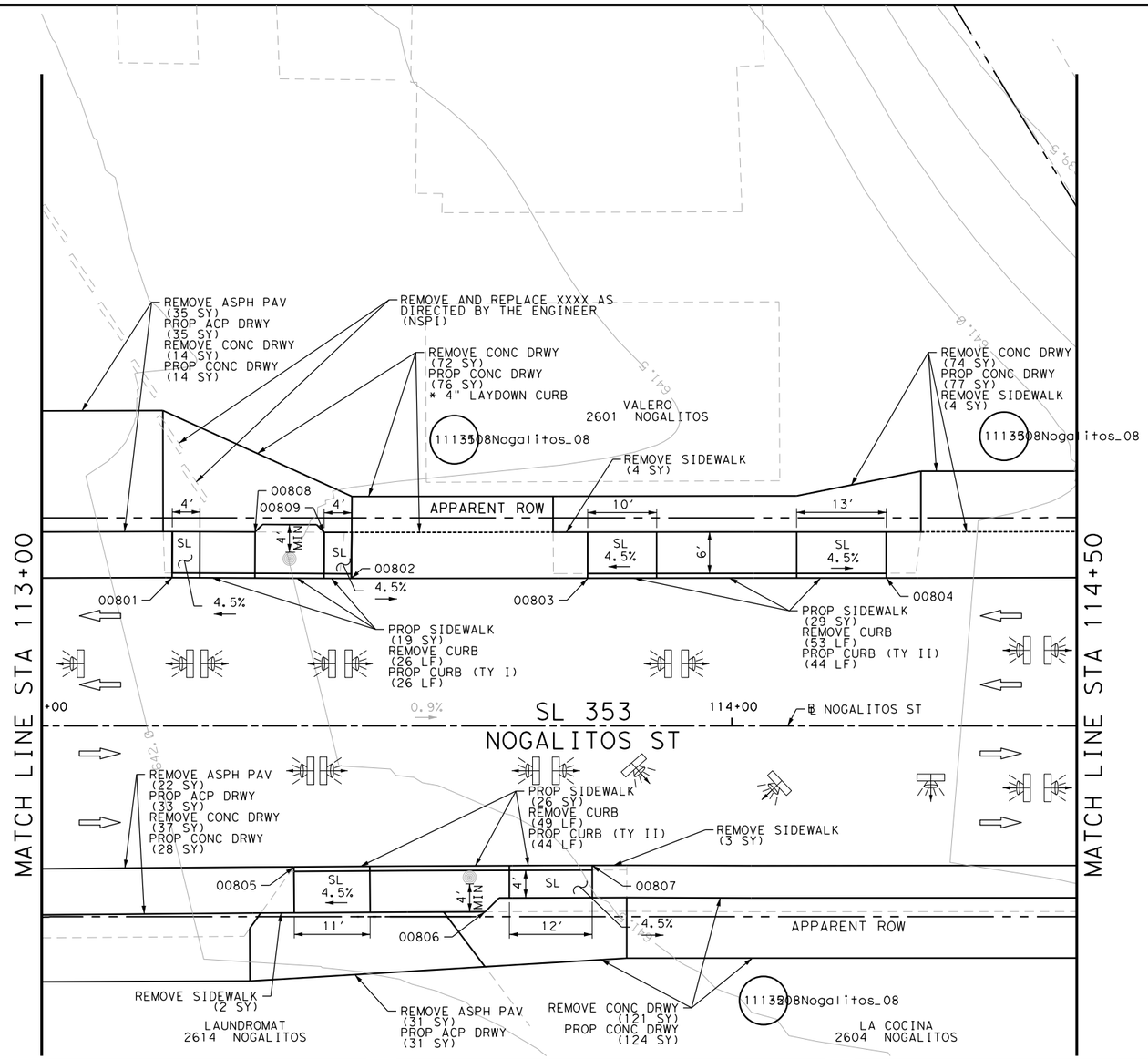
STA 111+00 TO STA 113+00

SHEET 7 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 355 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_08.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 318 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 128 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 13 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 88 |
| 0529-6001 | CONC CURB (TY I) | LF | 26 |
| 0529-6002 | CONC CURB (TY II) | LF | 88 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 319 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 99 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 74 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

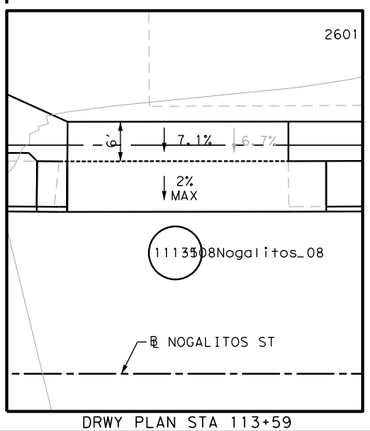
INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

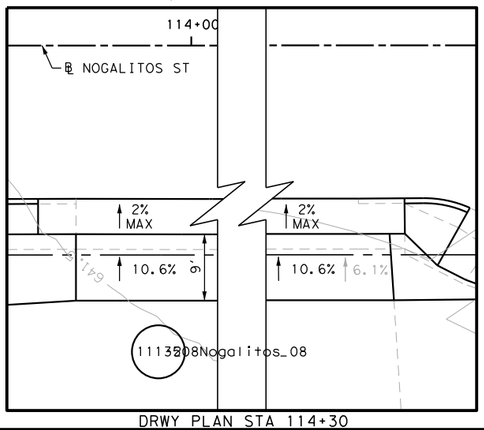
INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

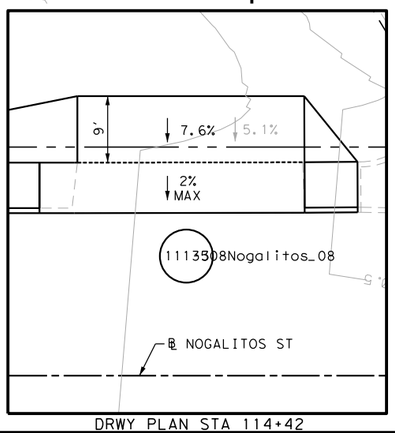
| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |



DRWY PLAN STA 113+59



DRWY PLAN STA 114+30



DRWY PLAN STA 114+42

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 00801 | 13691632.06 | 2121155.18 | -- | ME |
| 00802 | 13691652.72 | 2121170.94 | -- | ME |
| 00803 | 13691680.06 | 2121191.54 | -- | ME |
| 00804 | 13691714.61 | 2121217.60 | -- | ME |
| 00805 | 13691620.88 | 2121199.25 | -- | ME |
| 00806 | 13691639.07 | 2121221.16 | -- | ME |
| 00807 | 13691655.49 | 2121225.14 | -- | ME |
| 00808 | 13691645.64 | 2121157.15 | -- | ME |
| 00809 | 13691653.59 | 2121163.21 | -- | ME |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 353
NOGALITOS ST

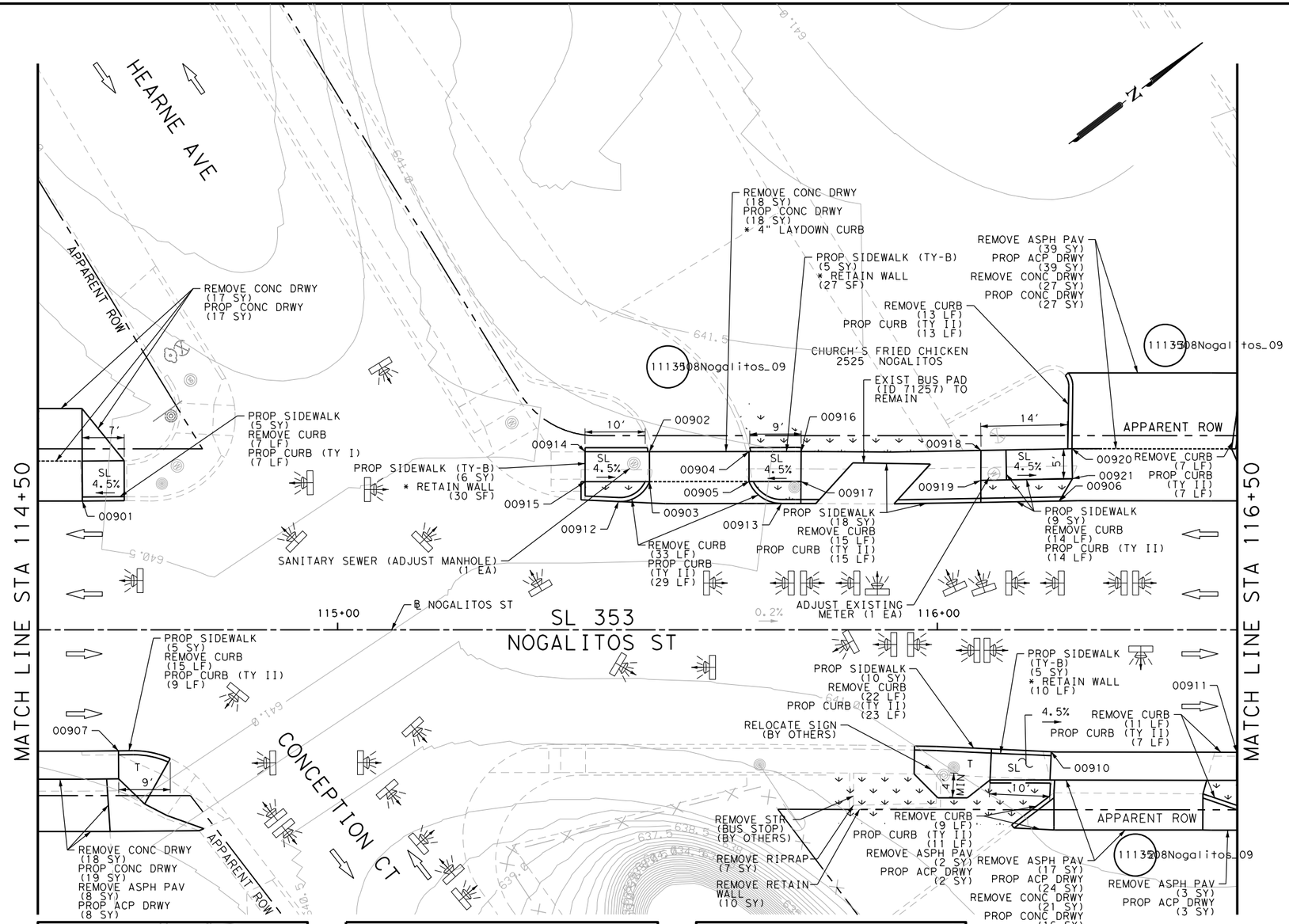
# SIDEWALK CONSTRUCTION PLAN
STA 113+00 TO STA 114+50

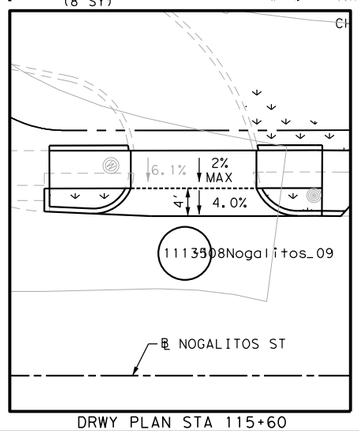


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 356 |

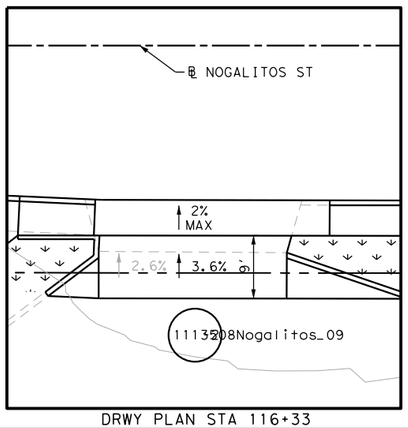
Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_09.dgn

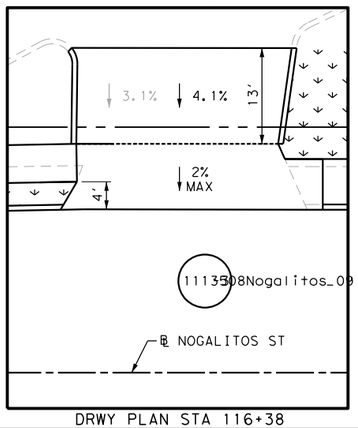



DRWY PLAN STA 115+60




DRWY PLAN STA 116+33




DRWY PLAN STA 116+38

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 101 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 202 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 2 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 69 |
| 0162-6002 | BLOCK SODDING | SY | 51 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.80 |
| 0529-6001 | CONC CURB (TY I) | LF | 7 |
| 0529-6002 | CONC CURB (TY II) | LF | 182 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 97 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 76 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 76 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 11 |
| 7090-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |
| 7091-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

NOTES:
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1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

STA 114+50 TO STA 116+50

SHEET 9 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 357 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 00901 | 13691742.59 | 2121238.67 | -- | ME |
| 00902 | 13691823.00 | 2121289.12 | -- | ME |
| 00903 | 13691819.99 | 2121293.11 | -- | ME |
| 00904 | 13691836.25 | 2121299.10 | -- | ME |
| 00905 | 13691833.24 | 2121303.09 | -- | ME |
| 00906 | 13691872.58 | 2121336.88 | -- | ME |
| 00907 | 13691722.29 | 2121275.55 | -- | ME |
| 00908 | 13691788.67 | 2121325.19 | -- | ME |
| 00909 | 13691826.20 | 2121358.91 | -- | ME |
| 00910 | 13691846.31 | 2121369.42 | -- | ME |
| 00911 | 13691870.95 | 2121388.14 | -- | ME |
| 00912 | 13691813.86 | 2121292.65 | -- | ME |
| 00913 | 13691835.35 | 2121309.28 | -- | ME |
| 00914 | 13691814.42 | 2121282.66 | -- | ME |
| 00915 | 13691811.41 | 2121286.65 | -- | ME |
| 00916 | 13691843.20 | 2121304.34 | -- | ME |
| 00917 | 13691840.16 | 2121308.31 | -- | ME |
| 00918 | 13691870.60 | 2121324.71 | -- | ME |
| 00919 | 13691867.66 | 2121328.76 | -- | ME |
| 00920 | 13691879.49 | 2121331.19 | -- | ME |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 00921 | 13691876.55 | 2121335.23 | -- | ME |

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INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

STA 114+50 TO STA 116+50

SHEET 10 OF 36

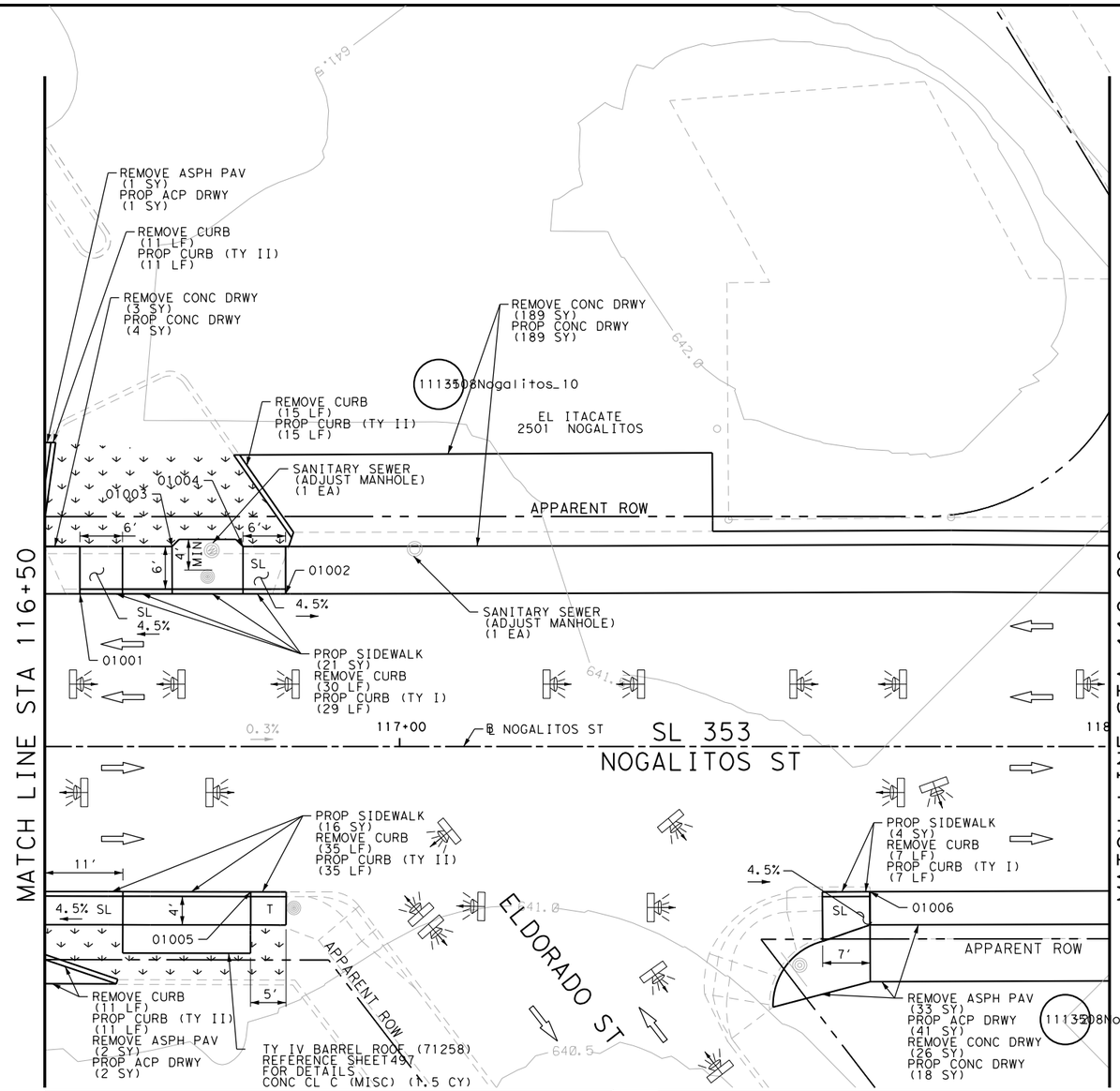
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 358 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_09_A.dgn

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_10.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 216 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 109 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 3 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 36 |
| 0162-6002 | BLOCK SODDING | SY | 64 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.00 |
| 0420-6074 | CL C CONC (MISC) | CY | 1.5 |
| 0529-6001 | CONC CURB (TY I) | LF | 36 |
| 0529-6002 | CONC CURB (TY II) | LF | 72 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 211 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 44 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 41 |
| 7090-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 2 |

NOTES:
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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
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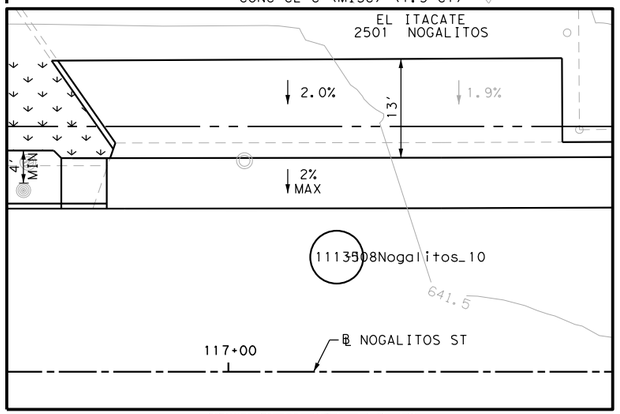
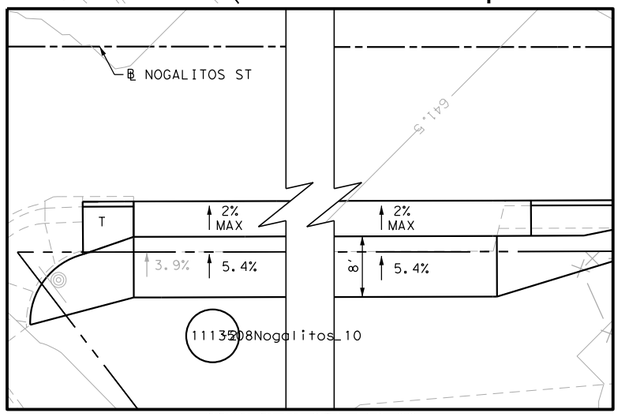
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |




DRWY PLAN STA 117+12




DRWY PLAN STA 118+00

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 01001 | 13691900.22 | 2121357.73 | -- | ME |
| 01002 | 13691923.34 | 2121375.19 | -- | ME |
| 01003 | 13691914.59 | 2121360.22 | -- | ME |
| 01004 | 13691922.57 | 2121366.25 | -- | ME |
| 01005 | 13691894.10 | 2121405.71 | -- | ME |
| 01006 | 13691963.72 | 2121458.28 | -- | ME |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

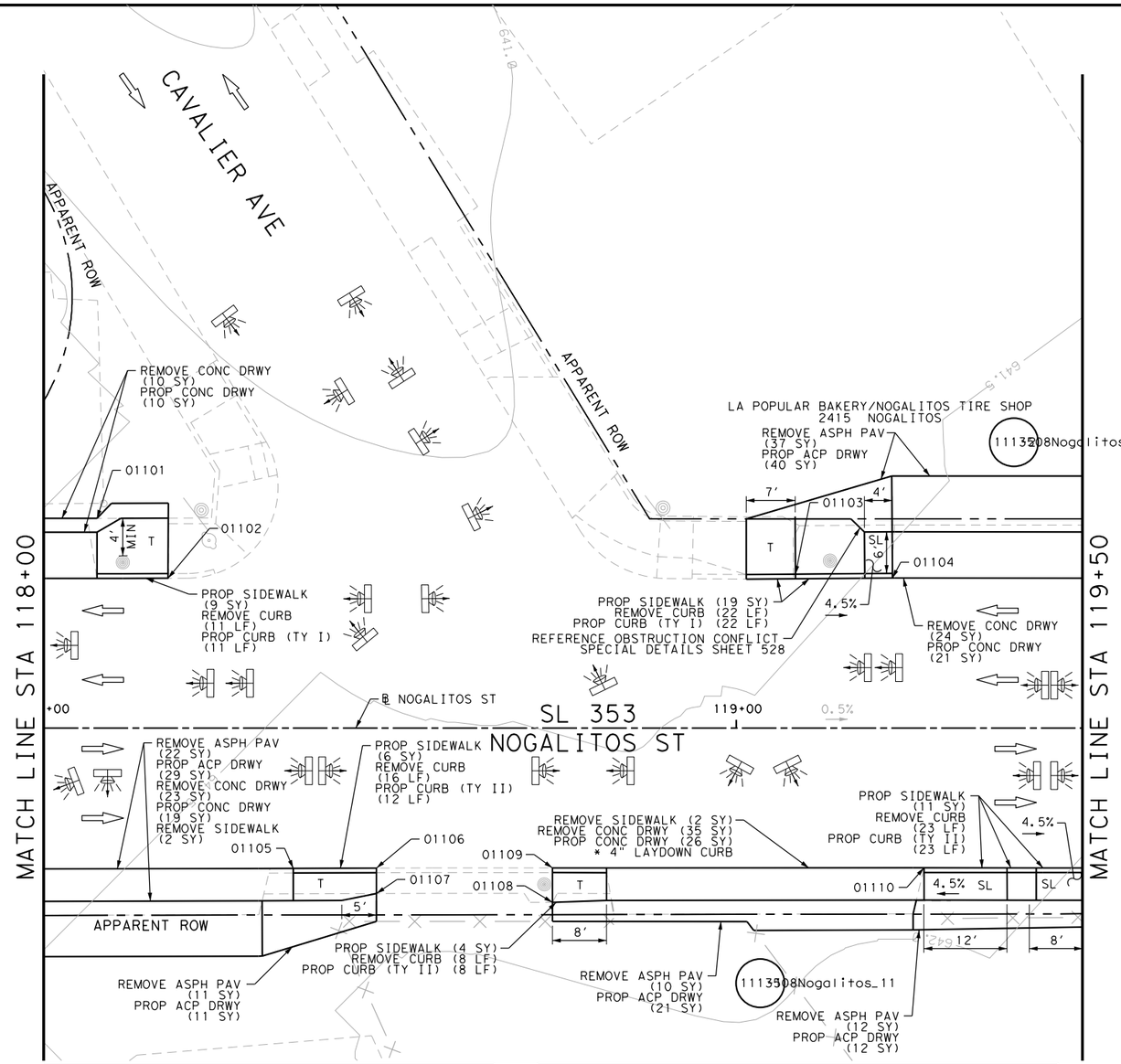
STA 116+50 TO STA 118+00

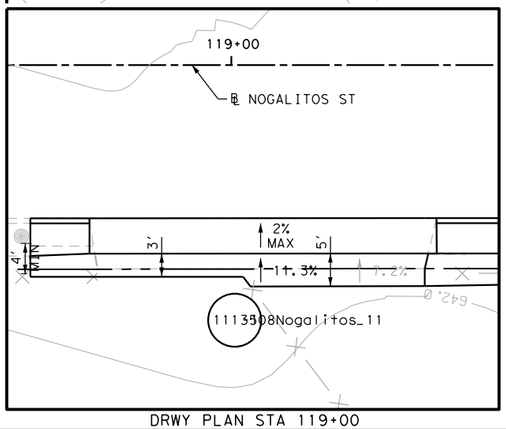


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 359 |

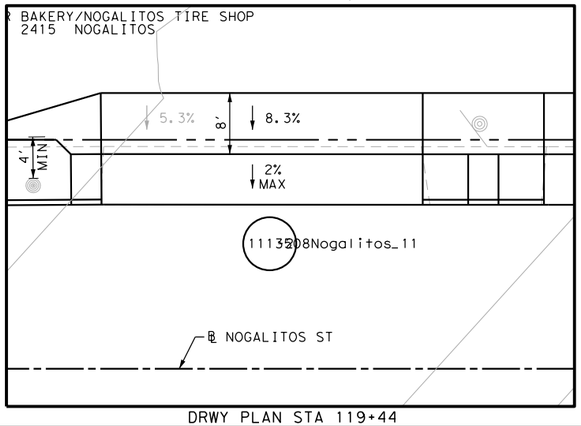
Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_11.dgn




DRWY PLAN STA 119+00




DRWY PLAN STA 119+44

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 104 |
| 0104-6024 | REMOVING CONC (RETAINING WALLS) | SY | 21 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 112 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 4 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 87 |
| 0529-6001 | CONC CURB (TY I) | LF | 22 |
| 0529-6002 | CONC CURB (TY II) | LF | 65 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 90 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 116 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 70 |
| 0644-6064 | IN BRIDGE MNT CLEARANCE SGN ASSM(TY N) | EA | 1 |
| 7091-6004 | RELOCATE FIRE HYDRANT | EA | 1 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 01101 | 13692029.38 | 2121442.71 | -- | ME |
| 01102 | 13692030.35 | 2121455.87 | -- | ME |
| 01103 | 13692103.00 | 2121510.02 | -- | ME |
| 01104 | 13692113.82 | 2121518.91 | -- | ME |
| 01105 | 13692019.52 | 2121500.20 | -- | ME |
| 01106 | 13692042.93 | 2121517.82 | -- | ME |
| 01107 | 13692041.94 | 2121522.93 | -- | ME |
| 01108 | 13692049.37 | 2121528.55 | -- | ME |
| 01109 | 13692052.50 | 2121525.06 | -- | ME |
| 01110 | 13692092.23 | 2121555.04 | -- | ME |

SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

STA 118+00 TO STA 119+50

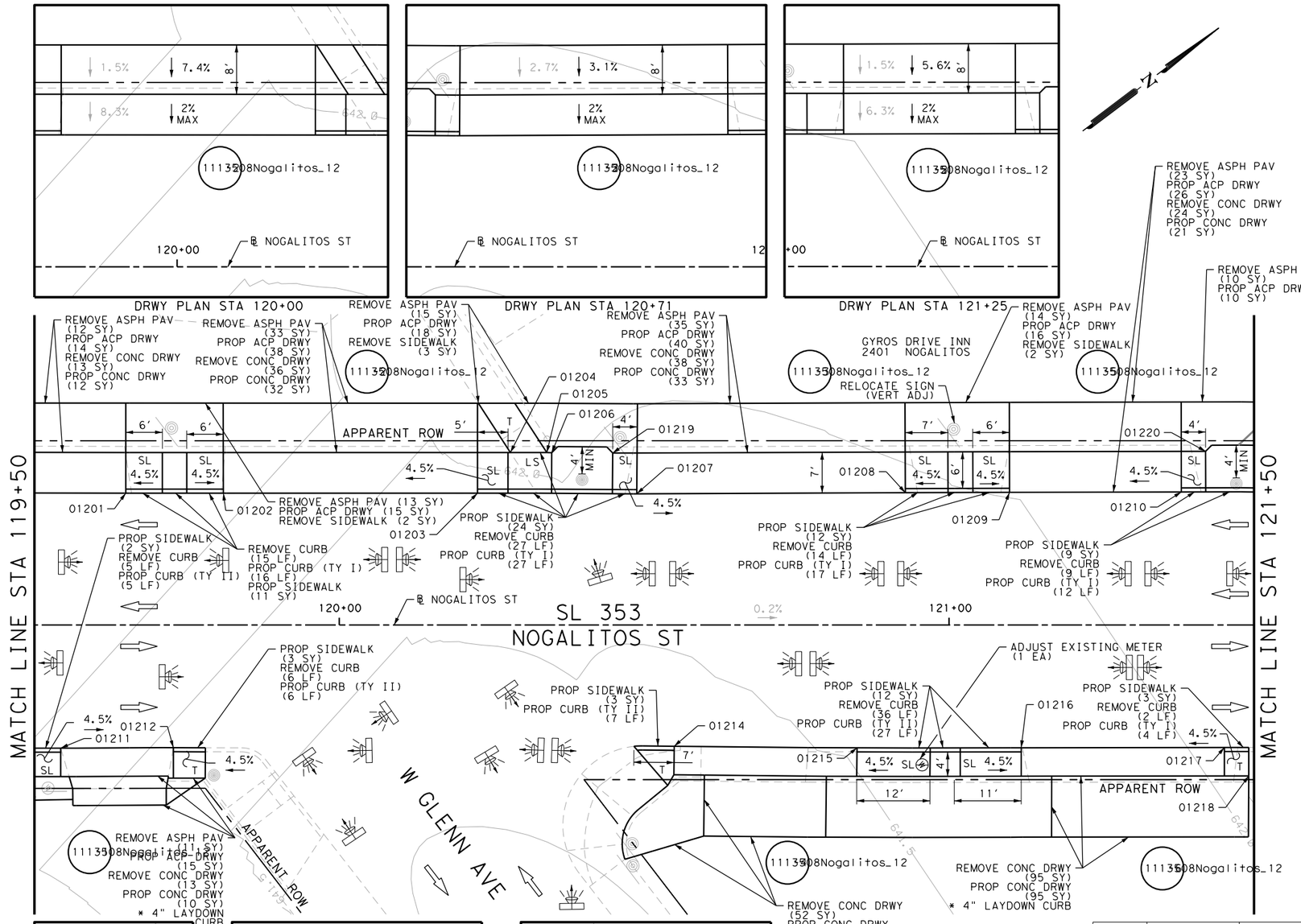


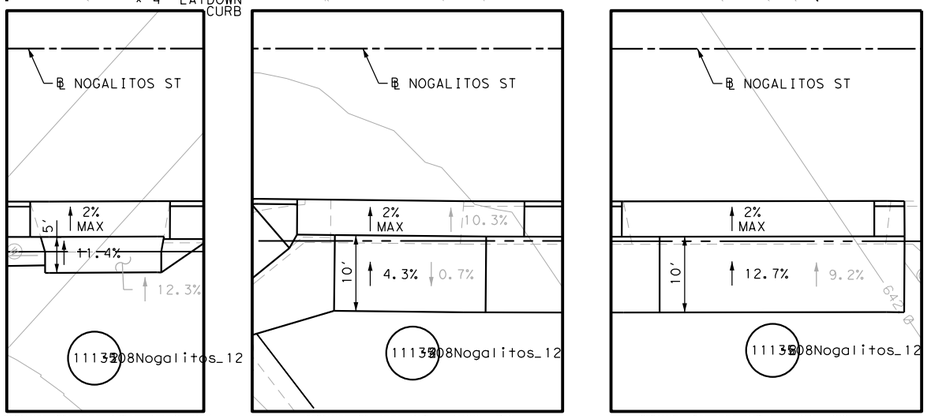
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 360 |

Plotted on: 4/1/2019

Design Filename: P:\1113508\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_12.dgn

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 272 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 130 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 7 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 166 |
| 0529-6001 | CONC CURB (TY I) | LF | 75 |
| 0529-6002 | CONC CURB (TY II) | LF | 52 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 256 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 192 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 76 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 10 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |
| 7091-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |




| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 01201 | 13692147.64 | 2121544.51 | -- | ME |
| 01202 | 13692160.41 | 2121554.15 | -- | ME |
| 01203 | 13692193.66 | 2121579.28 | -- | ME |
| 01204 | 13692202.00 | 2121577.23 | -- | ME |
| 01205 | 13692206.76 | 2121580.83 | -- | ME |
| 01206 | 13692207.39 | 2121581.32 | -- | ME |
| 01207 | 13692214.46 | 2121595.12 | -- | ME |
| 01208 | 13692249.70 | 2121621.51 | -- | ME |
| 01209 | 13692263.35 | 2121631.77 | -- | ME |
| 01210 | 13692285.88 | 2121648.71 | -- | ME |
| 01211 | 13692113.93 | 2121571.45 | -- | ME |
| 01212 | 13692128.71 | 2121582.53 | -- | ME |
| 01213 | 13692138.13 | 2121590.75 | -- | ME |
| 01214 | 13692194.38 | 2121631.84 | -- | ME |
| 01215 | 13692218.16 | 2121650.14 | -- | ME |
| 01216 | 13692239.65 | 2121666.35 | -- | ME |
| 01217 | 13692266.25 | 2121686.40 | -- | ME |
| 01218 | 13692266.64 | 2121692.53 | -- | ME |
| 01219 | 13692215.33 | 2121587.39 | -- | ME |
| 01220 | 13692293.09 | 2121645.78 | -- | ME |

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



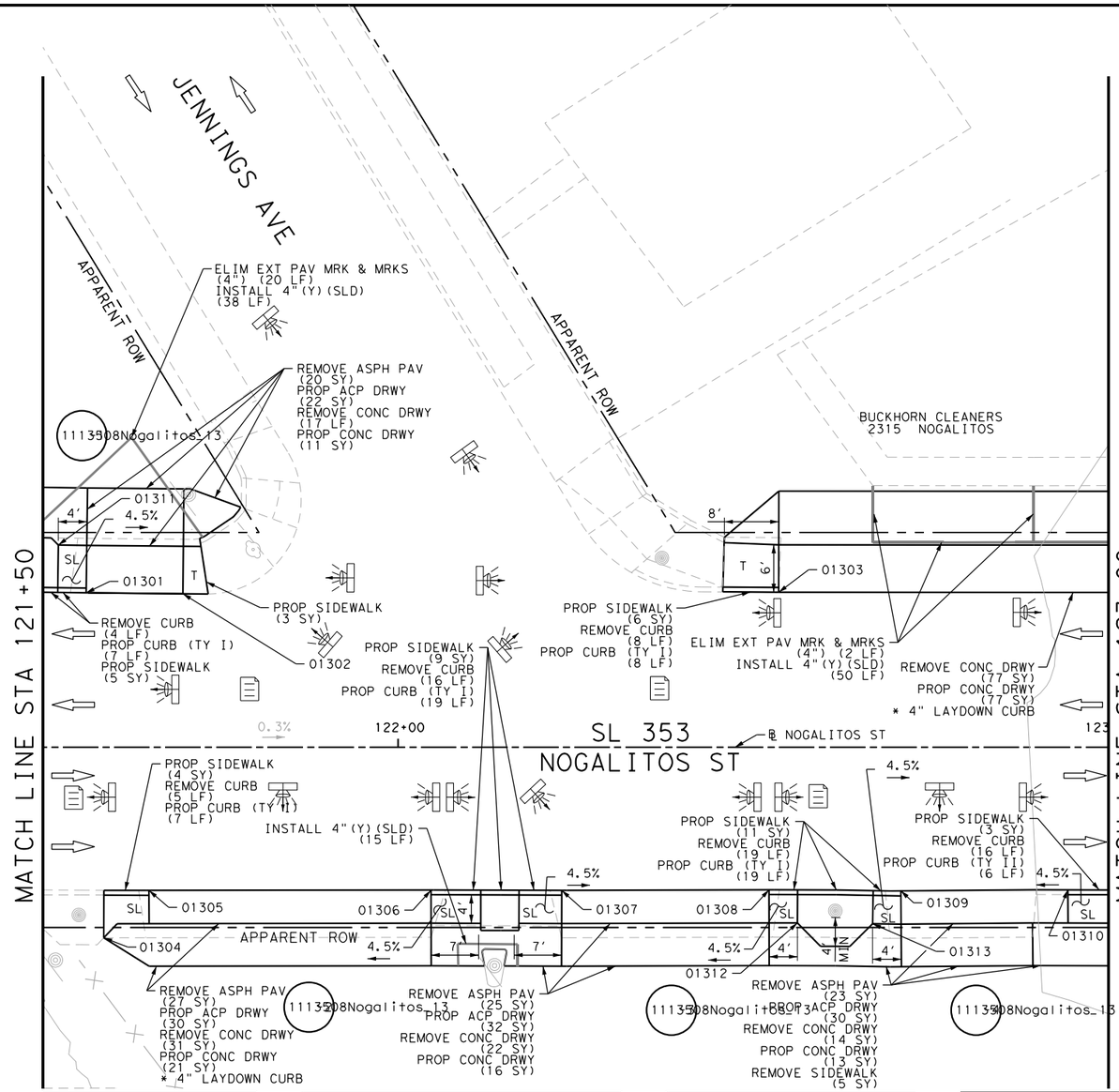

SL 353
NOGALITOS ST

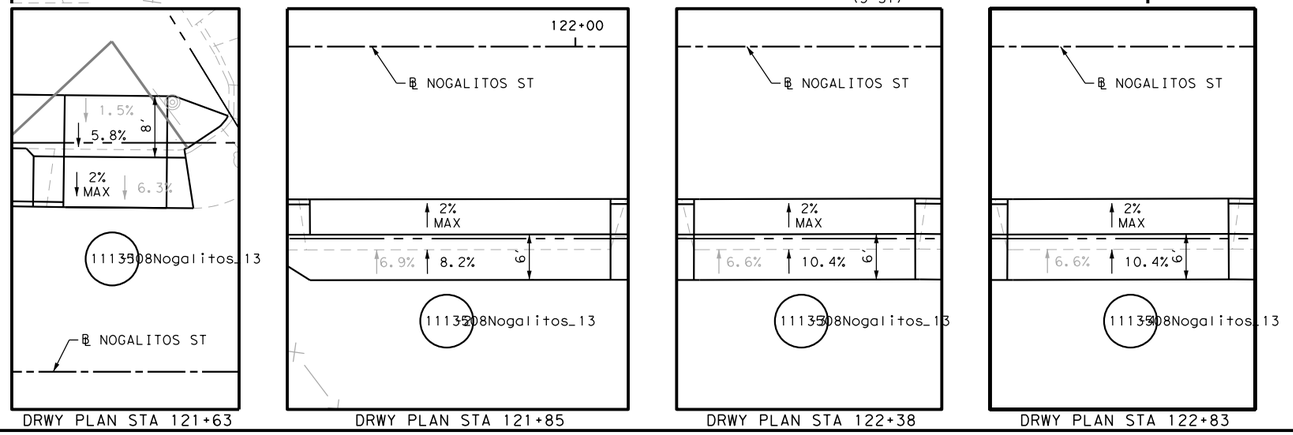
# SIDEWALK CONSTRUCTION PLAN

STA 119+50 TO STA 121+50

SHEET 13 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 361 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 161 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 77 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 5 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 95 |
| 0529-6001 | CONC CURB (TY I) | LF | 68 |
| 0529-6002 | CONC CURB (TY II) | LF | 6 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 138 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 121 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 47 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 103 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 103 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 22 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 103 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 01301 | 13692300.19 | 2121659.62 | -- | ME |
| 01302 | 13692313.80 | 2121670.11 | -- | ME |
| 01303 | 13692378.02 | 2121718.33 | -- | ME |
| 01304 | 13692276.01 | 2121699.69 | -- | ME |
| 01305 | 13692282.01 | 2121698.38 | -- | ME |
| 01306 | 13692313.72 | 2121722.25 | -- | ME |
| 01307 | 13692328.37 | 2121733.38 | -- | ME |
| 01308 | 13692351.69 | 2121750.90 | -- | ME |
| 01309 | 13692366.41 | 2121762.21 | -- | ME |
| 01310 | 13692385.25 | 2121776.27 | -- | ME |
| 01311 | 13692301.12 | 2121651.90 | -- | ME |
| 01312 | 13692352.07 | 2121757.06 | -- | ME |
| 01313 | 13692360.45 | 2121763.52 | -- | ME |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

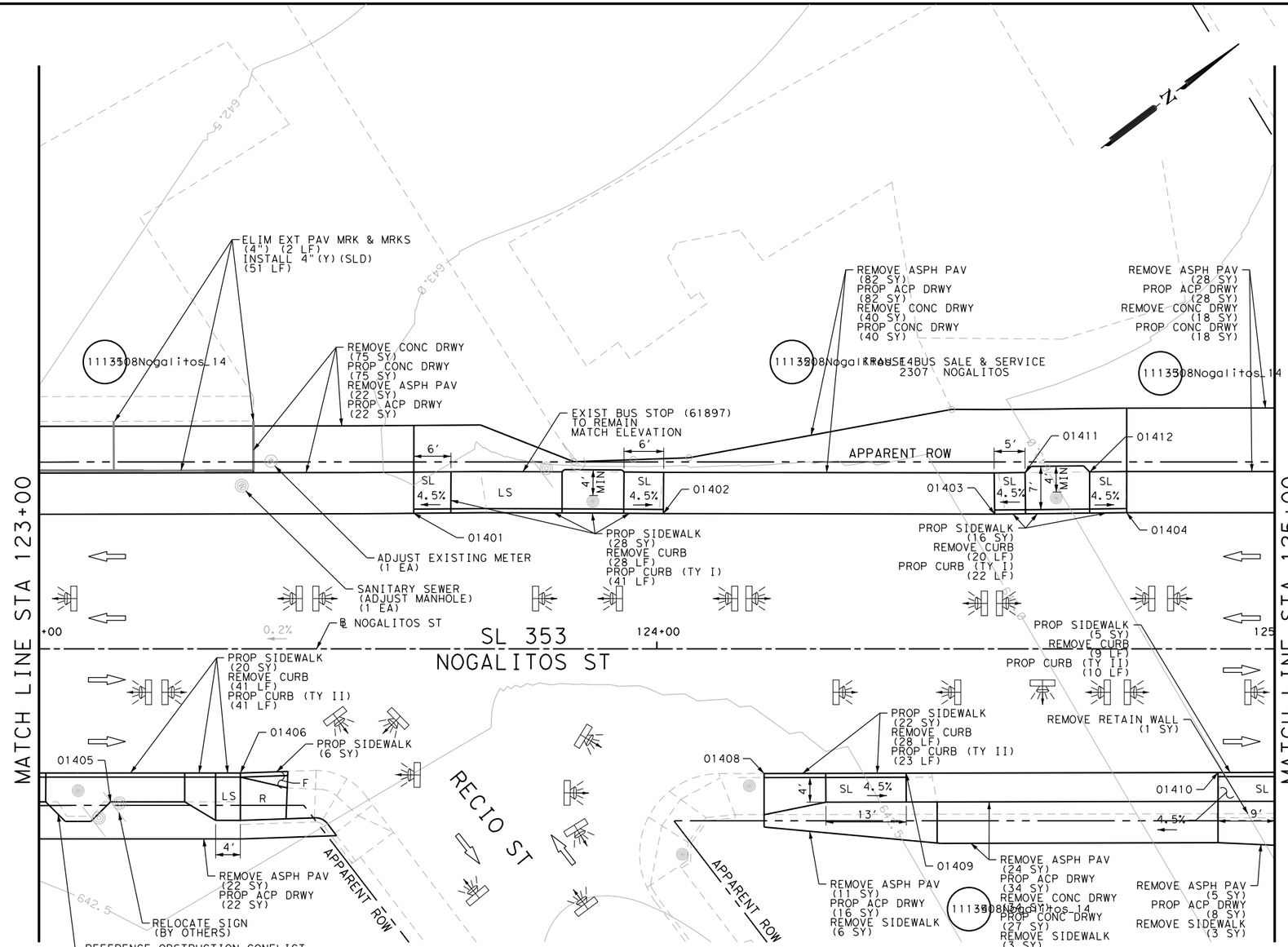
STA 121+50 TO STA 123+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 362 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_13.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 167 |
| 0104-6024 | REMOVING CONC (RETAINING WALLS) | SY | 1 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 126 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 12 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 194 |
| 0529-6001 | CONC CURB (TY I) | LF | 63 |
| 0529-6002 | CONC CURB (TY II) | LF | 74 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 160 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 212 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 97 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 51 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 51 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 2 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 51 |
| 7090-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |
| 7091-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 01401 | 13692463.55 | 2121782.78 | -- | ME |
| 01402 | 13692495.76 | 2121807.17 | -- | ME |
| 01403 | 13692538.50 | 2121839.56 | -- | ME |
| 01404 | 13692555.68 | 2121852.26 | -- | ME |
| 01405 | 13692396.24 | 2121790.45 | -- | ME |
| 01406 | 13692415.83 | 2121799.40 | -- | ME |
| 01407 | 13692477.35 | 2121846.84 | -- | ME |
| 01408 | 13692482.91 | 2121856.02 | -- | ME |
| 01409 | 13692501.79 | 2121864.38 | -- | ME |
| 01410 | 13692542.12 | 2121894.71 | -- | ME |
| 01411 | 13692546.47 | 2121837.17 | -- | ME |
| 01412 | 13692554.87 | 2121843.37 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



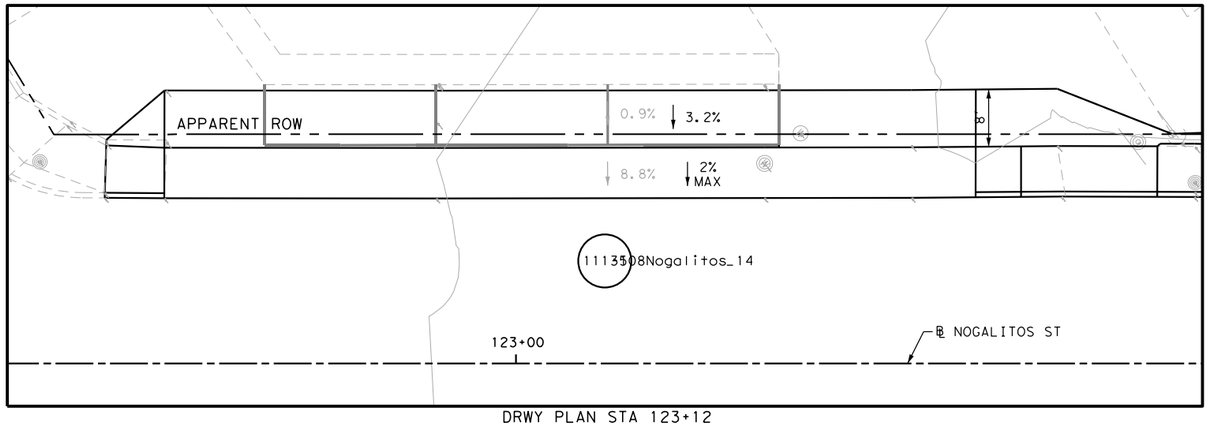
# SL 353
# NOGALITOS ST
# SIDEWALK CONSTRUCTION PLAN
## STA 123+00 TO STA 125+00

SHEET 15 OF 36

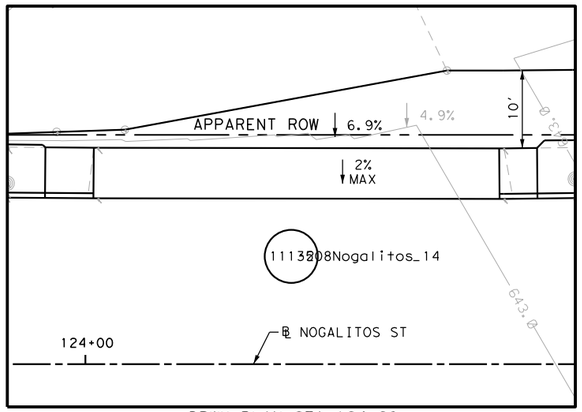
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 363 |

Plotted on: 4/1/2019

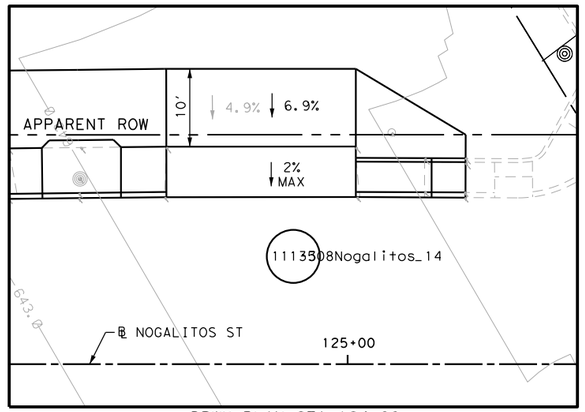
Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_14.dgn



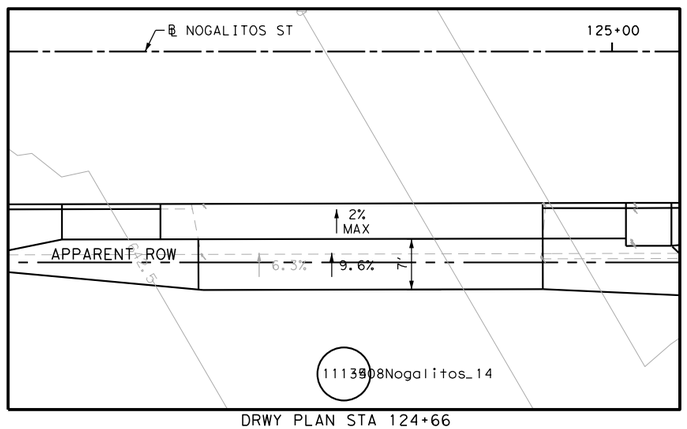

DRWY PLAN STA 123+12




DRWY PLAN STA 124+28




DRWY PLAN STA 124+88




DRWY PLAN STA 124+66

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

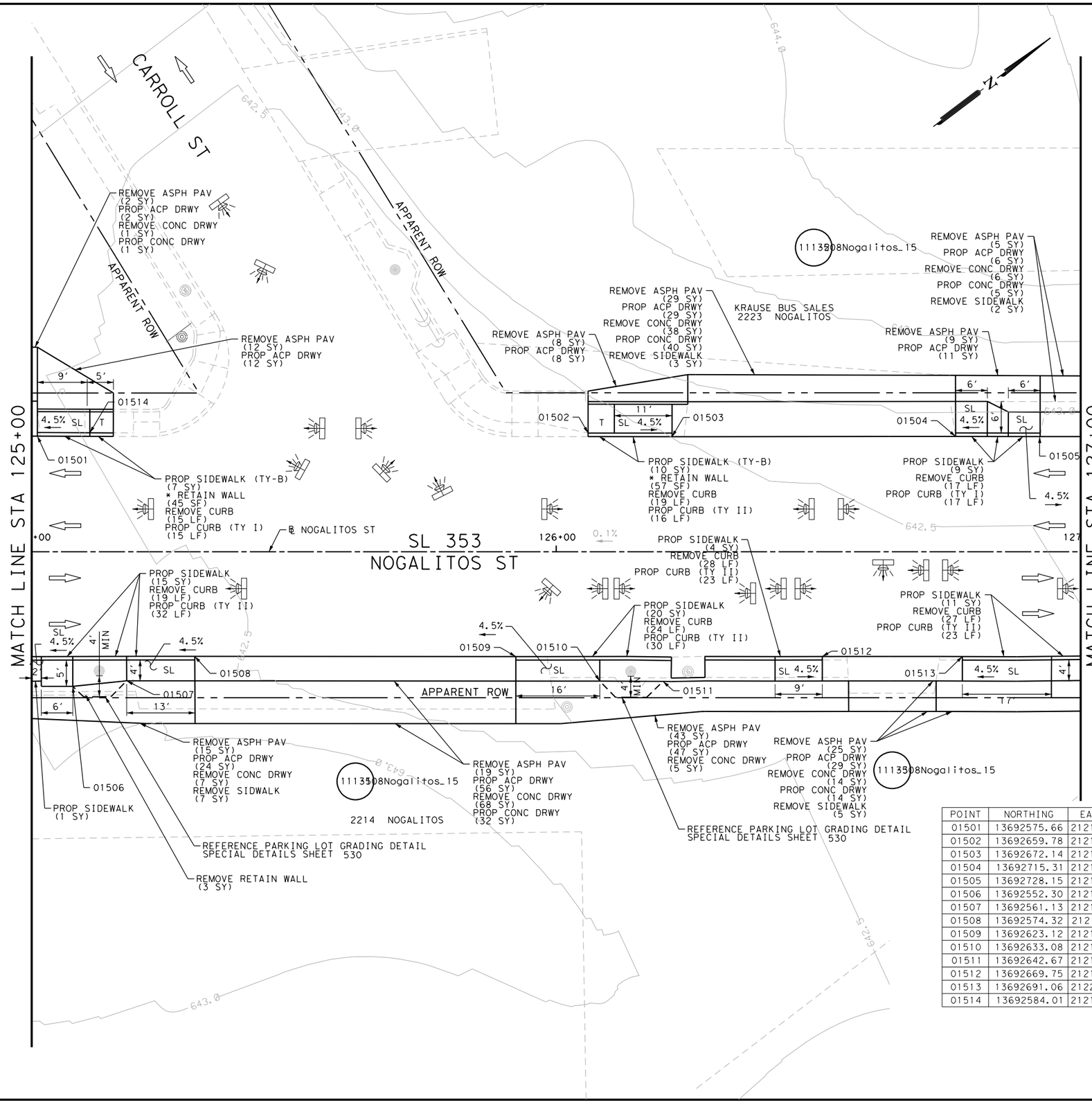
STA 123+00 TO STA 125+00

SHEET 16 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 364 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_14_A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 139 |
| 0104-6024 | REMOVING CONC (RETAINING WALLS) | SY | 3 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 149 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 17 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 167 |
| 0529-6001 | CONC CURB (TY I) | LF | 32 |
| 0529-6002 | CONC CURB (TY II) | LF | 124 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 92 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 224 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 62 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 17 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 01501 | 13692575.66 | 2121867.33 | -- | ME |
| 01502 | 13692659.78 | 2121930.18 | -- | ME |
| 01503 | 13692672.14 | 2121940.37 | -- | ME |
| 01504 | 13692715.31 | 2121972.92 | -- | ME |
| 01505 | 13692728.15 | 2121982.65 | -- | ME |
| 01506 | 13692552.30 | 2121909.46 | -- | ME |
| 01507 | 13692561.13 | 2121914.83 | -- | ME |
| 01508 | 13692574.32 | 2121918.91 | -- | ME |
| 01509 | 13692623.12 | 2121955.86 | -- | ME |
| 01510 | 13692633.08 | 2121969.22 | -- | ME |
| 01511 | 13692642.67 | 2121976.55 | -- | ME |
| 01512 | 13692669.75 | 2121991.05 | -- | ME |
| 01513 | 13692691.06 | 2122007.17 | -- | ME |
| 01514 | 13692584.01 | 2121872.86 | -- | ME |

SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

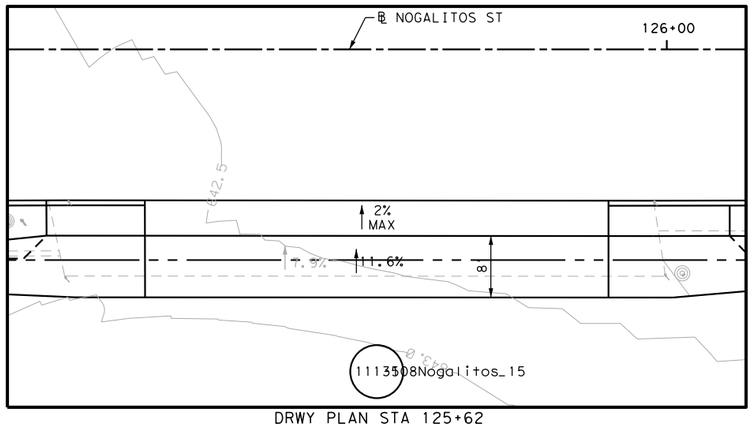
STA 125+00 TO STA 127+00

SHEET 17 OF 36

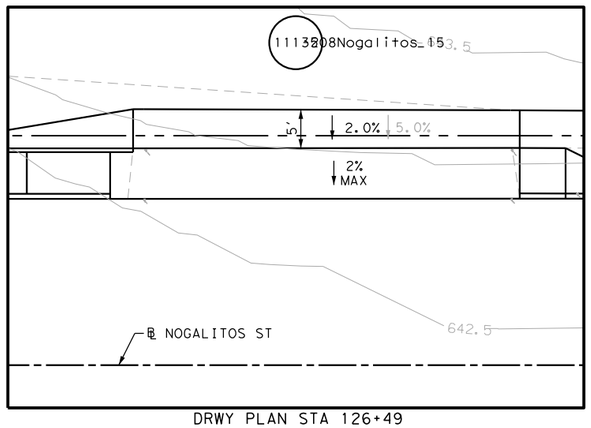
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 365 |

Plotted on: 4/1/2019

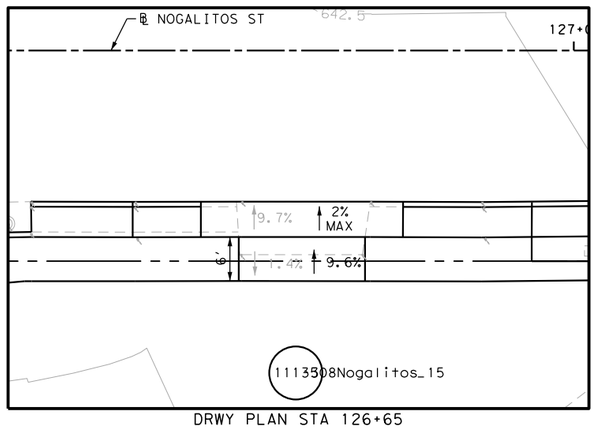
Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_15.dgn




DRWY PLAN STA 125+62




DRWY PLAN STA 126+49




DRWY PLAN STA 126+65

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

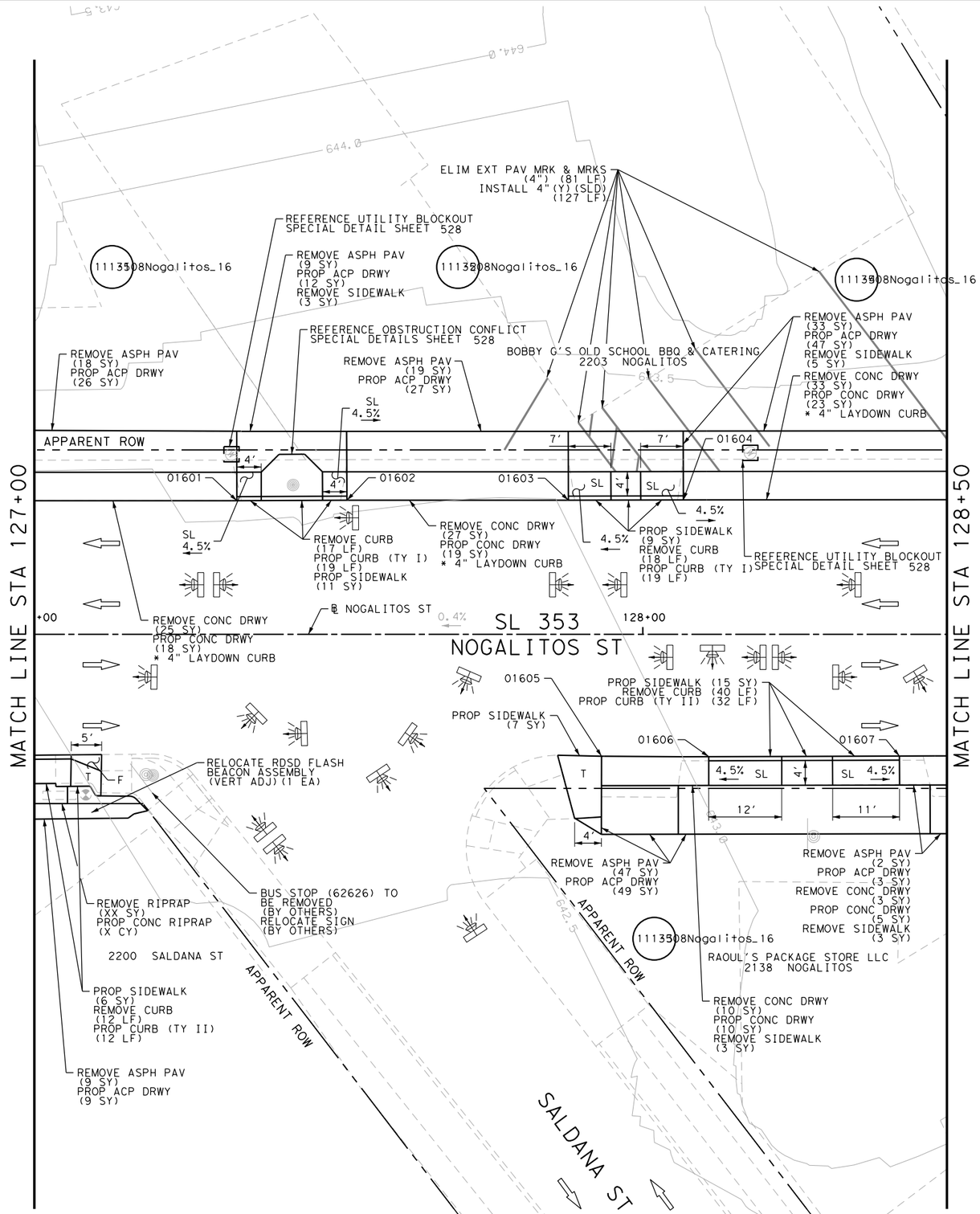
STA 125+00 TO STA 127+00

SHEET 18 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 366 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_16.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 98 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 87 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 14 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 137 |
| 0529-6001 | CONC CURB (TY I) | LF | 38 |
| 0529-6002 | CONC CURB (TY II) | LF | 44 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 75 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 173 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 48 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 127 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 127 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 81 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 127 |
| 0685-6002 | RELOCATE RDSD FLASH BEACON ASSEMBLY | EA | 1 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 01601 | 13692760.88 | 2122007.39 | -- | ME |
| 01602 | 13692775.37 | 2122018.22 | -- | ME |
| 01603 | 13692804.40 | 2122040.16 | -- | ME |
| 01604 | 13692819.51 | 2122051.51 | -- | ME |
| 01605 | 13692783.39 | 2122077.01 | -- | ME |
| 01606 | 13692797.40 | 2122087.68 | -- | ME |
| 01607 | 13692822.48 | 2122106.51 | -- | ME |
| 01608 | 13693252.86 | 2122437.15 | -- | ME |
| 01609 | 13692776.16 | 2122010.48 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



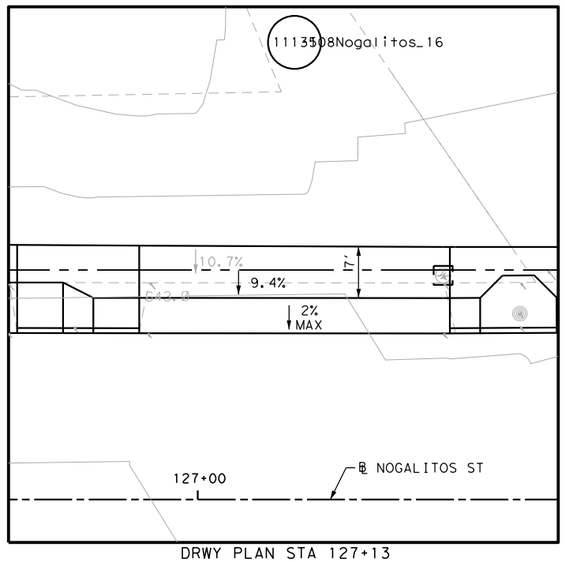
SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

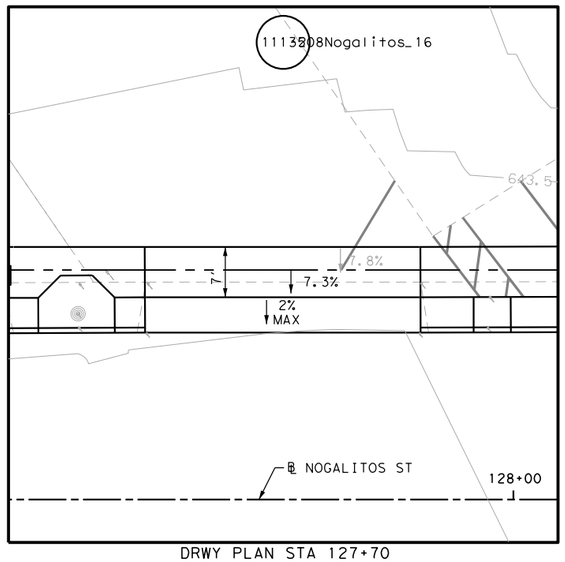
STA 127+00 TO STA 128+50

SHEET 19 OF 36

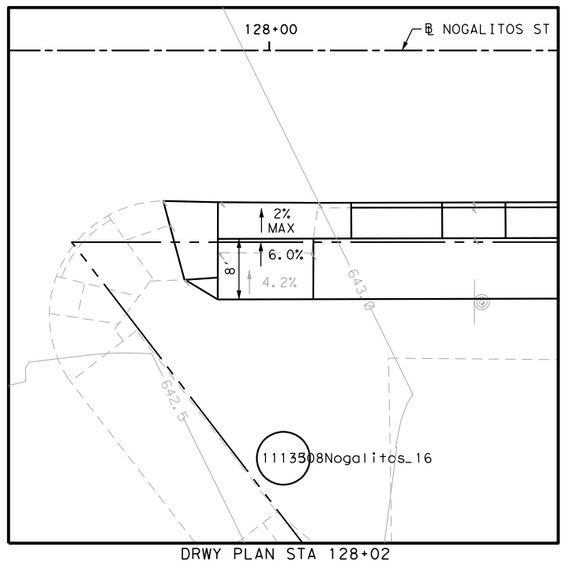
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 367 |



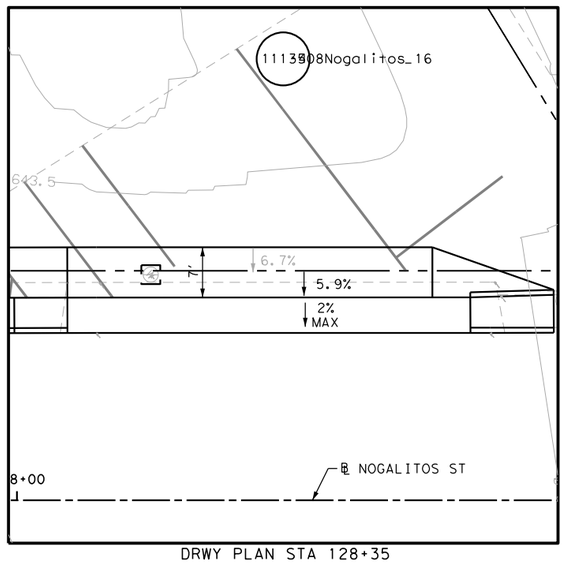

DRWY PLAN STA 127+13




DRWY PLAN STA 127+70




DRWY PLAN STA 128+02




DRWY PLAN STA 128+35

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

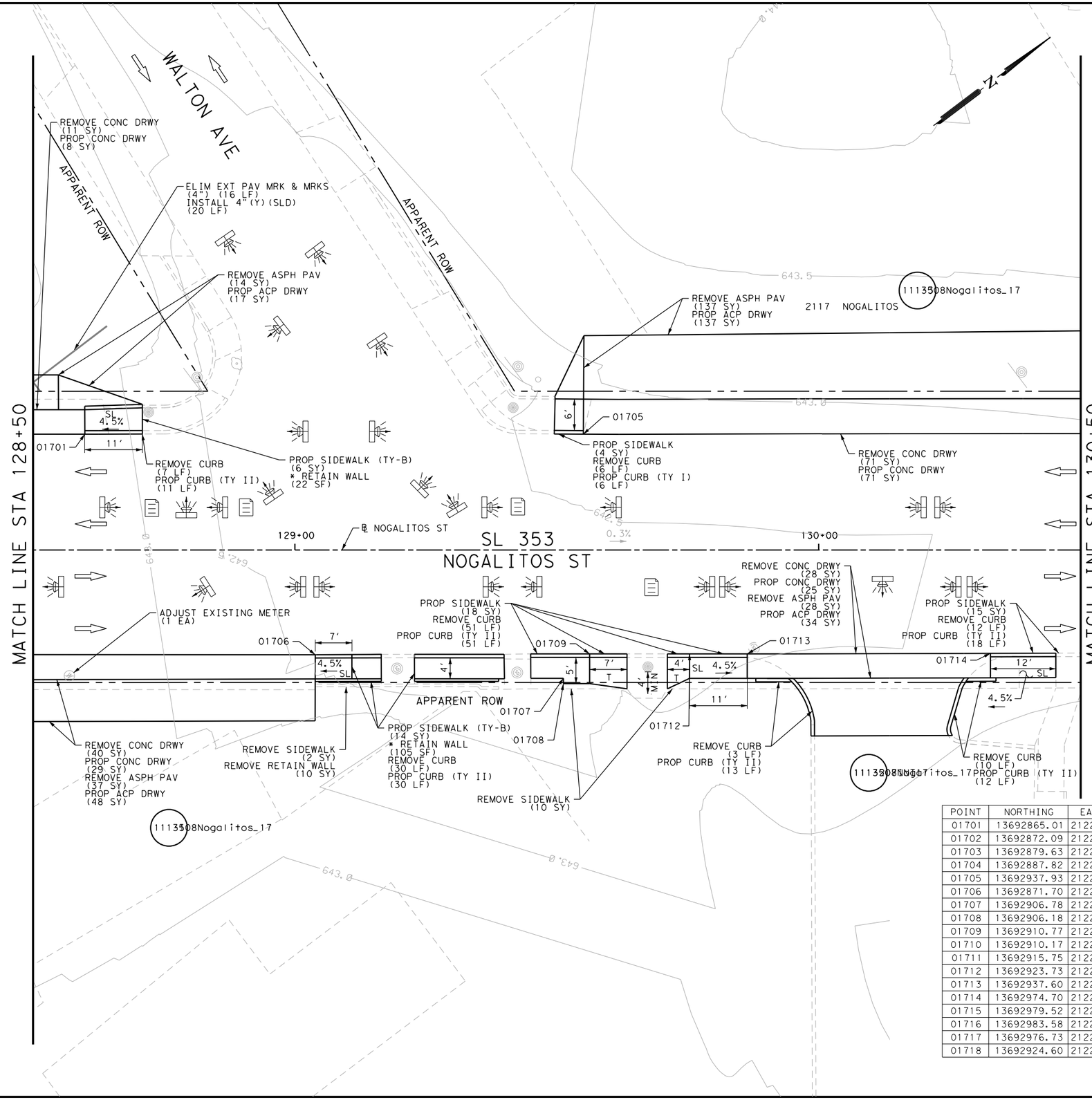
STA 127+00 TO STA 128+50



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 368 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_16_A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 150 |
| 0104-6024 | REMOVING CONC (RETAINING WALLS) | SY | 10 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 117 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 12 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 216 |
| 0529-6001 | CONC CURB (TY I) | LF | 6 |
| 0529-6002 | CONC CURB (TY II) | LF | 115 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 133 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 236 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 41 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 26 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 20 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 20 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 16 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 20 |
| 7091-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 01701 | 13692865.01 | 2122085.84 | -- | ME |
| 01702 | 13692872.09 | 2122082.82 | -- | ME |
| 01703 | 13692879.63 | 2122089.46 | -- | ME |
| 01704 | 13692887.82 | 2122094.75 | -- | ME |
| 01705 | 13692937.93 | 2122140.92 | -- | ME |
| 01706 | 13692871.70 | 2122143.68 | -- | ME |
| 01707 | 13692906.78 | 2122175.84 | -- | ME |
| 01708 | 13692906.18 | 2122176.64 | -- | ME |
| 01709 | 13692910.77 | 2122178.85 | -- | ME |
| 01710 | 13692910.17 | 2122179.65 | -- | ME |
| 01711 | 13692915.75 | 2122182.62 | -- | ME |
| 01712 | 13692923.73 | 2122188.65 | -- | ME |
| 01713 | 13692937.60 | 2122193.27 | -- | ME |
| 01714 | 13692974.70 | 2122221.17 | -- | ME |
| 01715 | 13692979.52 | 2122234.74 | -- | ME |
| 01716 | 13692983.58 | 2122237.79 | -- | ME |
| 01717 | 13692976.73 | 2122236.53 | -- | ME |
| 01718 | 13692924.60 | 2122125.48 | -- | ME |

PAPE-DAWSON ENGINEERS
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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

STA 128+50 TO STA 130+50

SHEET 21 OF 36

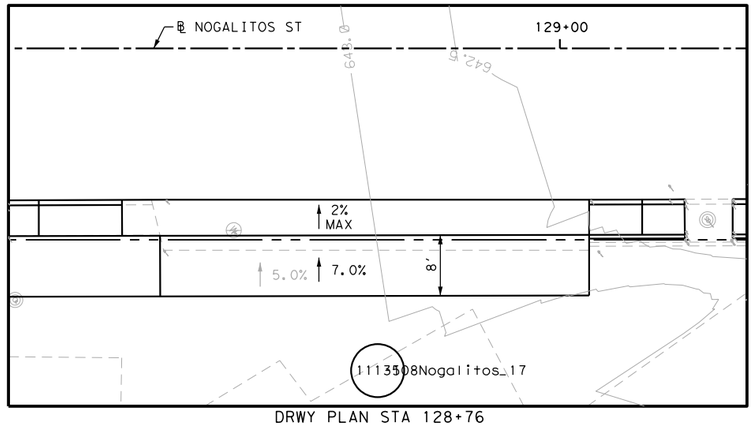
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 369 |

Plotted on: 4/1/2019

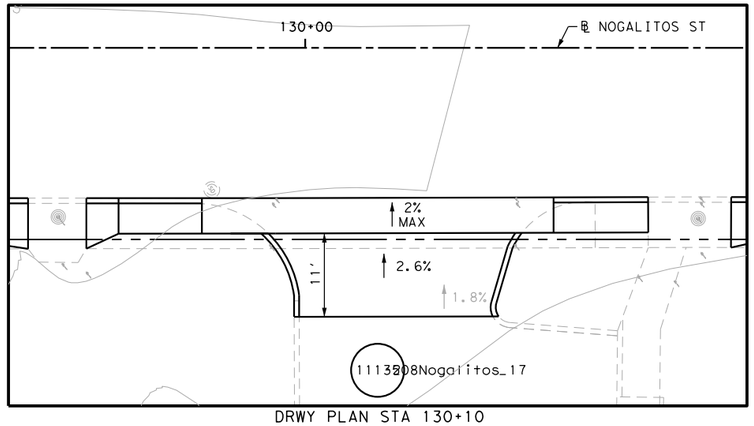
Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_17.dgn

Plotted on: 4/1/2019

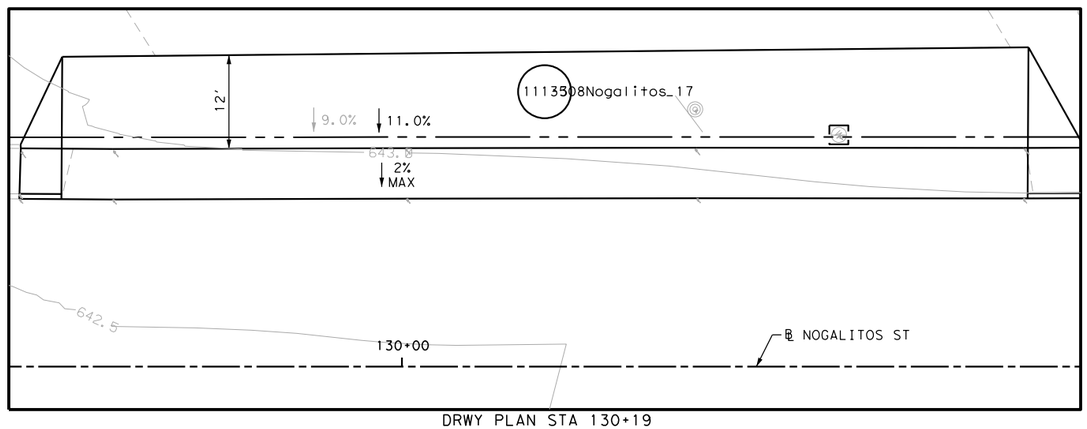
Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_17_A.dgn




DRWY PLAN STA 128+76




DRWY PLAN STA 130+10




DRWY PLAN STA 130+19

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 353
NOGALITOS ST

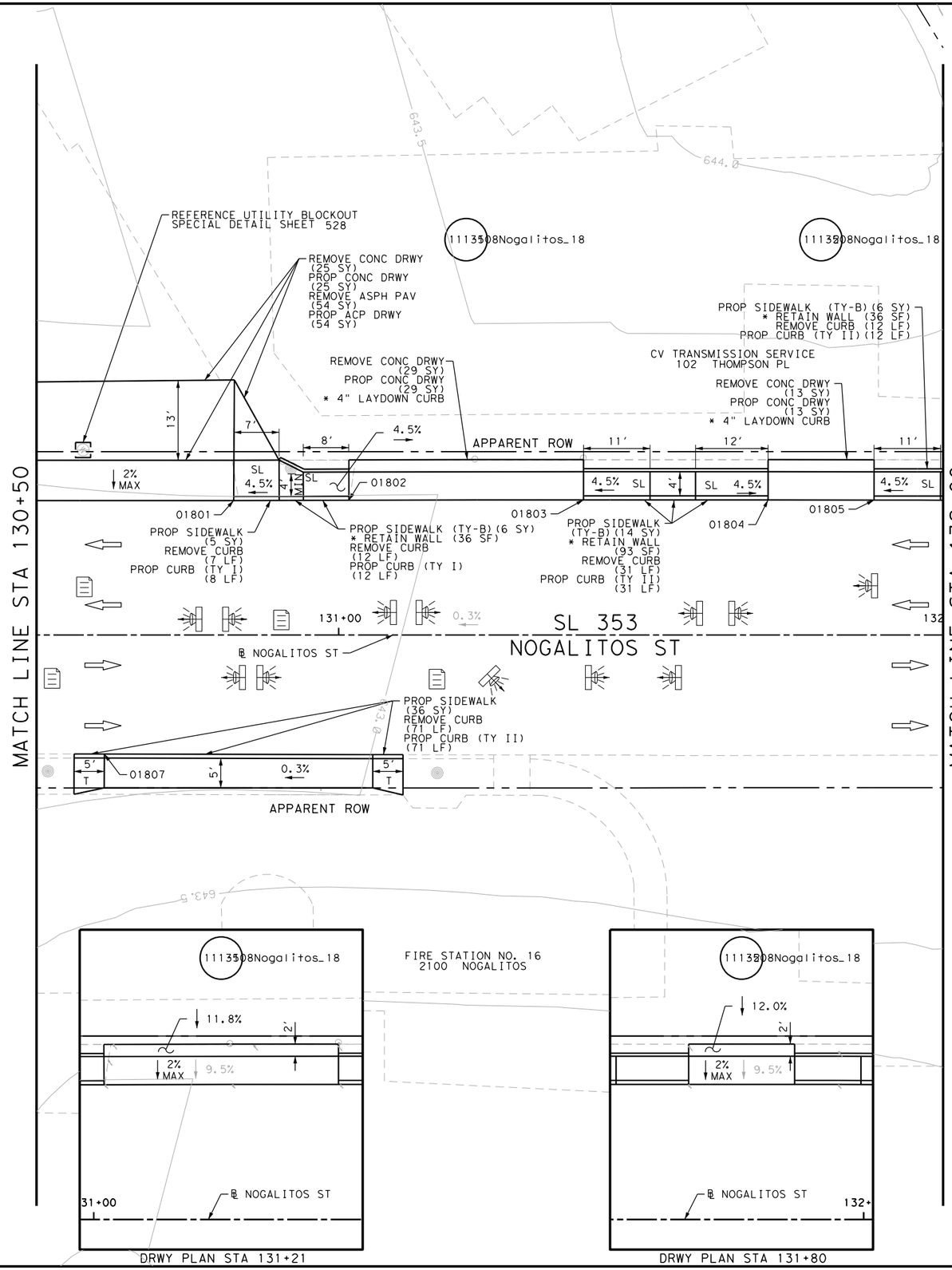
# SIDEWALK CONSTRUCTION PLAN
STA 128+50 TO STA 130+50

SHEET 22 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 370 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\111308_Nogalitos_18.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 67 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 133 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 54 |
| 0529-6001 | CONC CURB (TY I) | LF | 20 |
| 0529-6002 | CONC CURB (TY II) | LF | 114 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 67 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 54 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 43 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 26 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 01801 | 13693039.76 | 2122217.74 | -- | ME |
| 01802 | 13693055.02 | 2122229.19 | -- | ME |
| 01803 | 13693086.01 | 2122252.54 | -- | ME |
| 01804 | 13693110.38 | 2122270.95 | -- | ME |
| 01805 | 13693124.36 | 2122281.52 | -- | ME |
| 01806 | 13692987.60 | 2122240.82 | -- | ME |
| 01807 | 13692992.22 | 2122240.19 | -- | ME |
| 01808 | 13693007.71 | 2122251.94 | -- | ME |
| 01809 | 13693011.69 | 2122254.96 | -- | ME |
| 01810 | 13693033.55 | 2122271.54 | -- | ME |
| 01811 | 13693040.86 | 2122279.60 | -- | ME |
| 01812 | 13693053.66 | 2122280.93 | -- | ME |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 353
NOGALITOS ST

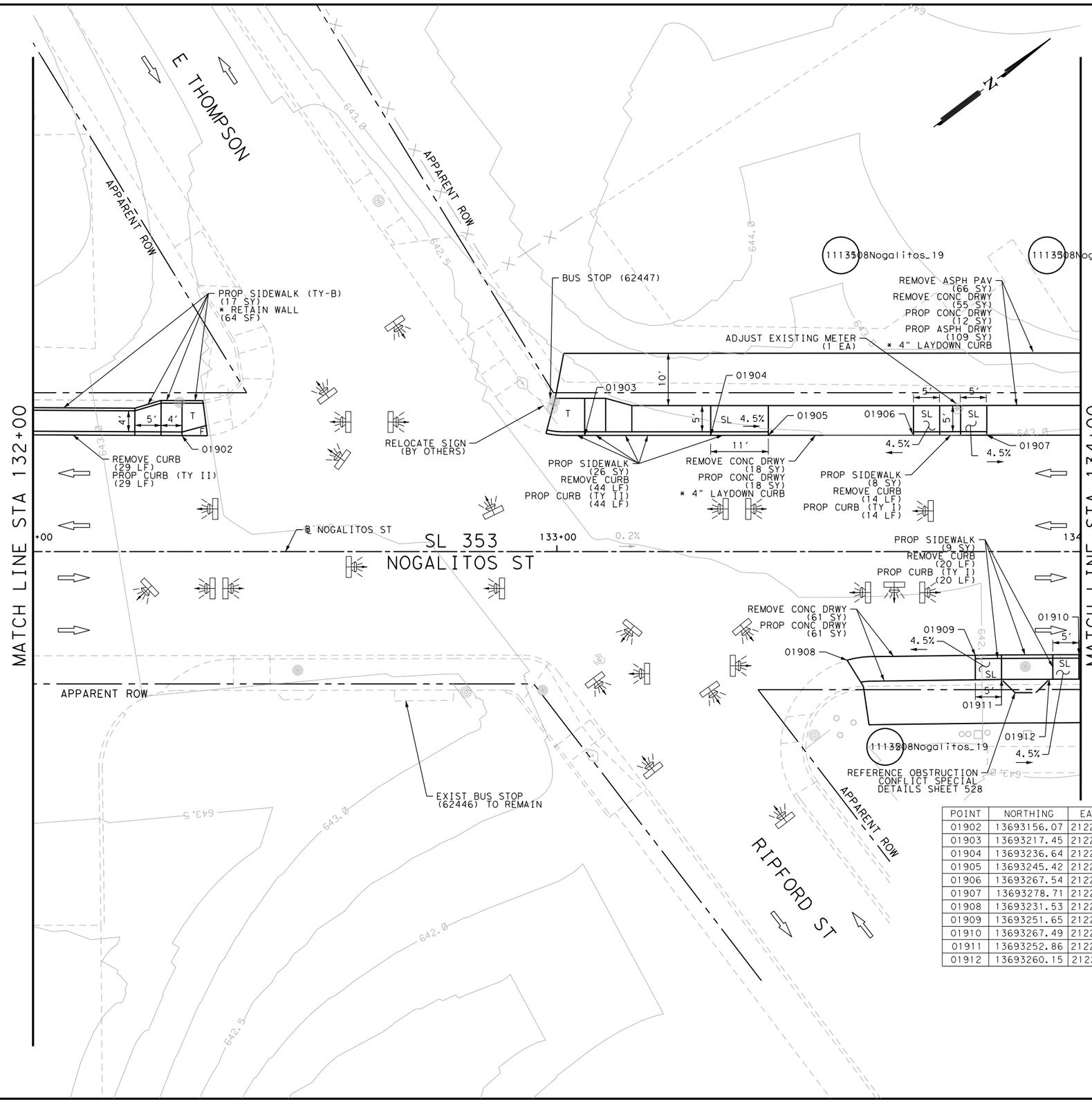
# SIDEWALK CONSTRUCTION PLAN
STA 130+50 TO STA 132+00

SHEET 23 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 371 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_19.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 134 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 107 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 66 |
| 0529-6001 | CONC CURB (TY I) | LF | 34 |
| 0529-6002 | CONC CURB (TY II) | LF | 73 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 91 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 109 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 43 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 17 |
| 7091-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 01902 | 13693156.07 | 2122305.68 | -- | ME |
| 01903 | 13693217.45 | 2122352.02 | -- | ME |
| 01904 | 13693236.64 | 2122366.50 | -- | ME |
| 01905 | 13693245.42 | 2122373.13 | -- | ME |
| 01906 | 13693267.54 | 2122389.83 | -- | ME |
| 01907 | 13693278.71 | 2122398.27 | -- | ME |
| 01908 | 13693231.53 | 2122416.45 | -- | ME |
| 01909 | 13693251.65 | 2122430.42 | -- | ME |
| 01910 | 13693267.49 | 2122442.27 | -- | ME |
| 01911 | 13693252.86 | 2122437.15 | -- | ME |
| 01912 | 13693260.15 | 2122442.61 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

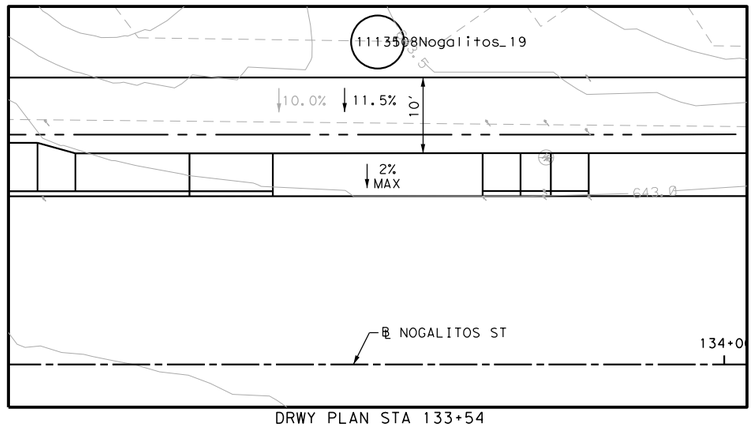


SL 353
NOGALITOS ST

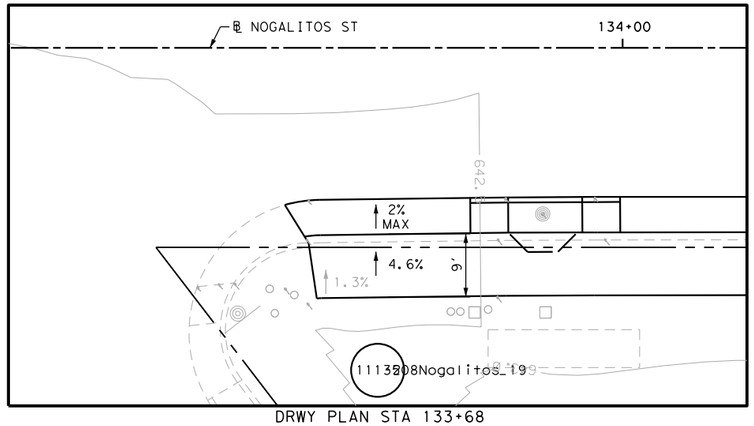
# SIDEWALK CONSTRUCTION PLAN
STA 132+00 TO STA 134+00

SHEET 24 OF 36

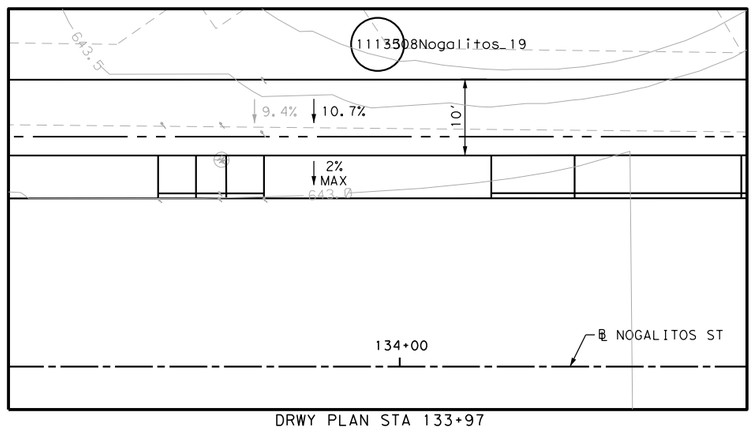
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 372 |




DRWY PLAN STA 133+54




DRWY PLAN STA 133+68




DRWY PLAN STA 133+97

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 353
NOGALITOS ST

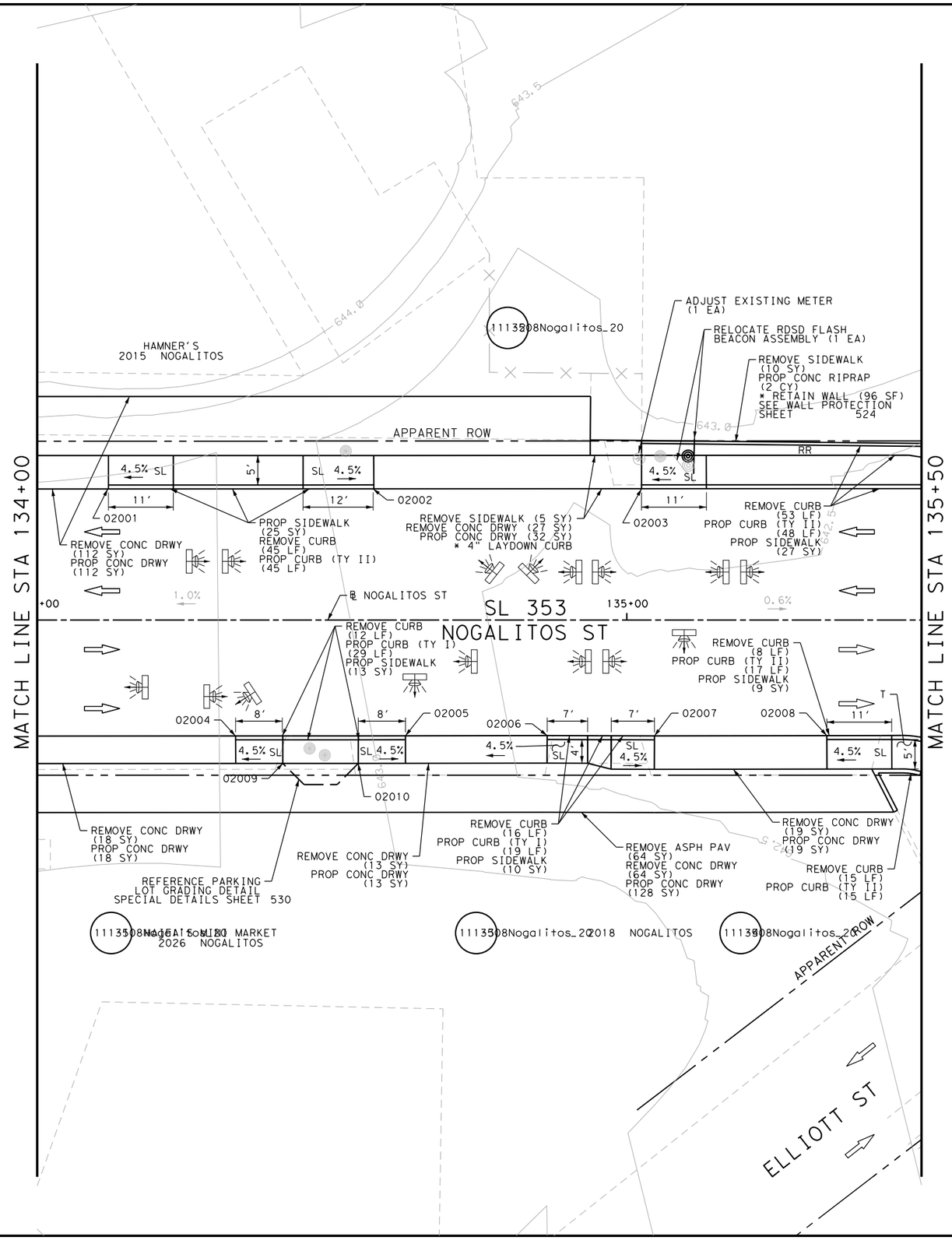
# SIDEWALK CONSTRUCTION PLAN
STA 132+00 TO STA 134+00

SHEET 25 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 373 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_19_A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 253 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 149 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 15 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 64 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 2 |
| 0529-6001 | CONC CURB (TY I) | LF | 48 |
| 0529-6002 | CONC CURB (TY II) | LF | 125 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 322 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 84 |
| 0685-6002 | RELOCATE RDSD FLASH BEACON ASSEMBLY | EA | 1 |
| 7091-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 02001 | 13693302.57 | 2122416.28 | -- | ME |
| 02002 | 13693338.49 | 2122443.39 | -- | ME |
| 02003 | 13693374.81 | 2122470.81 | -- | ME |
| 02004 | 13693294.63 | 2122462.75 | -- | ME |
| 02005 | 13693317.62 | 2122480.10 | -- | ME |
| 02006 | 13693336.81 | 2122494.55 | -- | ME |
| 02007 | 13693351.30 | 2122505.57 | -- | ME |
| 02008 | 13693374.67 | 2122523.16 | -- | ME |
| 02009 | 13693298.21 | 2122471.30 | -- | ME |
| 02010 | 13693308.42 | 2122479.01 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



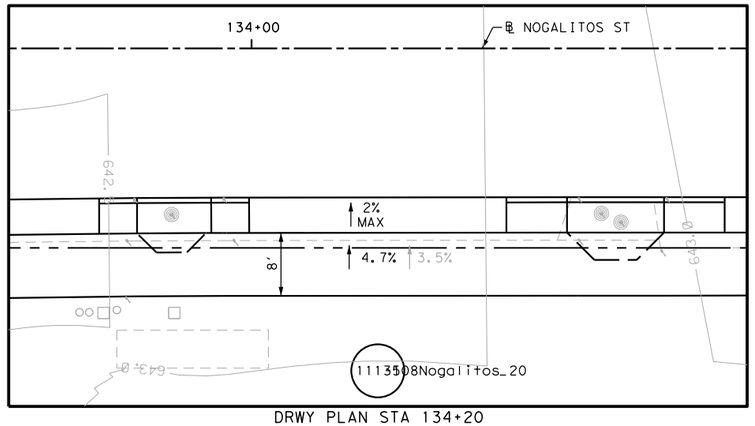
# SL 353
# NOGALITOS ST
# SIDEWALK CONSTRUCTION PLAN
## STA 134+00 TO STA 135+50

SHEET 26 OF 36

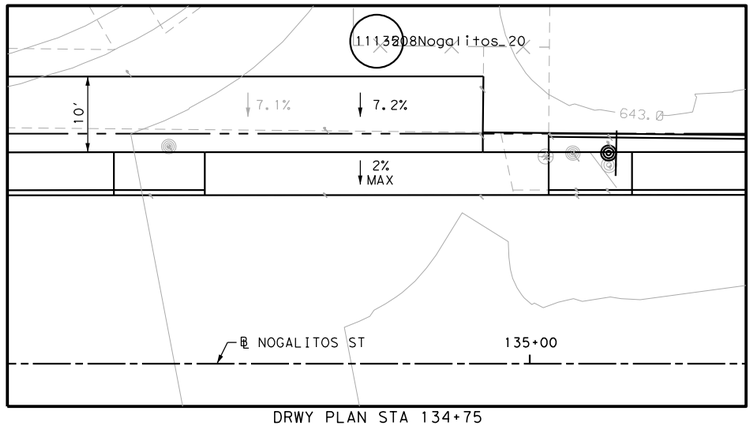
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 374 |

Plotted on: 4/1/2019

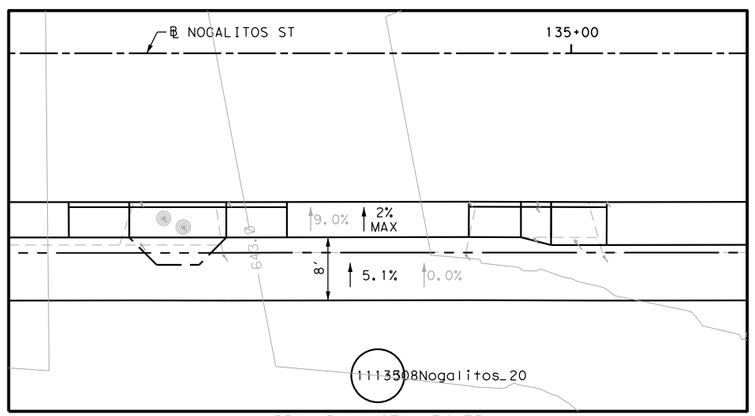
Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_20.dgn



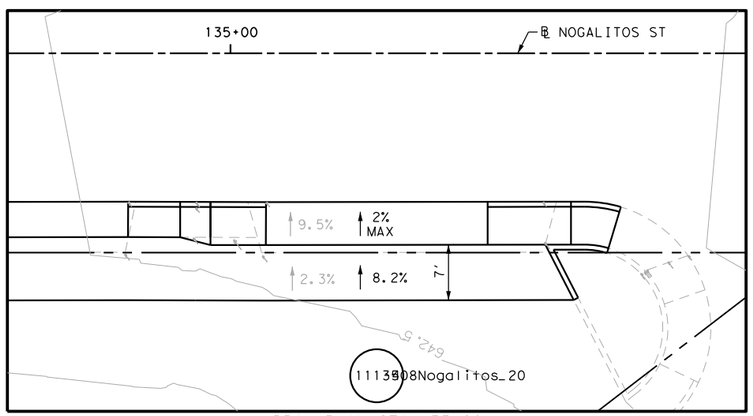

DRWY PLAN STA 134+20




DRWY PLAN STA 134+75




DRWY PLAN STA 134+75




DRWY PLAN STA 135+20

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 353
NOGALITOS ST

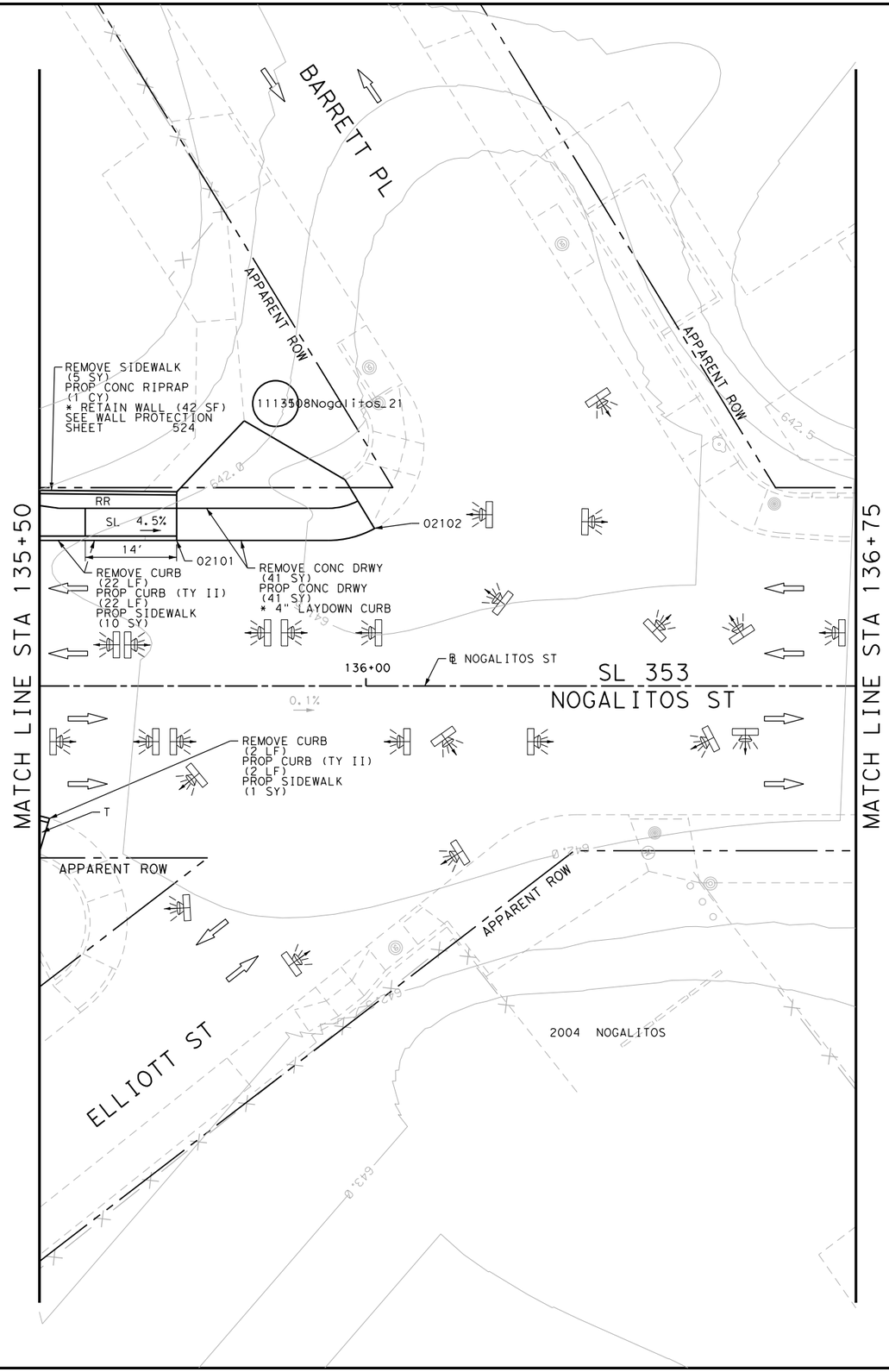
# SIDEWALK CONSTRUCTION PLAN
STA 134+00 TO STA 135+50

SHEET 27 OF 36

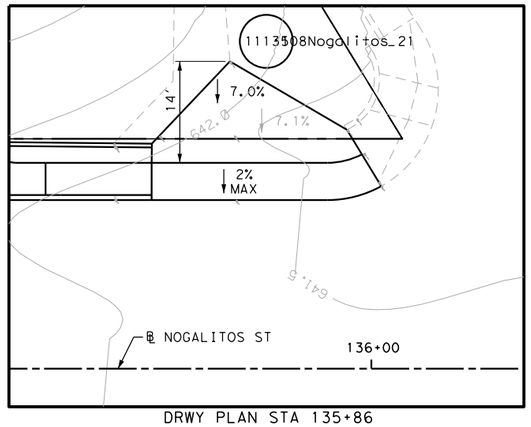
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 375 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_20_A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 41 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 24 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 5 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 1 |
| 0529-6002 | CONC CURB (TY II) | LF | 24 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 41 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 11 |




DRWY PLAN STA 135+86

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 02101 | 13693429.49 | 2122512.09 | -- | ME |
| 02102 | 13693454.77 | 2122528.89 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 353
NOGALITOS ST

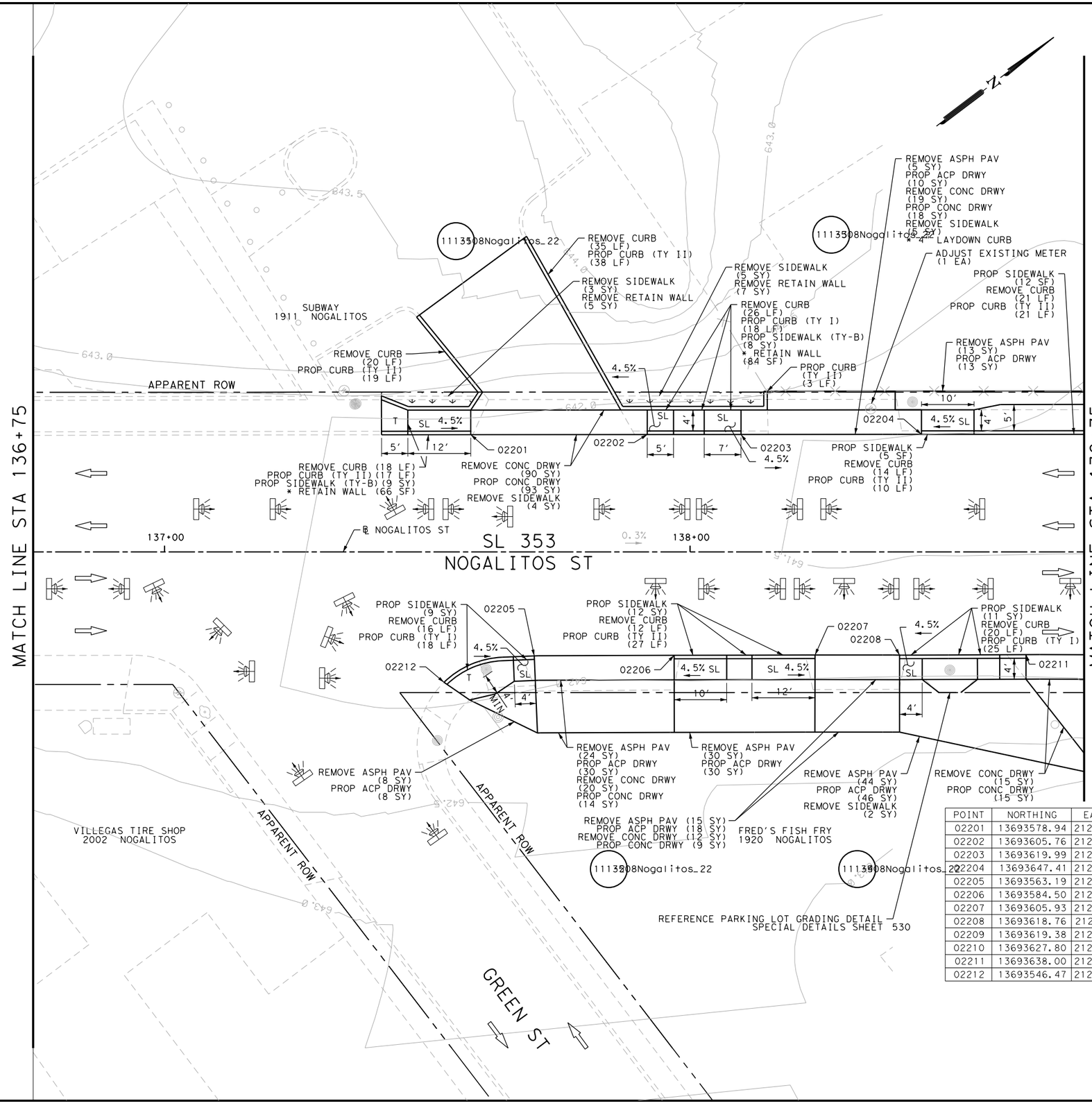
# SIDEWALK CONSTRUCTION PLAN

STA 135+50 TO STA 136+75

SHEET 28 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 376 |

Plotted on: 4/1/2019




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 156 |
| 0104-6024 | REMOVING CONC (RETAINING WALLS) | SY | 12 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 182 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 19 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 139 |
| 0162-6002 | BLOCK SODDING | SY | 14 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.22 |
| 0529-6001 | CONC CURB (TY I) | LF | 61 |
| 0529-6002 | CONC CURB (TY II) | LF | 135 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 149 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 155 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 49 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 17 |
| 7091-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

NOTES:
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DESIGN

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DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 02201 | 13693578.94 | 2122624.96 | -- | ME |
| 02202 | 13693605.76 | 2122645.19 | -- | ME |
| 02203 | 13693619.99 | 2122655.93 | -- | ME |
| 02204 | 13693647.41 | 2122676.62 | -- | ME |
| 02205 | 13693563.19 | 2122665.82 | -- | ME |
| 02206 | 13693584.50 | 2122681.78 | -- | ME |
| 02207 | 13693605.93 | 2122697.90 | -- | ME |
| 02208 | 13693618.76 | 2122707.61 | -- | ME |
| 02209 | 13693619.38 | 2122713.92 | -- | ME |
| 02210 | 13693627.80 | 2122720.24 | -- | ME |
| 02211 | 13693638.00 | 2122722.05 | -- | ME |
| 02212 | 13693546.47 | 2122659.49 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

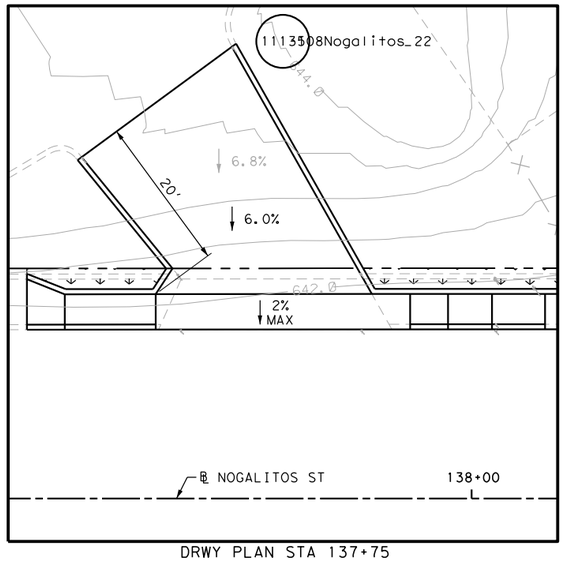



# SL 353 NOGALITOS ST
# SIDEWALK CONSTRUCTION PLAN
## STA 136+75 TO STA 138+75

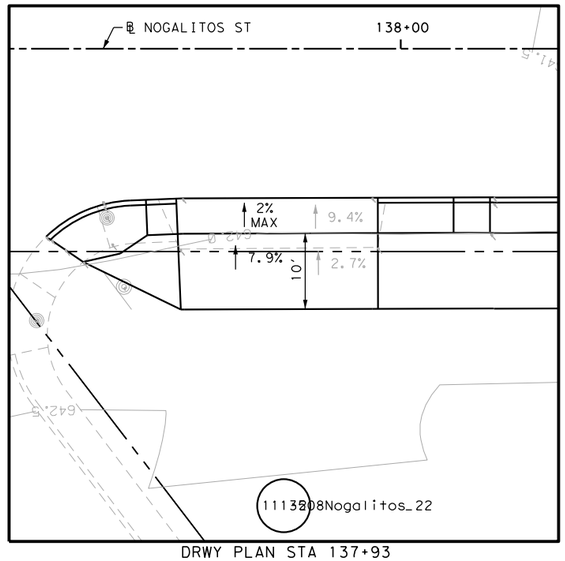
SHEET 29 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 377 |

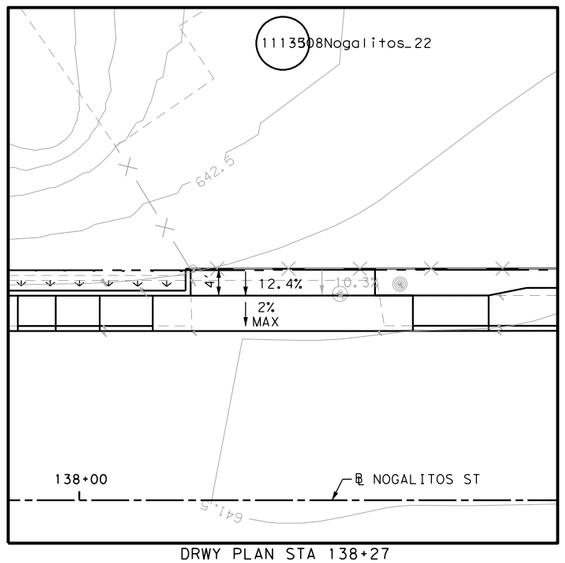
Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_22.dgn



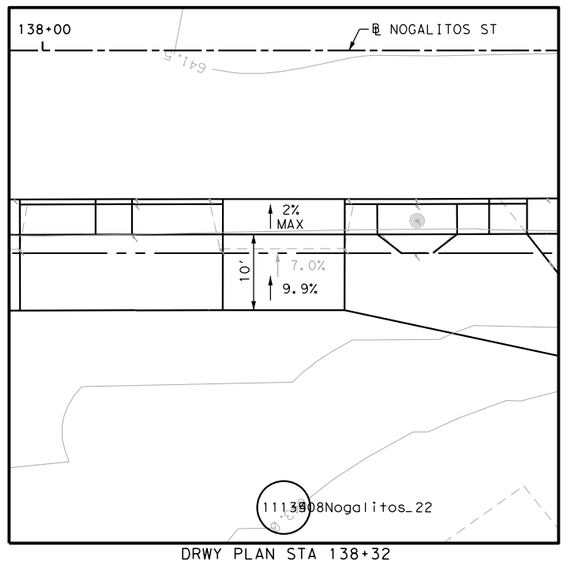

DRWY PLAN STA 137+75




DRWY PLAN STA 137+93




DRWY PLAN STA 138+27




DRWY PLAN STA 138+32

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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



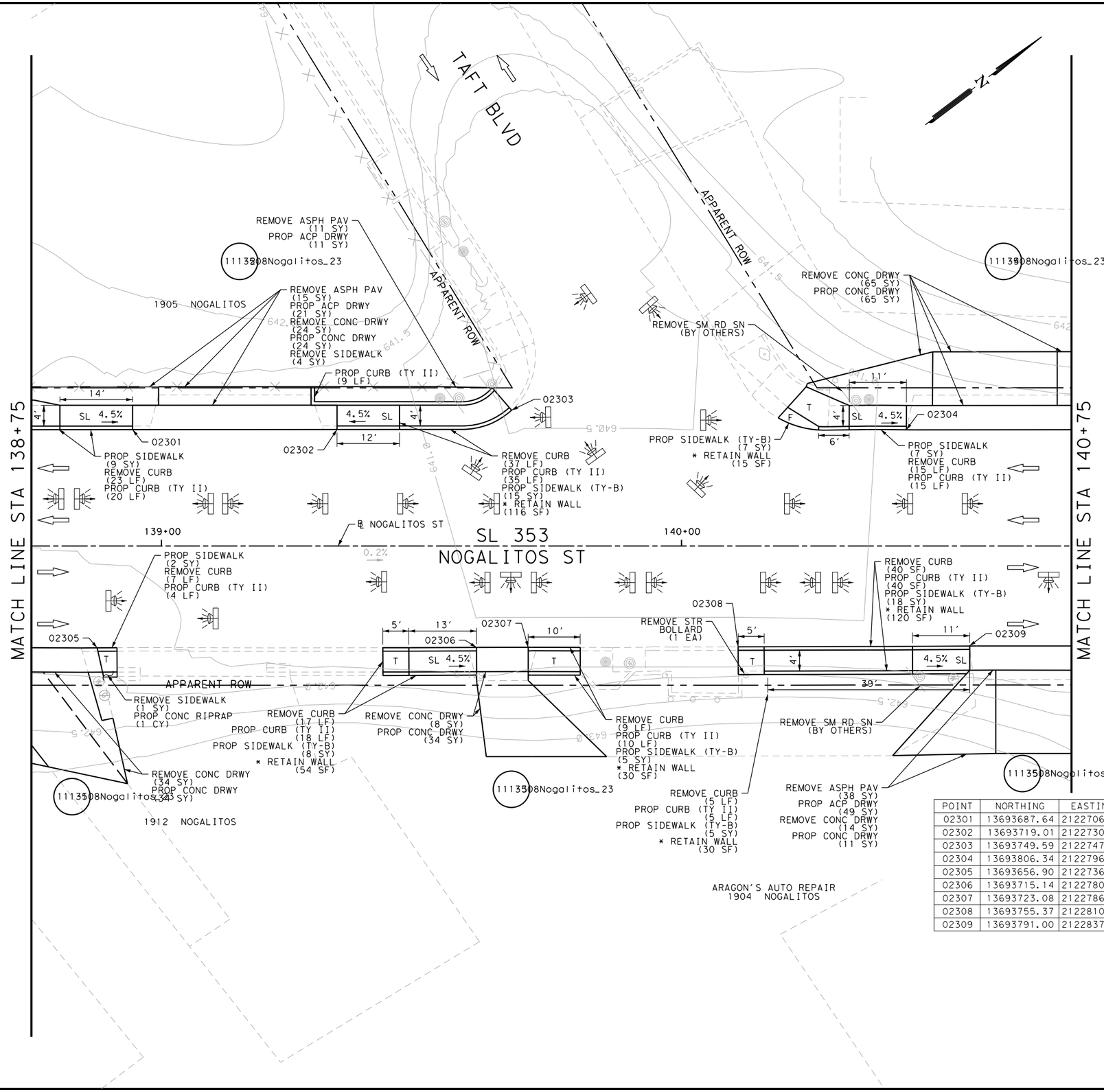
SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

STA 136+75 TO STA 138+75



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 378 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 145 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 153 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 5 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 64 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 1 |
| 0496-6030 | REMOVE STR (BOLLARD) | EA | 2 |
| 0529-6002 | CONC CURB (TY II) | LF | 156 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 168 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 81 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 18 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 58 |
| 5084-6001 | FIXED BOLLARD | EA | 3 |

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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

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DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 02301 | 13693687.64 | 2122706.98 | -- | ME |
| 02302 | 13693719.01 | 2122730.66 | -- | ME |
| 02303 | 13693749.59 | 2122747.70 | -- | ME |
| 02304 | 13693806.34 | 2122796.69 | -- | ME |
| 02305 | 13693656.90 | 2122736.37 | -- | ME |
| 02306 | 13693715.14 | 2122780.26 | -- | ME |
| 02307 | 13693723.08 | 2122786.25 | -- | ME |
| 02308 | 13693755.37 | 2122810.52 | -- | ME |
| 02309 | 13693791.00 | 2122837.22 | -- | ME |

SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

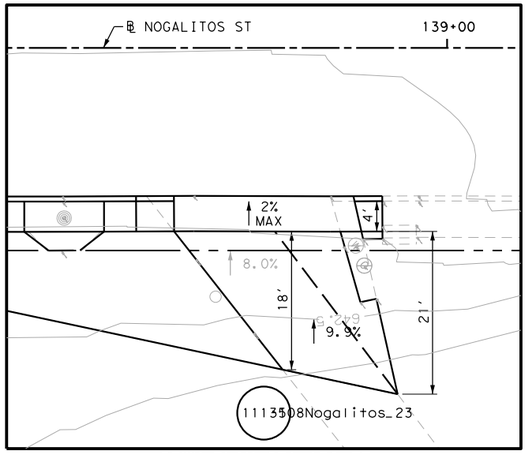
STA 138+75 TO STA 140+75

SHEET 31 OF 36

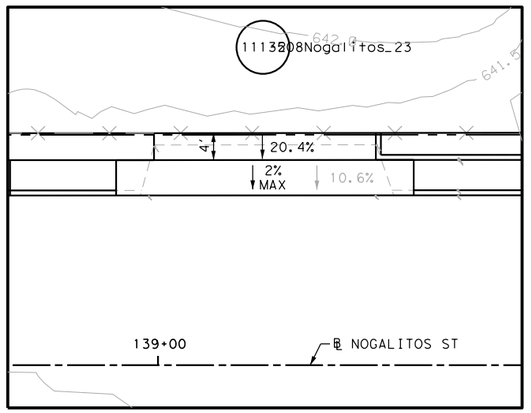
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 379 |

Plotted on: 4/1/2019

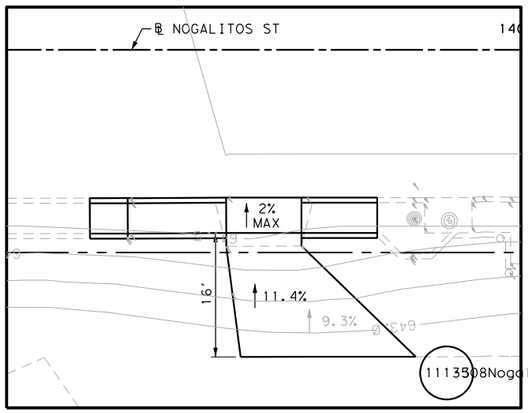
Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_23.dgn



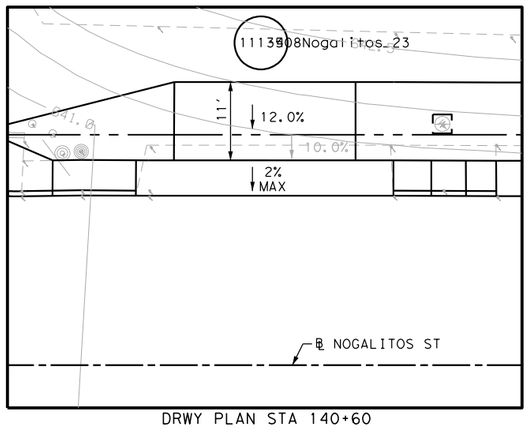

DRWY PLAN STA 138+77



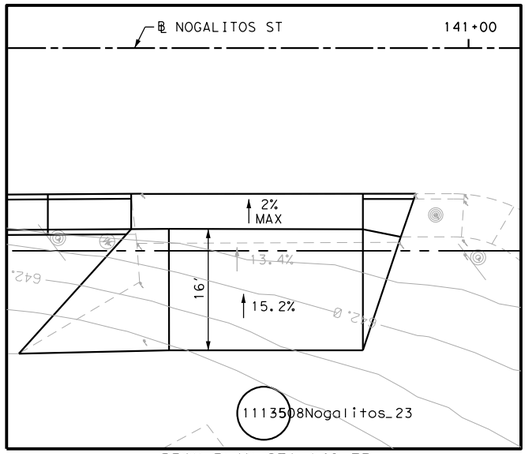

DRWY PLAN STA 139+14




DRWY PLAN STA 139+66




DRWY PLAN STA 140+60




DRWY PLAN STA 140+73

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

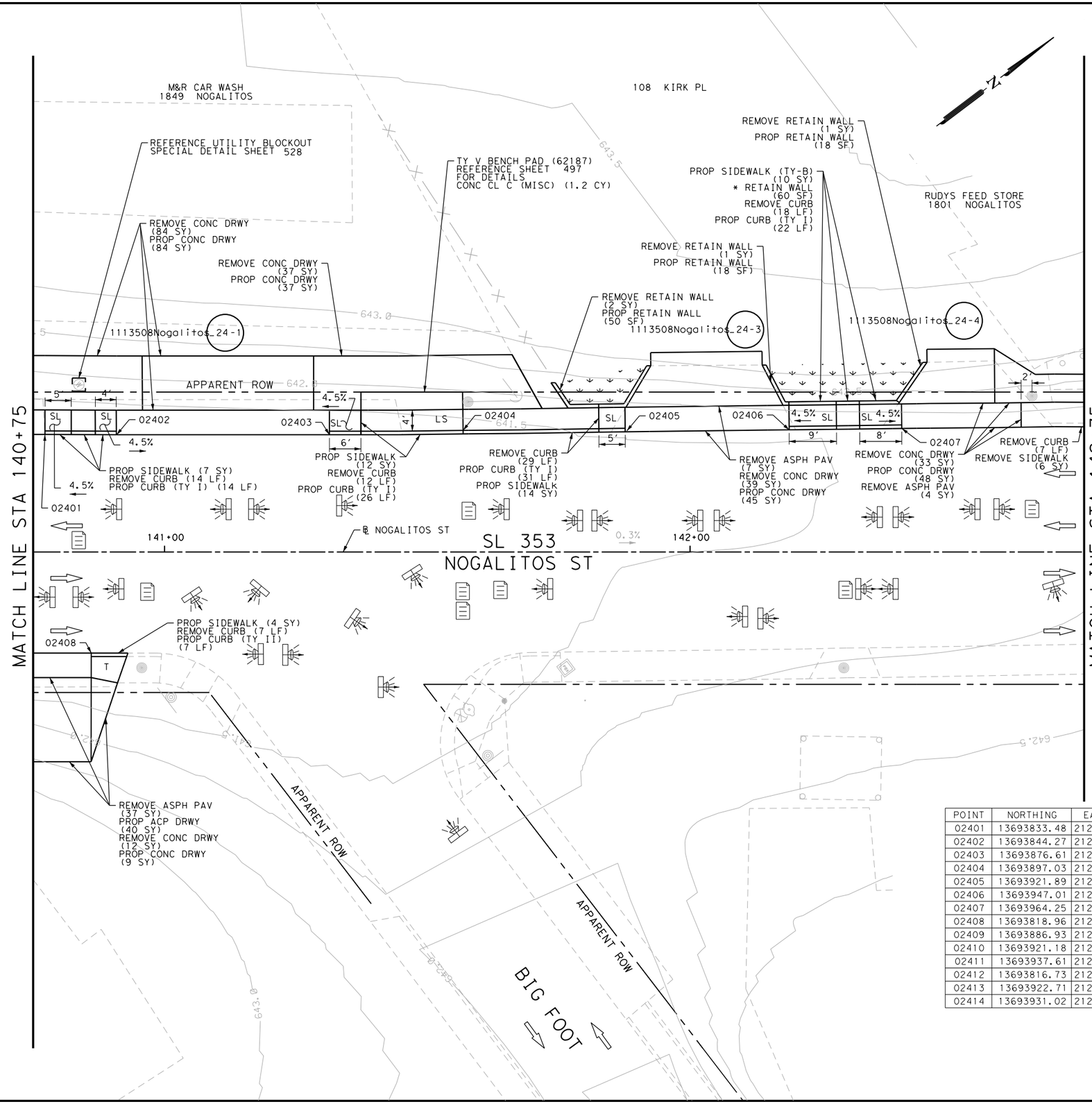
STA 138+75 TO STA 140+75

SHEET 32 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 380 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_23_A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 256 |
| 0104-6024 | REMOVING CONC (RETAINING WALLS) | SY | 4 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 104 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 6 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 168 |
| 0162-6002 | BLOCK SODDING | SY | 29 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.45 |
| 0420-6074 | CL C CONC (MISC) | CY | 1.5 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 173 |
| 0529-6001 | CONC CURB (TY I) | LF | 122 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 274 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 160 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 63 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 10 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 1 |
| 0624-6028 | REMOVE GROUND BOX | EA | 1 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 02401 | 13693833.48 | 2122817.19 | -- | ME |
| 02402 | 13693844.27 | 2122825.42 | -- | ME |
| 02403 | 13693876.61 | 2122849.86 | -- | ME |
| 02404 | 13693897.03 | 2122865.07 | -- | ME |
| 02405 | 13693921.89 | 2122883.34 | -- | ME |
| 02406 | 13693947.01 | 2122901.87 | -- | ME |
| 02407 | 13693964.25 | 2122914.56 | -- | ME |
| 02408 | 13693818.96 | 2122858.35 | -- | ME |
| 02409 | 13693886.93 | 2122909.47 | -- | ME |
| 02410 | 13693921.18 | 2122934.67 | -- | ME |
| 02411 | 13693937.61 | 2122946.66 | -- | ME |
| 02412 | 13693816.73 | 2122866.43 | -- | ME |
| 02413 | 13693922.71 | 2122942.79 | -- | ME |
| 02414 | 13693931.02 | 2122948.85 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



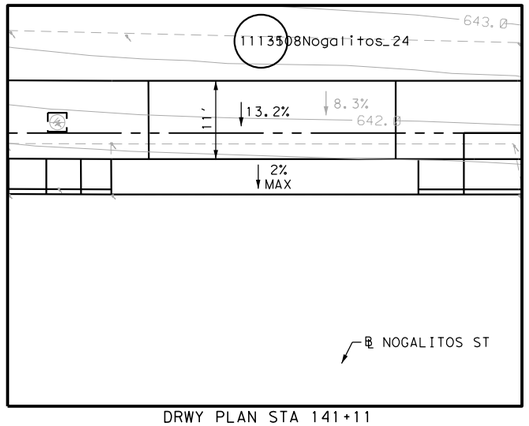
# SL 353
# NOGALITOS ST
# SIDEWALK CONSTRUCTION PLAN
## STA 140+75 TO STA 142+75

SHEET 33 OF 36

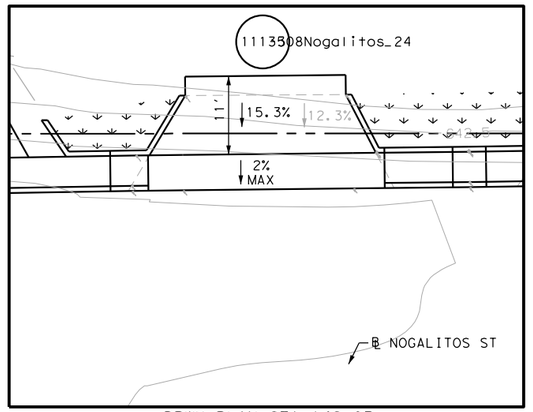
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 381 |

Plotted on: 4/1/2019

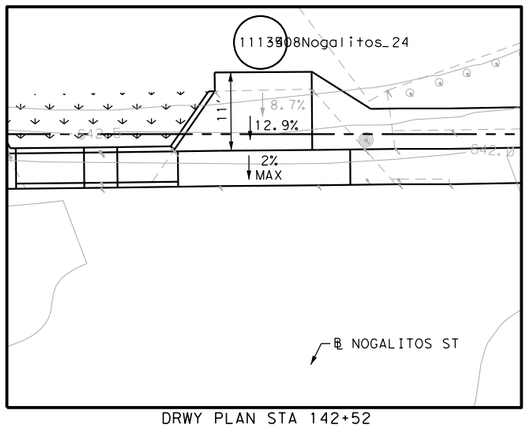
Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_24.dgn




DRWY PLAN STA 141+11




DRWY PLAN STA 142+03




DRWY PLAN STA 142+52

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



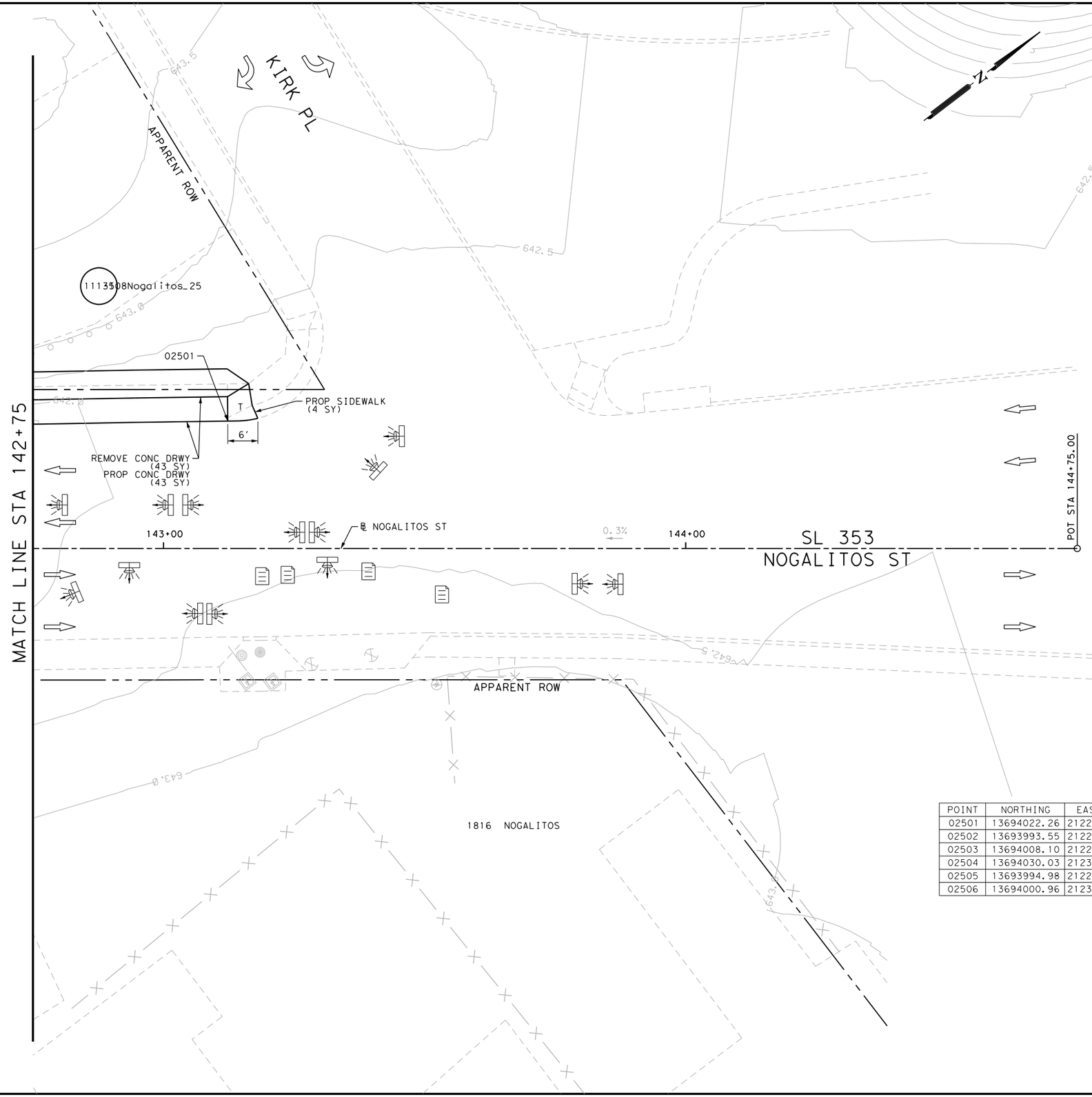
SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

STA 140+75 TO STA 142+75

SHEET 34 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 382 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 85 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 14 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 2 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 80 |
| 0529-6002 | CONC CURB (TY II) | LF | 5 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 87 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 80 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 22 |
| 0666-6147 | REFL PAV MRK TY I (Y)24"(SLD)(100MIL) | LF | 70 |
| 0666-6230 | PAVEMENT SEALER 24" | LF | 70 |
| 0677-6007 | ELIM EXT PAV MRK & MRKS (24") | LF | 70 |
| 0678-6008 | PAV SURF PREP FOR MRK (24") | LF | 70 |
| 7091-6001 | ADJUST EXISTING VALVE BOX | EA | 2 |

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 02501 | 13694022.26 | 2122957.26 | -- | ME |
| 02502 | 13693993.55 | 2122987.47 | -- | ME |
| 02503 | 13694008.10 | 2122998.13 | -- | ME |
| 02504 | 13694030.03 | 2123013.92 | -- | ME |
| 02505 | 13693994.98 | 2122995.60 | -- | ME |
| 02506 | 13694000.96 | 2123001.23 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 353
NOGALITOS ST

# SIDEWALK CONSTRUCTION PLAN

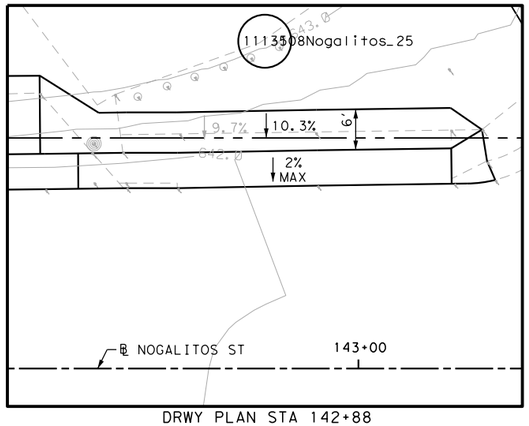
STA 142+75 TO END PROJECT

SHEET 35 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 383 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_25.dgn



DRWY PLAN STA 142+88

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



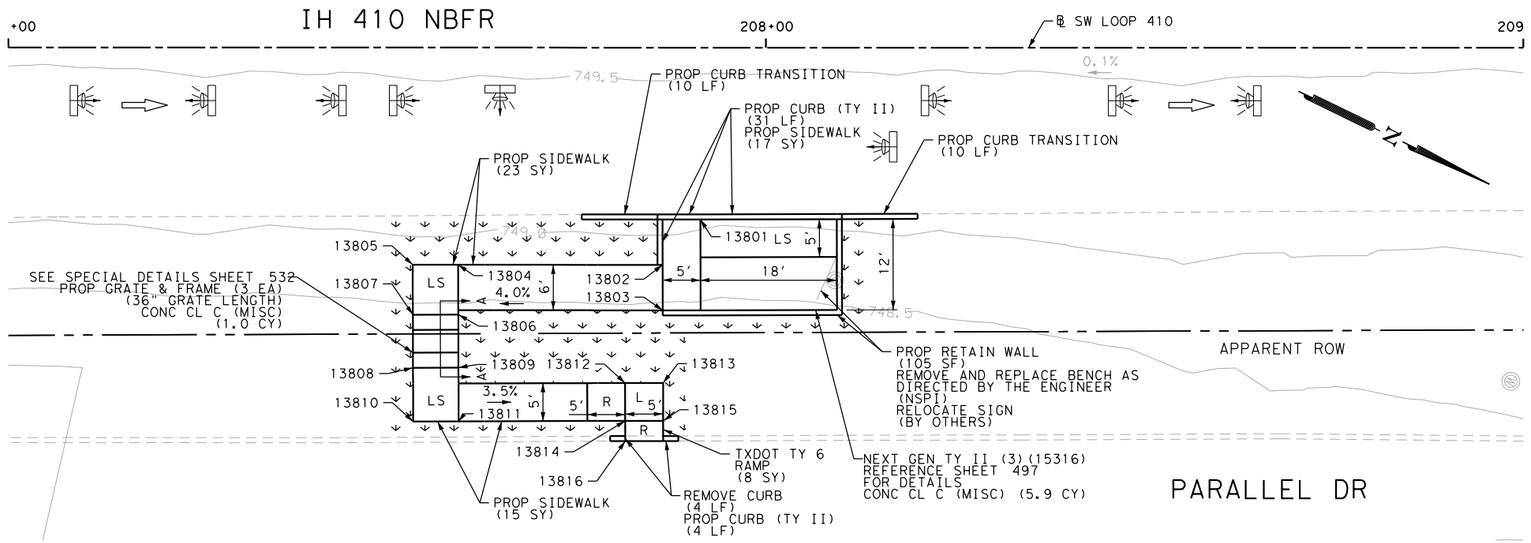
SL 353
NOGALITOS ST

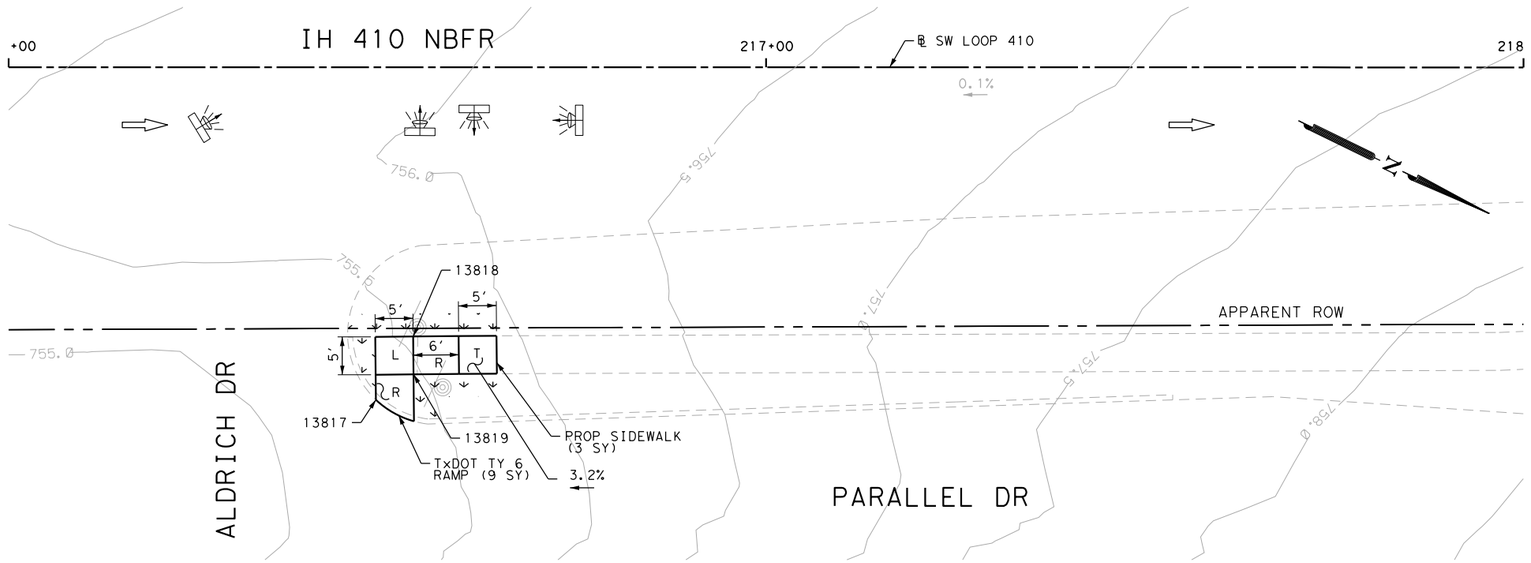
# SIDEWALK CONSTRUCTION PLAN
STA 142+75 TO END PROJECT

SHEET 36 OF 36

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 384 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\Nogalitos\1113508_Nogalitos_25_A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 4 |
| 0162-6002 | BLOCK SODDING | SY | 99 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.54 |
| 0420-6074 | CL C CONC (MISC) | CY | 6.9 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 105 |
| 0471-6003 | GRATE & FRAME | EA | 3 |
| 0529-6002 | CONC CURB (TY II) | LF | 55 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 58 |
| 0531-6023 | CURB RAMPS (TY 6) | SY | 17 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 13801 | 13686570.14 | 2084012.91 | -- | ME |
| 13802 | 13686568.44 | 2084021.06 | -- | ME |
| 13803 | 13686570.56 | 2084025.58 | -- | ME |
| 13804 | 13686543.97 | 2084032.46 | -- | ME |
| 13805 | 13686538.53 | 2084035.00 | -- | ME |
| 13806 | 13686546.10 | 2084036.98 | -- | ME |
| 13807 | 13686540.67 | 2084039.54 | -- | ME |
| 13808 | 13686545.21 | 2084049.20 | -- | ME |
| 13809 | 13686550.64 | 2084046.65 | -- | ME |
| 13810 | 13686547.34 | 2084053.72 | -- | ME |
| 13811 | 13686552.77 | 2084051.17 | -- | ME |
| 13812 | 13686570.55 | 2084037.28 | -- | ME |
| 13813 | 13686575.09 | 2084035.16 | -- | ME |
| 13814 | 13686572.68 | 2084041.81 | -- | ME |
| 13815 | 13686577.21 | 2084039.68 | -- | ME |
| 13816 | 13686573.82 | 2084044.22 | -- | ME |
| 13817 | 13687356.15 | 2083670.32 | -- | ME |
| 13818 | 13687357.08 | 2083660.67 | -- | ME |
| 13819 | 13687359.23 | 2083665.18 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SW LOOP 410

# SIDEWALK CONSTRUCTION PLAN

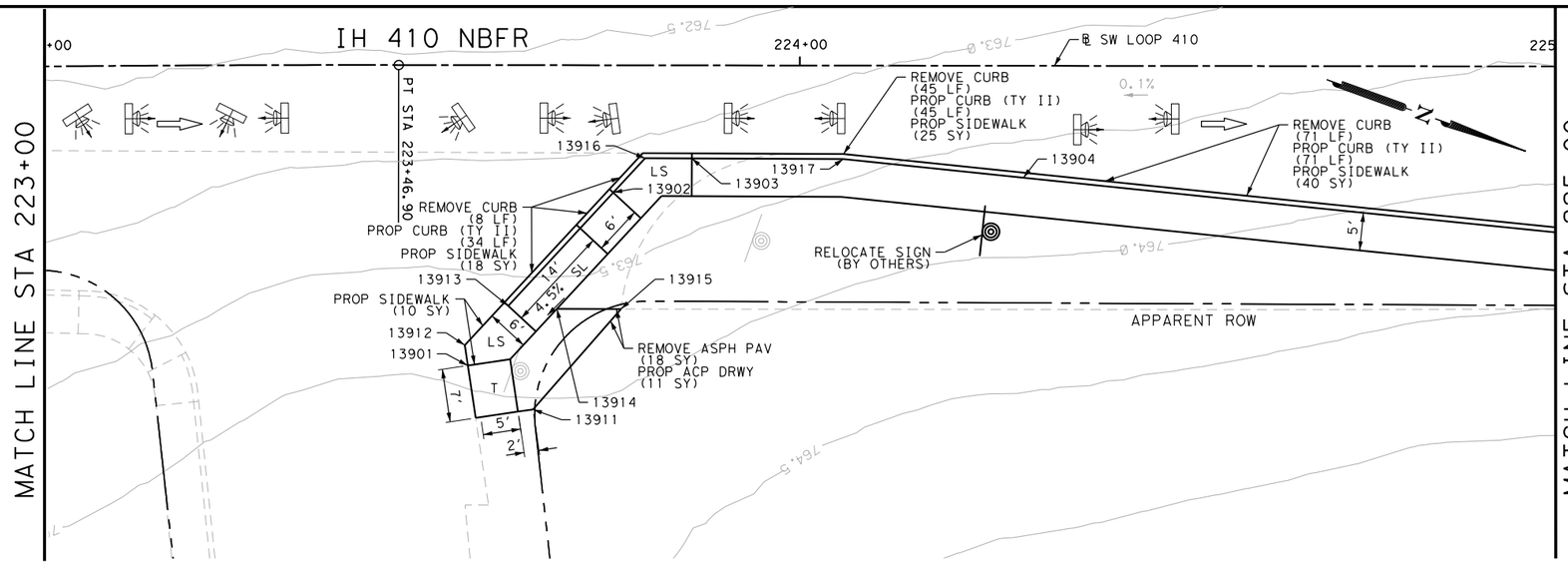
BEGIN PROJECT TO STA 209+00
STA 216+00 TO STA 218+00

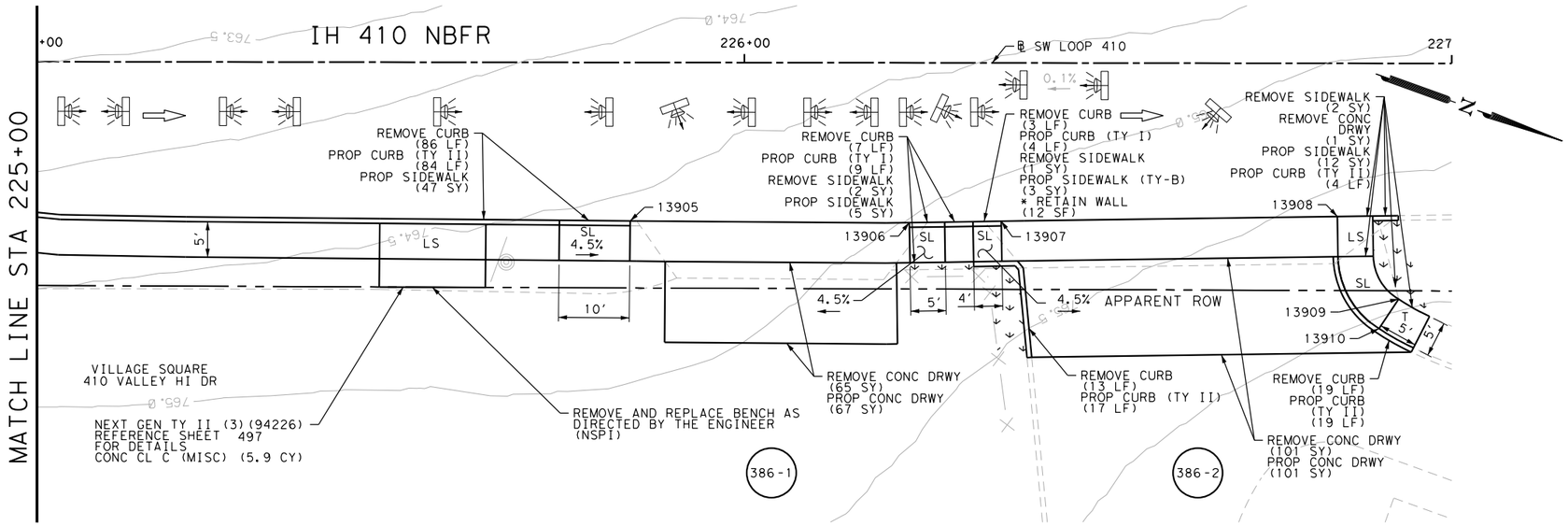
SHEET 1 OF 2

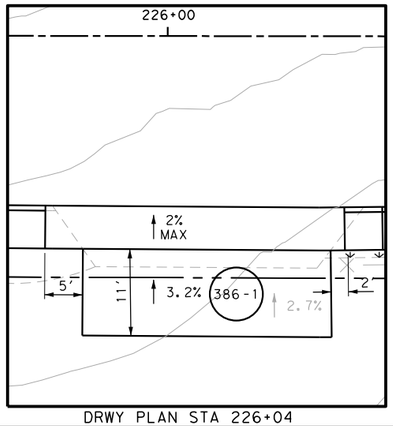
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 385 |

Plotted on: 4/1/2019

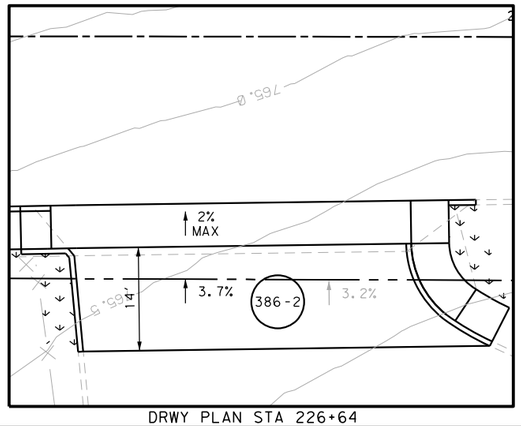
Design Filename: P:\111\35\08\Design\Civil\Roadway\SWLoop410\111508_SWLoop410_01.dgn




DRWY PLAN STA 226+04




DRWY PLAN STA 226+64

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 167 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 252 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 5 |
| 0105-6037 | REMOVING STAB BASE AND ASPH PAV(0"-16") | SY | 18 |
| 0162-6002 | BLOCK SODDING | SY | 96 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.50 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0529-6001 | CONC CURB (TY I) | LF | 13 |
| 0529-6002 | CONC CURB (TY II) | LF | 274 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 168 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 11 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 157 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 3 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SW LOOP 410

# SIDEWALK CONSTRUCTION PLAN

STA 223+00 TO END PROJECT

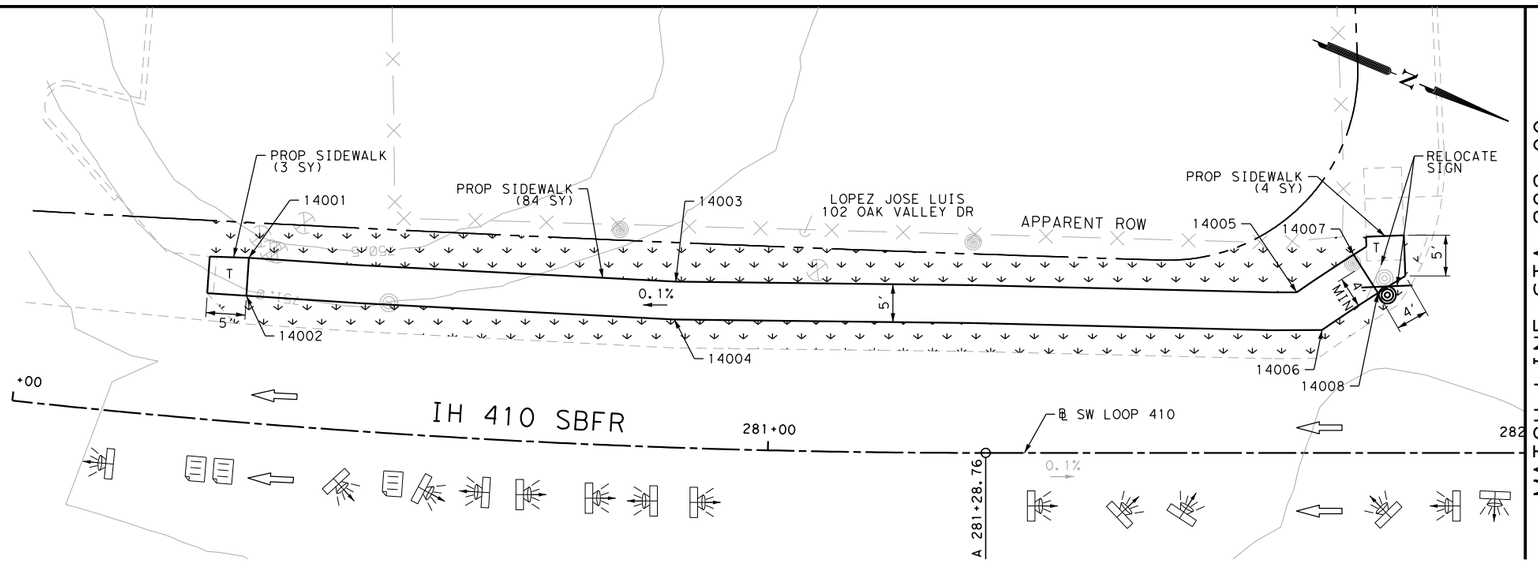
SHEET 2 OF 2

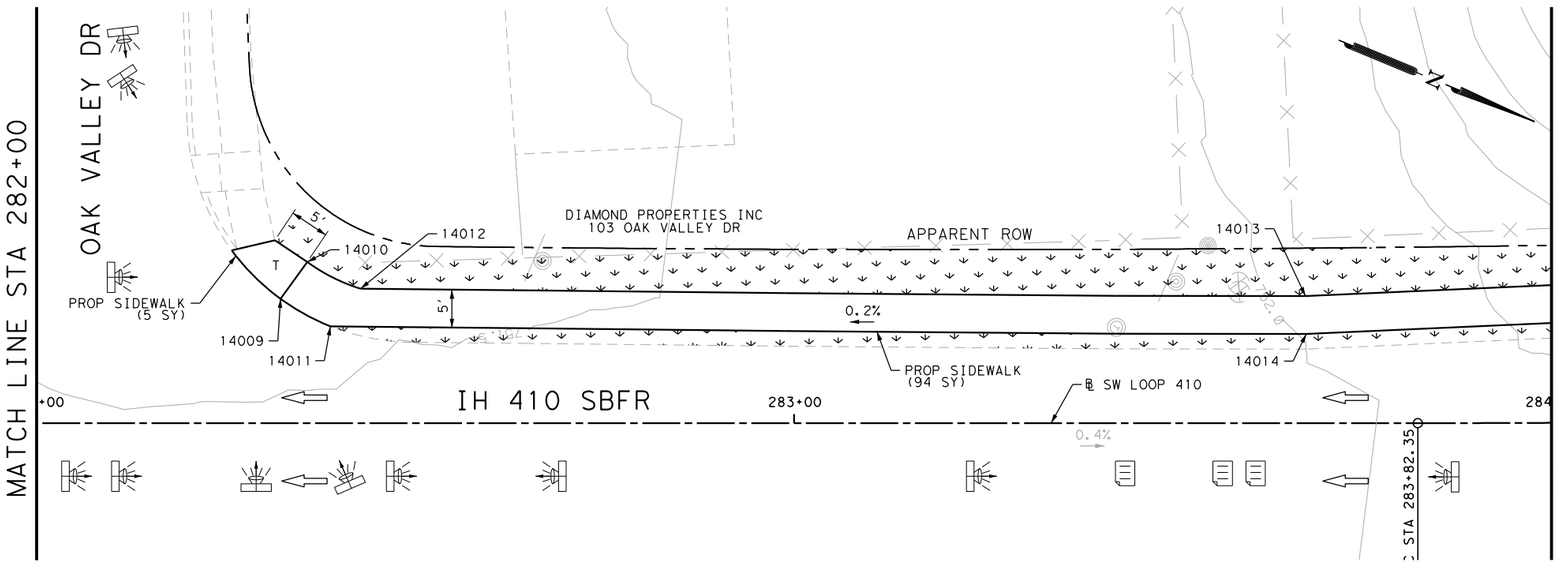
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 386 |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 13901 | 13688000.21 | 2083387.44 | -- | ME |
| 13902 | 13688009.97 | 2083359.13 | -- | ME |
| 13903 | 13688018.63 | 2083350.99 | -- | ME |
| 13904 | 13688061.03 | 2083339.19 | -- | ME |
| 13905 | 13688208.84 | 2083294.38 | -- | ME |
| 13906 | 13688246.45 | 2083281.11 | -- | ME |
| 13907 | 13688257.76 | 2083276.85 | -- | ME |
| 13908 | 13688310.68 | 2083257.00 | -- | ME |
| 13909 | 13688310.68 | 2083257.00 | -- | ME |
| 13910 | 13688313.61 | 2083272.91 | -- | ME |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\SWLoop410\1113508_SWLoop410_02.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0162-6002 | BLOCK SODDING | SY | 281 |
| 0168-6001 | VEGETATIVE WATERING | MG | 4.38 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 190 |

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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 14001 | 13685800.05 | 2084042.22 | -- | ME |
| 14002 | 13685801.70 | 2084046.93 | -- | ME |
| 14003 | 13685853.10 | 2084022.99 | -- | ME |
| 14004 | 13685854.91 | 2084027.65 | -- | ME |
| 14005 | 13685929.07 | 2083992.09 | -- | ME |
| 14006 | 13685934.10 | 2083995.36 | -- | ME |
| 14007 | 13685934.02 | 2083984.58 | -- | ME |
| 14008 | 13685938.97 | 2083987.97 | -- | ME |
| 14009 | 13685988.34 | 2083972.01 | -- | ME |
| 14010 | 13685989.68 | 2083966.16 | -- | ME |
| 14011 | 13685995.82 | 2083972.76 | -- | ME |
| 14012 | 13685997.52 | 2083966.64 | -- | ME |
| 14013 | 13686112.64 | 2083918.57 | -- | ME |
| 14014 | 13686114.71 | 2083923.13 | -- | ME |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

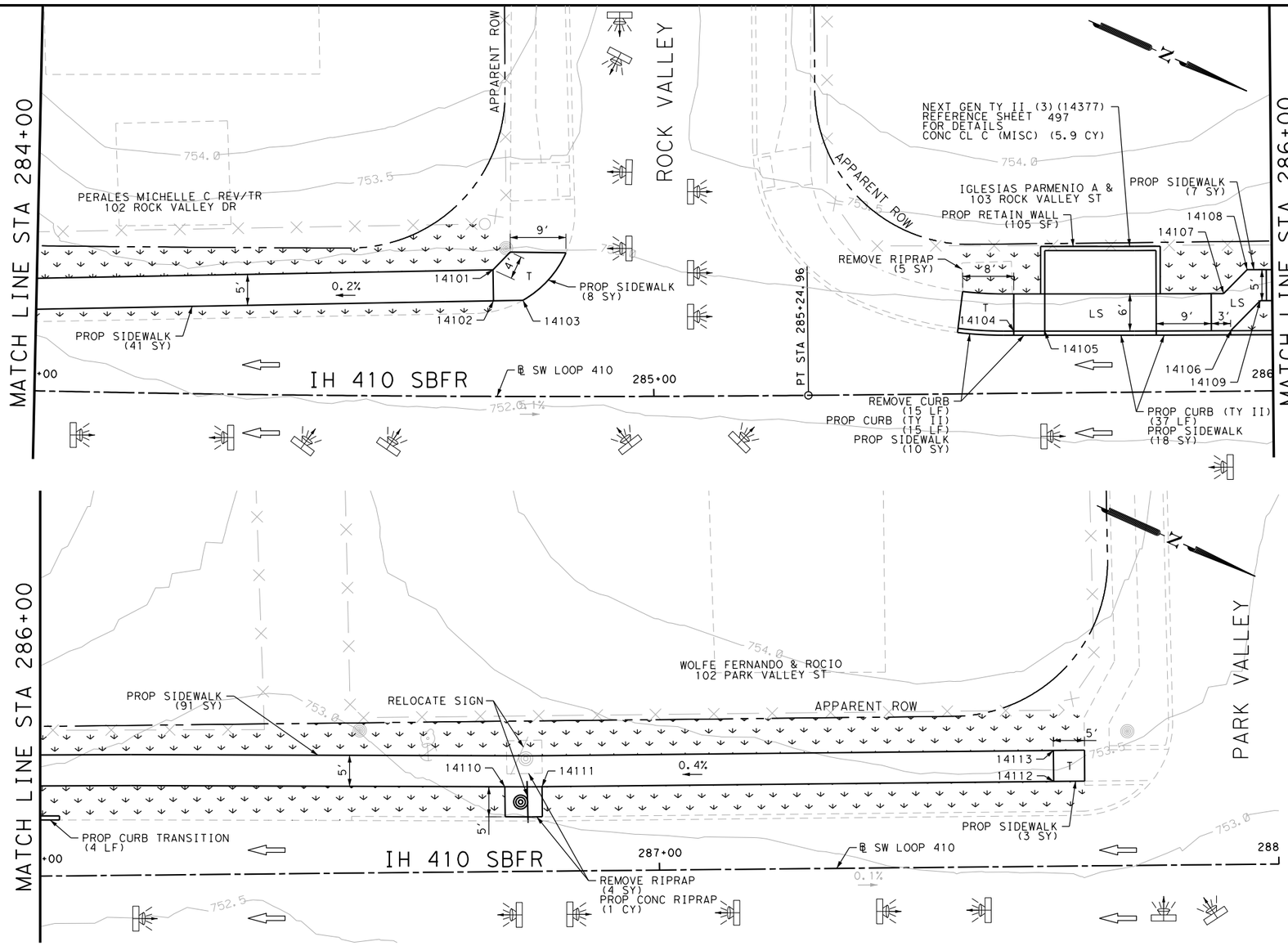


# SW LOOP 410
# SIDEWALK CONSTRUCTION PLAN
## BEGIN PROJECT TO STA 284+00

SHEET 1 OF 5

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 387 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\SWLoop410\1113508_SWLoop410_03.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 9 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 15 |
| 0162-6002 | BLOCK SODDING | SY | 275 |
| 0168-6001 | VEGETATIVE WATERING | MG | 4.29 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0423-6008 | RETAINING WALL (CAST - IN - PLACE) | SF | 105 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 1 |
| 0529-6002 | CONC CURB (TY II) | LF | 56 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 178 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 14101 | 13686208.26 | 2083872.65 | -- | ME |
| 14102 | 13686210.43 | 2083877.16 | -- | ME |
| 14103 | 13686214.72 | 2083875.10 | -- | ME |
| 14104 | 13686288.85 | 2083846.65 | -- | ME |
| 14105 | 13686293.40 | 2083844.57 | -- | ME |
| 14106 | 13686320.65 | 2083832.03 | -- | ME |
| 14107 | 13686317.13 | 2083827.04 | -- | ME |
| 14108 | 13686318.97 | 2083821.95 | -- | ME |
| 14109 | 13686322.96 | 2083825.61 | -- | ME |
| 14110 | 13686393.16 | 2083793.63 | -- | ME |
| 14111 | 13686398.61 | 2083791.13 | -- | ME |
| 14112 | 13686473.36 | 2083755.98 | -- | ME |
| 14113 | 13686471.23 | 2083751.45 | -- | ME |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SW LOOP 410

# SIDEWALK CONSTRUCTION PLAN

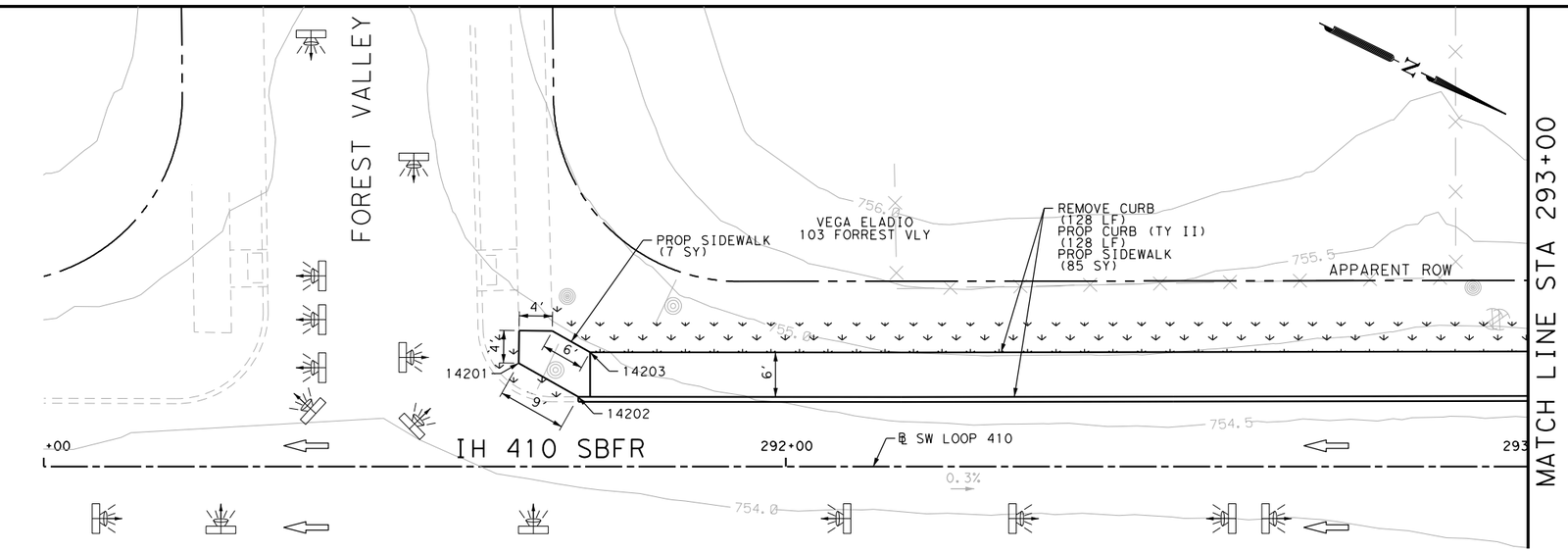
STA 284+00 TO STA 288+00

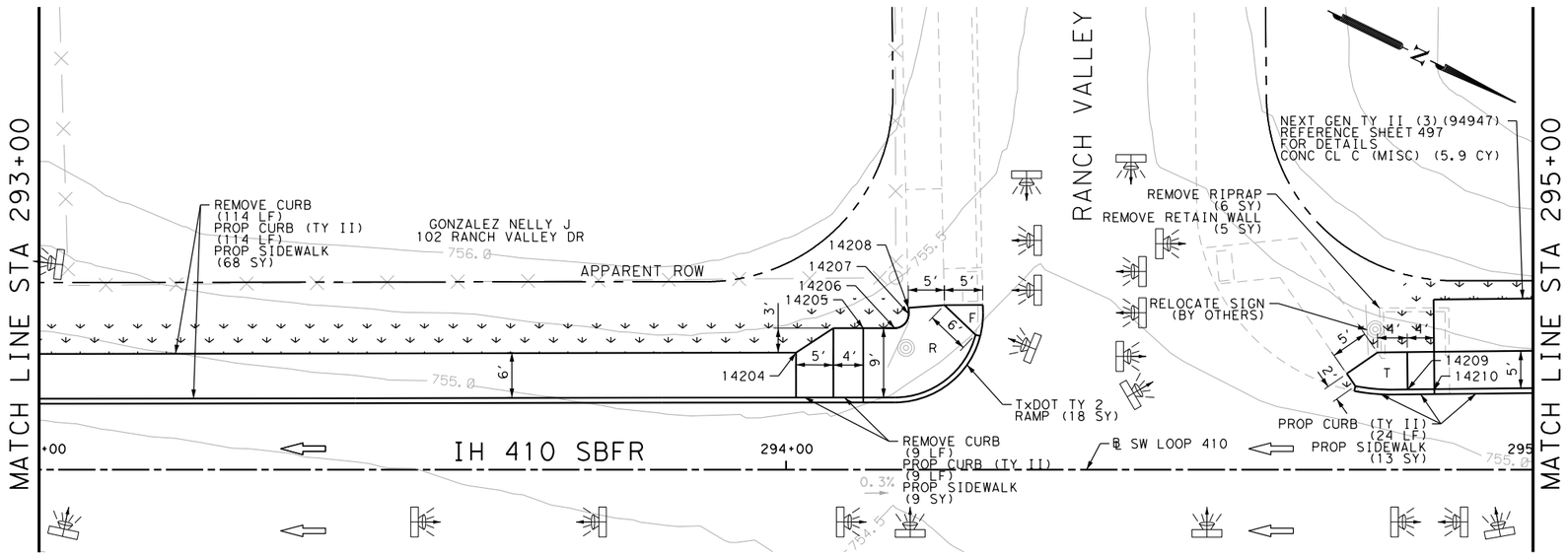
SHEET 2 OF 5

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 388 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\SWLoop410\1113508_SWLoop410_04.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 6 |
| 0104-6024 | REMOVING CONC (RETAINING WALLS) | SY | 5 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 251 |
| 0162-6002 | BLOCK SODDING | SY | 110 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.72 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0529-6002 | CONC CURB (TY II) | LF | 275 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 182 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 18 |

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DESIGN

INTERIM REVIEW
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 14201 | 13686835.54 | 2083585.65 | -- | ME |
| 14202 | 13686844.74 | 2083586.34 | -- | ME |
| 14203 | 13686843.62 | 2083580.24 | -- | ME |
| 14204 | 13687052.35 | 2083481.93 | -- | ME |
| 14205 | 13687059.09 | 2083475.13 | -- | ME |
| 14206 | 13687060.20 | 2083474.61 | -- | ME |
| 14207 | 13687061.07 | 2083472.10 | -- | ME |
| 14208 | 13687060.71 | 2083471.37 | -- | ME |
| 14209 | 13687125.84 | 2083452.86 | -- | ME |
| 14210 | 13687129.07 | 2083451.31 | -- | ME |

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SW LOOP 410

# SIDEWALK CONSTRUCTION PLAN

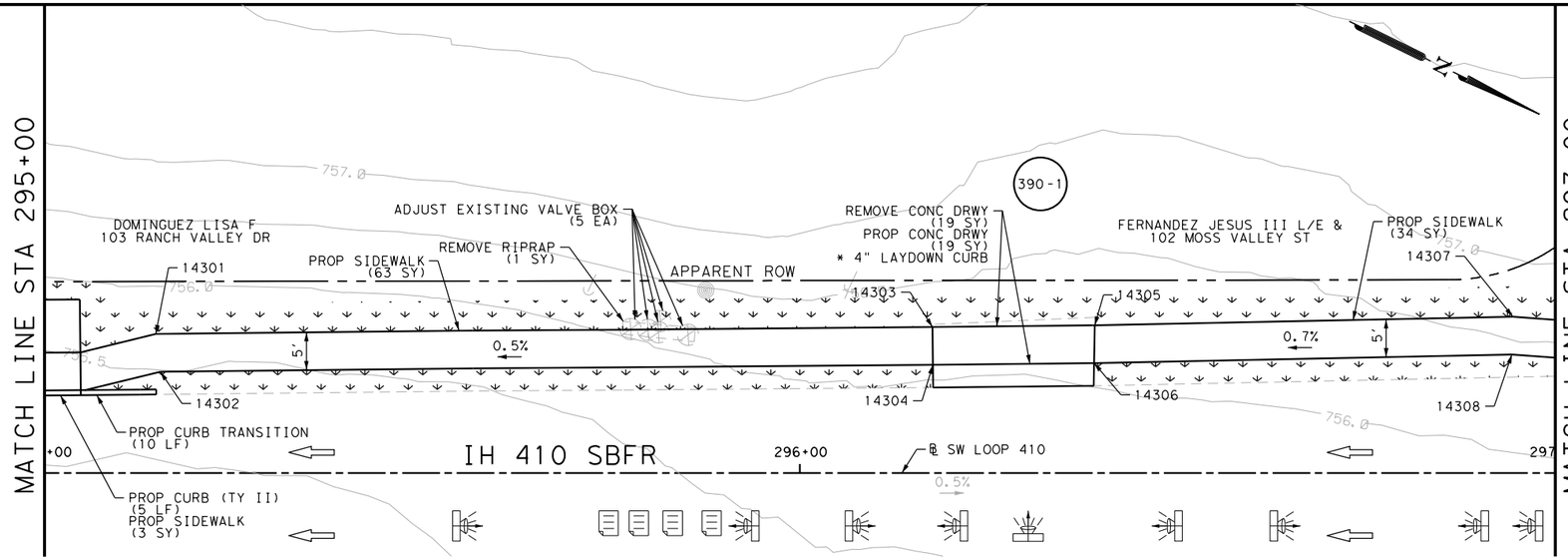
STA 291+00 TO STA 295+00

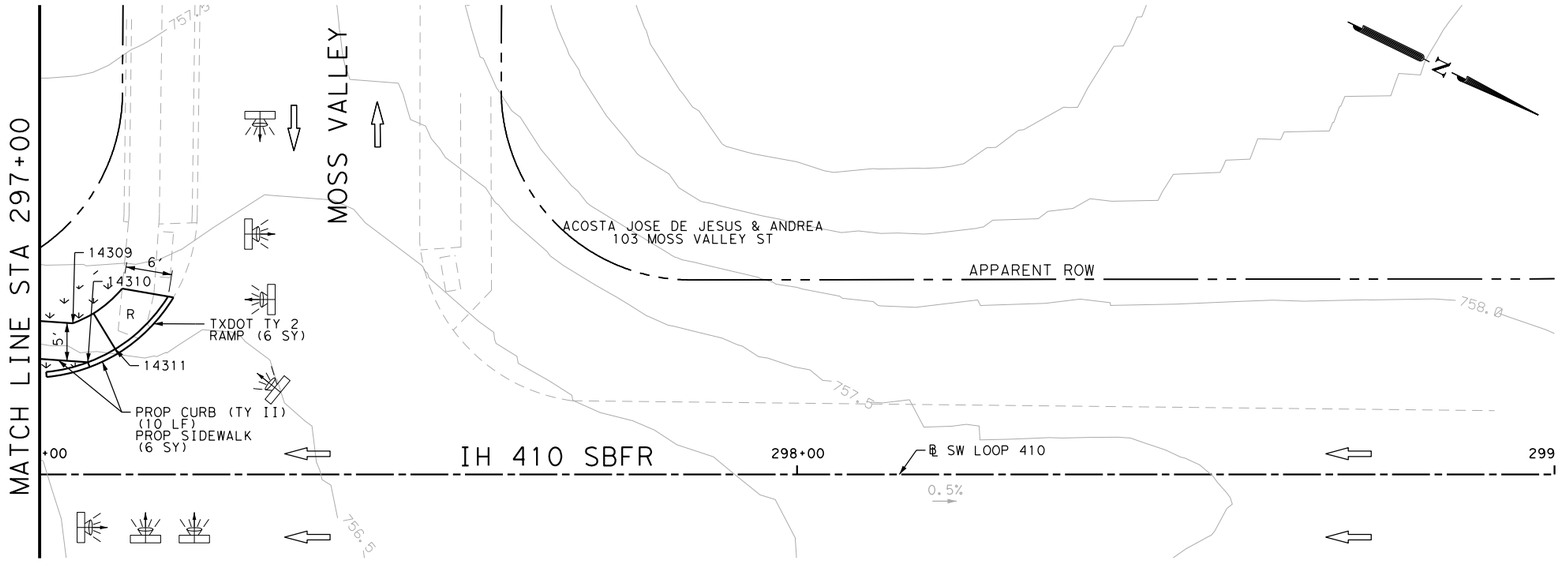
SHEET 3 OF 5

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 389 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\SWLoop410\1113508_SWLoop410_05.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 1 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 19 |
| 0162-6002 | BLOCK SODDING | SY | 148 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.31 |
| 0529-6002 | CONC CURB (TY II) | LF | 25 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 19 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 106 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 6 |
| 7091-6001 | ADJUST EXISTING VALVE BOX | EA | 5 |

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DESIGN

INTERIM REVIEW
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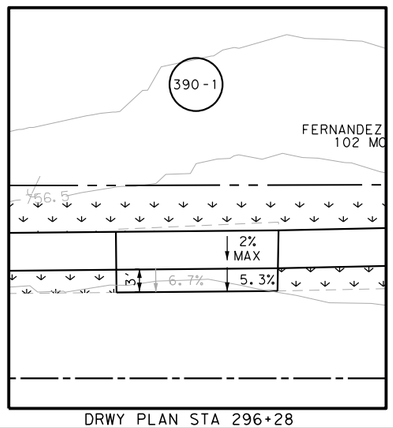
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'



DRWY PLAN STA 296+28

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 14301 | 13687151.11 | 2083432.55 | -- | ME |
| 14302 | 13687153.80 | 2083436.81 | -- | ME |
| 14303 | 13687243.80 | 2083388.02 | -- | ME |
| 14304 | 13687245.97 | 2083392.52 | -- | ME |
| 14305 | 13687263.13 | 2083378.70 | -- | ME |
| 14306 | 13687265.19 | 2083383.25 | -- | ME |
| 14307 | 13687312.76 | 2083354.13 | -- | ME |
| 14308 | 13687314.77 | 2083358.71 | -- | ME |
| 14309 | 13687322.13 | 2083350.52 | -- | ME |
| 14310 | 13687326.59 | 2083354.82 | -- | ME |
| 14311 | 13687329.18 | 2083351.59 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SW LOOP 410

# SIDEWALK CONSTRUCTION PLAN

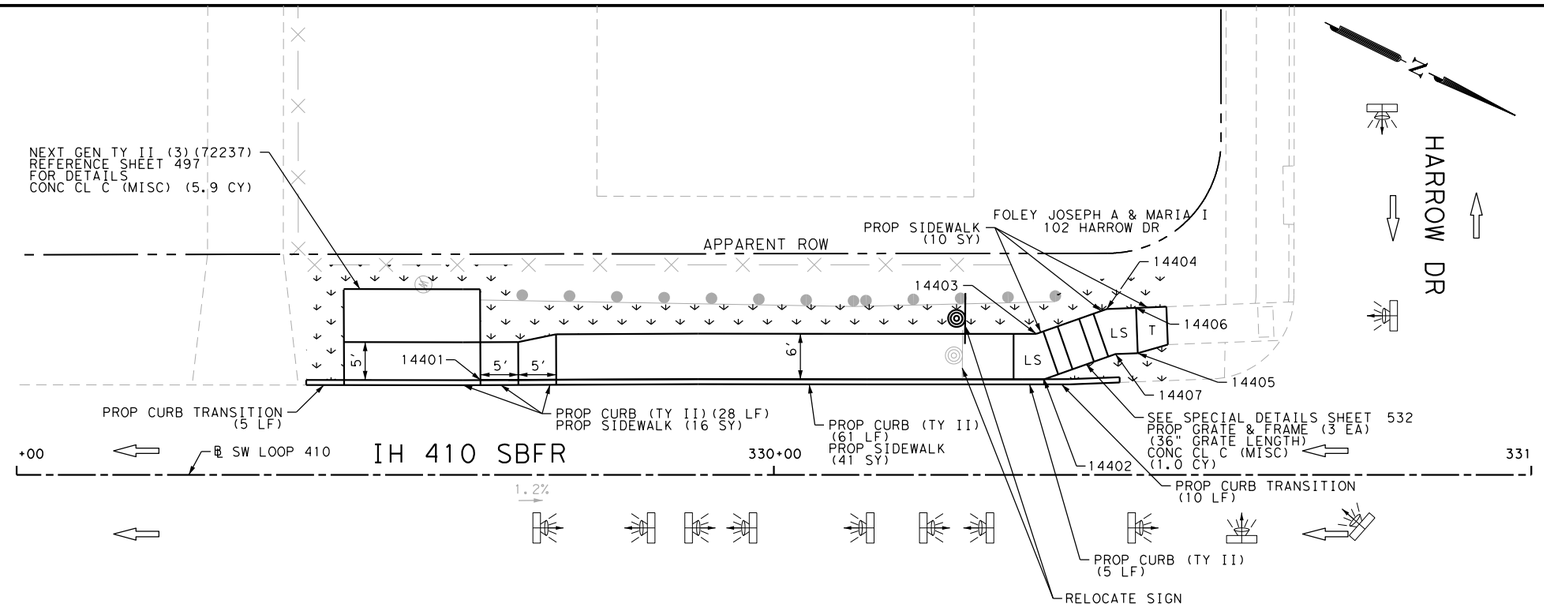
STA 295+00 TO STA 299+00

SHEET 4 OF 5

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 390 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\SWLoop410\1113508_SWLoop410_06.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0162-6002 | BLOCK SODDING | SY | 62 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.97 |
| 0420-6074 | CL C CONC (MISC) | CY | 6.9 |
| 0471-6003 | GRATE & FRAME | EA | 3 |
| 0529-6002 | CONC CURB (TY II) | LF | 109 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 67 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| POINT | NORTHING | EASTING | ELEV | DESC |
|---|---|---|---|---|
| 14401 | 13690289.71 | 2081965.31 | -- | ME |
| 14402 | 13690343.28 | 2081940.01 | -- | ME |
| 14403 | 13690339.69 | 2081935.56 | -- | ME |
| 14404 | 13690346.82 | 2081927.21 | -- | ME |

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SW LOOP 410

# SIDEWALK CONSTRUCTION PLAN

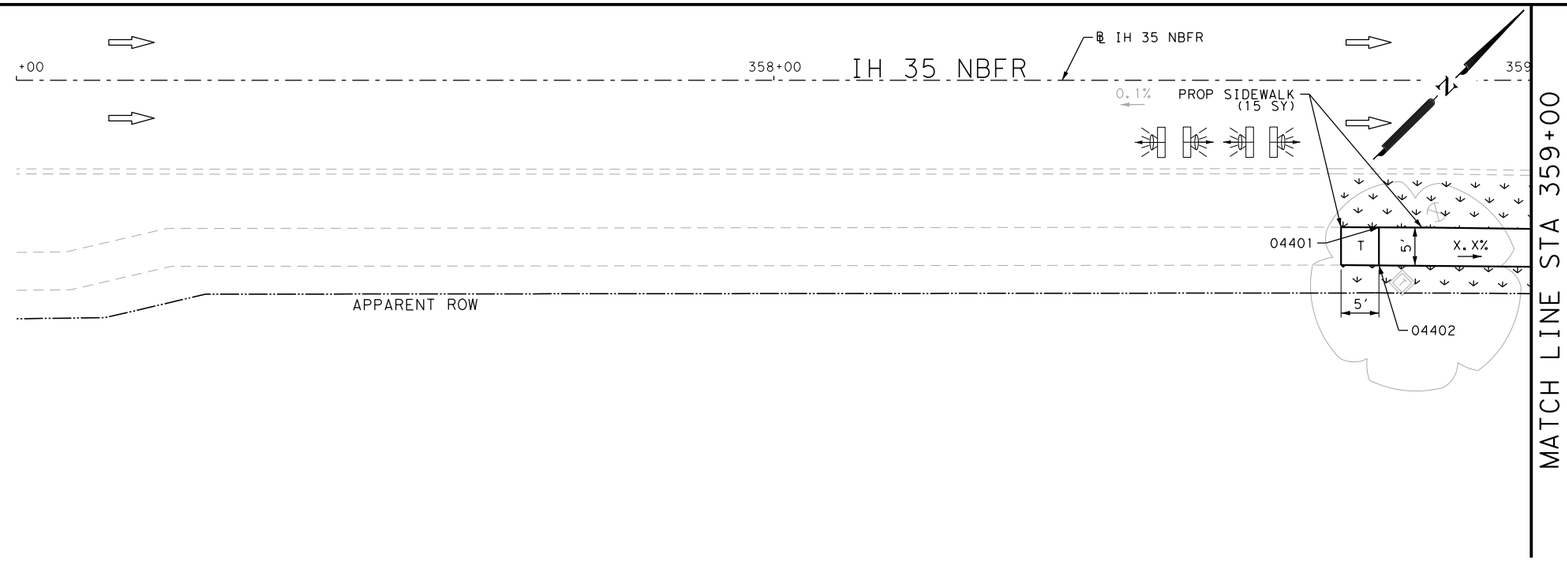
STA 329+00 TO END PROJECT

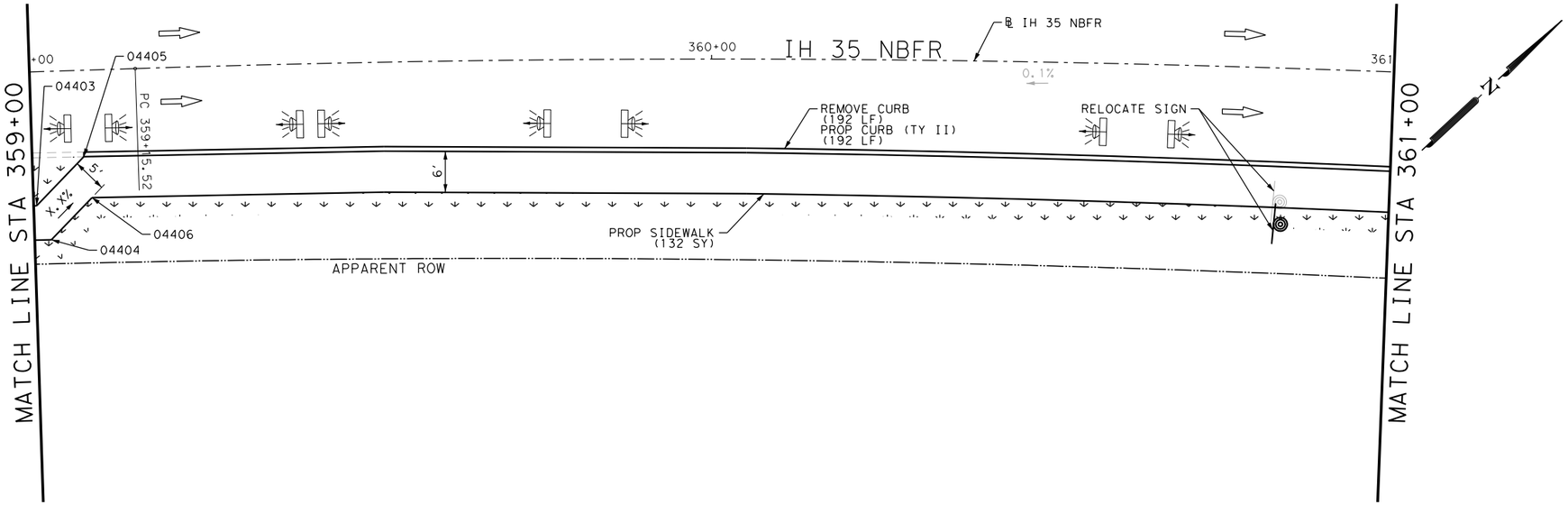
SHEET 5 OF 5

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 391 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\SWLoop410\1113508_SWLoop410_07.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 192 |
| 0162-6002 | BLOCK SODDING | SY | 96 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.50 |
| 0529-6002 | CONC CURB (TY II) | LF | 192 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 147 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



# IH 35 ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

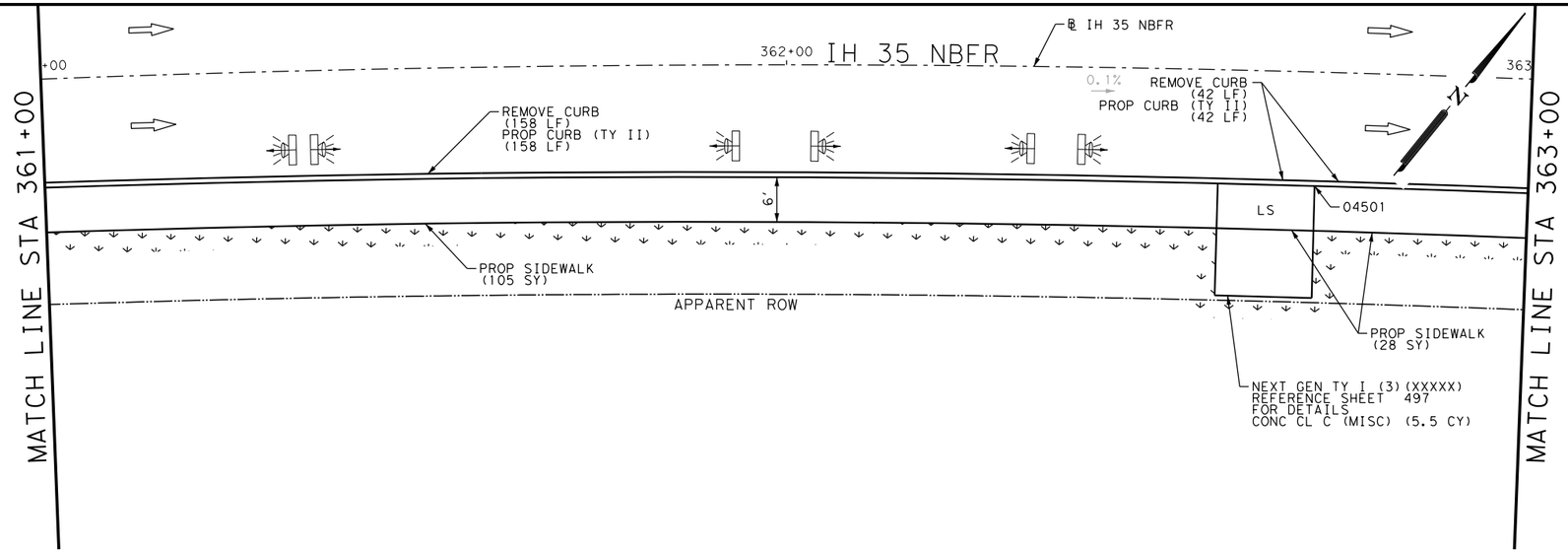
STA 357+00 TO STA 361+00

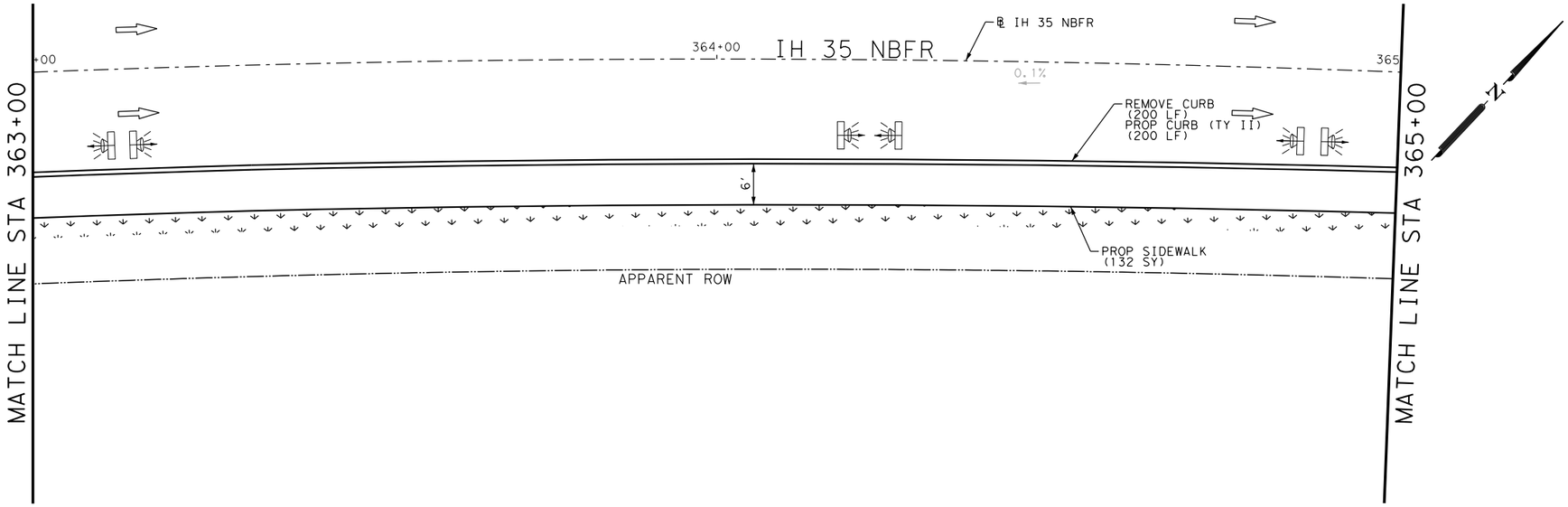
SHEET 1 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 1113508IH35_ | NB01 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\1113508_IH35AccessRd_NB01.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 400 |
| 0162-6002 | BLOCK SODDING | SY | 140 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.18 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0529-6002 | CONC CURB (TY II) | LF | 400 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 265 |

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



# IH 35 ACCESS RD

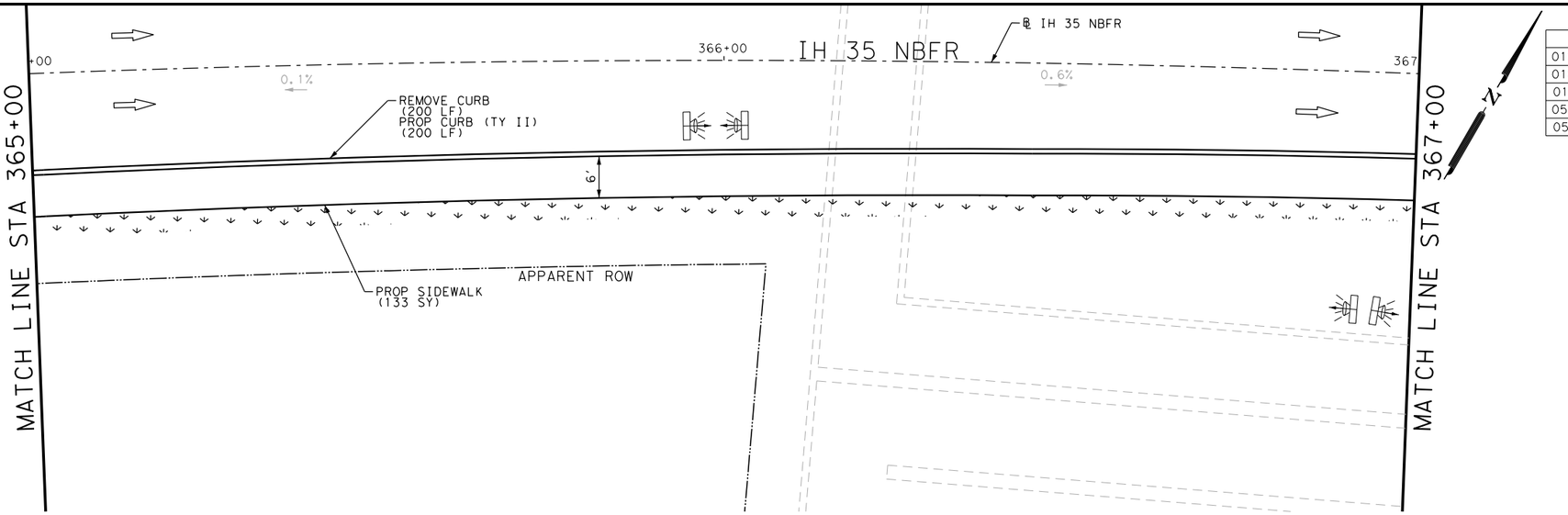
# SIDEWALK CONSTRUCTION PLAN

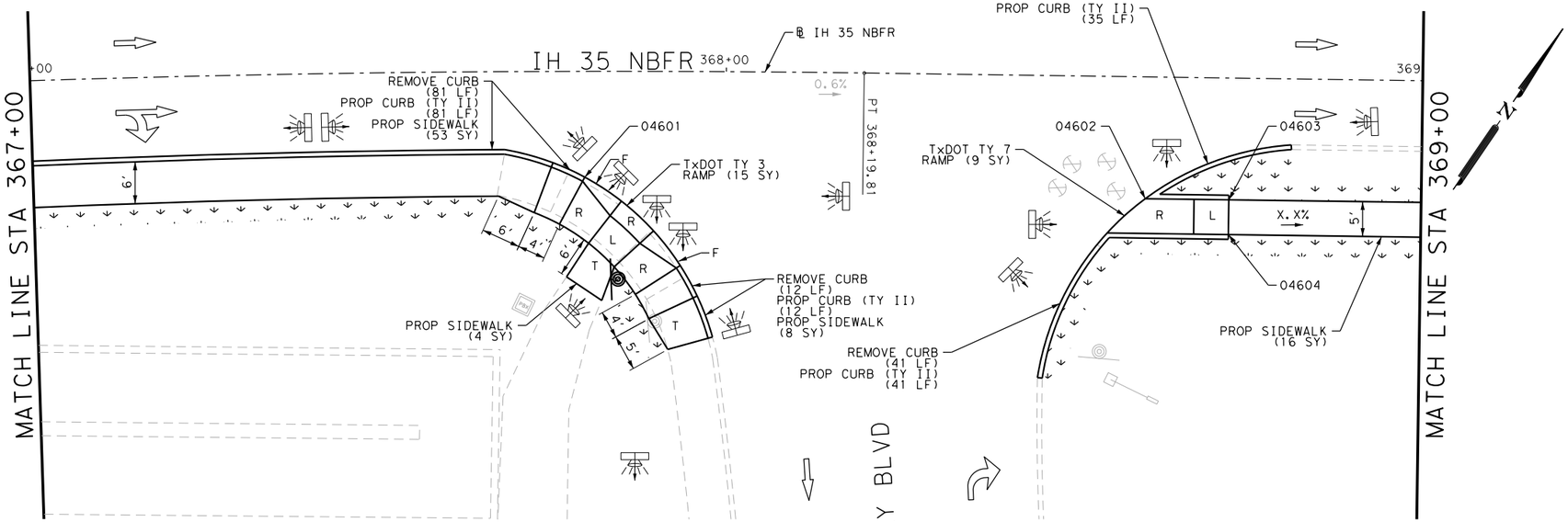
STA 361+00 TO STA 365+00

SHEET 2 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 393 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\1113508_IH35AccessRd_NB02.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 315 |
| 0162-6002 | BLOCK SODDING | SY | 136 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.12 |
| 0529-6002 | CONC CURB (TY II) | LF | 340 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 212 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# IH 35 ACCESS RD

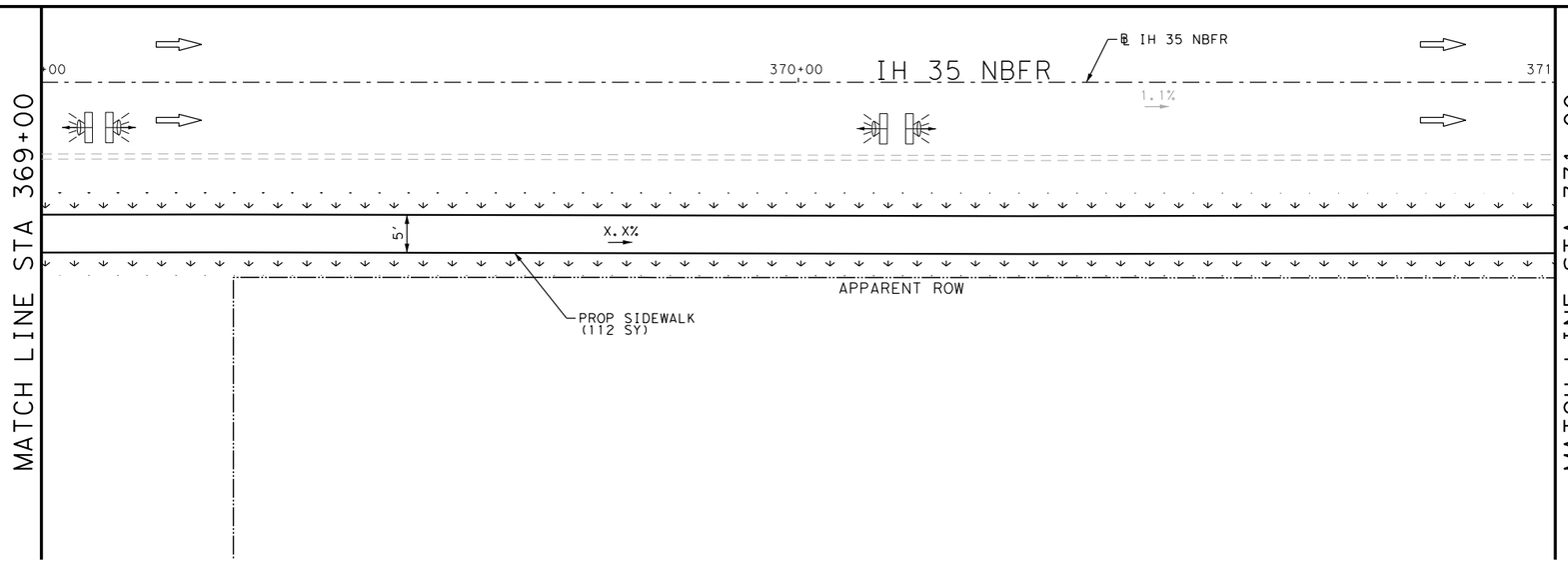
# SIDEWALK CONSTRUCTION PLAN

STA 365+00 TO STA 369+00

SHEET 3 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 394 |

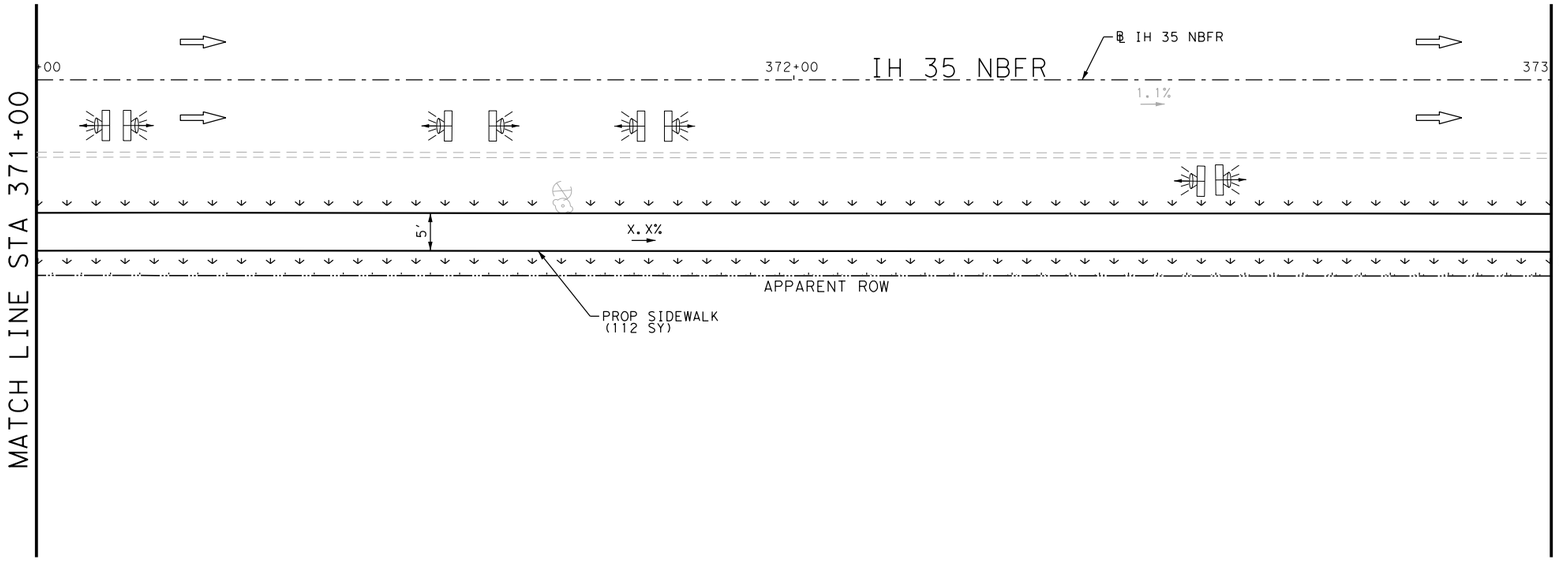
Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\1113508_IH35AccessRd_NB03.dgn








| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0162-6002 | BLOCK SODDING | SY | 268 |
| 0168-6001 | VEGETATIVE WATERING | MG | 4.18 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 224 |








NOTES:
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1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

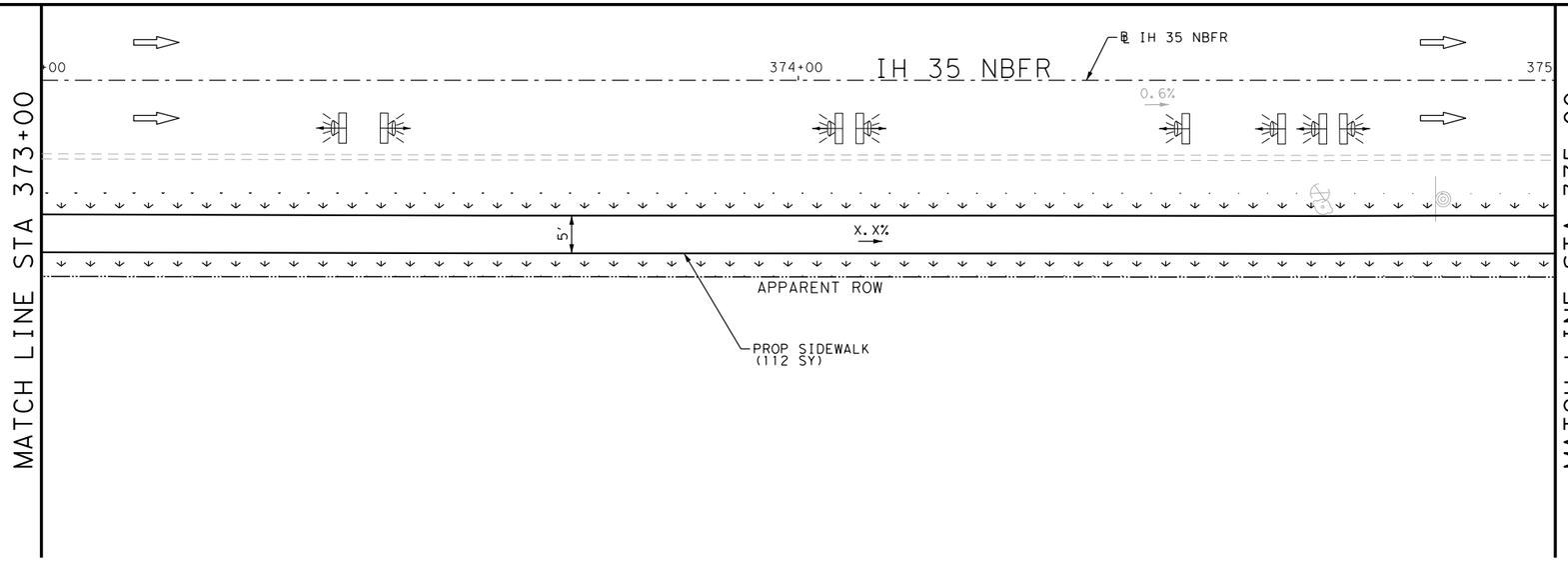
STA 369+00 TO STA 373+00

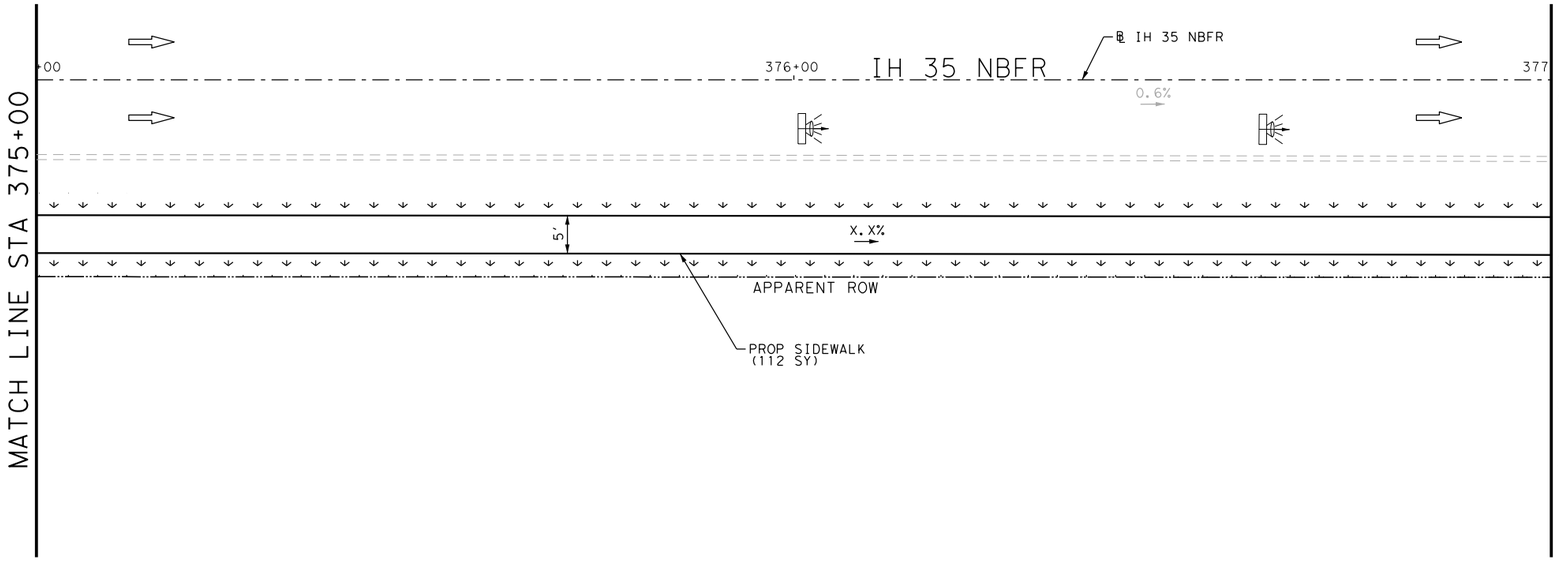


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 395 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\1113508_IH35AccessRd_NB04.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0162-6002 | BLOCK SODDING | SY | 267 |
| 0168-6001 | VEGETATIVE WATERING | MG | 4.17 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 224 |

NOTES:
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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

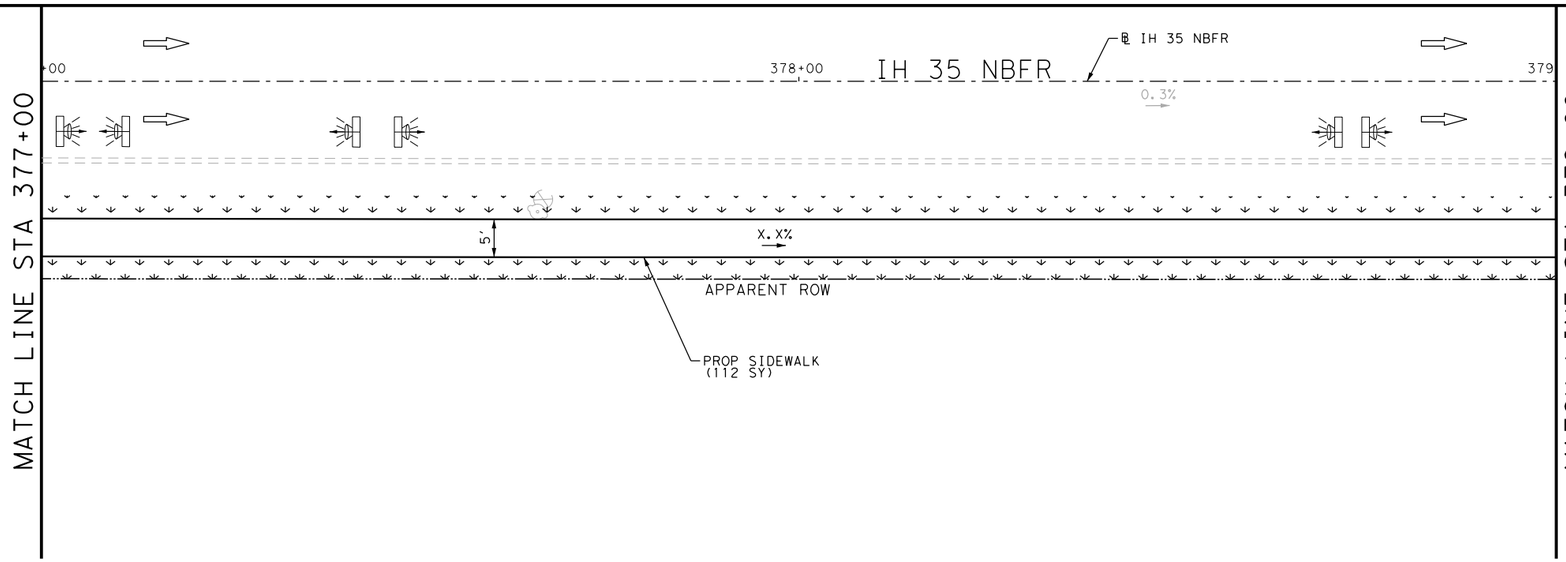
STA 373+00 TO STA 377+00

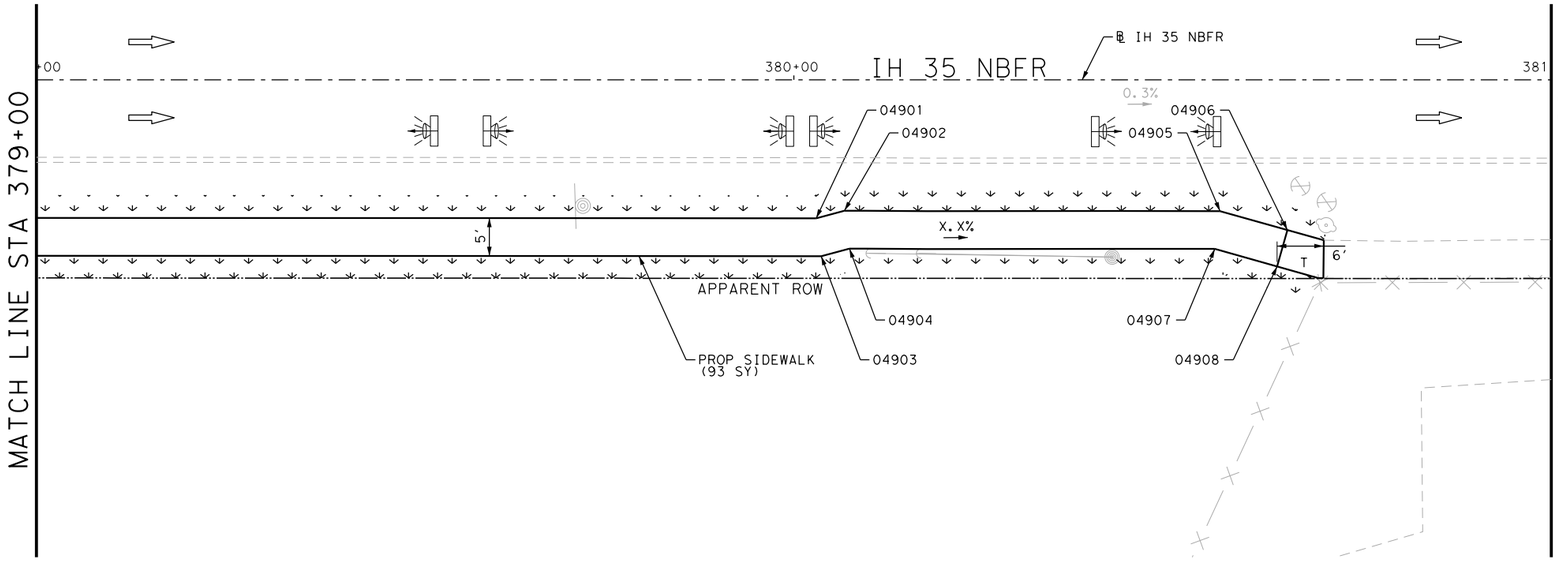
SHEET 5 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 396 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\1113508_IH35AccessRd_NB05.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0162-6002 | BLOCK SODDING | SY | 249 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.88 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 205 |

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

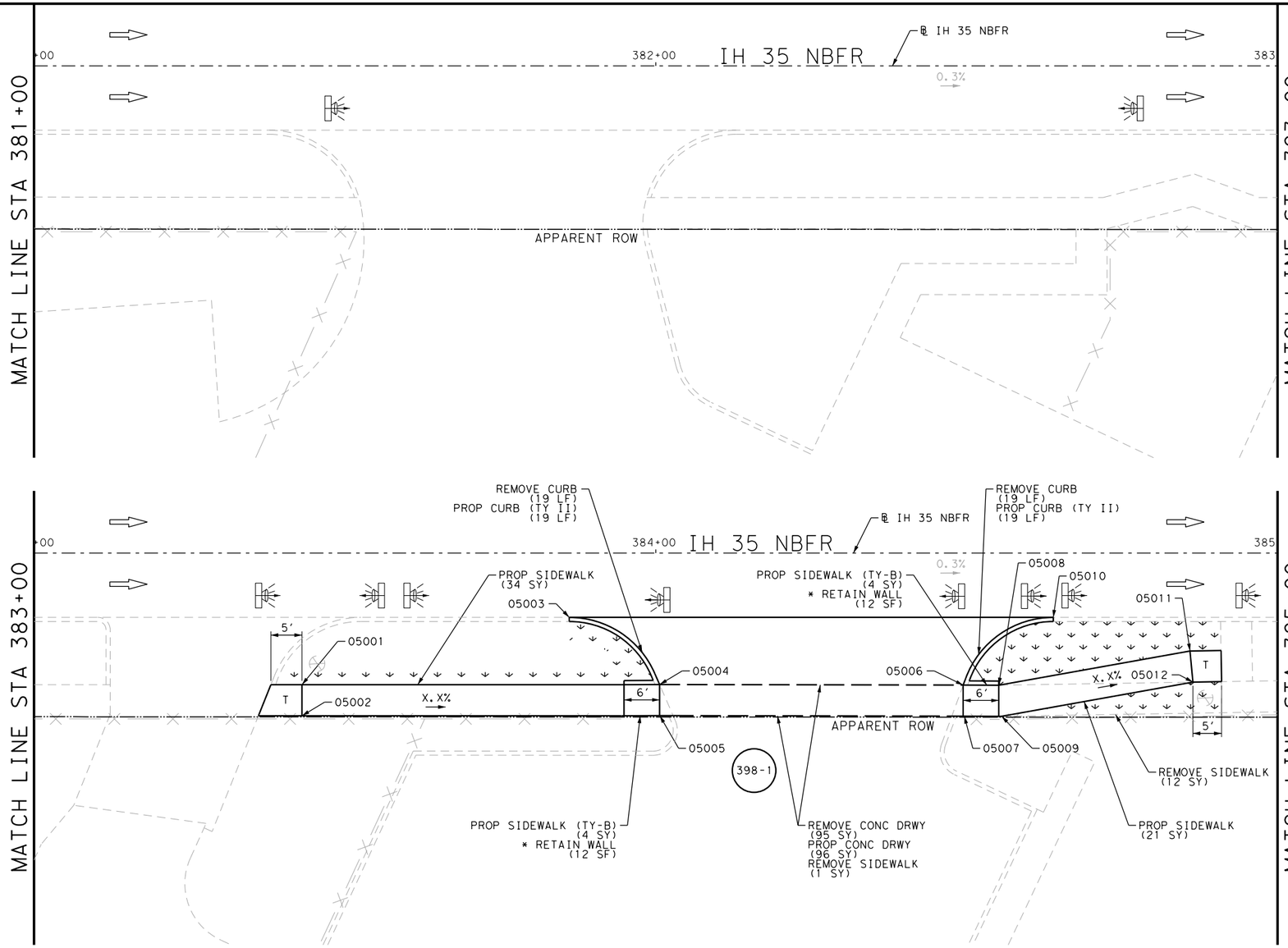
STA 377+00 TO STA 381+00

SHEET 6 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 397 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\1113508_IH35AccessRd_NB06.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 95 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 38 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 12 |
| 0162-6002 | BLOCK SODDING | SY | 66 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.03 |
| 0529-6002 | CONC CURB (TY II) | LF | 38 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 96 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 55 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 8 |

NOTES:
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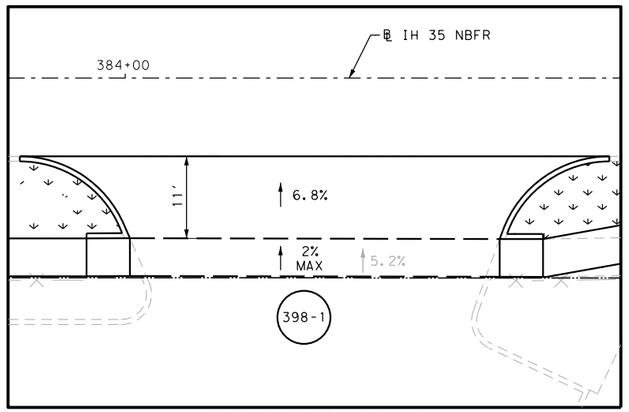
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019



DRWY PLAN STA 111+00

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



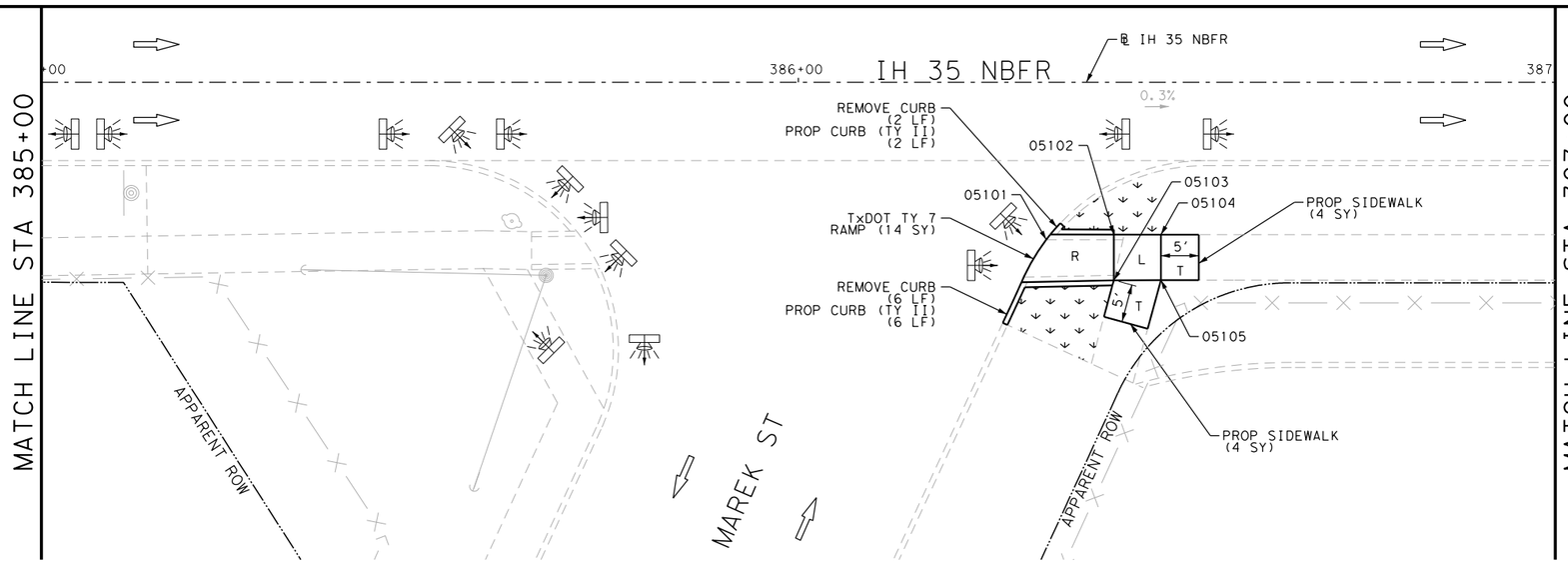
IH 35
ACCESS RD

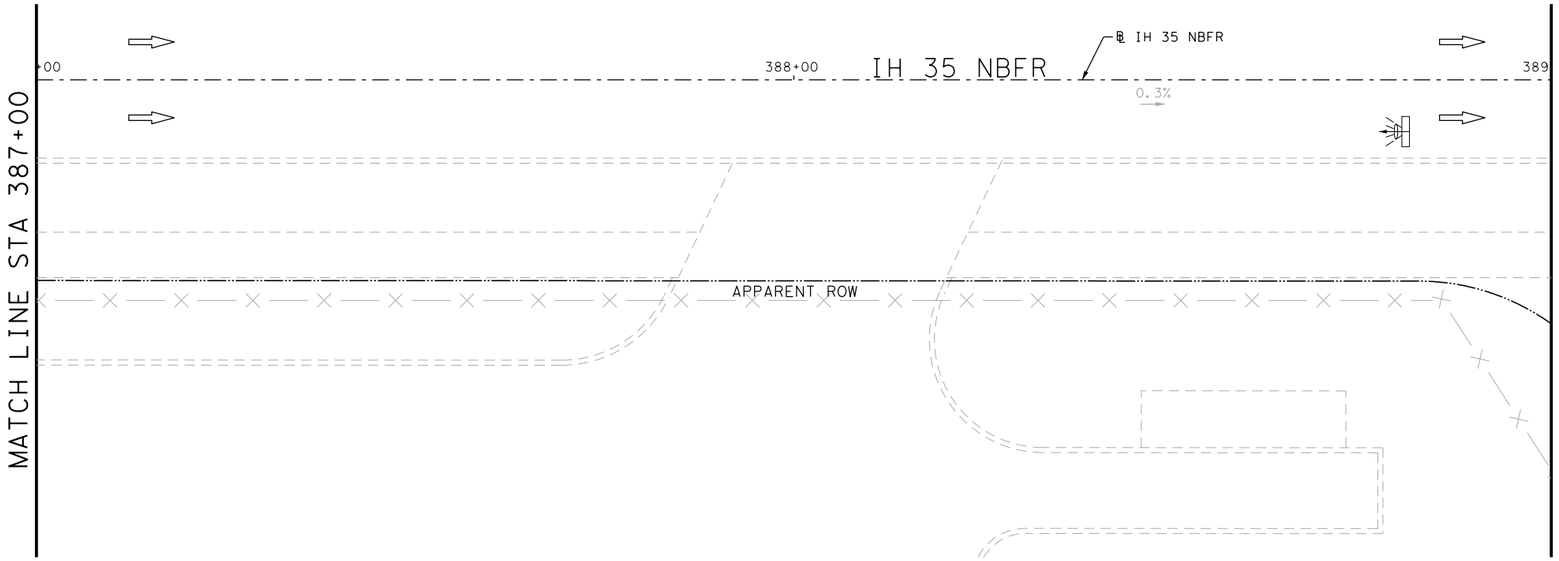
# SIDEWALK CONSTRUCTION PLAN
STA 381+00 TO STA 385+00

SHEET 7 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 398 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\1113508_IH35AccessRd_NB07.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 8 |
| 0162-6002 | BLOCK SODDING | SY | 19 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.30 |
| 0529-6002 | CONC CURB (TY II) | LF | 8 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 8 |
| 0531-6024 | CURB RAMPS (TY 7) | SY | 12 |

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

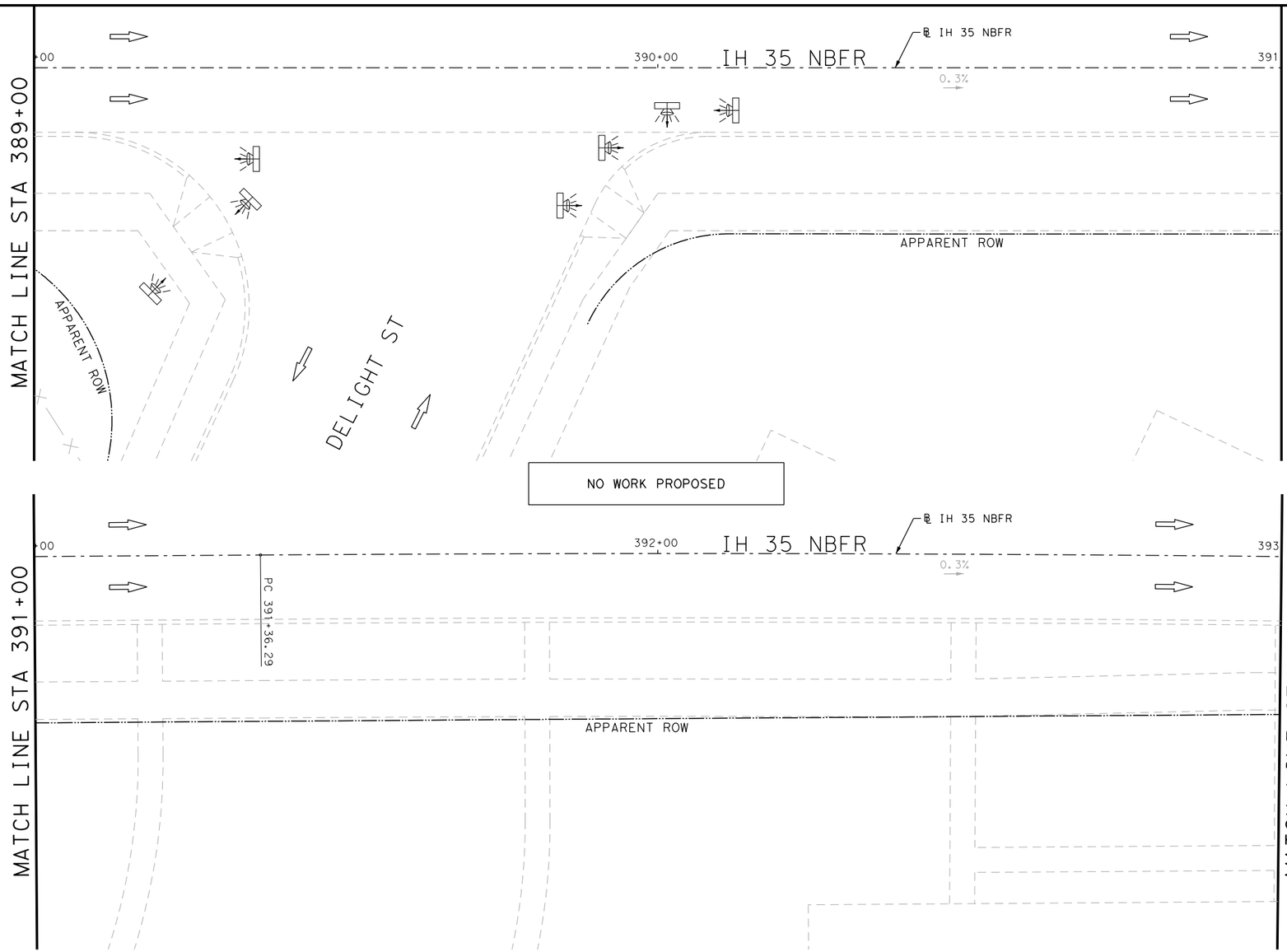
# SIDEWALK CONSTRUCTION PLAN

STA 385+00 TO STA 389+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 399 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\111508_IH35AccessRd_NB08.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|

NOTES:
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DESIGN

INTERIM REVIEW

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# IH 35 ACCESS RD

## SIDEWALK CONSTRUCTION PLAN

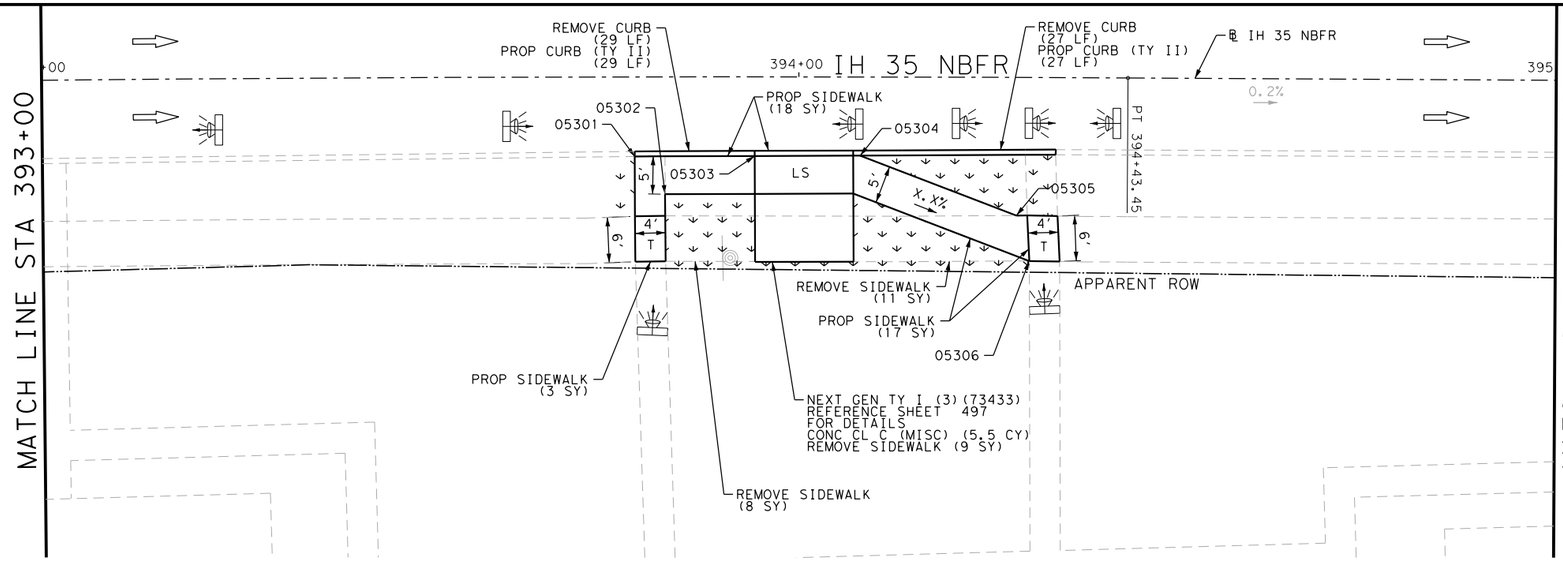
STA 389+00 TO STA 393+00

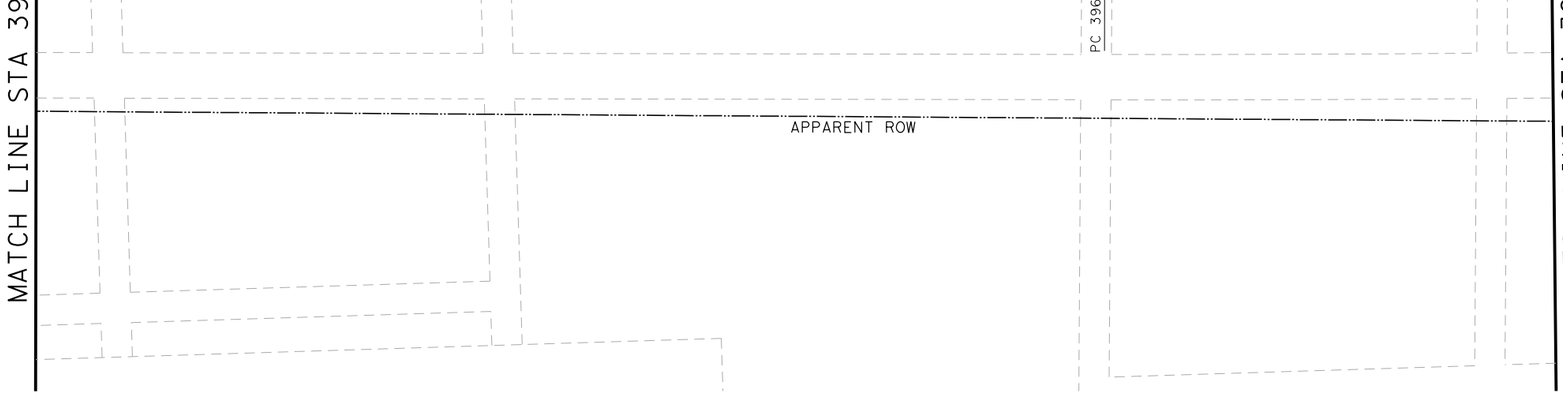
SHEET 9 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 400 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\111508_IH35AccessRd_NB09.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 56 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 28 |
| 0162-6002 | BLOCK SODDING | SY | 47 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.73 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0529-6002 | CONC CURB (TY II) | LF | 56 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 38 |

NOTES:
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DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
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2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

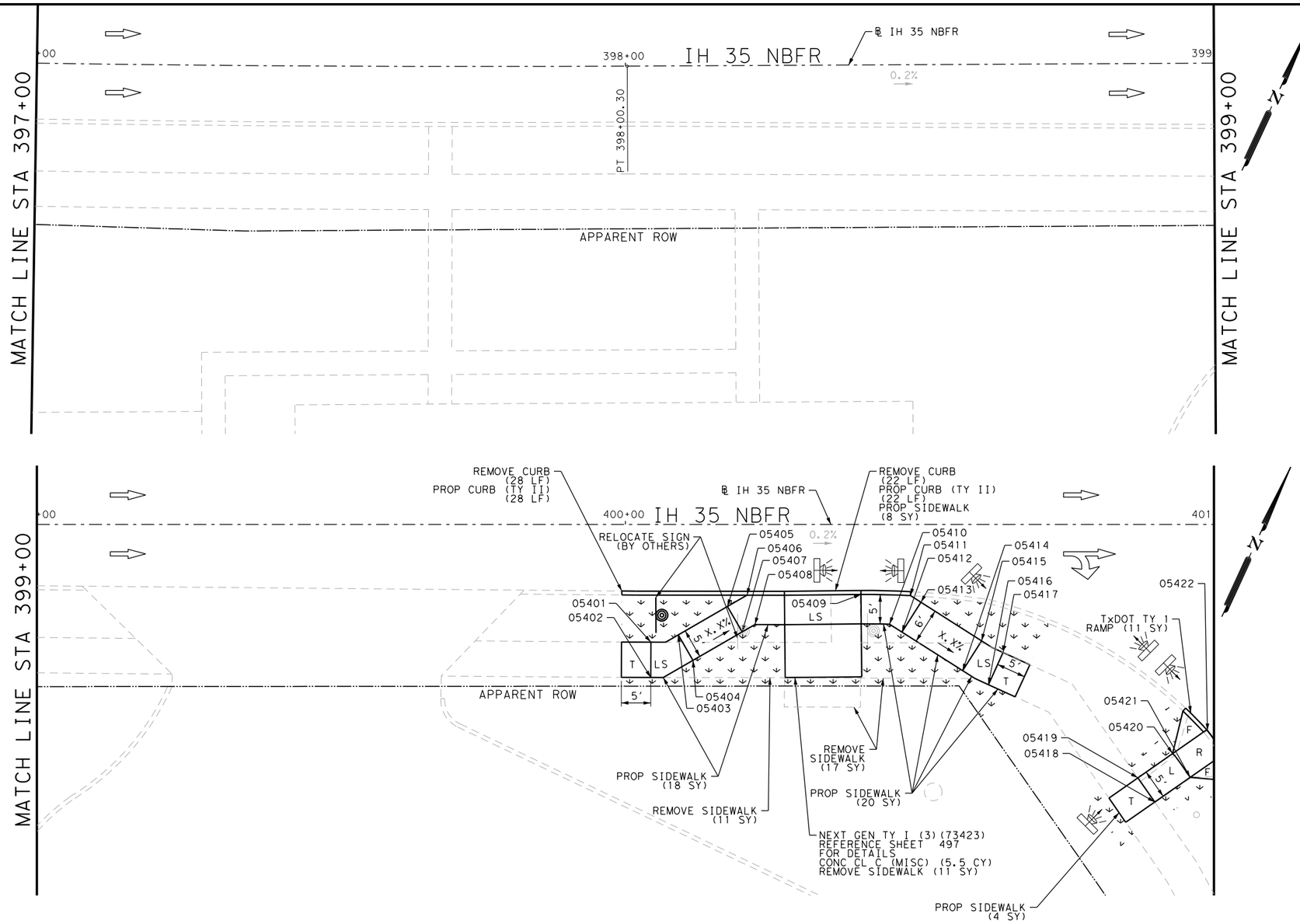
STA 393+00 TO STA 397+00

SHEET 10 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 401 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\1113508_IH35AccessRd_NB10.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 50 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 39 |
| 0162-6002 | BLOCK SODDING | SY | 78 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.22 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0529-6002 | CONC CURB (TY II) | LF | 50 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 50 |
| 0531-6018 | CURB RAMPS (TY 1) | SY | 11 |

NOTES:
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INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

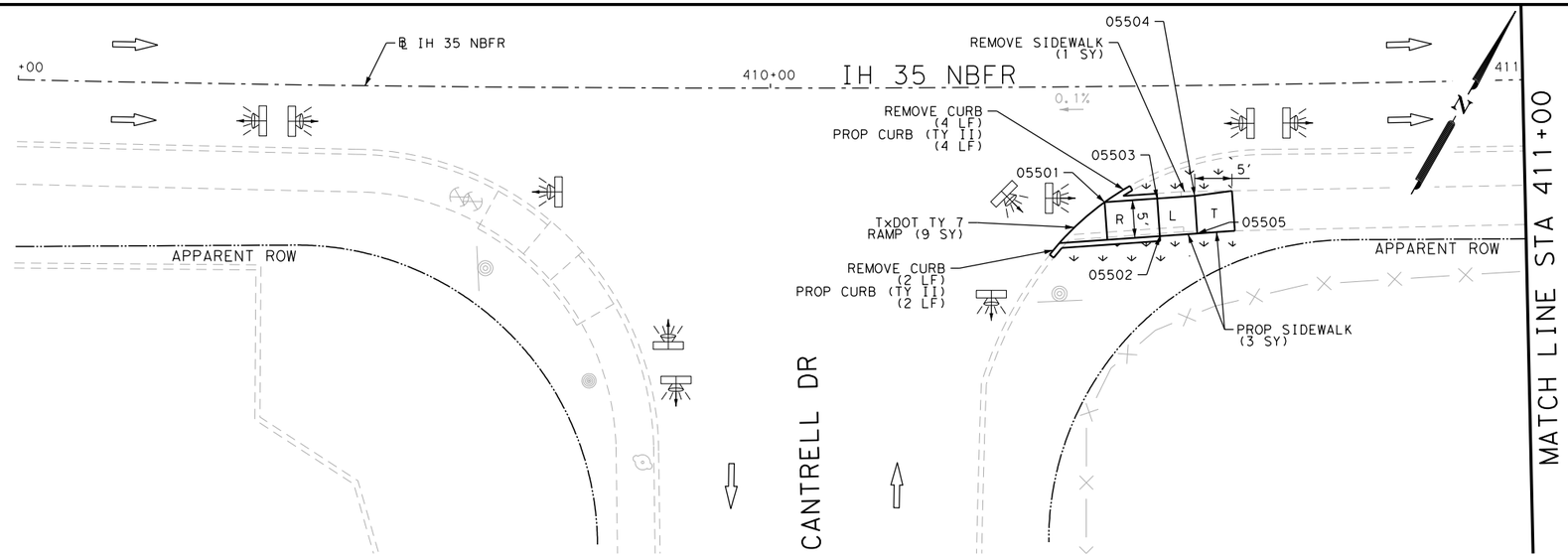
# SIDEWALK CONSTRUCTION PLAN

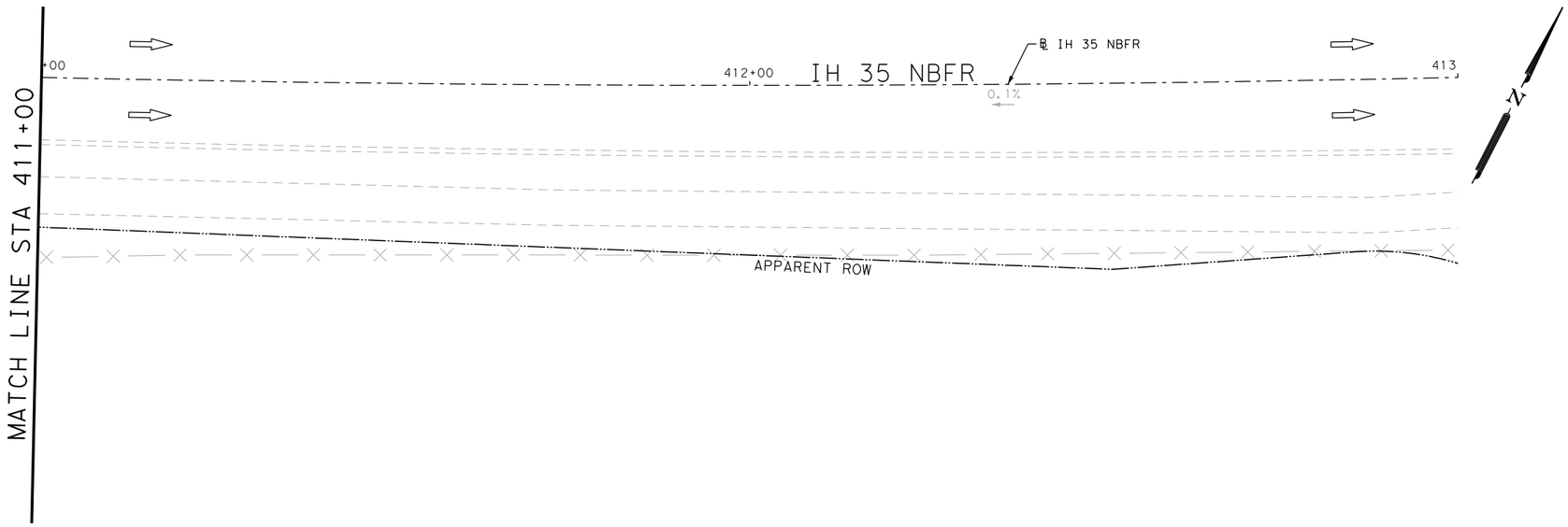
STA 397+00 TO STA 401+00

SHEET 11 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 402 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\1113508_IH35AccessRd_NB11.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 6 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 1 |
| 0162-6002 | BLOCK SODDING | SY | 14 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.22 |
| 0529-6002 | CONC CURB (TY II) | LF | 6 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 3 |
| 0531-6024 | CURB RAMPS (TY 7) | SY | 9 |

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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

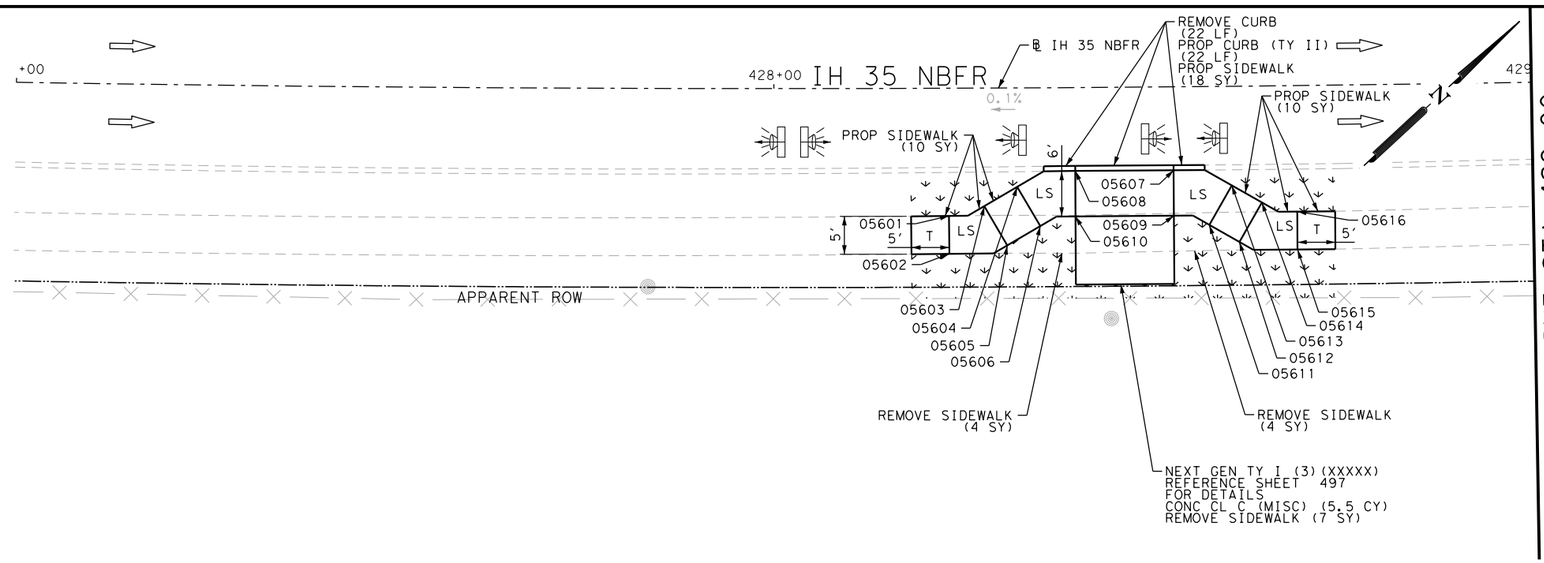
STA 409+00 TO STA 413+00

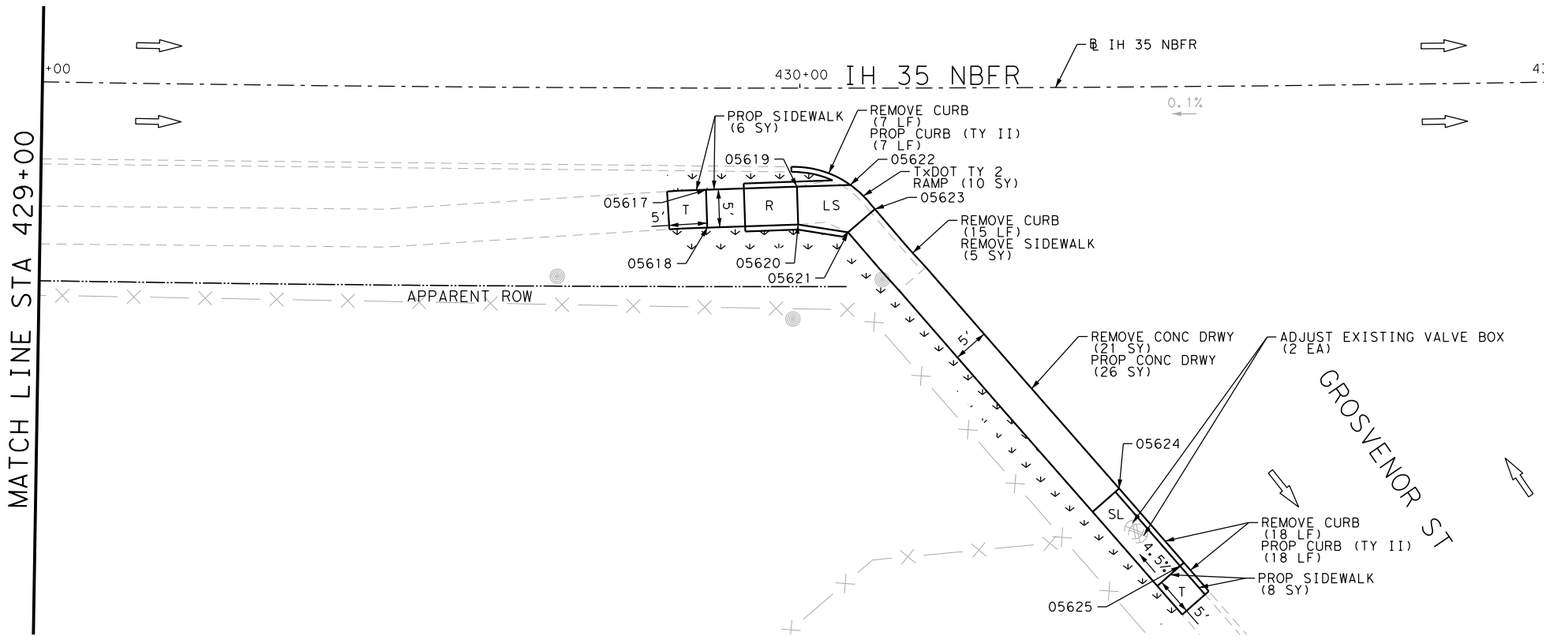
SHEET 12 OF 13

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 403 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\1113508_IH35AccessRd_NB12.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 21 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 62 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 20 |
| 0162-6002 | BLOCK SODDING | SY | 89 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.39 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0529-6002 | CONC CURB (TY II) | LF | 47 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 26 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 52 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 10 |
| 7091-6001 | ADJUST EXISTING VALVE BOX | EA | 2 |

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
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# IH 35 ACCESS RD

## SIDEWALK CONSTRUCTION PLAN

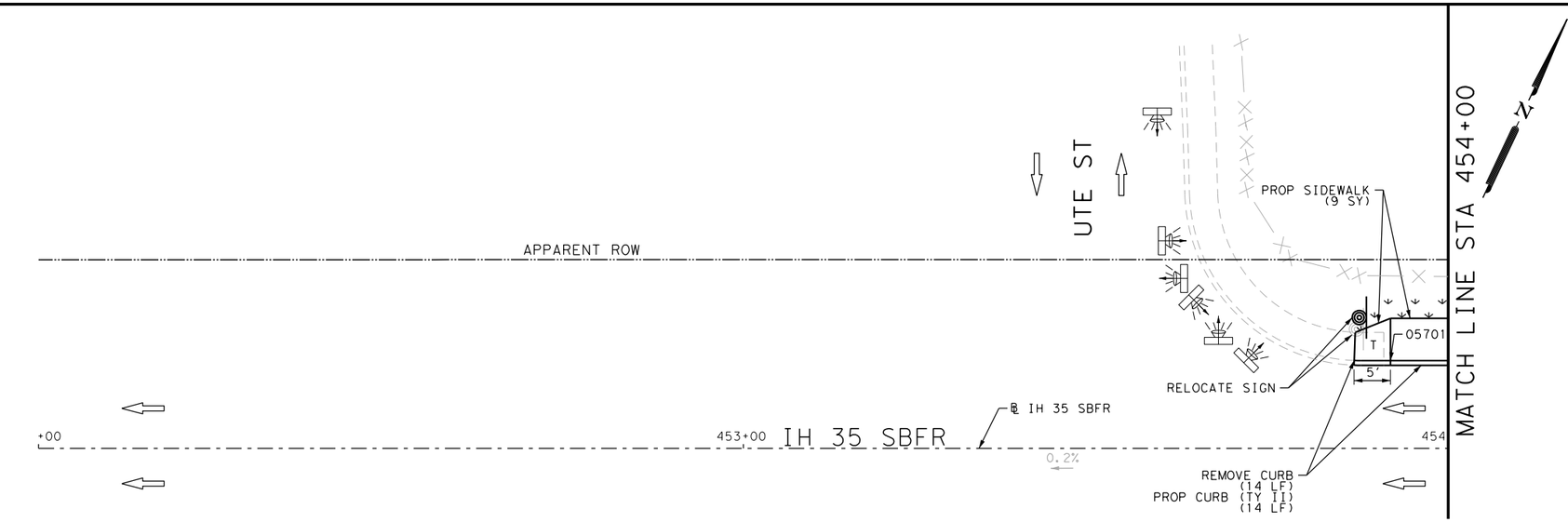
STA 427+00 TO STA 431+00

SHEET 13 OF 13

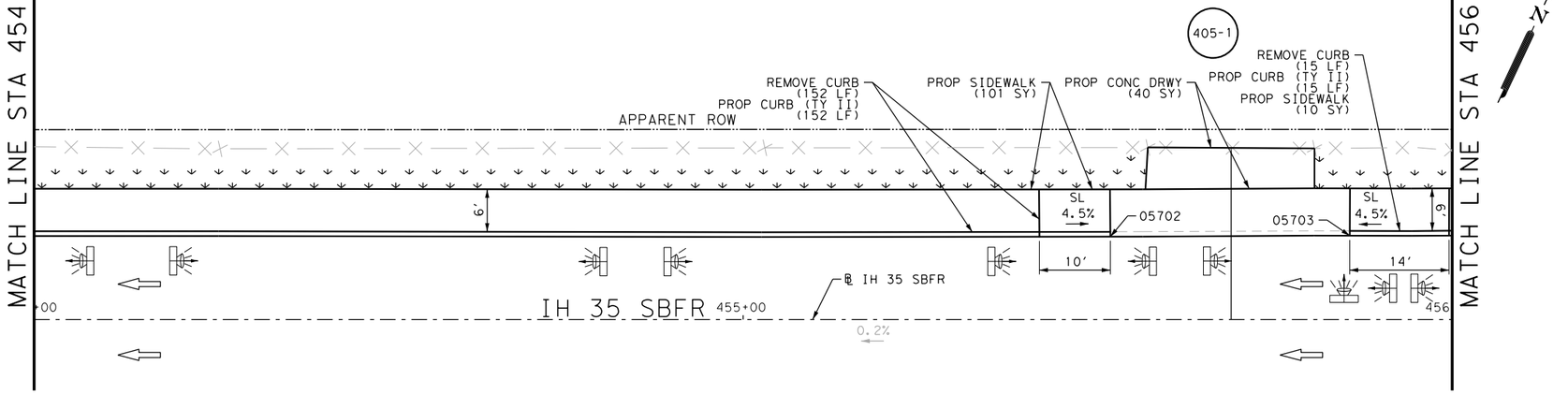
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 404 |

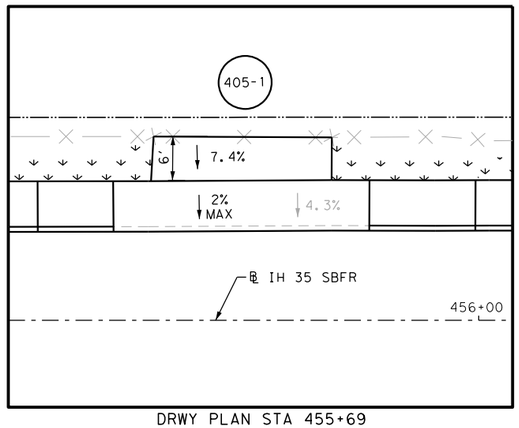
Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\111308_IH35AccessRd_NB13.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 181 |
| 0162-6002 | BLOCK SODDING | SY | 66 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.03 |
| 0529-6002 | CONC CURB (TY II) | LF | 181 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 40 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 120 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |




DRWY PLAN STA 455+69

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



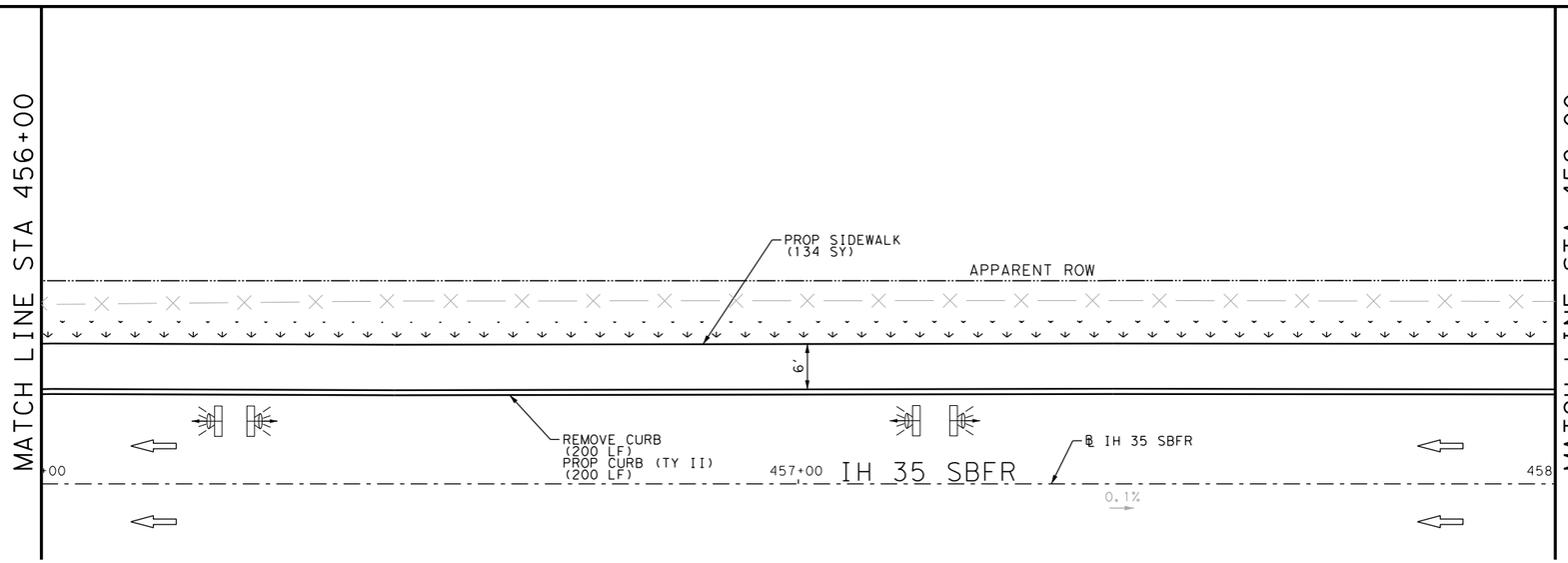
IH 35
ACCESS RD

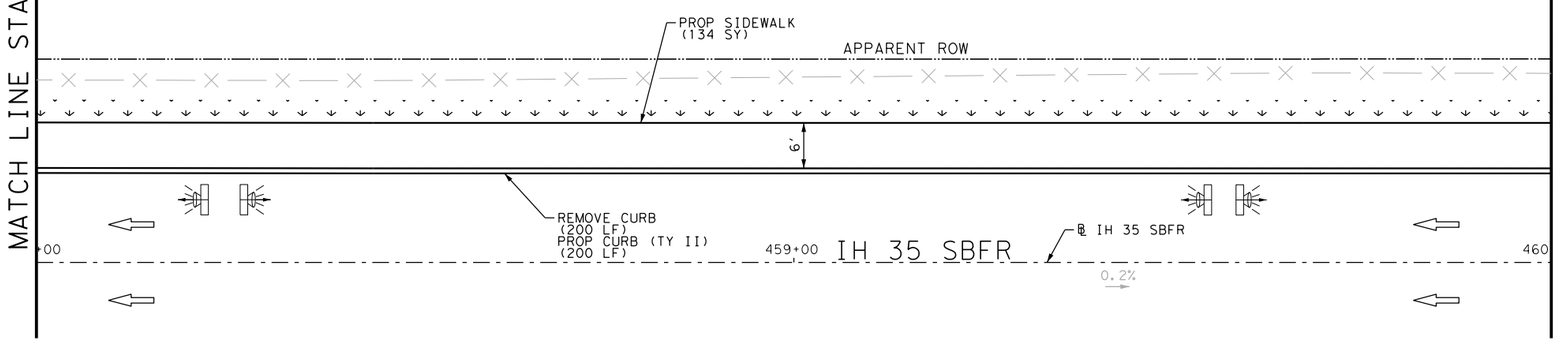
# SIDEWALK CONSTRUCTION PLAN

STA 452+00 TO STA 456+00

SHEET 1 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 405 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 400 |
| 0162-6002 | BLOCK SODDING | SY | 134 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.09 |
| 0529-6002 | CONC CURB (TY II) | LF | 400 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 266 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# IH 35 ACCESS RD

## SIDEWALK CONSTRUCTION PLAN

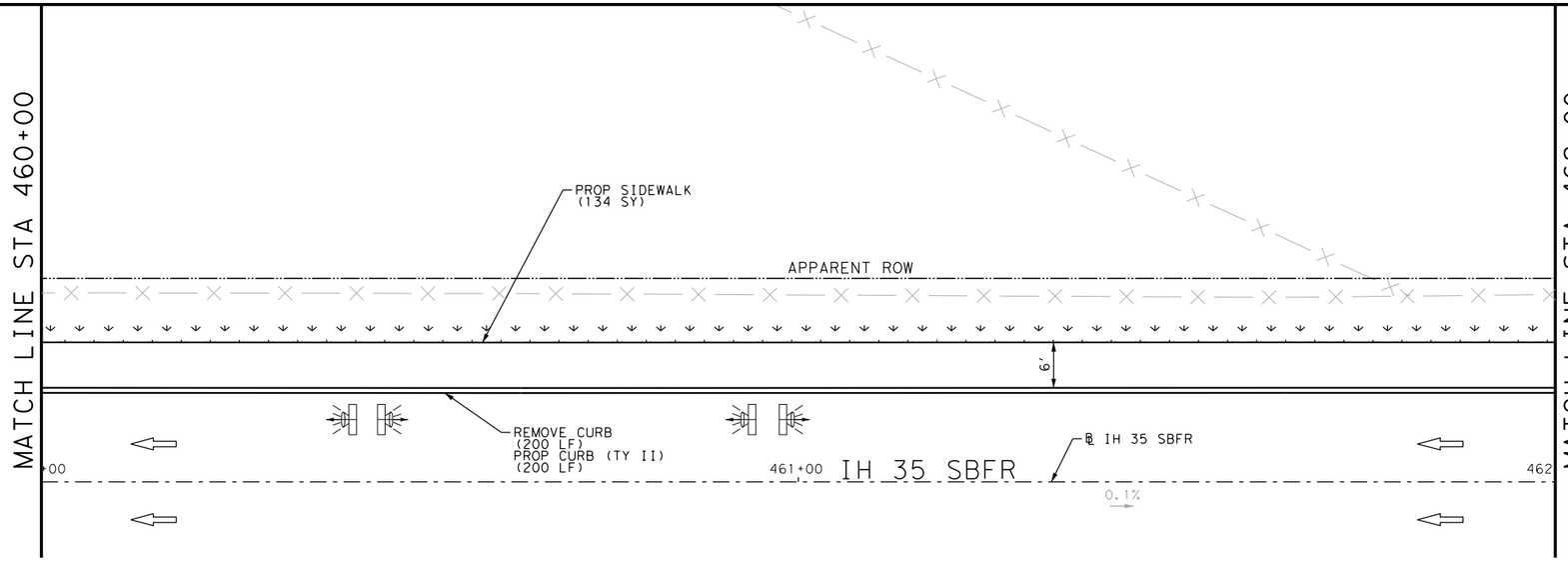
STA 456+00 TO STA 460+00



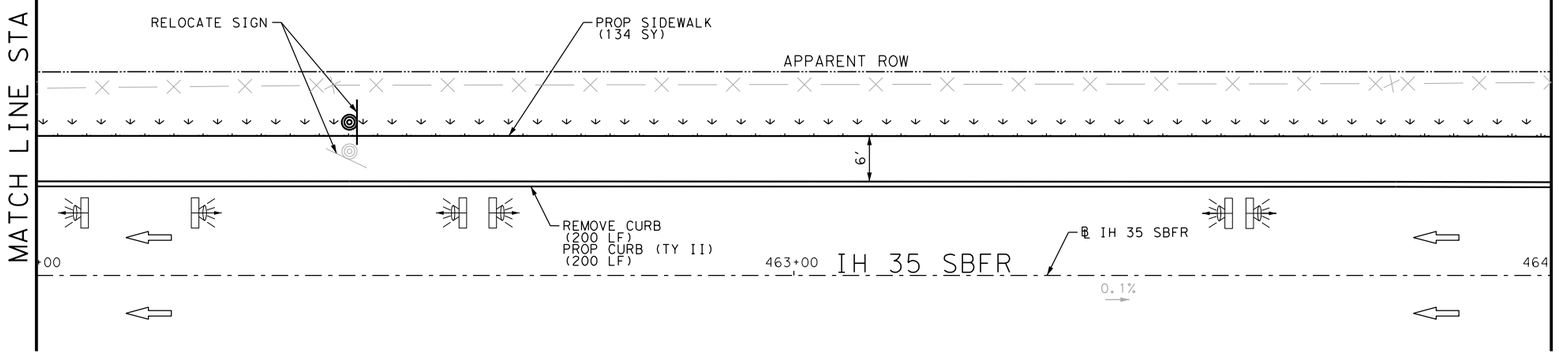
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 406 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\111508_IH35AccessRd_SB02.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 400 |
| 0162-6002 | BLOCK SODDING | SY | 134 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.09 |
| 0529-6002 | CONC CURB (TY II) | LF | 400 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 266 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |




NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

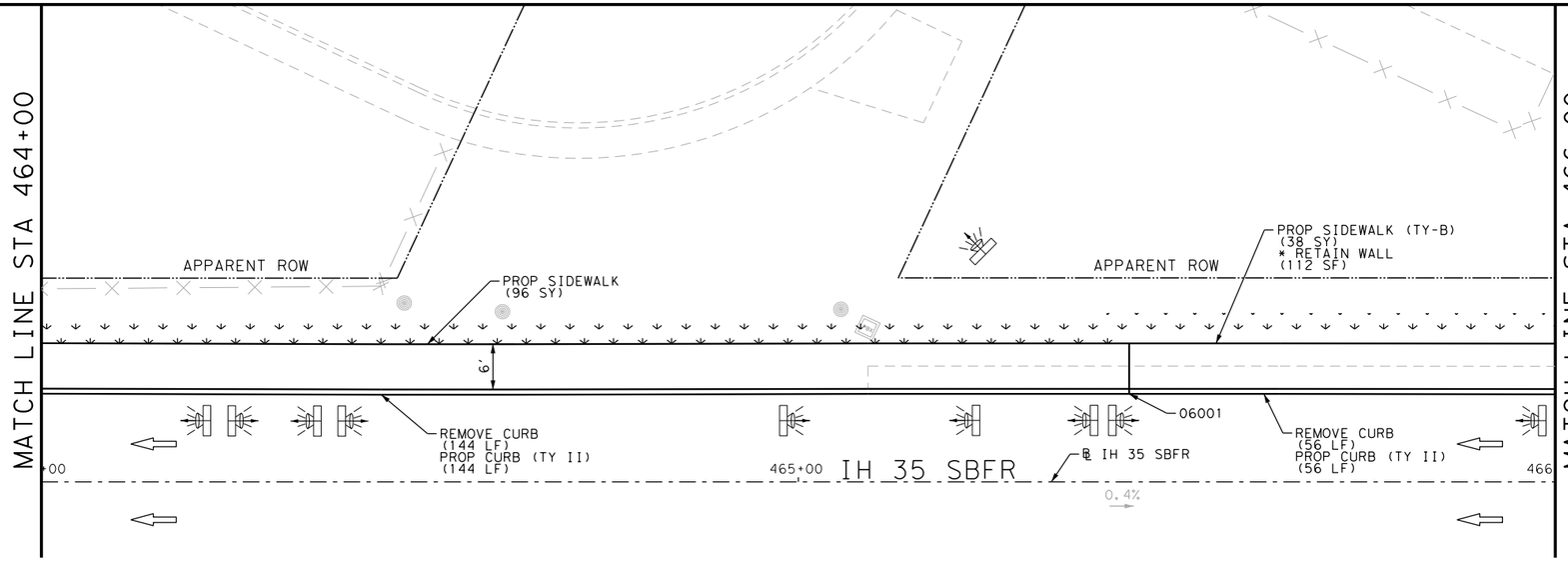
# SIDEWALK CONSTRUCTION PLAN
STA 460+00 TO STA 464+00

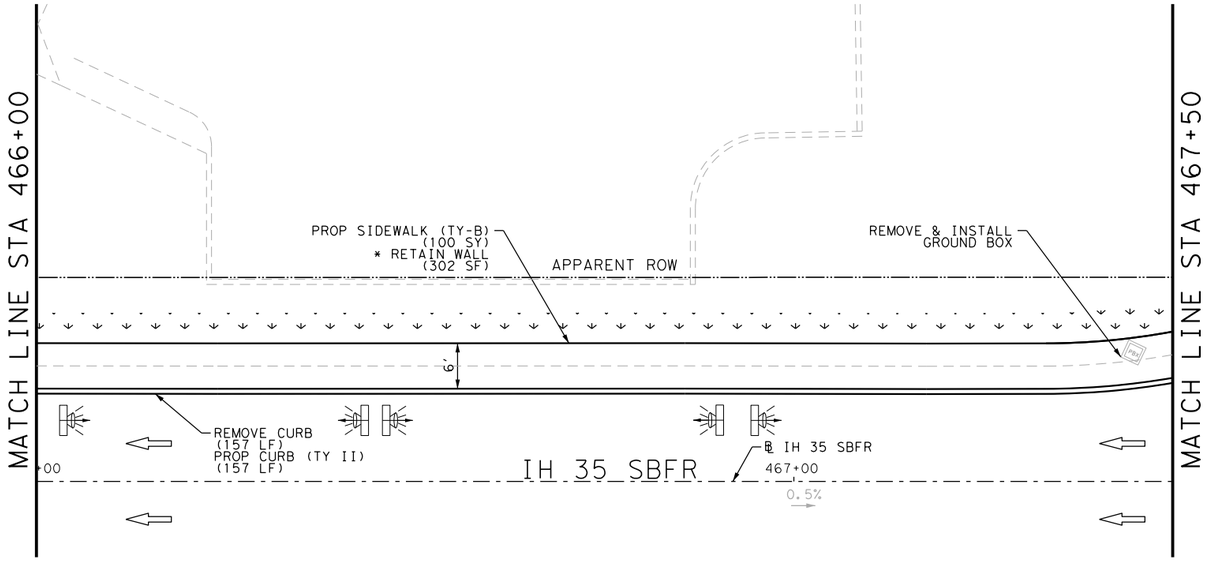
SHEET 3 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 407 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\111508_IH35AccessRd_SB03.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 357 |
| 0529-6002 | CONC CURB (TY II) | LF | 357 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 196 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 38 |
| 0624-6028 | REMOVE GROUND BOX | EA | 1 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



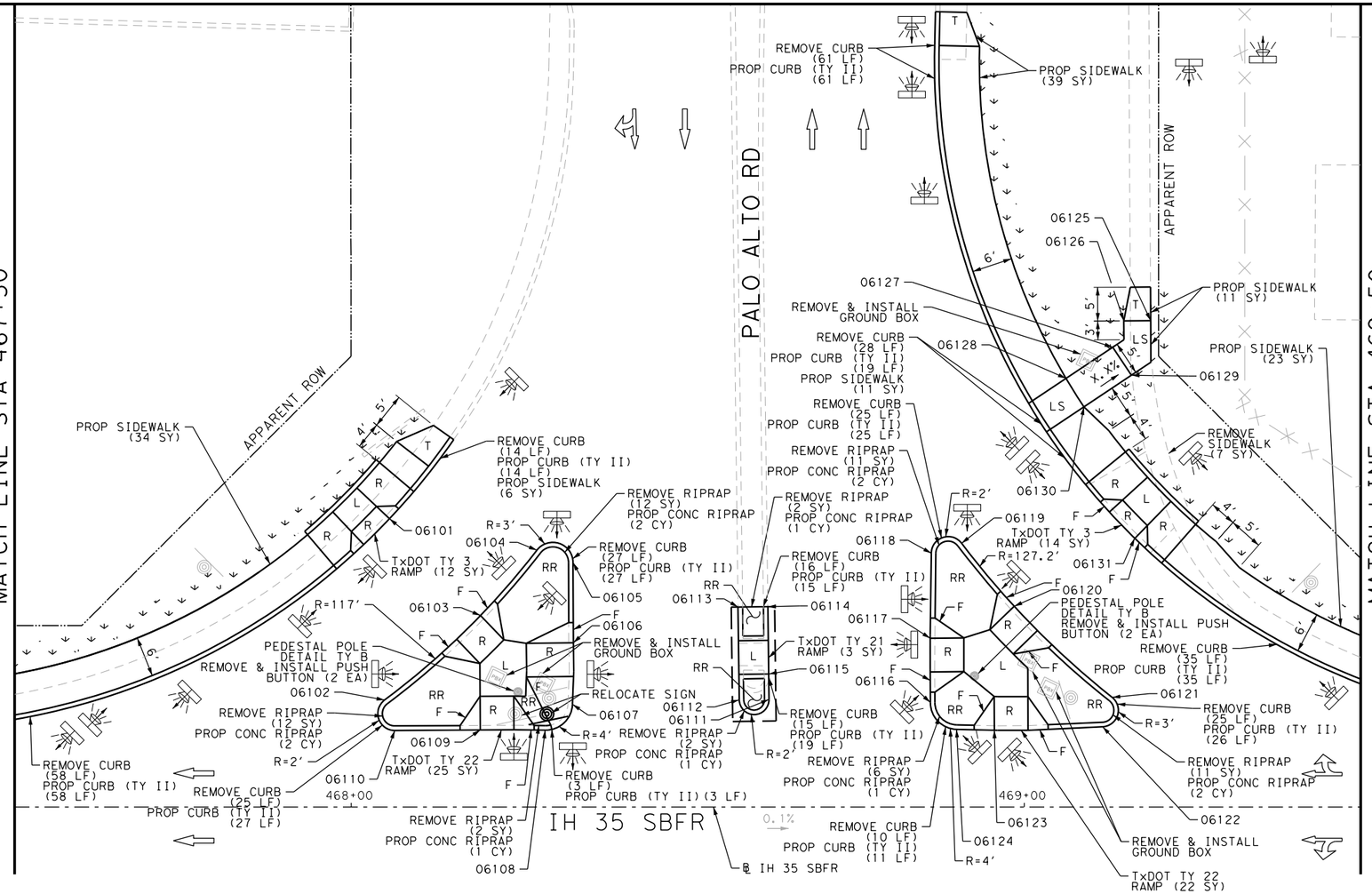
# IH 35 ACCESS RD

## SIDEWALK CONSTRUCTION PLAN

STA 464+00 TO STA 467+50

SHEET 4 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 408 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 58 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 569 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 7 |
| 0162-6002 | BLOCK SODDING | SY | 131 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.04 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 12 |
| 0529-6002 | CONC CURB (TY II) | LF | 491 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 224 |
| 0531-6020 | CURB RAMPS (TY 3) | SY | 27 |
| 0531-6030 | CURB RAMPS (TY 21) | SY | 3 |
| 0531-6031 | CURB RAMPS (TY 22) | SY | 47 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 3 |
| 0624-6028 | REMOVE GROUND BOX | EA | 3 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 2 |
| 0690-6030 | REMOVAL OF PEDESTRIAN PUSH BUTTONS | EA | 2 |

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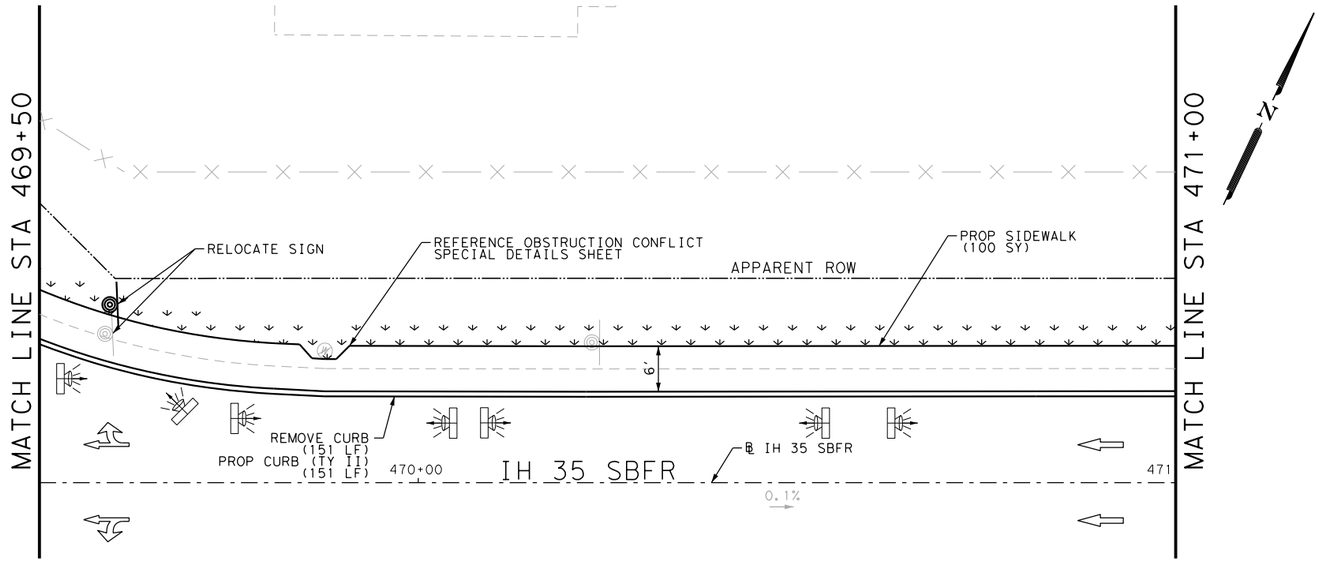
DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019




SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



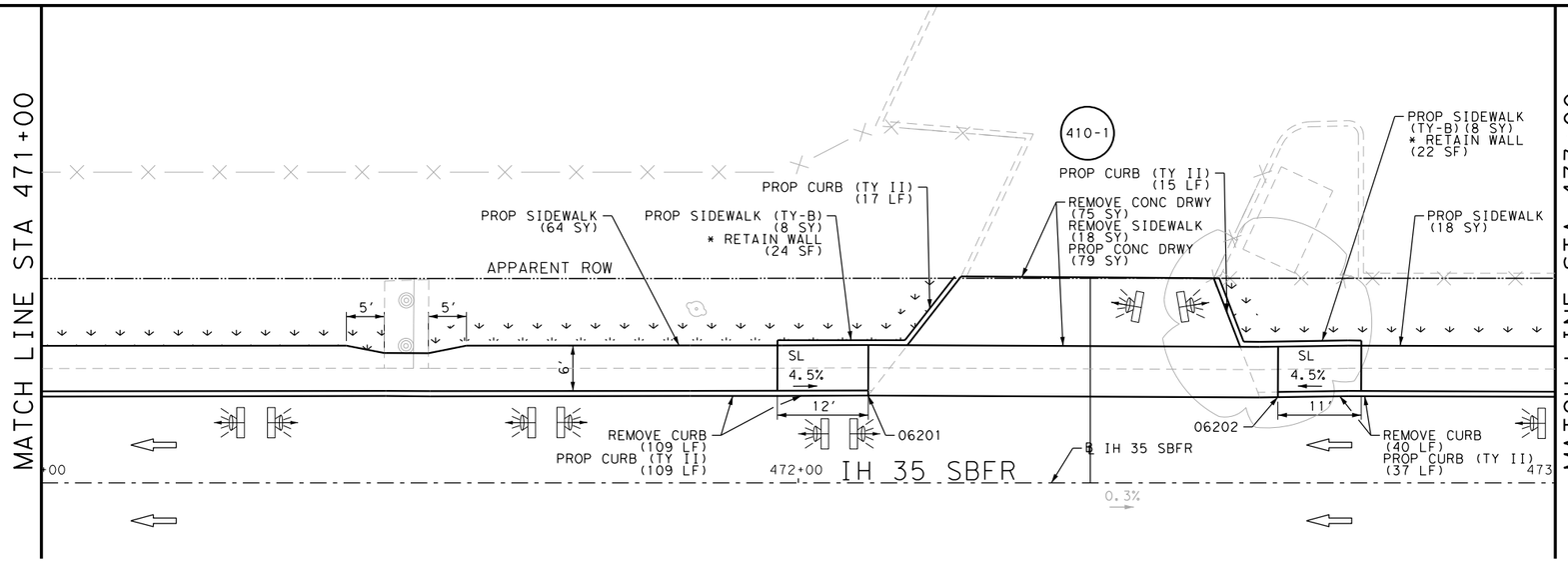
IH 35
ACCESS RD

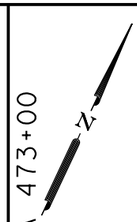
# SIDEWALK CONSTRUCTION PLAN
STA 467+50 TO STA 471+00

SHEET 5 OF 25

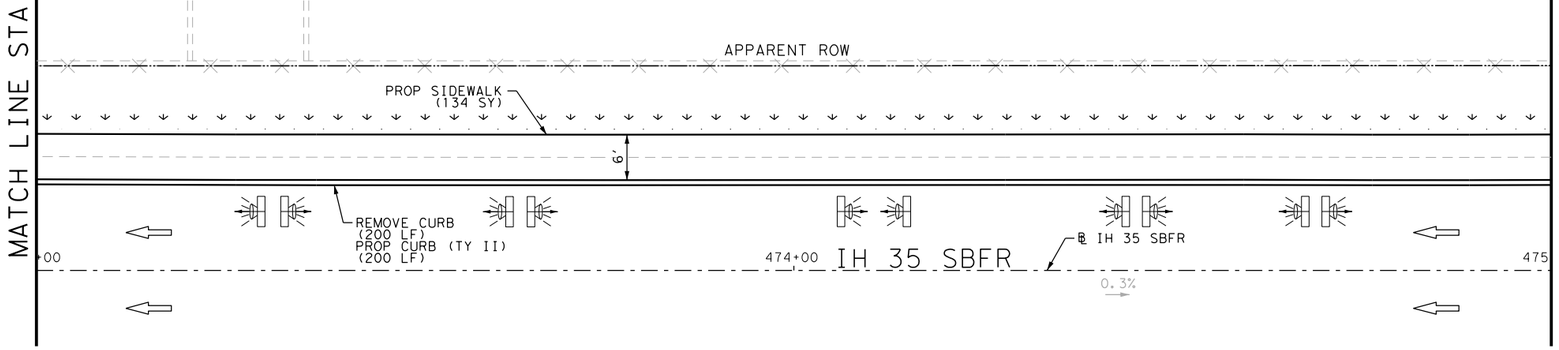
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 409 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\1113508_IH35AccessRd_SB05.dgn

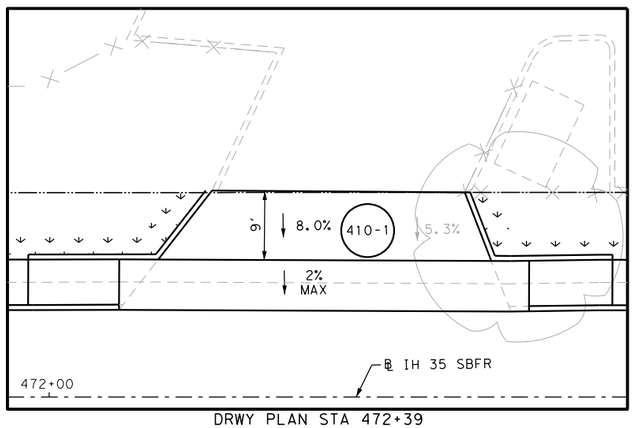



| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 349 |
| 0162-6002 | BLOCK SODDING | SY | 124 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.93 |
| 0529-6002 | CONC CURB (TY II) | LF | 373 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 216 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 16 |








DRWY PLAN STA 472+39

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

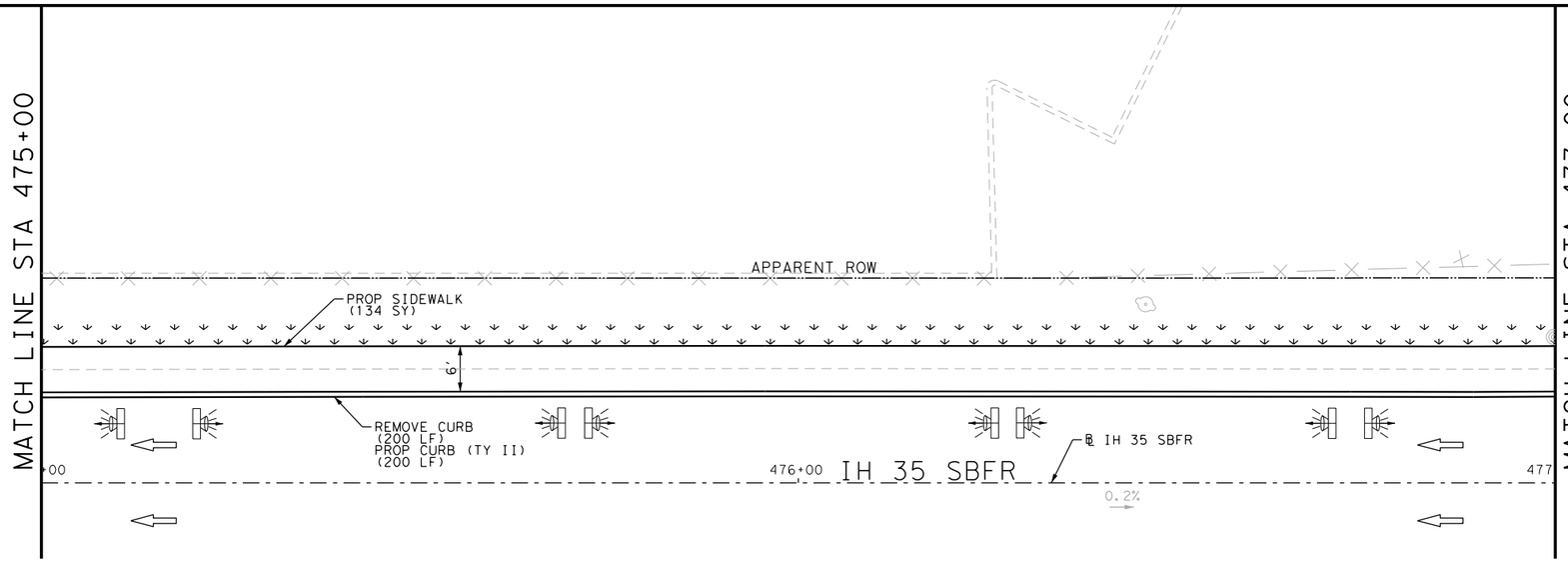
STA 471+00 TO STA 475+00

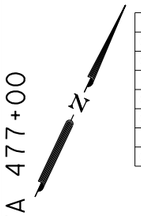
SHEET 6 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 410 |

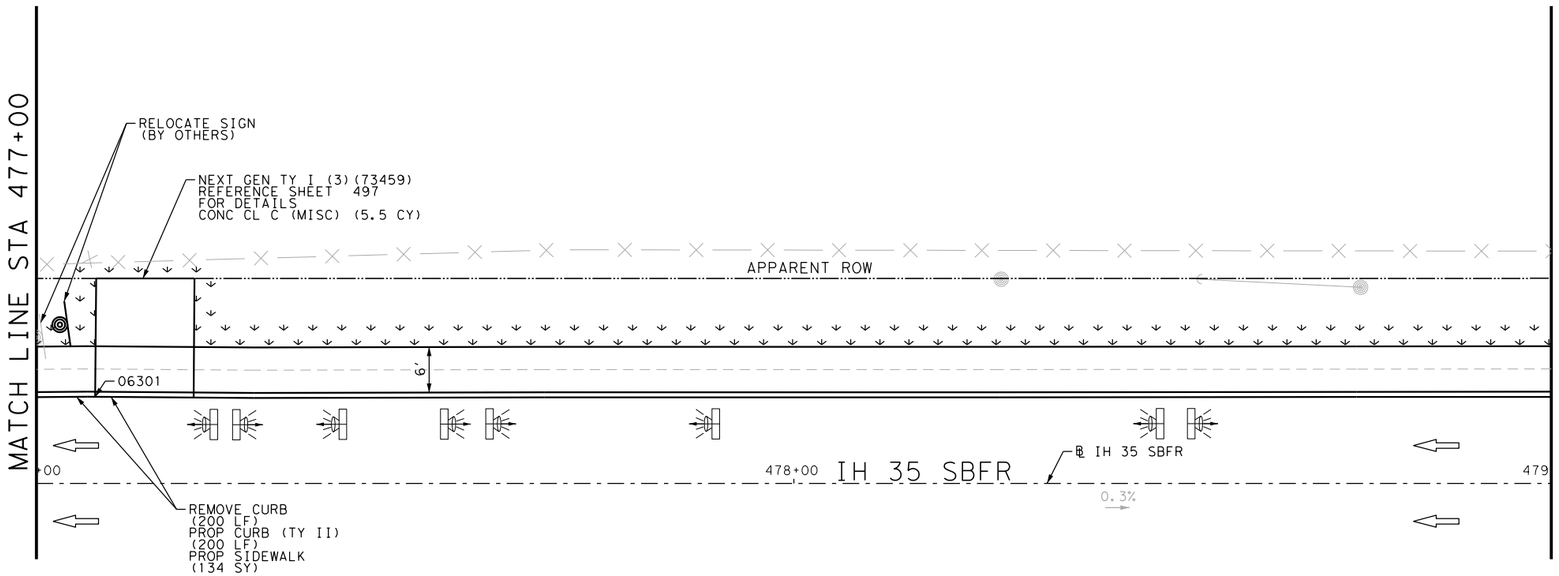
Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\111308_IH35AccessRd_SB06.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 400 |
| 0162-6002 | BLOCK SODDING | SY | 138 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.15 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0529-6002 | CONC CURB (TY II) | LF | 400 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 266 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |





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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

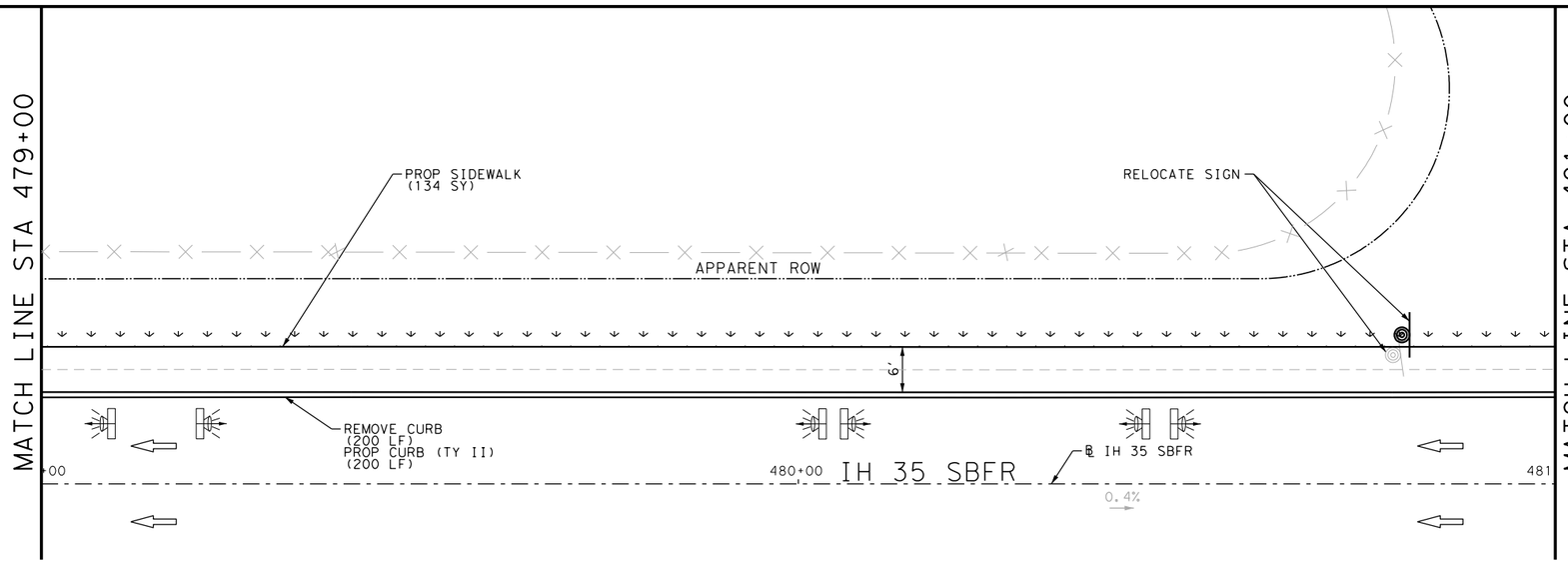
STA 475+00 TO STA 479+00

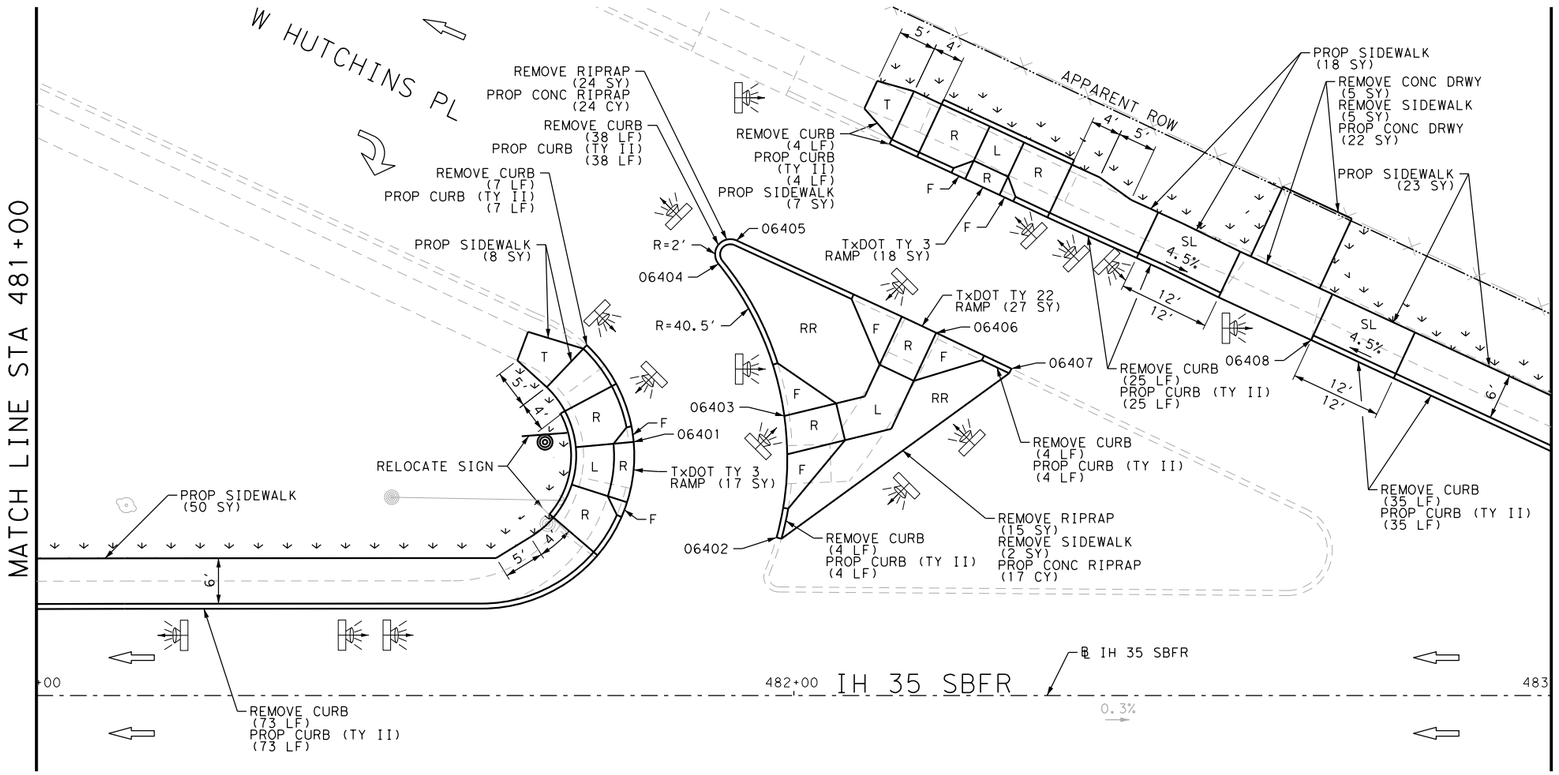
SHEET 7 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 411 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\1113508_IH35AccessRd_SB07.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 39 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 10 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 394 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 3 |
| 0162-6002 | BLOCK SODDING | SY | 97 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.51 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 8 |
| 0529-6002 | CONC CURB (TY II) | LF | 394 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 22 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 239 |
| 0531-6020 | CURB RAMPS (TY 3) | SY | 36 |
| 0531-6031 | CURB RAMPS (TY 22) | SY | 27 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 2 |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

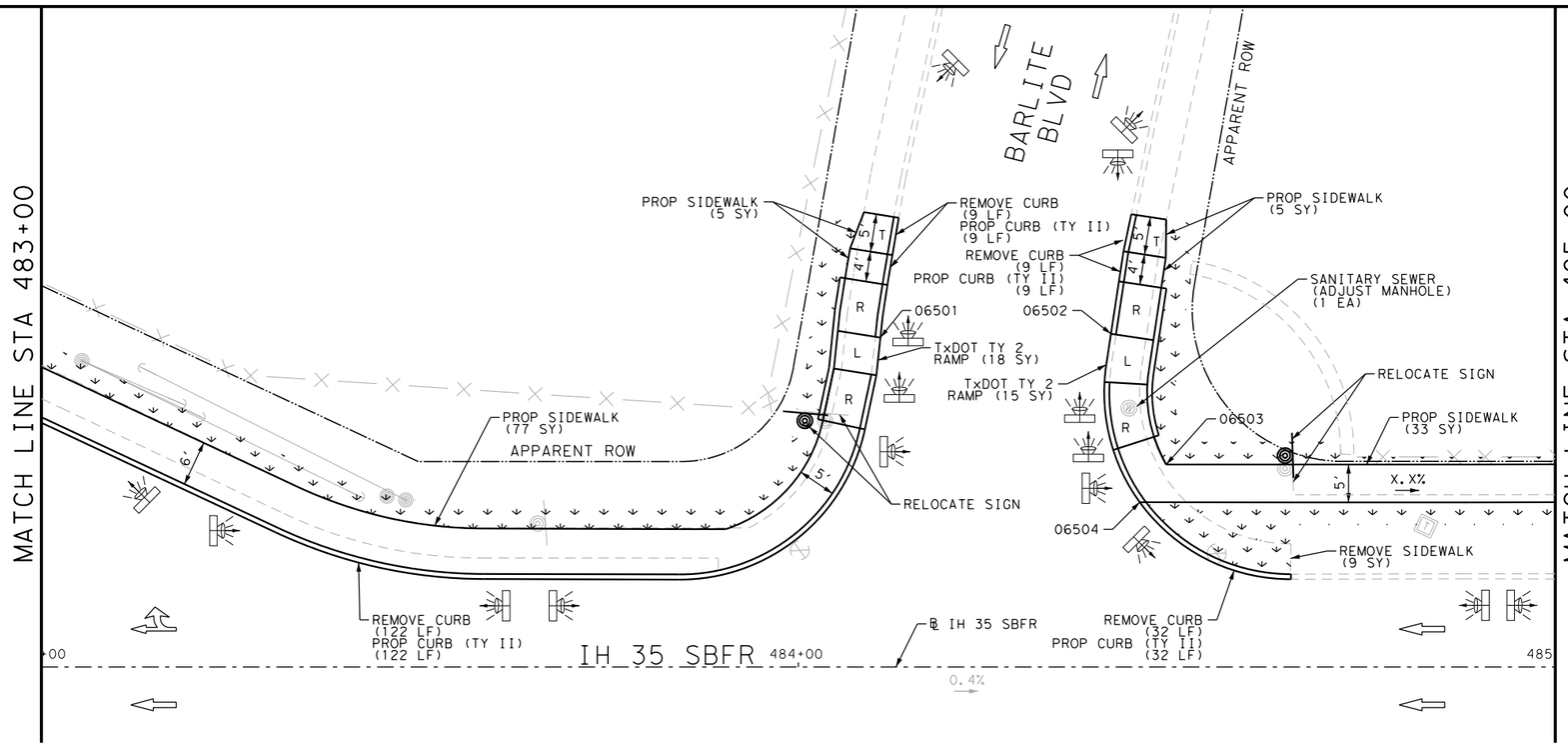
# SIDEWALK CONSTRUCTION PLAN

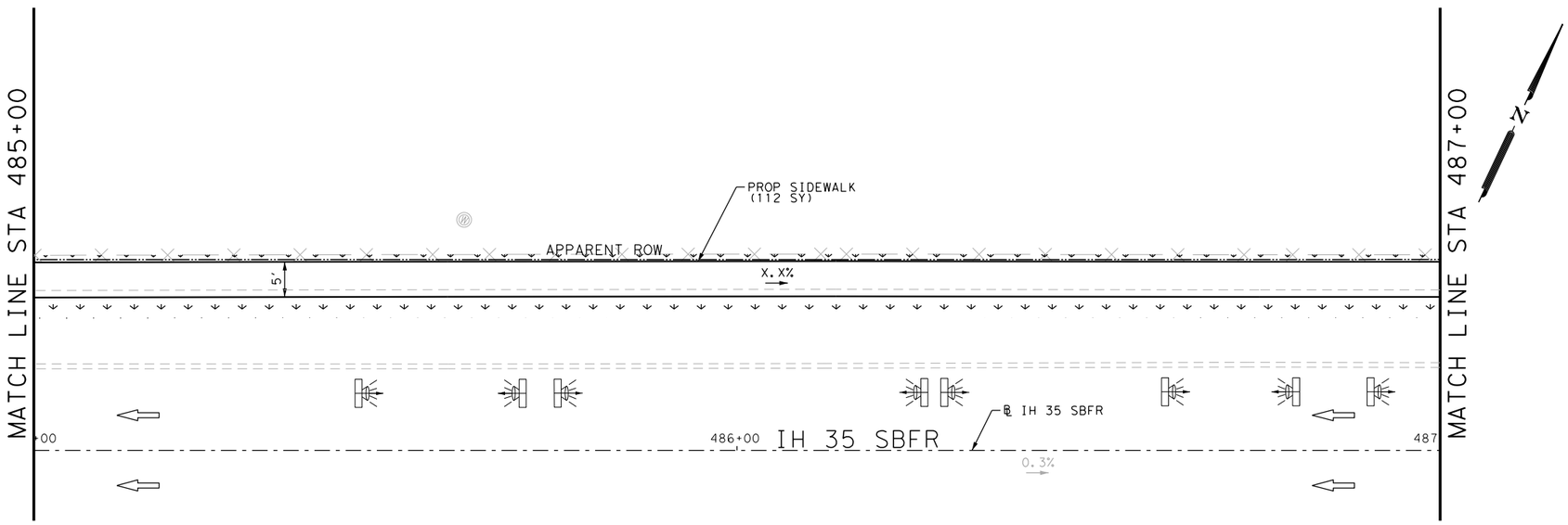
STA 479+00 TO STA 483+00

SHEET 8 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 412 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\111508_IH35AccessRd_SB08.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 171 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 9 |
| 0162-6002 | BLOCK SODDING | SY | 159 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.48 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 2 |
| 7194-6001 | SANITARY SEWER (ADJUST MANHOLE) | EA | 1 |

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

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DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

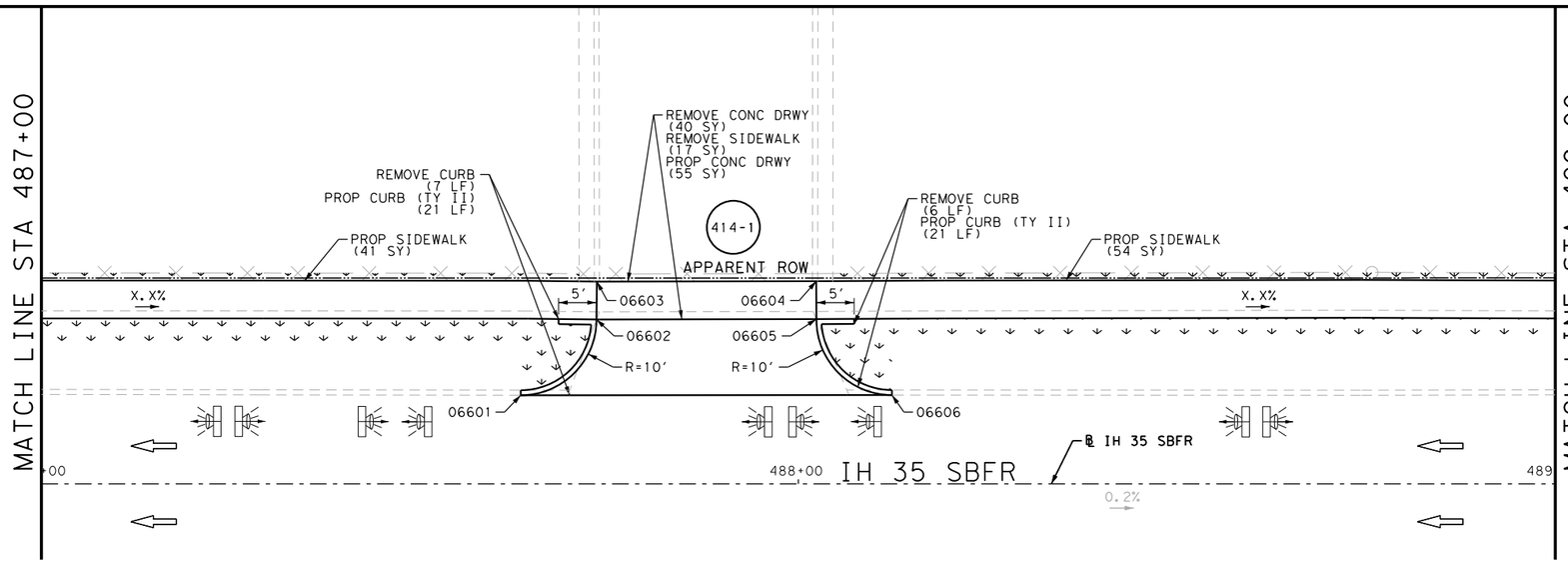
# SIDEWALK CONSTRUCTION PLAN
STA 483+00 TO STA 487+00

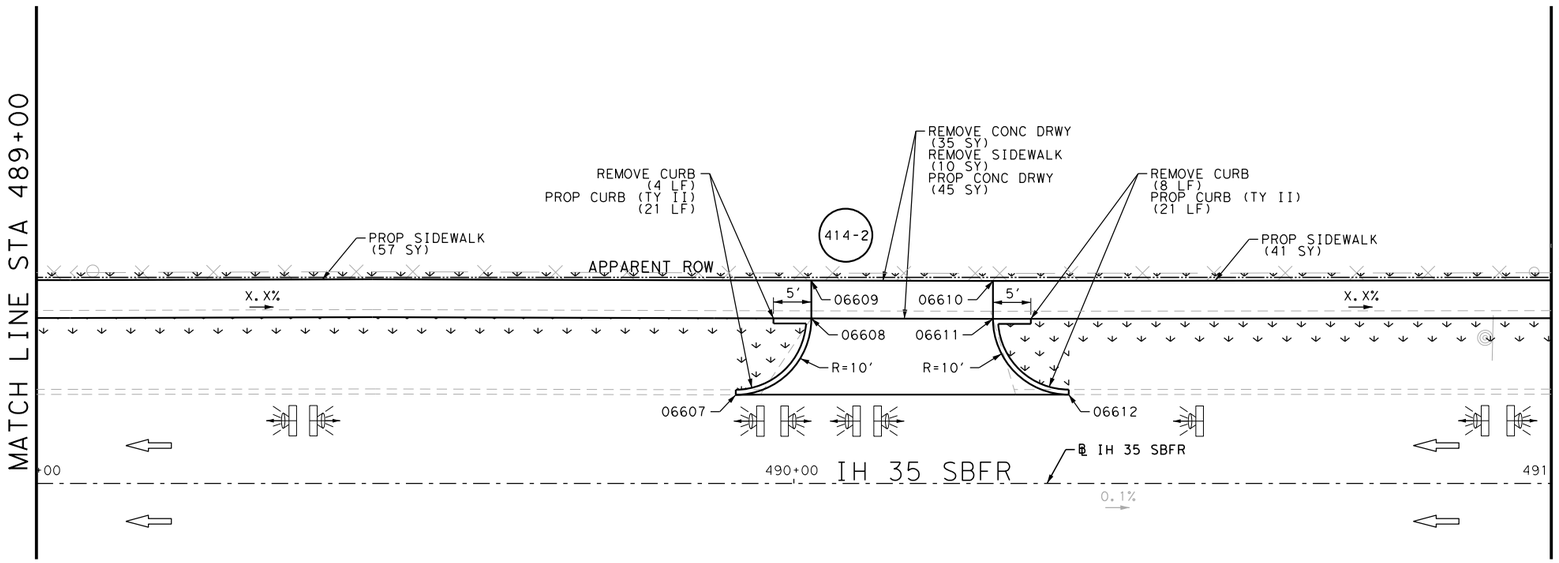
SHEET 9 OF 25

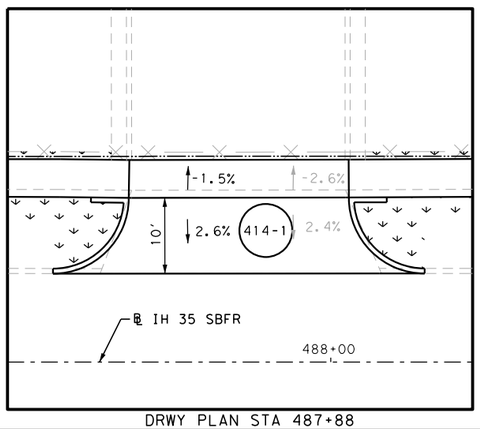
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 413 |

Plotted on: 4/1/2019

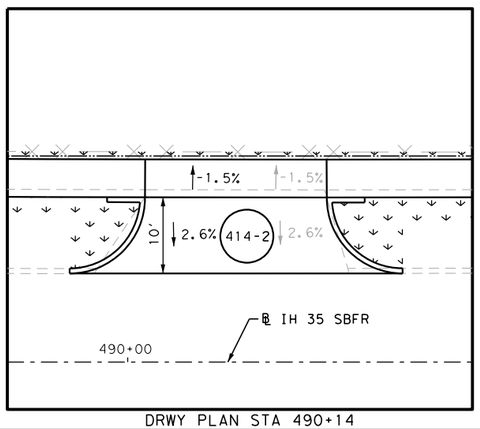
Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\111508_IH35AccessRd_SB09.dgn




DRWY PLAN STA 487+88




DRWY PLAN STA 490+14

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 75 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 25 |
| 0162-6002 | BLOCK SODDING | SY | 132 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.06 |
| 0529-6002 | CONC CURB (TY II) | LF | 84 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 98 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 193 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

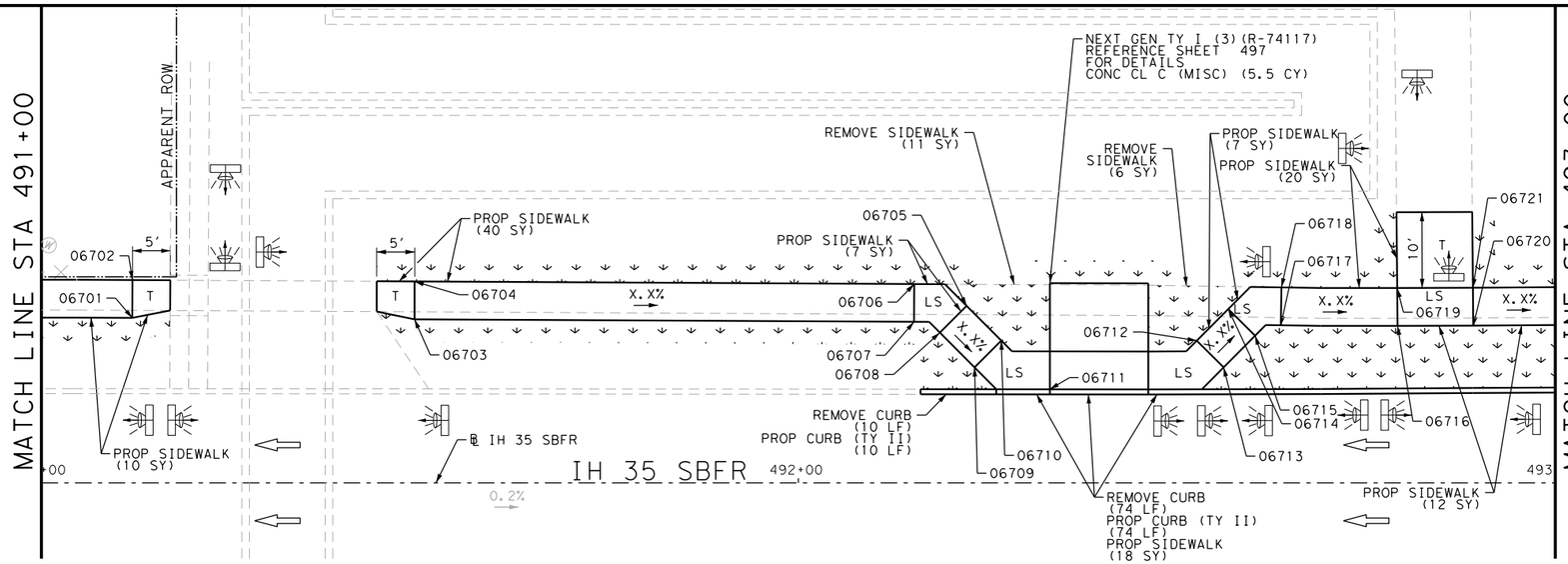
STA 487+00 TO STA 491+00

SHEET 10 OF 25

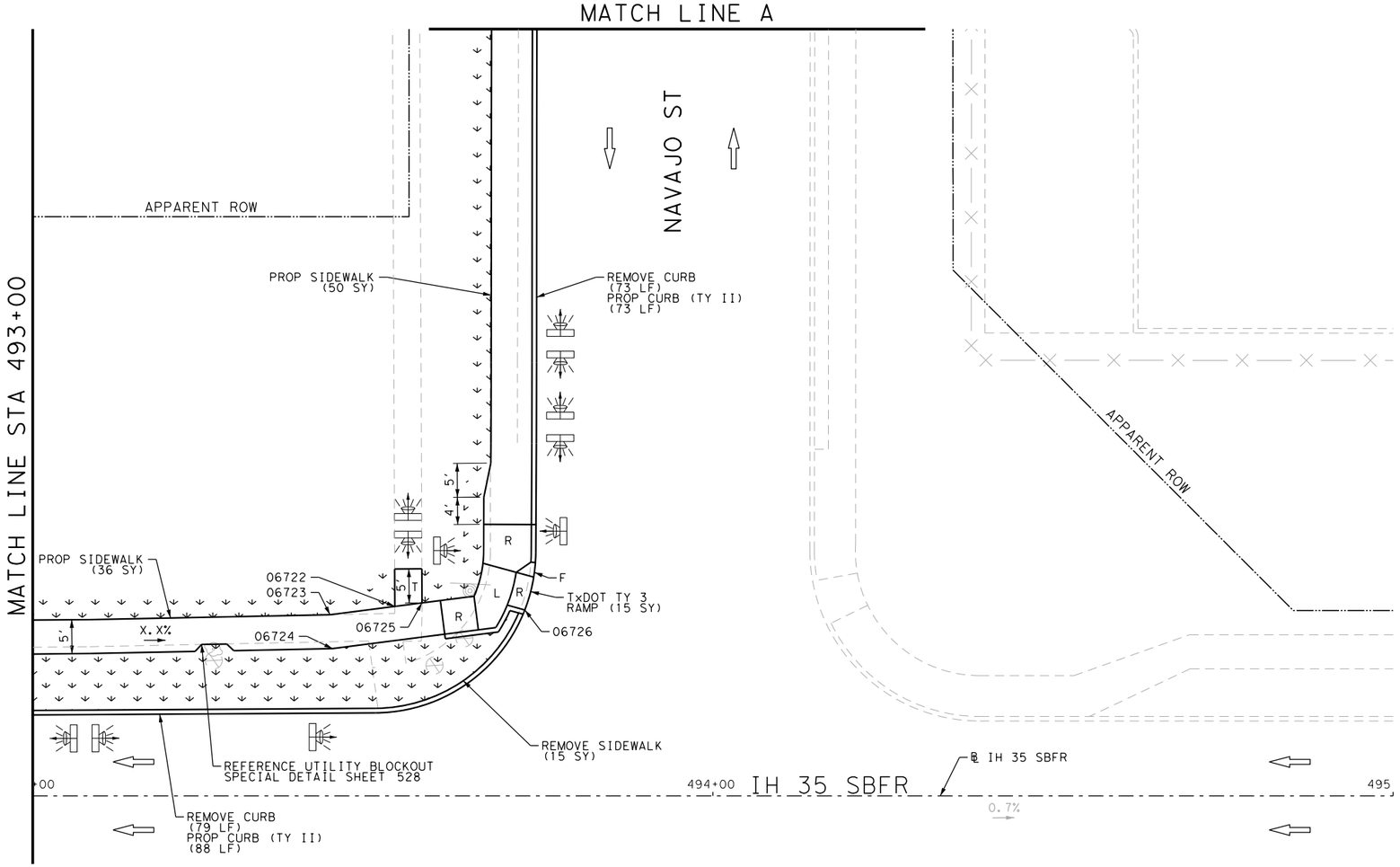
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 414 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\1113508_IH35AccessRd_SB10.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 249 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 26 |
| 0162-6002 | BLOCK SODDING | SY | 258 |
| 0168-6001 | VEGETATIVE WATERING | MG | 4.02 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0529-6002 | CONC CURB (TY II) | LF | 256 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 193 |
| 0531-6020 | CURB RAMPS (TY 3) | SY | 15 |




NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

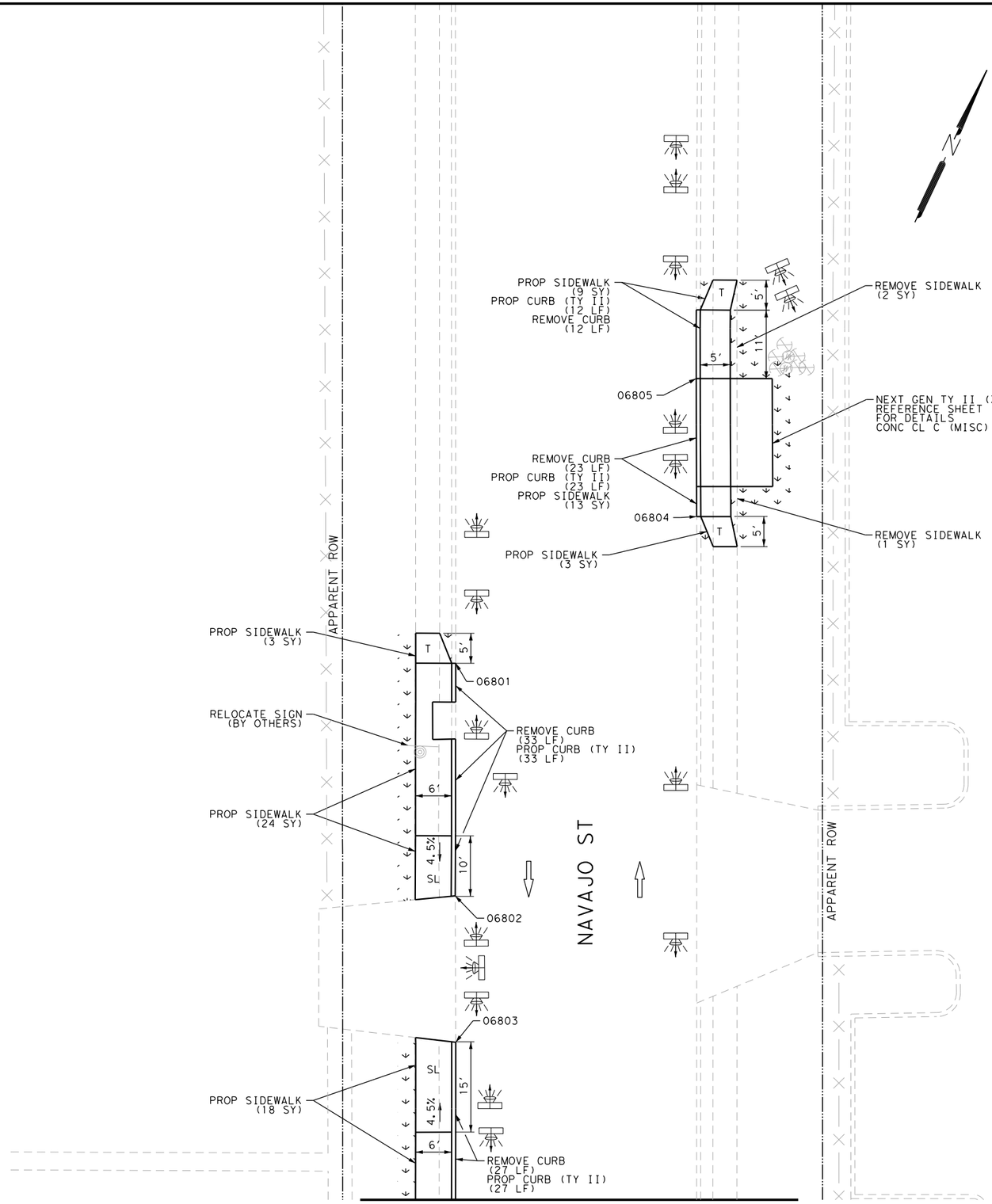
STA 491+00 TO STA 495+00

SHEET 11 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 415 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\111508_IH35AccessRd_SB11.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 95 |
| 0162-6002 | BLOCK SODDING | SY | 29 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.45 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 70 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 95 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

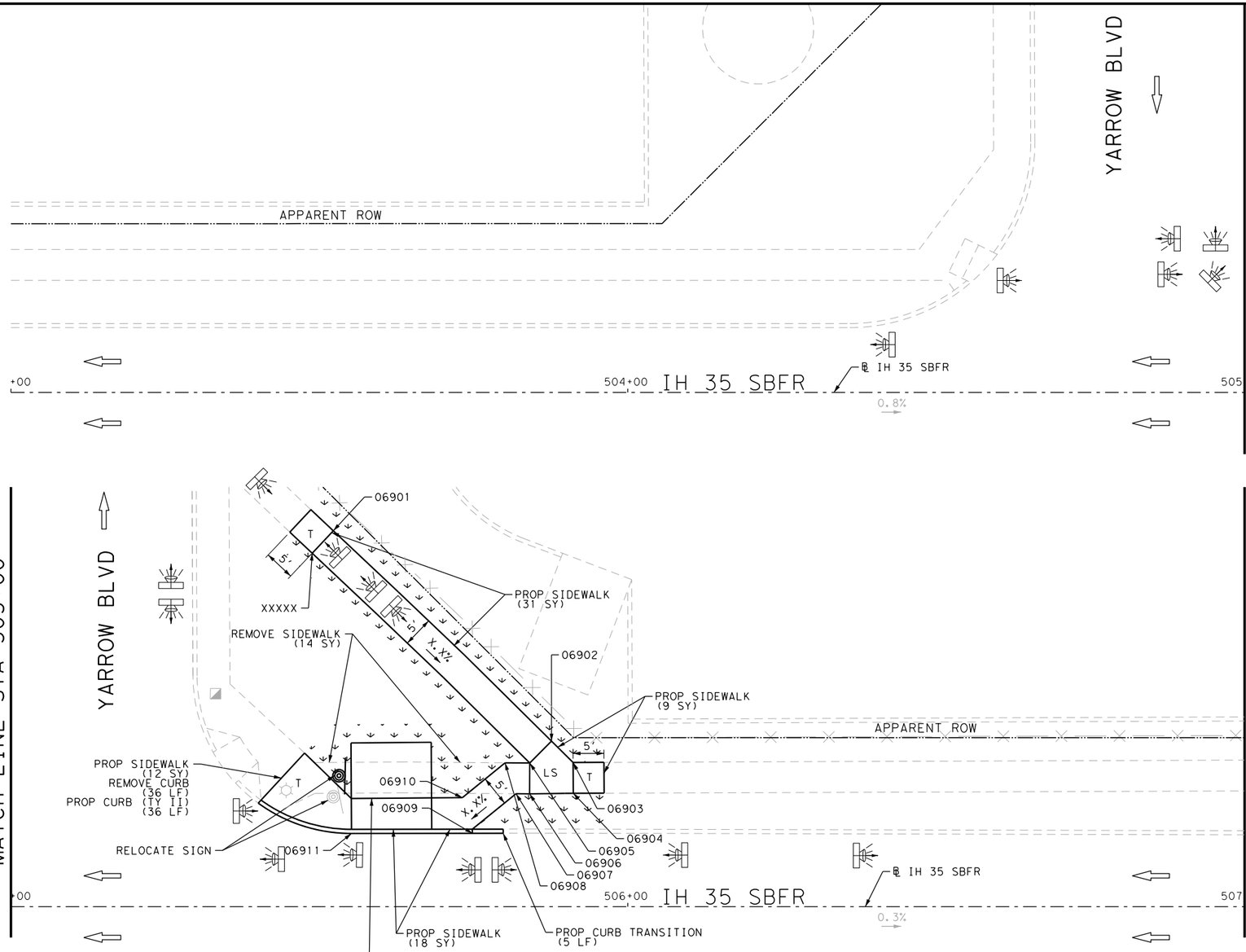


IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

SHEET 12 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 416 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 41 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 14 |
| 0162-6002 | BLOCK SODDING | SY | 137 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.14 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0529-6002 | CONC CURB (TY II) | LF | 41 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 70 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# IH 35 ACCESS RD

## SIDEWALK CONSTRUCTION PLAN

STA 503+00 TO STA 507+00

SHEET 13 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 417 |

Plotted on: 4/1/2019

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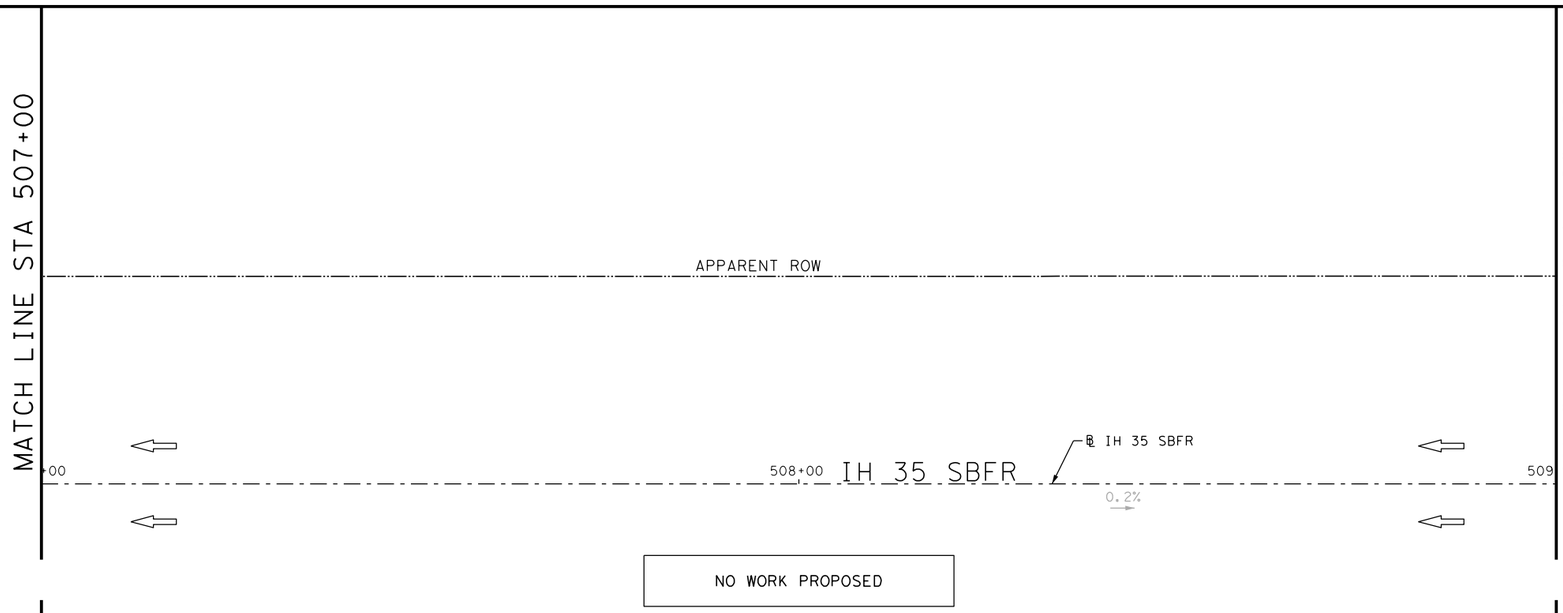


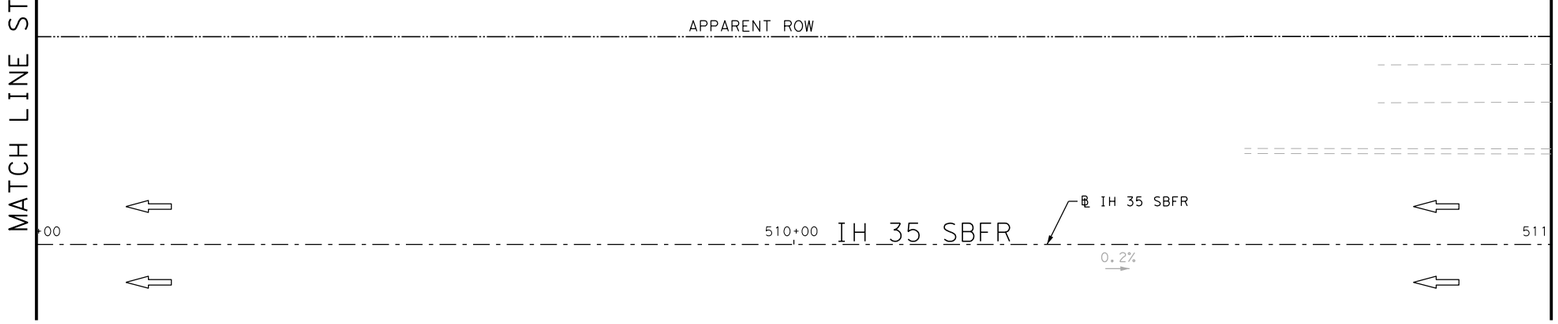


| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

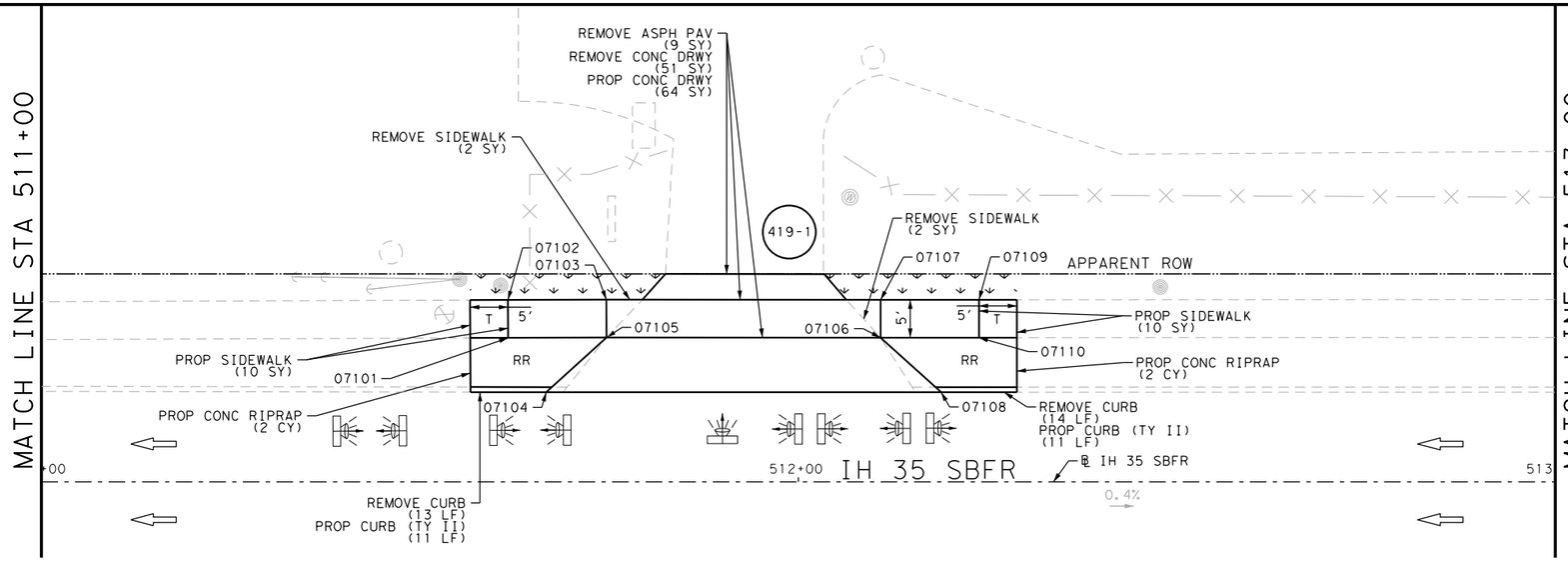
STA 507+00 TO STA 511+00

SHEET 14 OF 25

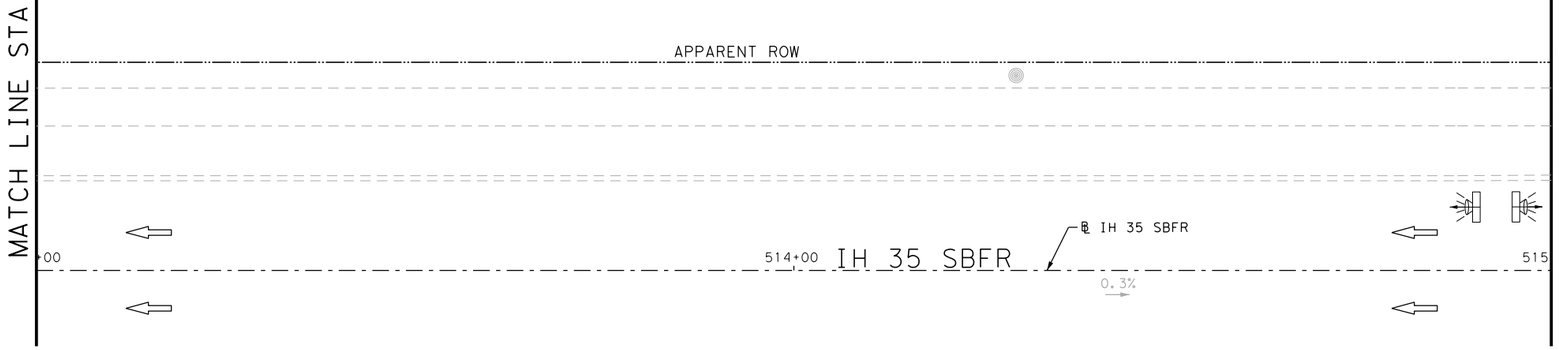
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 418 |

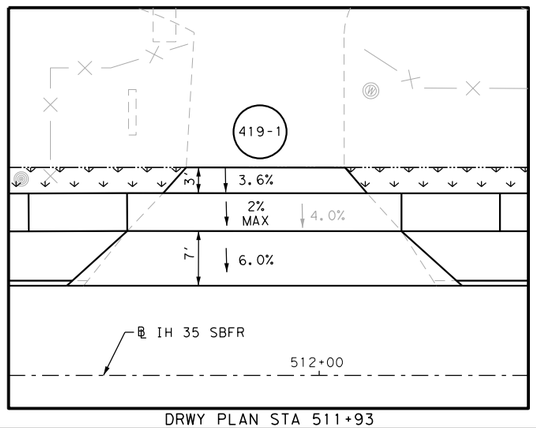
Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\1113508_IH35AccessRd_SB13.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 51 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 27 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 4 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 4 |
| 0529-6002 | CONC CURB (TY II) | LF | 22 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 64 |




DRWY PLAN STA 511+93

NOTES:
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DESIGN

INTERIM REVIEW
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

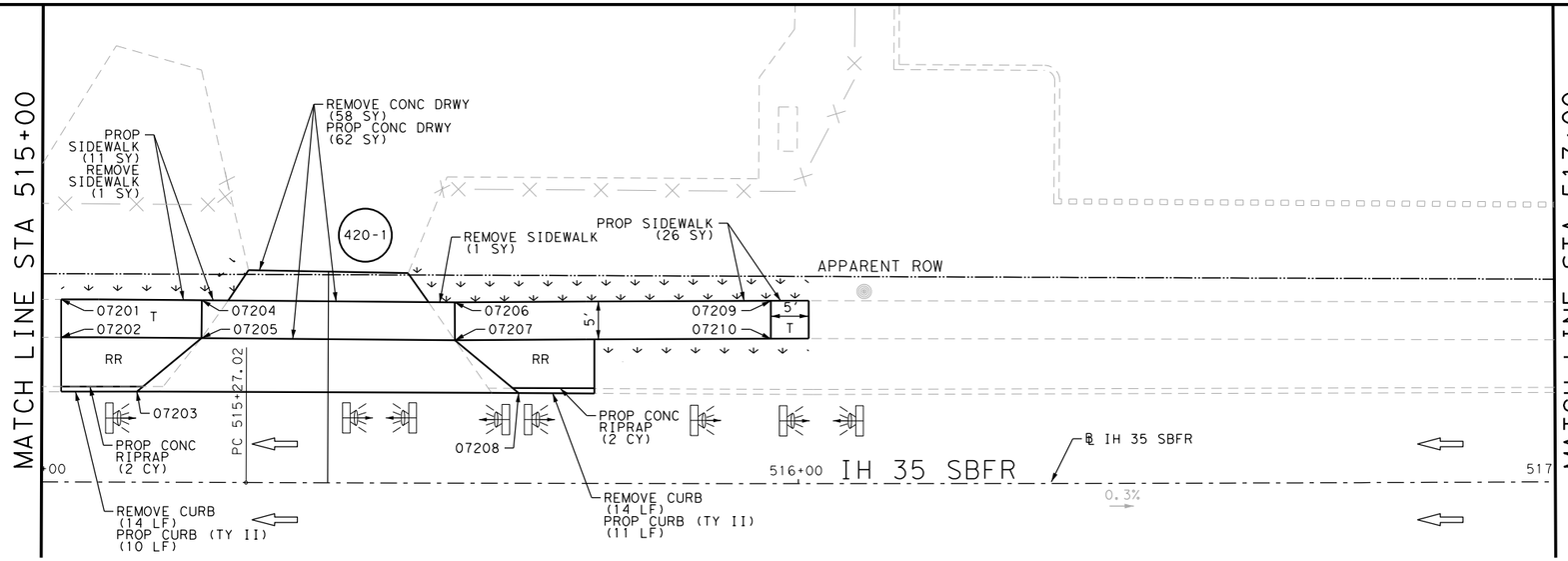
# SIDEWALK CONSTRUCTION PLAN
STA 511+00 TO STA 515+00

SHEET 15 OF 25

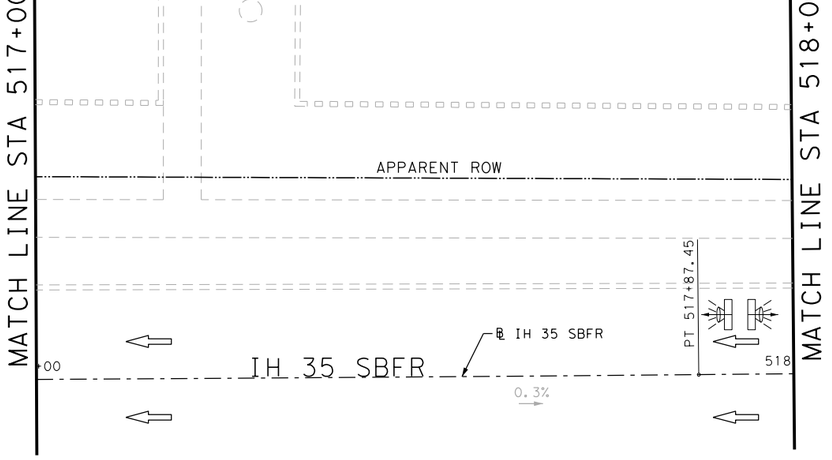
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 419 |

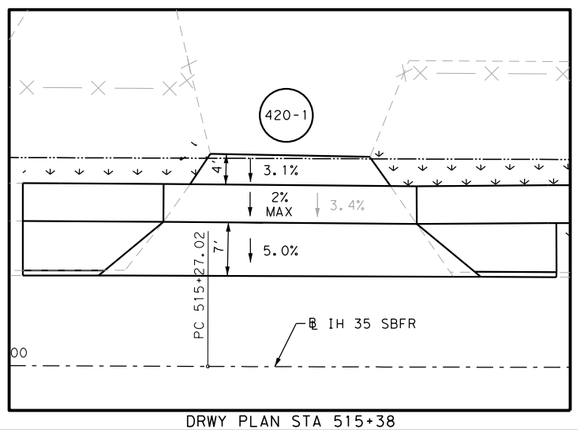
Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\1113508_IH35AccessRd_SB14.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 47 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 28 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 2 |
| 0162-6002 | BLOCK SODDING | SY | 37 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.58 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 4 |
| 0529-6002 | CONC CURB (TY II) | LF | 21 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 62 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 37 |




DRWY PLAN STA 515+38

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN
STA 515+00 TO STA 518+00

SHEET 16 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 420 |

Plotted on: 4/1/2019
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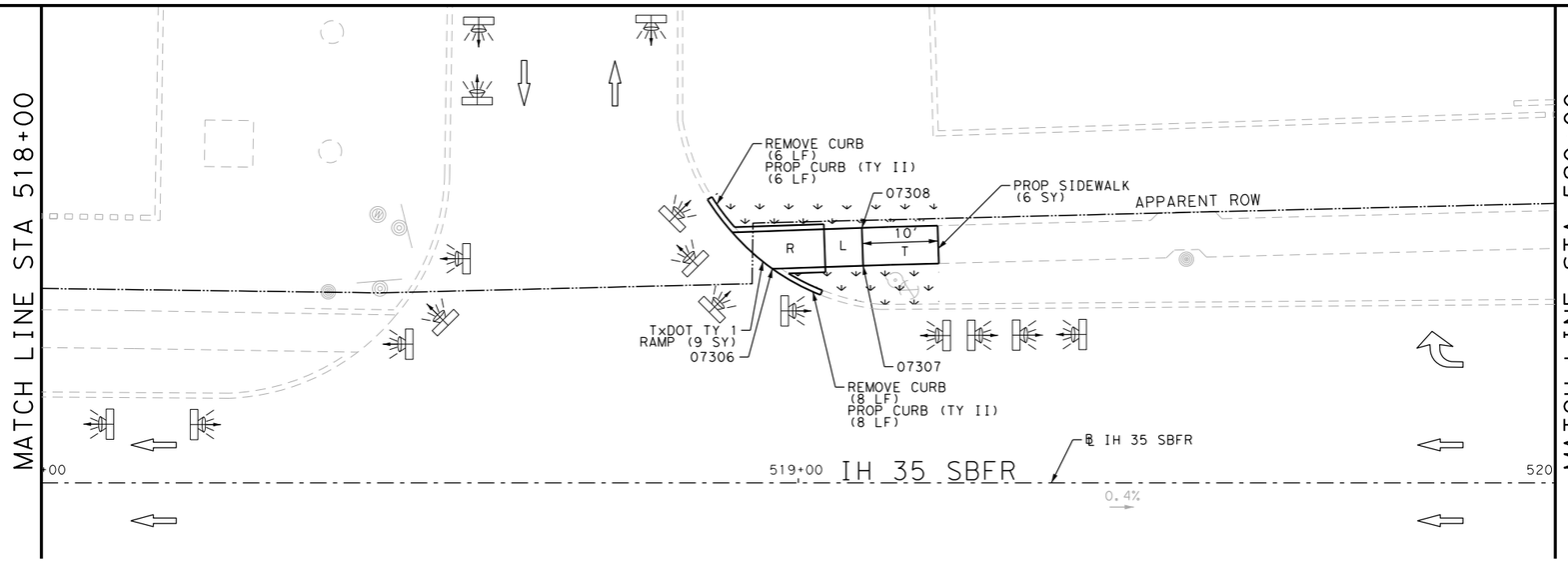


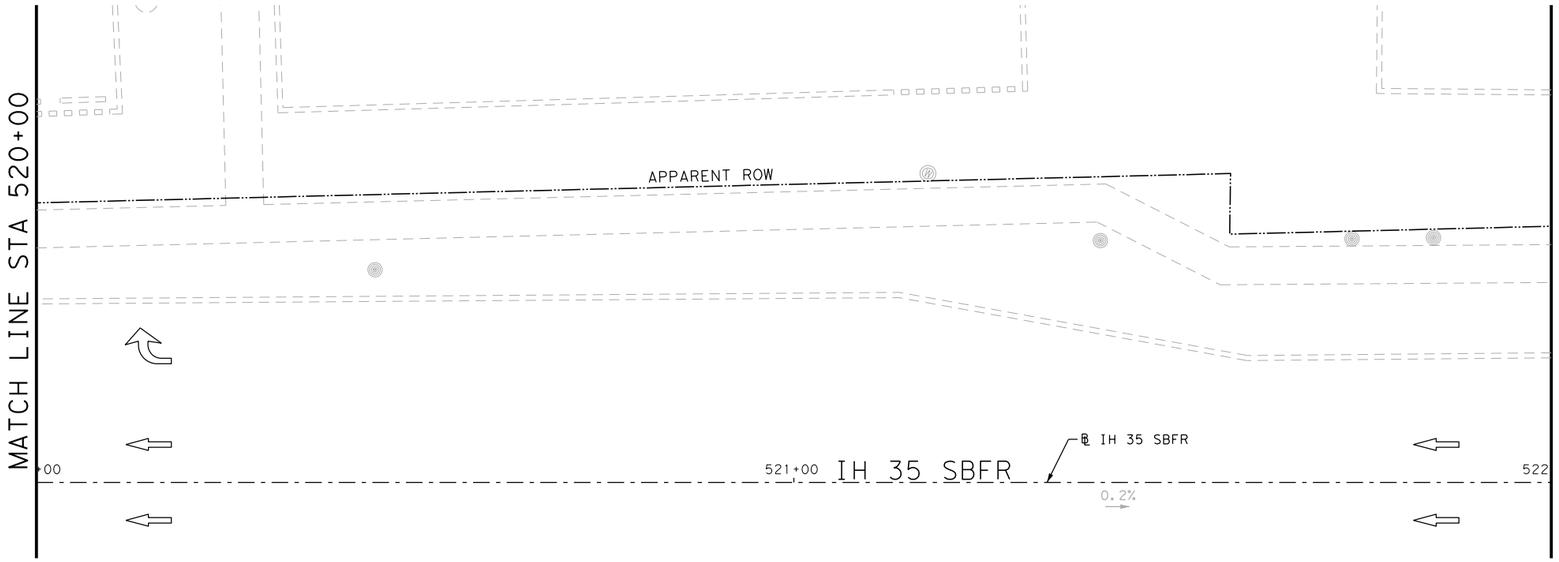


| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 25 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 1 |
| 0162-6002 | BLOCK SODDING | SY | 31 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.48 |
| 0529-6002 | CONC CURB (TY II) | LF | 25 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 15 |
| 0531-6018 | CURB RAMPS (TY 1) | SY | 9 |
| 0531-6023 | CURB RAMPS (TY 6) | SY | 6 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

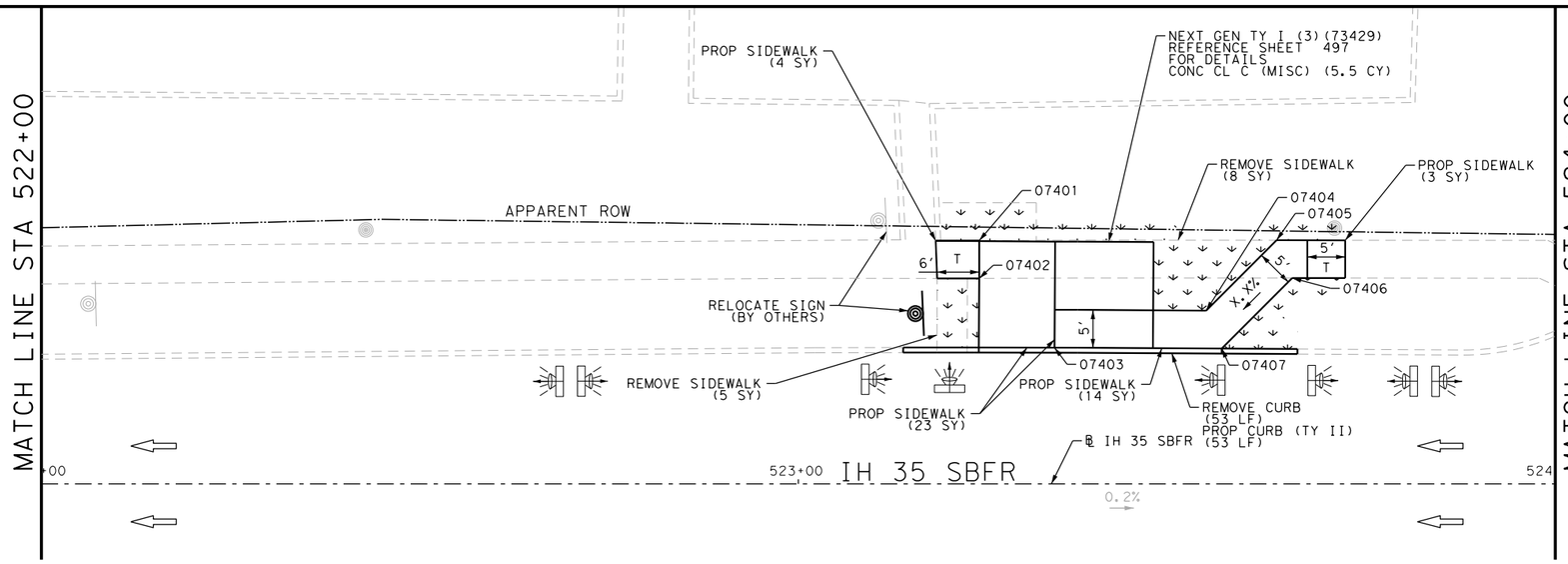
STA 518+00 TO STA 522+00

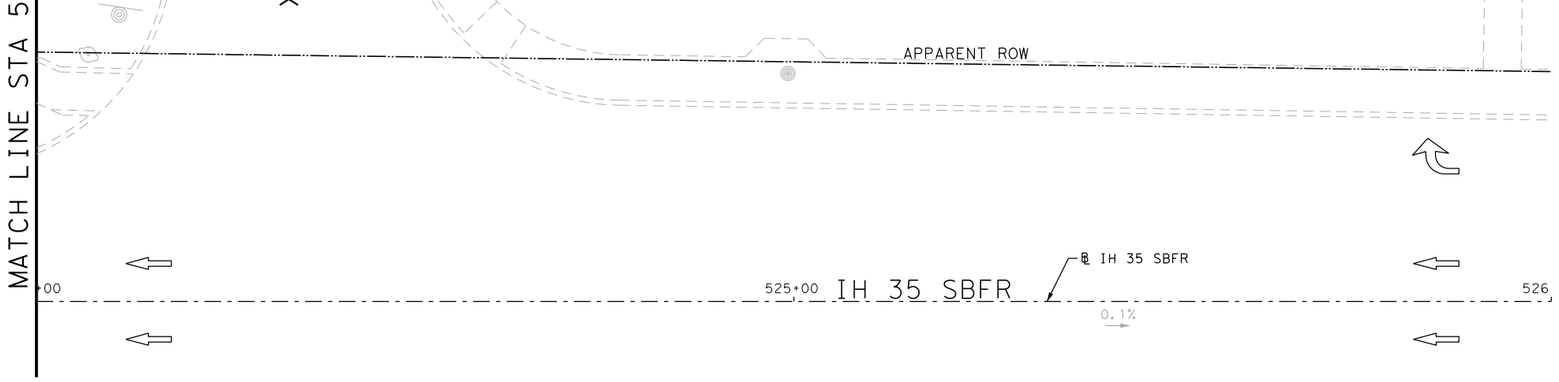
SHEET 17 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 421 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\111508_IH35AccessRd_SB16.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 53 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 13 |
| 0420-6074 | CL C CONC (MISC) | CY | 6.0 |
| 0529-6002 | CONC CURB (TY II) | LF | 53 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 43 |
| 0644-6070 | RELOCATE SM RD SN SUP&AM TY S80 | EA | 1 |

NOTES:
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1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

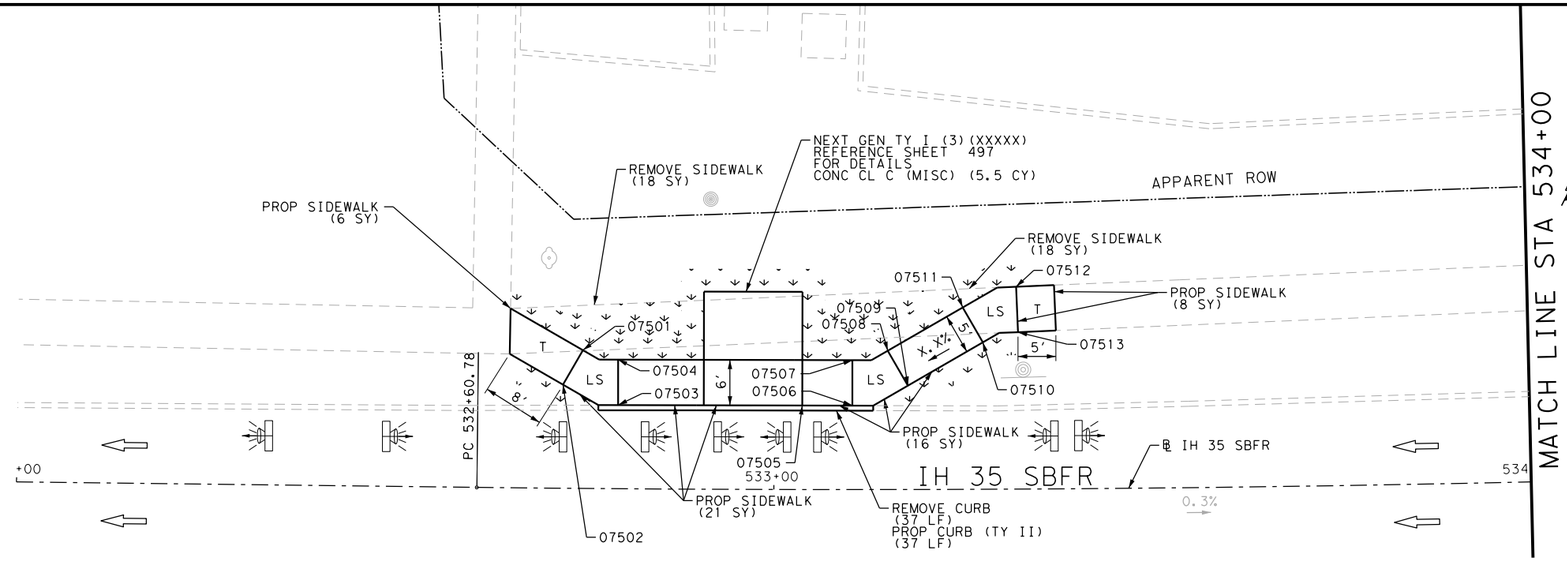
STA 522+00 TO STA 526+00

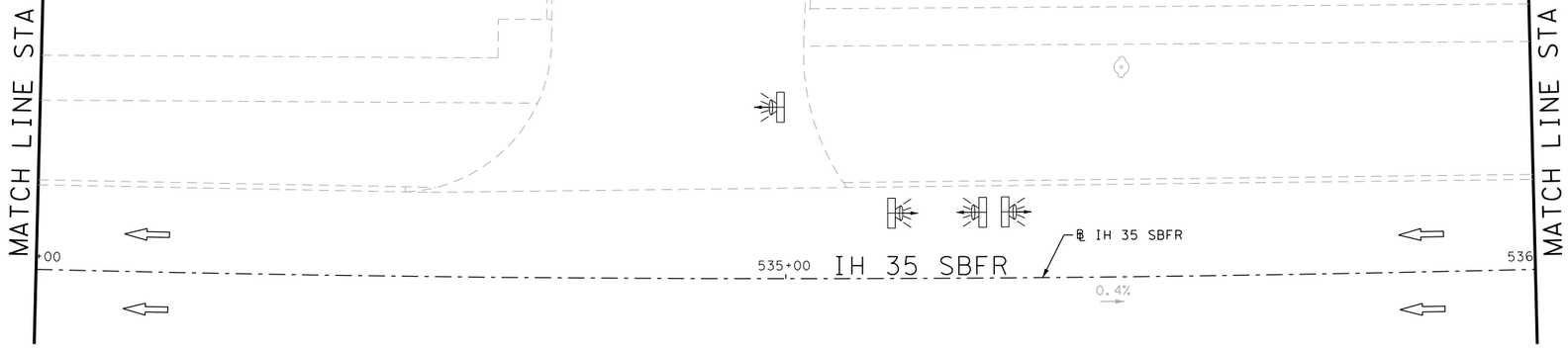
SHEET 18 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 422 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\1113508_IH35AccessRd_SB17.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 37 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 28 |
| 0162-6002 | BLOCK SODDING | SY | 69 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.08 |
| 0529-6002 | CONC CURB (TY II) | LF | 37 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 49 |

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

STA 532+00 TO STA 536+00

SHEET 19 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 423 |

Plotted on: 4/1/2019

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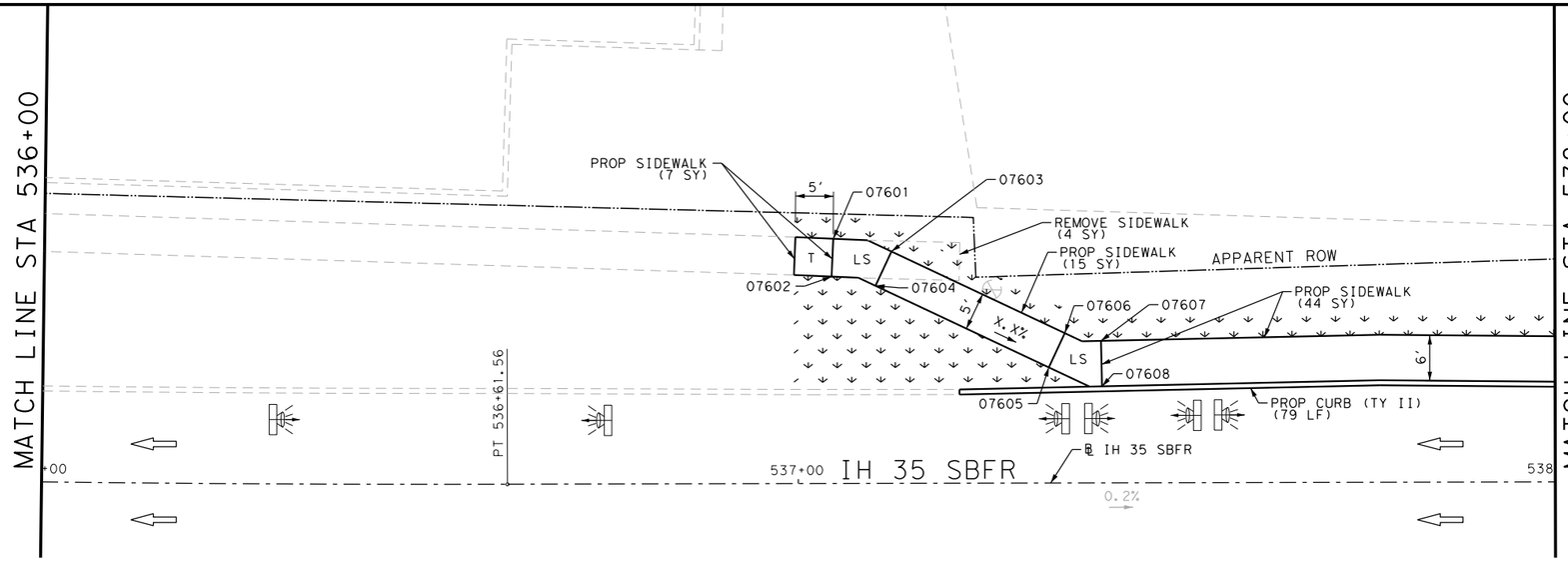
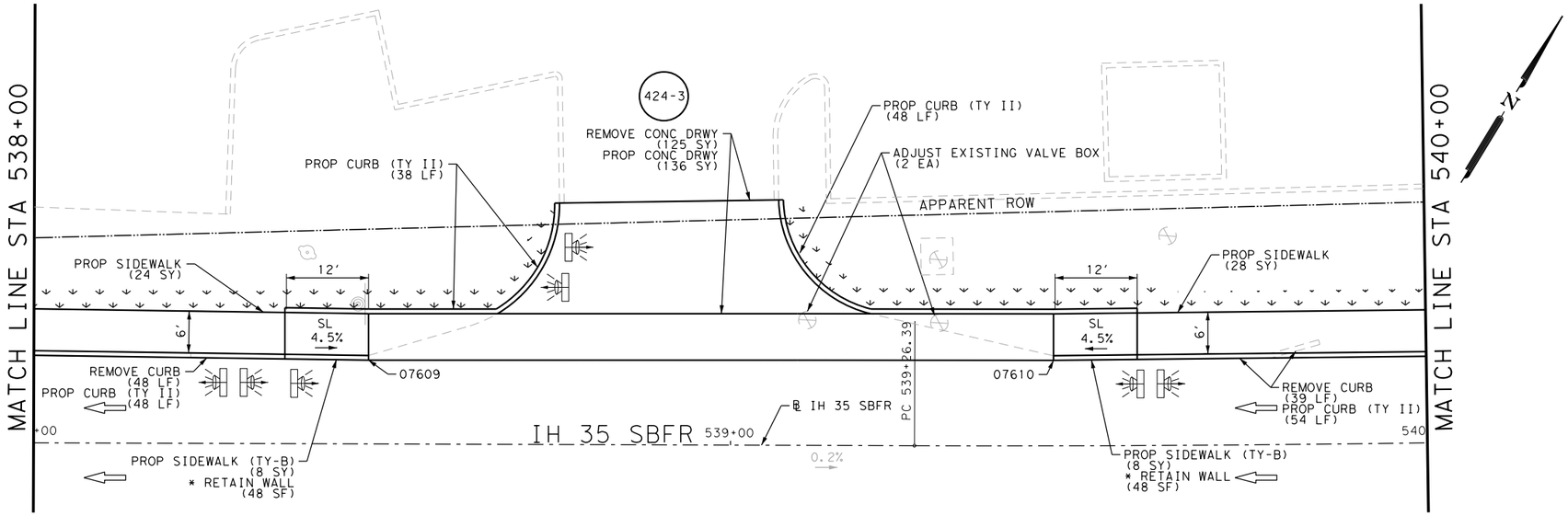
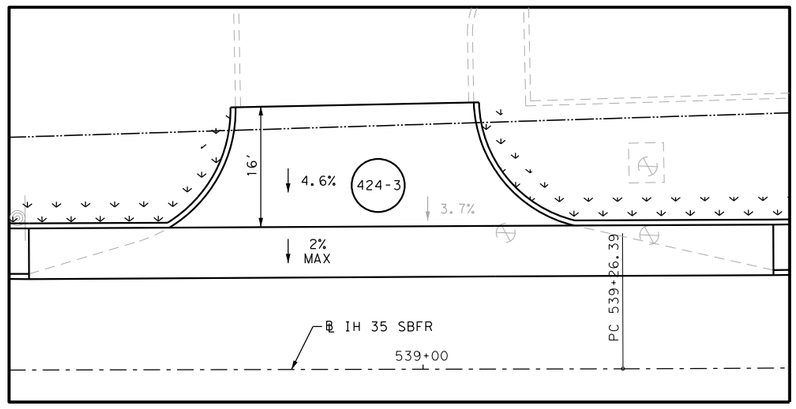



| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 125 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 87 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 4 |
| 0162-6002 | BLOCK SODDING | SY | 137 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.14 |
| 0529-6002 | CONC CURB (TY II) | LF | 268 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 140 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 118 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 16 |
| 7091-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |




DRWY PLAN STA 538+91

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

STA 536+00 TO STA 540+00

SHEET 20 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 424 |

Plotted on: 4/1/2019

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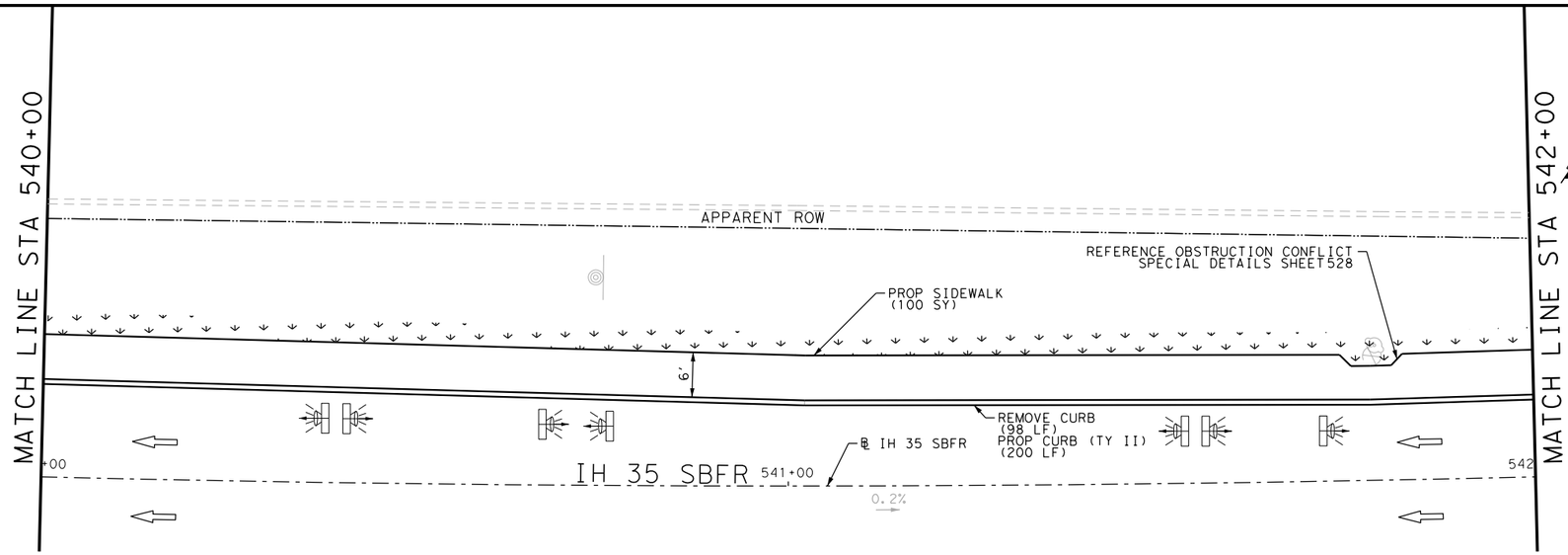


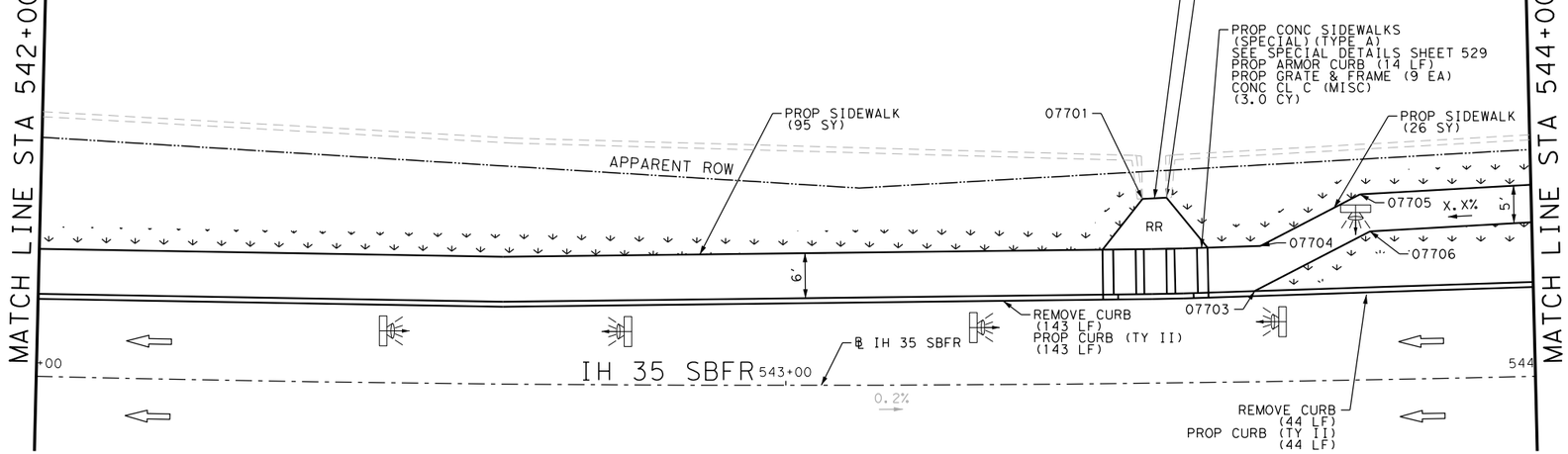


| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 285 |
| 0162-6002 | BLOCK SODDING | SY | 148 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.31 |
| 0420-6074 | CL C CONC (MISC) | CY | 3.0 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 2 |
| 0471-6003 | GRATE & FRAME | EA | 9 |
| 0529-6002 | CONC CURB (TY II) | LF | 387 |
| 0529-6020 | CONC CURB & GUTTER (ARMOR CURB) | LF | 14 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 221 |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

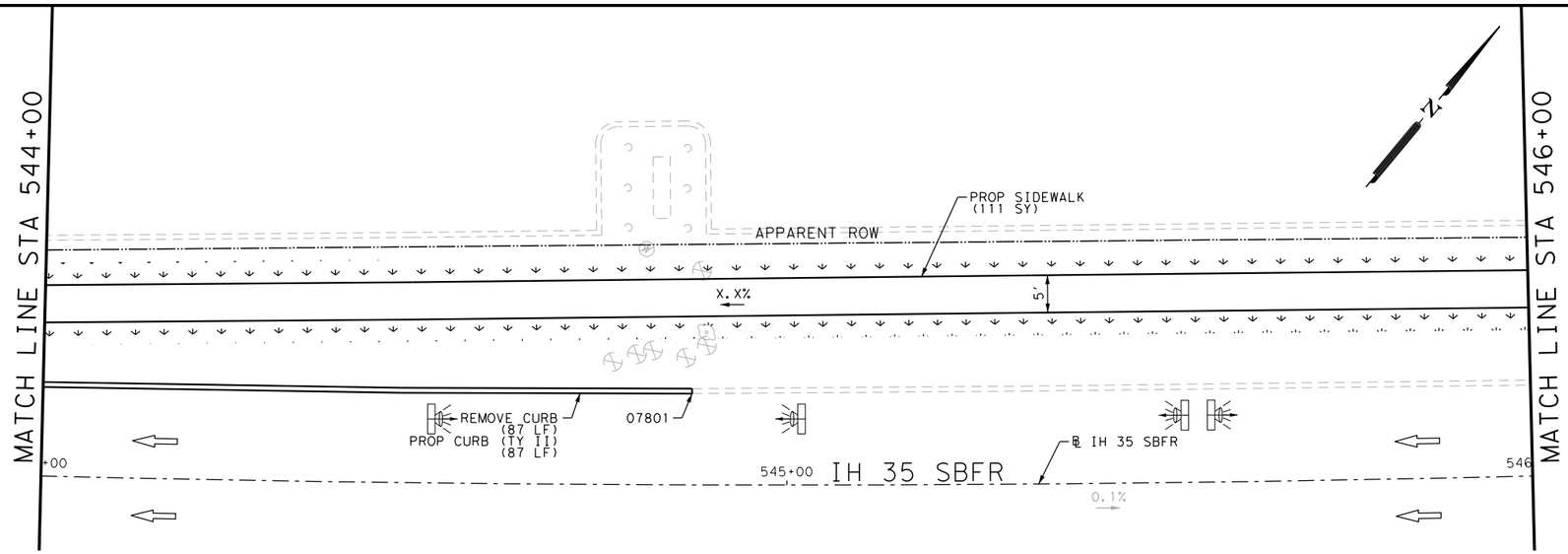


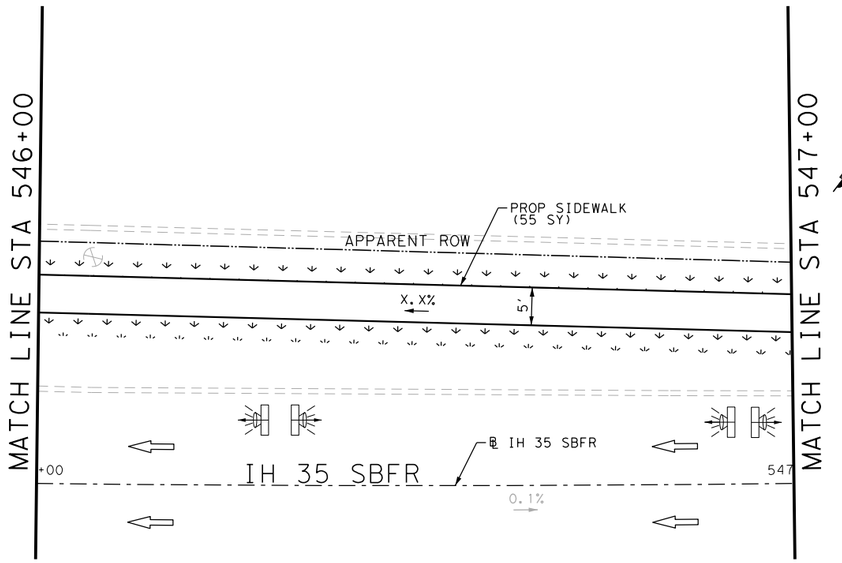
IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN
STA 540+00 TO STA 544+00

SHEET 21 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 425 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 87 |
| 0162-6002 | BLOCK SODDING | SY | 202 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.15 |
| 0529-6002 | CONC CURB (TY II) | LF | 87 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 167 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# IH 35 ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

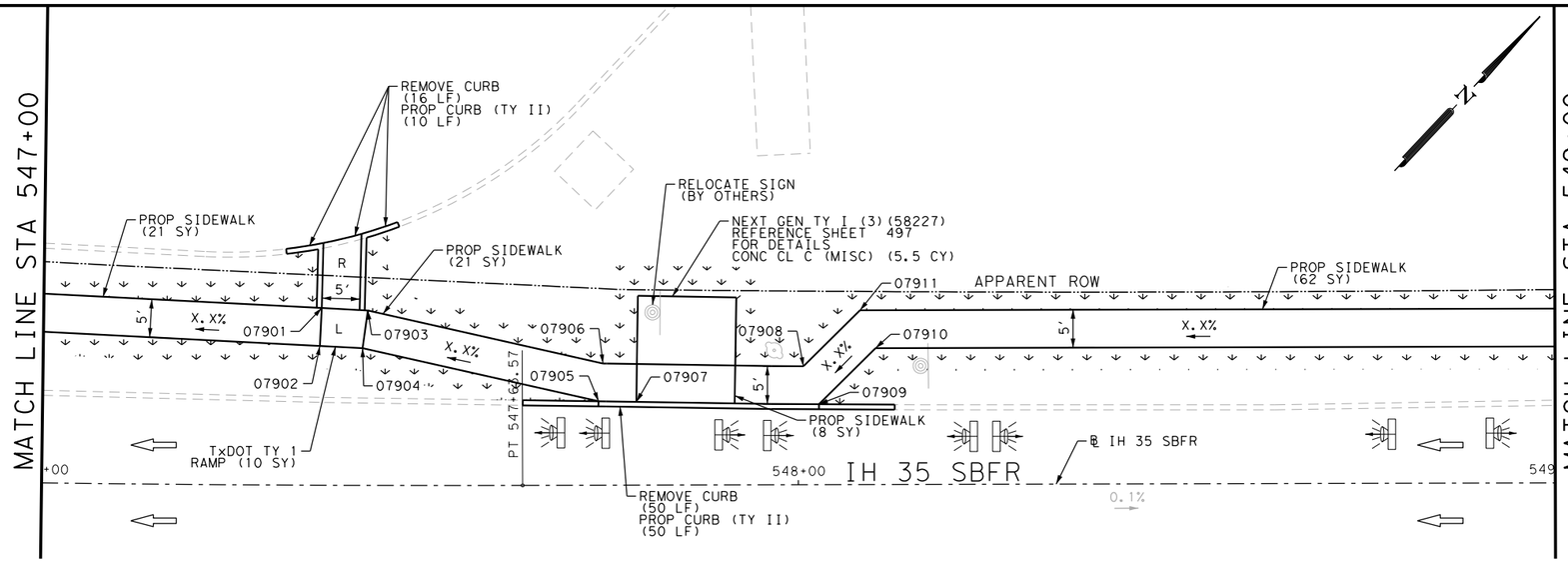
STA 544+00 TO STA 547+00

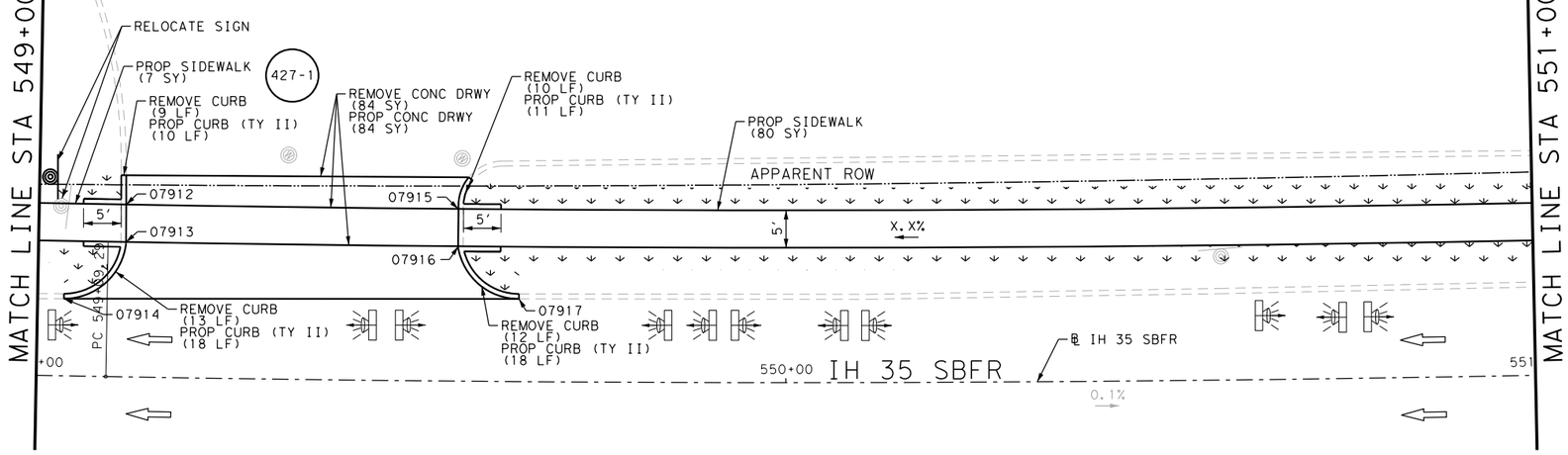
SHEET 22 OF 25

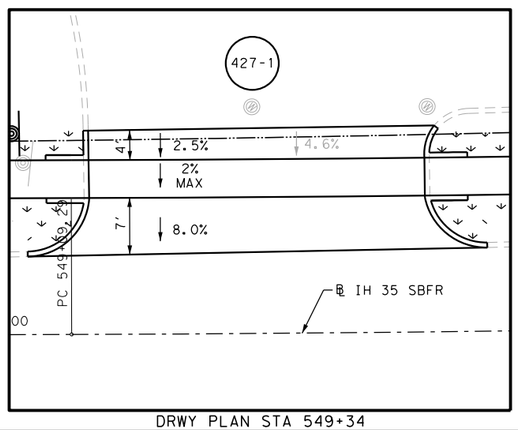
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 426 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\111508_IH35AccessRd_SB21.dgn




DRWY PLAN STA 549+34

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 84 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 110 |
| 0162-6002 | BLOCK SODDING | SY | 243 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.79 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0529-6002 | CONC CURB (TY II) | LF | 117 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 84 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 199 |
| 0531-6018 | CURB RAMPS (TY 1) | SY | 10 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN
STA 547+00 TO STA 551+00

SHEET 23 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 427 |

Plotted on: 4/1/2019
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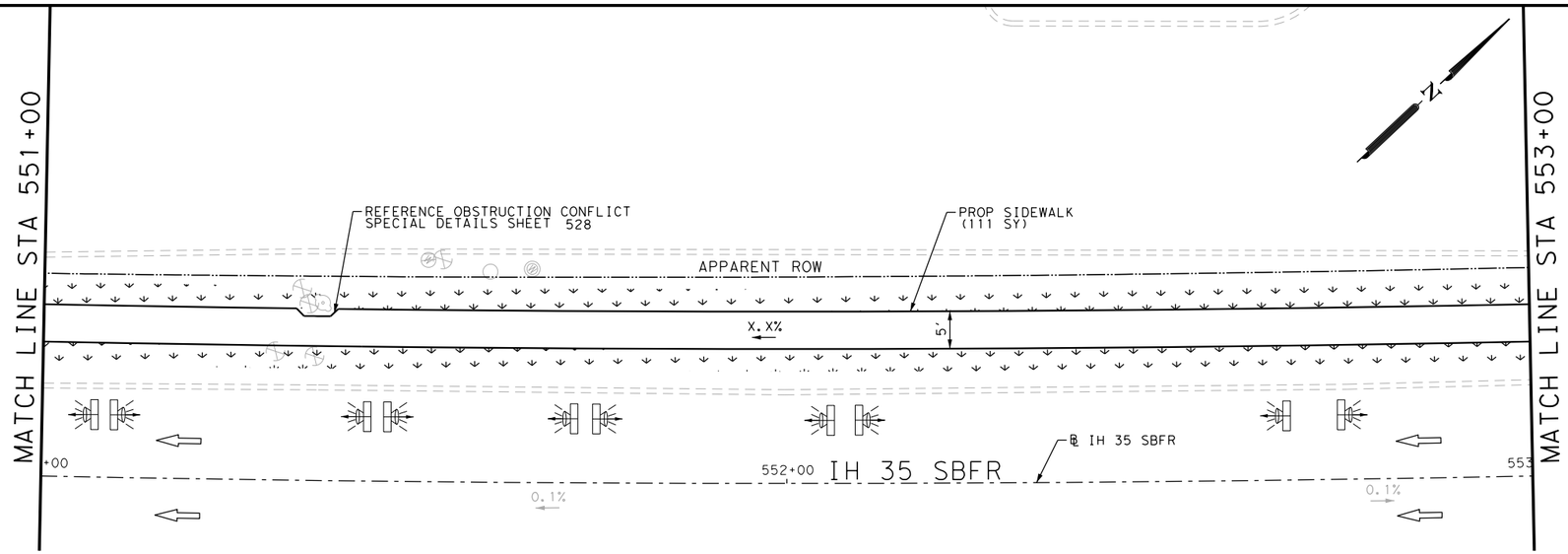


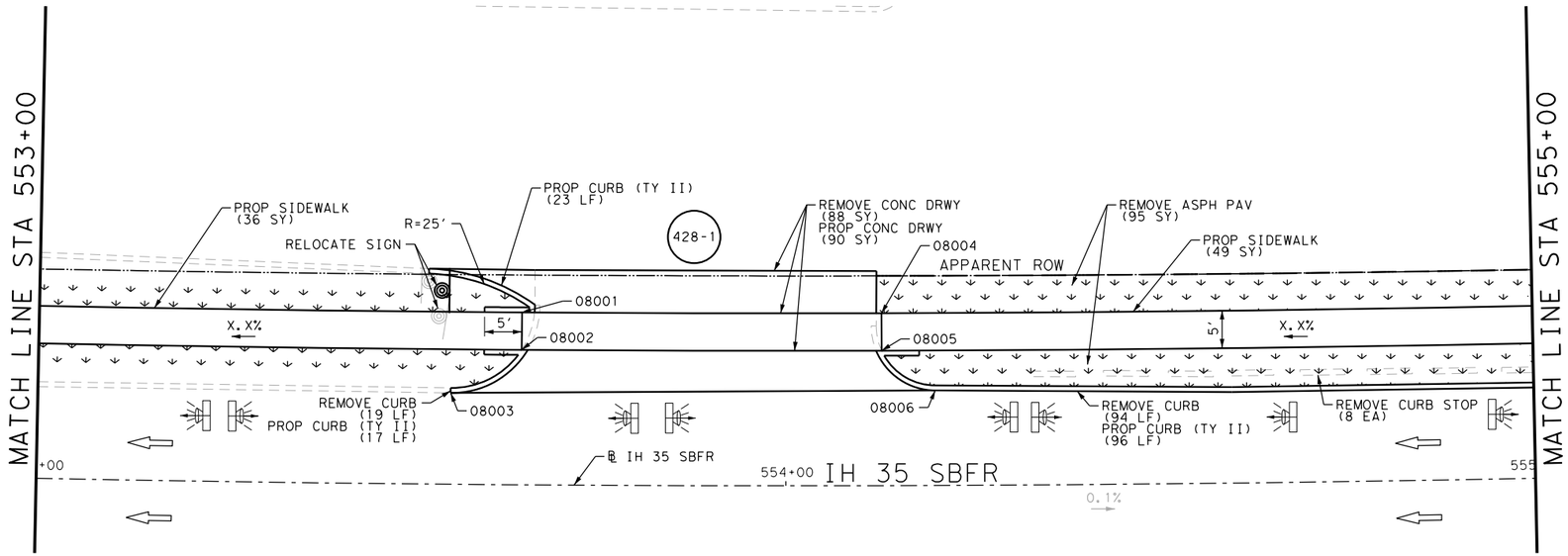


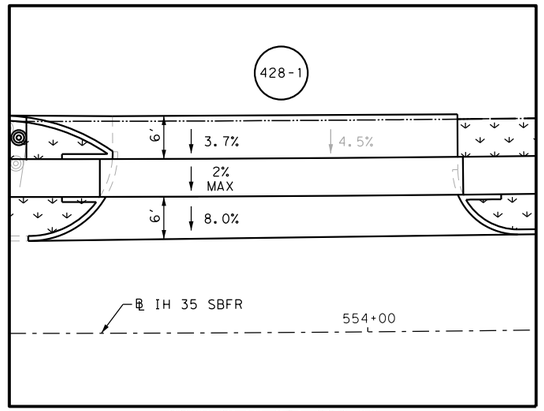


DRWY PLAN STA 553+89

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 88 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 113 |
| 0162-6002 | BLOCK SODDING | SY | 272 |
| 0168-6001 | VEGETATIVE WATERING | MG | 4.24 |
| 0496-6018 | REMOVE STR (CONC) | EA | 8 |
| 0529-6002 | CONC CURB (TY II) | LF | 138 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 90 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 196 |

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



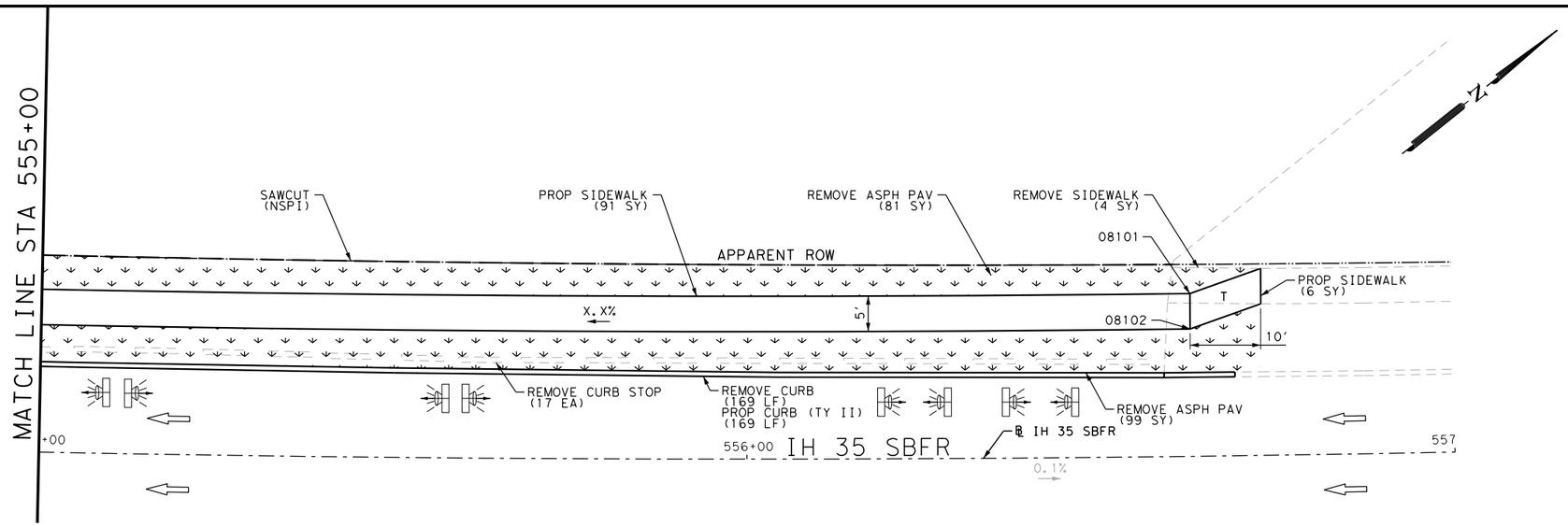
IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

STA 551+00 TO STA 555+00

SHEET 24 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 428 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 169 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 4 |
| 0162-6002 | BLOCK SODDING | SY | 194 |
| 0168-6001 | VEGETATIVE WATERING | MG | 3.03 |
| 0496-6018 | REMOVE STR (CONC) | EA | 17 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 97 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 169 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



IH 35
ACCESS RD

# SIDEWALK CONSTRUCTION PLAN

STA 555+00 TO STA 557+00

SHEET 25 OF 25

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 429 |

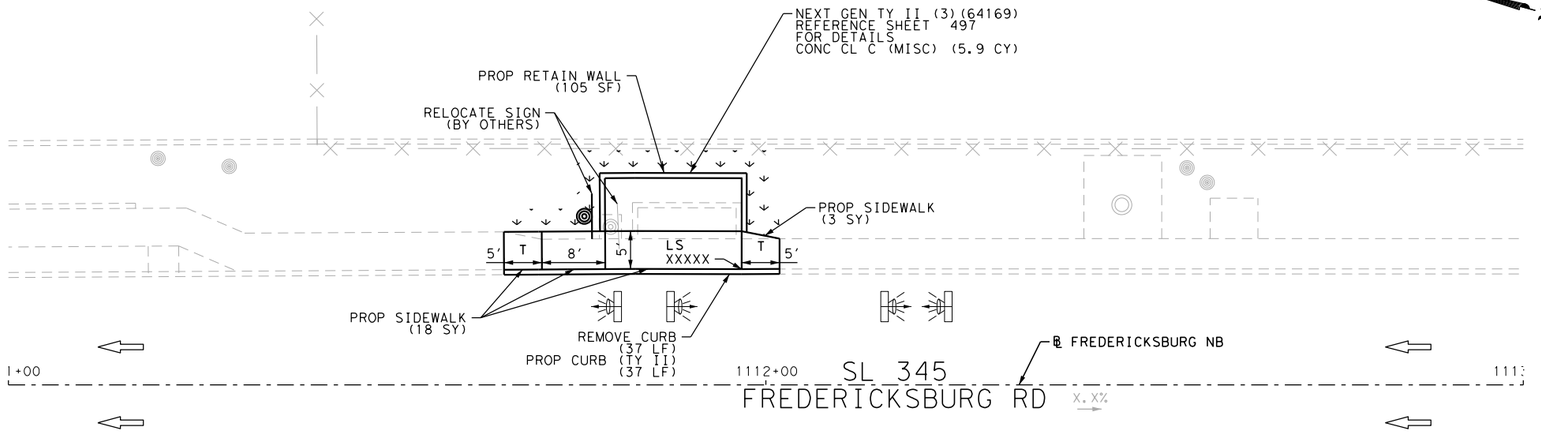
Plotted on: 4/1/2019

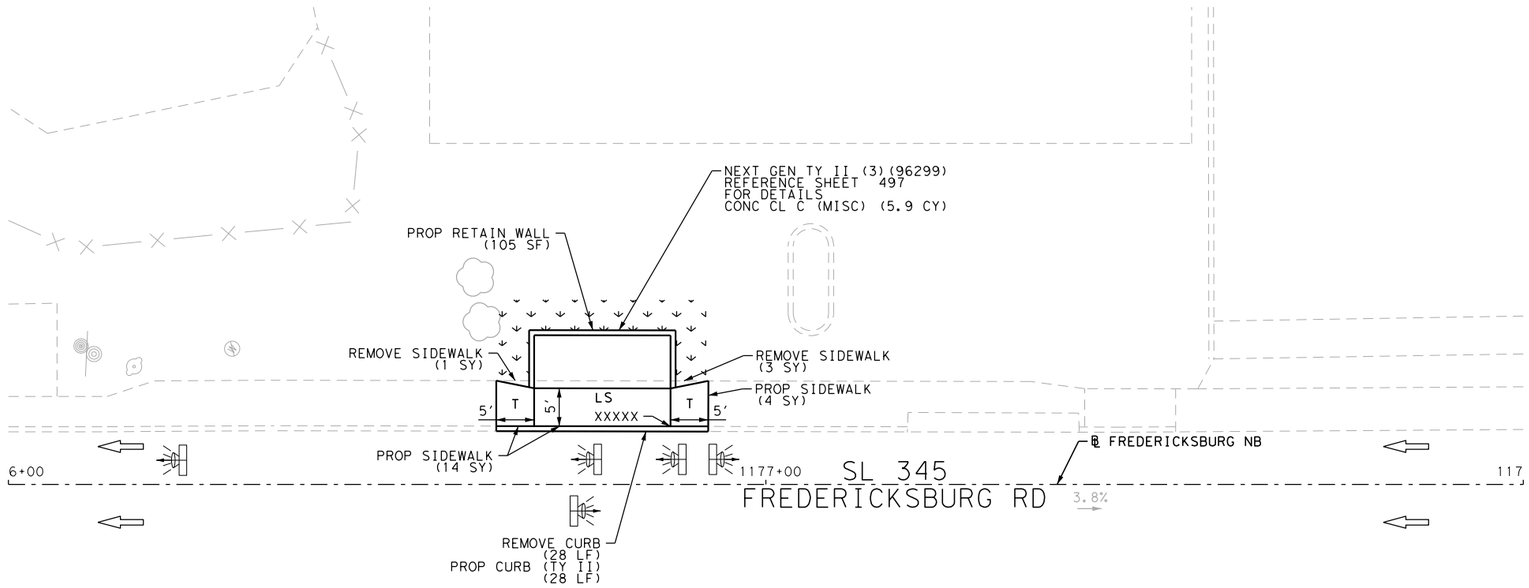
Design Filename: P:\111\35\08\Design\Civil\Roadway\IH 35 Access Rd\111508_IH35AccessRd_SB24.dgn

Plotted on: 4/2/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\FredericksburgRd_NB\1113508_FredericksburgRd_NB01.dgn

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 28 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 4 |
| 0162-6002 | BLOCK SODDING | SY | 19 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.30 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0529-6002 | CONC CURB (TY II) | LF | 28 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 18 |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




SL 345
FREDERICKSBURG RD

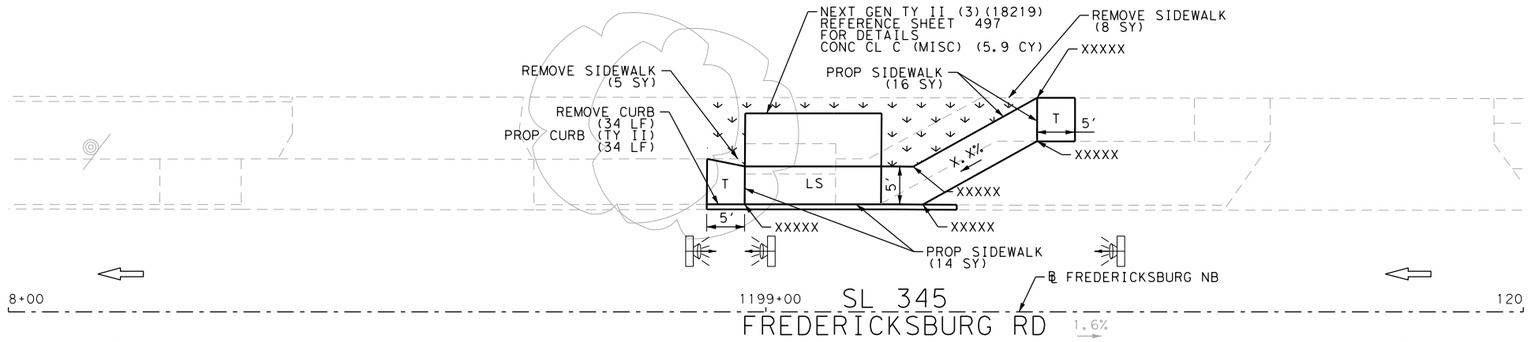
# SIDEWALK CONSTRUCTION PLAN

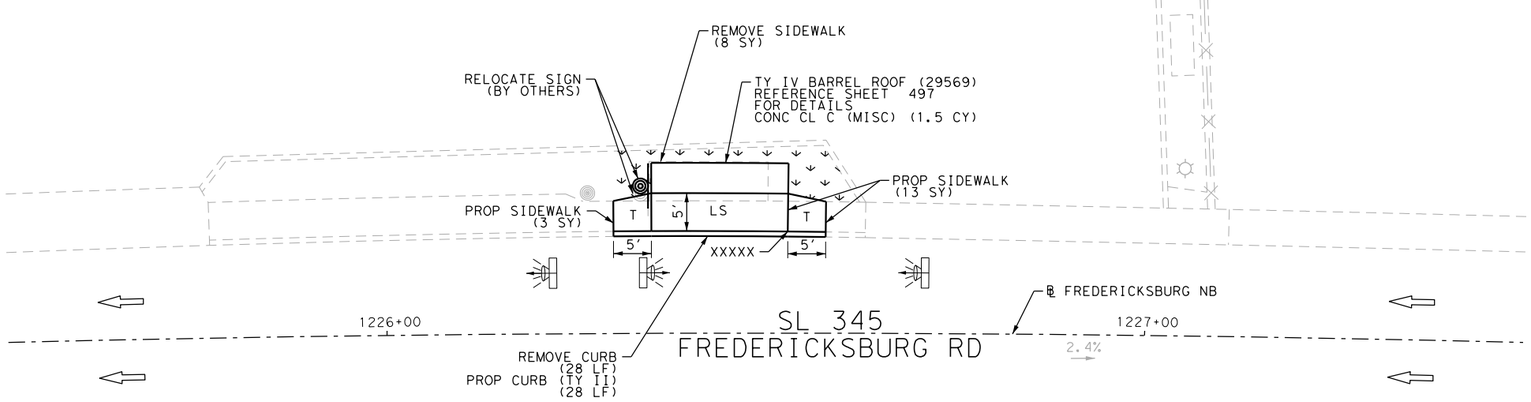
STA 1111+00 TO STA 1113+00
STA 1175+00 TO STA 1177+00

SHEET 1 OF 11

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 454 |

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 62 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 17 |
| 0162-6002 | BLOCK SODDING | SY | 18 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.28 |
| 0420-6074 | CL C CONC (MISC) | CY | 8.0 |
| 0529-6002 | CONC CURB (TY II) | LF | 62 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 47 |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN
STA 1198+00 TO STA 1200+00
STA 1225+50 TO STA 1227+50



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 455 |


Plotted on: 4/1/2019
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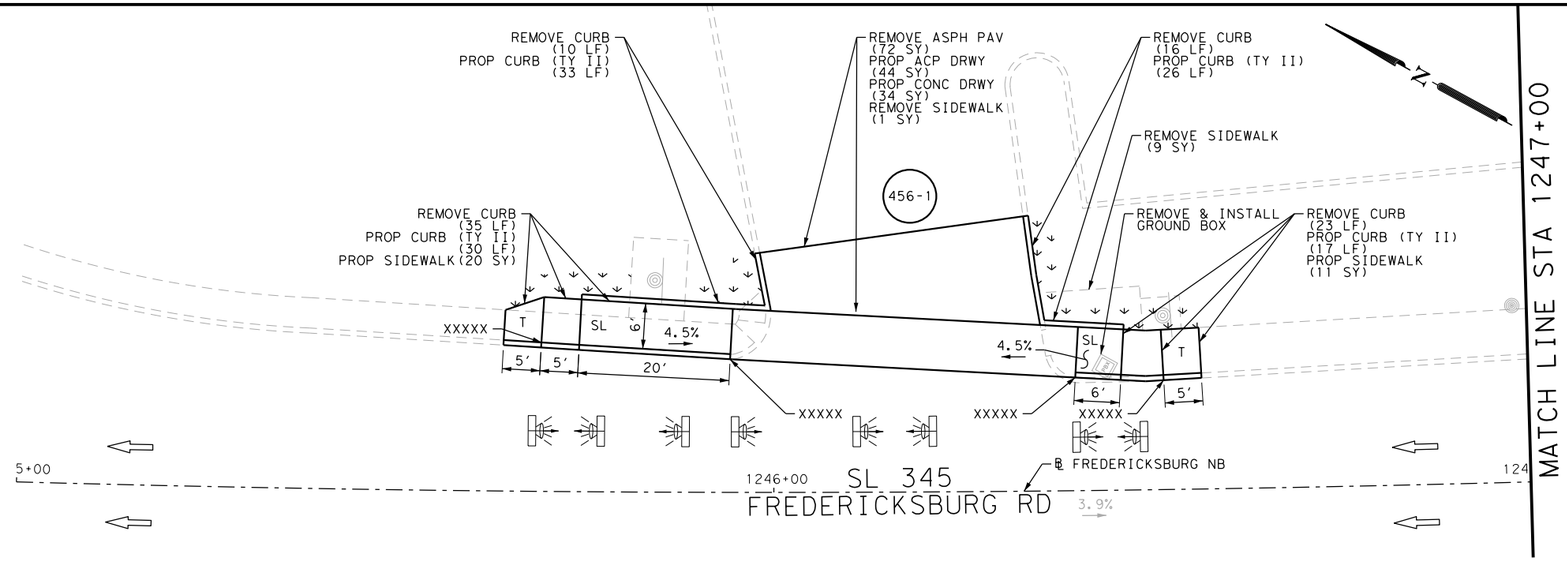


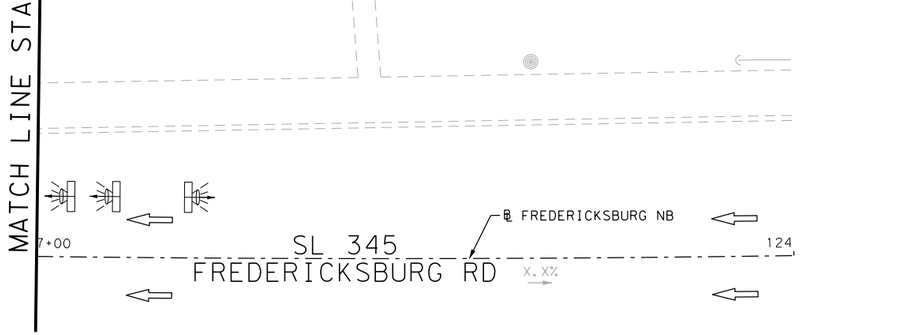


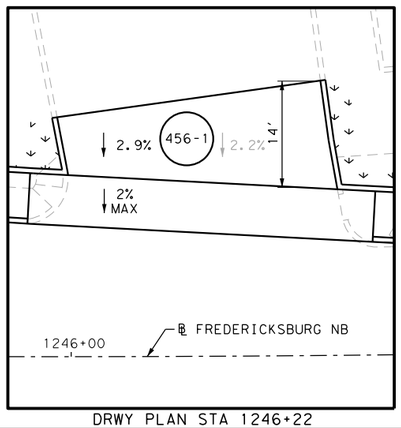


DRWY PLAN STA 1246+22

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 84 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 10 |
| 0162-6002 | BLOCK SODDING | SY | 24 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.37 |
| 0529-6002 | CONC CURB (TY II) | LF | 106 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 34 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 44 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 31 |
| 0624-6009 | GROUND BOX TY D (162922) | EA | 1 |
| 0624-6028 | REMOVE GROUND BOX | EA | 1 |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN

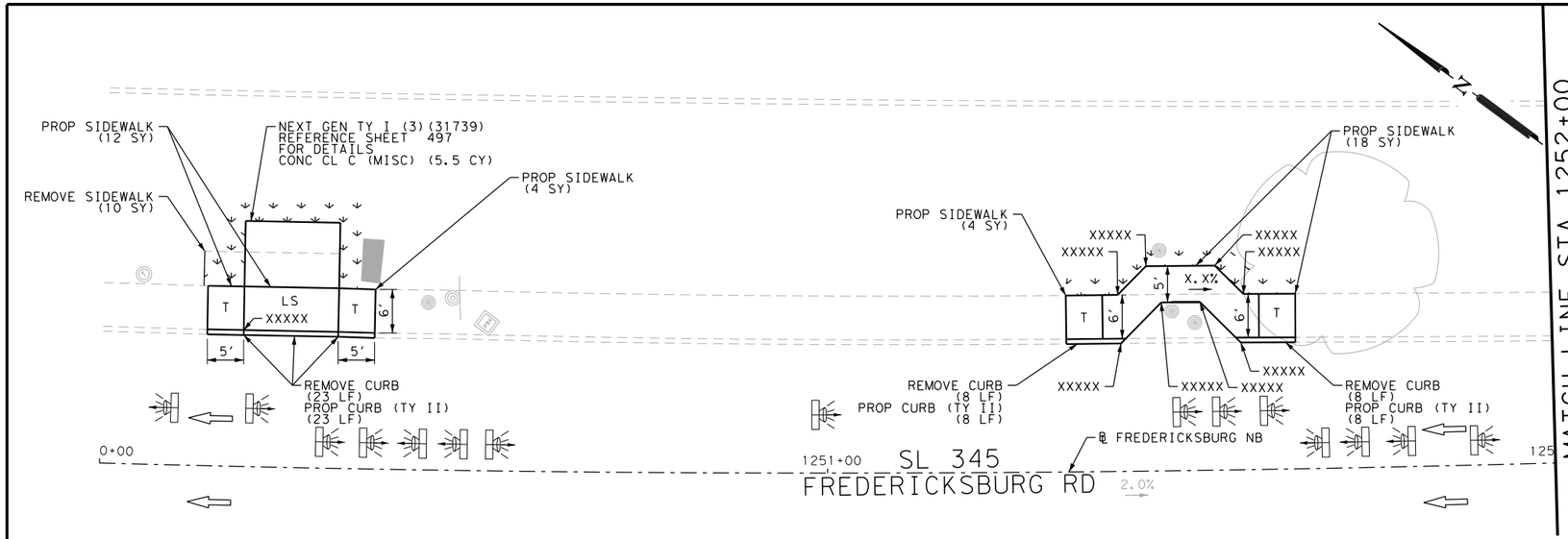
STA 1245+00 TO STA 1248+00

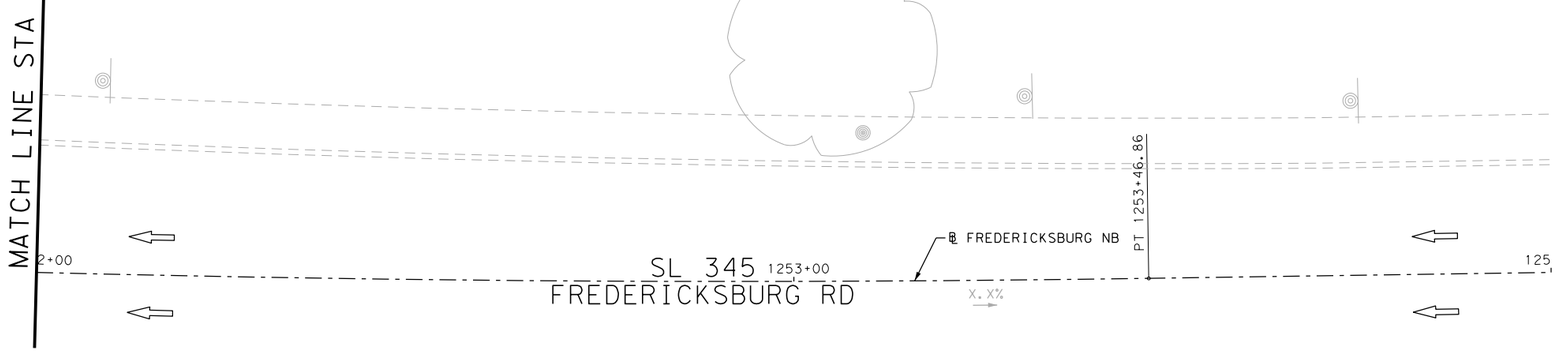
SHEET 3 OF 11

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 456 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\1113508_FredericksburgRd_NB03.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 39 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 10 |
| 0162-6002 | BLOCK SODDING | SY | 26 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.41 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0529-6002 | CONC CURB (TY II) | LF | 39 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 38 |

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

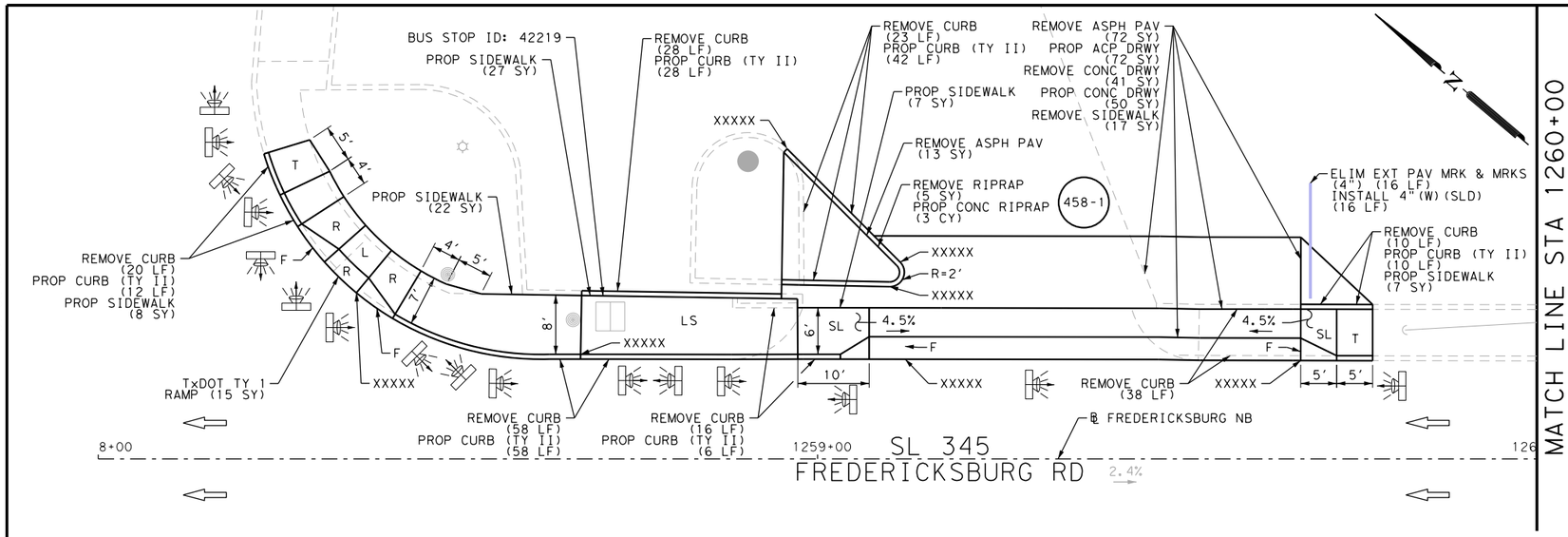
# SIDEWALK CONSTRUCTION PLAN

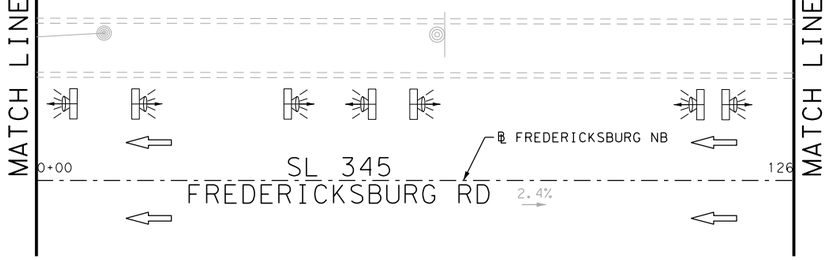
STA 1250+00 TO STA 1254+00

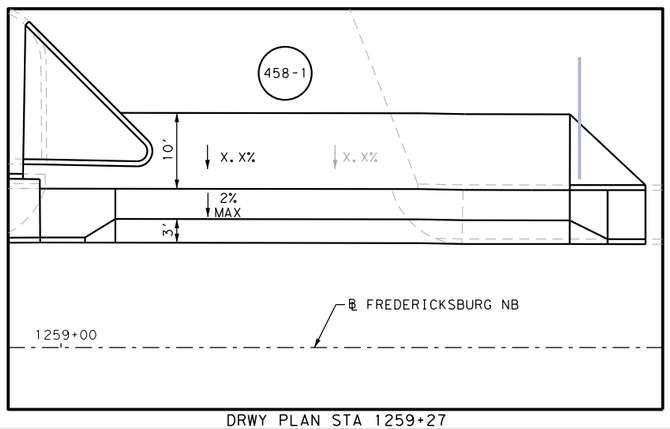
SHEET 4 OF 11

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 457 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\111508_FredericksburgRd_NB04.dgn




DRWY PLAN STA 1259+27

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 5 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 41 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 193 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 17 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 3 |
| 0529-6002 | CONC CURB (TY II) | LF | 156 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 50 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 72 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 71 |
| 0531-6018 | CURB RAMPS (TY 1) | SY | 15 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 16 |
| 0666-6303 | RE PM W/RET REQ TY I (W)4"(SLD)(100MIL) | LF | 16 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 16 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 16 |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



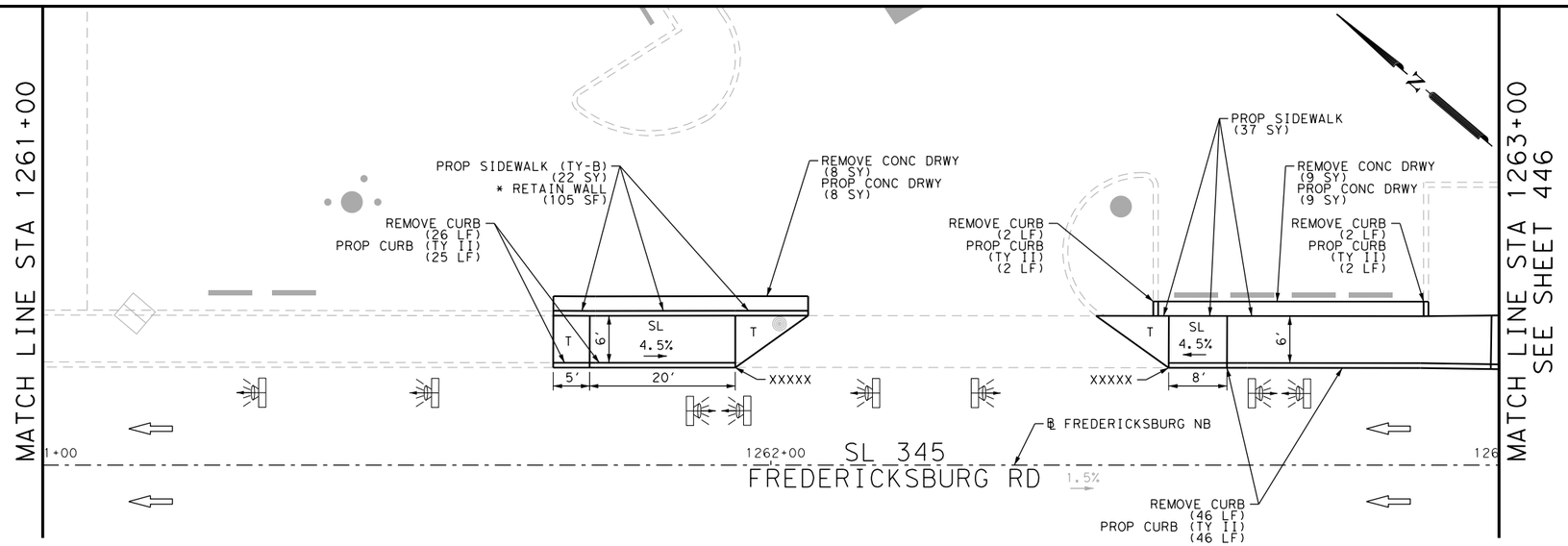
SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN
STA 1258+00 TO STA 1261+00

SHEET 5 OF 11

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 458 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\1113508_FredericksburgRd_NB05.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 17 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 76 |
| 0529-6002 | CONC CURB (TY II) | LF | 75 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 17 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 37 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 22 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN

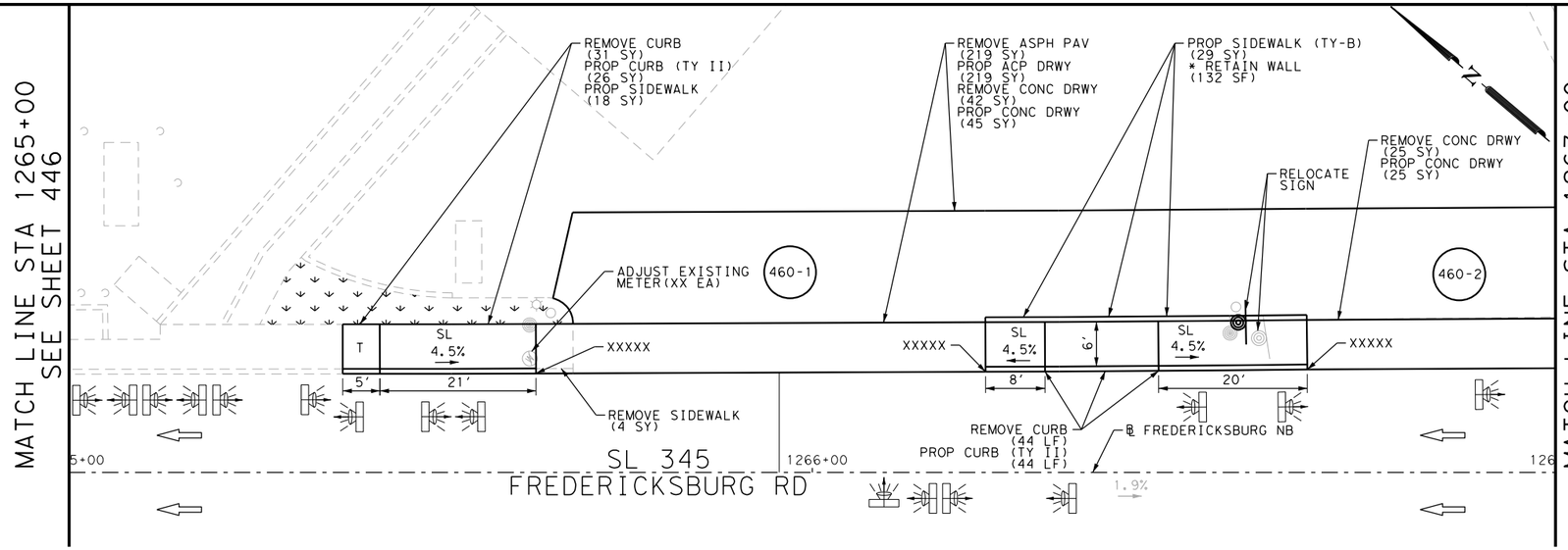
STA 1261+00 TO STA 1263+00

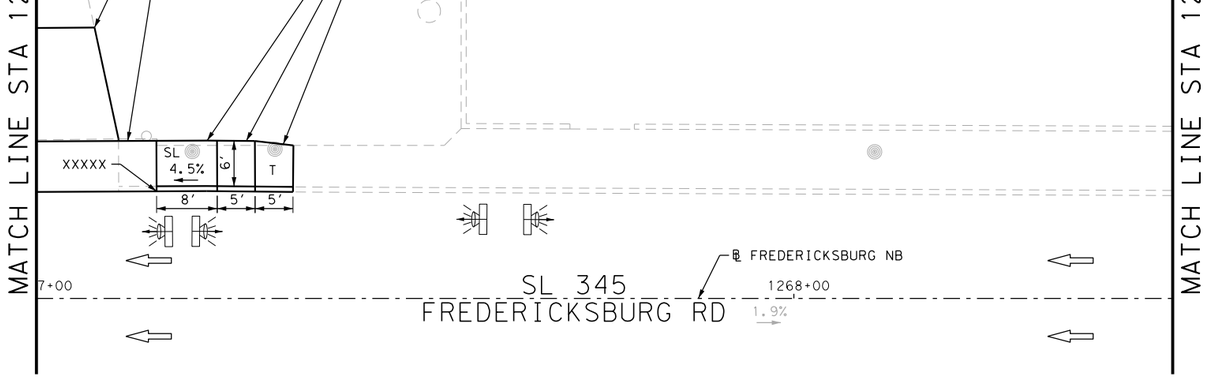
SHEET 6 OF 11

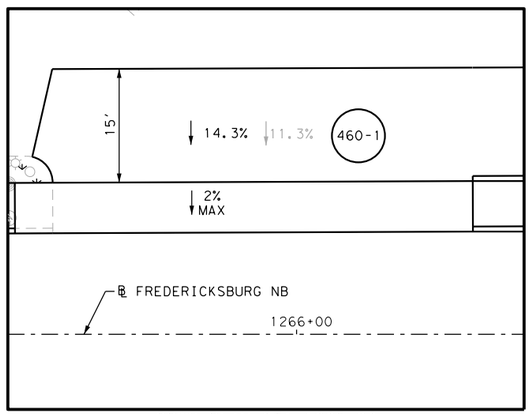
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 459 |

Plotted on: 4/1/2019

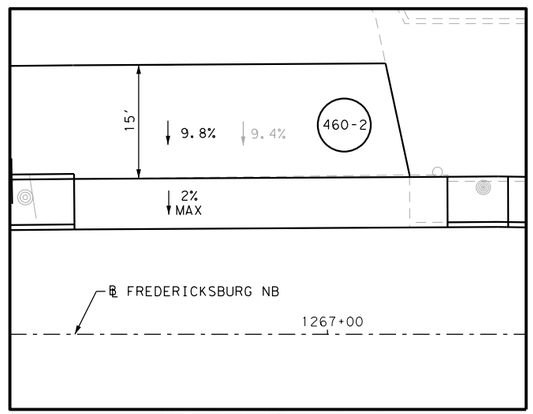
Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\1113508_FredericksburgRd_NB06.dgn




DRWY PLAN STA 1265+96




DRWY PLAN STA 1266+89

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 76 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 98 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 8 |
| 0162-6002 | BLOCK SODDING | SY | 22 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.34 |
| 0529-6002 | CONC CURB (TY II) | LF | 88 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 82 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 235 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 30 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 29 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

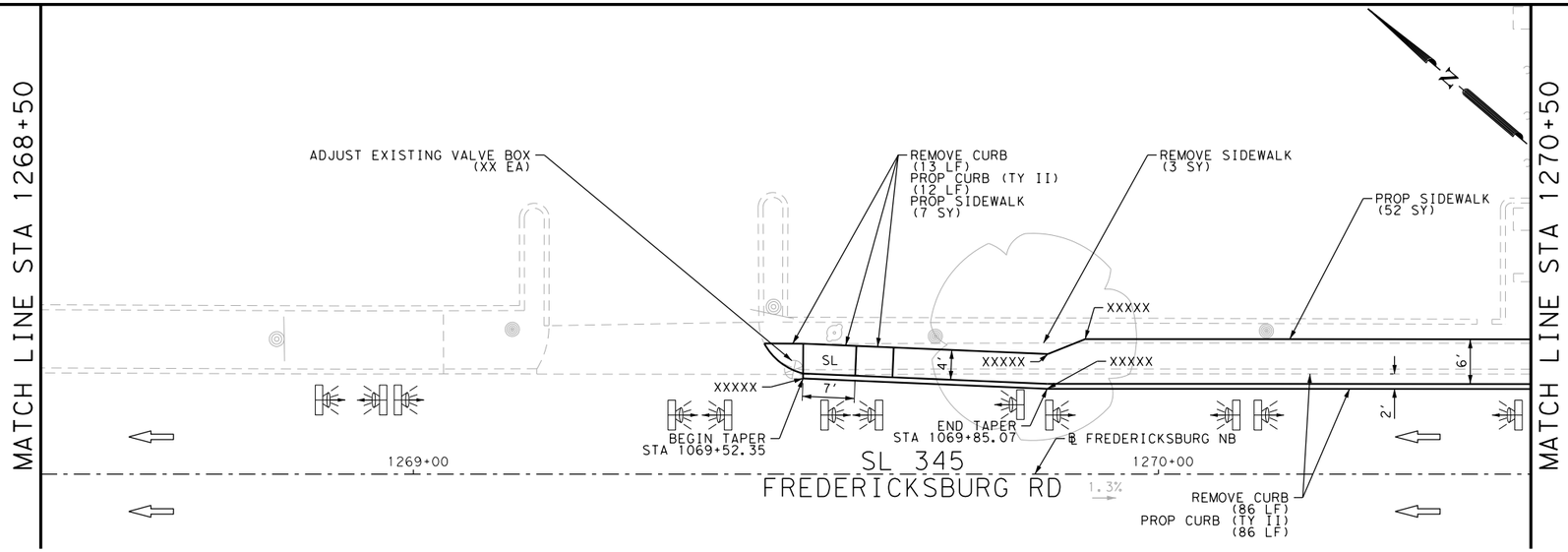
# SIDEWALK CONSTRUCTION PLAN
STA 1265+00 TO STA 1268+50

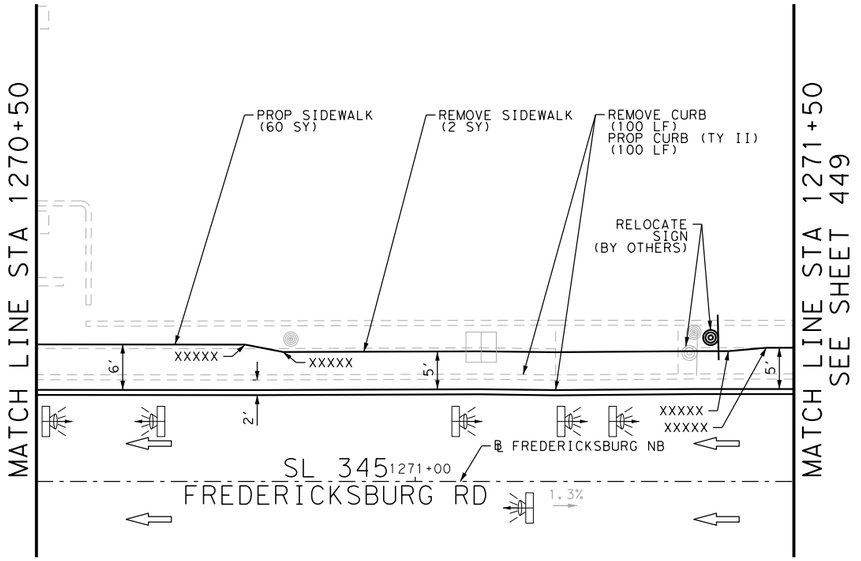
SHEET 7 OF 11

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 460 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\1113508_FredericksburgRd_NB07.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 199 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 5 |
| 0529-6002 | CONC CURB (TY II) | LF | 198 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 119 |
| 7091-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN

STA 1268+50 TO STA 1271+50



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 461 |

Plotted on: 4/1/2019
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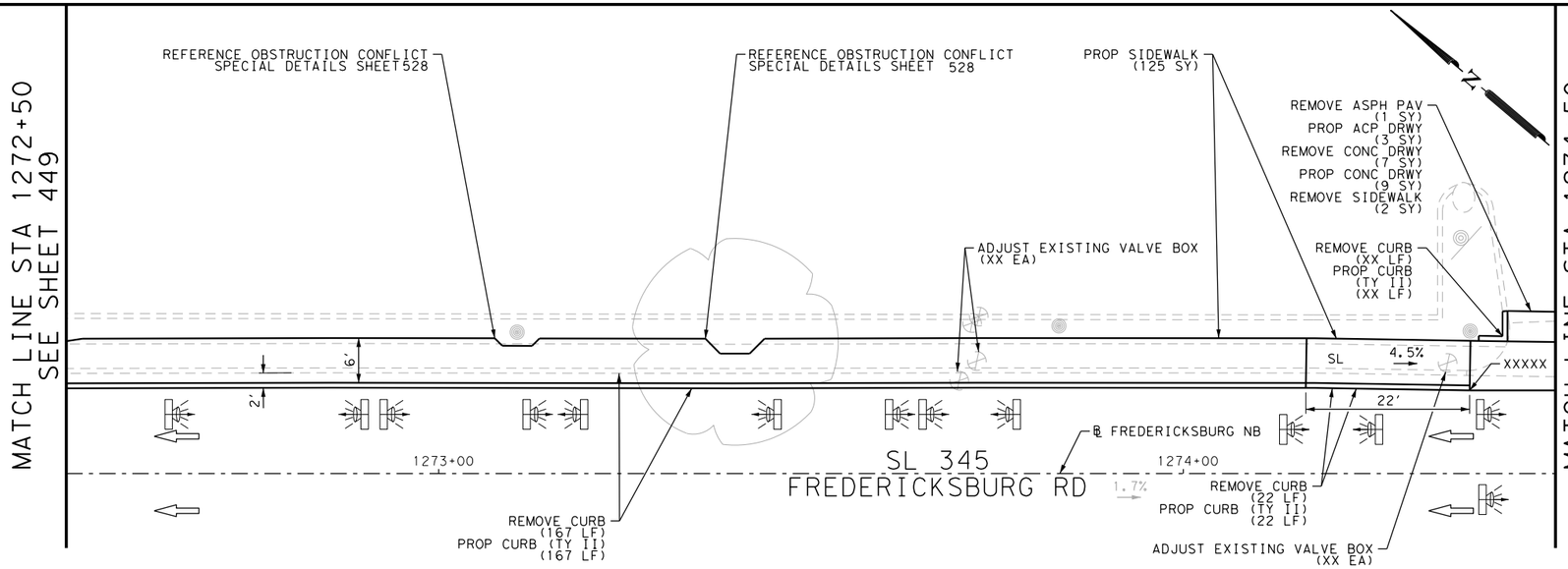
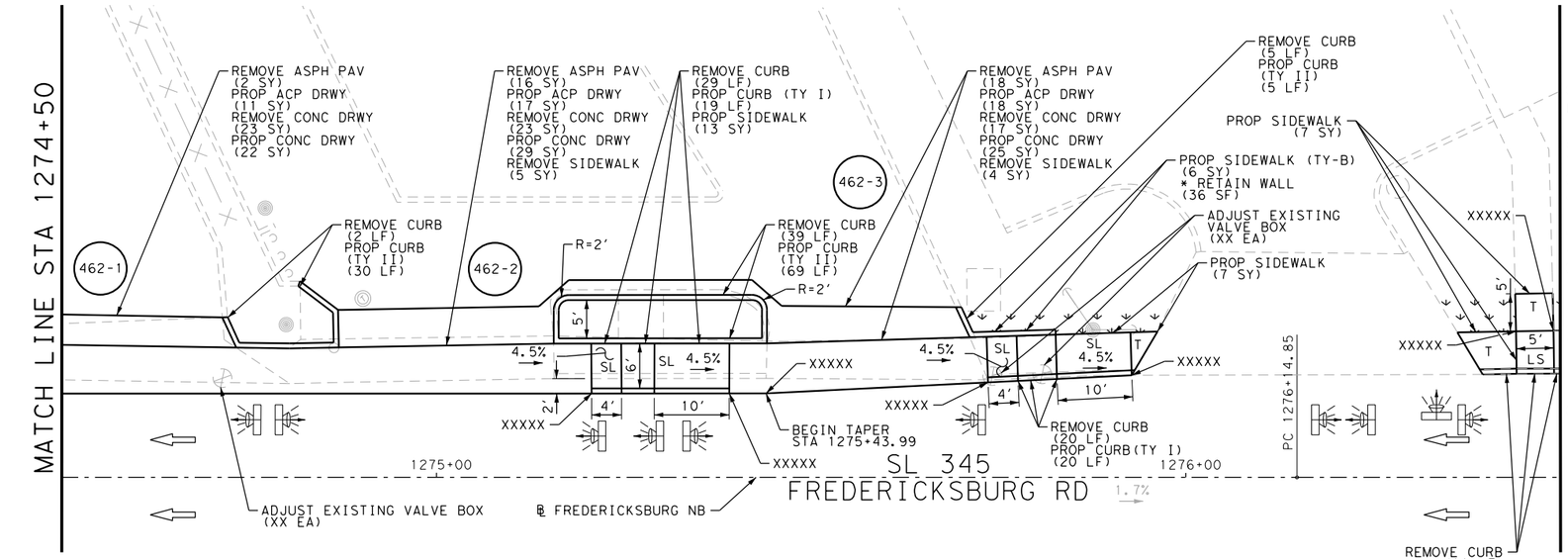
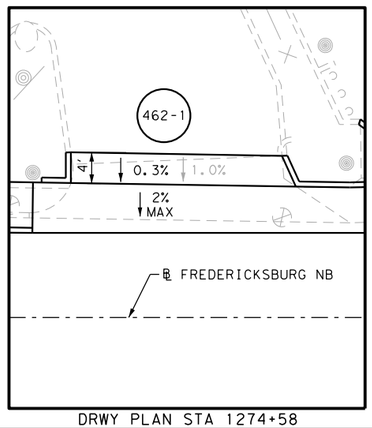
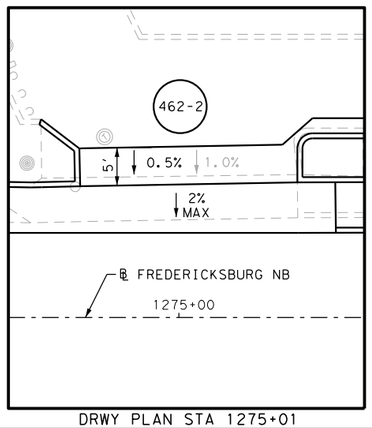


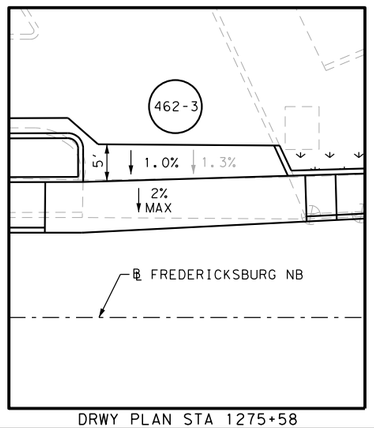




DRWY PLAN STA 1274+58




DRWY PLAN STA 1275+01




DRWY PLAN STA 1275+58

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 70 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 296 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 11 |
| 0162-6002 | BLOCK SODDING | SY | 15 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.23 |
| 0529-6001 | CONC CURB (TY I) | LF | 39 |
| 0529-6002 | CONC CURB (TY II) | LF | 312 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 85 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 49 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 152 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 6 |
| 7091-6001 | ADJUST EXISTING VALVE BOX | EA | 6 |

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN

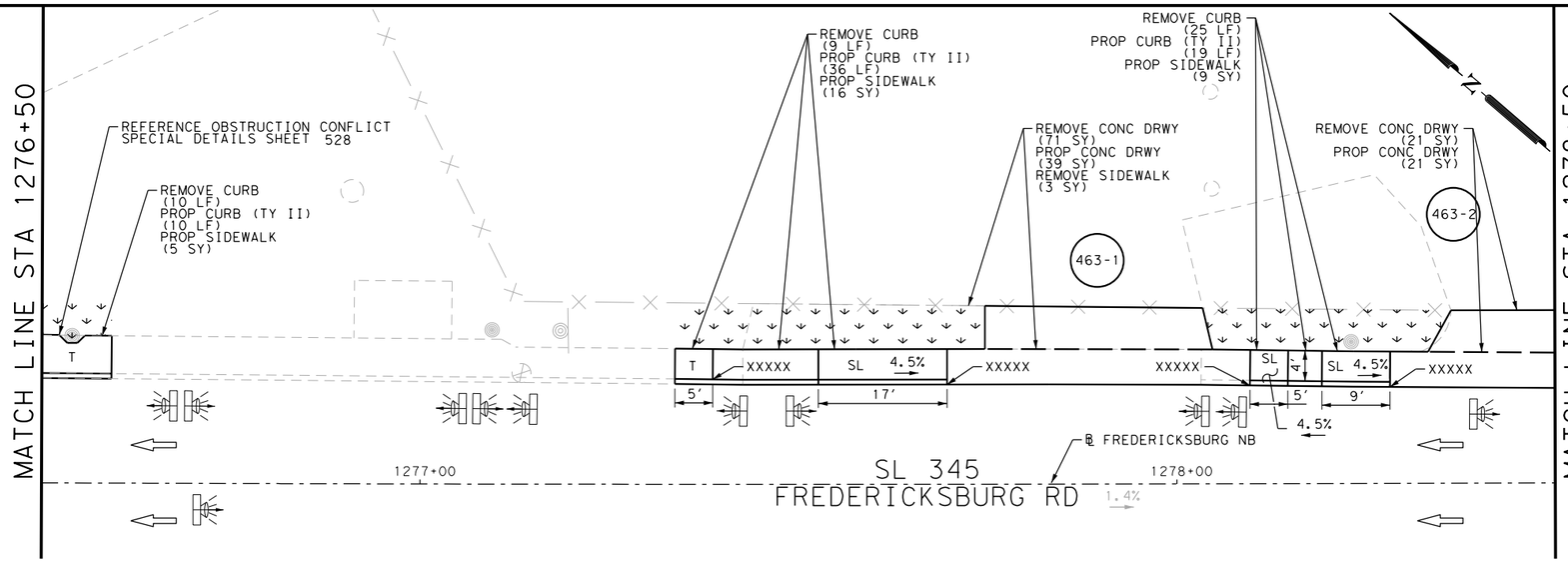
STA 1272+50 TO STA 1276+50

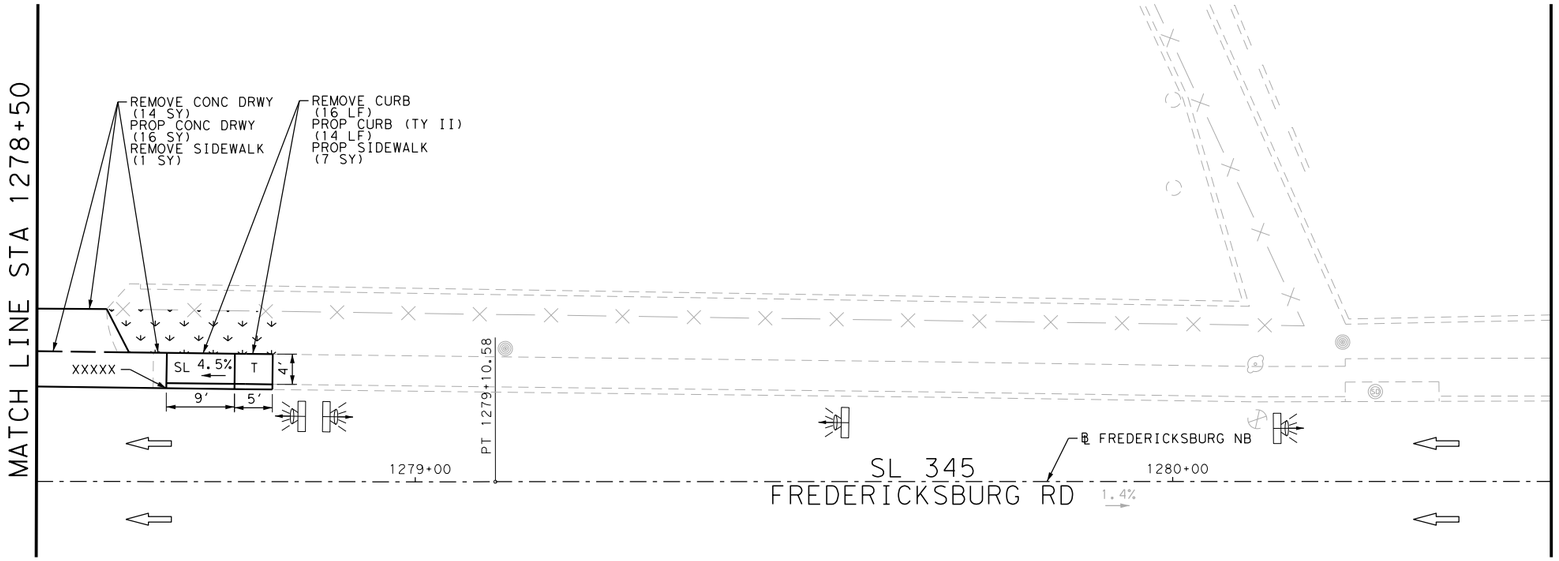
SHEET 9 OF 11

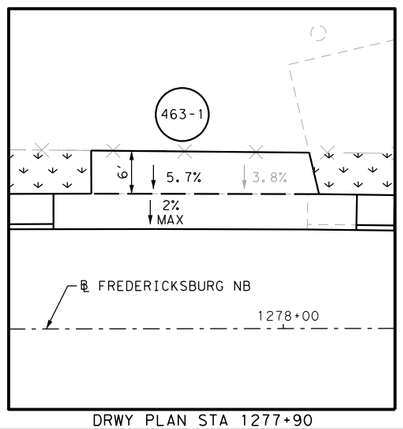
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 462 |

Plotted on: 4/1/2019

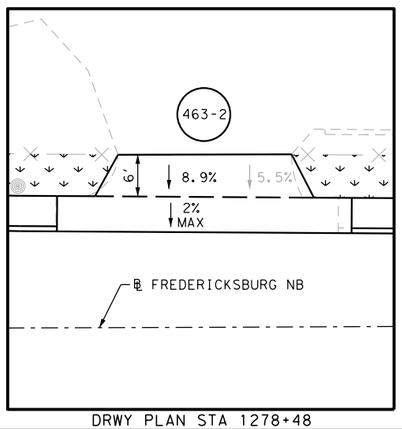
Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\111308_FredericksburgRd_NB09.dgn




DRWY PLAN STA 1277+90




DRWY PLAN STA 1278+48

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 106 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 60 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 4 |
| 0162-6002 | BLOCK SODDING | SY | 66 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.03 |
| 0529-6002 | CONC CURB (TY II) | LF | 79 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 76 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 37 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



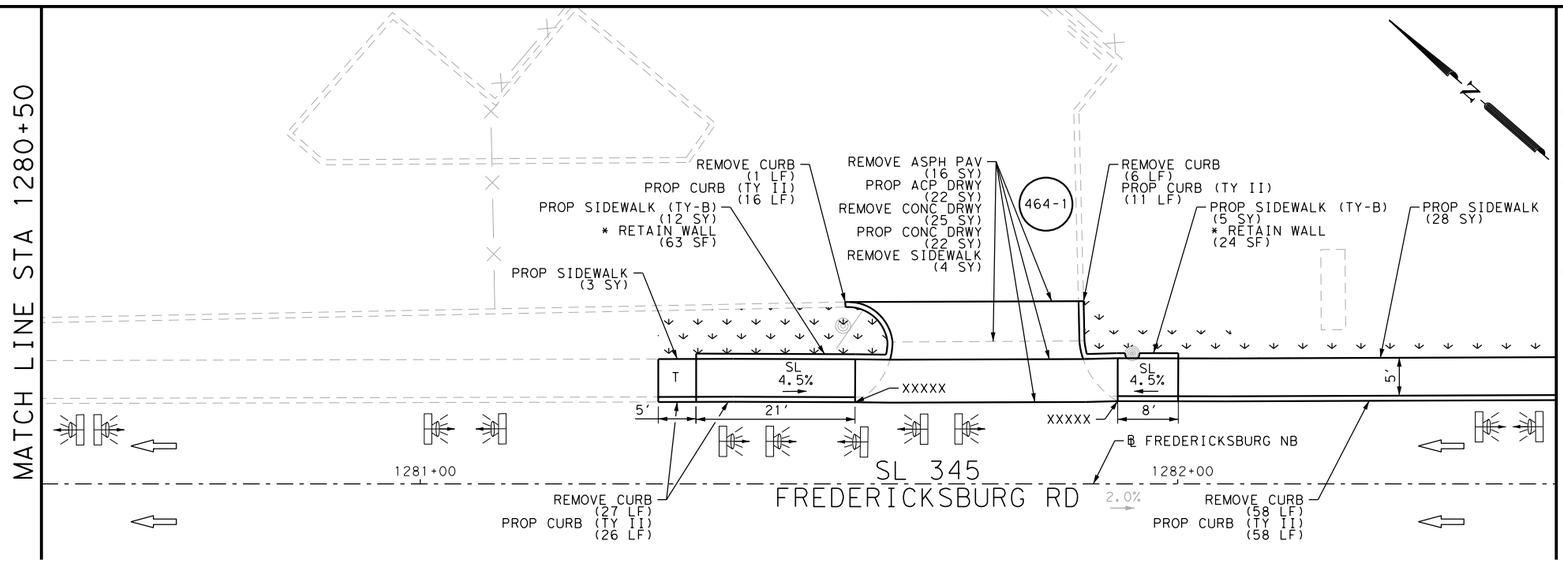
SL 345
FREDERICKSBURG RD

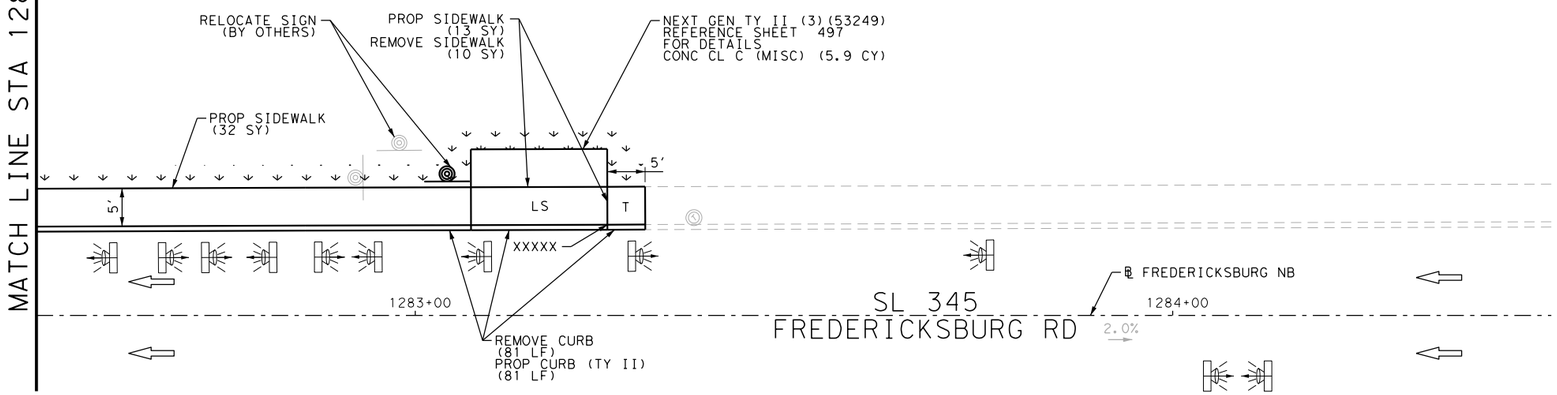
# SIDEWALK CONSTRUCTION PLAN
STA 1276+50 TO STA 1280+50

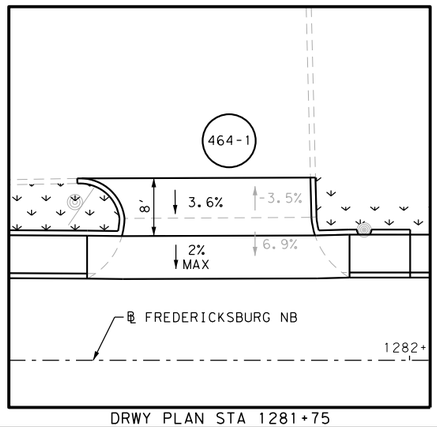
SHEET 10 OF 11

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 463 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\111508_FredericksburgRd_NB10.dgn




DRWY PLAN STA 1281+75

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 25 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 173 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 14 |
| 0162-6002 | BLOCK SODDING | SY | 74 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.15 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0529-6002 | CONC CURB (TY II) | LF | 192 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 22 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 22 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 76 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 17 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN

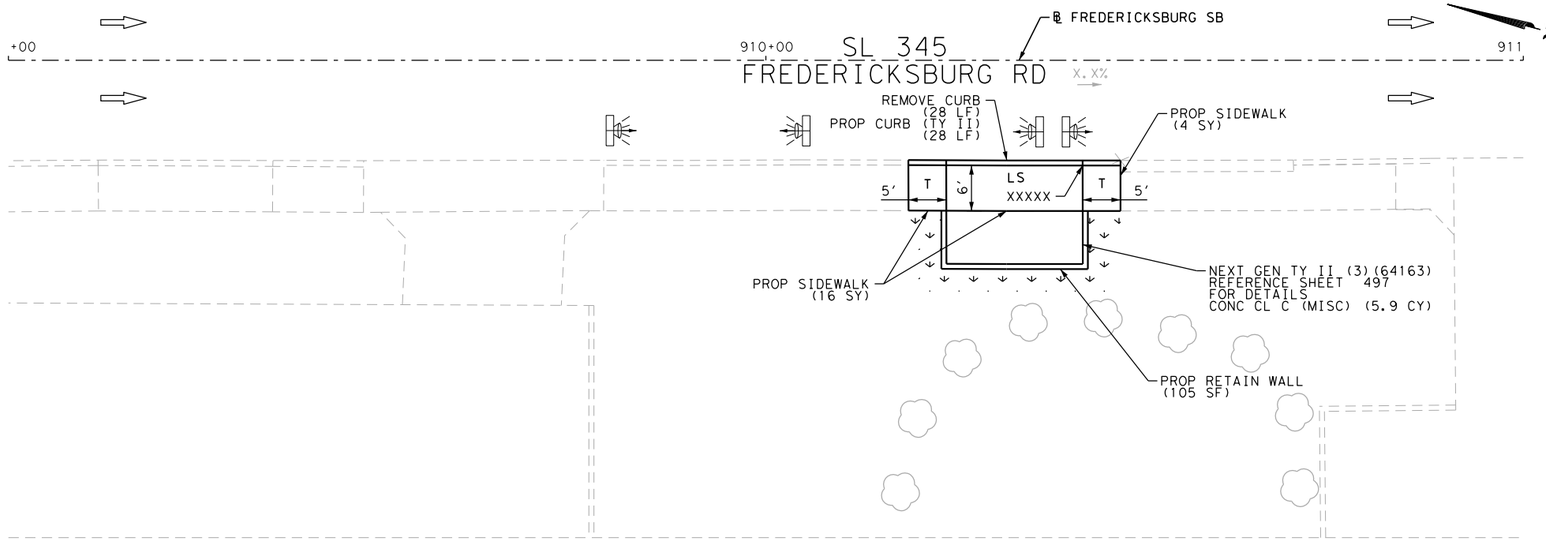
STA 1280+50 TO STA 1284+50

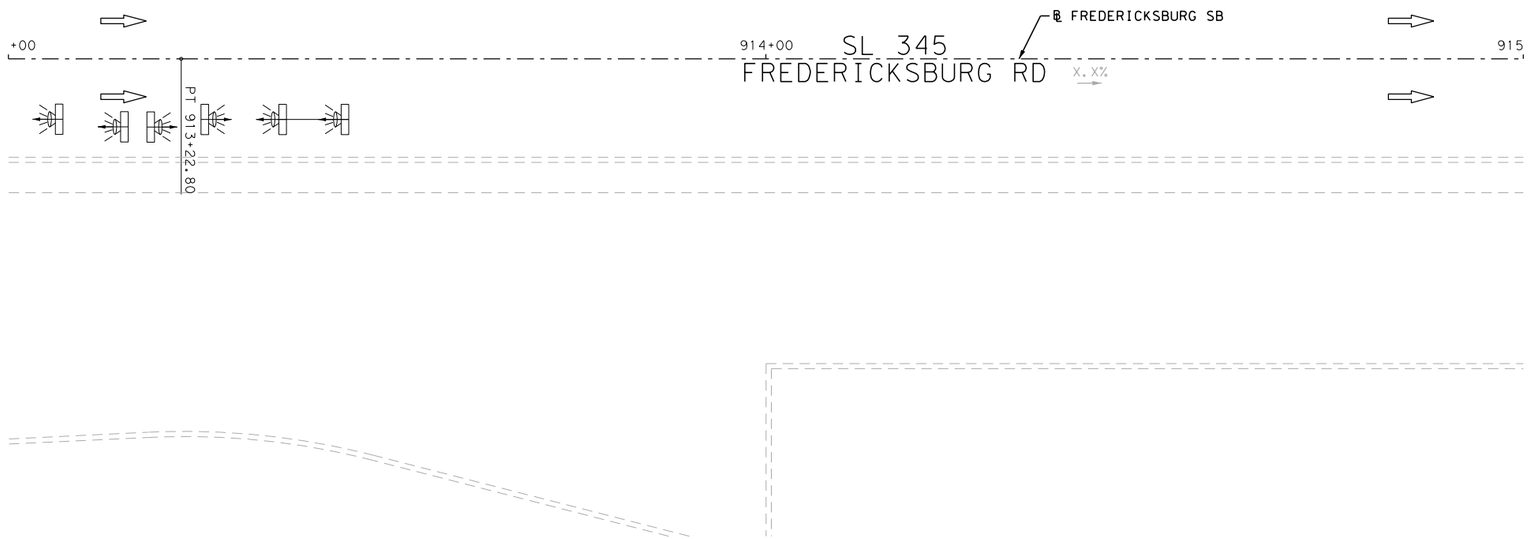
SHEET 11 OF 11

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 464 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\111508_FredericksburgRd_NB11.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN

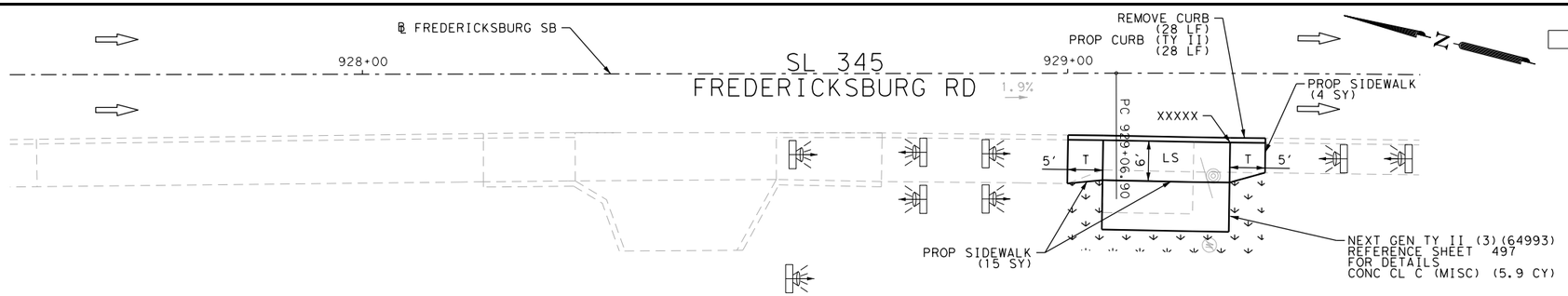
STA 909+00 TO STA 911+00
STA 913+00 TO STA 915+00

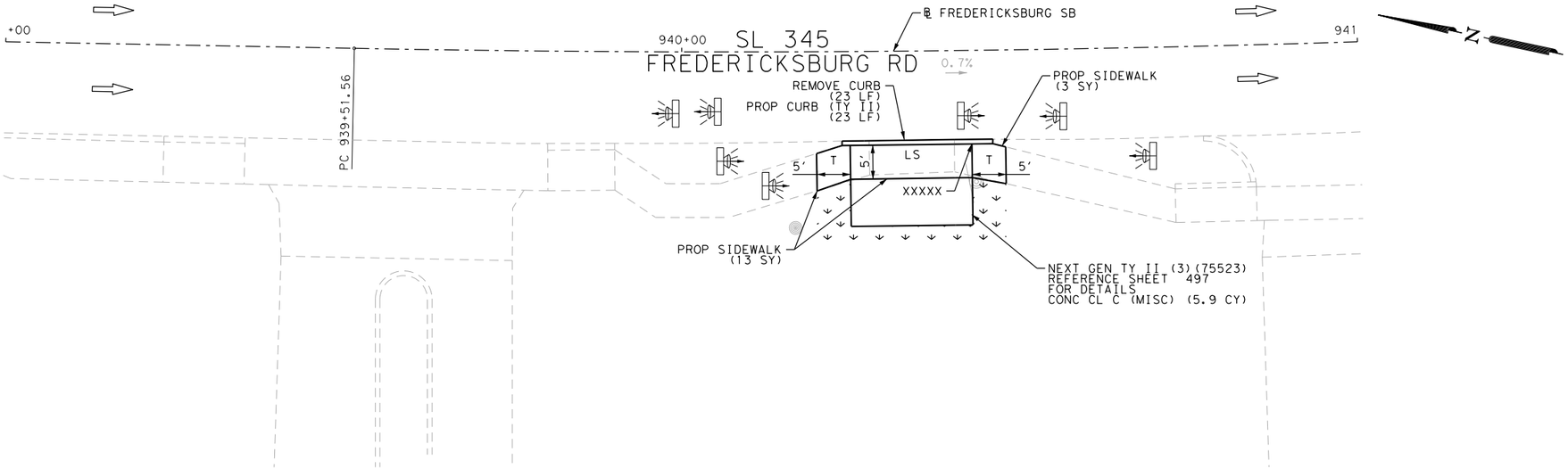
SHEET 1 OF 24

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 430 |

Plotted on: 4/2/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\1113508_FredericksburgRd_SB01.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|

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DESIGN

INTERIM REVIEW

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN

STA 927+50 TO STA 929+50
STA 939+00 TO STA 941+00

SHEET 2 OF 24

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 431 |

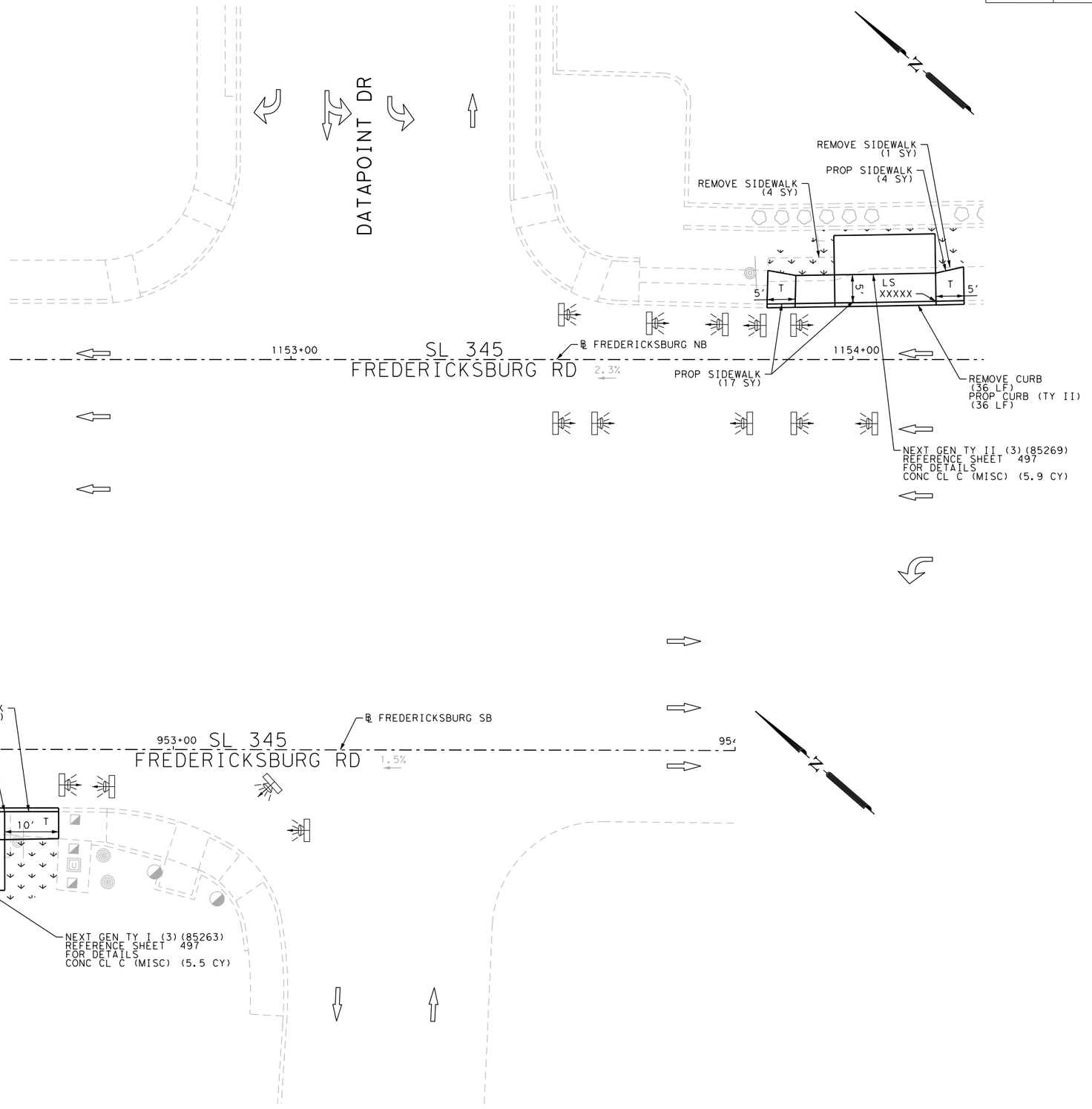
Plotted on: 4/2/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\1113508_FredericksburgRd_SB02.dgn

Plotted on: 4/2/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\111508_FredericksburgRd_SB03.dgn

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



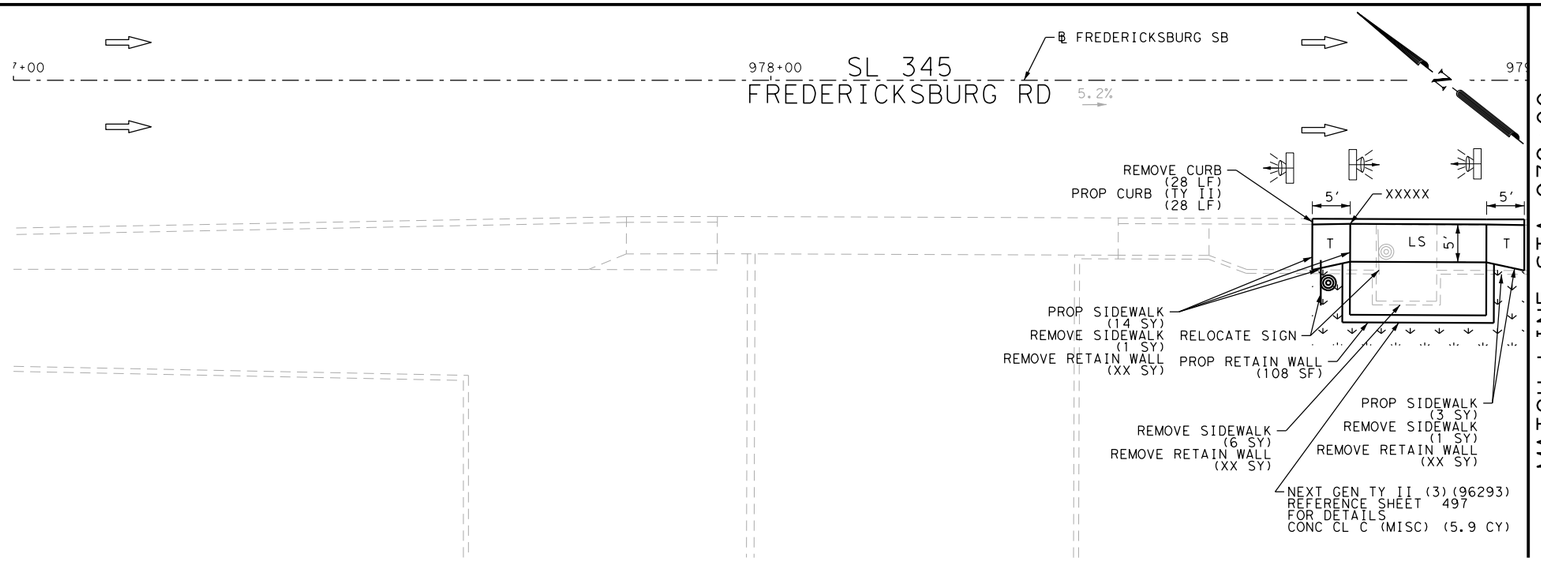

SL 345
FREDERICKSBURG RD

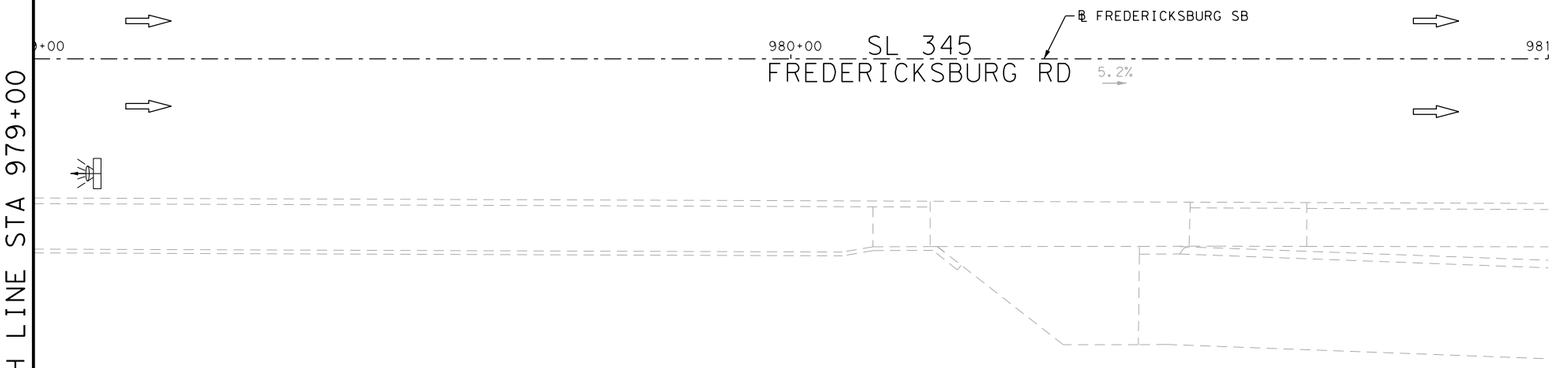
# SIDEWALK CONSTRUCTION PLAN

STA 952+25 TO STA 954+00
STA 1152+50 TO STA 1154+25



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 432 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 28 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 8 |
| 0162-6002 | BLOCK SODDING | SY | 16 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.25 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0529-6002 | CONC CURB (TY II) | LF | 28 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 17 |

NOTES:
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INTERIM REVIEW
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

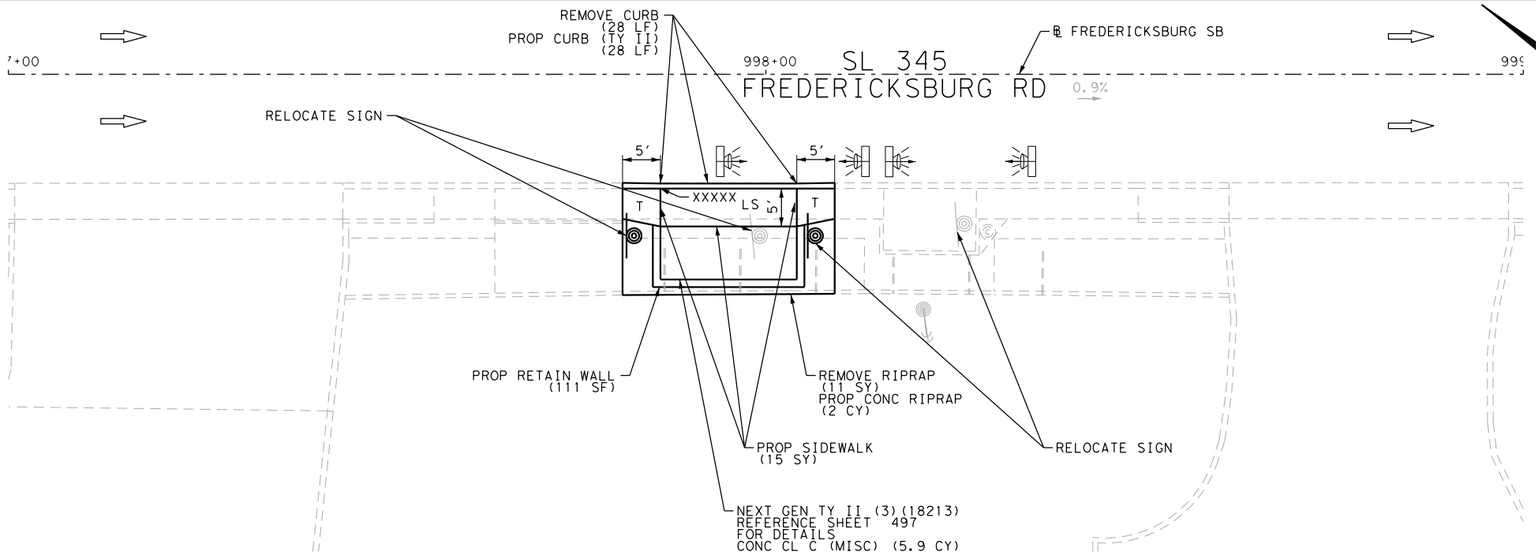
# SIDEWALK CONSTRUCTION PLAN

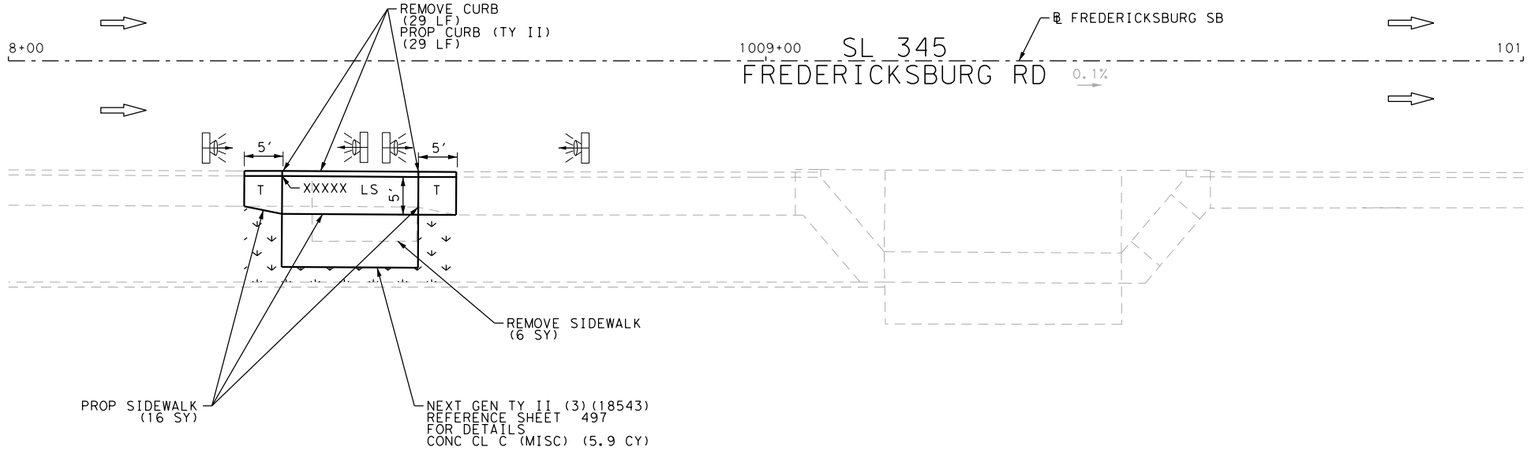
STA 977+00 TO STA 981+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 433 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\1113508_FredericksburgRd_SB04.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 11 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 57 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 6 |
| 0162-6002 | BLOCK SODDING | SY | 15 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.23 |
| 0420-6074 | CL C CONC (MISC) | CY | 12.0 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 2 |
| 0529-6002 | CONC CURB (TY II) | LF | 57 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 31 |

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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN
STA 997+00 TO STA 999+00
STA 1008+00 TO STA 1010+00

SHEET 6 OF 24

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 435 |

Plotted on: 4/1/2019

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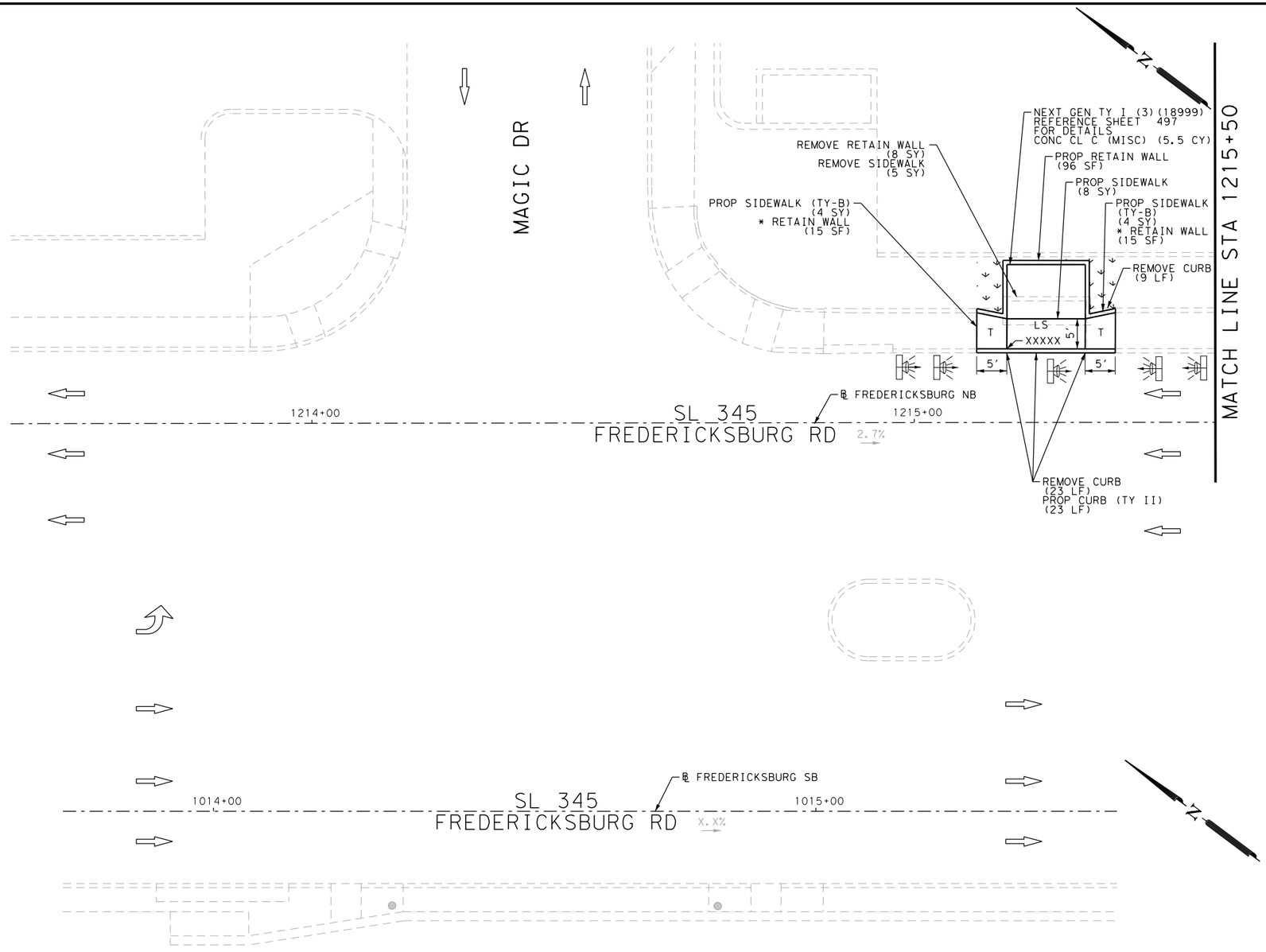


| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6024 | REMOVING CONC (RETAINING WALLS) | SY | 8 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 32 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 5 |
| 0162-6002 | BLOCK SODDING | SY | 10 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.16 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.5 |
| 0529-6002 | CONC CURB (TY II) | LF | 23 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 8 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 8 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



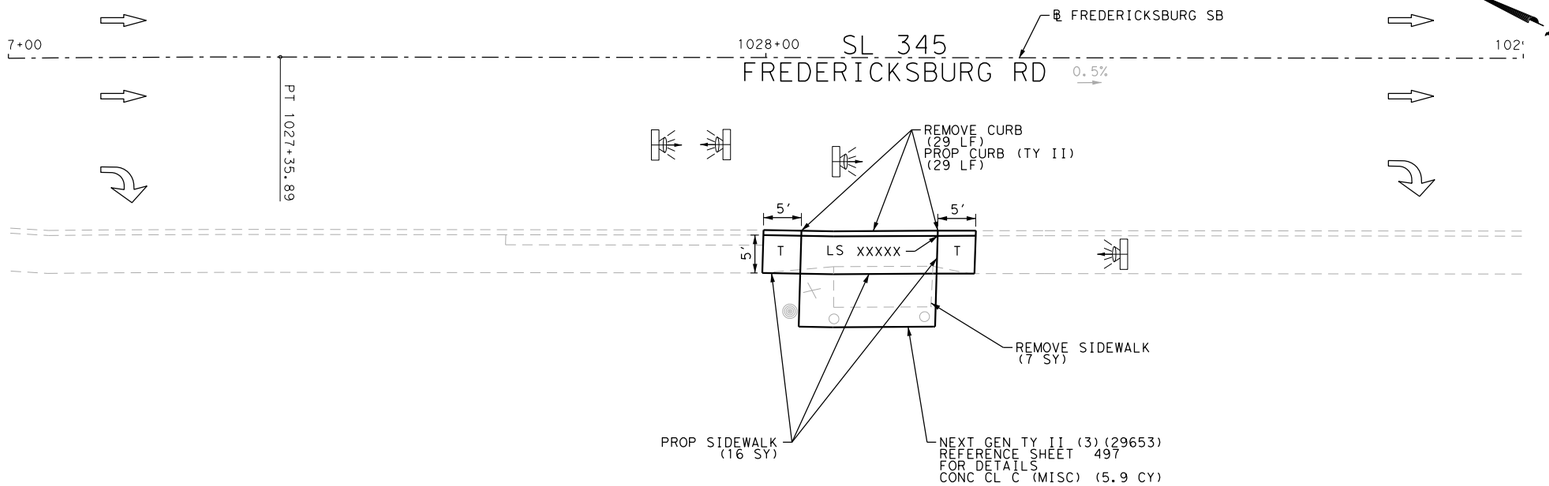
SL 345
FREDERICKSBURG RD

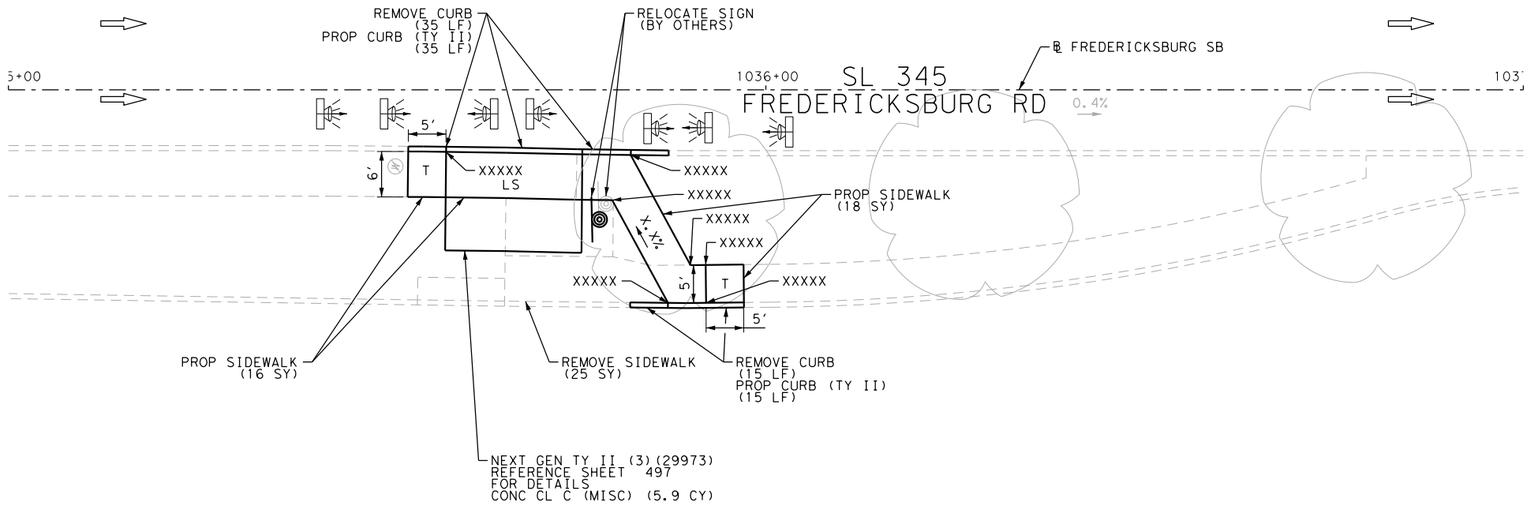
# SIDEWALK CONSTRUCTION PLAN
STA 1013+75 TO STA 1015+50
STA 1213+50 TO STA 1215+50



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 436 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\111508_FredericksburgRd_SB07.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 79 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 32 |
| 0420-6074 | CL C CONC (MISC) | CY | 11.8 |
| 0529-6002 | CONC CURB (TY II) | LF | 79 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 50 |

NOTES:
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INTERIM REVIEW
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN

STA 1027+00 TO STA 1029+00
STA 1035+00 TO STA 1037+00



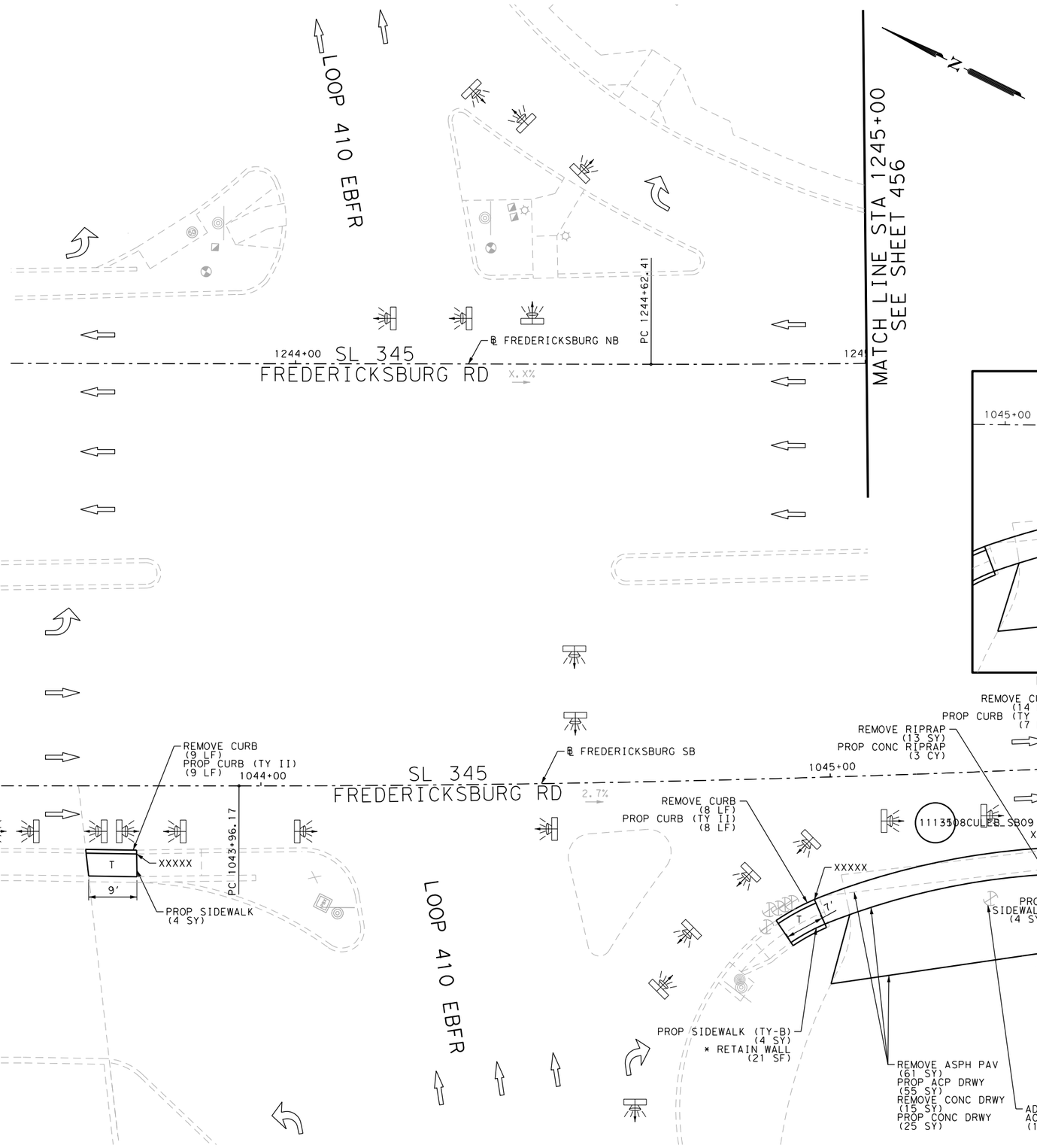
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 437 |

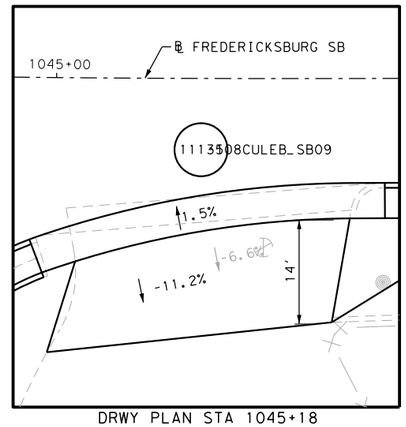
Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\FredericksburgRd_SB08_FredericksburgRd_SB08.dgn

Plotted on: 4/1/2019

Design Filename: P:\1113508\Design\Civil\Roadway\FredericksburgRd_SB09.dgn

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 13 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 15 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 31 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 3 |
| 0529-6002 | CONC CURB (TY II) | LF | 24 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 25 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 55 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 8 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 4 |
| 7027-6001 | ADJUST GAS FACILITY ACCESS COVER | EA | 1 |



DRWY PLAN STA 1045+18

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



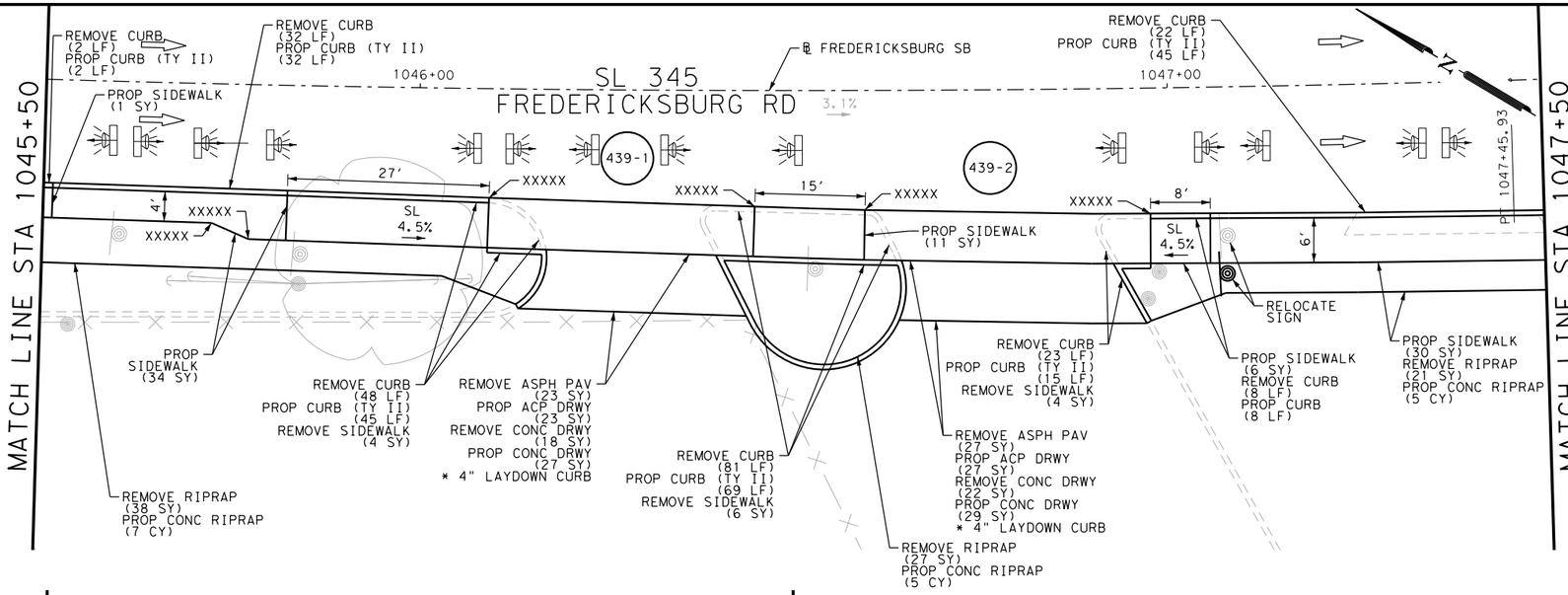

SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN

STA 1043+50 TO STA 1045+50
STA 1243+50 TO STA 1245+00

SHEET 9 OF 24

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 438 |




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 88 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 70 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 272 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 14 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 18 |
| 0529-6002 | CONC CURB (TY II) | LF | 257 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 90 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 81 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 108 |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN
STA 1045+50 TO STA 1048+50

SHEET 10 OF 24

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 439 |

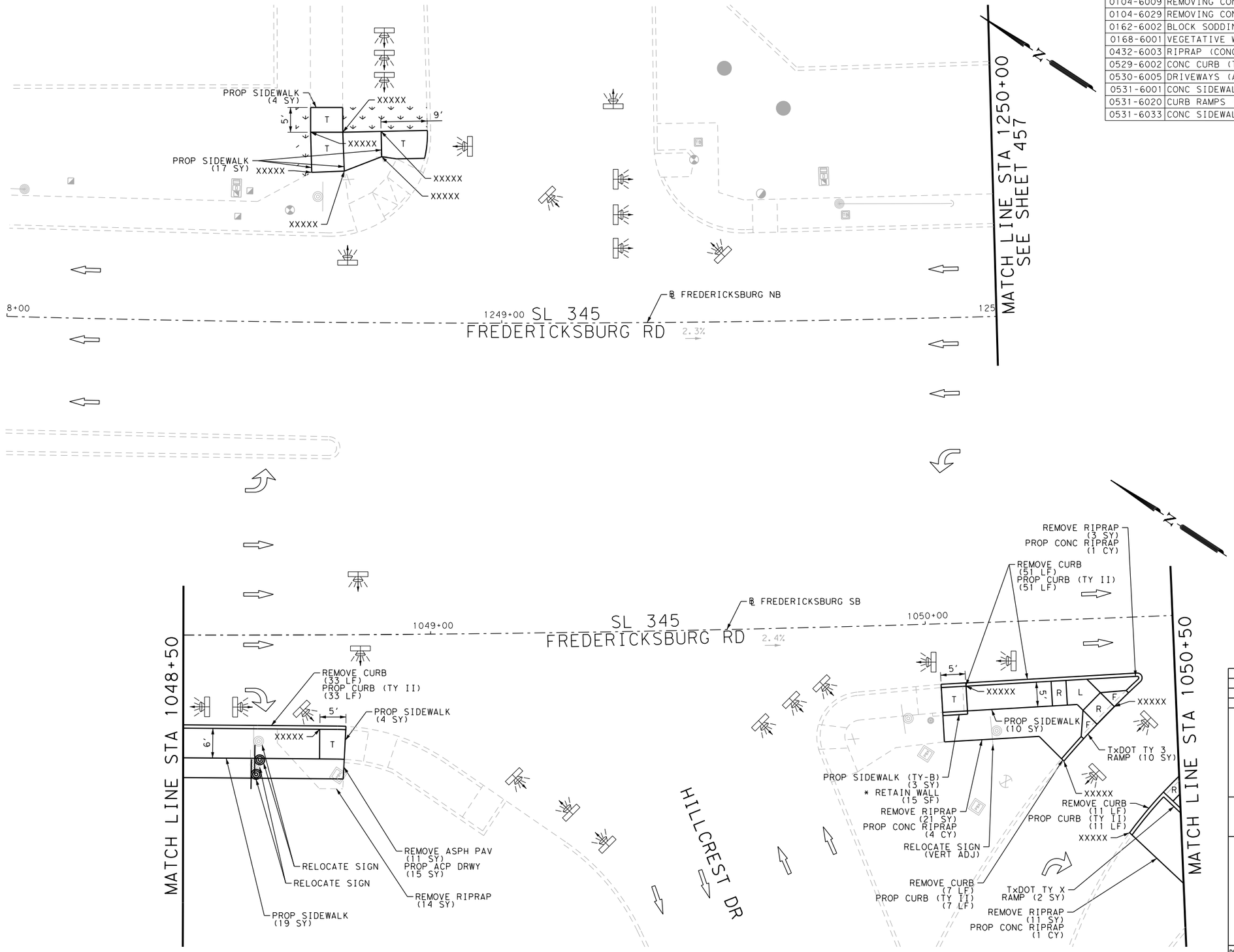
Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\111508_FredericksburgRd_SB10.dgn

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\111308_FredericksburgRd_SB11.dgn

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 49 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 102 |
| 0162-6002 | BLOCK SODDING | SY | 18 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.28 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 6 |
| 0529-6002 | CONC CURB (TY II) | LF | 102 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 15 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 54 |
| 0531-6020 | CURB RAMPS (TY 3) | SY | 12 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 3 |




NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



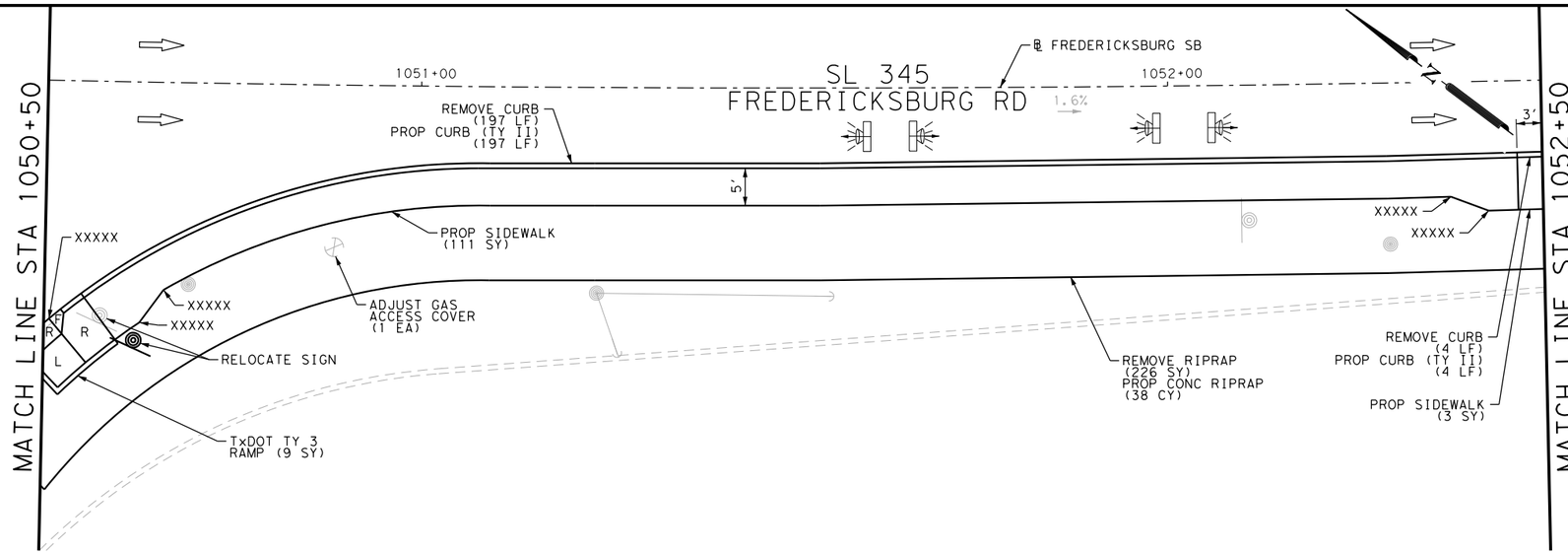
SL 345
FREDERICKSBURG RD

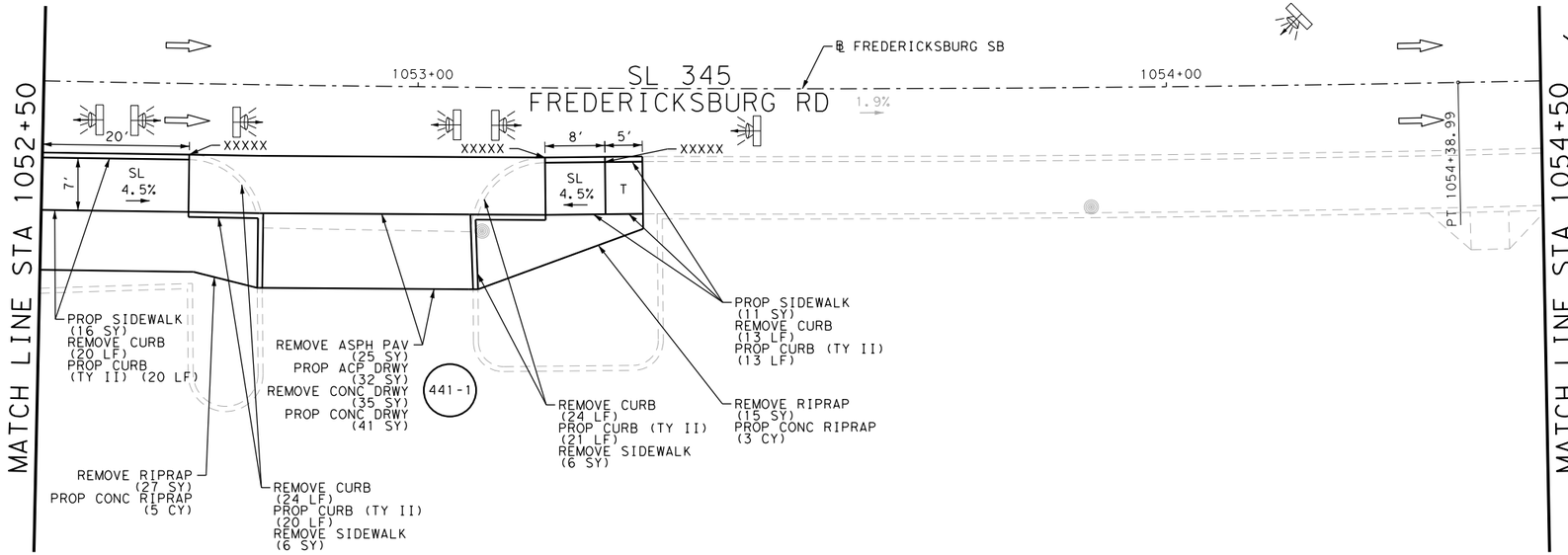
# SIDEWALK CONSTRUCTION PLAN

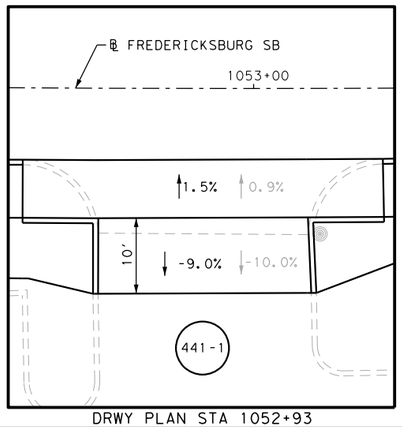
STA 1048+50 TO STA 1050+50
STA 1248+00 TO STA 1250+00

SHEET 11 OF 24

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 440 |




DRWY PLAN STA 1052+93

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 268 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 35 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 282 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 12 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 46 |
| 0529-6002 | CONC CURB (TY II) | LF | 275 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 41 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 32 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 141 |
| 0531-6020 | CURB RAMPS (TY 3) | SY | 9 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN

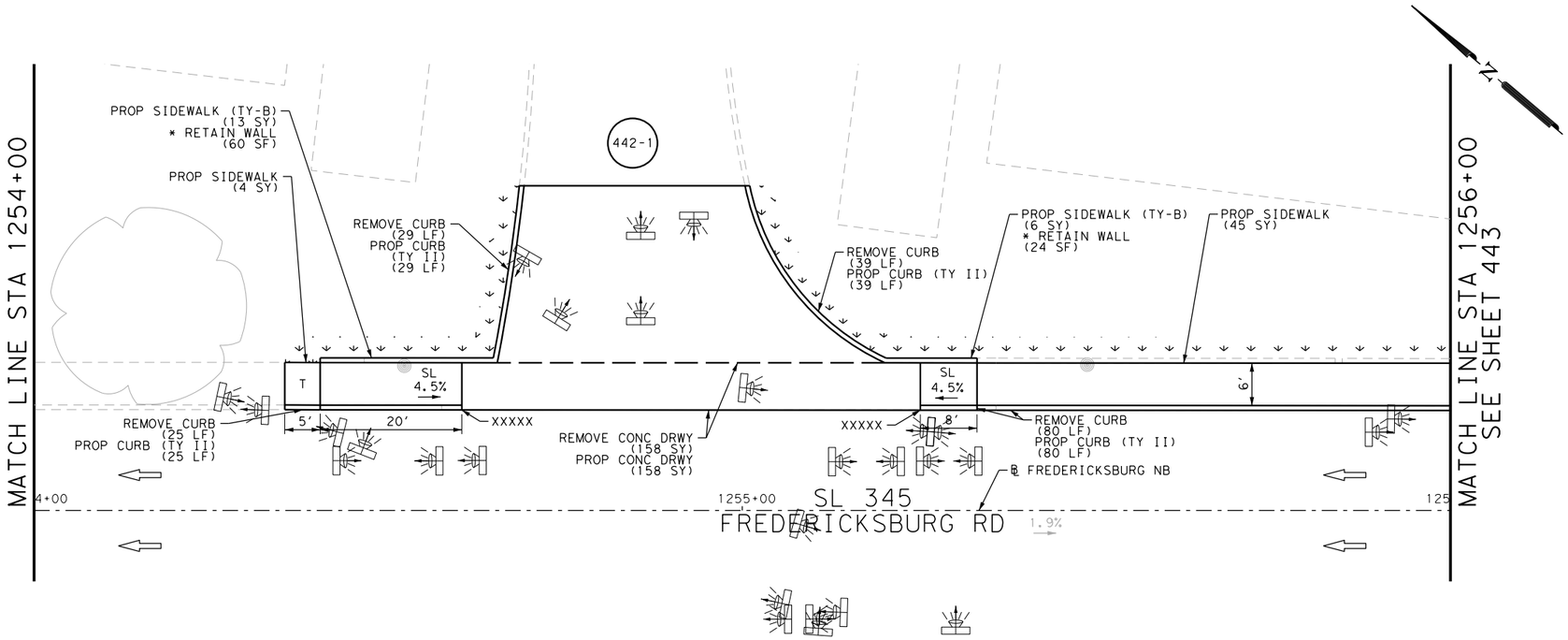
STA 1050+50 TO STA 1054+50

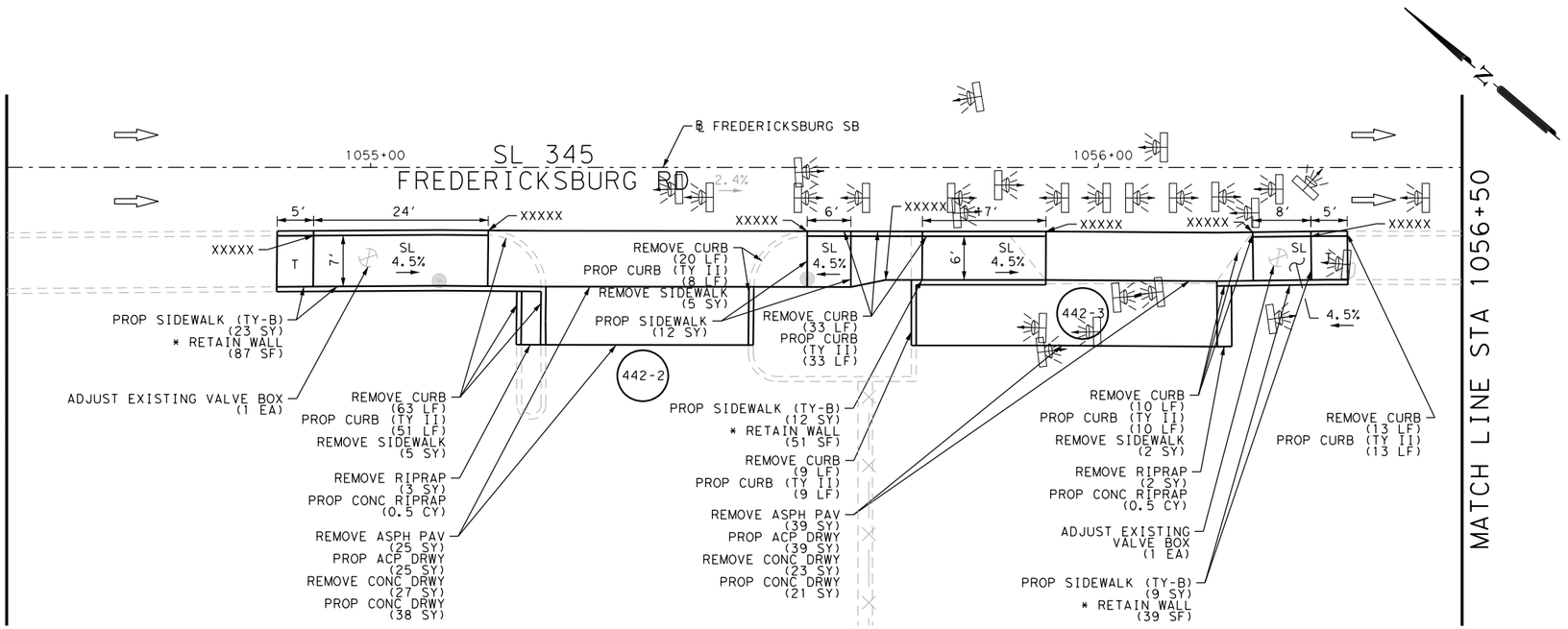
SHEET 12 OF 24

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 441 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\111308_FredericksburgRd_SB12.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 5 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 208 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 321 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 12 |
| 0162-6002 | BLOCK SODDING | SY | 62 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.97 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 1 |
| 0529-6002 | CONC CURB (TY II) | LF | 297 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 217 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 64 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 61 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 63 |
| 7091-6001 | ADJUST EXISTING VALVE BOX | EA | 2 |

NOTES:
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN
STA 1054+50 TO STA 1056+50
STA 1254+00 TO STA 1256+00

SHEET 13 OF 24

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 442 |

Plotted on: 4/2/2019
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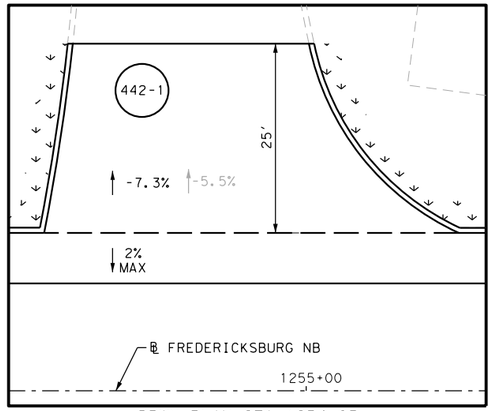
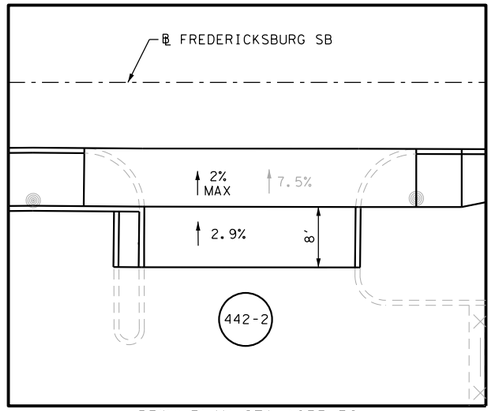
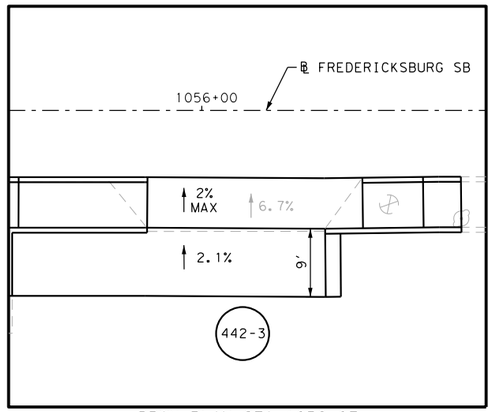


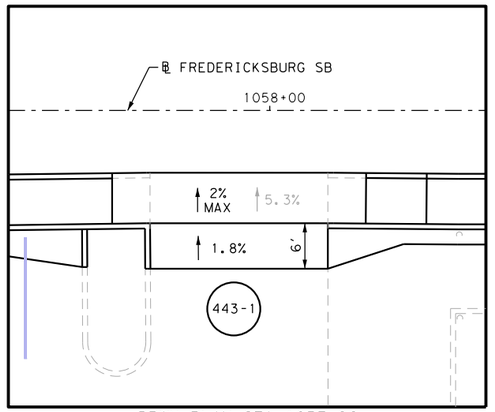

DRWY PLAN STA 1254+85




DRWY PLAN STA 1055+38




DRWY PLAN STA 1056+07




DRWY PLAN STA 1057+96

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DESIGN

INTERIM REVIEW

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

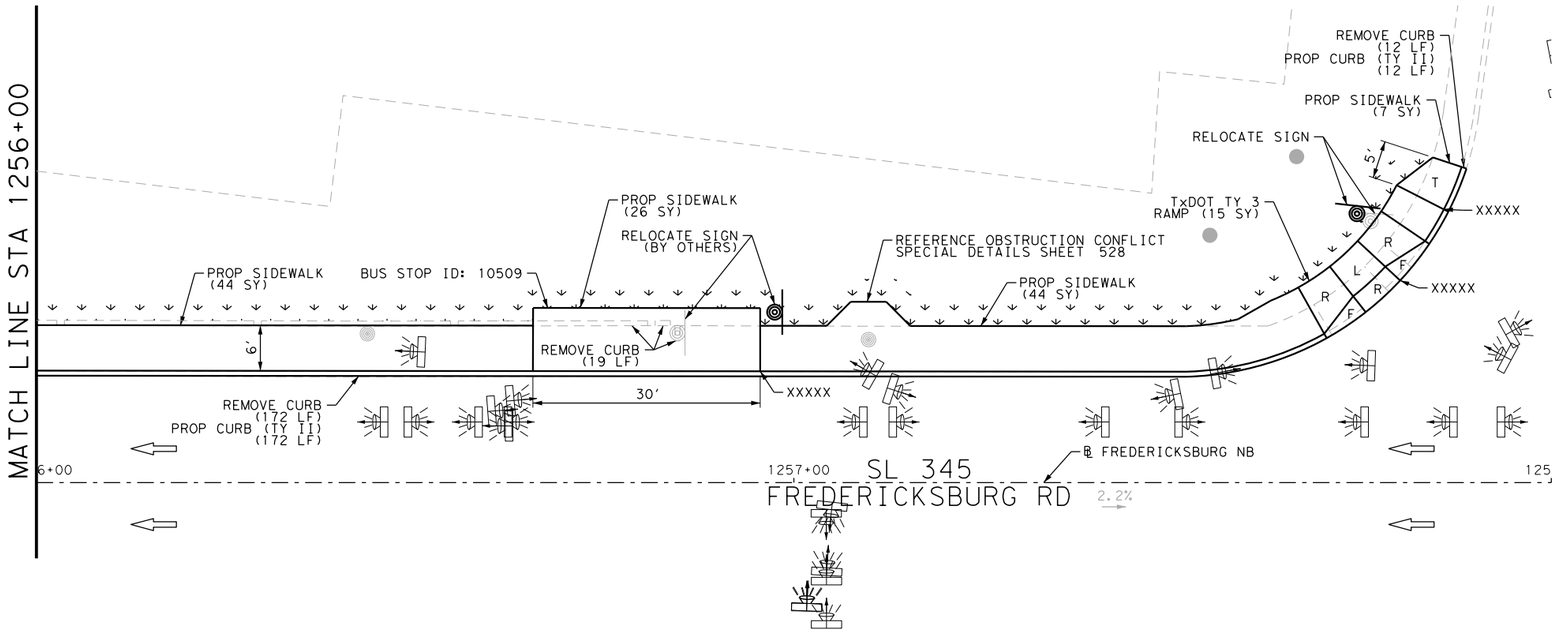
# SIDEWALK CONSTRUCTION PLAN

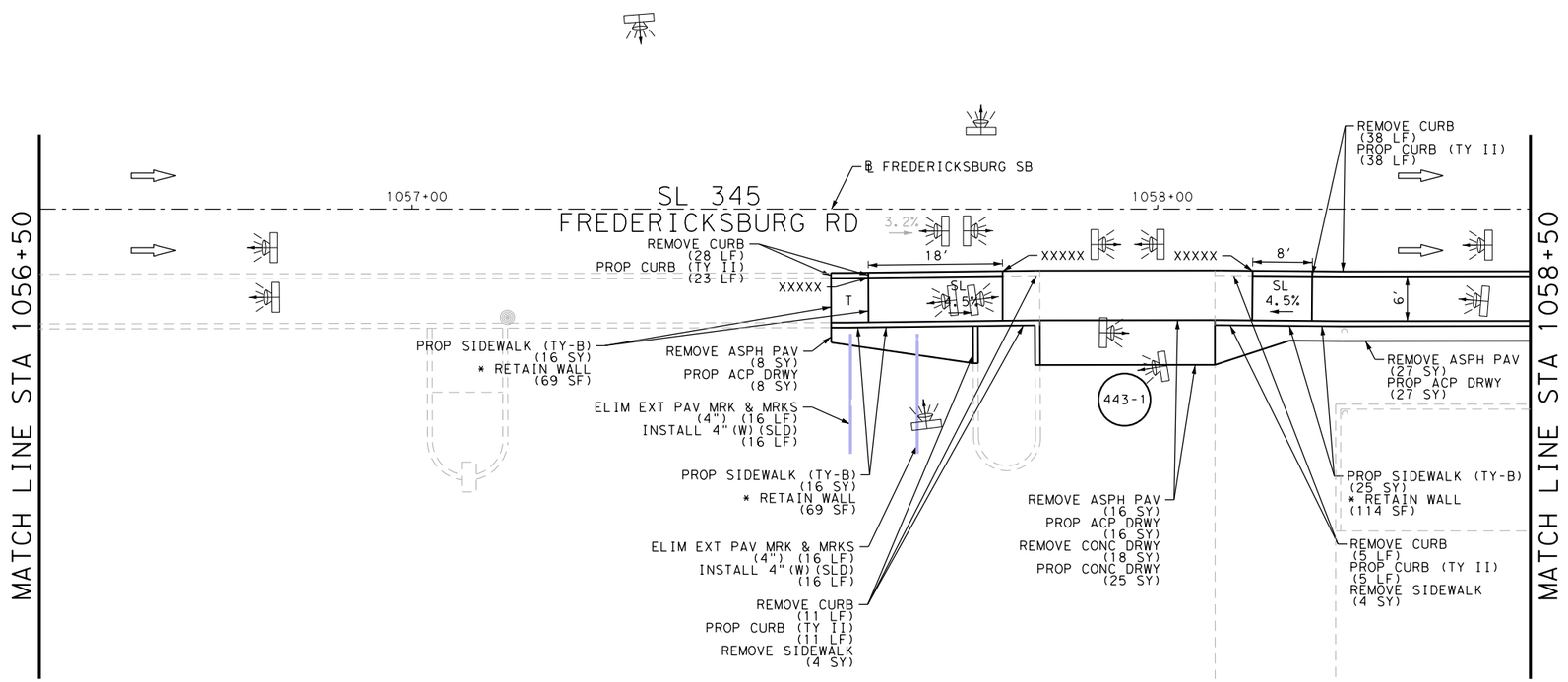
FREDSB14A

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 57413508FRED_SB14A | |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\1113508_FredericksburgRd_SB14A.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 18 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 285 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 8 |
| 0162-6002 | BLOCK SODDING | SY | 63 |
| 0168-6001 | VEGETATIVE WATERING | MG | 0.98 |
| 0529-6002 | CONC CURB (TY II) | LF | 261 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 25 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 51 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 121 |
| 0531-6020 | CURB RAMPS (TY 3) | SY | 15 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 57 |
| 0666-6224 | PAVEMENT SEALER 4" | LF | 32 |
| 0666-6315 | RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) | LF | 32 |
| 0677-6001 | ELIM EXT PAV MRK & MRKS (4") | LF | 32 |
| 0678-6001 | PAV SURF PREP FOR MRK (4") | LF | 32 |

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/2/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/2/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



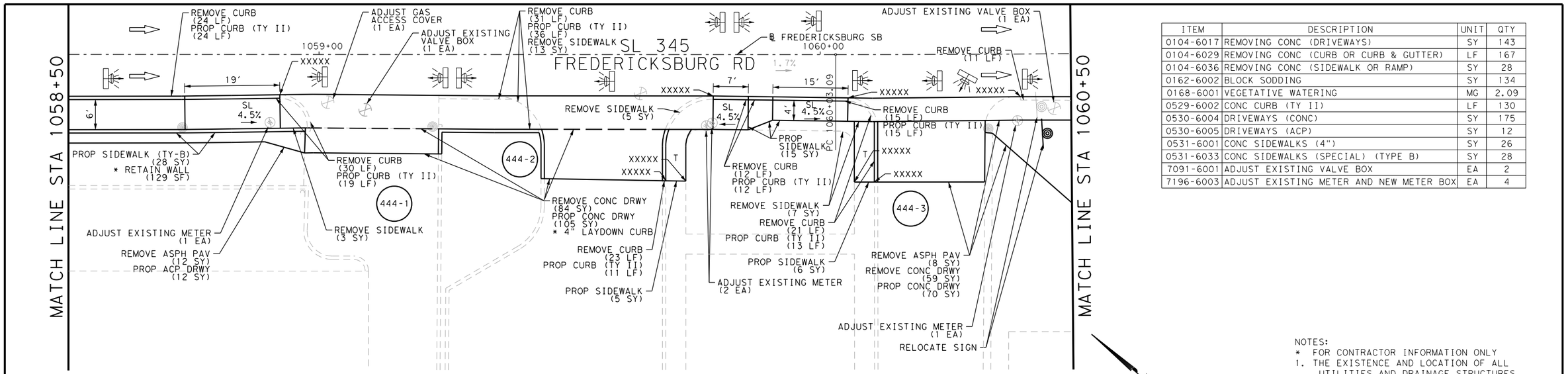
SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN
STA 1056+50 TO STA 1058+50
STA 1256+00 TO STA 1258+00

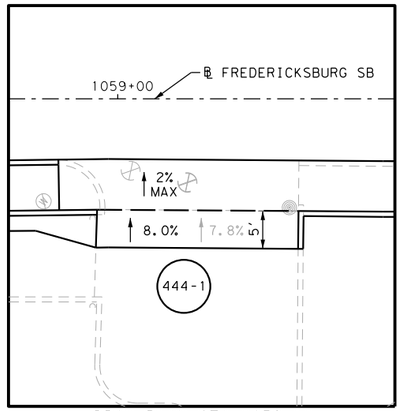


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 443 |

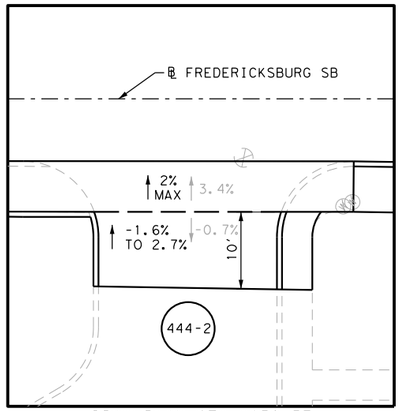
Plotted on: 4/2/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\111508_FredericksburgRd_SB14.dgn



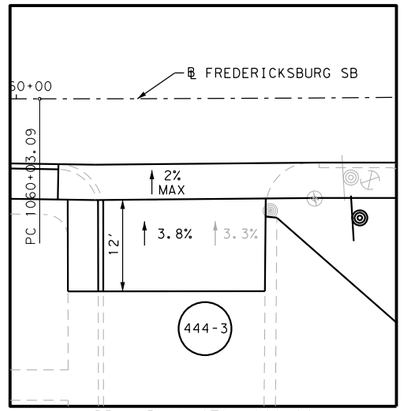

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 143 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 167 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 28 |
| 0162-6002 | BLOCK SODDING | SY | 134 |
| 0168-6001 | VEGETATIVE WATERING | MG | 2.09 |
| 0529-6002 | CONC CURB (TY II) | LF | 130 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 175 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 12 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 26 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 28 |
| 7091-6001 | ADJUST EXISTING VALVE BOX | EA | 2 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 4 |



DRWY PLAN STA 1059+11



DRWY PLAN STA 1059+57



DRWY PLAN STA 1060+22

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



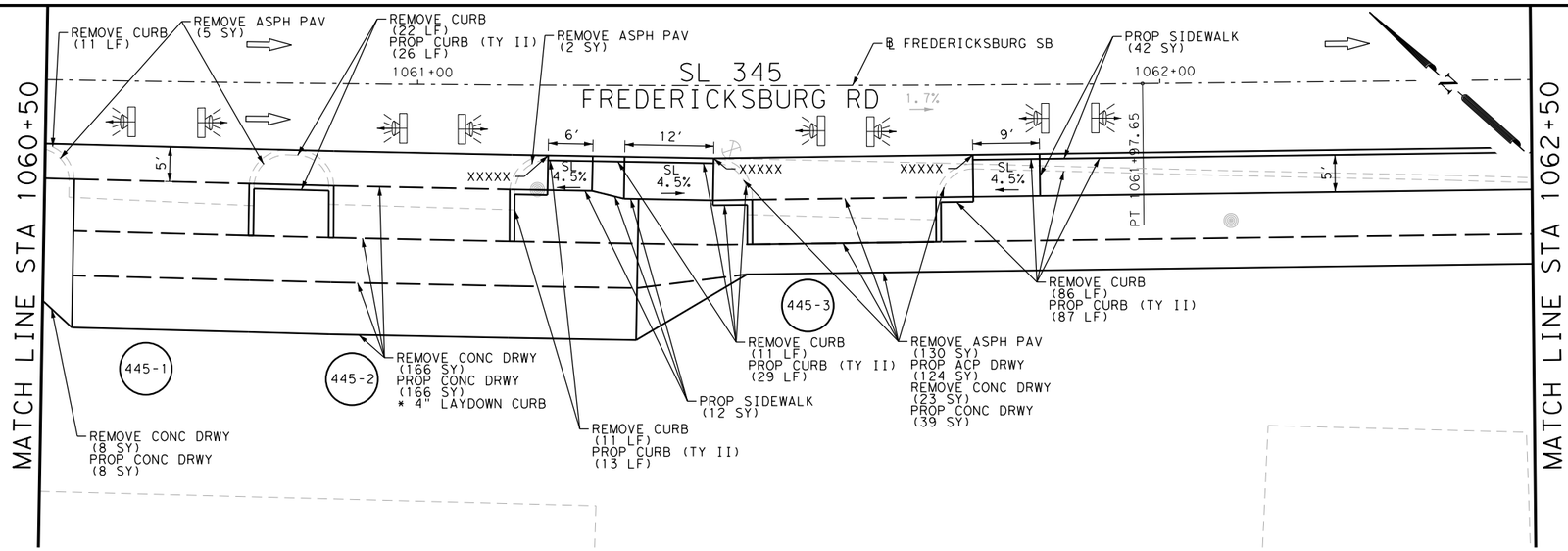
SL 345
FREDERICKSBURG RD

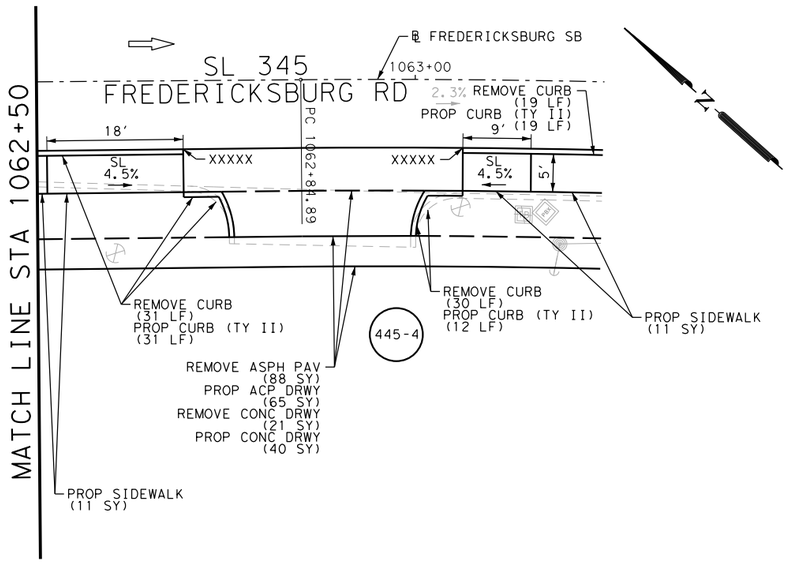
# SIDEWALK CONSTRUCTION PLAN
STA 1058+50 TO STA 1060+50

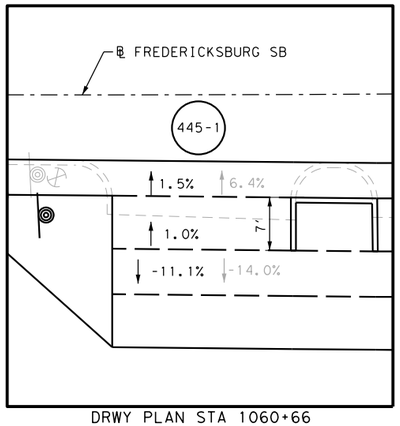


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 444 |

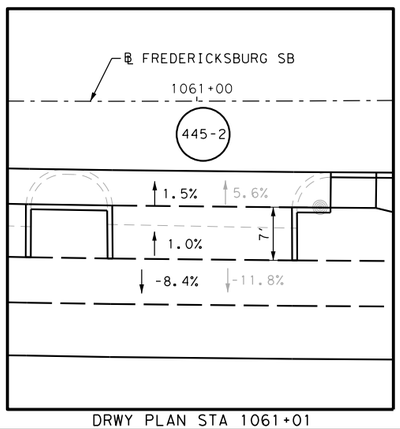
Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\111508_FredericksburgRd_SB15.dgn



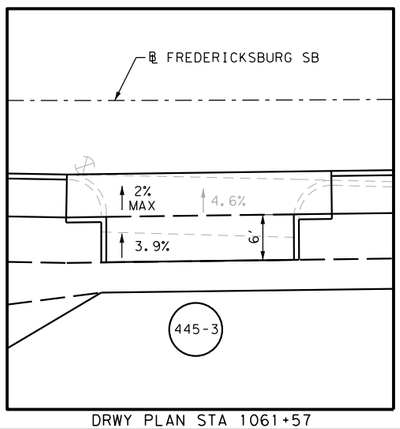



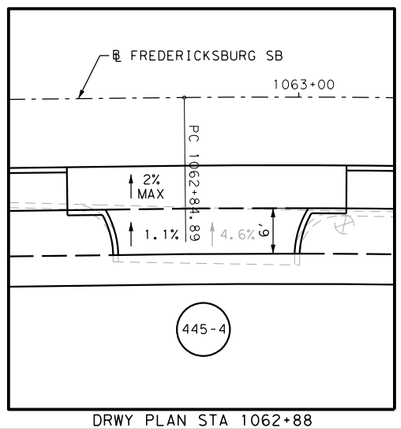

DRWY PLAN STA 1060+66




DRWY PLAN STA 1061+01




DRWY PLAN STA 1061+57




DRWY PLAN STA 1062+88

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 218 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 221 |
| 0529-6002 | CONC CURB (TY II) | LF | 217 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 253 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 189 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 76 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



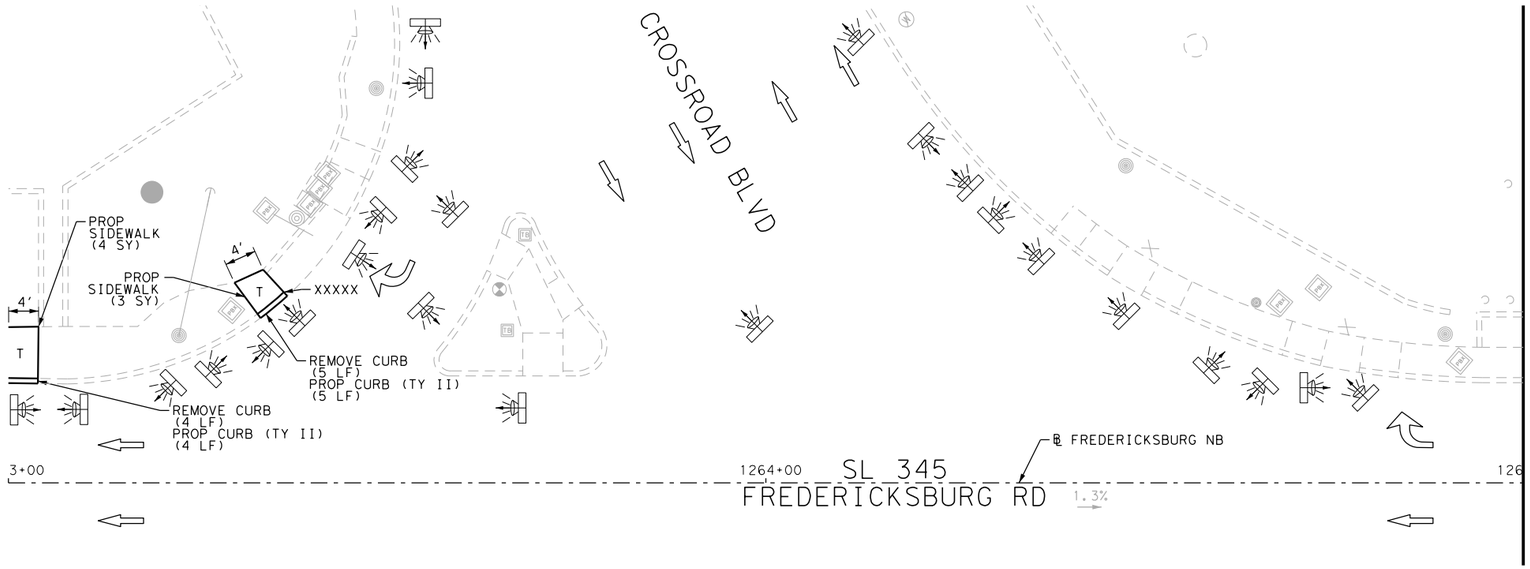
SL 345
FREDERICKSBURG RD

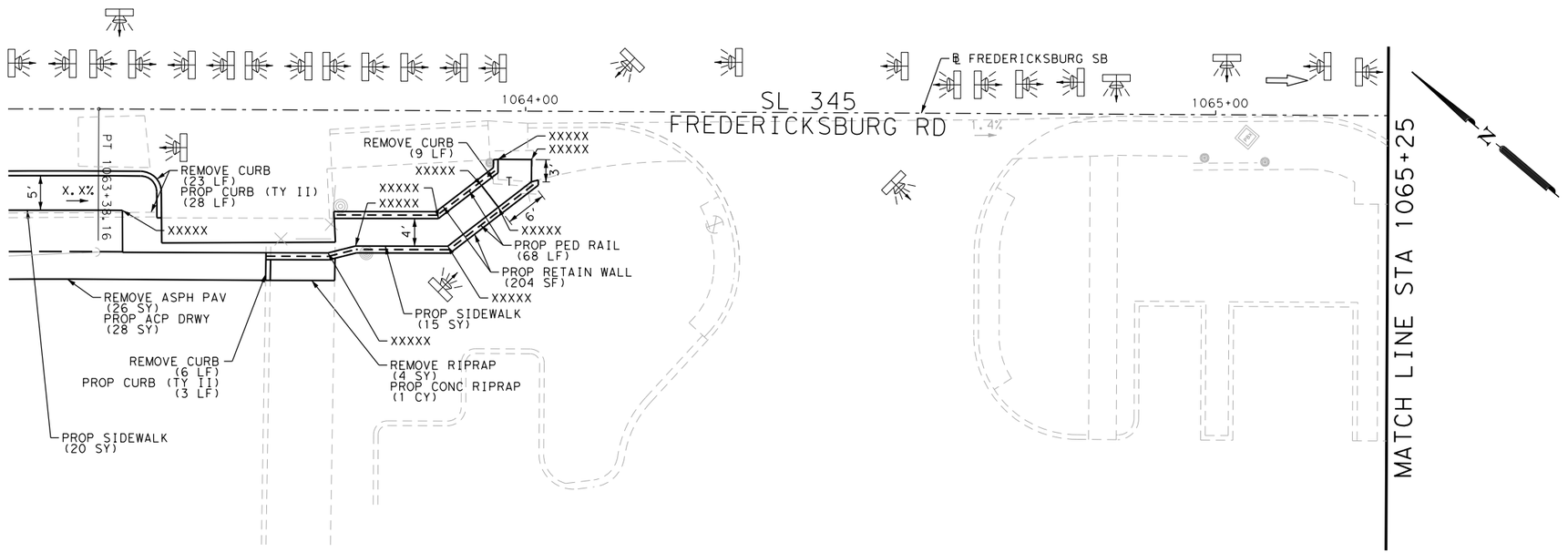
# SIDEWALK CONSTRUCTION PLAN
STA 1060+50 TO STA 1063+25

SHEET 16 OF 24

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 445 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\1113508_FredericksburgRd_SB16.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 4 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 47 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 1 |
| 0529-6002 | CONC CURB (TY II) | LF | 40 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 28 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 42 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

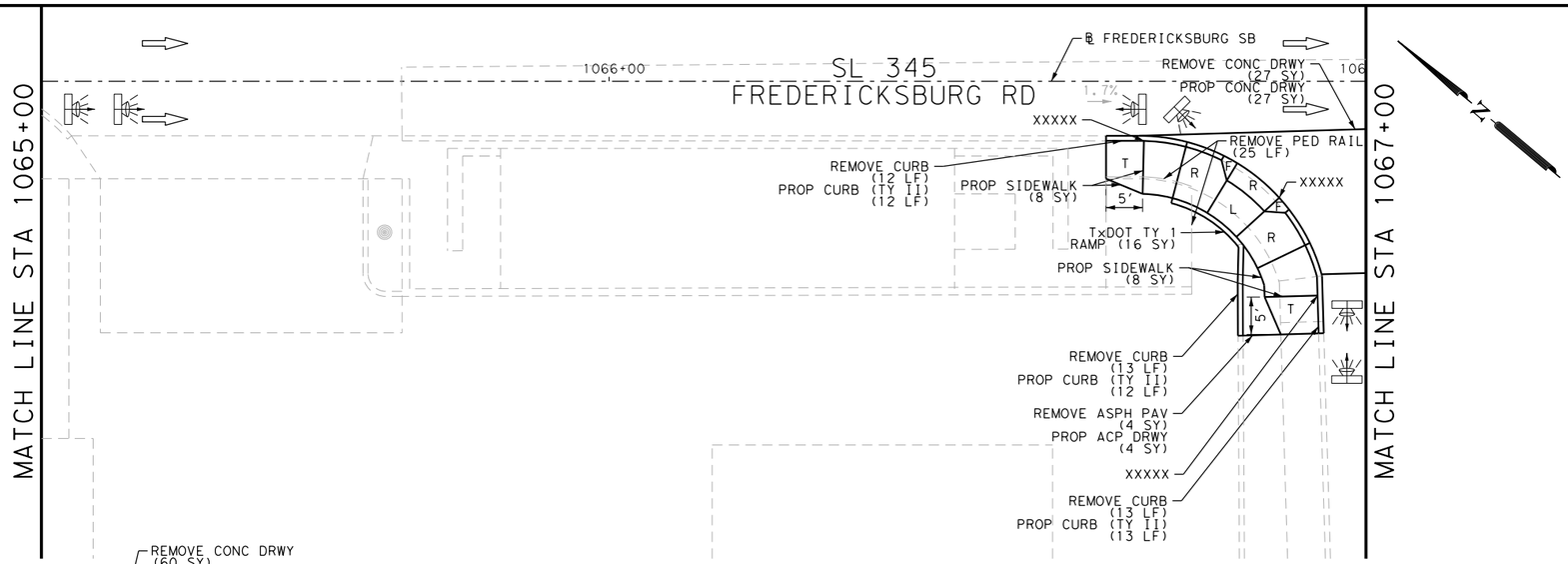
# SIDEWALK CONSTRUCTION PLAN

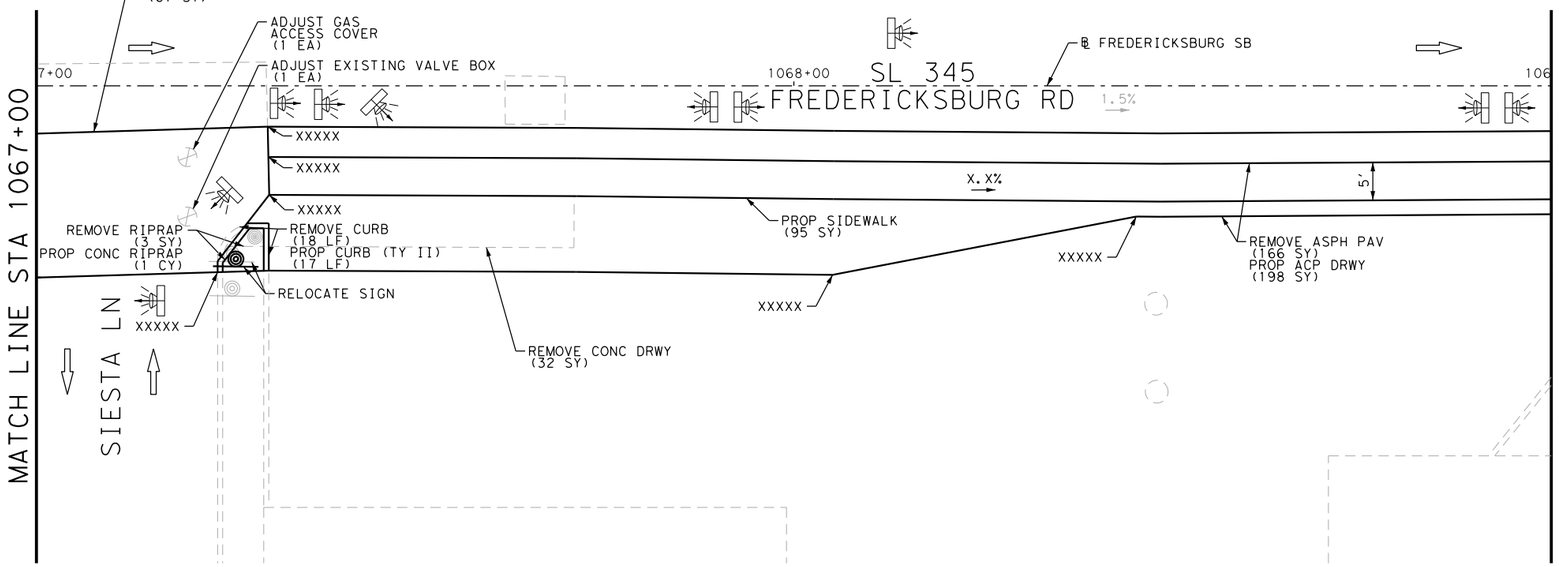
STA 1063+25 TO STA 1065+25
STA 1263+00 TO STA 1265+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 446 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\111508_FredericksburgRd_SB17.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 3 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 119 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 56 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 1 |
| 0529-6002 | CONC CURB (TY II) | LF | 54 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 88 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 202 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 111 |
| 0531-6018 | CURB RAMPS (TY 1) | SY | 16 |
| 7091-6001 | ADJUST EXISTING VALVE BOX | EA | 1 |

NOTES:
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN

STA 1065+25 TO STA 1069+00

SHEET 18 OF 24

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 447 |

Plotted on: 4/1/2019

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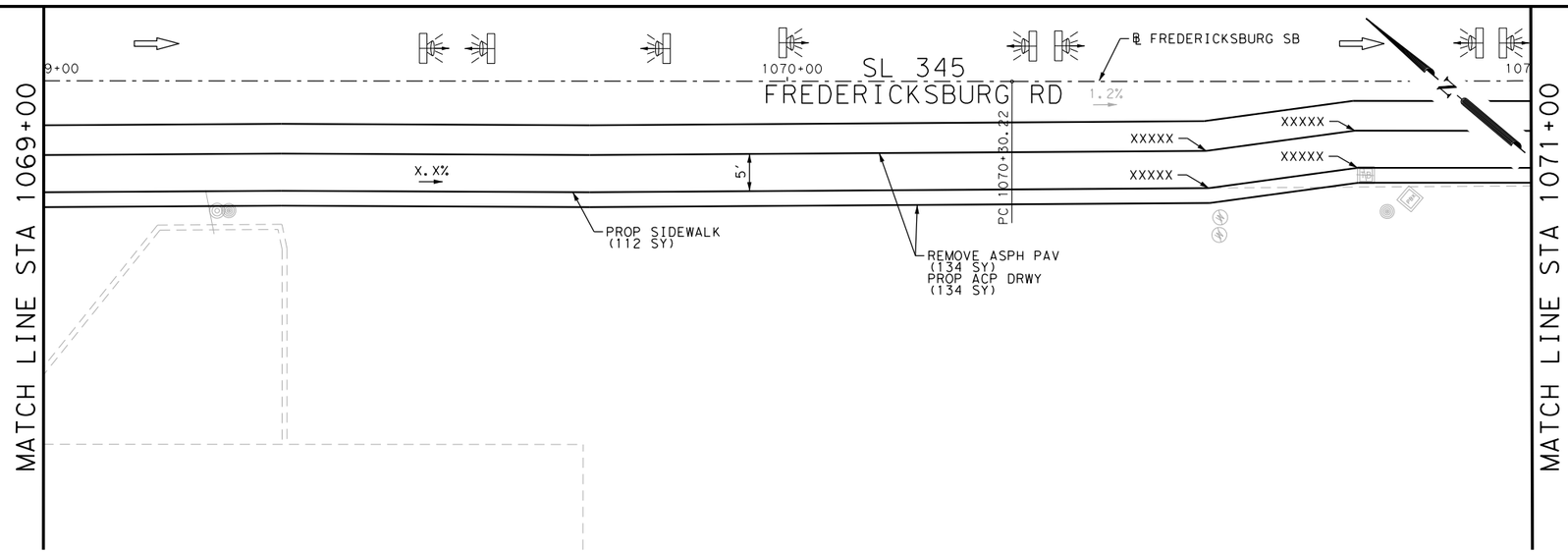


| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0530-6005 | DRIVEWAYS (ACP) | SY | 134 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 112 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN

STA 1069+00 TO STA 1071+00

SHEET 19 OF 24

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 448 |

Plotted on: 4/1/2019

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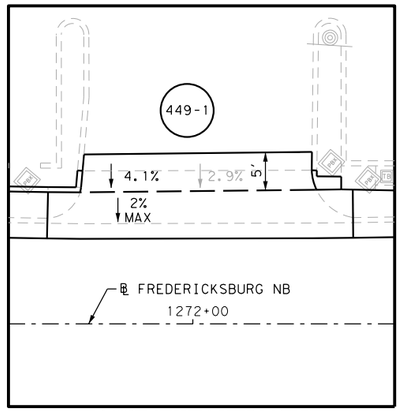
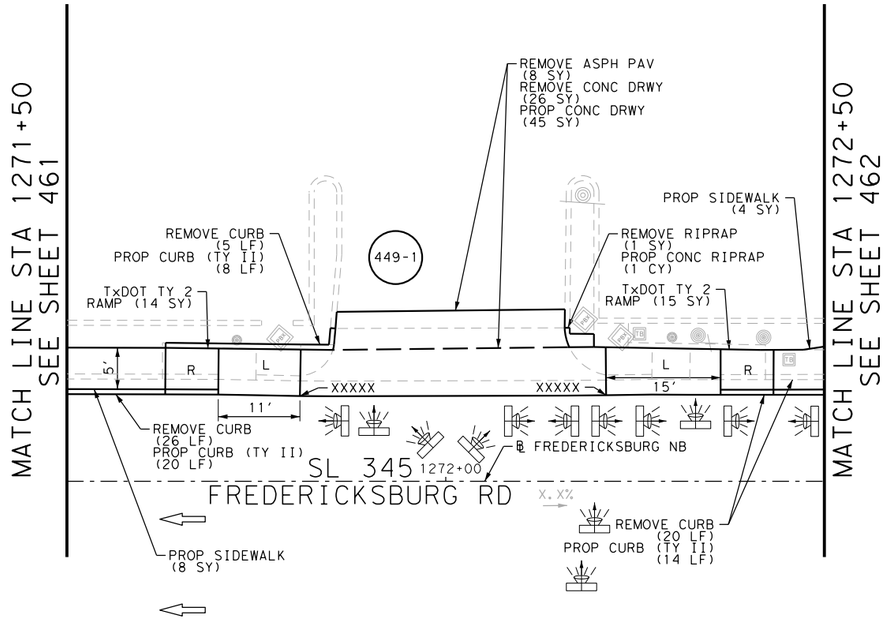
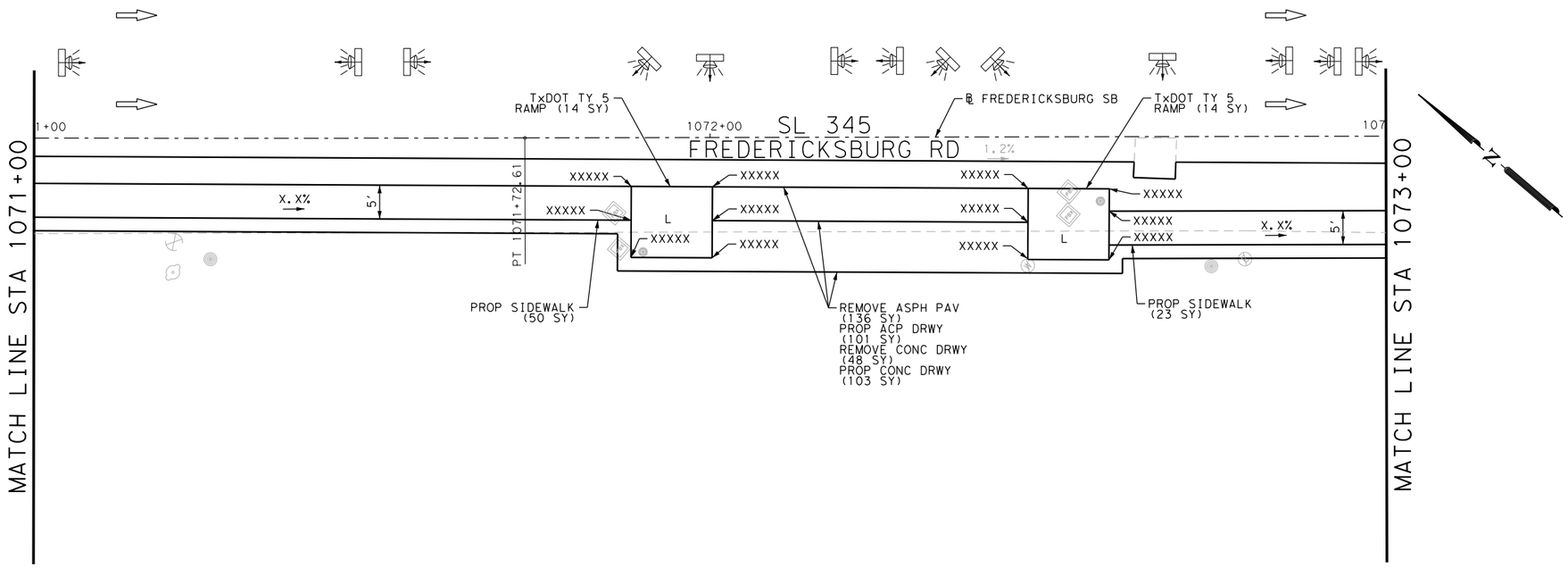



DRWY PLAN STA 1272+01




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6009 | REMOVING CONC (RIPRAP) | SY | 1 |
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 74 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 51 |
| 0432-6003 | RIPRAP (CONC)(6 IN) | CY | 1 |
| 0529-6002 | CONC CURB (TY II) | LF | 42 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 148 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 101 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 85 |
| 0531-6019 | CURB RAMPS (TY 2) | SY | 29 |
| 0531-6022 | CURB RAMPS (TY 5) | SY | 28 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN
STA 1071+00 TO STA 1073+00
STA 1271+50 TO STA 1272+50

SHEET 20 OF 24

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 449 |

Plotted on: 4/1/2019

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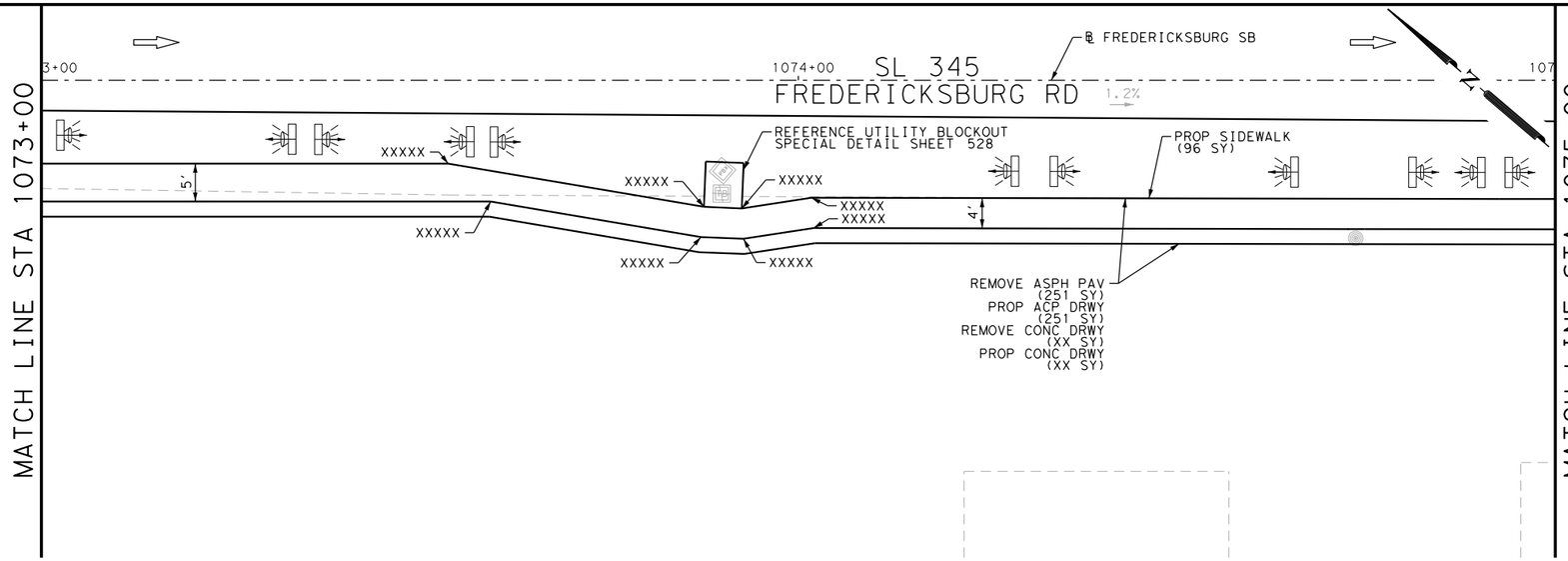
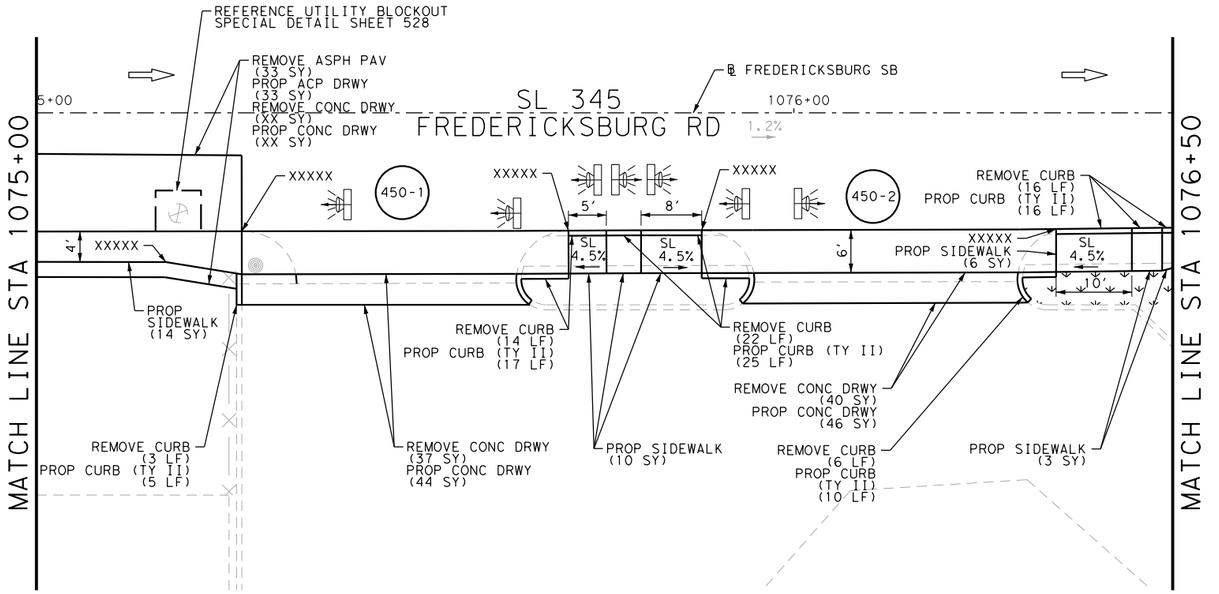
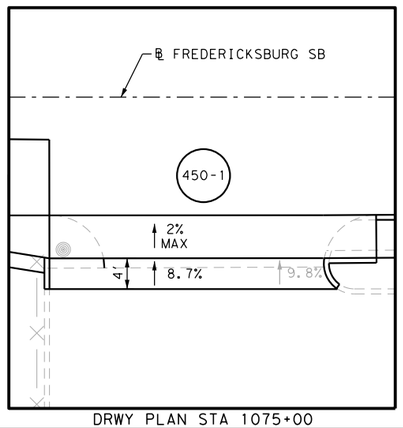
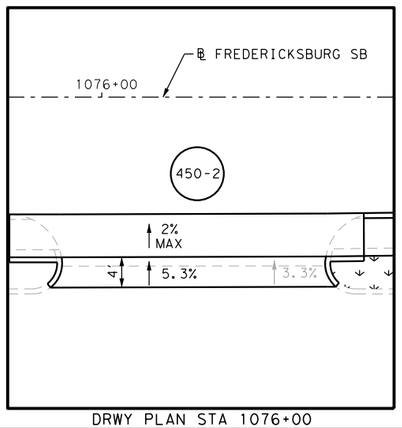



DRWY PLAN STA 1075+00




DRWY PLAN STA 1076+00

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 77 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 61 |
| 0529-6002 | CONC CURB (TY II) | LF | 73 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 90 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 284 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 129 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN

STA 1073+00 TO STA 1076+50

SHEET 21 OF 24

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 450 |

Plotted on: 4/1/2019
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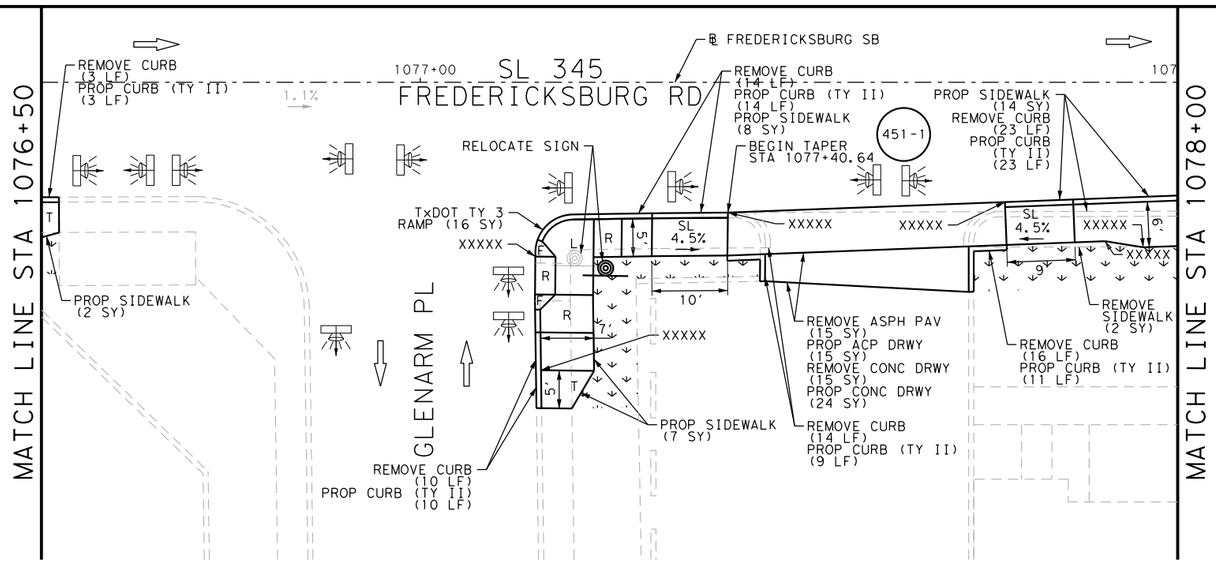
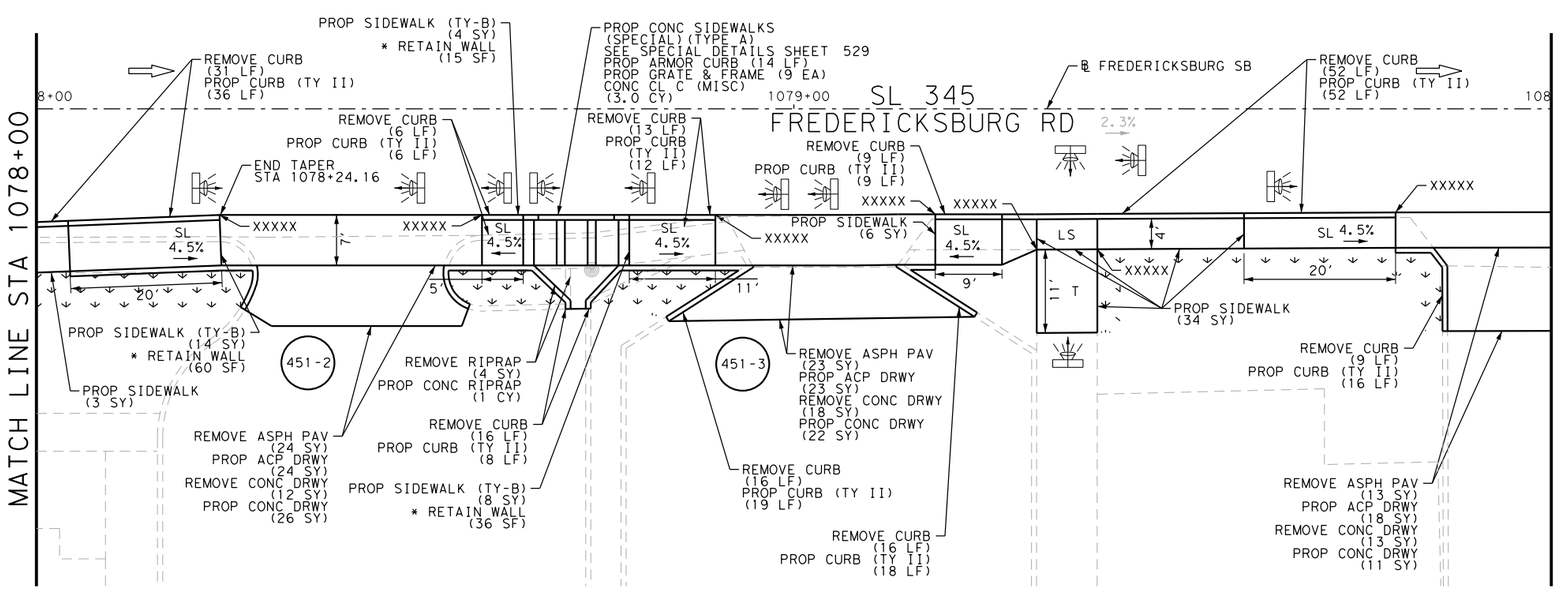
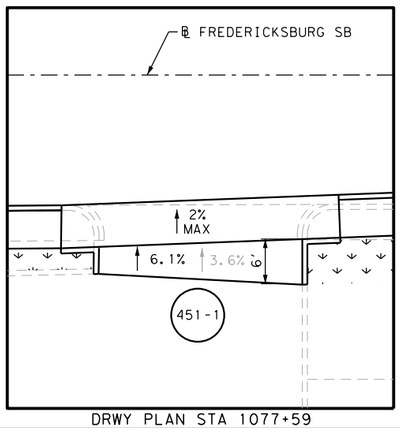
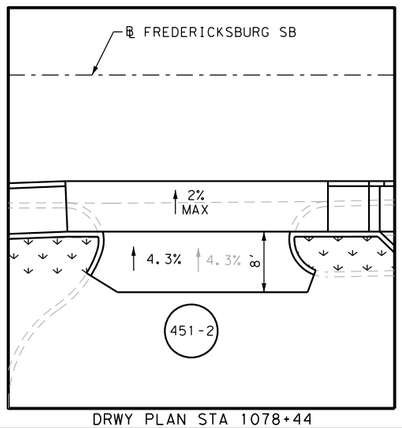


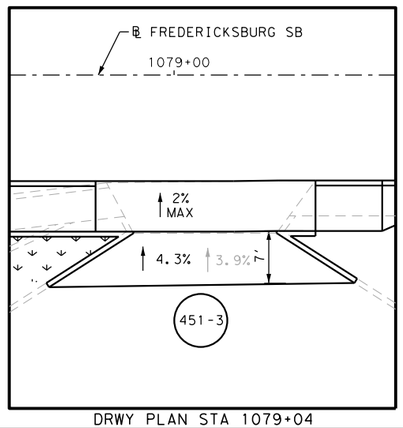



DRWY PLAN STA 1077+59



DRWY PLAN STA 1078+44



DRWY PLAN STA 1079+04

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 58 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 248 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 2 |
| 0162-6002 | BLOCK SODDING | SY | 89 |
| 0168-6001 | VEGETATIVE WATERING | MG | 1.39 |
| 0420-6074 | CL C CONC (MISC) | CY | 3.0 |
| 0471-6003 | GRATE & FRAME | EA | 9 |
| 0529-6002 | CONC CURB (TY II) | LF | 246 |
| 0529-6020 | CONC CURB & GUTTER (ARMOR CURB) | LF | 14 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 83 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 80 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 74 |
| 0531-6020 | CURB RAMPS (TY 3) | SY | 16 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 26 |

NOTES:
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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN

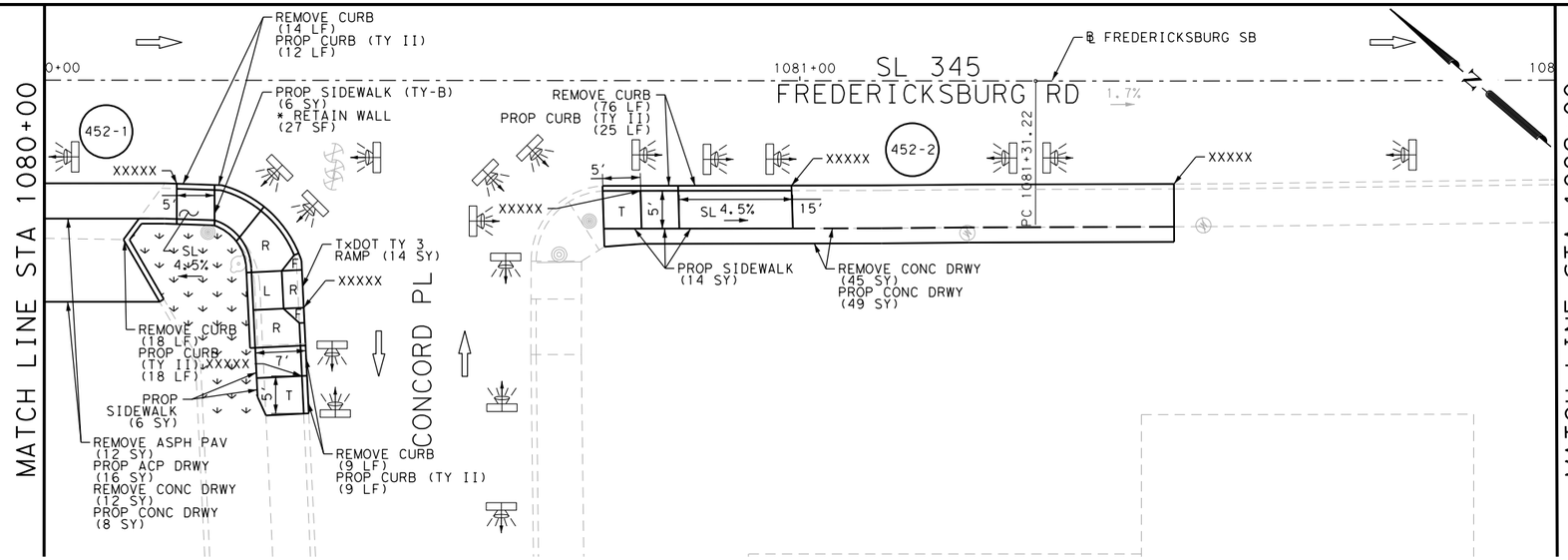
STA 1076+50 TO STA 1080+00

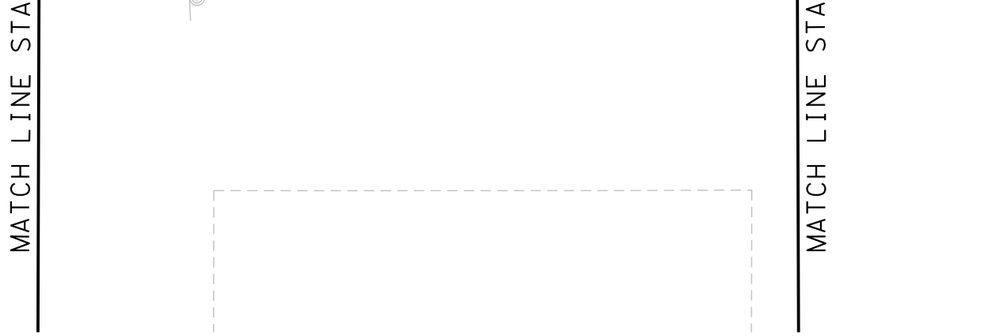
SHEET 22 OF 24

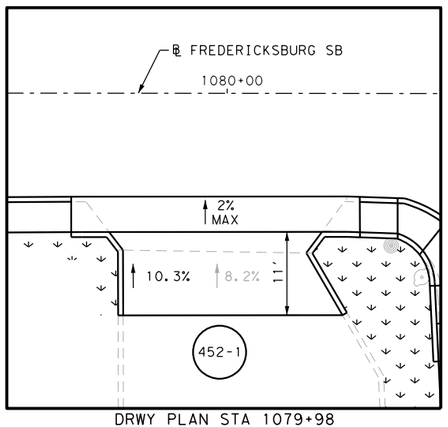
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 451 |

Plotted on: 4/1/2019

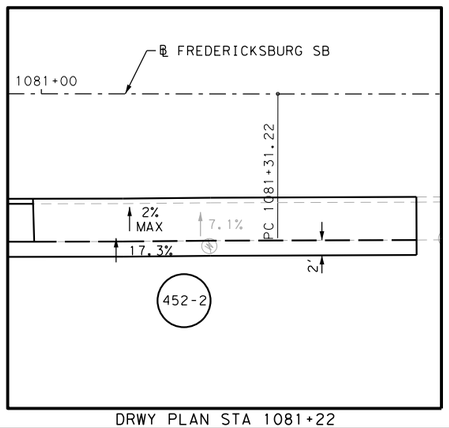
Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\1113508_FredericksburgRd_SB22.dgn




DRWY PLAN STA 1079+98




DRWY PLAN STA 1081+22

| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 57 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 117 |
| 0529-6002 | CONC CURB (TY II) | LF | 64 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 57 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 16 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 20 |
| 0531-6020 | CURB RAMPS (TY 3) | SY | 14 |
| 0531-6033 | CONC SIDEWALKS (SPECIAL) (TYPE B) | SY | 6 |

NOTES:
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1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN

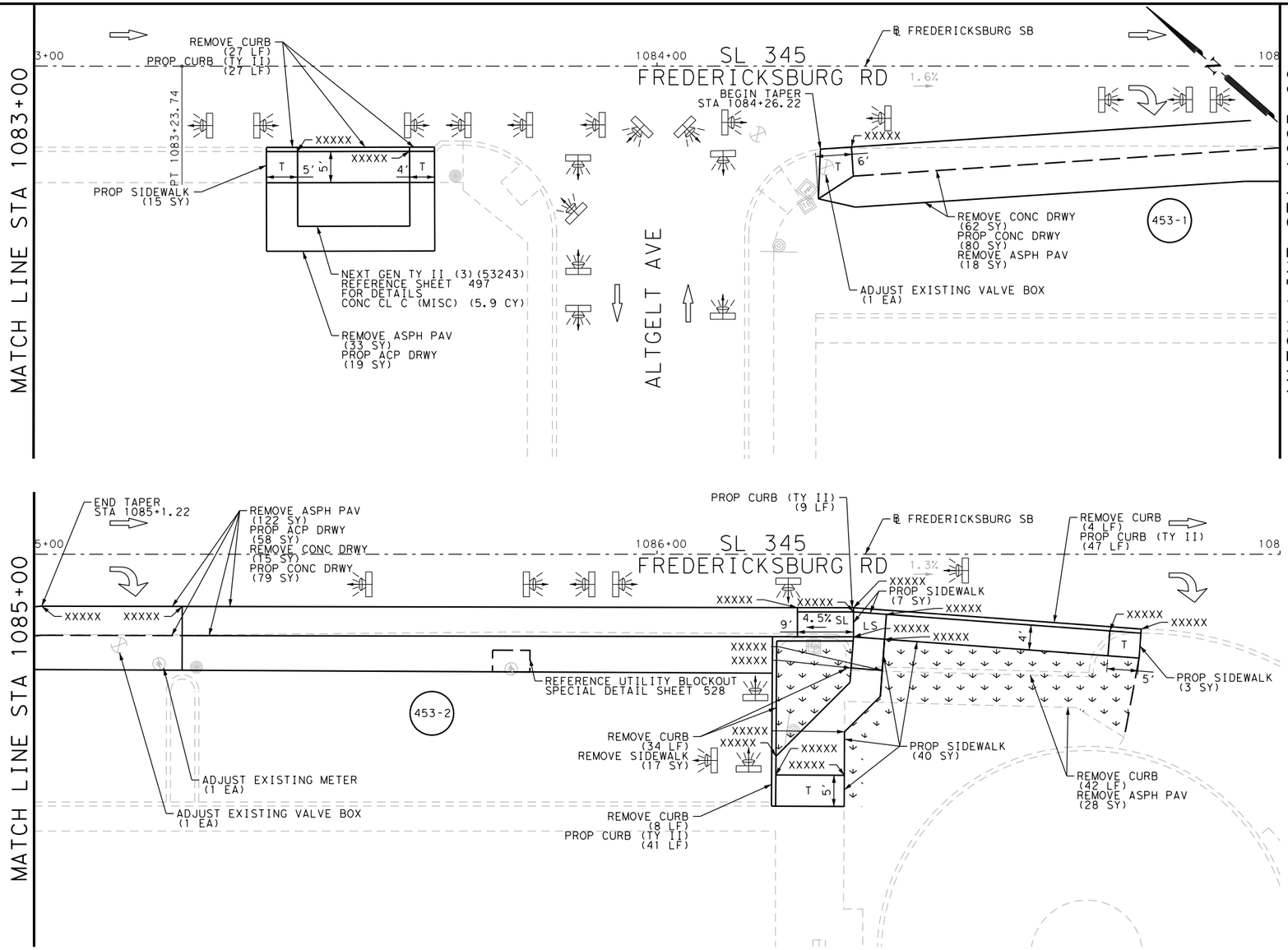
STA 1080+00 TO STA 1083+00

SHEET 23 OF 24

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 452 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\1113508_FredericksburgRd_SB23.dgn




| ITEM | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 0104-6017 | REMOVING CONC (DRIVEWAYS) | SY | 77 |
| 0104-6029 | REMOVING CONC (CURB OR CURB & GUTTER) | LF | 115 |
| 0104-6036 | REMOVING CONC (SIDEWALK OR RAMP) | SY | 45 |
| 0420-6074 | CL C CONC (MISC) | CY | 5.9 |
| 0529-6002 | CONC CURB (TY II) | LF | 124 |
| 0530-6004 | DRIVEWAYS (CONC) | SY | 159 |
| 0530-6005 | DRIVEWAYS (ACP) | SY | 77 |
| 0531-6001 | CONC SIDEWALKS (4") | SY | 65 |
| 7091-6001 | ADJUST EXISTING VALVE BOX | EA | 2 |
| 7196-6003 | ADJUST EXISTING METER AND NEW METER BOX | EA | 1 |

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

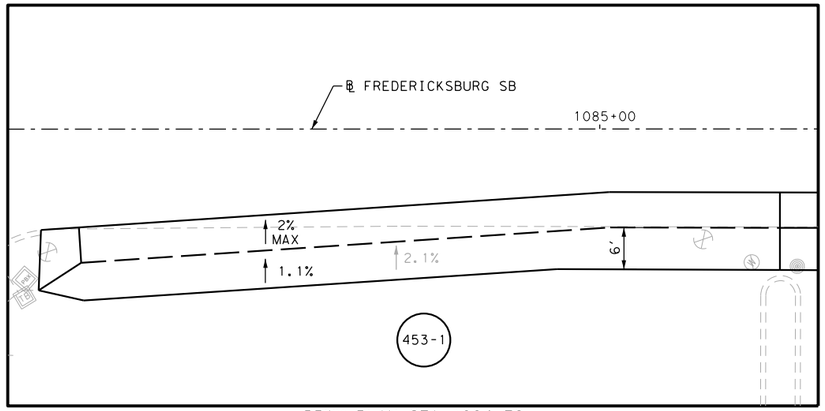
# SIDEWALK CONSTRUCTION PLAN

STA 1083+00 TO STA 1087+00

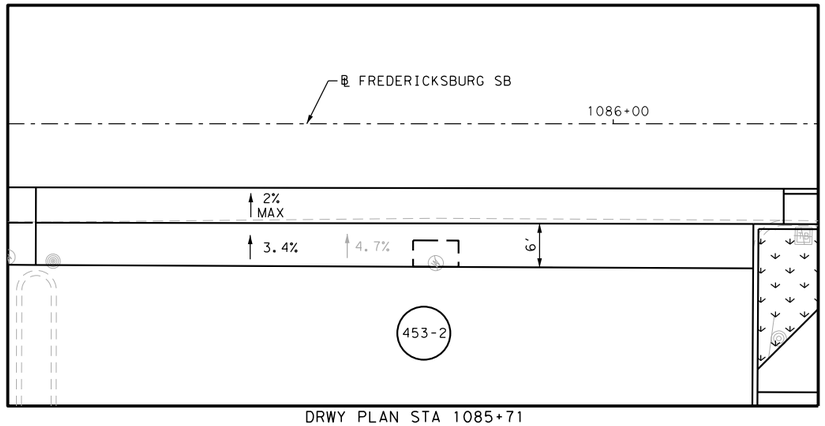
SHEET 24 OF 24

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 453 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\Fredericksburg\1113508_FredericksburgRd_SB24.dgn




DRWY PLAN STA 1084+78




DRWY PLAN STA 1085+71

NOTES:
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1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
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DESIGN

INTERIM REVIEW
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



SL 345
FREDERICKSBURG RD

# SIDEWALK CONSTRUCTION PLAN

FREDSB24A

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 57411 3508 | FRED_SB24A |

Plotted on: 4/1/2019
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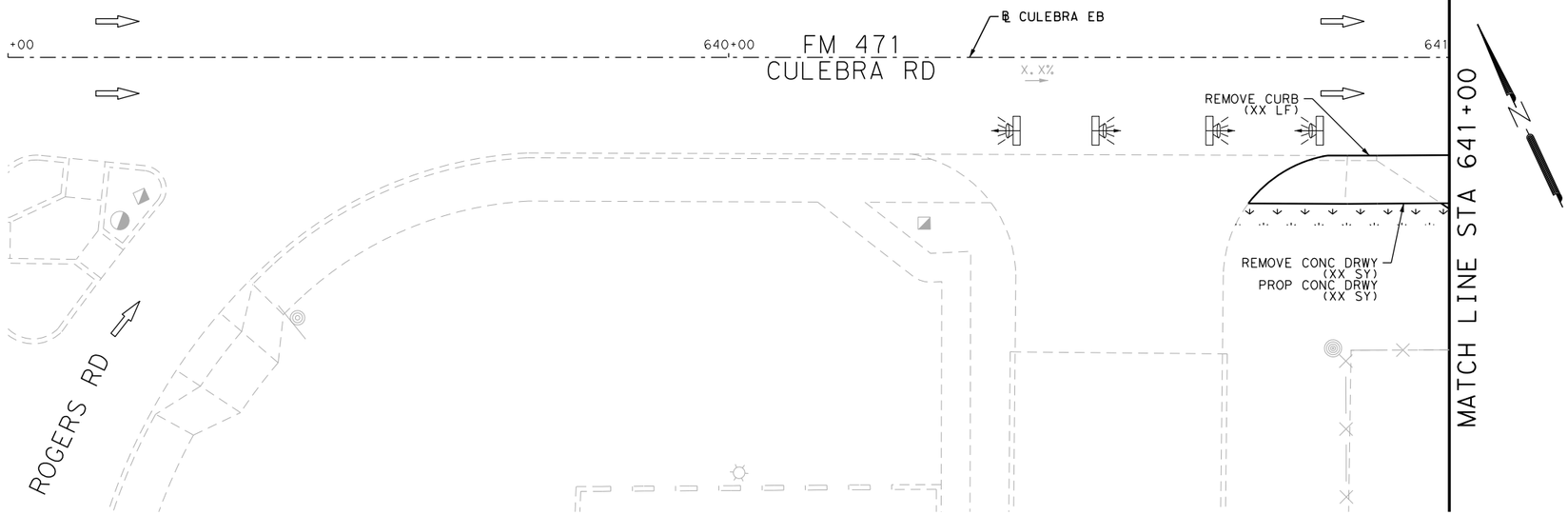


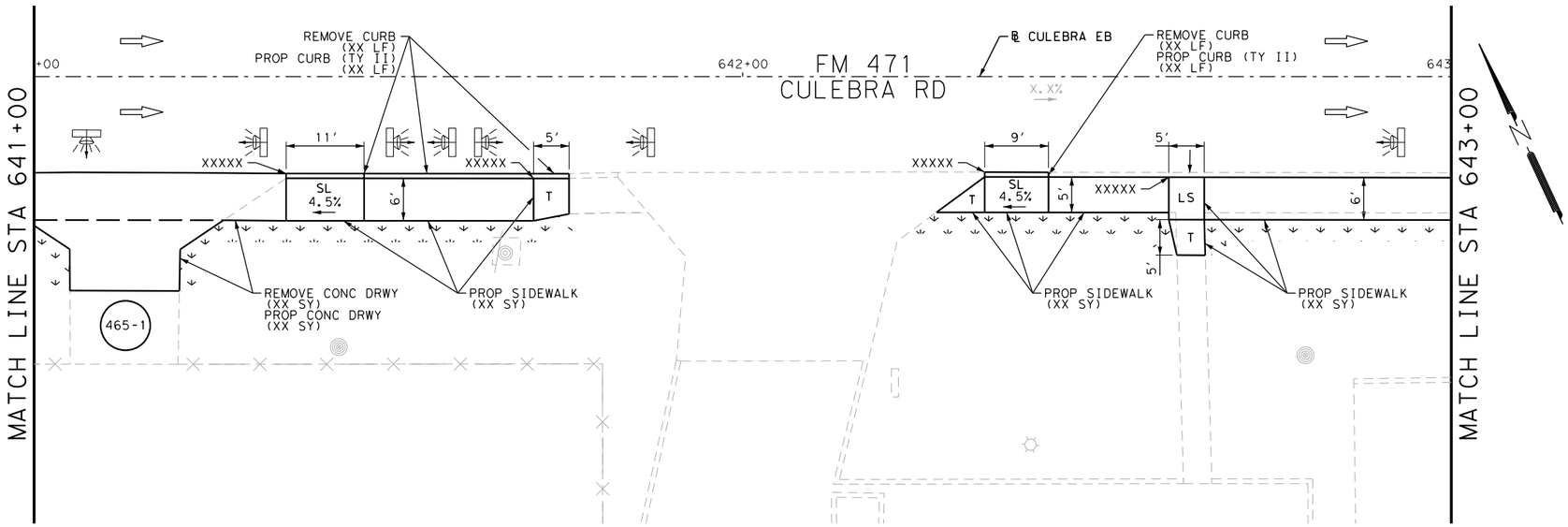


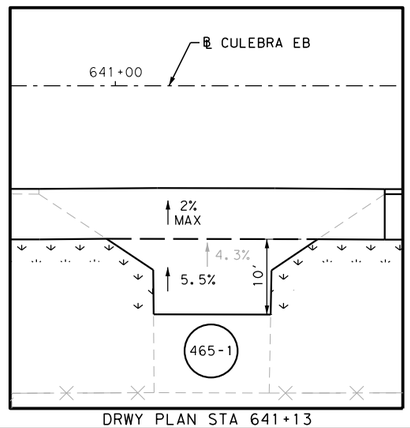


DRWY PLAN STA 641+13

NOTES:
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1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
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DESIGN

INTERIM REVIEW

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20′

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



FM 471
CULEBRA RD

# SIDEWALK CONSTRUCTION PLAN

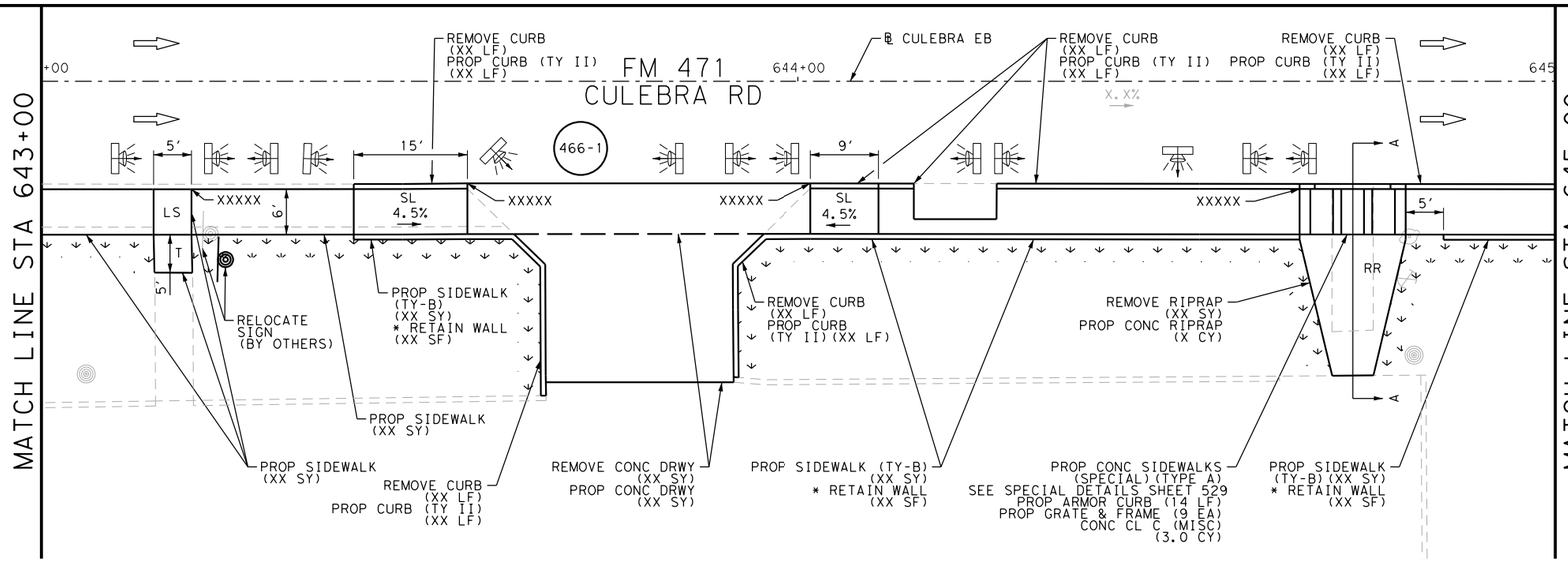
STA 639+00 TO STA 643+00

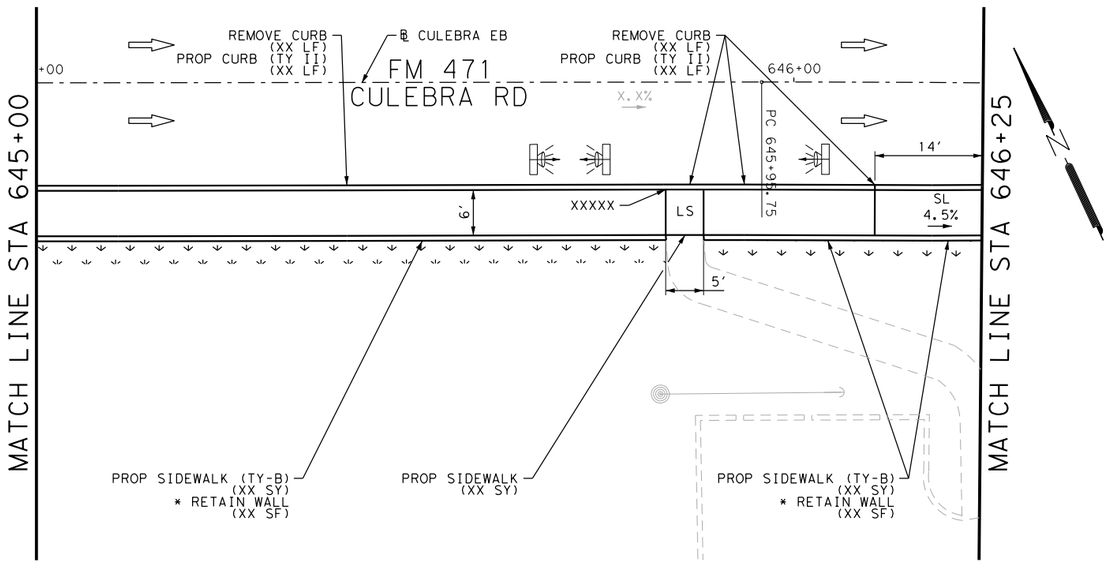
SHEET 1 OF 6

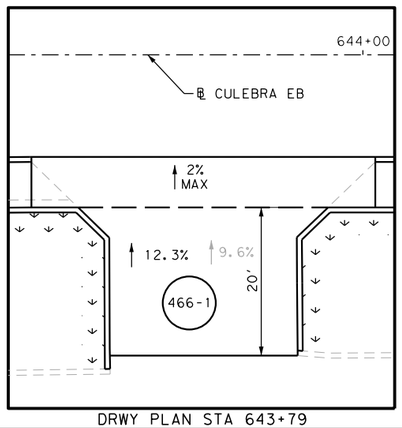
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 465 |

Plotted on: 4/1/2019

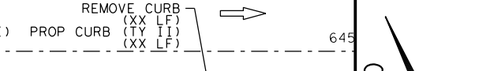
Design Filename: P:\111\35\08\Design\Civil\Roadway\Culebra\1113508_Culebra_EB01.dgn




DRWY PLAN STA 643+79




SECTION A-A

NTS

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



FM 471
CULEBRA RD

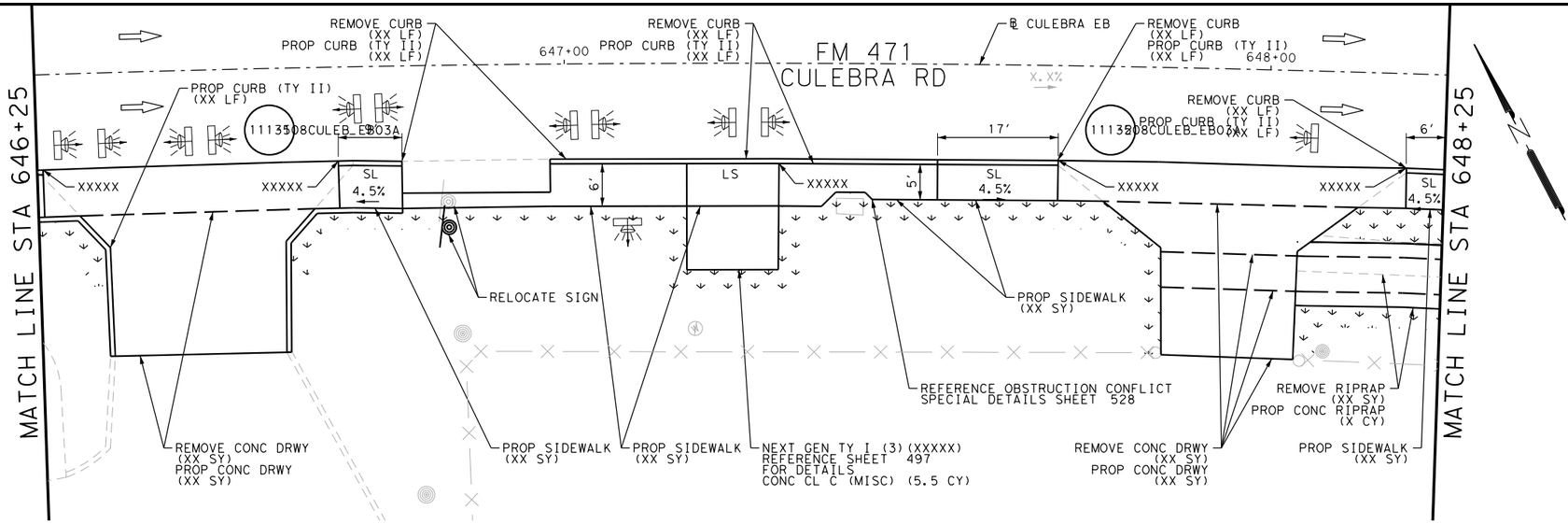
# SIDEWALK CONSTRUCTION PLAN
STA 643+00 TO STA 646+25

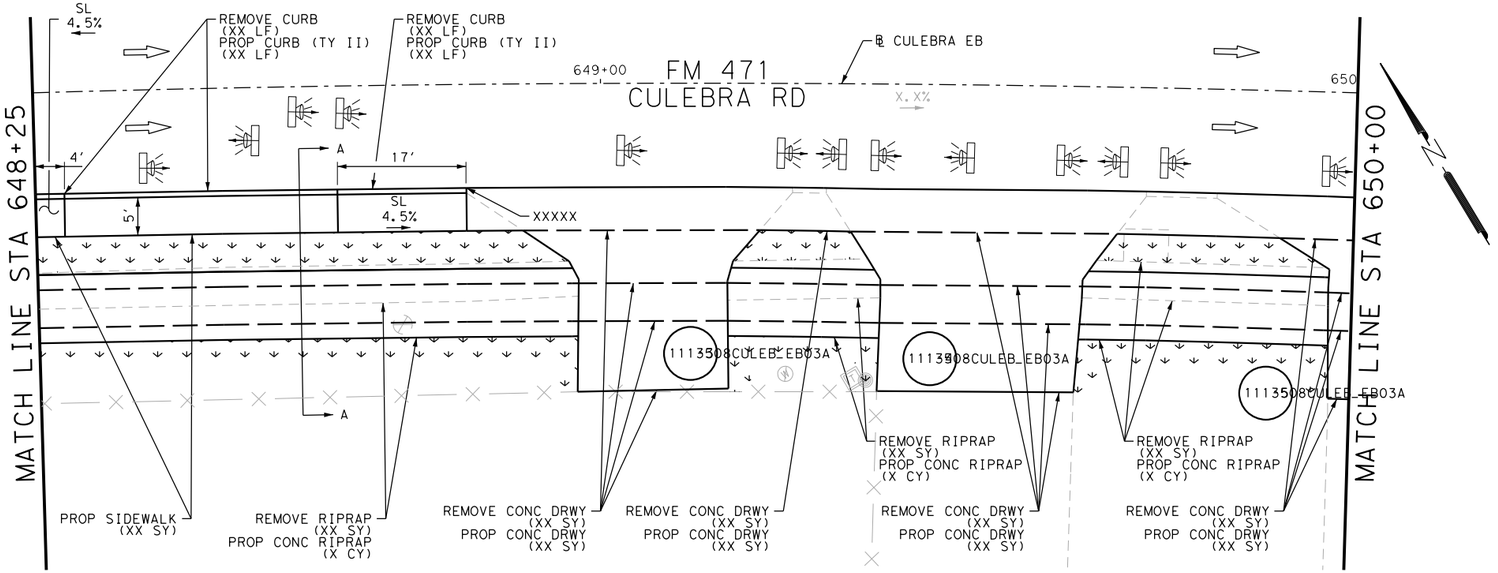


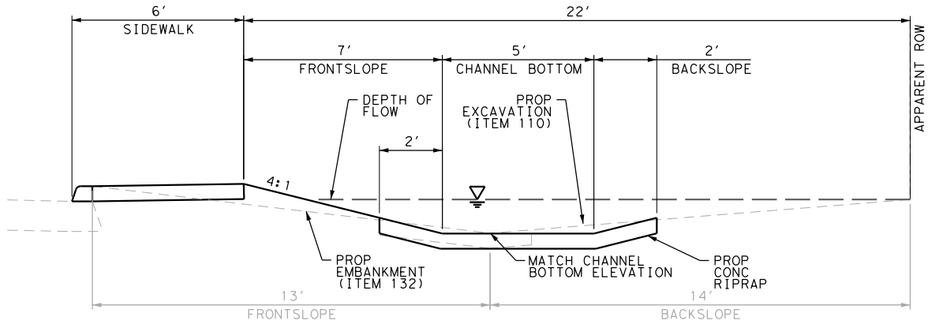
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 466 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Culebra\111508_Culebra_EB02.dgn




## SECTION A-A

N. T. S.

| EXISTING DITCH | | | | PROPOSED DITCH | | | |
|---|---|---|---|---|---|---|---|
| Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | | Q = (Z/n)A(R^(2/3))(S^(1/2)) | | | |
| Equation 7-1 | | | | Equation 7-1 | | | |
| S | FL SLOPE | 0.013 | FT/FT | S | FL SLOPE | 0.013 | FT/FT |
| n | MANNING'S N-VALUE | 0.02 | | n | MANNING'S N-VALUE | 0.02 | |
| A | AREA | 12.9 | SQ FT | A | AREA | 11.9 | SQ FT |
| P | WETTED PERIMETER | 23.4 | FT | P | WETTED PERIMETER | 19.1 | FT |
| R | HYDRAULIC RADIUS | 0.55 | FT | R | HYDRAULIC RADIUS | 0.62 | FT |
| Z | CONVERSION FACTOR | 1.49 | | Z | CONVERSION FACTOR | 1.49 | |
| Q | DISCHARGE | 98.0 | CFS | Q | DISCHARGE | 98.1 | CFS |

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



FM 471
CULEBRA RD

# SIDEWALK CONSTRUCTION PLAN

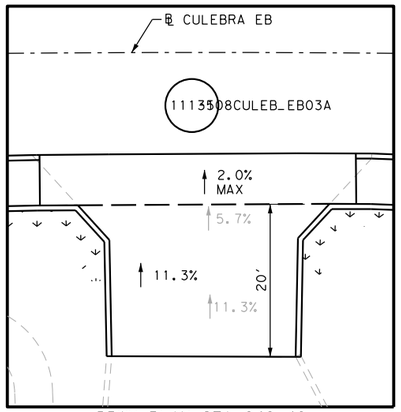
STA 646+25 TO STA 650+00

SHEET 3 OF 6

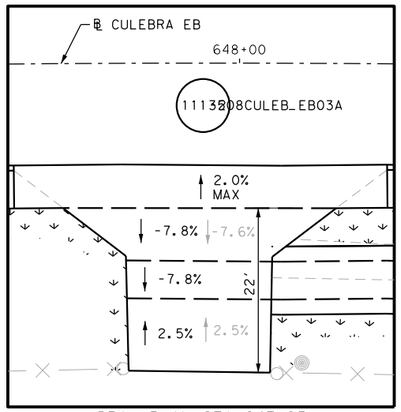
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 467 |

Plotted on: 4/1/2019

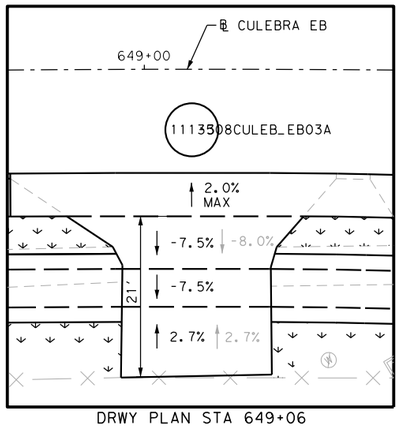
Design Filename: P:\111\35\08\Design\Civil\Roadway\Culebra\1113508_Culebra_EB03.dgn



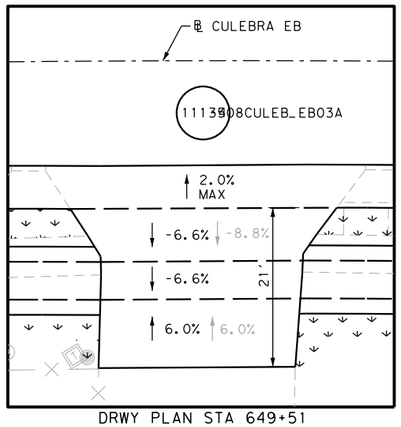
DRWY PLAN STA 646+48



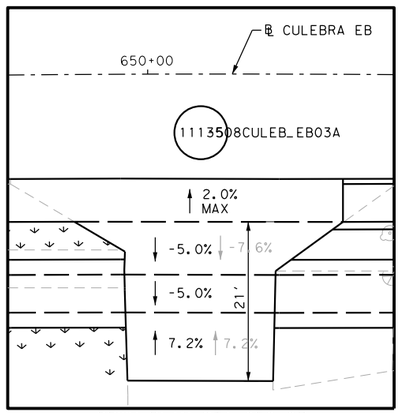
DRWY PLAN STA 647+95



DRWY PLAN STA 649+06



DRWY PLAN STA 649+51



DRWY PLAN STA 650+07

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



FM 471
CULEBRA RD

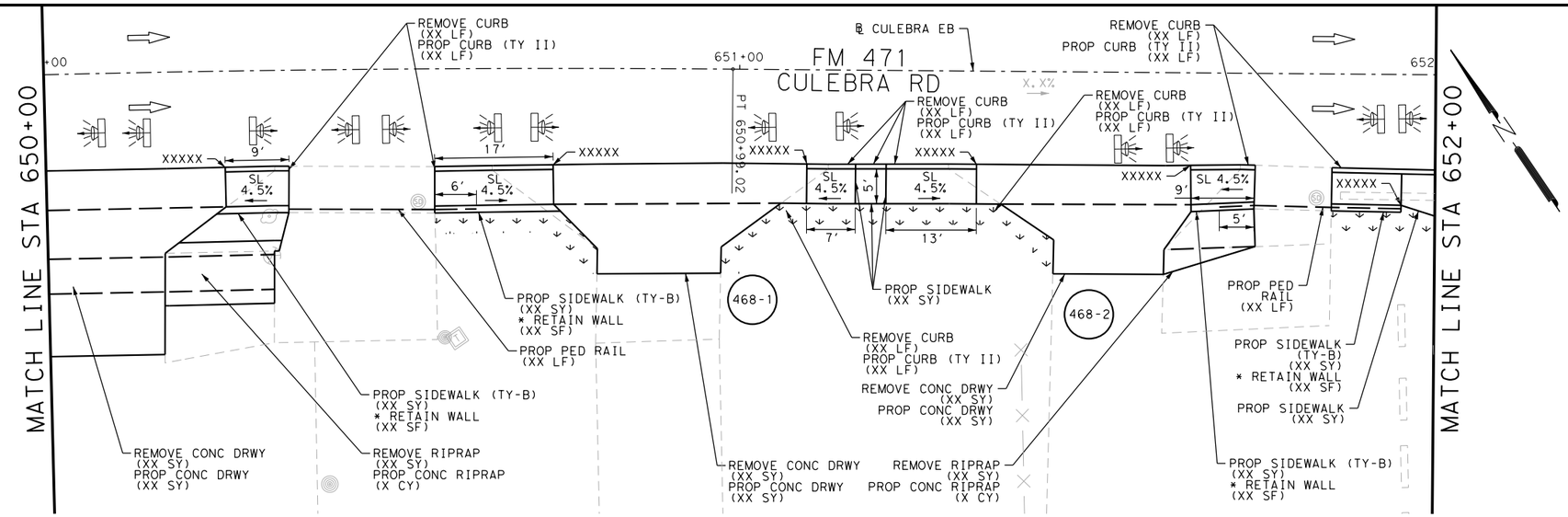
# SIDEWALK CONSTRUCTION PLAN

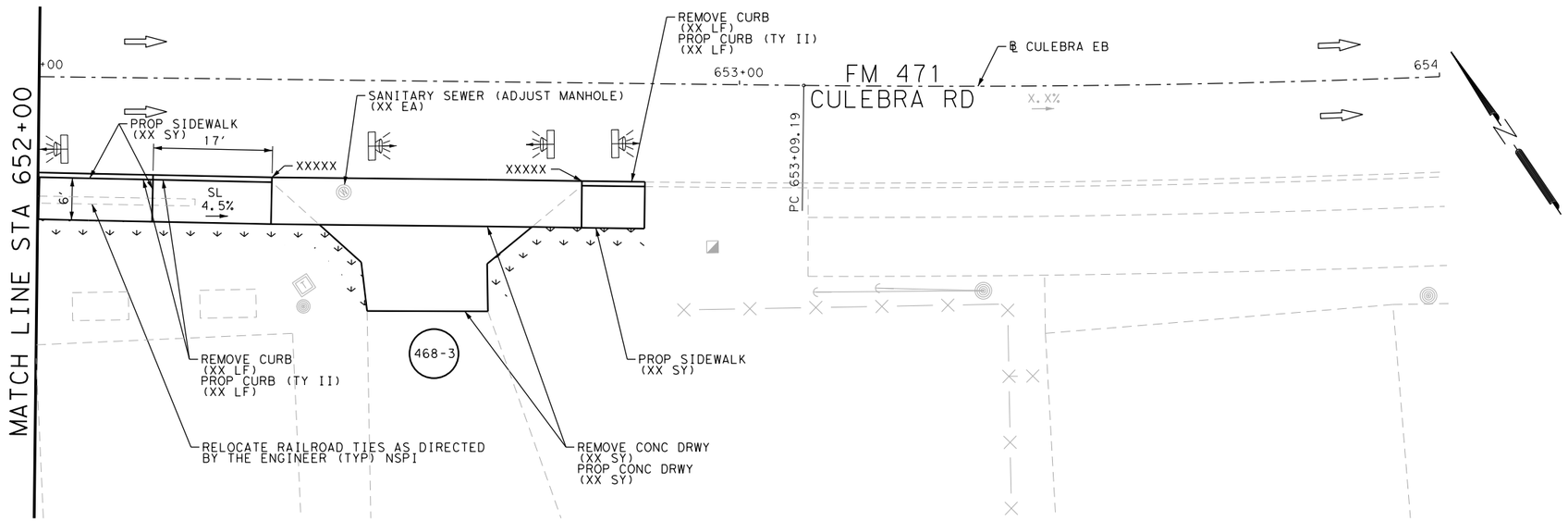
CULEBEB03A

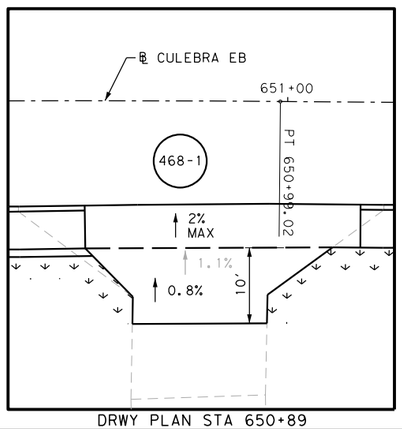
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 5741 | 3508CULEB_EB03A |

Plotted on: 4/1/2019

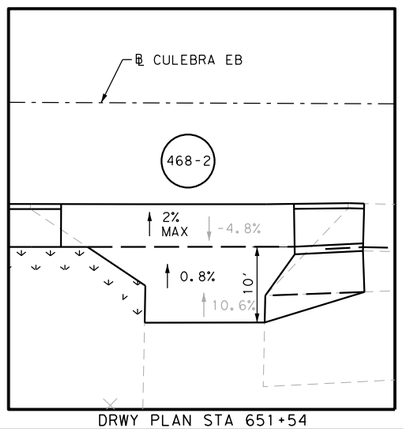
Design Filename: P:\111\35\08\Design\Civil\Roadway\Culebra\1113508_Culebra_EB03A.dgn




DRWY PLAN STA 650+89

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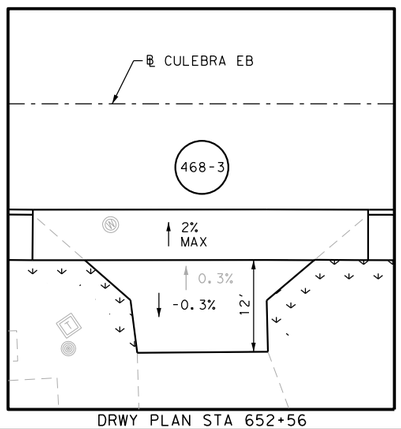


DRWY PLAN STA 652+56

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20′

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



FM 471
CULEBRA RD

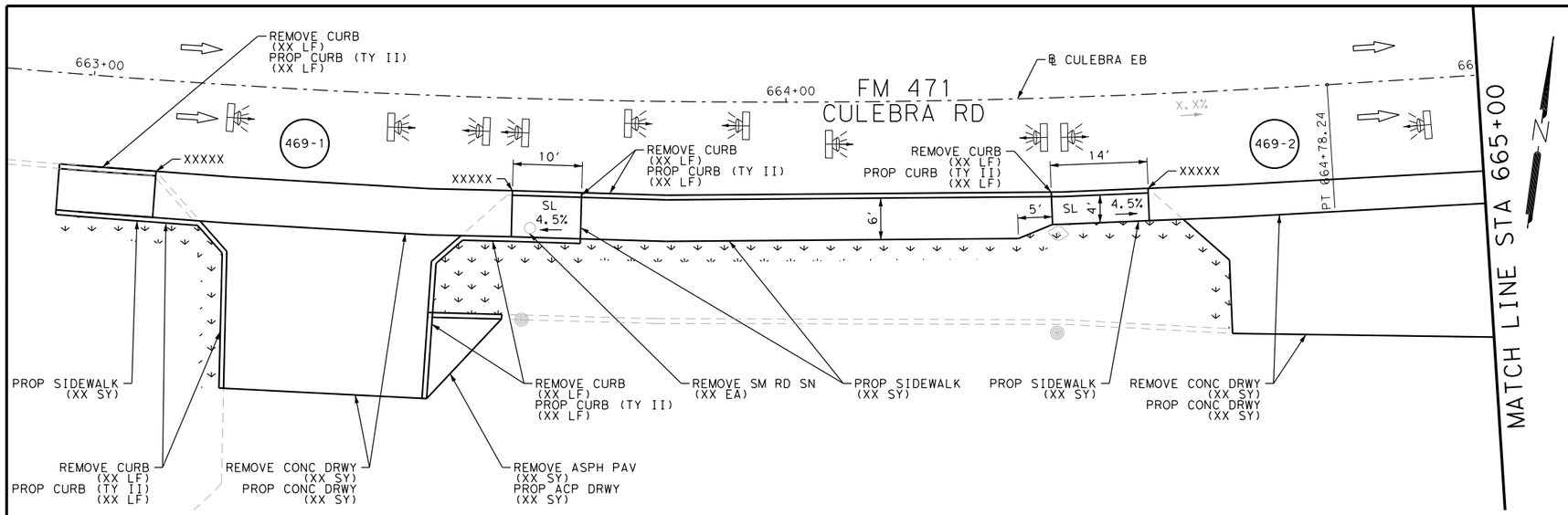
# SIDEWALK CONSTRUCTION PLAN
STA 650+00 TO STA 654+00

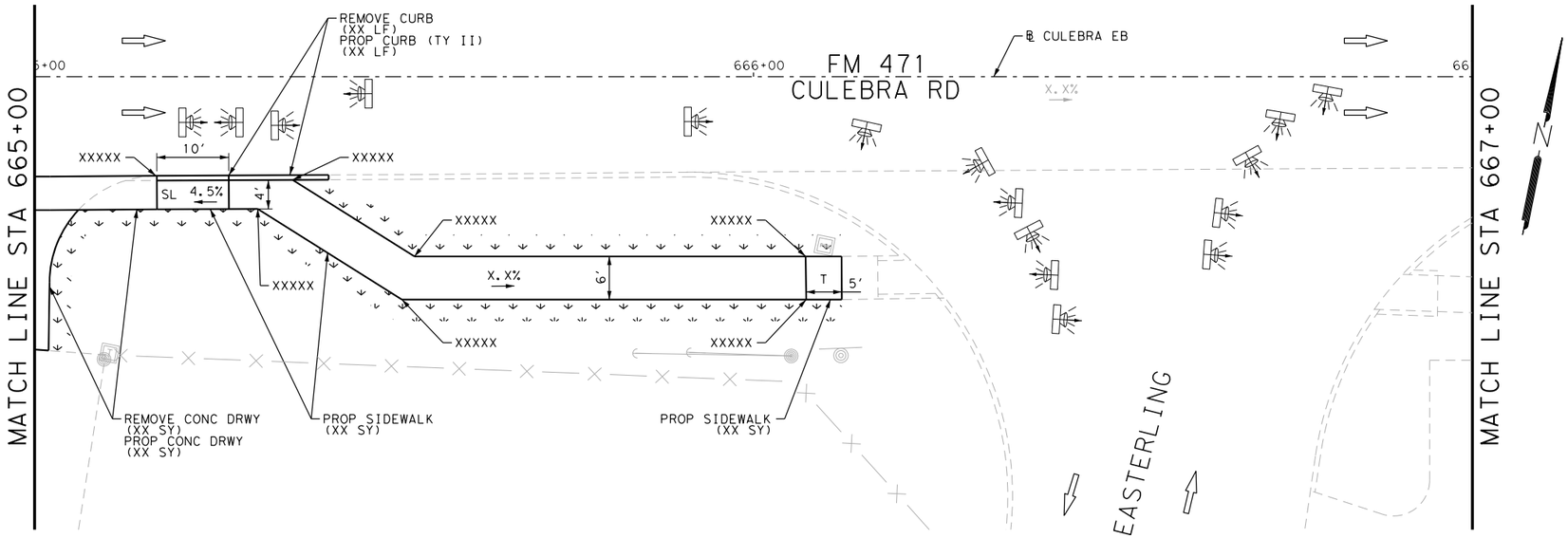
SHEET 4 OF 6

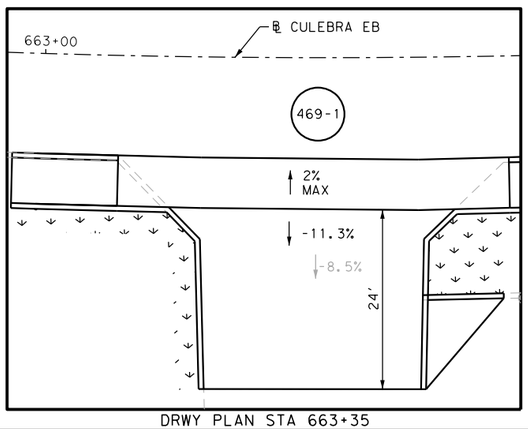
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 468 |

Plotted on: 4/1/2019

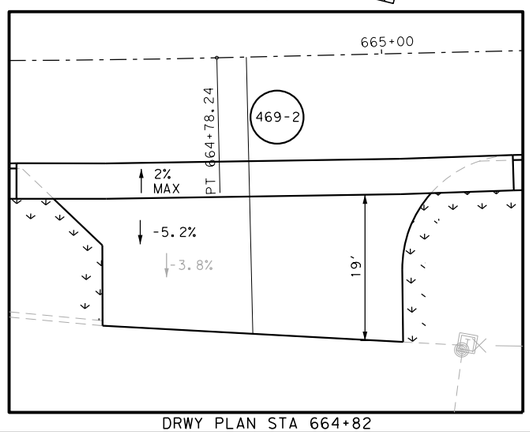
Design Filename: P:\111\35\08\Design\Civil\Roadway\Culebra\111308_Culebra_EB04.dgn




DRWY PLAN STA 663+35




DRWY PLAN STA 664+82

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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



FM 471
CULEBRA RD

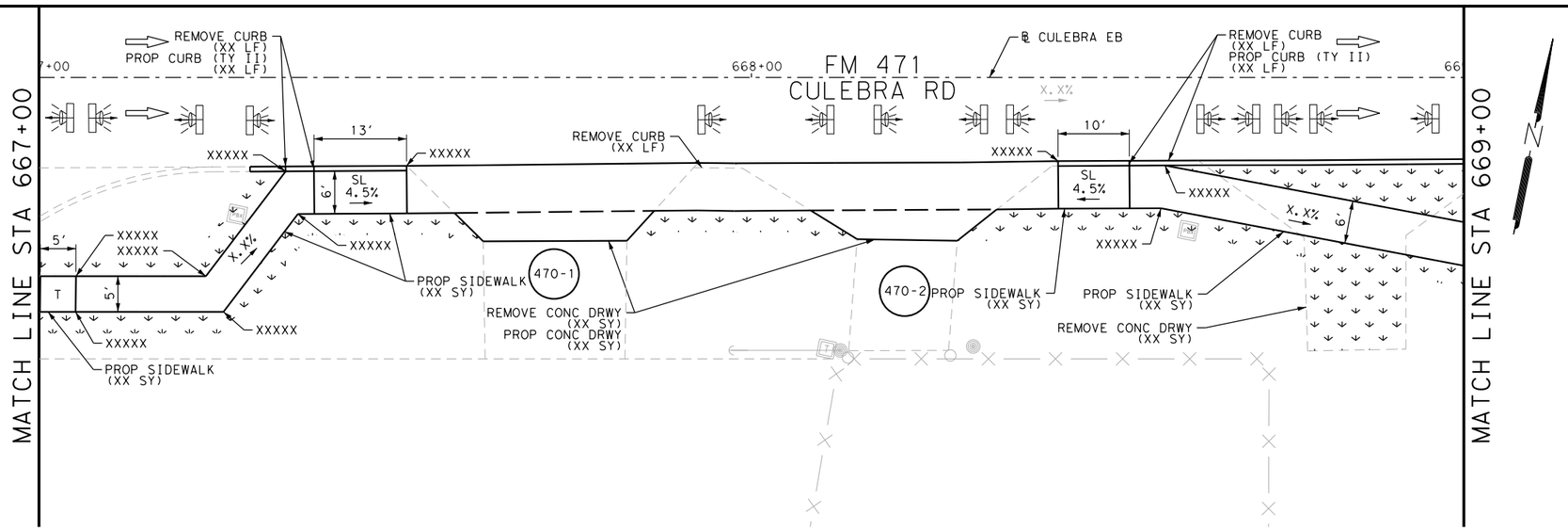
# SIDEWALK CONSTRUCTION PLAN
STA 663+00 TO STA 667+00

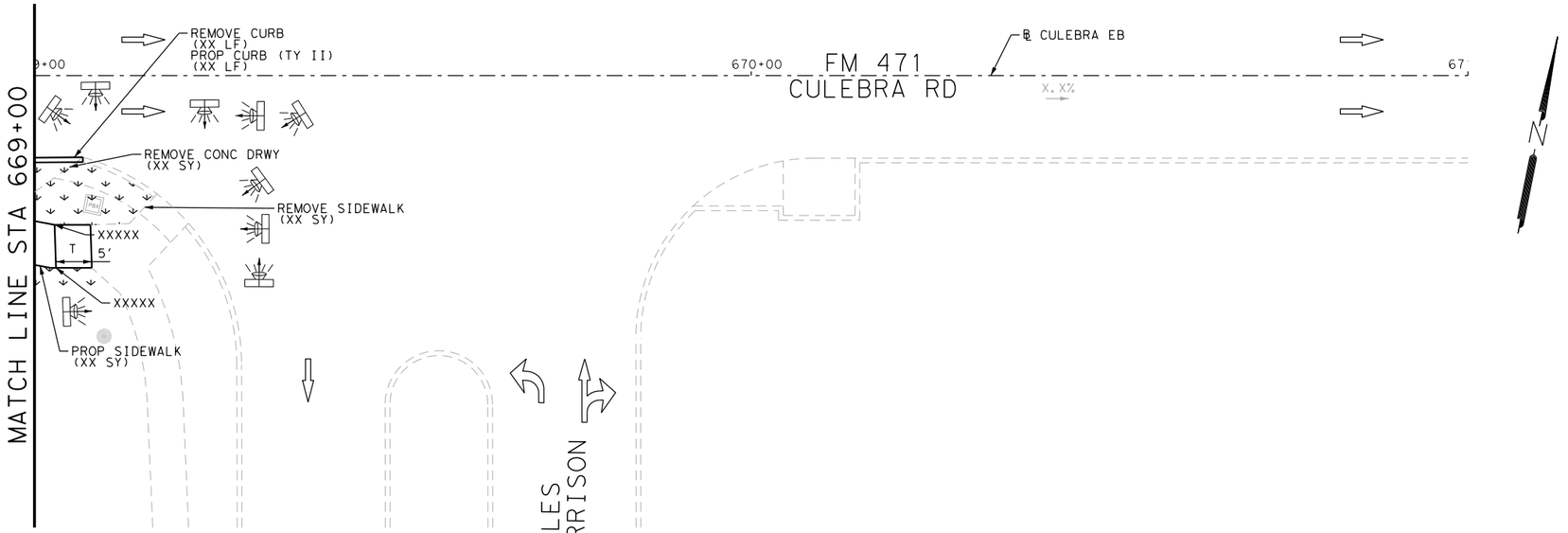
SHEET 5 OF 6

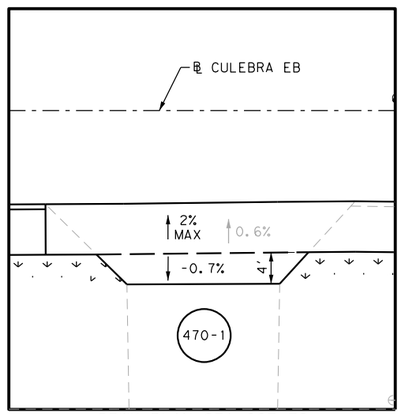
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 469 |

Plotted on: 4/1/2019

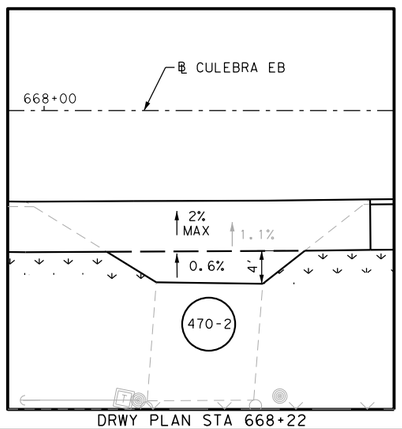
Design Filename: P:\111\35\08\Design\Civil\Roadway\Culebra\111508_Culebra_EB05.dgn




DRWY PLAN STA 667+72




DRWY PLAN STA 668+22

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



FM 471
CULEBRA RD

# SIDEWALK CONSTRUCTION PLAN
STA 667+00 TO STA 671+00

SHEET 6 OF 6

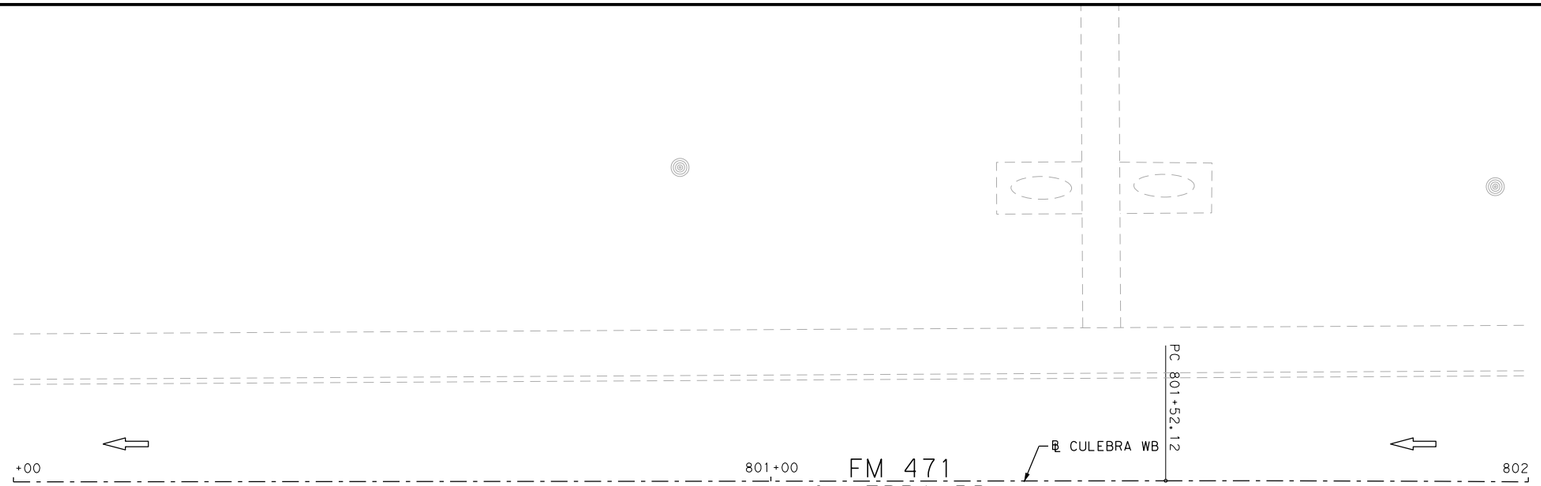
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 470 |

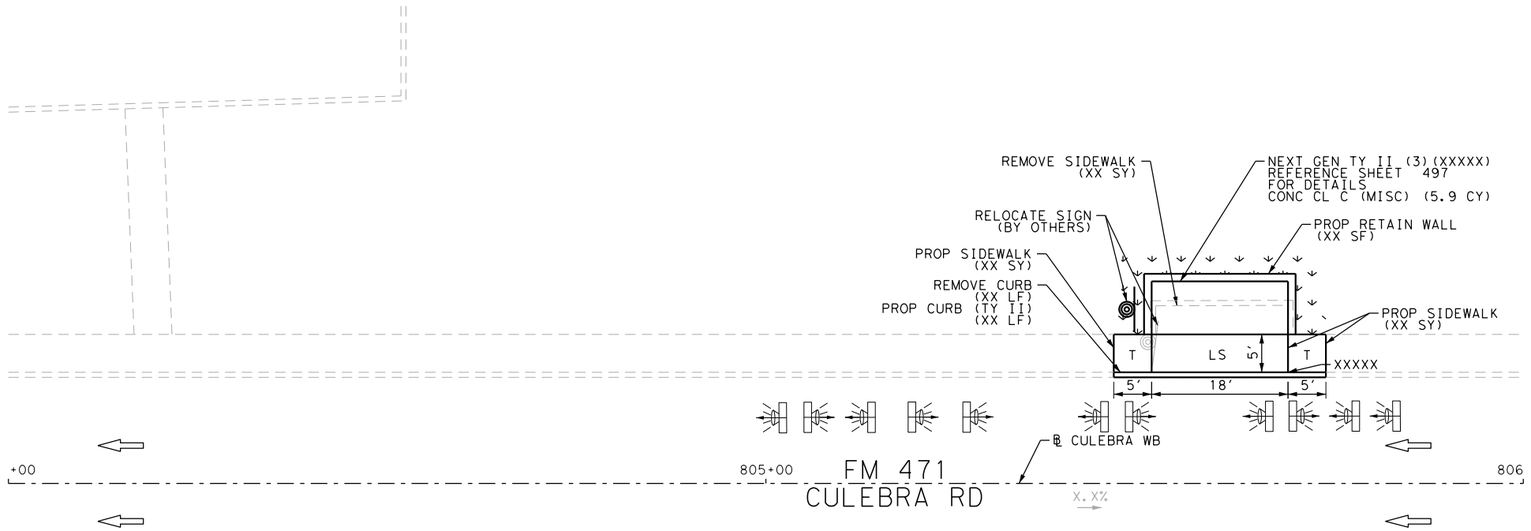
Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Culebra\1113508_Culebra_EB06.dgn

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Culebra\111508_Culebra_WB01.dgn

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P.E. SERIAL NO: 105193
DATE: 4/1/2019

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



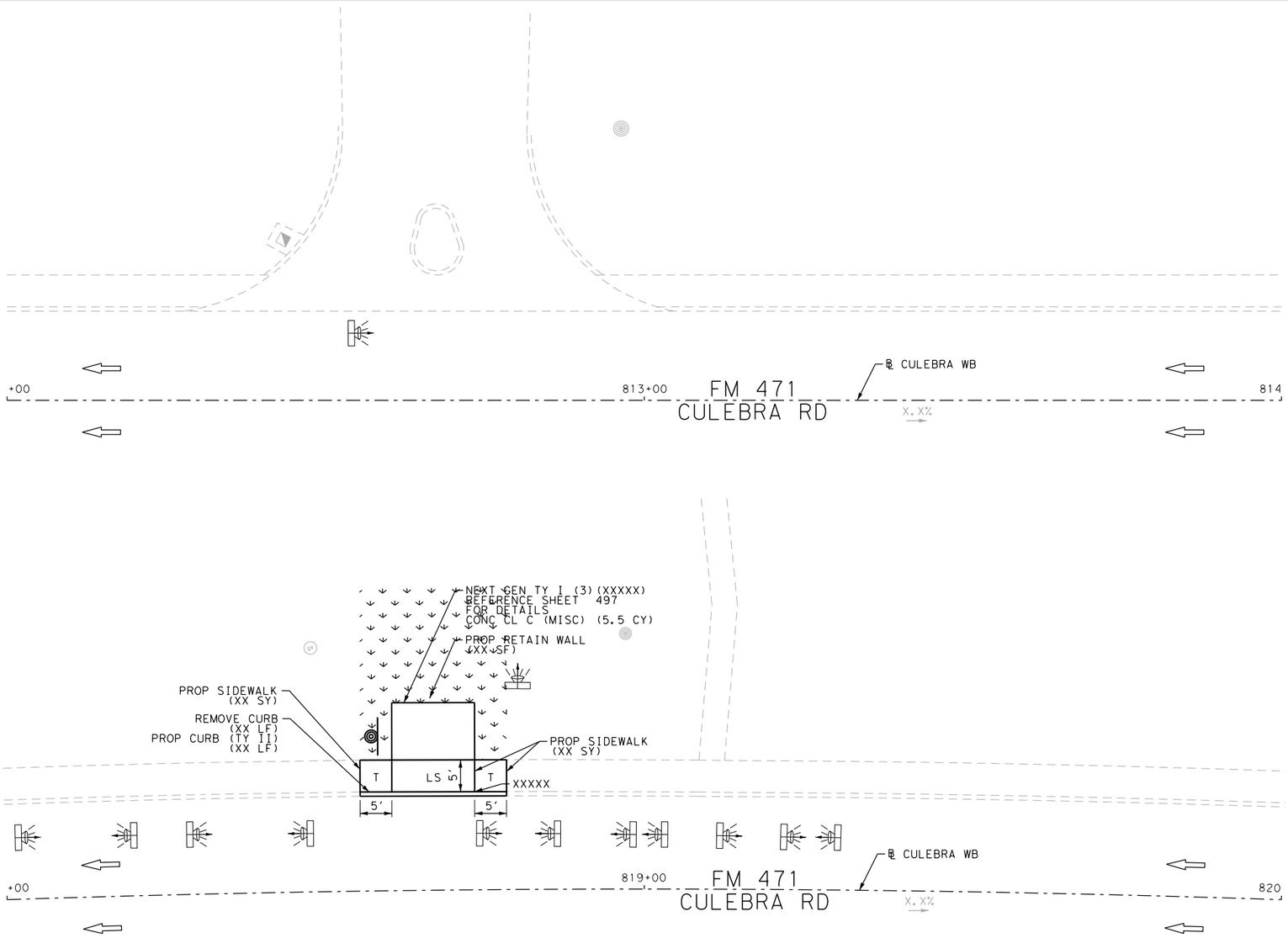
FM 471
CULEBRA RD

# SIDEWALK CONSTRUCTION PLAN
STA 800+00 TO STA 802+00
STA 804+00 TO STA 806+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 471 |

Plotted on: 4/1/2019



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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

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| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



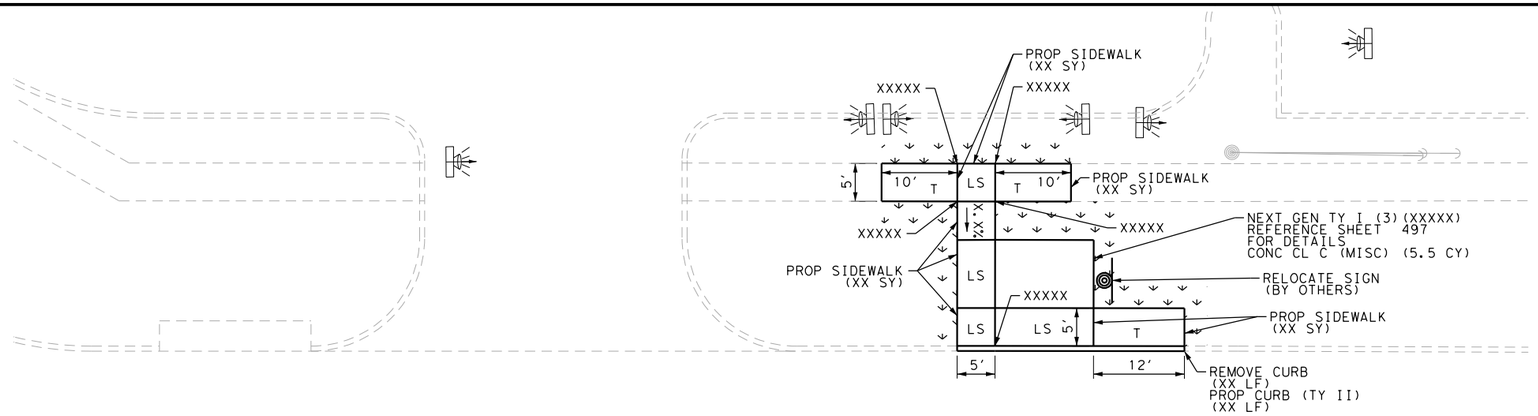
FM 471
CULEBRA RD

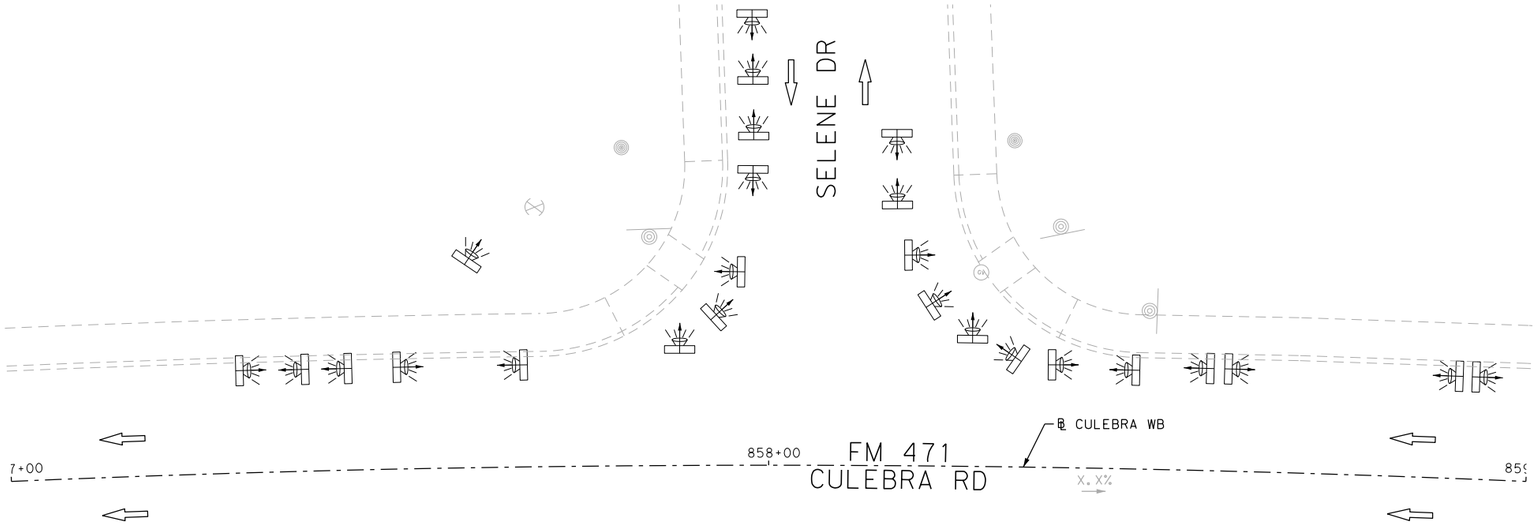
# SIDEWALK CONSTRUCTION PLAN
STA 812+00 TO STA 814+00
STA 818+00 TO STA 820+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 472 |

Design Filename: P:\111\35\08\Design\Civil\Roadway\Culebra\111508_Culebra_WB02.dgn




NOTES:
* FOR CONTRACTOR INFORMATION ONLY
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2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



FM 471
CULEBRA RD

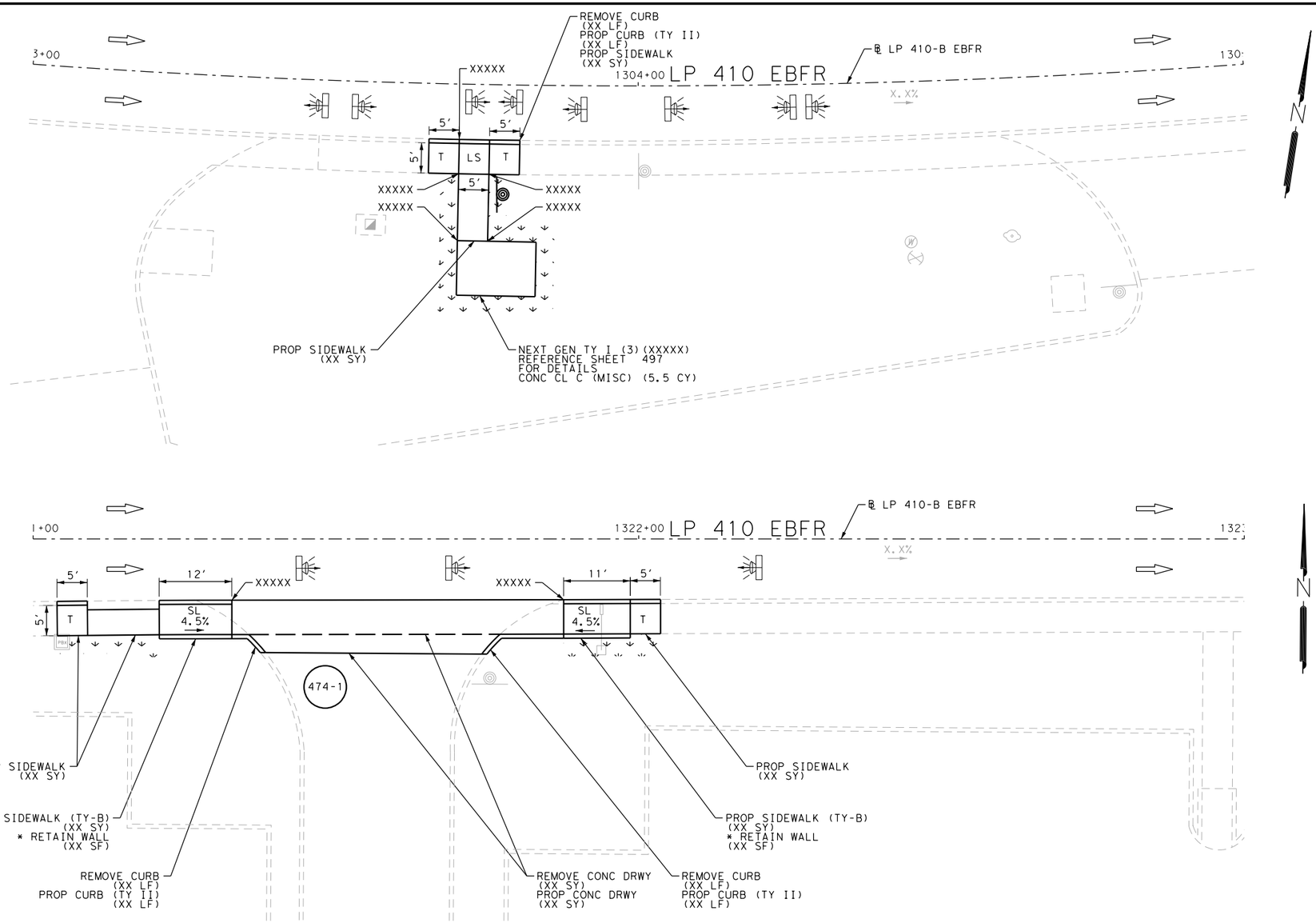
# SIDEWALK CONSTRUCTION PLAN
STA 840+00 TO STA 842+00
STA 857+00 TO STA 859+00

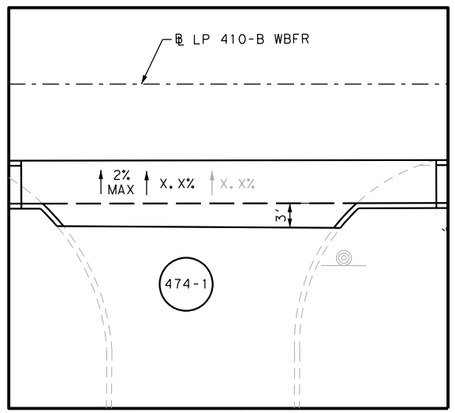


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 473 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Culebra\1113508_Culebra_WB03.dgn




DRWY PLAN STA 1321+56

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



Loop 410-B

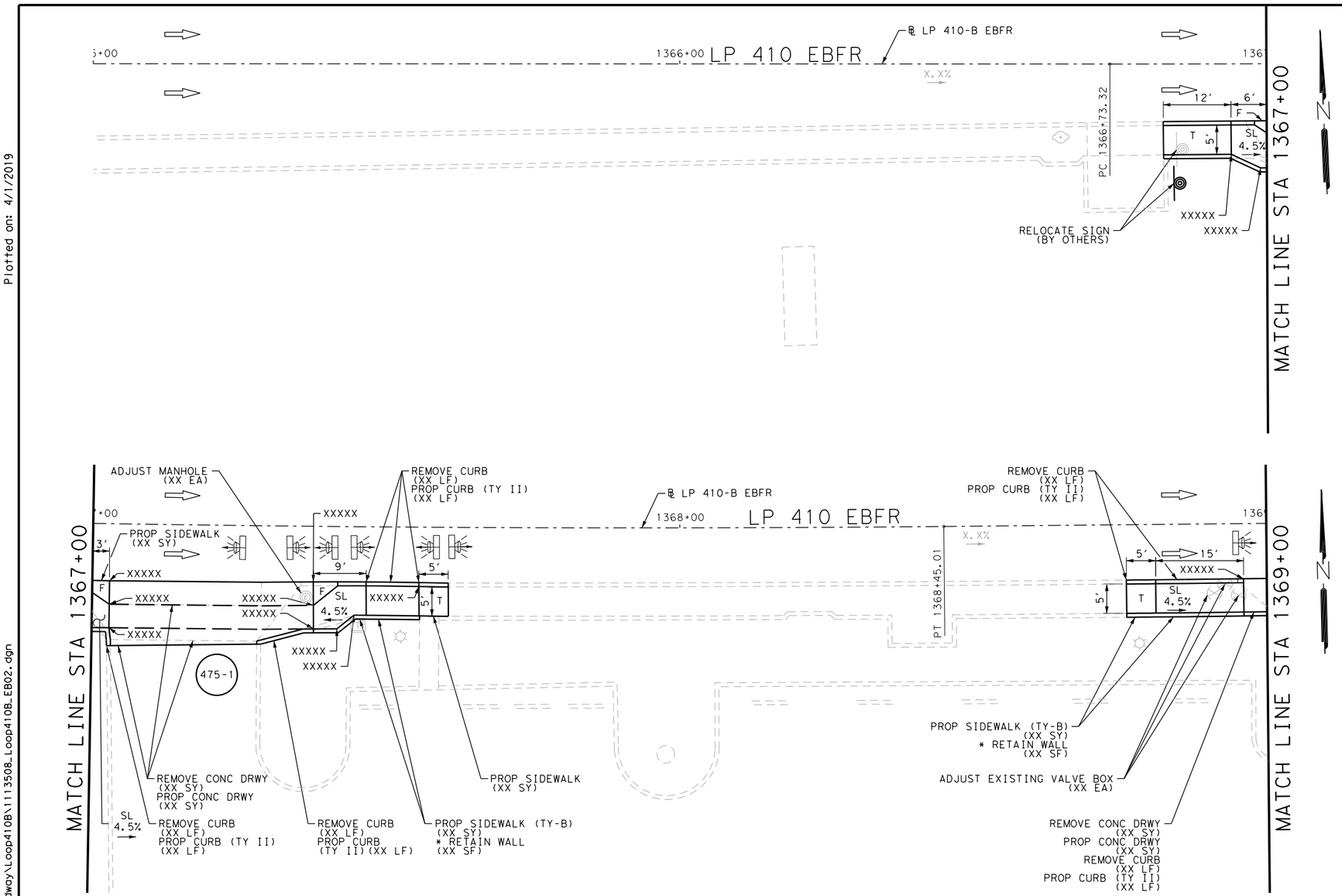
# SIDEWALK CONSTRUCTION PLAN
STA 1303+00 TO STA 1305+00
STA 1321+00 TO STA 1323+00

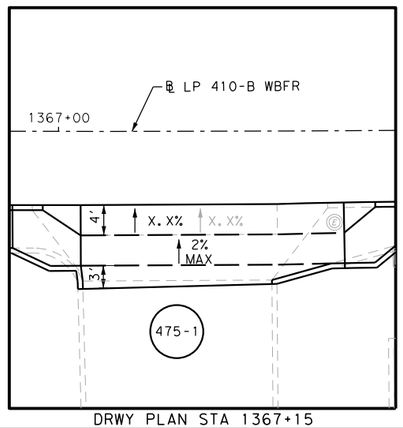
SHEET 1 OF 12

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 474 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\1113508_Loop410B_EB01.dgn




DRWY PLAN STA 1367+15

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20′

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



Loop 410-B

# SIDEWALK CONSTRUCTION PLAN

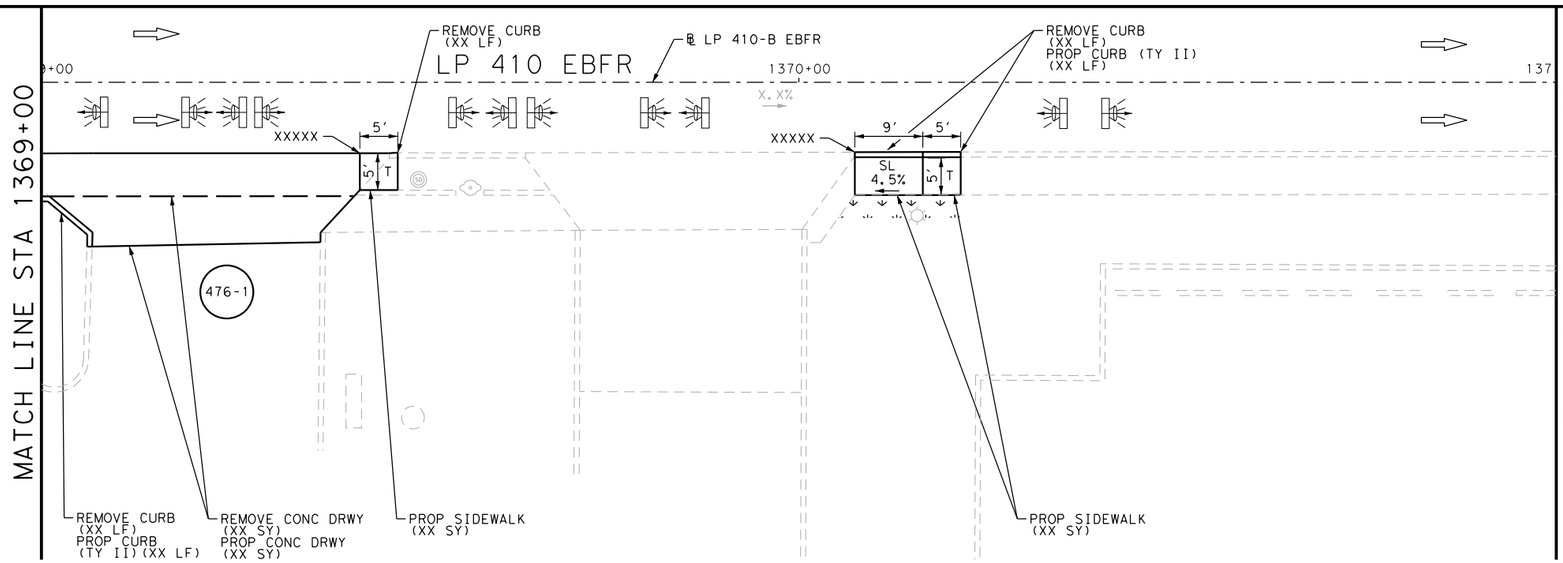
STA 1365+00 TO STA 1369+00

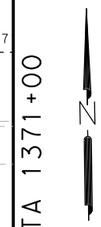


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 475 |

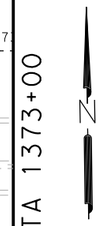
Plotted on: 4/1/2019

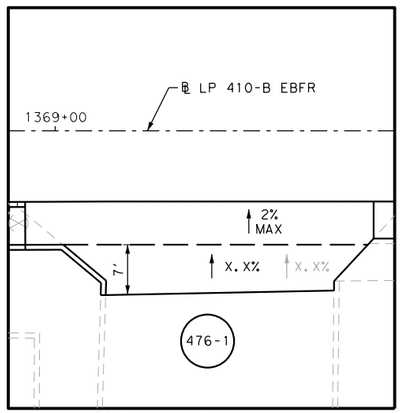
Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\113508_Loop410B_EB02.dgn








DRWY PLAN STA 1369+21

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



Loop 410-B

# SIDEWALK CONSTRUCTION PLAN

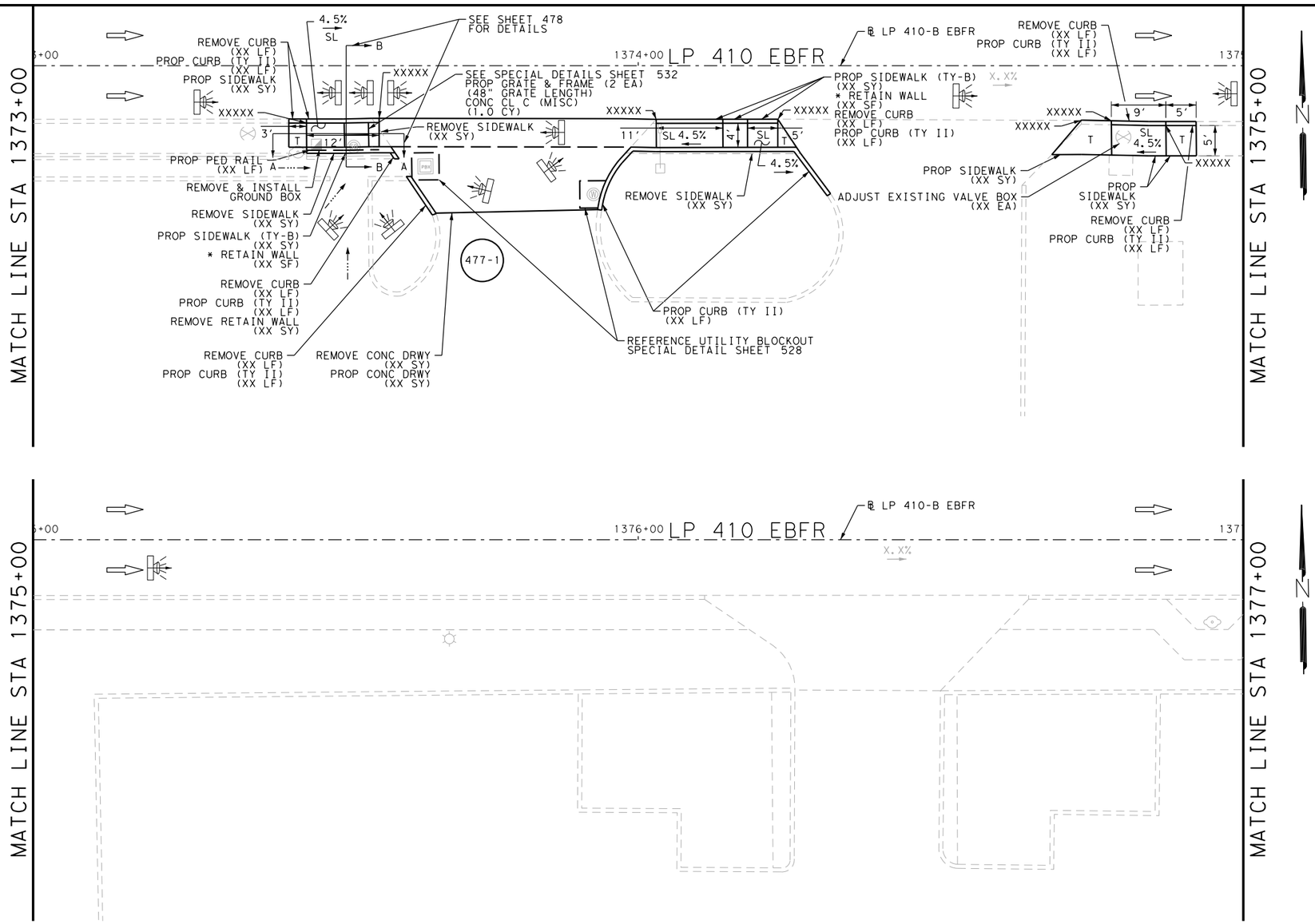
STA 1369+00 TO STA 1373+00

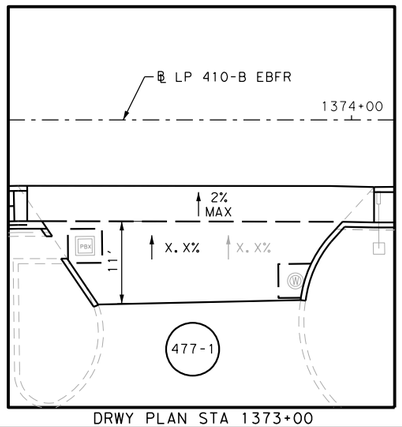
SHEET 3 OF 12

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 476 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\111508_Loop410B_EB03.dgn




DRWY PLAN STA 1373+00

NOTES:
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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



Loop 410-B

# SIDEWALK CONSTRUCTION PLAN

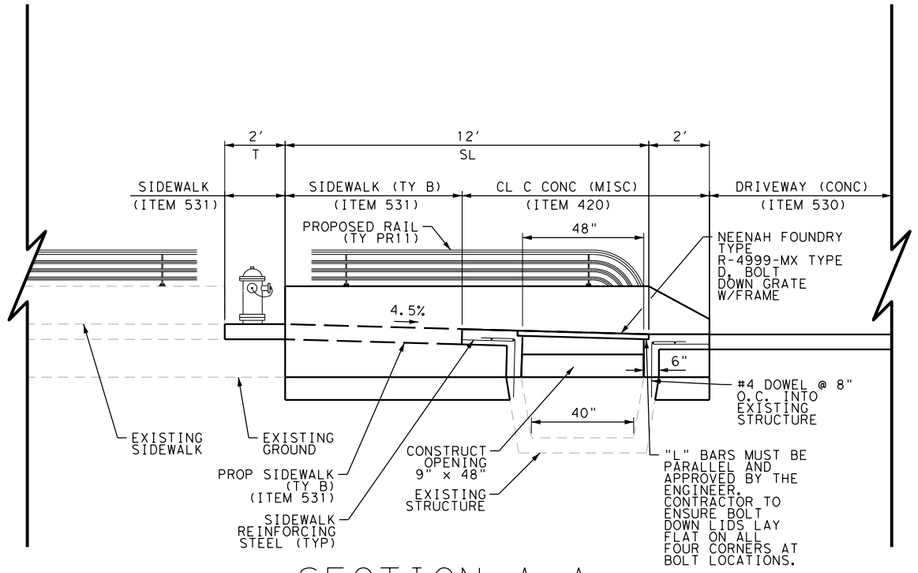
STA 1373+00 TO STA 1377+00

SHEET 4 OF 12

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 477 |

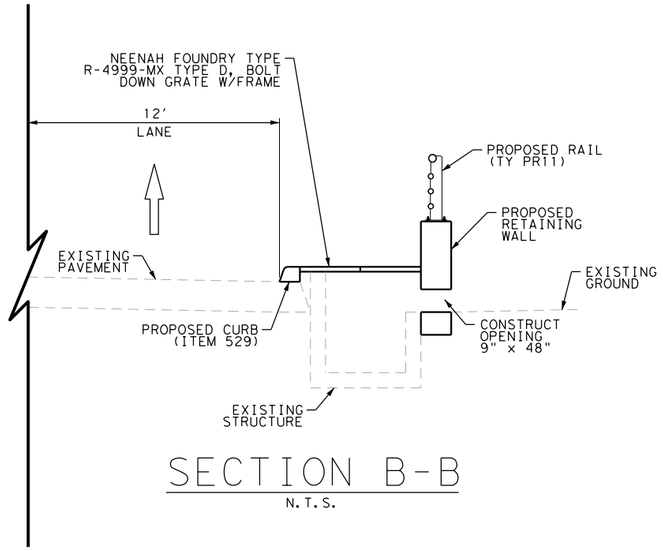
Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\111508_Loop410B_EB04.dgn




SECTION A-A

N.T.S.




SECTION B-B

N.T.S.

NOTES:
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



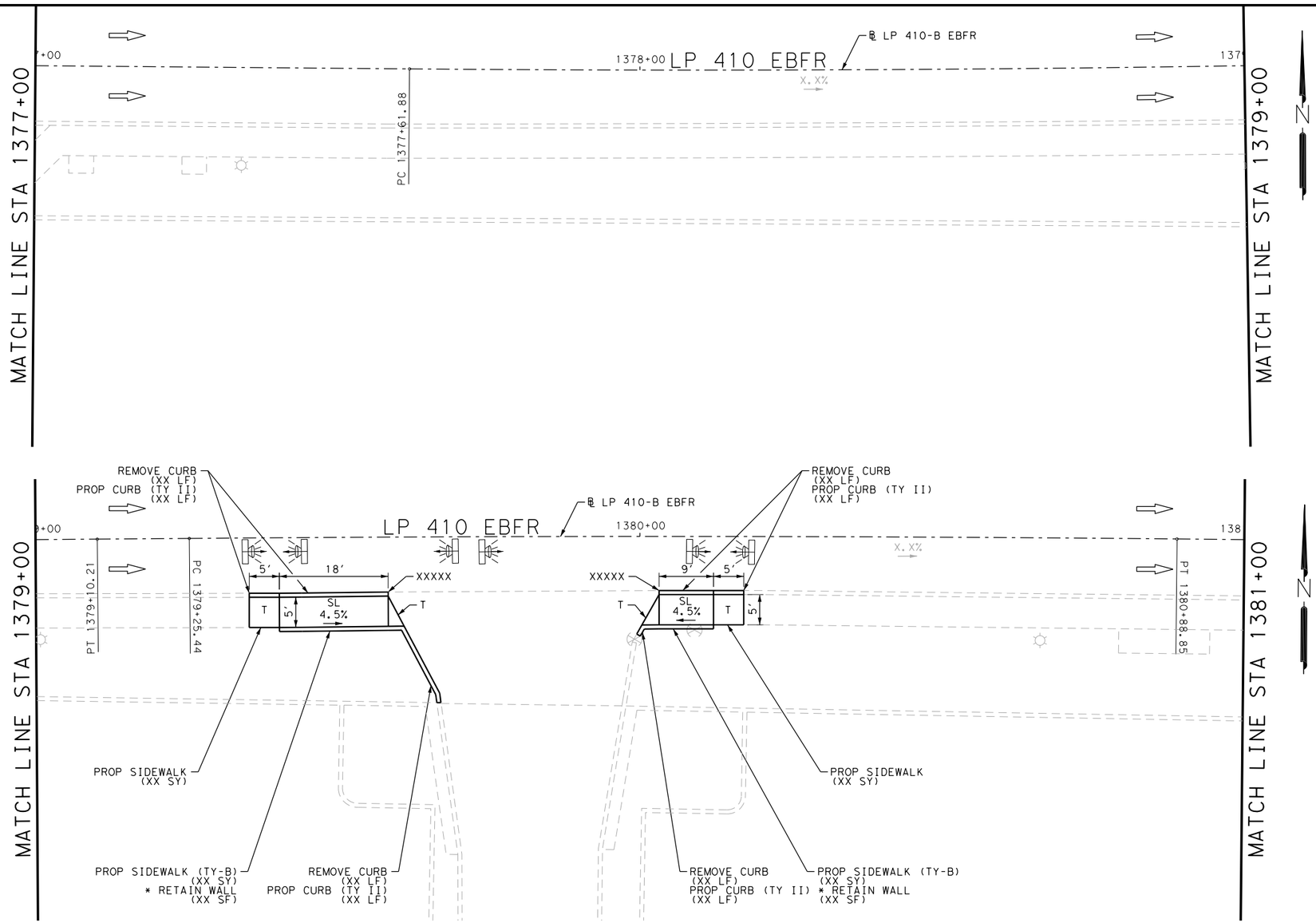
Loop 410-B

# SIDEWALK CONSTRUCTION PLAN
STA 1373+00 TO STA 1377+00
DETAILS



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 478 |

Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\1113508_Loop410B_EB04A.dgn




NOTES:
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3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20′

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




Loop 410-B

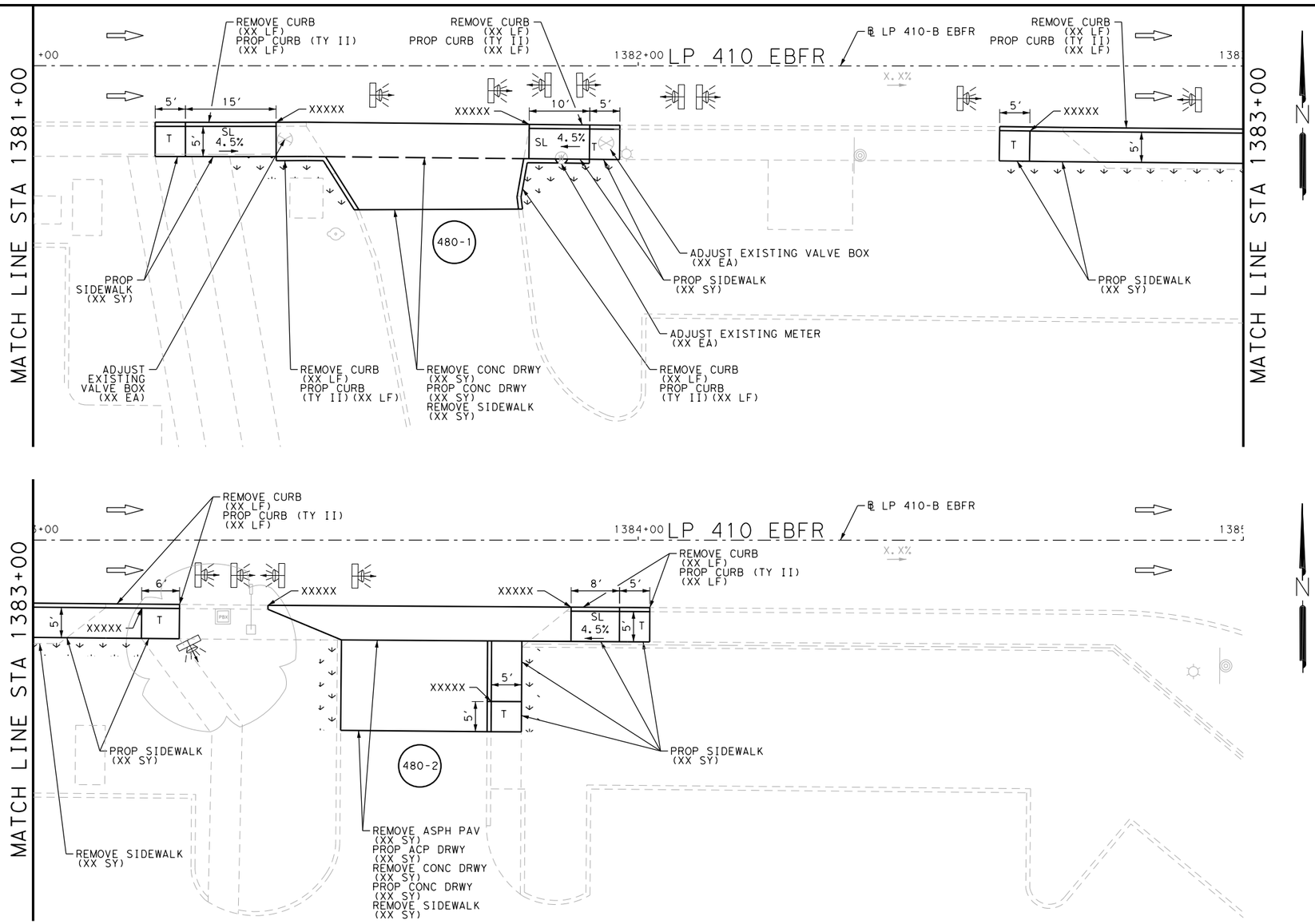
# SIDEWALK CONSTRUCTION PLAN

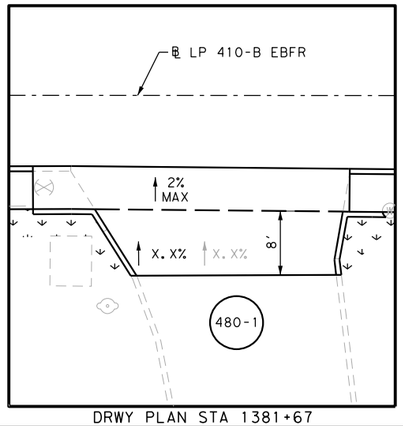
STA 1377+00 TO STA 1381+00

SHEET 6 OF 12

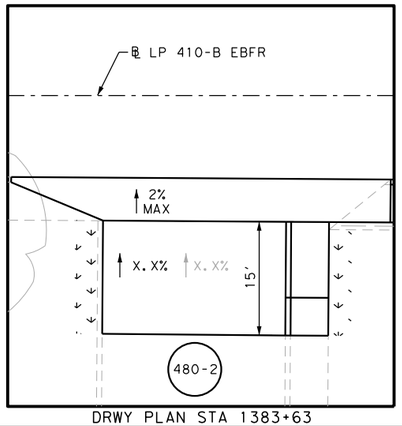
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 479 |


Plotted on: 4/1/2019
Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\113508_Loop410B_EB05.dgn




DRWY PLAN STA 1381+67




DRWY PLAN STA 1383+63

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20′

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



Loop 410-B

# SIDEWALK CONSTRUCTION PLAN

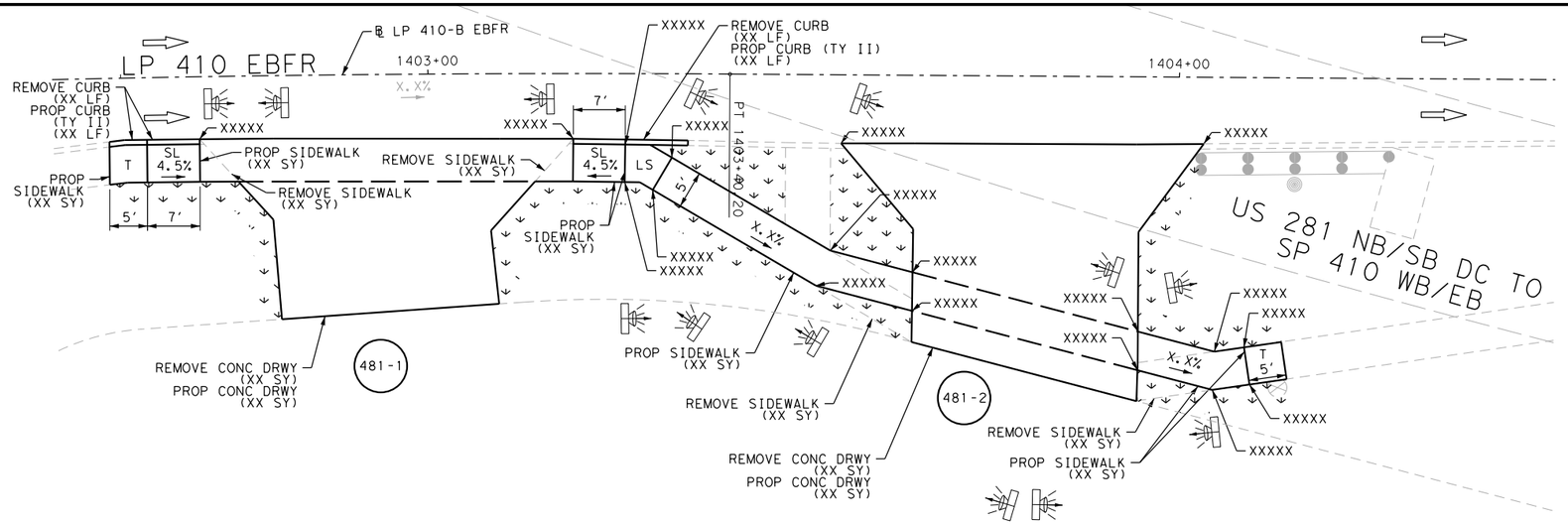
STA 1381+00 TO STA 1385+00

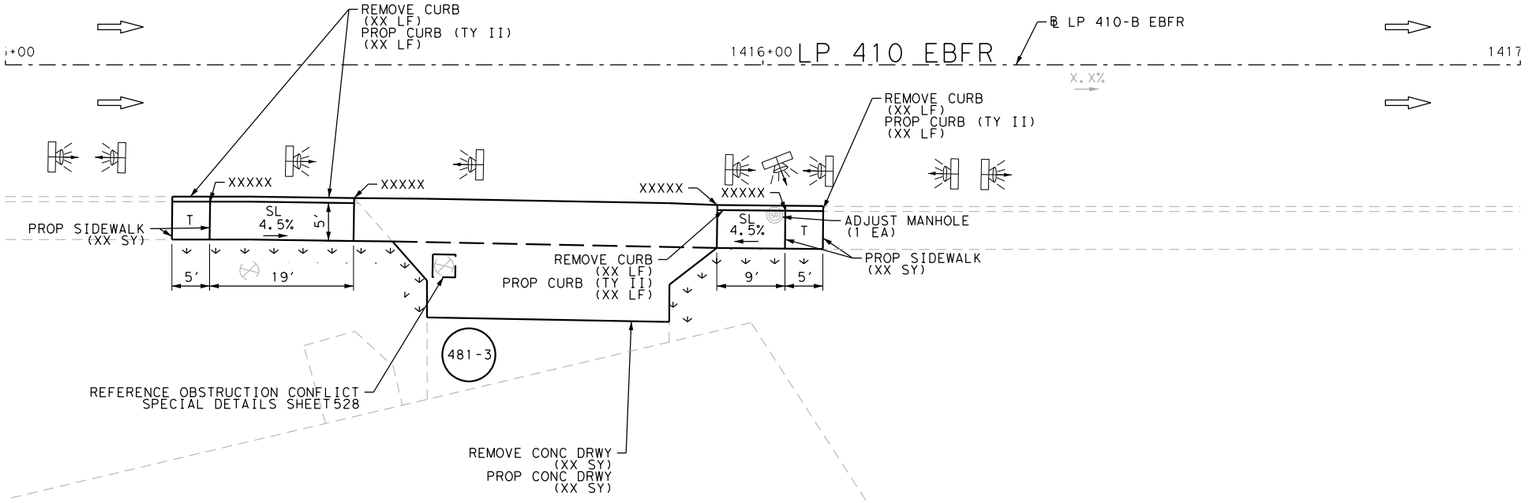
SHEET 7 OF 12

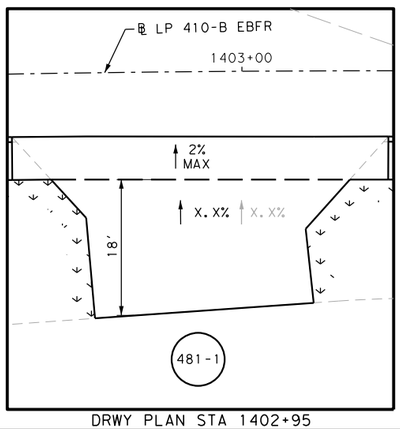
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 480 |

Plotted on: 4/1/2019

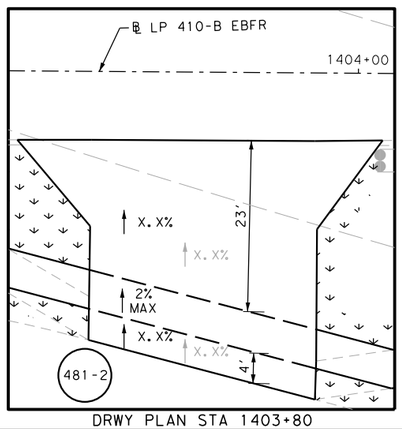
Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\113508_Loop410B_EB06.dgn



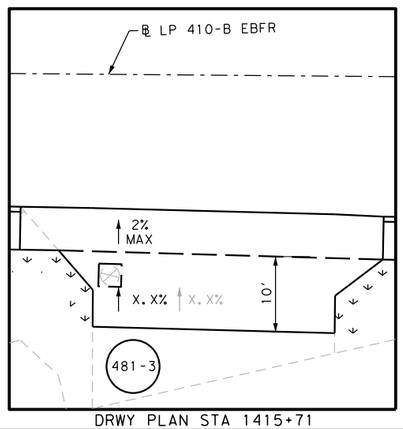




DRWY PLAN STA 1402+95




DRWY PLAN STA 1403+80




DRWY PLAN STA 1415+71

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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



Loop 410-B

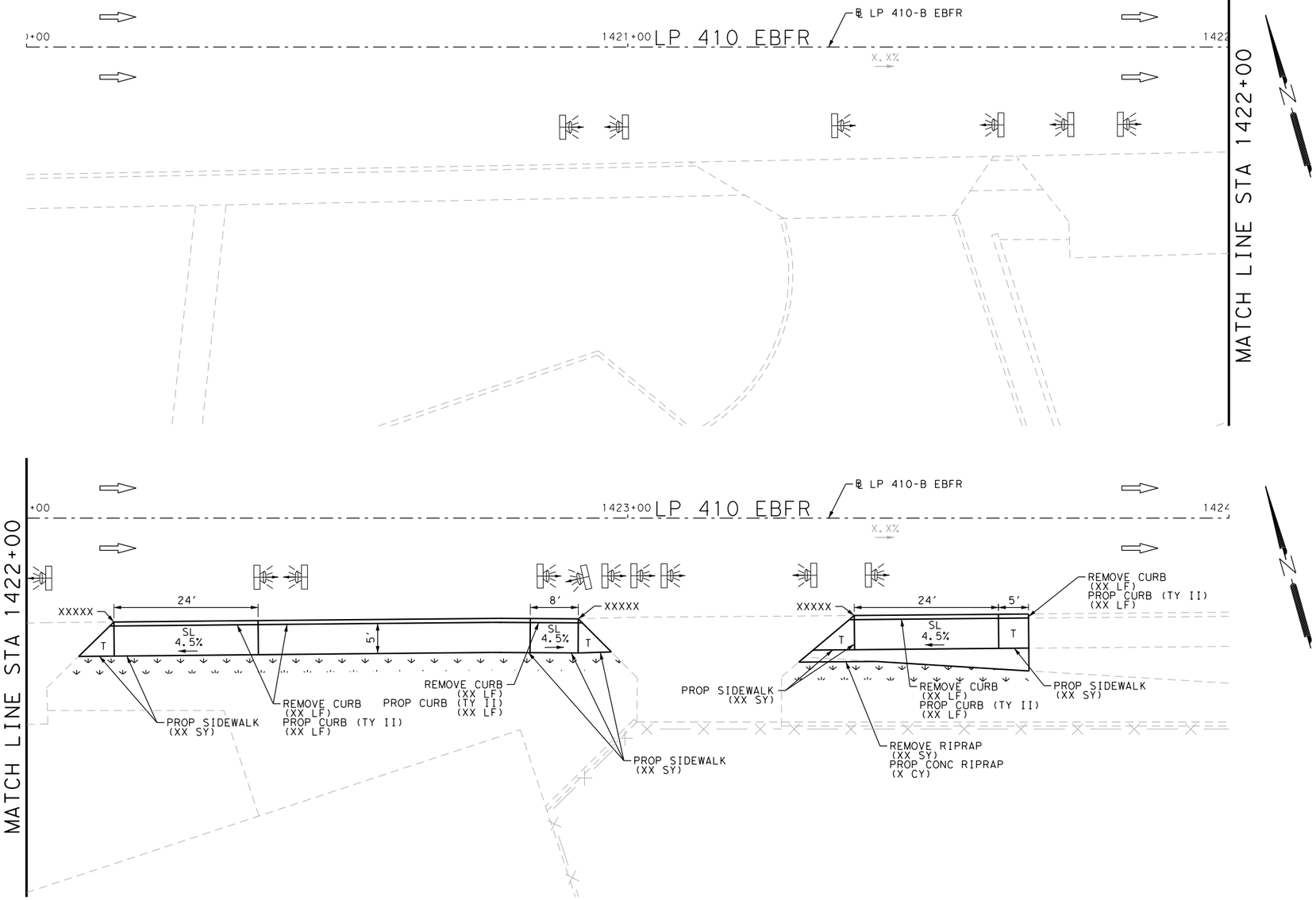
# SIDEWALK CONSTRUCTION PLAN
STA 1402+50 TO STA 1404+50
STA 1415+00 TO STA 1417+00

SHEET 8 OF 12

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 481 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\111508_Loop410B_EB07.dgn

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20′

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



Loop 410-B

# SIDEWALK CONSTRUCTION PLAN

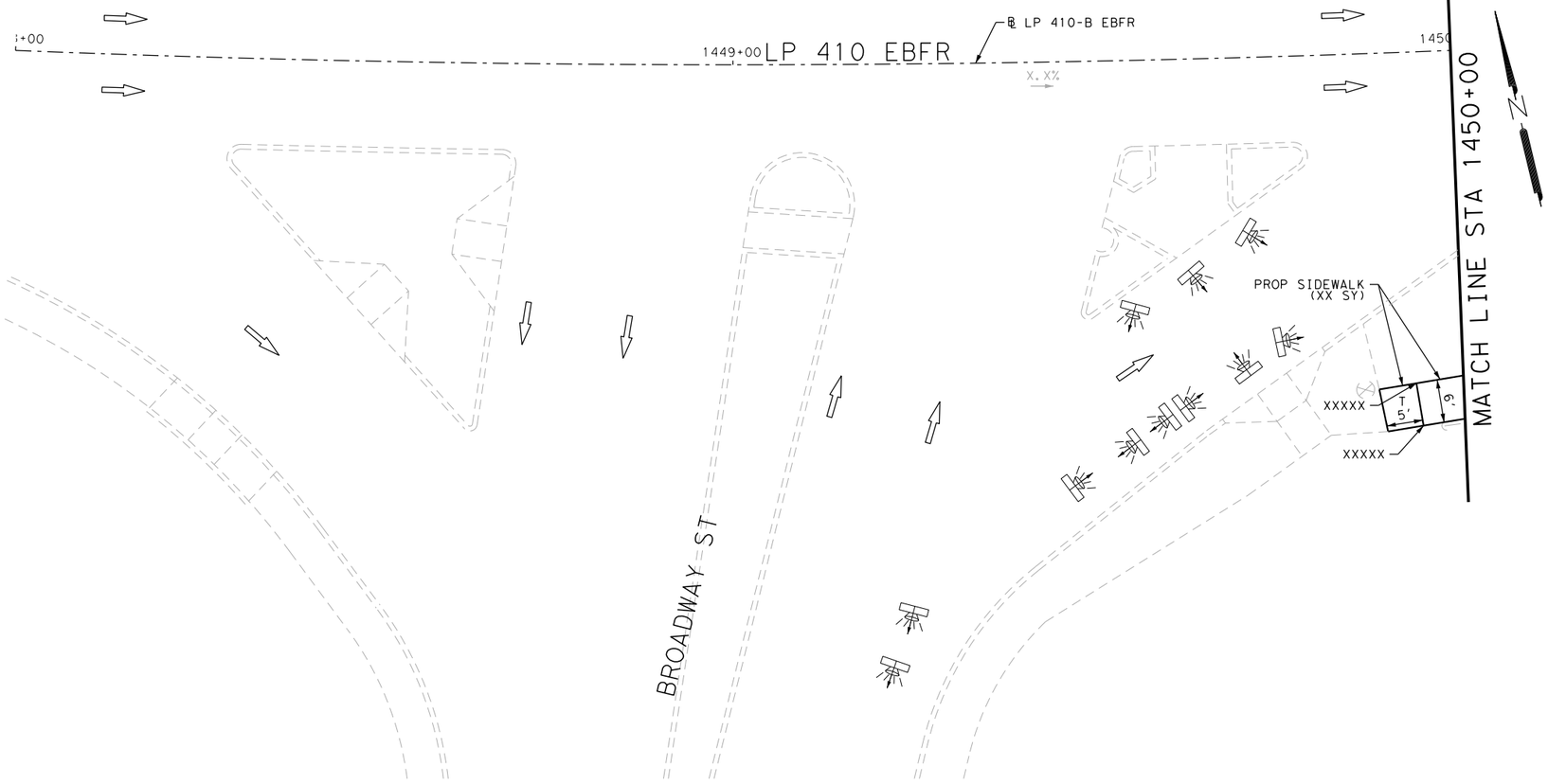
STA 1420+00 TO STA 1424+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 482 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\1113508_Loop410B_EB08.dgn

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



Loop 410-B

# SIDEWALK CONSTRUCTION PLAN

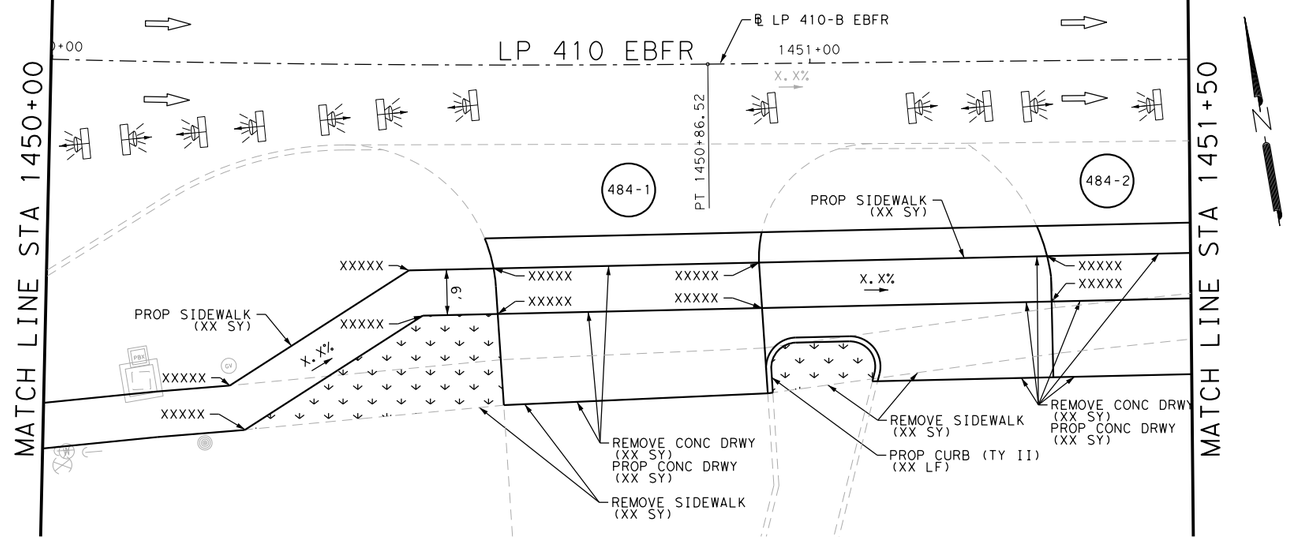
STA 1448+00 TO STA 1450+00

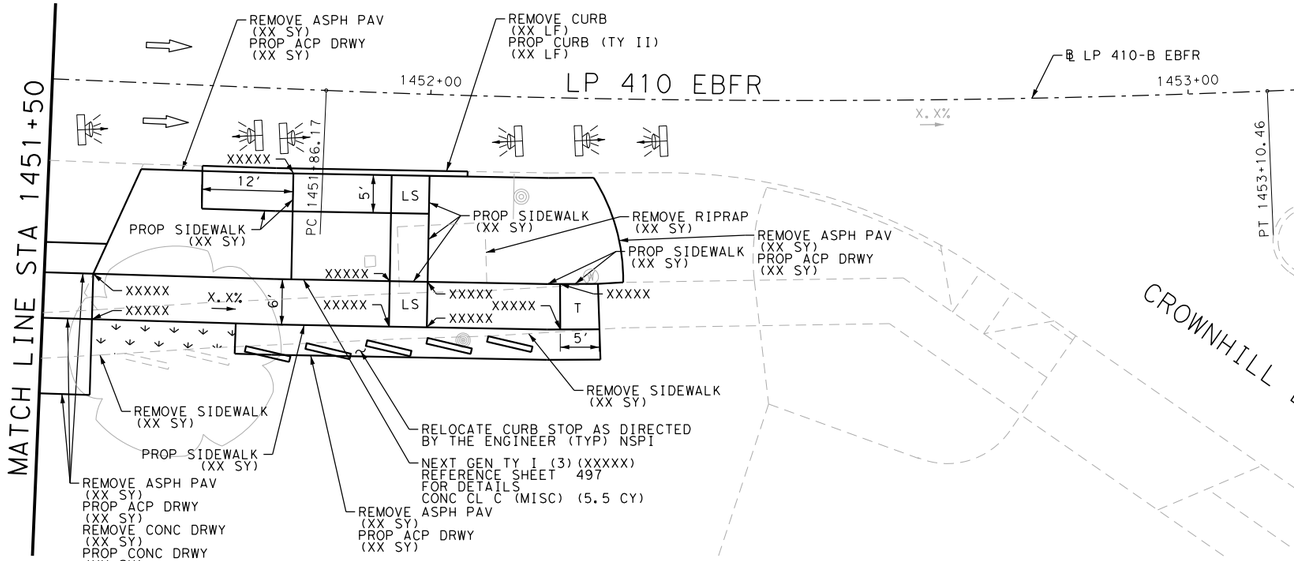
SHEET 10 OF 12

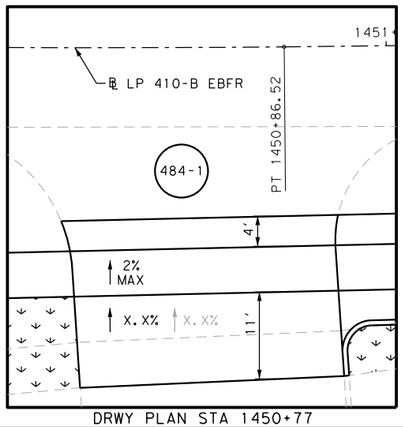
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 483 |

Plotted on: 4/1/2019

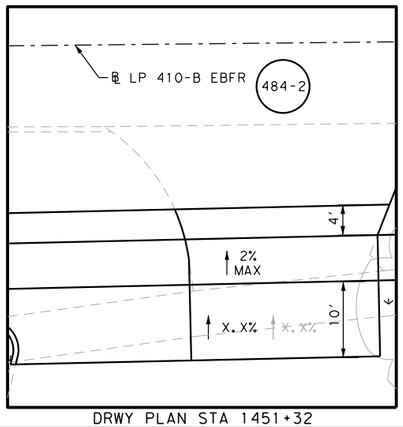
Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\1113508_Loop410B_EB09.dgn




DRWY PLAN STA 1450+77




DRWY PLAN STA 1451+32

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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



Loop 410-B

# SIDEWALK CONSTRUCTION PLAN

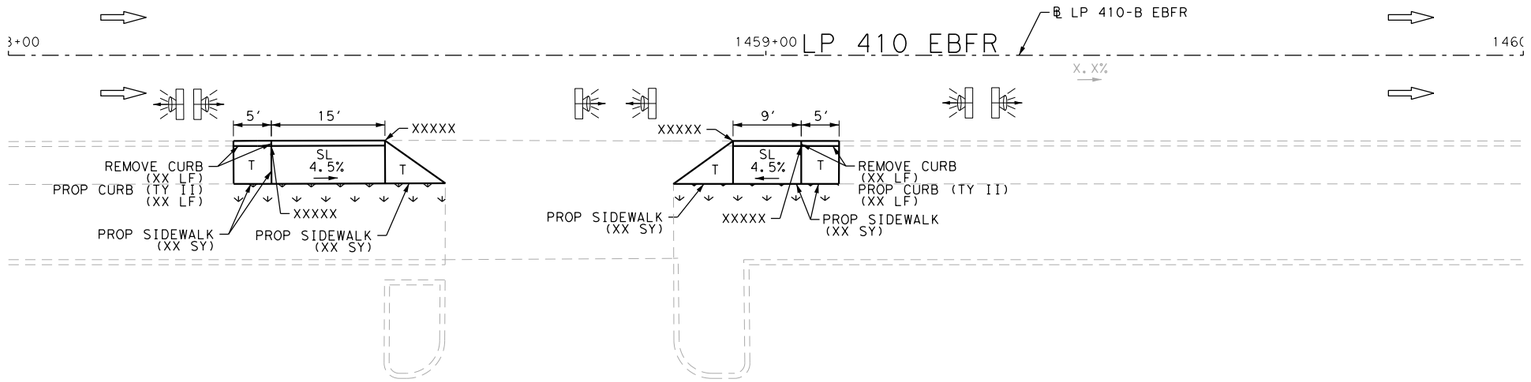
STA 1450+00 TO STA 1453+50

SHEET 11 OF 12

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 484 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\111508_Loop410B_EB10.dgn

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
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2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
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Loop 410-B

# SIDEWALK CONSTRUCTION PLAN

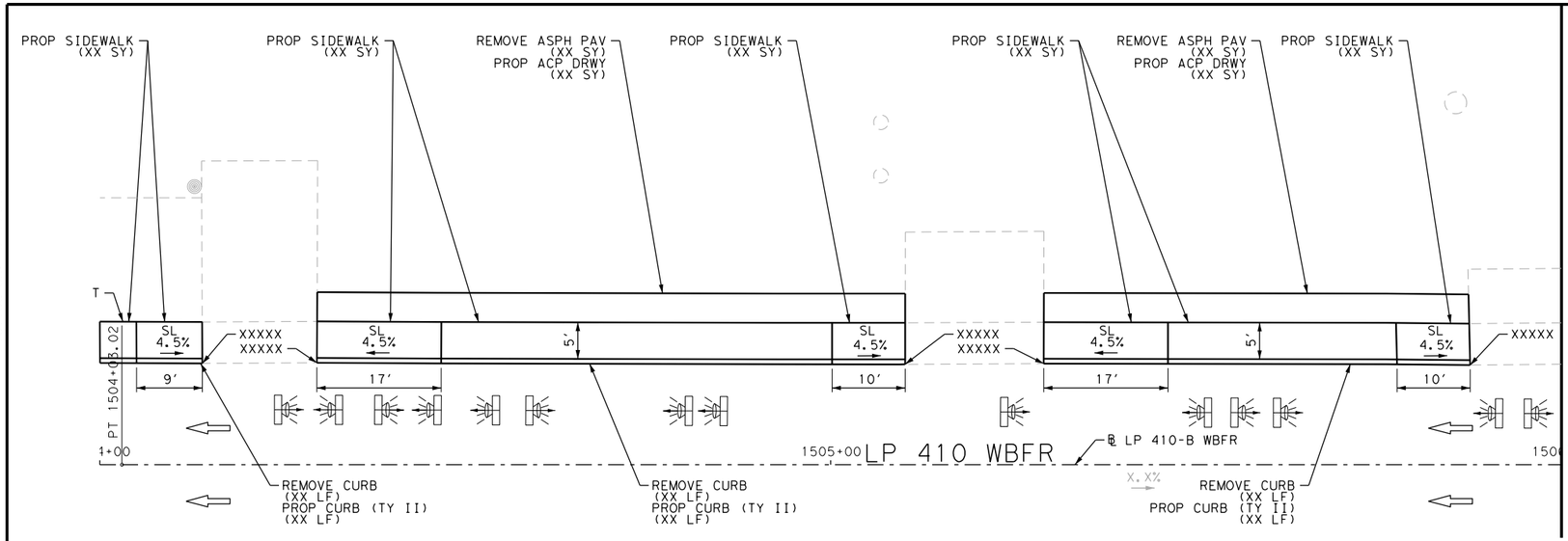
STA 1458+00 TO STA 1460+00

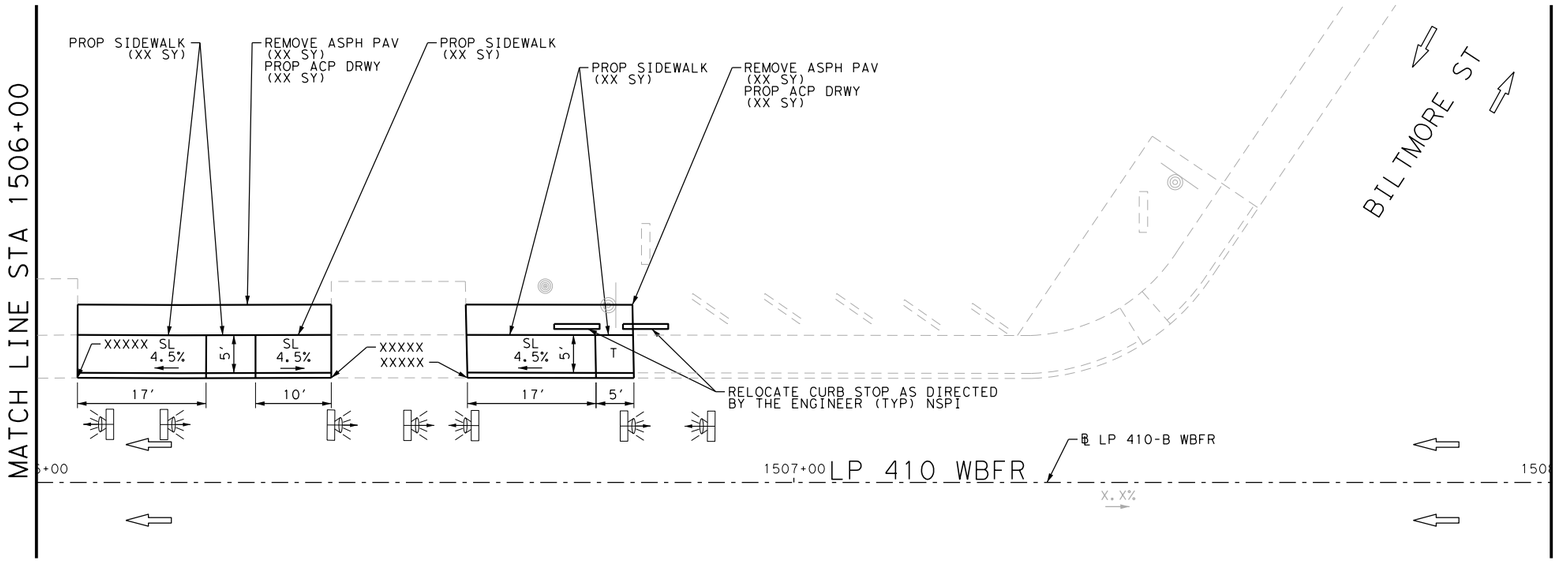
SHEET 12 OF 12

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 485 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\1113508_Loop410B_EB11.dgn

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



Loop 410-B

# SIDEWALK CONSTRUCTION PLAN

STA 1504+00 TO STA 1508+00

SHEET 1 OF 11

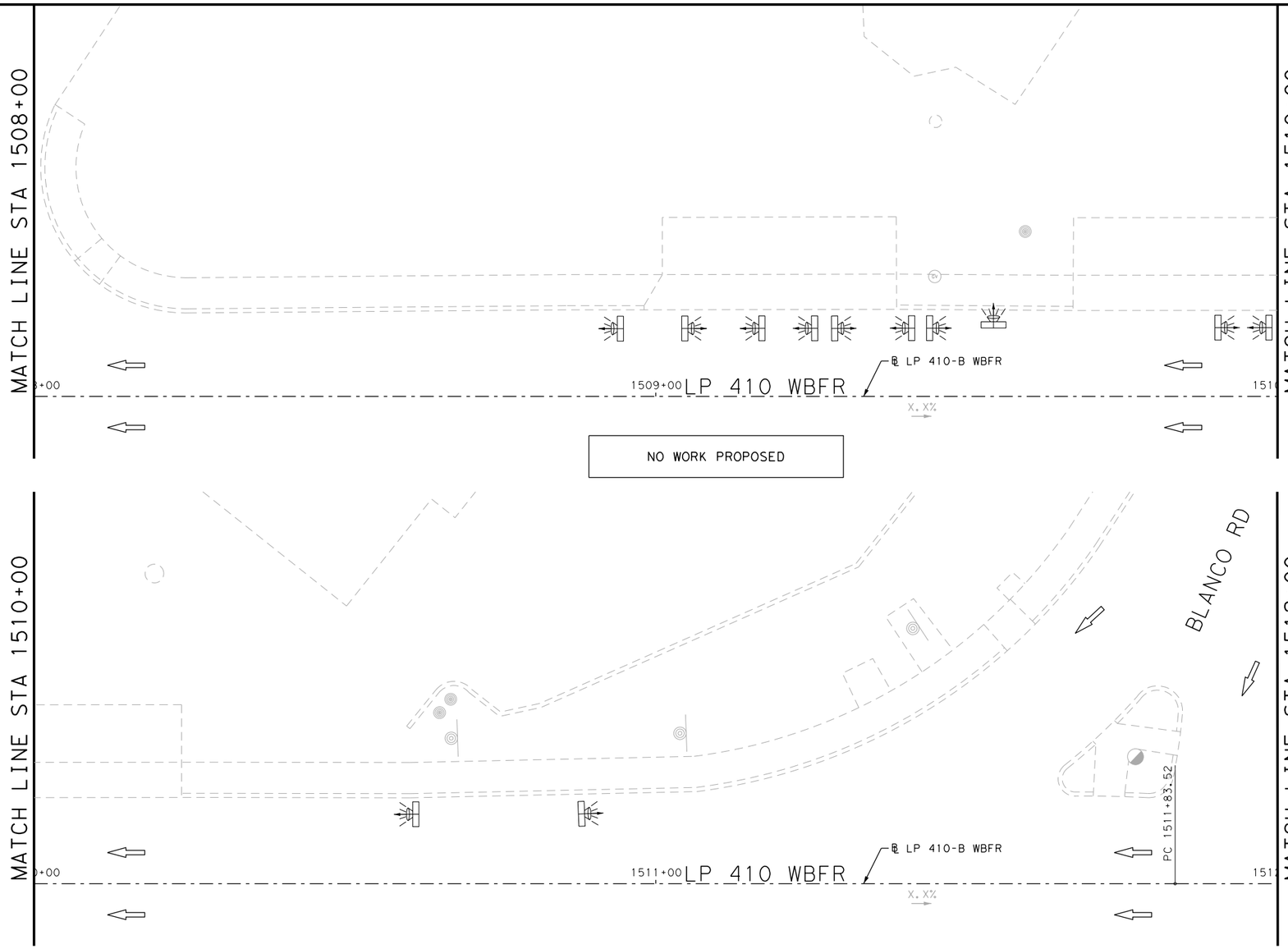
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 486 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\1113508_Loop410B_WB01.dgn

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\1113508_Loop410B_WB02.dgn

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



Loop 410-B

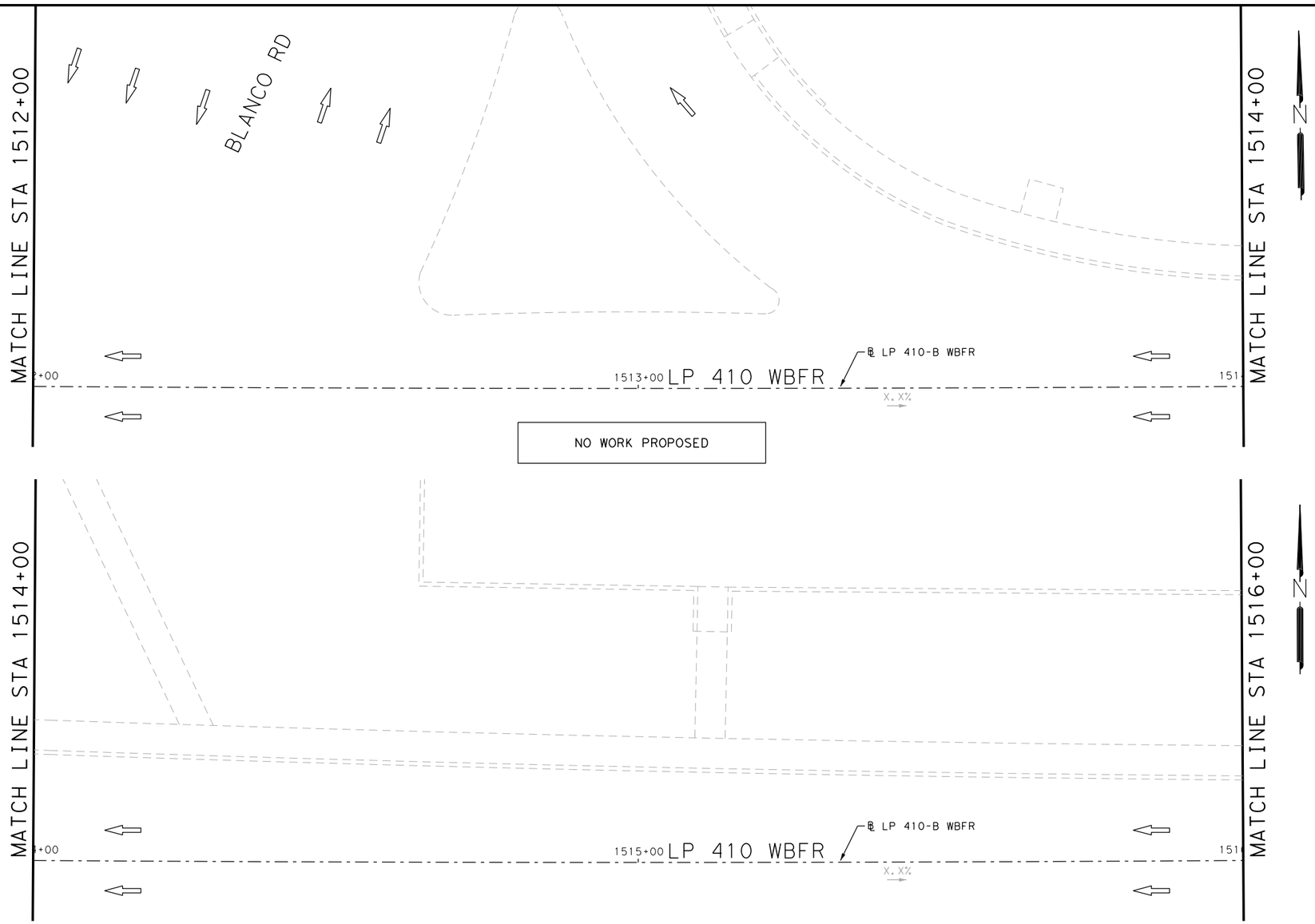
# SIDEWALK CONSTRUCTION PLAN

STA 1508+00 TO STA 1512+00



| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 487 |

Plotted on: 4/1/2019

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ENGINEER: JOHN A. TYLER
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DATE: 4/1/2019

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



Loop 410-B

# SIDEWALK CONSTRUCTION PLAN

STA 1512+00 TO STA 1516+00

SHEET 3 OF 11

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 488 |

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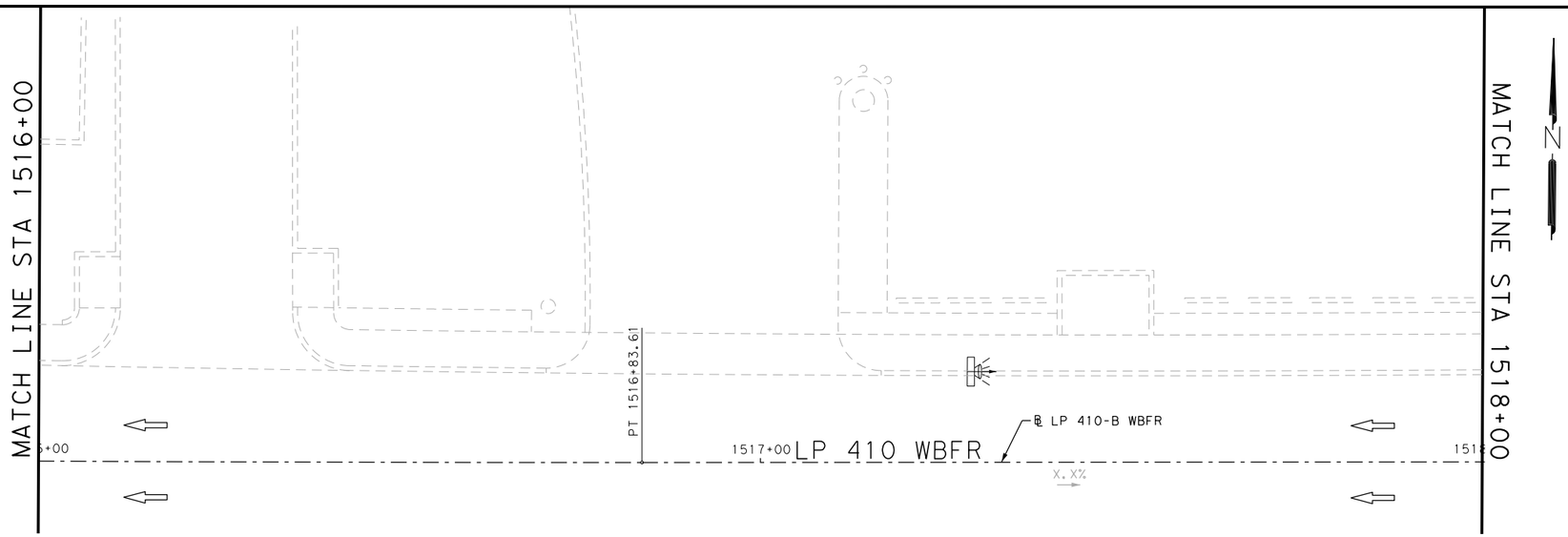


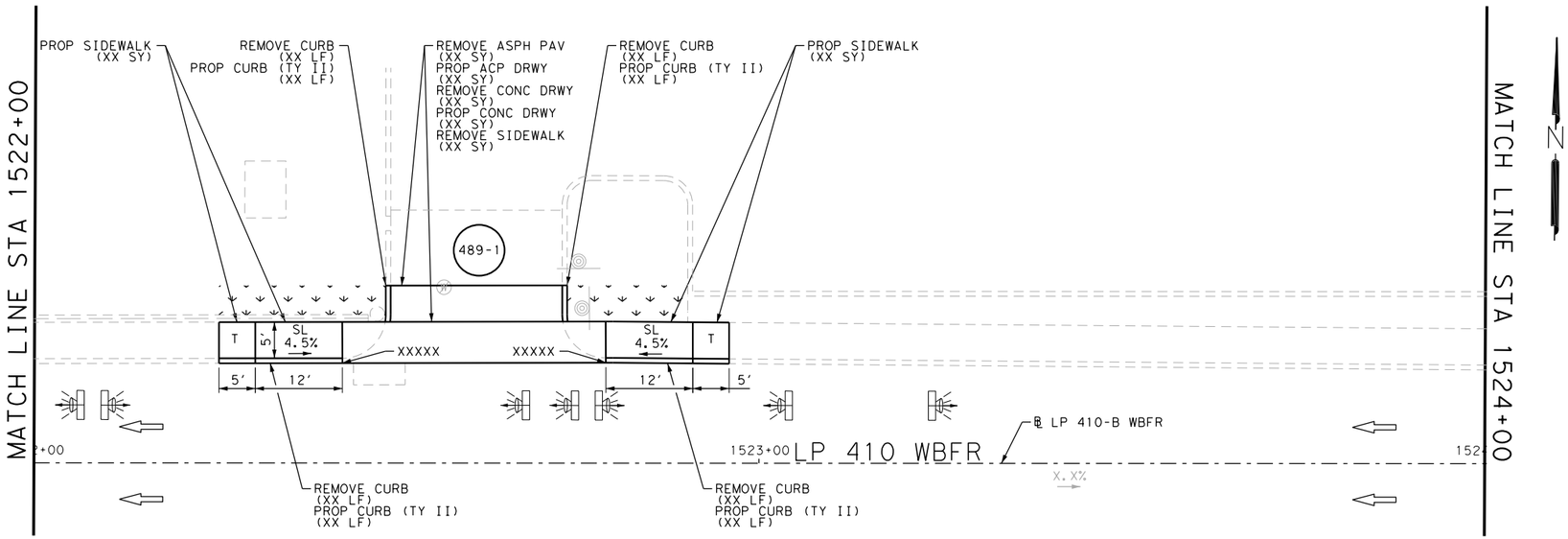


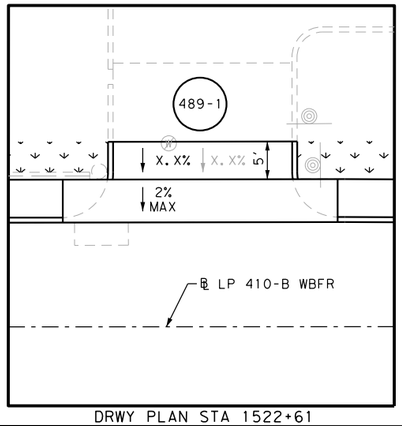


DRWY PLAN STA 1522+61

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DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



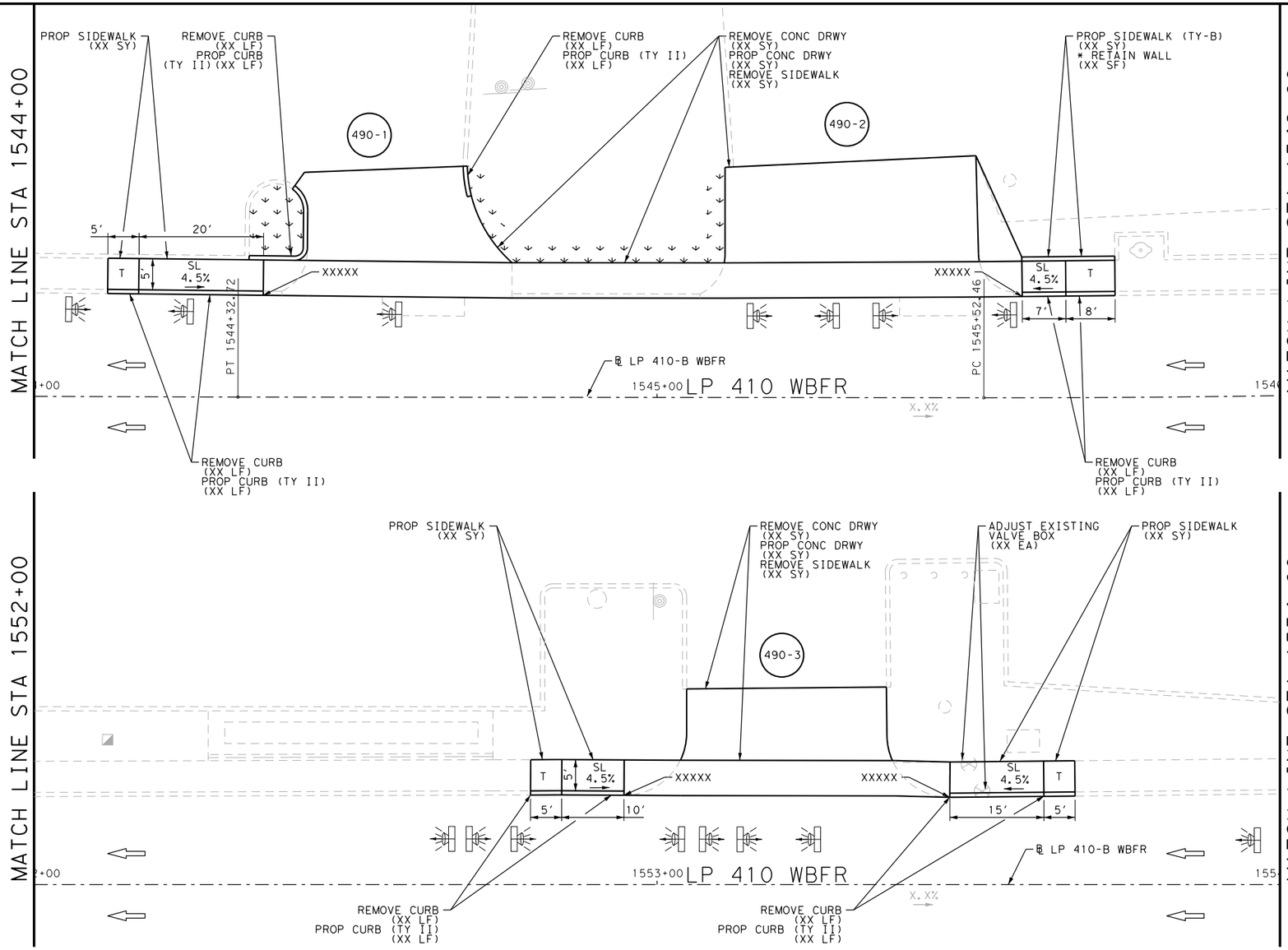
Loop 410-B

# SIDEWALK CONSTRUCTION PLAN

STA 1516+00 TO STA 1518+00
STA 1522+00 TO STA 1524+00

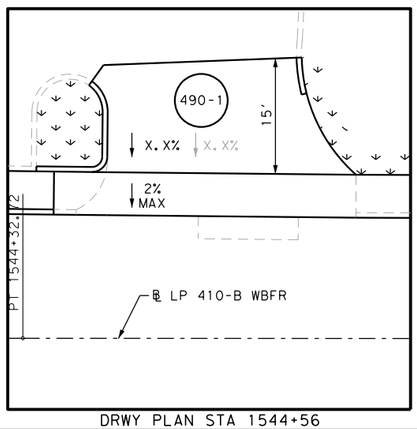


| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 489 |

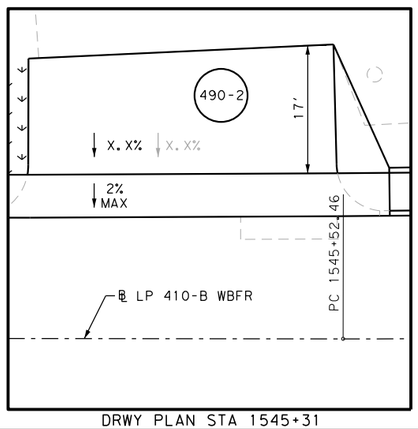




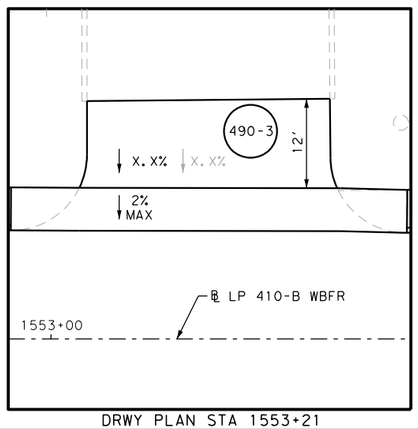





DRWY PLAN STA 1544+56




DRWY PLAN STA 1545+31




DRWY PLAN STA 1553+21

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



Loop 410-B

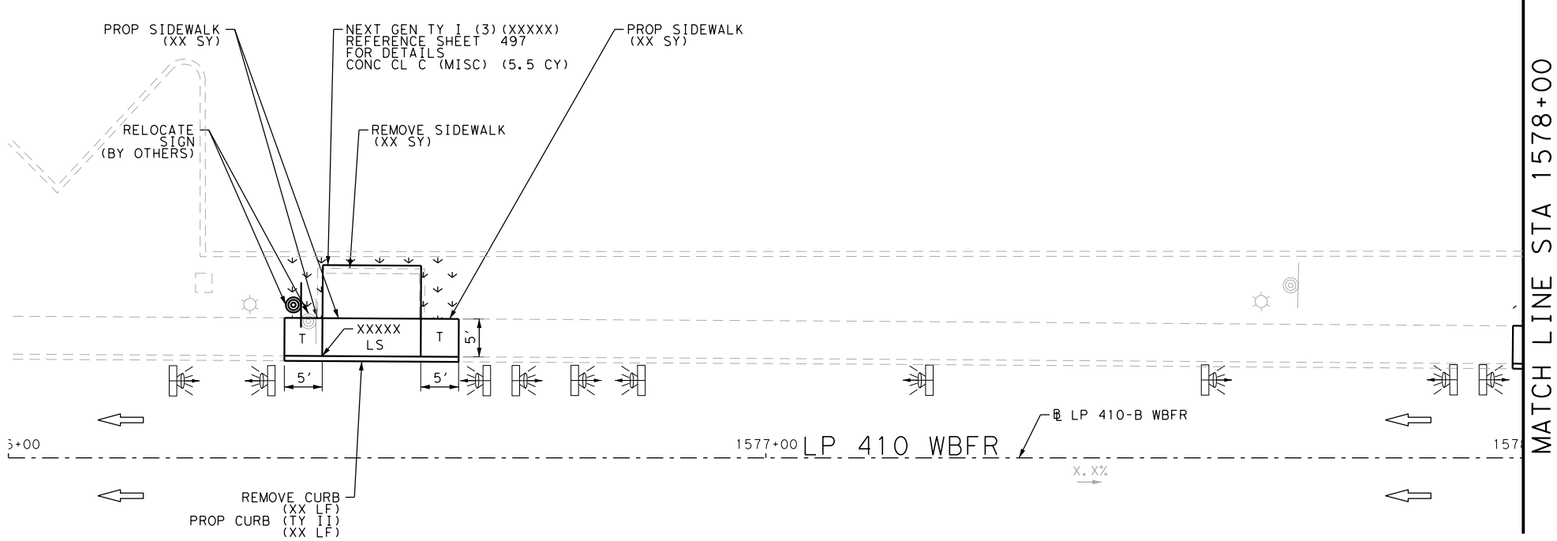
# SIDEWALK CONSTRUCTION PLAN
STA 1544+00 TO STA 1546+00
STA 1552+00 TO STA 1554+00

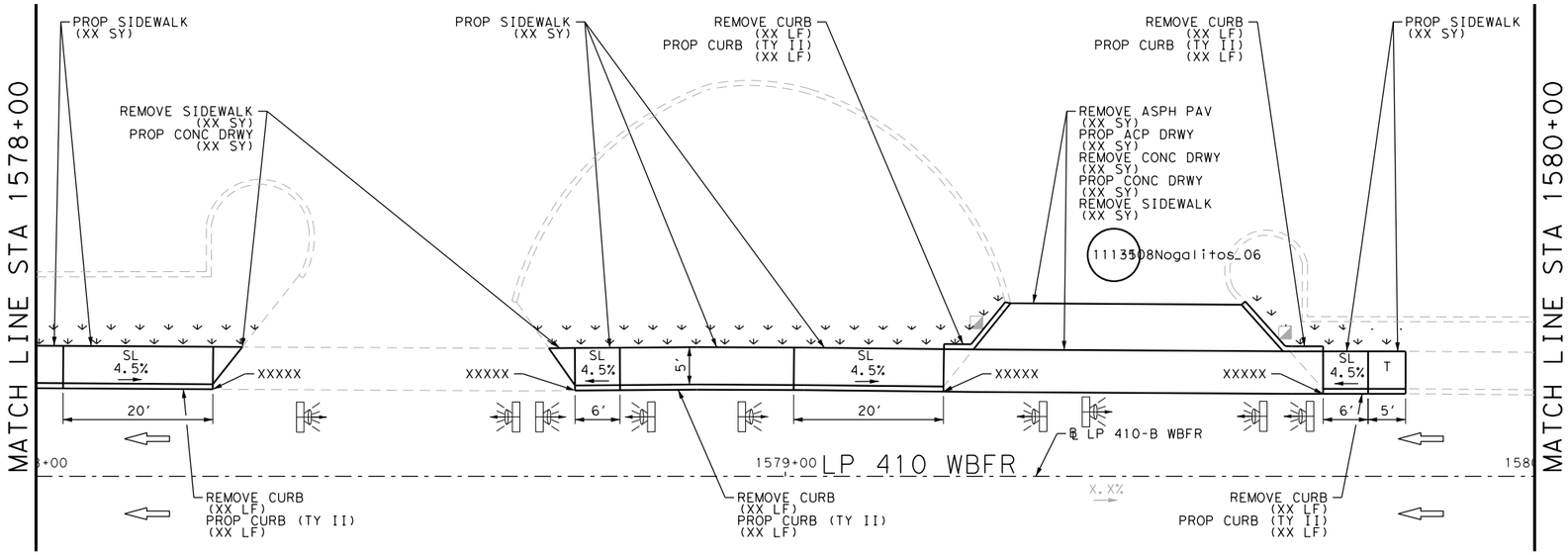
SHEET 5 OF 11

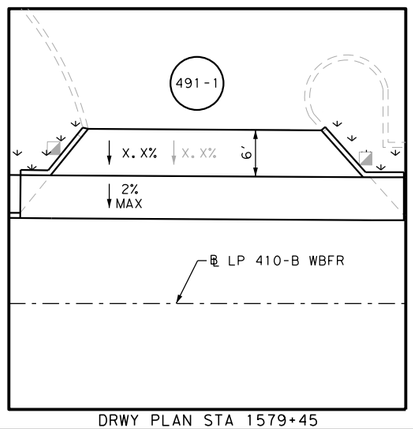
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 490 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\111508_Loop410B_WB05.dgn




DRWY PLAN STA 1579+45

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



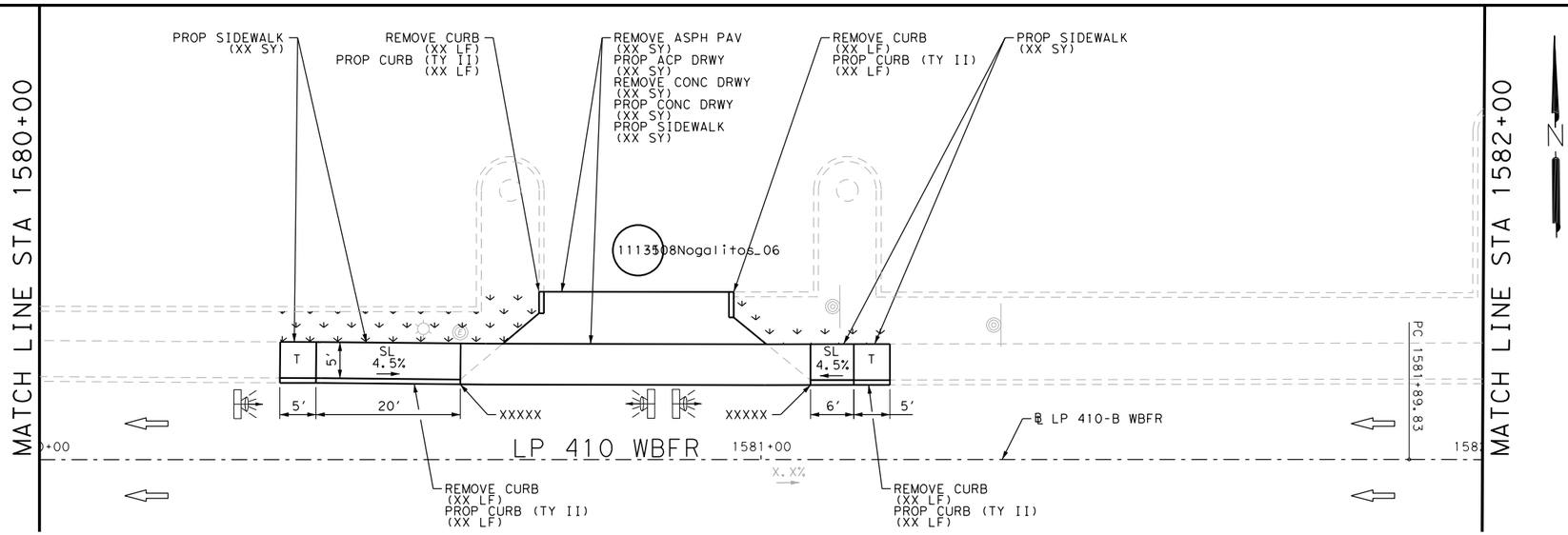
Loop 410-B

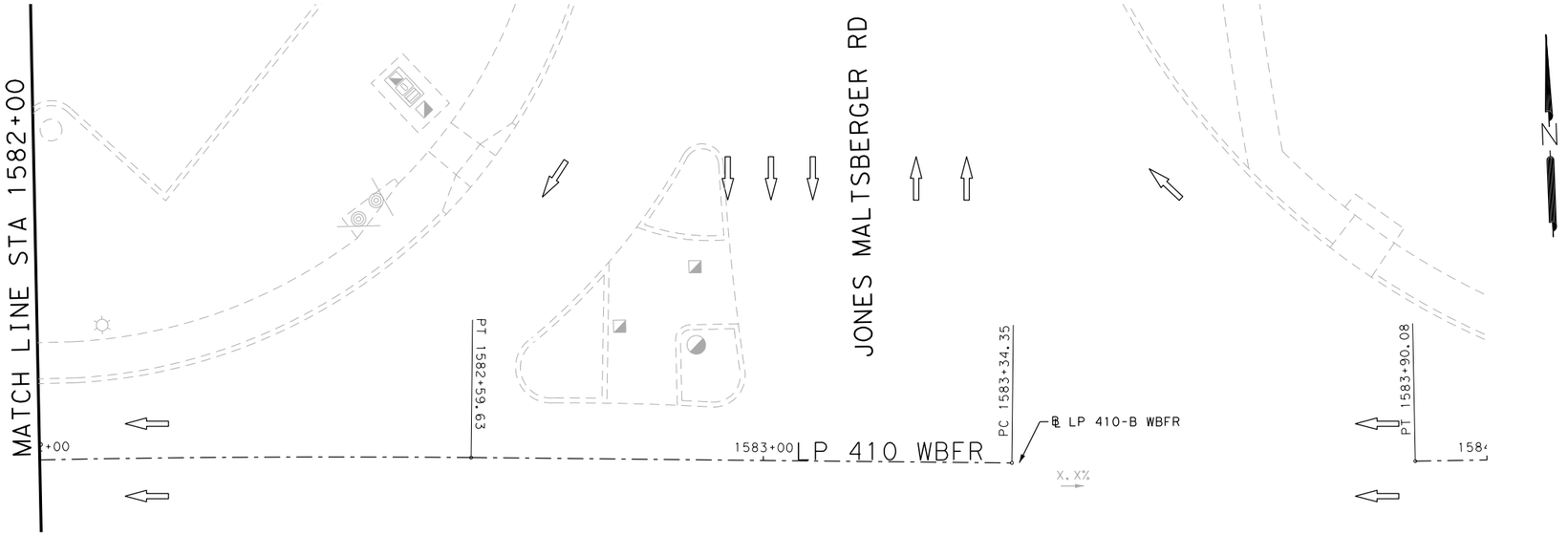
# SIDEWALK CONSTRUCTION PLAN

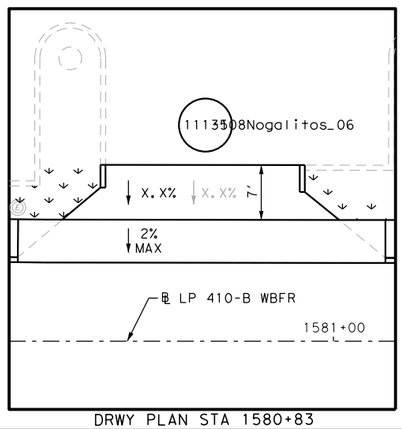
STA 1576+00 TO STA 1580+00

SHEET 6 OF 11

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 491 |




DRWY PLAN STA 1580+83

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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| | | | |


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




Loop 410-B

# SIDEWALK CONSTRUCTION PLAN

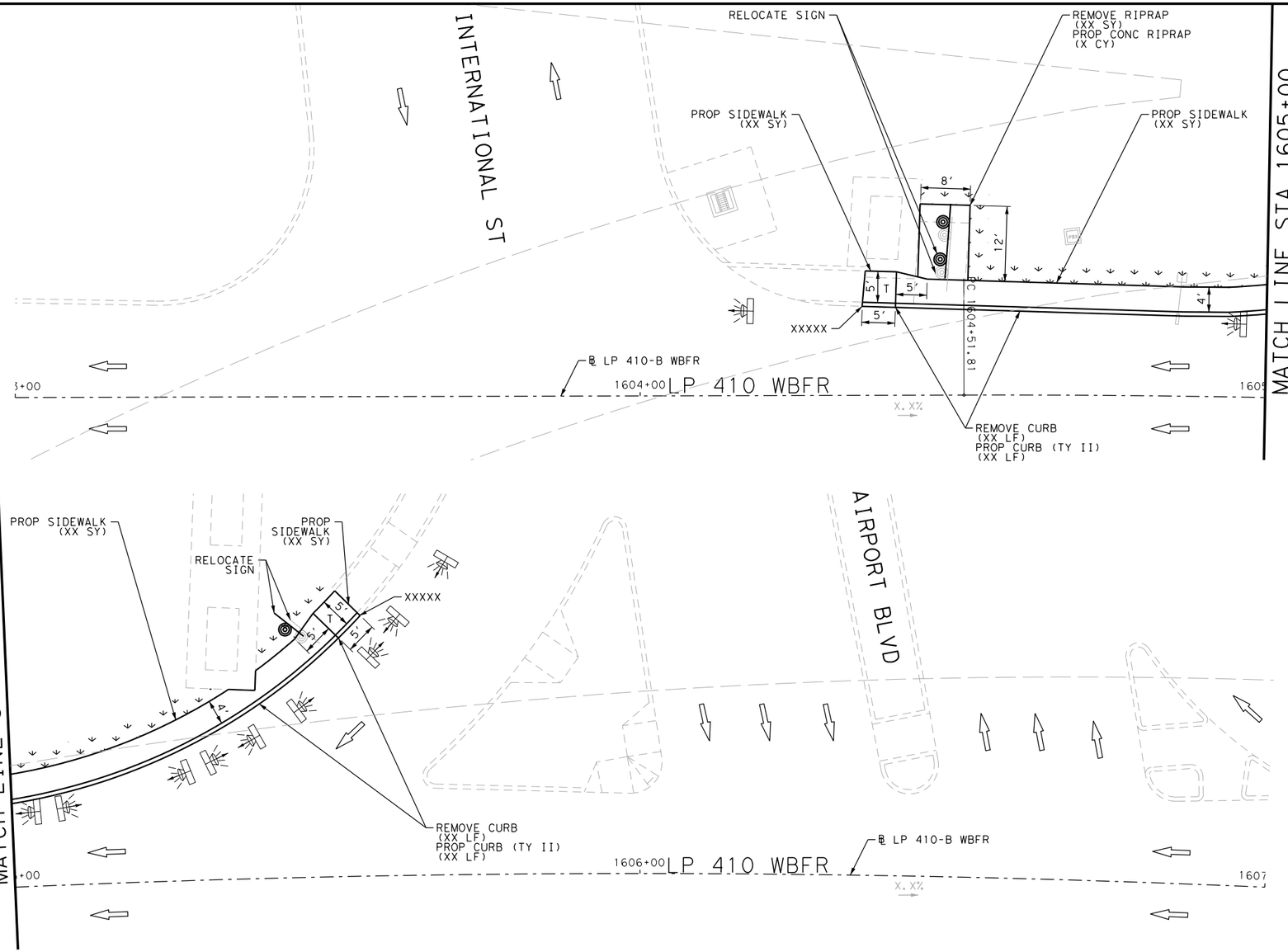
STA 1580+00 TO STA 1584+00

SHEET 7 OF 11

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 492 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\1113508_Loop410B_WB07.dgn




NOTES:
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1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
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DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



Loop 410-B

# SIDEWALK CONSTRUCTION PLAN

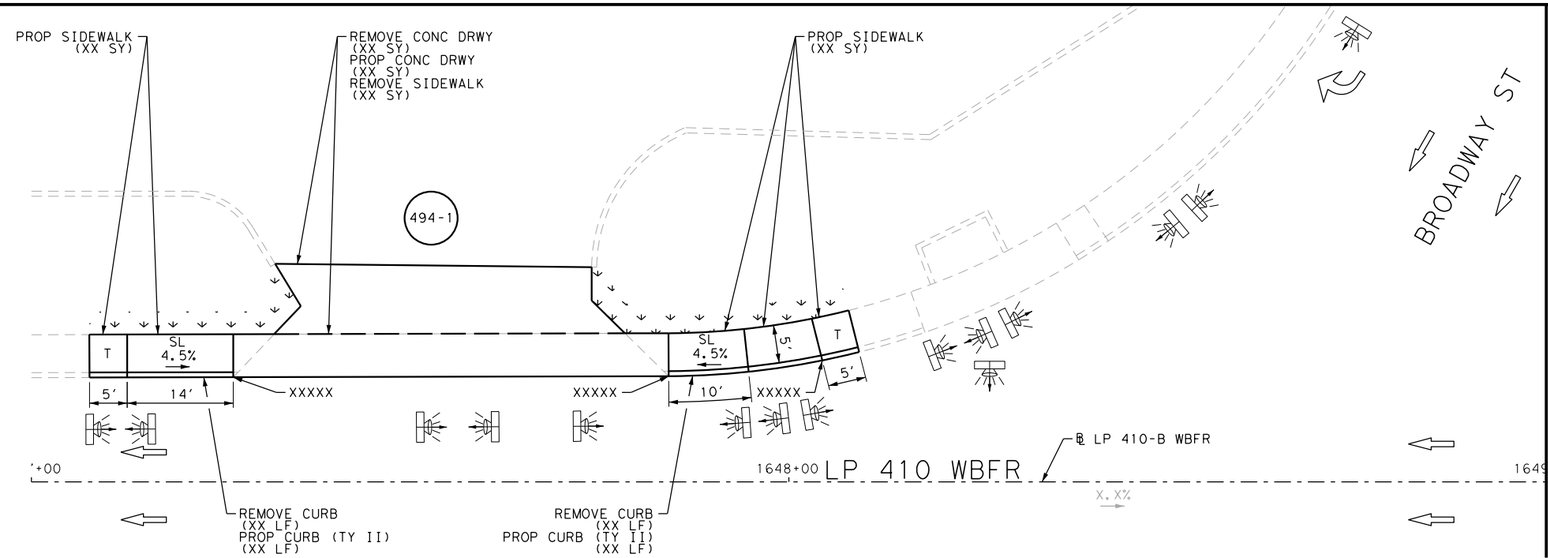
STA 1603+00 TO STA 1607+00

SHEET 8 OF 11

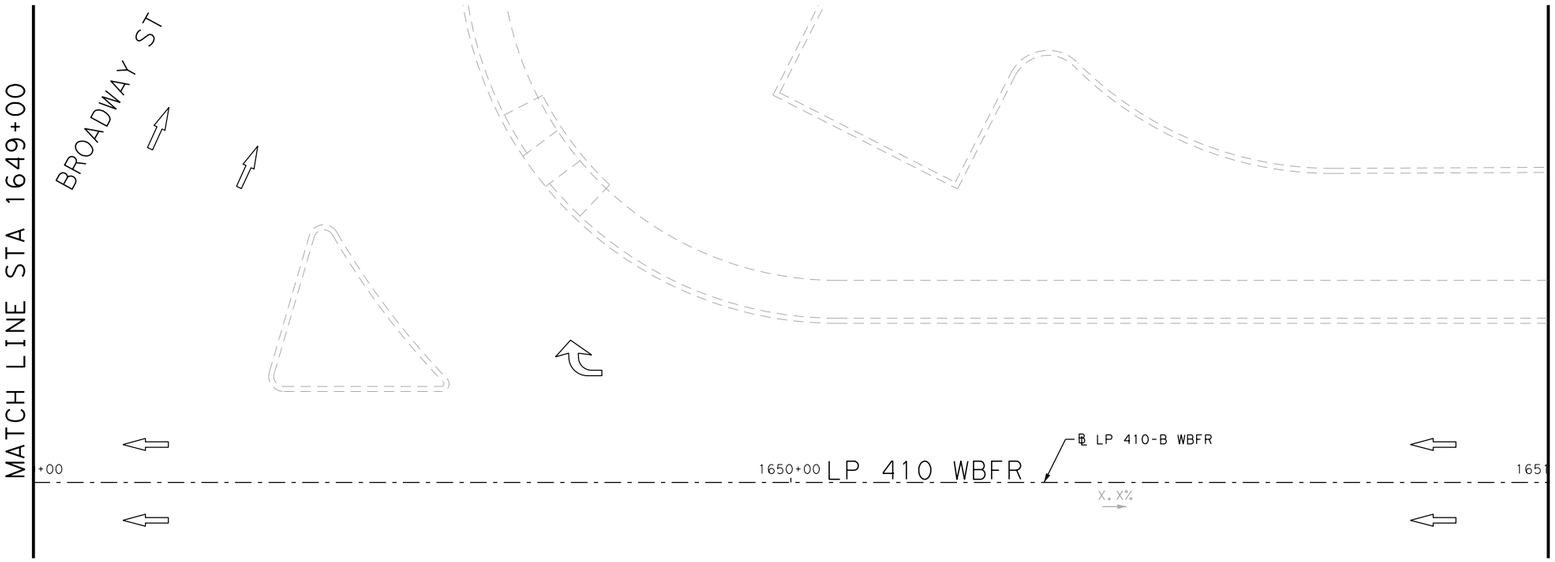
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 493 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\1113508_Loop410B_WB08.dgn

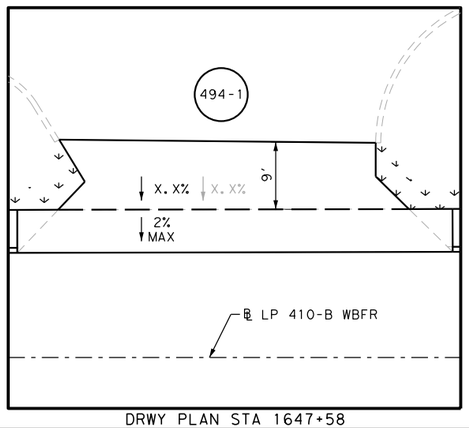



MATCH LINE STA 1649+00




MATCH LINE STA 1649+00

MATCH LINE STA 1651+00




DRWY PLAN STA 1647+58

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



Loop 410-B

# SIDEWALK CONSTRUCTION PLAN

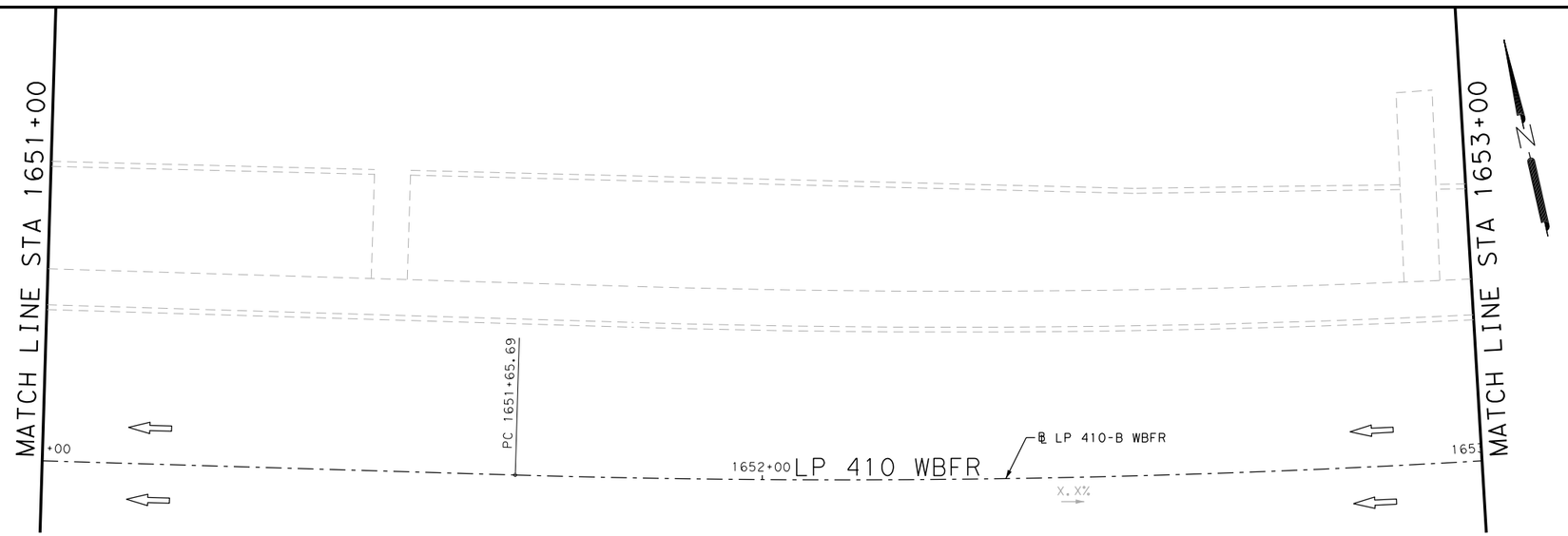
STA 1647+00 TO STA 1651+00

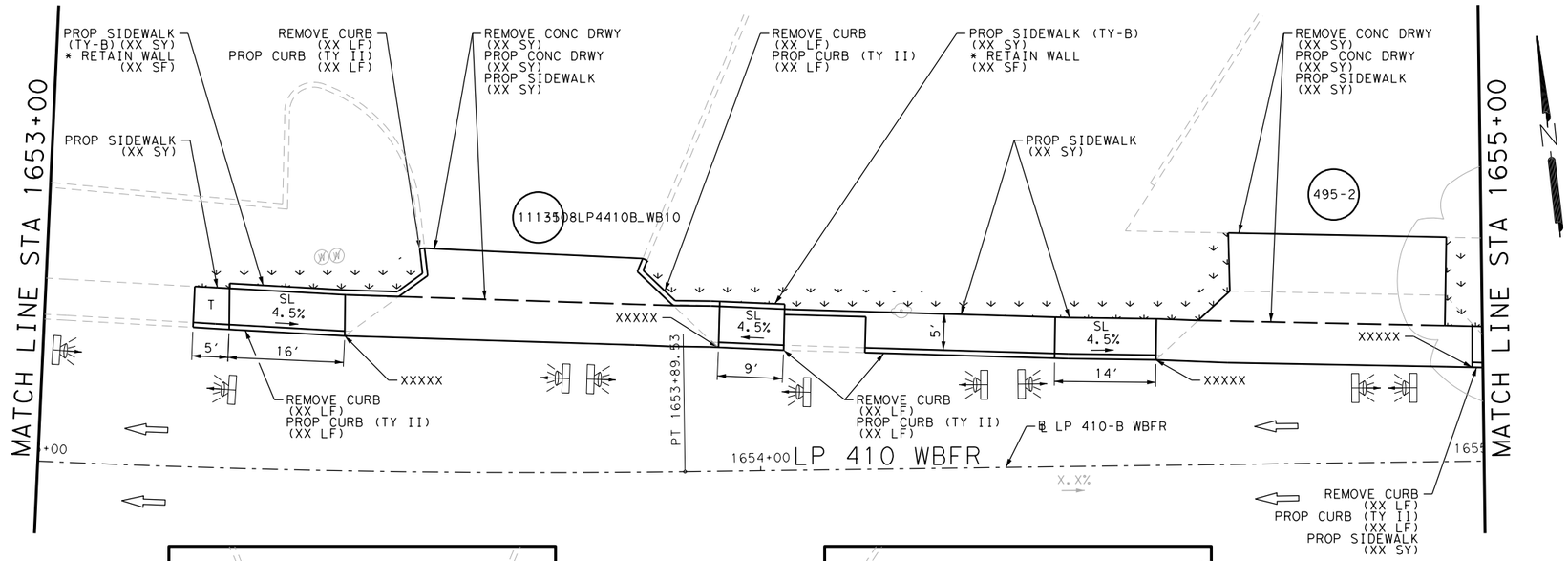
LP 410BWB09

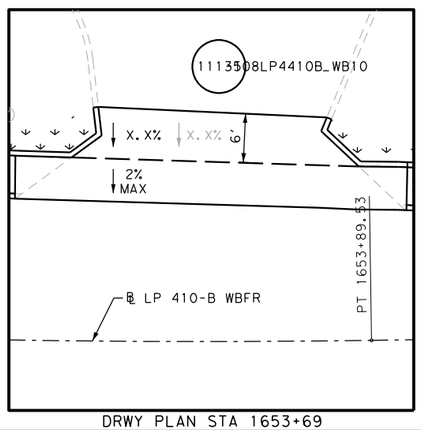
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 494 |

Plotted on: 4/1/2019

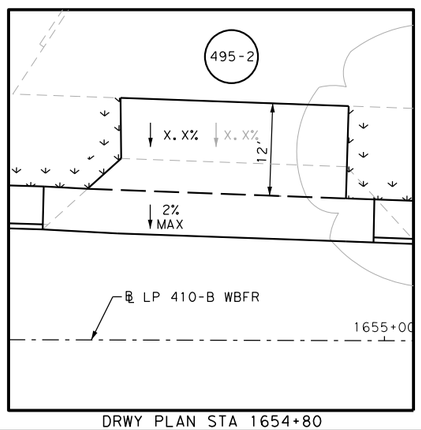
Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\1113508_Loop410B_WB09.dgn




DRWY PLAN STA 1653+69




DRWY PLAN STA 1654+80

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
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DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



Loop 410-B

# SIDEWALK CONSTRUCTION PLAN

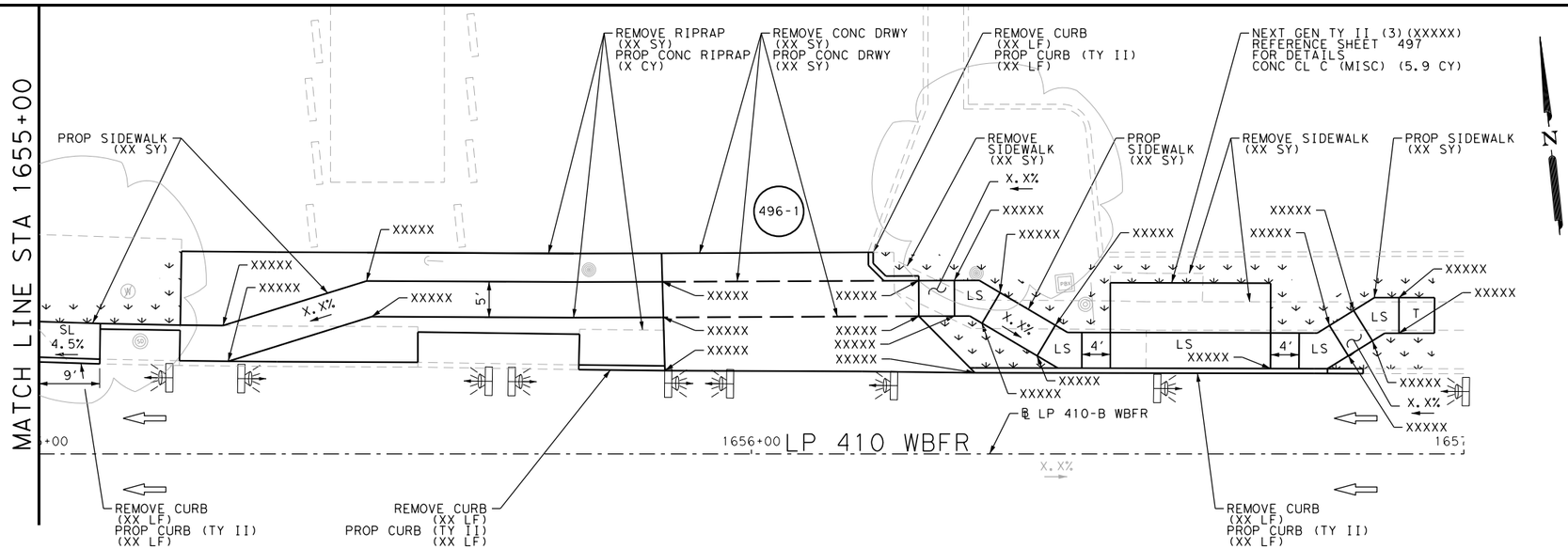
STA 1651+00 TO STA 1655+00

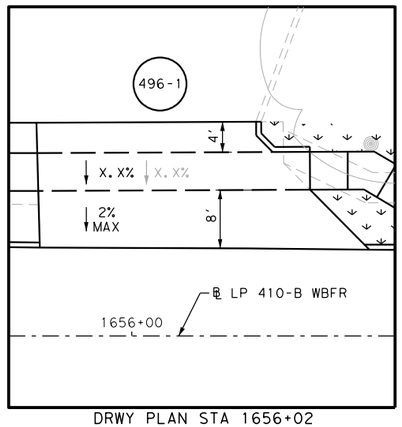
LP410WB10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 495 |

Plotted on: 4/1/2019

Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\1113508_Loop410B_WB10.dgn




DRWY PLAN STA 1656+02

NOTES:
* FOR CONTRACTOR INFORMATION ONLY
1. THE EXISTENCE AND LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES INDICATED IN THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO FIELD VERIFY UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
2. REFER TO GUIDE SHEET 89 FOR A LEGEND OF SYMBOLS, SLOPES, AND POINT TABLE INFORMATION
3. EXISTING FEATURES ARE SHOWN SCREENED BACK, IE FADED

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/1/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/1/2019

SCALE: PLAN 1"= 20'

| REV. NO. | DATE | DESCRIPTION | BY |
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PAPE-DAWSON ENGINEERS
SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TBPE FIRM REGISTRATION #470 I TBPLS FIRM REGISTRATION #10028800



Loop 410-B

# SIDEWALK CONSTRUCTION PLAN

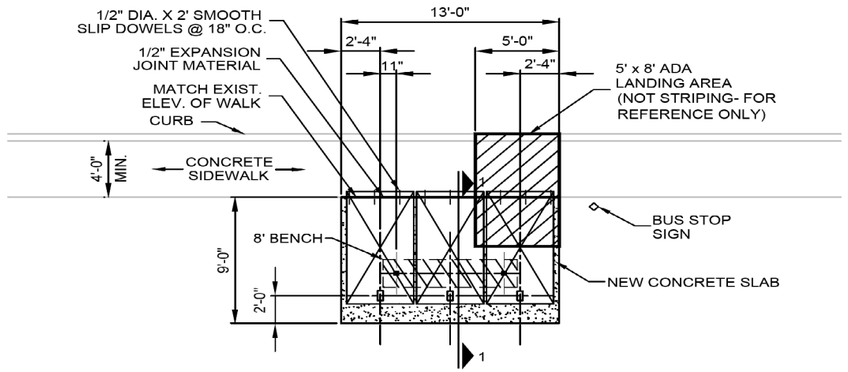
STA 1655+00 TO STA 1657+00

SHEET 11 OF 11

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 496 |

Plotted on: 4/1/2019

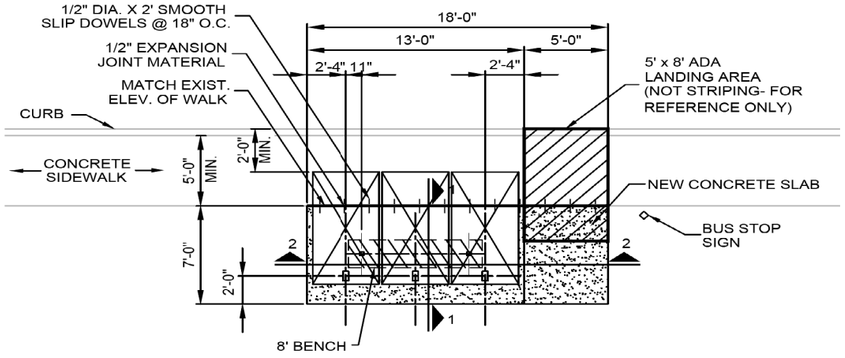
Design Filename: P:\111\35\08\Design\Civil\Roadway\Loop410B\1113508_Loop410B_WB11.dgn




## NEXT GEN TY I - SUFFICIENT ROW DETAIL

N.T.S.

*SEE SHEET 111 3-5.0R7 VSIEADIEITOANI L1S-012* (SEE NOTE 1)



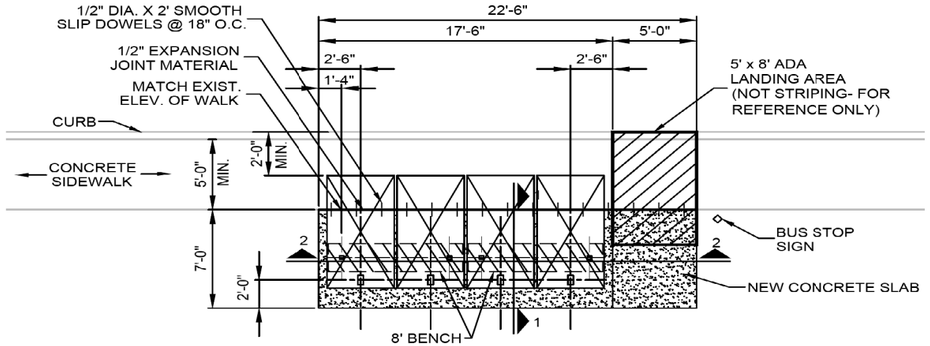

## NEXT GEN TY II - INSUFFICIENT ROW DETAIL

N.T.S.

*SEE SHEET 111 3-5.0R7 VSIEADIEITOANI L1S-012, 2-2* (SEE NOTE 1)

NOTES:

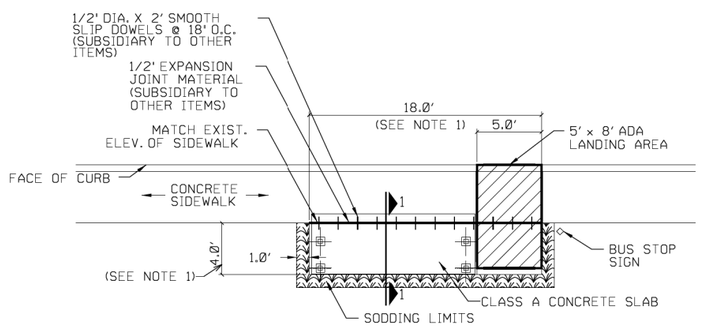
1. IF ADDITIONAL UNITS ARE SPECIFIED ON THE PLANS, ADD 4.5' TO THE SLAB WIDTH FOR EACH ADDITIONAL UNIT SPECIFIED.
2. EXISTING STRUCTURES (TRANSIT SHELTERS) THAT CONFLICT WITH PROPOSED STRUCTURES ARE TO BE REMOVED BY OTHERS PRIOR TO REMOVAL OF EXISTING CONCRETE.




## NEXT GEN TY III - INSUFFICIENT ROW DETAIL

N.T.S.

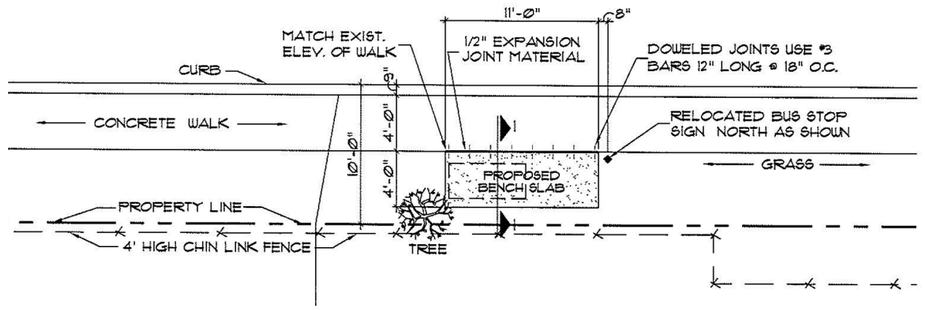
*SEE SHEET 111 3-5.0R7 VSIEADIEITOANI L1S-012, 2-2* (SEE NOTE 1)




## TY IV - BARREL ROOF DETAIL

N.T.S.

*SEE SHEET 111 3-5.0R7 VSIEADIEITOANI L1S-012*




## TY V - BENCH SLAB DETAIL

N.T.S.

*SEE SHEET 111 3-5.0R7 VSIEADIEITOANI L1S-012*

NOTES:
* NEW BASE IS SUBSIDIARY TO ITEM 420.

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/11/2019

REVIEW AND APPROVAL

INTERIM REVIEW

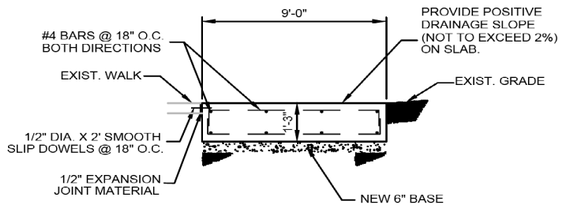
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/11/2019

VIA

# TRANSIT STOP DETAILS

SHEET 1 OF 2

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 497 |




## NEXT GEN TY I - SUFFICIENT ROW SECTION 1-1
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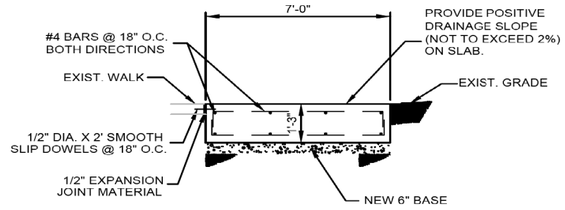


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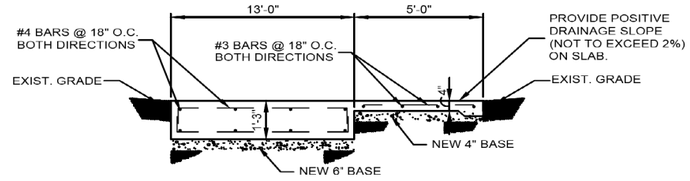


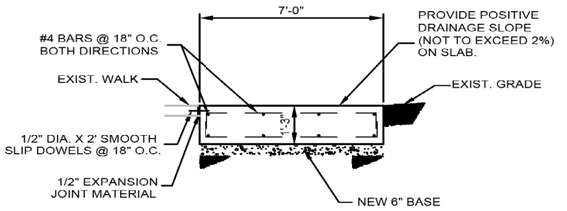


## NEXT GEN TY III - INSUFFICIENT ROW SECTION 1-1, 2-2
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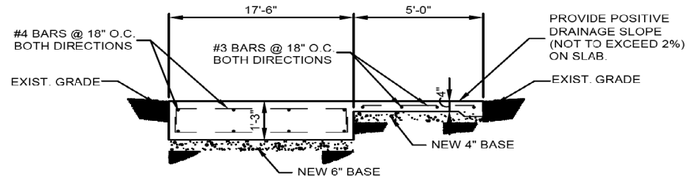
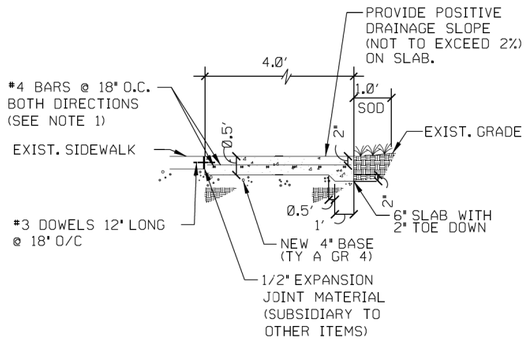
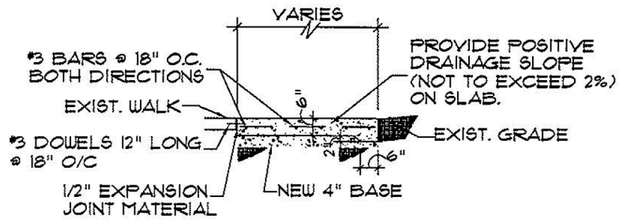



**SECTION 1-1**

## TY IV - BARREL ROOF SECTION 1-1
N.T.S.




1 DETAIL
SCALE: 3/8"=1'-0"

## TY V - BENCH SLAB SECTION 1-1
N.T.S.

NOTES:
* NEW BASE IS SUBSIDIARY TO ITEM 420.

VIA

# TRANSIT STOP DETAILS

SHEET 2 OF 2

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
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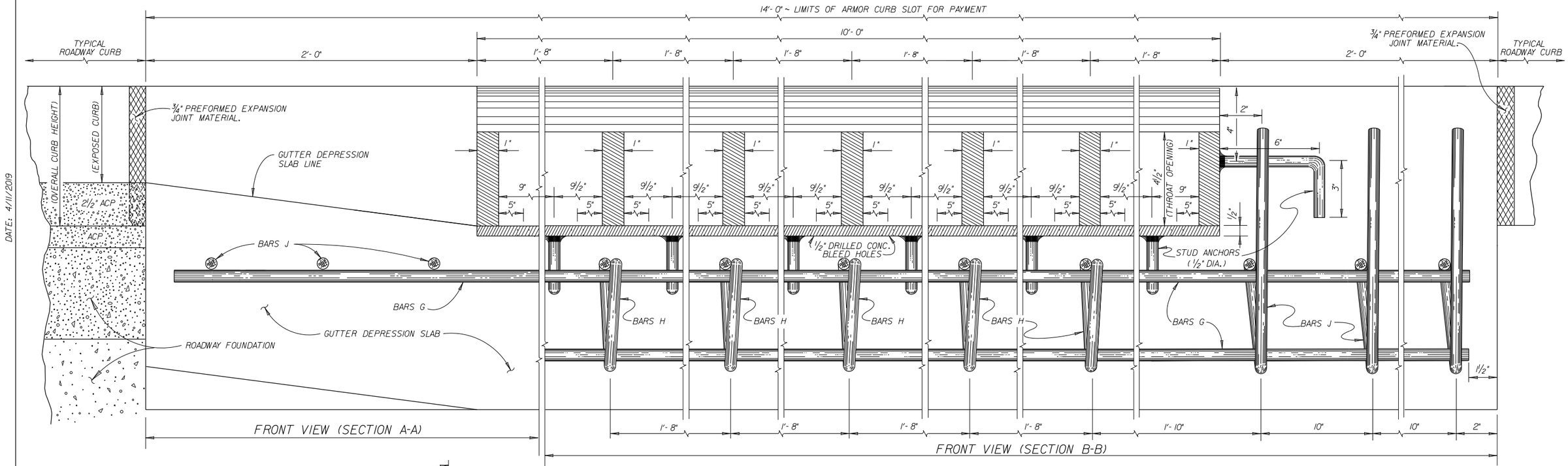
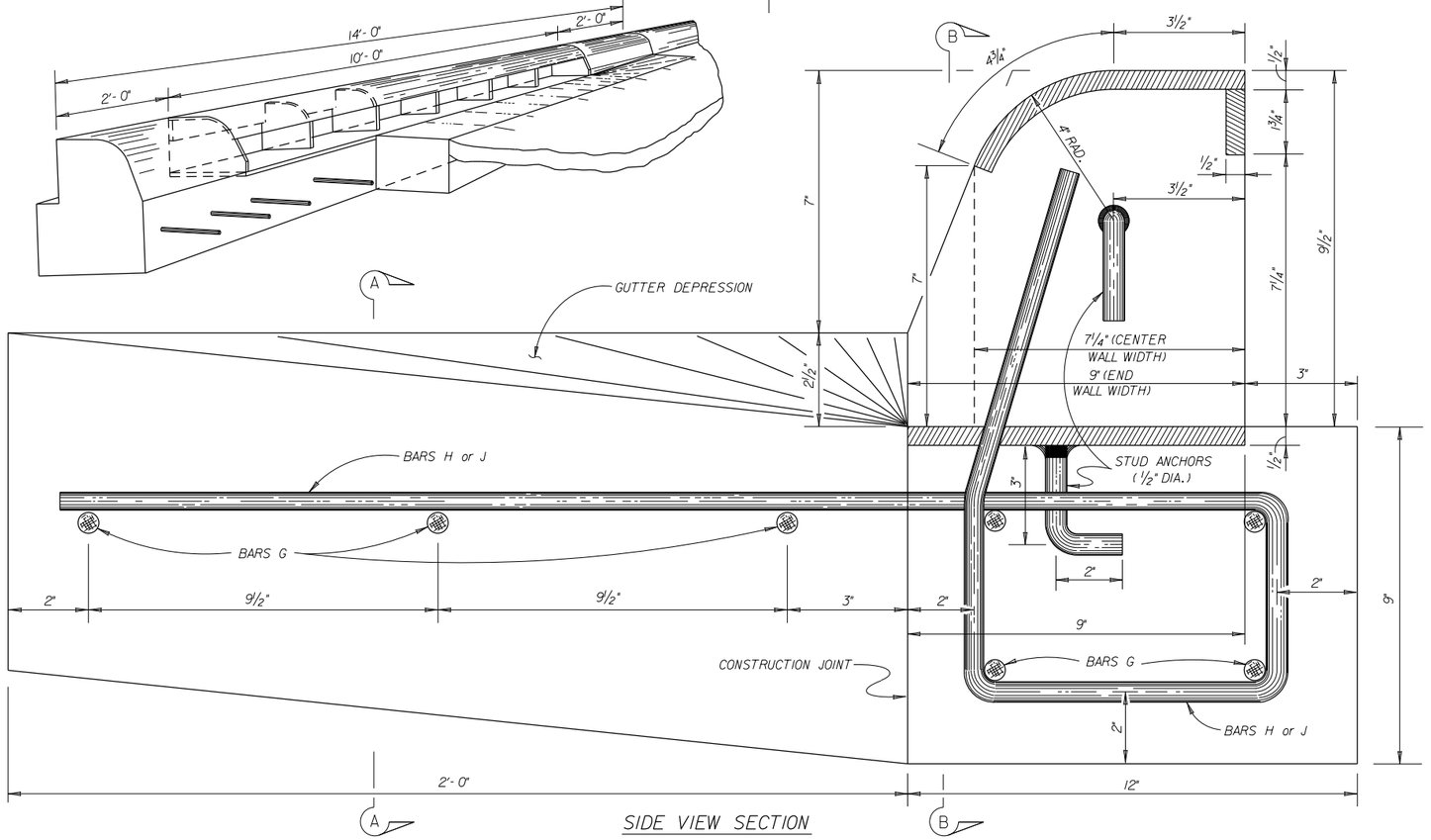
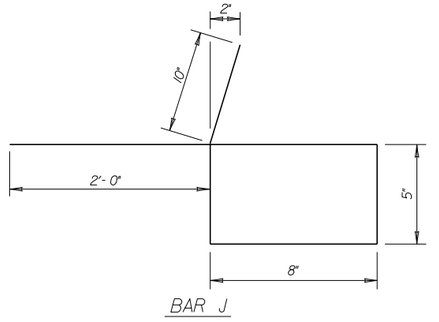
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 498 |










## ESTIMATED QUANTITIES
### FOR REINFORCING STEEL & CONCRETE

| BAR | NO. | SIZE | SPAC. | LENGTH | WEIGHT |
|---|---|---|---|---|---|
| G | 7 | #4 | SHOWN | 13'- 9" | 64 |
| H | 5 | #4 | 1'- 8" | 4'- 6" | 15 |
| J | 6 | #4 | 8" | 5'- 0" | 20 |
| TOTAL WEIGHT * | | | | LBS. | 99 |
| CONCRETE FOR FOUNDATION * | | | | C.Y. | 0.47 |
| CONCRETE FOR GUTTER DEPRESSION * | | | | C.Y. | 0.78 |

| STRUCTURAL STEEL FOR ARMOR CURB SLOT | | |
|---|---|---|
| STUD ANCHORS (1/2" DIA.) | LBS. | 3.5 |
| STEEL PLATE | LBS. | 451 |
| TOTAL WEIGHT * | LBS. | 454.5 |

* FOR CONTRACTORS INFO ONLY.

GENERAL NOTES:

ALL CONCRETE SHALL BE CL."A".

ALL STEEL SHALL BE ASTM A36.

ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.

ALL SIDES OF ARMOR CURB SLOT AND STUD ANCHORS SHALL BE 1/4" FILLET WELDS.

ALL EXPOSED STRUCTURAL STEEL (ARMOR) SHALL BE GALVANIZED UNDER ITEM 445.

ALL EXPOSED EDGES ON ARMOR CURB SHALL RECEIVE A 1/8" BEVEL.

THE SHAPE OF THE TYPICAL ROADWAY CURB SHALL TRANSITION TO THE ARMOR CURB AS APPROVED BY THE ENGINEER.

# ARMOR CURB SLOT
## WITH CONCRETE FOUNDATION
## SAN ANTONIO DISTRICT STANDARDS



10/95
REV. 07/01
REV. 12/04

| FED. RD. DIV. NO. | PROJECT NO. | | SHEET NO. |
|---|---|---|---|
| 6 | | | 499 |
| STATE | STATE DISTRICT | COUNTY | |
| TEXAS | SAT | BEXAR | |
| CONT. | SECT. | JOB | HIGHWAY NO. |
| 0915 | 12 | 574 | VARIES |

DATE: 4/11/2019
FILENAME: P:\IN\35\08\Design\Civil\Standards\Roadway\armorcurb\SAT).dgn
STRUCTURE DESIGN
/BRIDGE/STDS/ARMORCURB.DGN

DATE: 4/11/2019 4:25:41 PM
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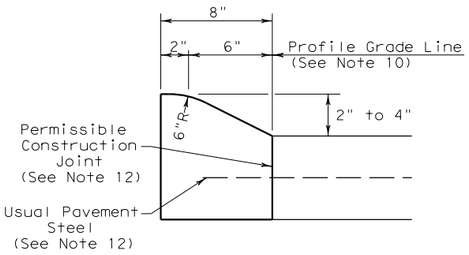
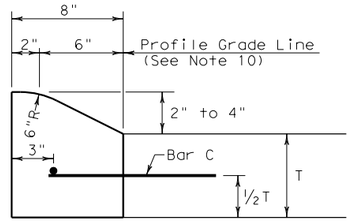
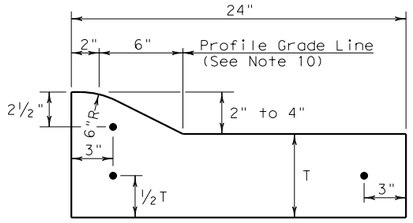


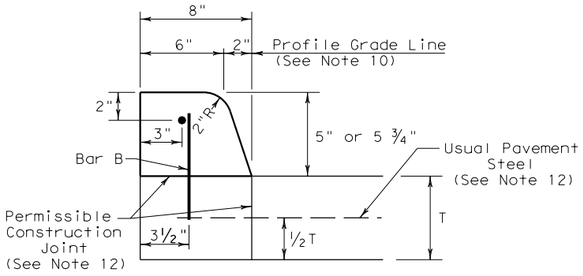

TYPE I CURB (MONOLITHIC)
2" - 4" HEIGHT



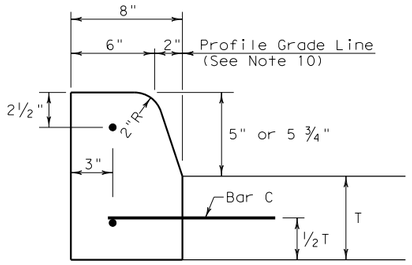

TYPE I CURB
2" - 4" HEIGHT



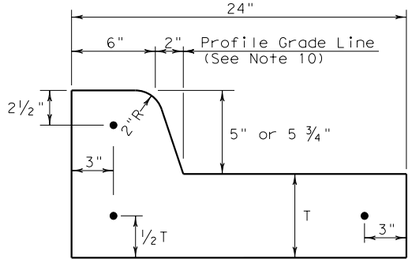

TYPE I CURB AND GUTTER
2" - 4" HEIGHT



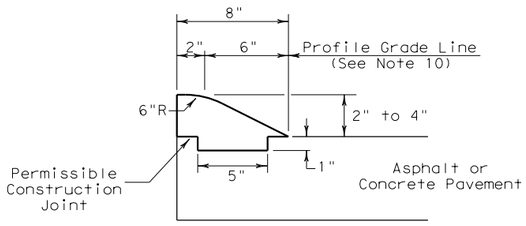

TYPE II CURB (MONOLITHIC)
5" - 5 ¾" HEIGHT



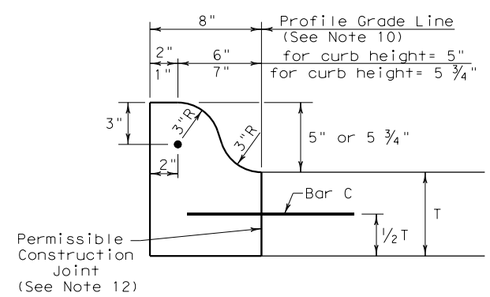

TYPE II CURB
5" - 5 ¾" HEIGHT



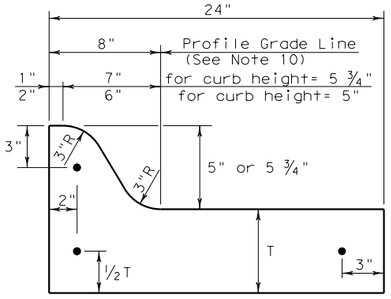

TYPE II CURB AND GUTTER
5" - 5 ¾" HEIGHT



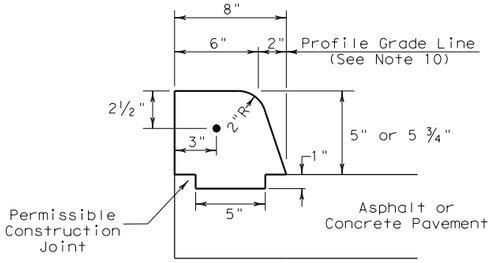

TYPE III CURB (KEYED)
2" - 4" HEIGHT



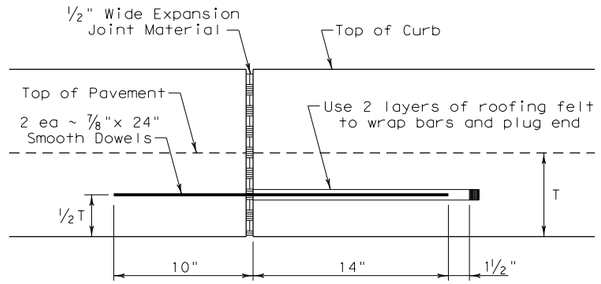

TYPE IIa CURB
5" - 5 ¾" HEIGHT




TYPE IIa CURB AND GUTTER
5" - 5 ¾" HEIGHT

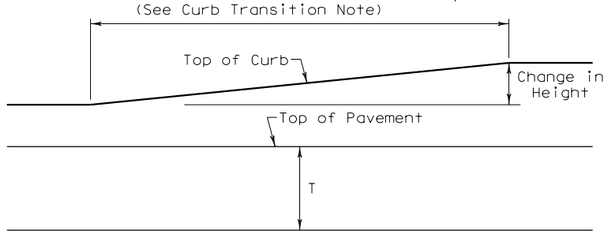



TYPE IV CURB (KEYED)
5" - 5 ¾" HEIGHT




EXPANSION JOINT DETAIL

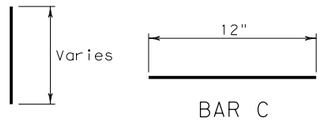
Curb Transition Note:
Field conditions may require a longer or shorter transition, and shall be shown elsewhere in the plans, or as directed by the Engineer.




CURB TRANSITION
Note: To be paid for as Highest Curb

## General Notes

1. All materials and construction shall be in accordance with Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter."
2. Concrete shall be Class A.
3. When reinforcing bars are used, they shall be No. 4 unless otherwise shown. The use of synthetic fiber in lieu of steel reinforcing is acceptable, provided the fiber producer is on the Department Producer List (MPL), maintained by TxDOT, Construction Division.
4. Round exposed sharp edges with a rounding tool, to a minimum radius of ¼ inch.
5. All existing curbs and driveways to be removed shall be sawed or removed at existing joints.
6. Where concrete curb is placed on existing concrete pavement, the pavement shall be drilled and the reinforcing bars grouted in place.
7. Expansion and contraction joints shall be constructed to match pavement joints in all curbs and curb and gutter adjacent to jointed concrete pavement. Where placement of curb or curb and gutter is not adjacent to concrete pavement, expansion joints shall be provided at structures, curb returns at streets, and at locations directed by The Engineer.
8. Vertical and horizontal dowel bars and transverse reinforcing bars shall be placed at four feet C-C.
9. Dimension 'T' shown is the thickness of concrete pavement. When curb is installed adjacent to flexible pavement dimension 'T' is 8" maximum.
10. Usual profile grade line. Refer to typical sections and plan-profile sheets for exact locations.
11. One-half inch expansion joint material shall be provided where curb or curb and gutter is adjacent to sidewalk or riprap.
12. When vertical permissible construction joints are used, resulting in a longitudinal construction joint in the pavement, the longitudinal pavement steel shall be placed in accordance with pavement details shown elsewhere in the plans for longitudinal construction joints. Reinforcing steel for curb section shall then conform to that required for concrete curb.



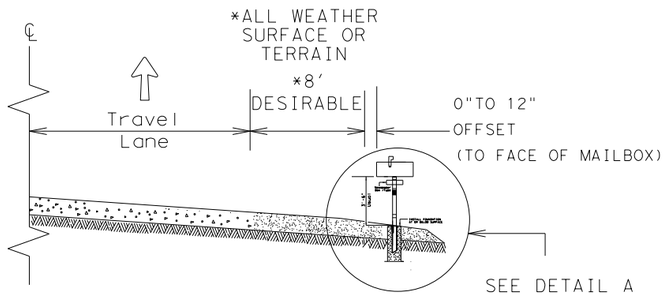

BAR B BAR C

Texas Department of Transportation — Design Division Standard

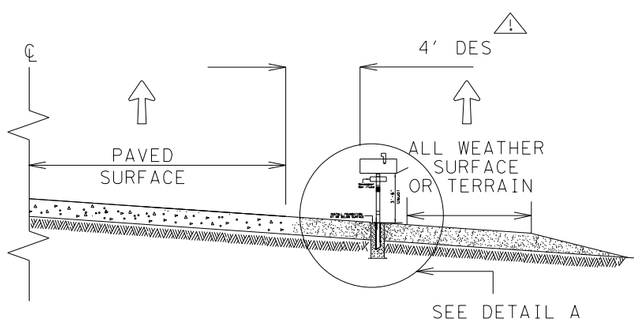
# CONCRETE CURB AND CURB AND GUTTER

# CCCG-12

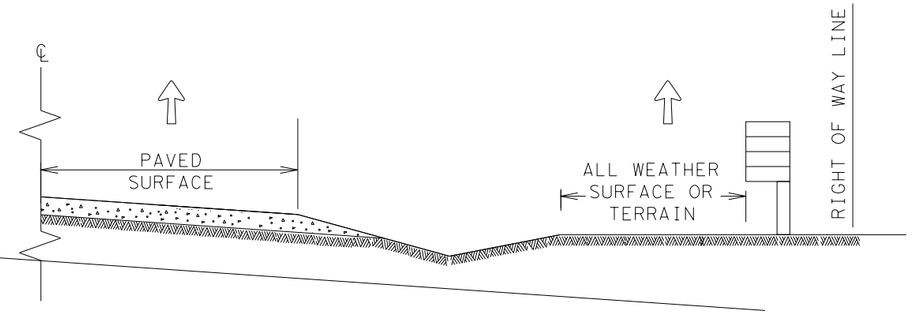
| FILE: cccg12.dgn | DN: TxDOT | CK: AM | DW: VP | CK: VP |
|---|---|---|---|---|
| © TxDOT: 1995 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS UPDATED 2012 - VP | 0915 | 12 | 574 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 500 |



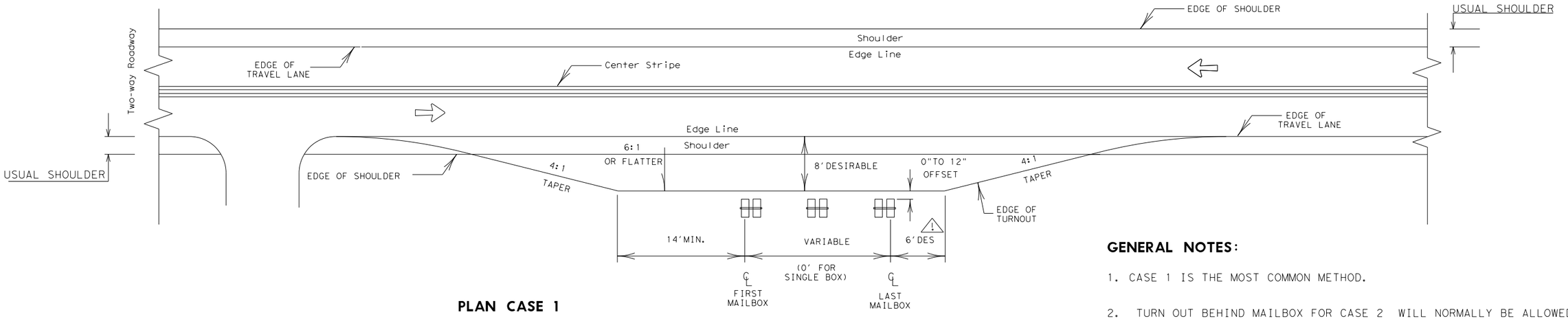

**CASE 1. OFF TRAVEL WAY DELIVERY**



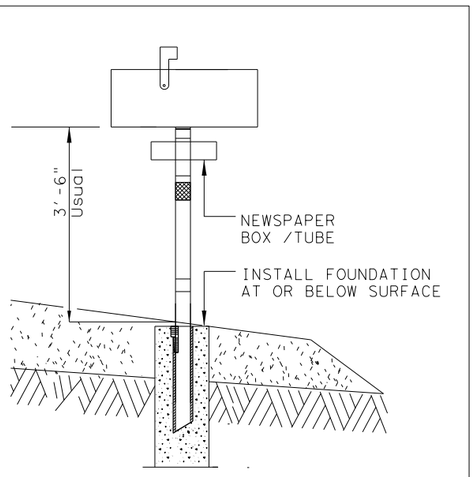

**CASE 2. BACK SIDE DELIVERY**



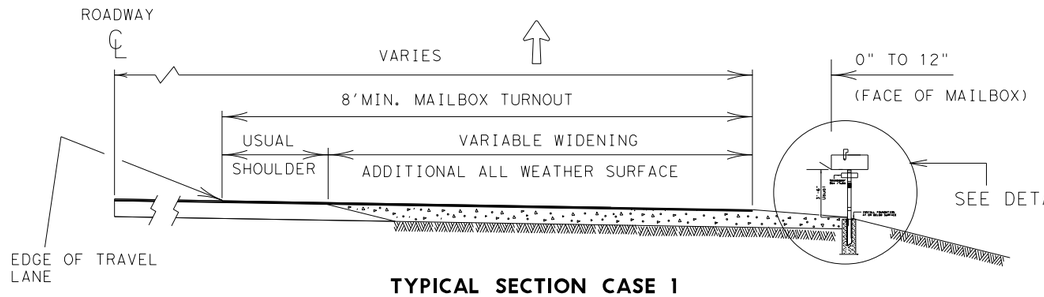

**CASE 3. DELIVERY NEAR RIGHT OF WAY LINE**




**PLAN CASE 1**




**DETAIL A**




**TYPICAL SECTION CASE 1**

**MAIL DELIVERY VEHICLE TRAVEL DIRECTION**

## GENERAL NOTES:

1. CASE 1 IS THE MOST COMMON METHOD.
2. TURN OUT BEHIND MAILBOX FOR CASE 2 WILL NORMALLY BE ALLOWED FOR NATURAL TERRAIN THAT WILL SERVE AS AN ALL WEATHER SURFACE.
3. ALL WEATHER DRIVEWAYS FOR CASE 3 MAILBOXES LOCATED AT THE RIGHT OF WAY LINE SHOULD NORMALLY BE PLACED IN CONJUNCTION WITH COUNTY ROADS OR OTHER CONNECTING COMMUNITY ROADS OR STREETS. IF THE NUMBER OF MAILBOXES EXCEEDS FOUR, A COMMUNITY MAIL BOX SHOULD BE ENCOURAGED AT THESE LOCATIONS.



Texas Department of Transportation | Maintenance Division Standard

*Guideline*

# MAILBOX SIDE ROAD PLACEMENT AND TURNOUTS
# MB-14(2)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| FILE: MB14(2).DGN | DN: JEO | | CK: | DW: JEO | | CK: | |
| ©TxDOT MAY 2014 | CONT | SECT | JOB | | HIGHWAY | | |
| REVISIONS | 0915 | 12 | 574 | | VARIES | | |
| DECEMBER 2012-NEW TXDOT TITLE BLOCK | DIST | COUNTY | | | SHEET NO. | | |
| | SAT | BEXAR | | | 501 | | |

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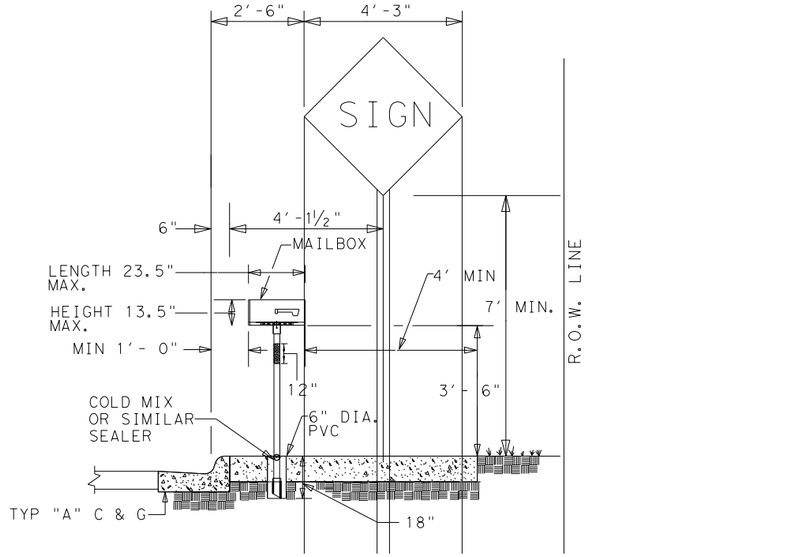
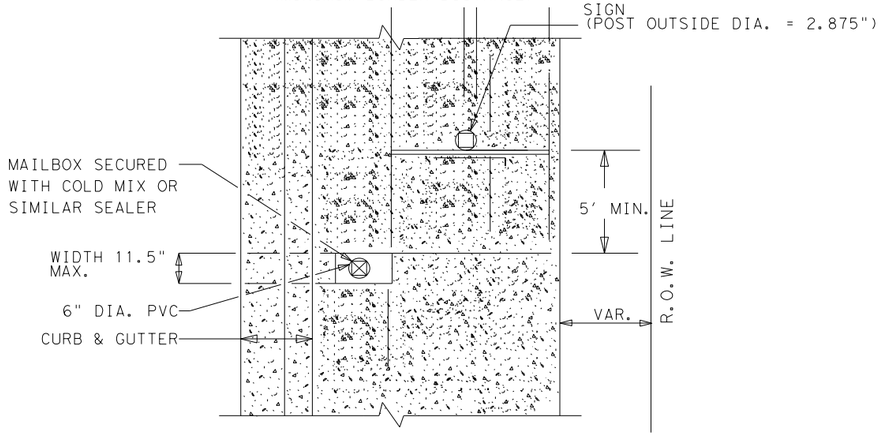
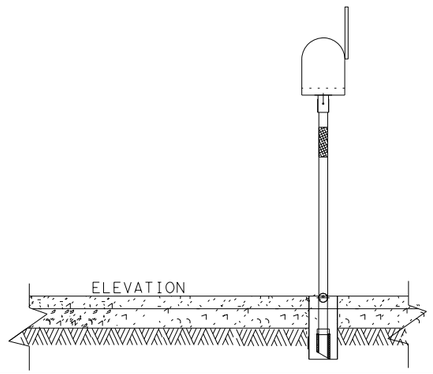
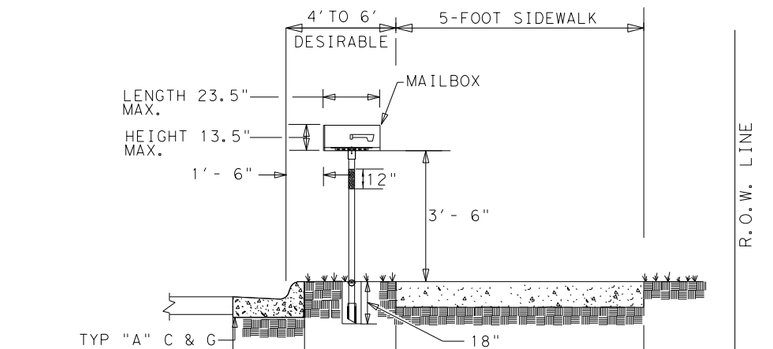



MAILBOX SIDEWALK INSTALLATION RELATIVE TO ANY OTHER OBSTRUCTION SUCH AS A SIGN
(MINIMUM BORDER DISTANCE)

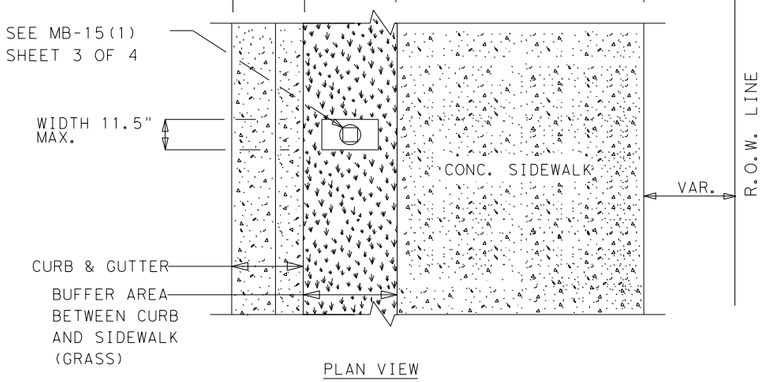



PLAN VIEW




MAILBOX SIDEWALK INSTALLATION
(DESIRABLE BORDER DISTANCE)




PLAN VIEW

DATE: 4/11/2019 4:25:44 PM
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Texas Department of Transportation | Maintenance Division Standard

# SINGLE MAILBOX PLACEMENT BEHIND CURBS WITH OR WITHOUT SIDEWALKS

# MB-14(2A)

| FILE: MB-14(2A) | DN: | CK: | DW: | CK: |
|---|---|---|---|---|
| © TxDOT MAY 2014 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 502 |

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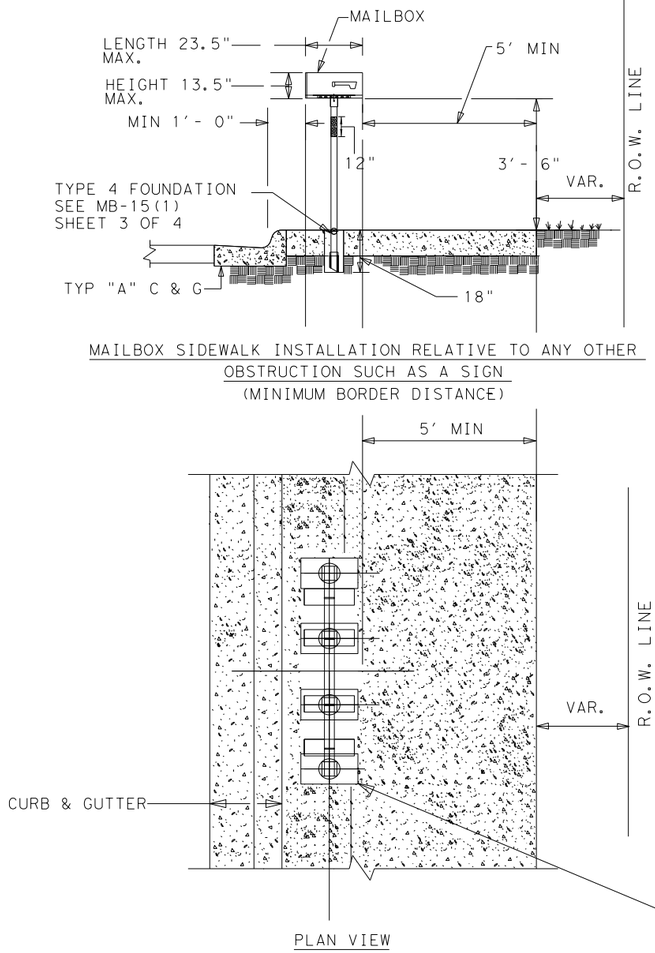
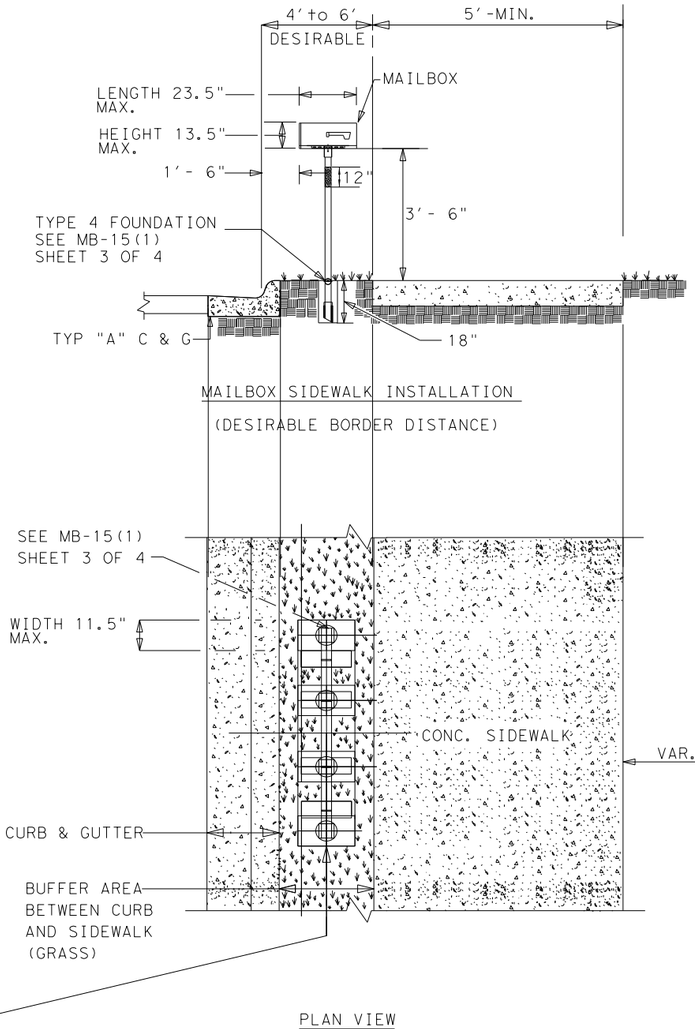



MAILBOX SIDEWALK INSTALLATION RELATIVE TO ANY OTHER OBSTRUCTION SUCH AS A SIGN
(MINIMUM BORDER DISTANCE)



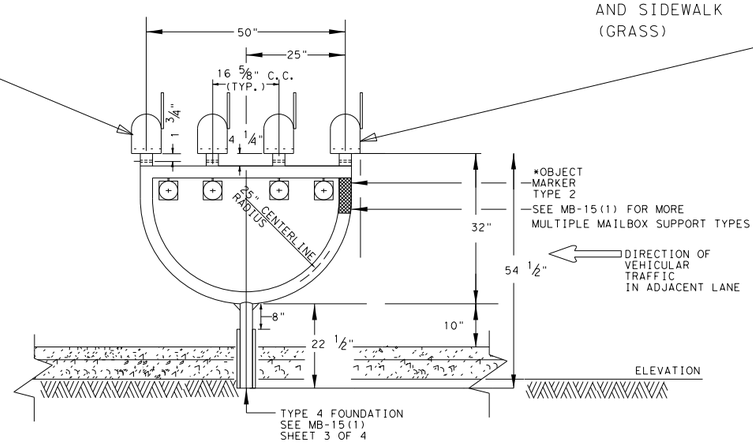

PLAN VIEW




MAILBOX SIDEWALK INSTALLATION
(DESIRABLE BORDER DISTANCE)




PLAN VIEW



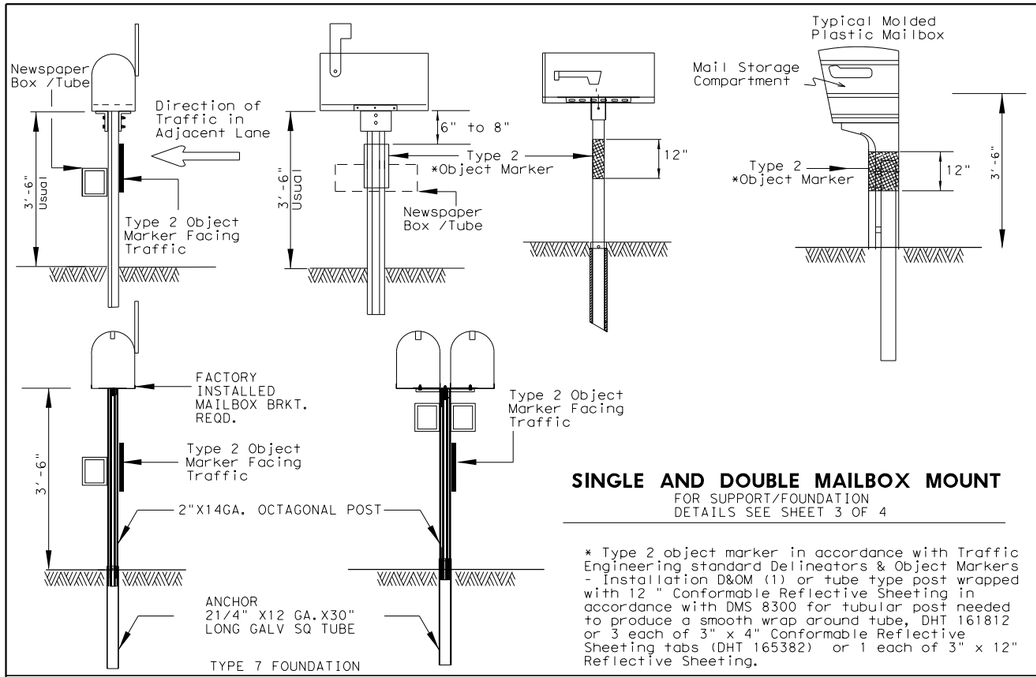

SHEET 3 OF 3

Texas Department of Transportation | Maintenance Division Standard

# MULTIPLE MAILBOX PLACEMENT BEHIND CURBS WITH OR WITHOUT SIDEWALKS

# MB-14(2B)

| FILE: MB-14(2A) | DN: | CK: | DW: | CK: |
|---|---|---|---|---|
|  | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 503 |



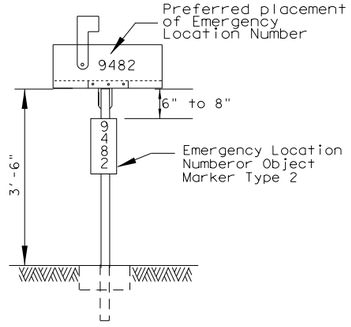

## SINGLE AND DOUBLE MAILBOX MOUNT

FOR SUPPORT/FOUNDATION DETAILS SEE SHEET 3 OF 4

* Type 2 object marker in accordance with Traffic Engineering standard Delineators & Object Markers - Installation D&OM (1) or tube type post wrapped with 12 " Conformable Reflective Sheeting in accordance with DMS 8300 for tubular post needed to produce a smooth wrap around tube, DHT 161812 or 3 each of 3" x 4" Conformable Reflective Sheeting tabs (DHT 165382) or 1 each of 3" x 12" Reflective Sheeting.

Note: Mailbox installations in sidewalk areas shall be in accordance with the latest TxDOT Pedestrian Facilities Curb ramps standard *PED-XX for pedestrian facilities.

*PED-XX: XX is the standard year for example PED- 12 , PED-13,etc.




## PLACEMENT OF EMERGENCY LOCATION NUMBER

Location Number shall be placed on: 1. A yellow, type A plate with class 1 flat surface reflective sheeting in accordance with DMS 8600. The color of numbers shall be black. or 2: A green or blue plate with white numbers attached to post beside the object marker. Other contrasting color configuration, as approved , may be used. (Use Same type plate as used for the type 2 Object Marker. Recommended sign size is 6" by 15")

## MAILBOX SIZES

| TYPICAL MAILBOX SIZE | | | | LIGHT WEIGHT MATERIAL | |
|---|---|---|---|---|---|
| | | | | SHEET METAL | **PLASTIC |
| SIZE | LENGTH (INCHES) | WIDTH (INCHES) | HEIGHT (INCHES) | MAXIMUM WEIGHT (POUNDS) | |
| SMALL | 19 1/2 | 6 | 7 | 5 | 5 |
| MEDIUM | 22 1/2 | 8 | 11 1/2 | 7 | 7 |
| LARGE | 23 1/2* | 11 1/2* | 13 1/2* | 10 | 10 |

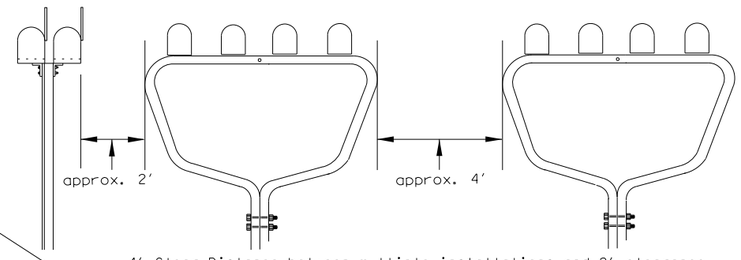
* Maximum allowed dimensions for mailbox
** Excluding Molded Plastic on 4 X 4 Post

| LOCKABLE ARCHITECTURAL MAILBOX SIZE (INCHES) | | | | | |
|---|---|---|---|---|---|
| VIEW | TOP | BOTTOM | FRONT SIDE | BACK SIDE | WEIGHT (POUNDS) |
| SIDE | 18 | 15 | 18.3 | 15 | |
| BACK | 11 1/2 | 11 1/2 | | 15 | 22.4 |

SEE TOP RIGHT CORNER OF SHEET 2 OF 4

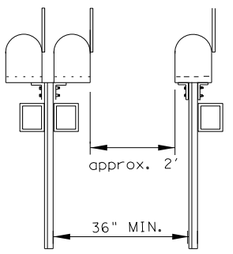
Mailboxes shall be made of light weight sheet metal or light weight plastic. Lockable architectural mailboxes shall meet the requirements of the above table.

Heavy steel, cast iron or decorative mailboxes shall not be used on the state highway system.



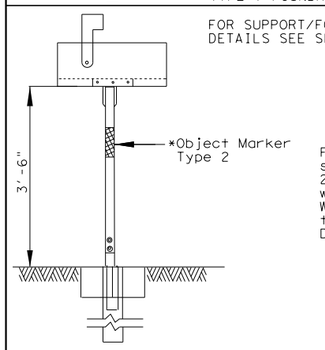

4' Clear Distance between multiple installations and 2' clearance between double or single installations and the multiple installation. DHT #'s 164116 or 149339.

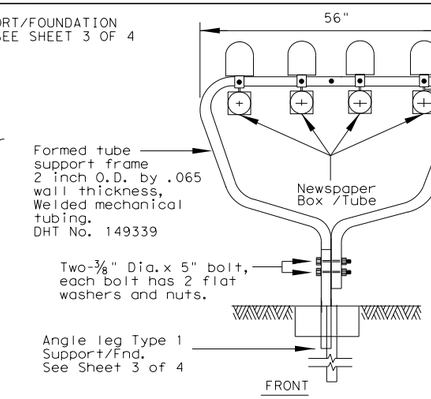
## MULTIPLE MAILBOX PLACEMENT

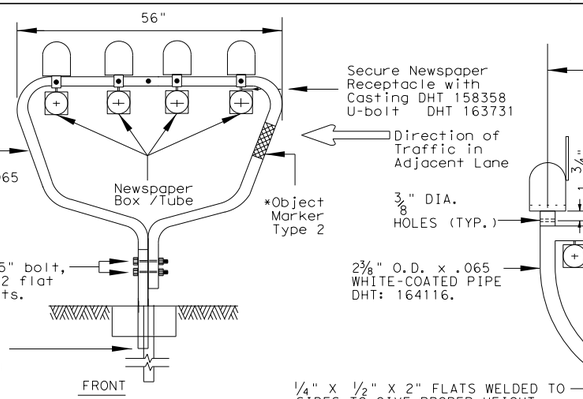


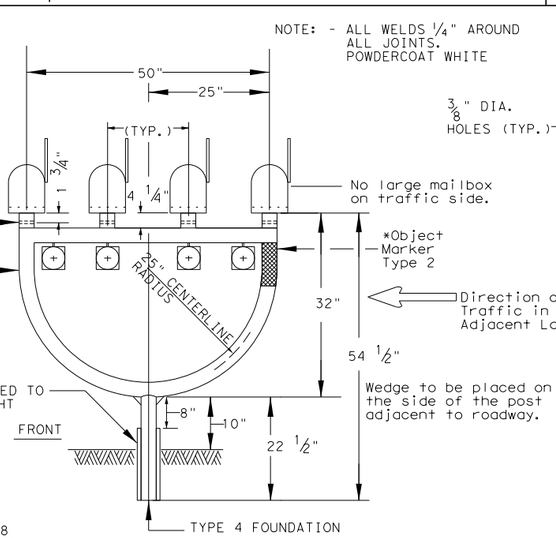

Clear Distance between single or double mounted posts. (Normally when 3 or more mailboxes are in one location, a multiple support is used).

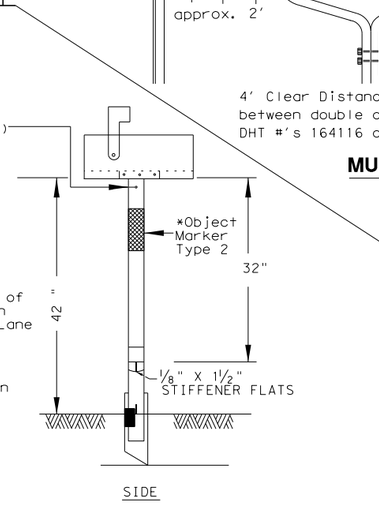
## SINGLE & DOUBLE MAILBOX PLACEMENT

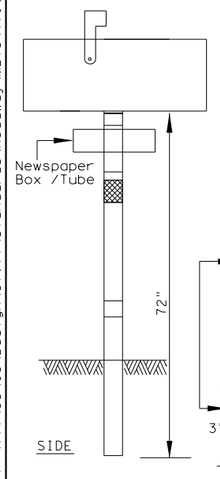


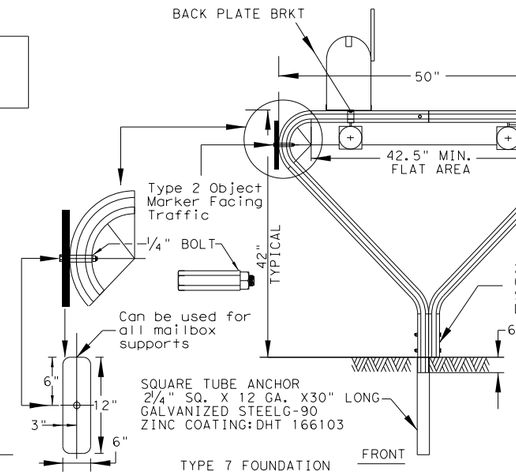




## DOUBLE AND MULTIPLE MAILBOX MOUNT

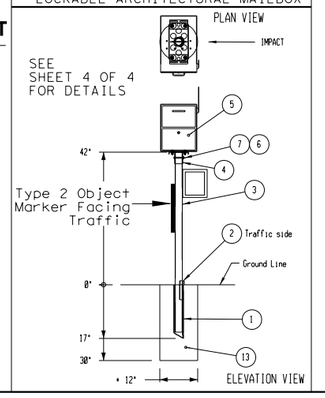
FOR SUPPORT/FOUNDATION DETAILS SEE SHEET 3 OF 4
FOR DHT NUMBERS SEE SHEET 4 OF 4

## NEWSPAPER RECEPTACLE

A light weight receptacle for newspaper delivery can be attached to mailbox posts as shown on this page if the receptacle:

- Does not touch the mailbox.
- Does not present a hazard to traffic or delivery of the mail.
- Does not extend beyond the front of the mailbox.
- Does not display advertising, except the publication title.
- Newspaper receptacles on separate supports are prohibited.

LOCKABLE ARCHITECTURAL MAILBOX




## MULTIPLE MAILBOX MOUNT

### INDEX OF MAILBOX DETAIL SHEETS





Texas Department of Transportation

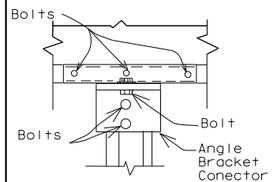
Maintenance Division Standard

# MAILBOX MOUNTING AND SPACING

# MB-15(1)

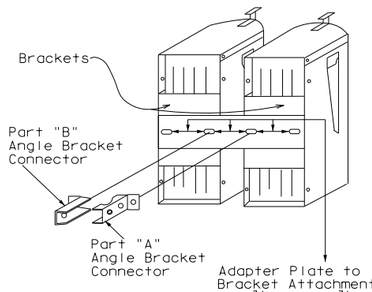
| | | | | | |
|---|---|---|---|---|---|
| FILE: MB14(1).DGN | DN: JEO | | CK: JEO | DW: | CK: |
| © TxDOT APRIL 2015 | CONT | SECT | JOB | | HIGHWAY |
| REVISIONS: Added additional newspaper receptacle for double mailbox support | 0915 | 12 | 574 | | VARIES |
| | DIST | COUNTY | | | SHEET NO. |
| | SAT | BEXAR | | | 504 |

4/11/2019 4:25:46 PM
P:\11\35\08\Design\Civil\Standards\Roadway\MB15(1).dgn



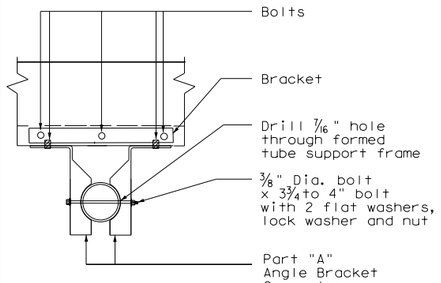

For bolt sizes see details below for "SMALL MAILBOX" and "MEDIUM AND LARGE MAILBOXES"

**SINGLE MAILBOX**

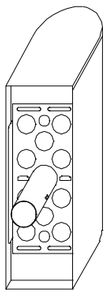



(Not permitted for Large Mailboxes)

**DOUBLE MAILBOX**

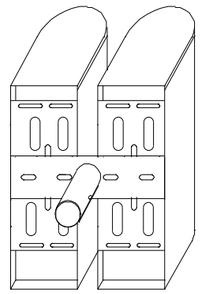



**MULTIPLE MAILBOX**



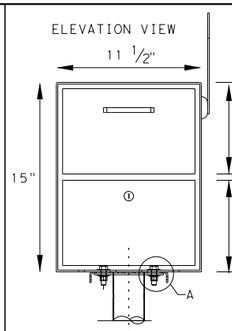
To be used with 2 3/8" OD RR or thinwall Steel posts.

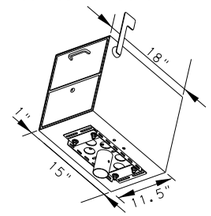
**WELDED SINGLE MAILBOXBRACKET**

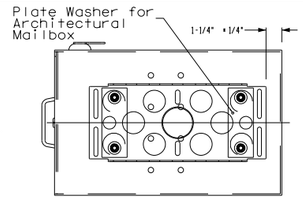


To be used with thinwall Steel posts. Not to be used with RR posts.

**WELDED DOUBLE MAILBOX BRACKET WITHADAPTER PLATE**

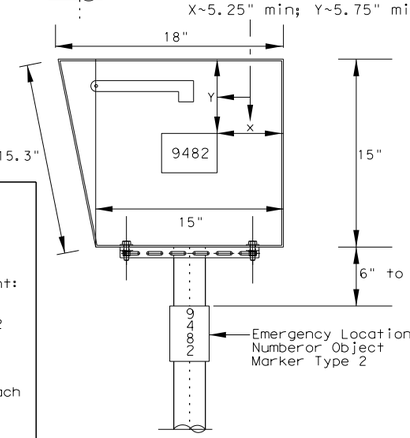



Preferred placement of Emergency Location Number

X~5.25" min; Y~5.75" min



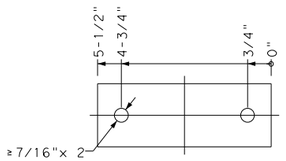
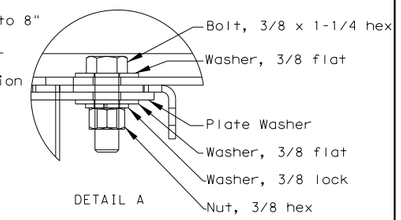
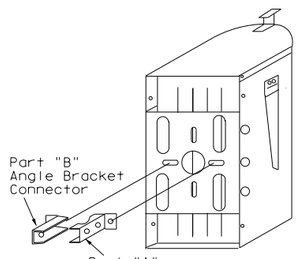
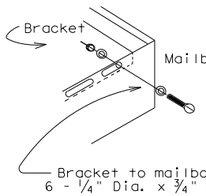




Plate Washer for Architectural Mailbox Plate, 2" x 1/8" ASTM A36 Steel




**LOCKABLE ARCHITECTURAL MAILBOX CONNECTION DETAILS**



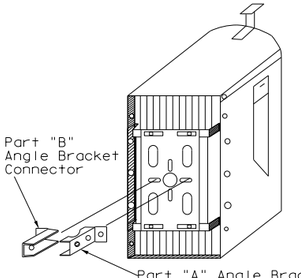




Bracket to mailbox attachment:
6 - 1/4" Dia. x 3/4" bolt w/ 2 flat washers and nut per each bolt.

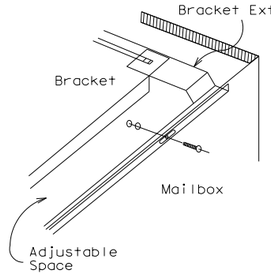
Angle to bracket attachment:
2 - 3/8" Dia. x 3/4" bolt with 2 flat washers, lock washer and nut per each bolt.

Angle to
2 - 3/8" Dia. x 2 1/2" bolt with 2 flat washers, lock washer and nut per each bolt.

**SMALL MAILBOX**




Use both Parts "A" and "B" Angle Bracket Connectors for Winged Channel Posts




Bracket to mailbox attachment:
6 - 1/4" Dia. x 3/4" bolt w/2 flat washers and nut per each bolt.

Bracket to bracket extension attachment:
2 - 1/4" Dia. x 3/4" carriage bolt w/ flat washer, lock washer and nut per bolt (4 bolts required if 2 bracket extensions are used).

Angle to bracket attachment:
2 - 3/8" Dia. x 3/4" bolt w/2 flat washers, lock washer and nut per each bolt.

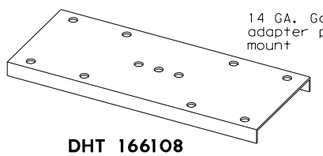
Angle to mailbox support attachment:
2 - 3/8" Dia. x 2 1/2" bolt w/2 flat washers, lock washer, and nut per each bolt.

Medium size mailboxes - one extension bracket
Large size mailboxes - two extension brackets

**MEDIUM AND LARGE MAILBOXES**

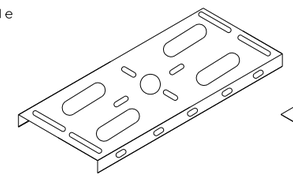
**HARDWARE AT TXDOT REGIONAL WAREHOUSES**

Brackets and adapter plate shown in this section should be available to the Contractor when stated elsewhere in plans or specifications.



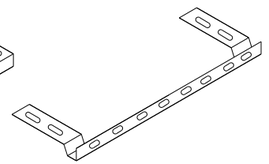
14 GA. Galv. Steel adapter plate for double mount

**DHT 166108**



**DHT 148939**

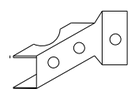
Mailbox Bracket



**DHT 148938**

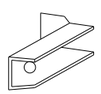
Used for extending 6" wide bracket to attach larger mailboxes.

Bracket Extension



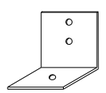
**DHT 159489**

Part "A" Angle Bracket Connector



**DHT 159490**

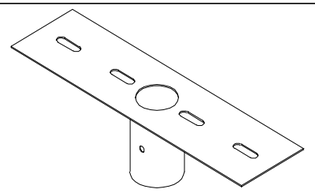
Part "B" Angle Bracket Connector



**DHT 2917**

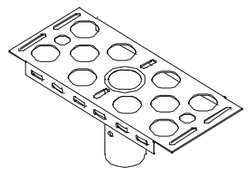
Angle Bracket For Temporary Mailbox

See Table of Applicable DHT Numbers on sheet 4 of 4 for DHT description and unit of measure.



**DHT 162323**

For use with galvanized thinwall steel posts DHT # 143426 or powder-coated thinwall steel post DHT # 162911.

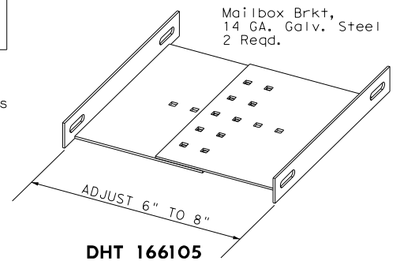


**DHT 161443**

For use with RCR post DHT # 161442 or galvanized thinwall steel post DHT # 143426 or powder-coated thinwall steel post. DHT # 162911.

**DHT #3789**

Used for mounting two Mailboxes on the same post.




**DHT 166105**

SHEET 2 OF 4

Texas Department of Transportation | Maintenance Division Standard

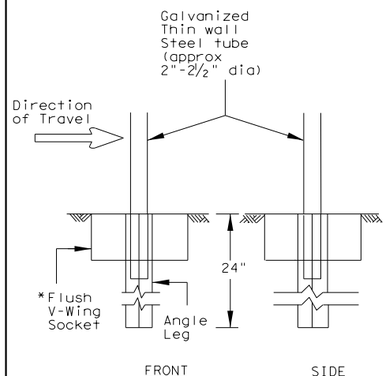
# MAILBOX BRACKET CONNECTING DETAILS

# MB-15(1)

GENERAL NOTES

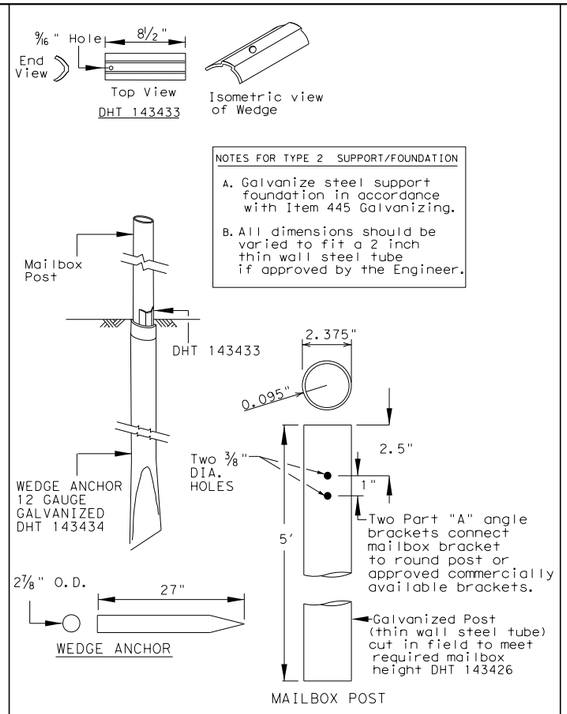
1. Connecting hardware detailed on this sheet is for the hardware that the Department stocks at the Regional Warehouses. This hardware is available to the contractor only when so stated elsewhere in the plans or specification.
2. Hardware for mounting mailboxes to the support/foundation furnished by industry should be used when shown on the Maintenance Divisions "Approved Products List." Only mailbox hardware that have been crash tested in accordance with NCHRP Report 350, will be on the approved list.
3. Hardware furnished by industry shall be erected in accordance with the manufacturer's recommendation.
4. Bracket and bracket extension shall be constructed of 14 gauge galvanized steel sheet metal.
5. The angles, brackets and adapter plates shall be constructed of 12 gauge galvanized steel sheet metal.
6. Items with evidence of damage to the galvanized coating or wet storage stains (white rust) will not be accepted.

| FILE: MB14(1).DGN | DN: JEO | CK: | DW: JEO | CK: |
|---|---|---|---|---|
| ©TxDOT APRIL 2015 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS ADDED DHT 163730 | 0915 | 12 | 574 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 505 |




## TYPE 1 SUPPORT/FOUNDATION

THIN WALL STEEL TUBE w/ V-LOC ANCHORAGE



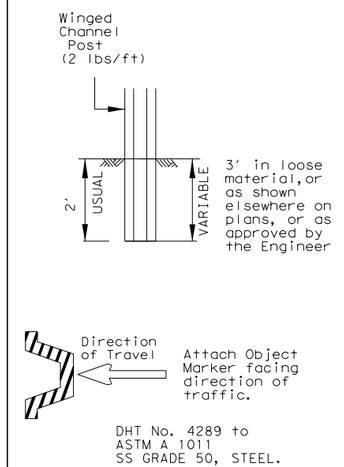

NOTES FOR TYPE 2 SUPPORT/FOUNDATION

A. Galvanize steel support foundation in accordance with Item 445 Galvanizing.

B. All dimensions should be varied to fit a 2 inch thin wall steel tube if approved by the Engineer.

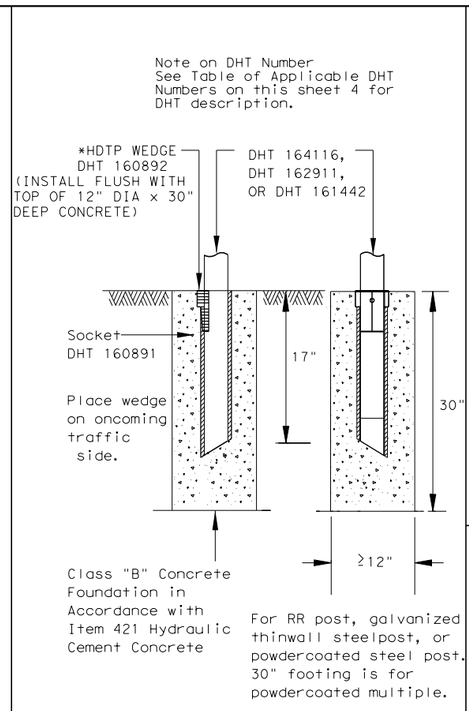
## TYPE 2 SUPPORT/FOUNDATION

THIN WALL STEEL TUBE w/ WEDGE ANCHOR SYSTEM



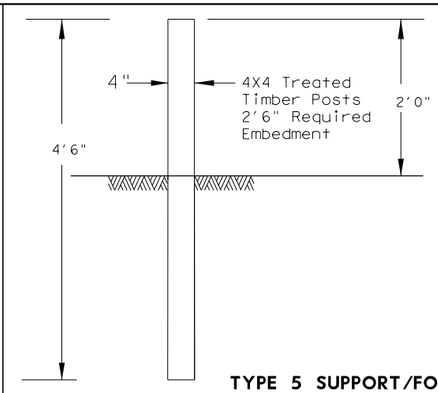

## TYPE 3 SUPPORT/FOUNDATION

WINGED CHANNEL POST




## TYPE 4 SUPPORT/FOUNDATION

FOR WHITECOATED STEEL POST, MULTIPLE POST, AND RECYCLED RUBBER.

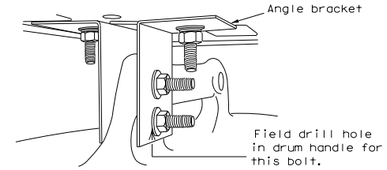



## TYPE 5 SUPPORT/FOUNDATION

FOR ONE PIECE MOLDED PLASTIC MAILBOX

## ONE PIECE MOLDED PLASTIC MAILBOXES

Molded Plastic Mailboxes shall be installed on 4"x4" treated timber posts only. The use of steel pipe or structural tubing in place of timber post is prohibited.

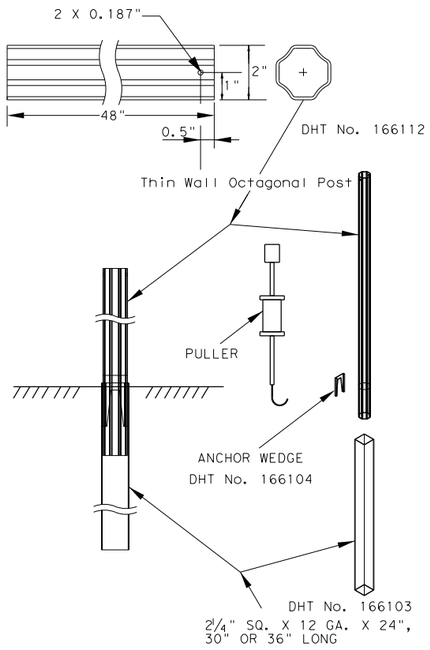



Placed on approved plastic drum as shown in the Compliant Work Zone Traffic Control Devices (CWZTCD).

Existing attachment hardware shall be used unless damaged. Damaged hardware shall be replaced.

## TYPE 6 TEMPORARY MAILBOX SUPPORT

CONNECTION DETAIL




## TYPE 7 MAILBOX SUPPORT/FOUNDATION

CONNECTION DETAIL

MB-(X) ASSM TY (XXX) (X) (XX) (OPTIONAL)

Type of Mailbox
- S = Single
- D = Double
- M = Multiple
- SP = Single Plastic

Type of Post
- WC = Winged Channel Post
- RR = Recycled Rubber
- TWW = Thin Walled White Tubing
- TWG = Thin Walled Galvanized Tubing
- TIM = Timber

Type of Foundation
- Ty 1 = V-Loc
- Ty 2 = Wedge Anchor Steel System
- Ty 3 = Winged Channel post
- Ty 4 = Wedge Anchor Plastic System
- Ty 5 = 4 X 4 Post
- Ty 7 = Wedge Anchor

Type of Bracket
- AB = Angle Bracket.
- TB = 2.375" Tube Bracket

GENERAL NOTES

1. Erect post plumb or vertical.
2. When galvanized part is required galvanize in accordance with Item 445.
3. type 1, 2, 3, 4 or 7 supports or foundation can be used for single or double mailbox installations. The RCR post should be used only for a single installation with a small mailbox. The Type 5 support/foundation is used for the single molded plastic mailbox. The Type 4 support/foundation is used for the 2.375" O.D. RR post, thin wall steel post, and white multiple mailbox post.
4. The Type 1 or type 7 support/foundation can be used for a multiple mailbox mount.
5. The Type 4 support should be used with thin wall steel pipe for the medium, large and double mailbox installations.
6. Use a concrete footing as shown or when directed. Concrete footing will be required when soils do not hold the support/foundations in a stable condition.

DOUBLE AND LARGE MAILBOXES MUST BE ON STEEL POST.

*HDTP: High density thermoplastic polyesters



Texas Department of Transportation — Maintenance Division Standard

# MAILBOX SUPPORT AND FOUNDATION

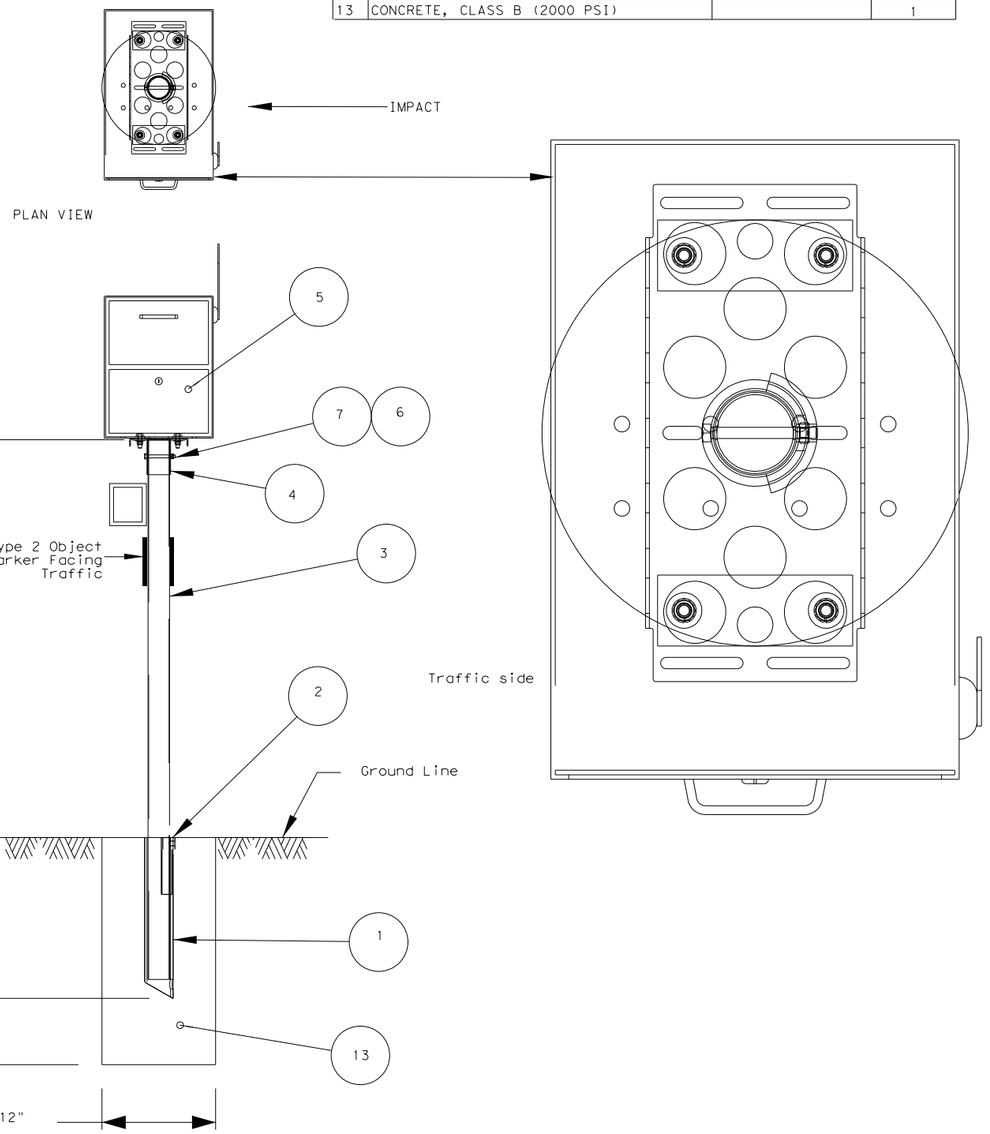
# MB-15(1)

| FILE: MB14(1).DGN | DN: JEO | CK: | DW: JEO | CK: |
|---|---|---|---|---|
| ©TxDOT APRIL 2015 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 506 |

# LOCKABLE ARCHITECTURAL MAILBOX

| SINGLE-MOUNT INSTALLATION PARTS | | | |
|---|---|---|---|
| # | PART NAME | PART/DHT # | QTY |
| 1 | SOCKET, TYPE 4 FOUNDATION | 160891 | 1 |
| 2 | WEDGE FOR TYPE 4 FOUNDATION | 160892 | 1 |
| 3 | THIN-WALL WHITE STEEL TUBE 2.375 OD | 162911 | 1 |
| 4 | BRACKET FOR ATTACHING MAILBOX | 161443 | 1 |
| 5 | ARCHITECTURAL MAILBOX | SEE NOTE | 1 |
| 6 | NUT, 5/16" HEX | NUT, 5/16" HEX | 1 |
| 7 | BOLT, 5/16 X 3 HEX | GRADE 5 | 1 |
| 8 | PLATE WASHER FOR ARCHITECTURAL MAILBOX | SEE SEE SHEET 2 | 2 |
| 9 | WASHER, 3/8 FLAT | | 8 |
| 10 | WASHER, 3/8 LOCK | | 4 |
| 11 | NUT, 3/8 HEX | | 4 |
| 12 | BOLT, 3/8 X 1-1/4 HEX | GRADE 5 | 4 |
| 13 | CONCRETE, CLASS B (2000 PSI) | | 1 |

LOCKABLE ARCHITECTURAL MAILBOX DETAILS




| TABLE OF APPLICABLE DHT NUMBERS | |
|---|---|
| DHT NUMBER | DESCRIPTION |
| | FOUNDATIONS |
| 46625 | WEDGE FOR V-WING SOCKET FOR TYPE 1 FOUNDATION |
| 149340 | V-WING SOCKET FOR TYPE 1 FOUNDATION |
| 143433 | WEDGE FOR TYPE 2 FOUNDATION |
| 143434 | ANCHOR FOR TYPE 2 FOUNDATION |
| 166103 | ANCHOR FOR TYPE 7 FOUNDATION |
| 160891 | SOCKET FOR TYPE 4 FOUNDATION |
| 160892 | WEDGE FOR TYPE 4 FOUNDATION |
| 166104 | WEDGE FOR TYPE 7 FOUNDATION |
| | POSTS |
| 4289 | WINGED CHANNEL MAILBOX POST |
| 149339 | MULTIPLE MAILBOX POST (GALVANIZED TUBING) |
| 164116 | MULTIPLE MAILBOX POST (WHITE COATED) |
| 166114 | MULTIPLE MAILBOX POST (WHITE COATED OCTAGONAL) |
| 166153 | MULTIPLE MAILBOX POST (GALVANIZED OCTAGONAL) |
| 161442 | RECYCLED RUBBER POST. FOR SMALL MAILBOX ONLY |
| 143426 | THIN-WALL GALVANIZED STEEL TUBE 2.375" OUTER DIAMETER |
| 162911 | THINWALL WHITE STEEL TUBE 2.375" OUTER DIAMETER |
| 166152 | SINGLE OR DOUBLE THIN-WALL MAILBOX POST GALVANIZED 2" OCTAGONAL |
| 166112 | SINGLE OR DOUBLE THIN-WALL MAILBOX POST WHITECOATED 2" OCTAGONAL |
| | REFLECTIVE SHEETING |
| 161812 | REFLECTIVE SHEETING FOR EMERGENCY LOCATION NUMBER PANEL |
| | CONNECTING HARDWARE |
| 2917 | ANGLE BRACKET USED FOR TEMPORARY MAILBOX SUPPORT |
| 166105 | BRACKET FOR SINGLE MOUNTING OF MAILBOXES (MOUNTING KIT) |
| 3789 | PLATE FOR DOUBLE MOUNTING OF MAILBOXES |
| 166108 | BRACKET FOR DOUBLE MOUNTING OF MAILBOXES (MOUNTING KIT) |
| 166111 | BRACKET FOR MULTIPLE MOUNTING OF MAILBOXES (MOUNTING KIT) |
| 148939 | BRACKET FOR ATTACHING SMALL OR MEDIUM SIZE MAIL BOX |
| 148938 | EXTENDER TO BRACKET FOR ATTACHING LARGE MAILBOX |
| 159489 | ANGLE BRACKET PART A |
| 159490 | ANGLE BRACKET PART B |
| 162323 | BRACKET FOR DOUBLE MOUNTING OF MAILBOXES ON THINWALL STEEL POST, GALVANIZED OR POWDERCOATED. |
| 161443 | BRACKET FOR ATTACHING MAILBOX TO RECYCLED RUBBER POST AND TO MULTIPLE WHITE MAILBOX POST |
| 158358 | CASTING (NEWSPAPER RECEPTACLE BRACKET) |
| 163731 | U-BOLT (NEWSPAPER RECEPTACLE BRACKET) |
| 160698 | BOLT;HEX HEAD, GALV;3/8"DIA X 3/4"L HD, W/2-FLAT WASHERS |
| 163750 | BOLT;HEX HEAD, GALV;3/8" X 1-1/2, 16 NC, W/WASHERS |
| 160701 | BOLT;HEX HEAD, GALV;3/8"DIA X 2-1/2"L, HD, W/2-FLAT WASHERS |
| 163730 | BOLT;HEX HEAD, GALV;3/8" X 3-1/2", NC, W/NUT, 2 FLAT WASHERS |
| 160699 | BOLT;HEX HEAD, GALV;3/8"DIA X 3-3/4"L HD, W/2-FLAT WASHERS |
| 160700 | BOLT;HEX HEAD, GALV;3/8"DIA X 4"L HD, W/2-FLAT WASHERS |



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Texas Department of Transportation — Maintenance Division Standard

**DHT NUMBERS TABLE**

**MB-15(1)**

| FILE:MB14(1).DGN | DN: | CK: | DW: | CK: |
|---|---|---|---|---|
| © TxDOT APRIL 2015 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 507 |

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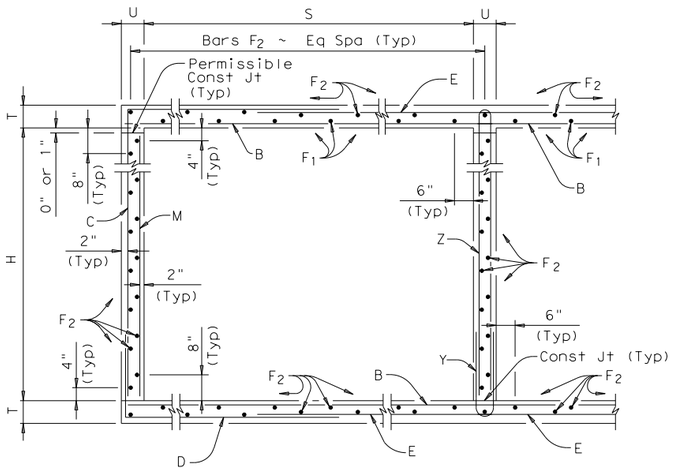
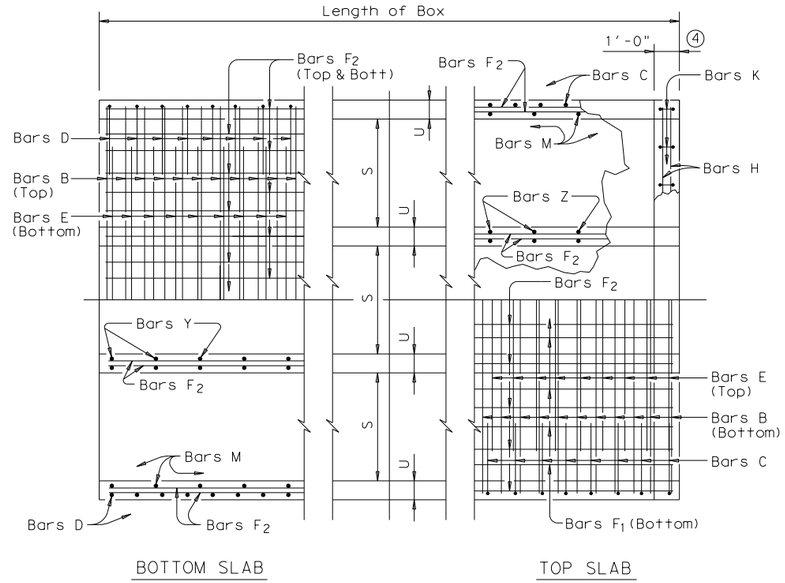



TYPICAL SECTION




PART PLANS

① 0" min to 5'-0" max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail, bicycle rail or curbs taller than 1'-0", refer to ECD standard. For structures with T6 bridge rail, refer to T6-CM standard. For structures with traffic rail, other than T6, refer to RAC standard.

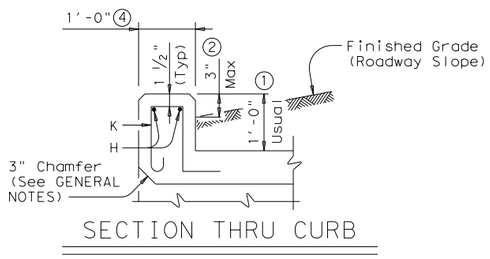
② For vehicle safety, the following requirements must be met:
- For structures without bridge rail, curbs shall project no more than 3" above finished grade.
- For structures with bridge rail, curbs shall be flush with finished grade.
Curb heights shall be reduced, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

③ For curbs less than 1'-0" high, tilt bars K or reduce bar height as necessary to maintain cover. For curbs less than 3" high, bars K may be omitted.

④ 1'-0" typical. 2'-0" when RAC standard is referred to elsewhere in the plans.

Deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064 may be used to replace conventional reinforcement shown at the Contractor's option. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min and 18" Max. When required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes.

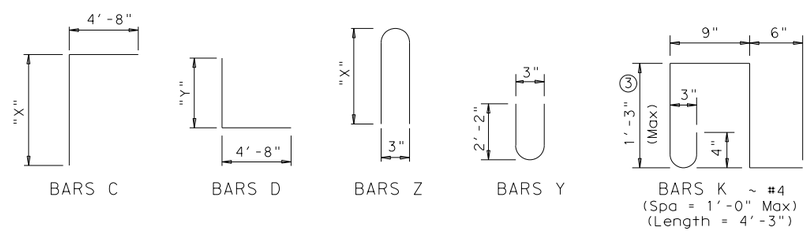
Example Conversion: Replacement of No. 6 Gr 60 at 6" Spacing with WWR.
WWR required = (0.44 sq in/ 0.5') x (60 ksi/70 ksi) = 0.754 sq in/ft.
If D30.6 wire is used to meet the 0.754 sq in/ft requirement in this example, the required spacing = (0.306 sq in/ 0.754 sq in/ft) x 12 in/ft = 4.87" Max spacing.
Required lap length for the provided D30.6 wire is 2'-2" (Lap required for uncoated No. 5 bars, as shown in Item 440).




SECTION THRU CURB

| H | Bar Dimensions | |
|---|---|---|
| | "X" | "Y" |
| 2'-0" | 2'-5" | 2'-2" |
| 3'-0" | 3'-5" | 2'-2" |
| 4'-0" | 4'-5" | 2'-2" |
| 5'-0" | 5'-5" | 2'-2" |
| | | |

GENERAL NOTES:
Designed according to AASHTO LRFD Specifications.
Designed to the maximum fill height shown.
All reinforcing steel shall be Grade 60.
All concrete shall be Class "C" with these exceptions: use Class "S" for top slabs of culverts with overlay, with 1-to-2 course surface treatment, or with the top slab as the final riding surface.
Class "C" concrete shall have a minimum compressive strength of 3,600 psi. Class "S" concrete shall have a minimum compressive strength of 4,000 psi.
The use of permanent forms is not allowed.
The bottom edge of the top slab shall be chamfered 3" at the entrance.
Reinforcing bars shall be adjusted to provide a minimum of 1 ¼" clear cover.
Construction joints shown at the flow line may be raised a maximum of 6" at the Contractor's option. If this option is used, Bars M may be cut off or raised, Bars C and D may be reversed, and Bars Y and Z may be reversed.
See standard MC-MD for skewed ends, angle sections and lengthening details.




HL93 LOADING

SHEET 1 OF 2

Texas Department of Transportation

Bridge Division Standard

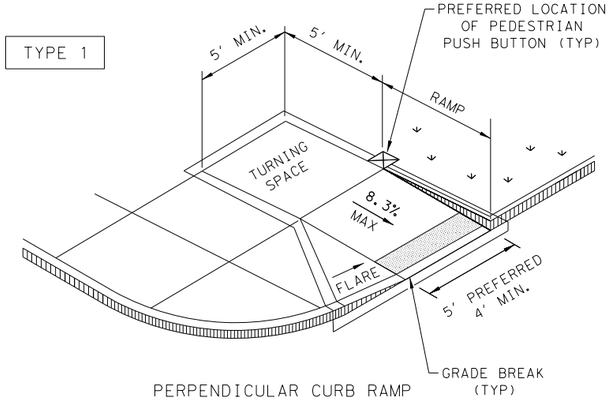
# MULTIPLE BOX CULVERTS CAST-IN-PLACE
## 5'-0" SPAN
## 0' TO 20' FILL

## MC-5-20

| FILE: mc520ste.dgn | DN: GAF | CK: LMW | DW: BWH/TxDOT | CK: GAF |
|---|---|---|---|---|
| ©TxDOT February 2010 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| 10-12: Added WWR | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 508 |

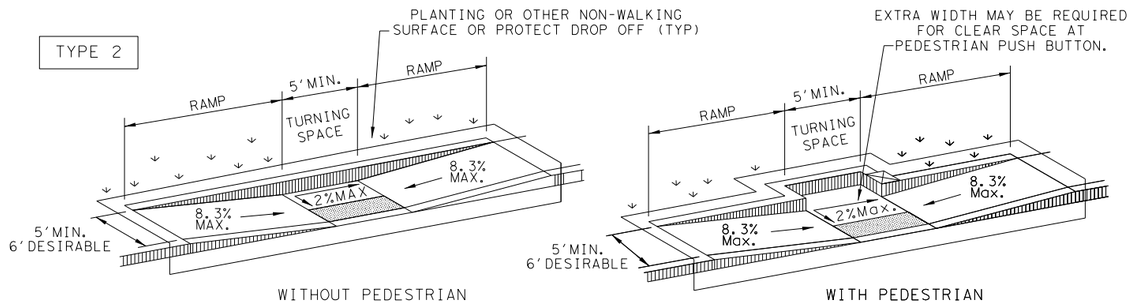
DATE: 4/10/2019
FILE: P:\111\35\08\Design\Civil\Standards\Roadway\ped18.dgn

## TYPE 1




PERPENDICULAR CURB RAMP

## TYPE 2

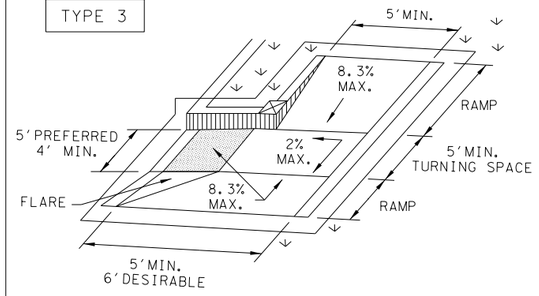



WITHOUT PEDESTRIAN PUSH BUTTON

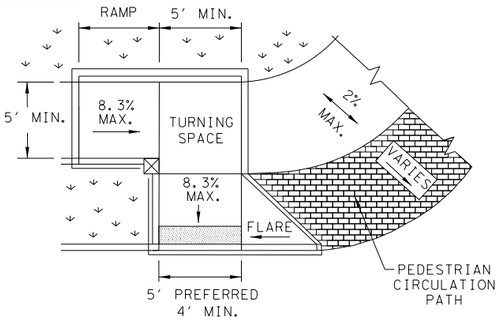
WITH PEDESTRIAN PUSH BUTTON

PARALLEL CURB RAMP

## TYPE 3

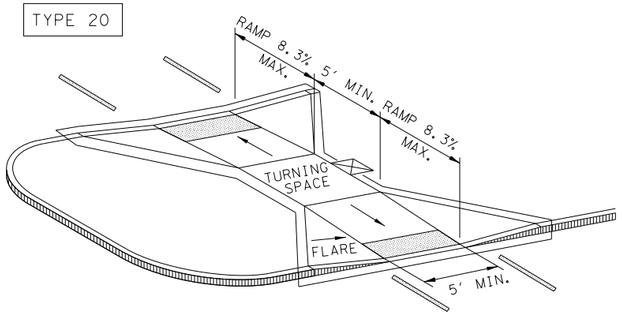



## TYPE 6




COMBINATION CURB RAMPS

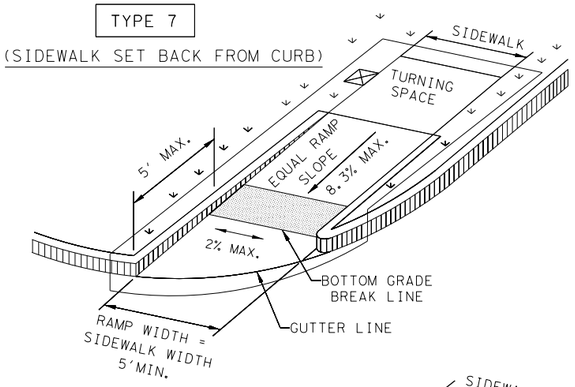
## TYPE 20



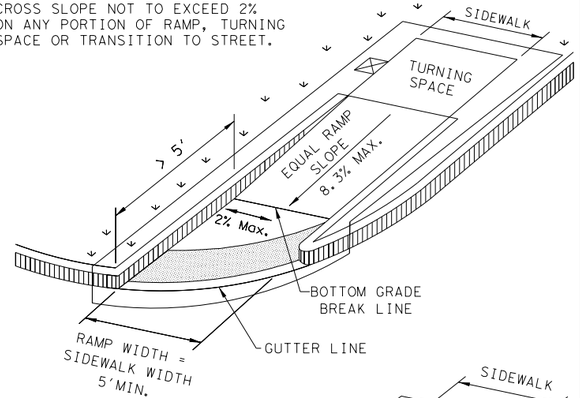

CURB RAMPS AT MEDIAN ISLANDS

## TYPE 7

(SIDEWALK SET BACK FROM CURB)

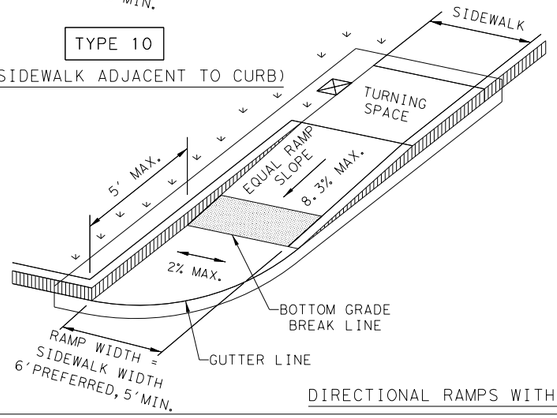



CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP, TURNING SPACE OR TRANSITION TO STREET.

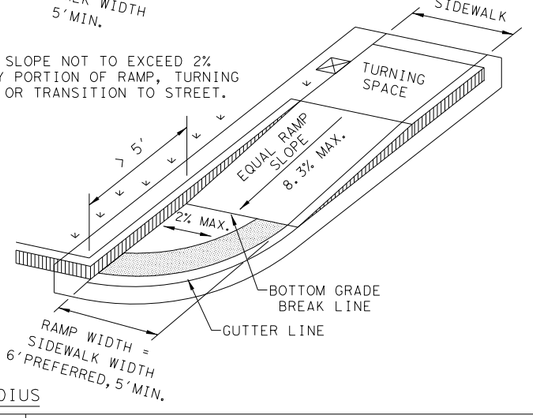



## TYPE 10

(SIDEWALK ADJACENT TO CURB)

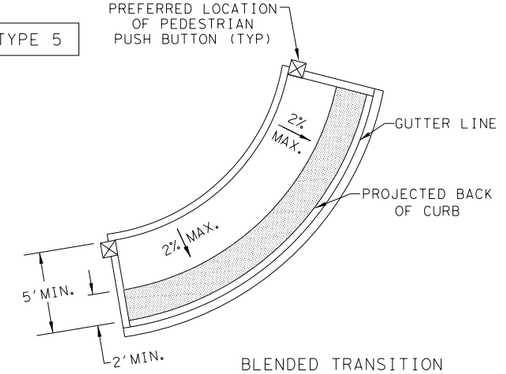



CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP, TURNING SPACE OR TRANSITION TO STREET.




DIRECTIONAL RAMPS WITHIN RADIUS

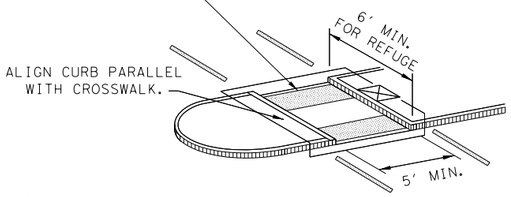
## TYPE 5




BLENDED TRANSITION
(FLUSH LANDING)

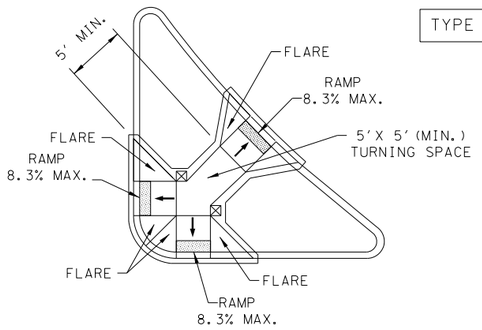
## TYPE 21

INSTALL DETECTABLE WARNING SURFACE AT EACH END OF THE CUT-THROUGH RAMP WITH A MINIMUM 2' USUAL SIDEWALK SURFACE BETWEEN. IF MEDIAN IS LESS THAN 6' WIDE, ELIMINATE DETECTABLE WARNING SURFACES.



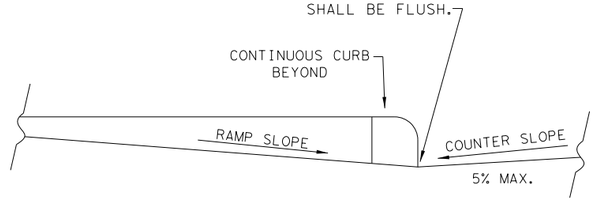

NOTE: CURB DETAILS ARE SHOWN ELSEWHERE IN THE PLANS.

## TYPE 22




COMBINATION ISLAND RAMPS

BOTTOM GRADE BREAK OF CURB RAMP WILL NORMALLY BE AT GUTTER LINE. SURFACE SLOPES AT GRADE BREAKS SHALL BE FLUSH.




TYPICAL SECTION OF PERPENDICULAR CURB RAMP AT CONNECTION TO ROADWAY

NOTES / LEGEND:

SEE GENERAL NOTES ON SHEET 2 OF 4 FOR MORE INFORMATION.

DENOTES PLANTING OR NON-WALKING SURFACE NOT PART OF PEDESTRIAN CIRCULATION PATH.

DETECTABLE WARNING SURFACE

DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON IF APPLICABLE.

GUTTER LINE

GRADE BREAK

RAMP LIMITS OF PAYMENT

SHEET 1 OF 4

Texas Department of Transportation

Design Division Standard

# PEDESTRIAN FACILITIES CURB RAMPS

# PED-18

| FILE: ped18 | DN: TxDOT | DW: VP | CK: KM | CK: PK & JG |
|---|---|---|---|---|
| © TxDOT: MARCH, 2002 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| REVISED 08,2005<br>REVISED 06,2012<br>REVISED 01,2018 | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 509 |

DATE: 4/10/2019
FILE: P:\111\35\08\Design\Civil\Standards\Roadway\ped18.dgn

# GENERAL NOTES

## CURB RAMPS

1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Cross slopes of 1.5% and lesser running should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
4. The minimum sidewalk width is 5′. Where the sidewalk is adjacent to the back of curb, a 6′ sidewalk width is desirable. Where a 5′ sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4′ for short distances. 5′x 5′ passing areas at intervals not to exceed 200′ are required.
5. Turning Spaces shall be 5′x 5′ minimum. Cross slope shall be maximum 2%.
6. Clear space at the bottom of curb ramps shall be a minimum of 4′x 4′ wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and texture may be found in the latest draft of the Proposed Guidelines for Pedestrian Facilities in the Public Right of Way (PROWAG) as published by the U.S. Architectural and Transportation Barriers Compliance Board (Access Board).
9. To serve as a pedestrian refuge area, the median should be a minimum of 6′ wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5′x 5′ landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Provide curb ramps to connect the pedestrian access route at each pedestrian street crossing. Handrails are not required on curb ramps.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete at a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Furnish and install No. 3 reinforcing steel bars at 18" o.c. both ways, unless otherwise directed.
16. Provide a smooth transition where the curb ramps connect to the street.
17. Curbs shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
18. Existing features that comply with applicalble standards may remain in place unless otherwise shown on the plans.

## DETECTABLE WARNING MATERIAL

19. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with PROWAG. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
20. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
21. Detectable warning surfaces must be firm, stable and slip resistant.
22. Detectable warning surfaces shall be a minimum of 24 inches in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
23. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb and neither end of that edge is greater than 5 feet from the back of curb. Detectable warning surfaces may be curved along the corner radius.
24. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.

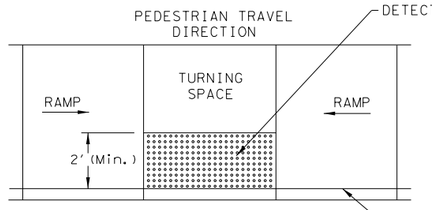
## DETECTABLE WARNING PAVERS (IF USED)

25. Furnish detectable warning paver units meeting all requirements of ASTM C-936, C-33. Lay in a two by two unit basket weave pattern or as directed.
26. Lay full-size units first followed by closure units consisting of at least 25 percent (25%) of a full unit. Cut detectable warning paver units using a power saw.

## SIDEWALKS

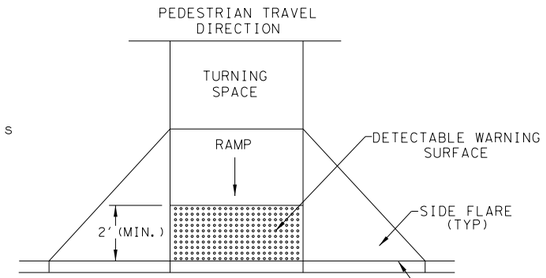
27. Provide clear ground space at operable parts, including pedestrian push buttons. Operable parts shall be placed within unobstructed reach range specified in PROWAG section R406.
28. Place traffic signal or illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.
29. Street grades and cross slopes shall be as shown elsewhere in the plans.
30. Changes in level greater than 1/4 inch are not permitted.
31. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway. Where a continuous grade greater than five percent (5%) must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with PROWAG R409.
32. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.
33. Driveways and turnouts shall be constructed and paid for in accordance with Item "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with Item, "Sidewalks".
34. Sidewalk details are shown elsewhere in the plans.

# DETECTABLE WARNING SURFACE DETAILS



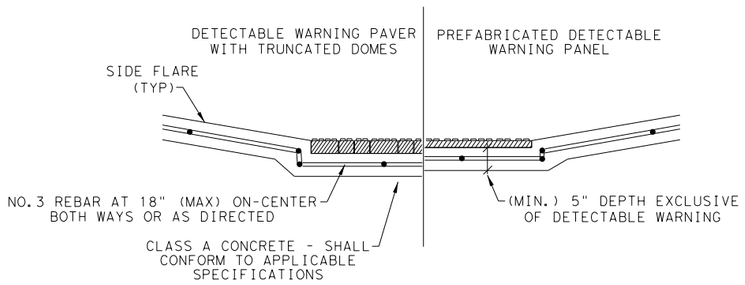

PARALLEL CURB RAMP

TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING AT STREET EDGE.



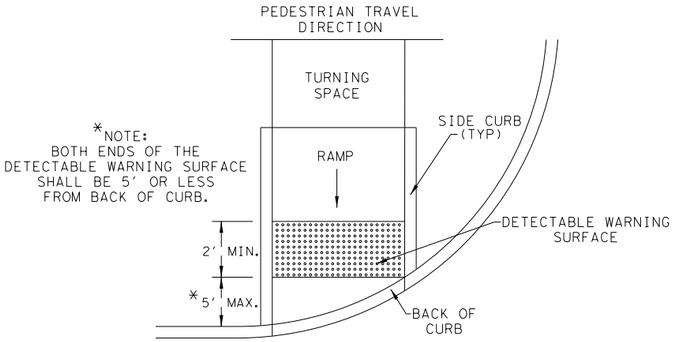

PERPENDICULAR CURB RAMP

TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.




SECTION VIEW DETAIL

CURB RAMP AT DETECTIBLE WARNINGS




DIRECTIONAL CURB RAMP

TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.



Texas Department of Transportation

Design Division Standard

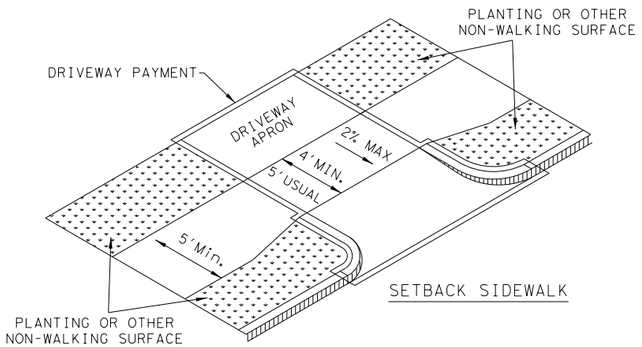
# PEDESTRIAN FACILITIES CURB RAMPS

# PED-18

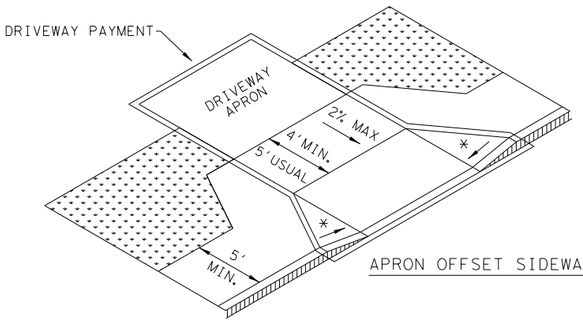
| FILE: ped18 | DN: TxDOT | | DW: VP | CK: KM | CK: PK & JG |
|---|---|---|---|---|---|
| © TxDOT: MARCH, 2002 | CONT | SECT | JOB | | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | | VARIES |
| REVISED 08,2005<br>REVISED 06,2012<br>REVISED 01,2018 | DIST | COUNTY | | | SHEET NO. |
| | SAT | BEXAR | | | 510 |

DATE: 4/10/2019
FILE: P:\111\35\08\Design\Civil\Standards\Roadway\ped18.dgn

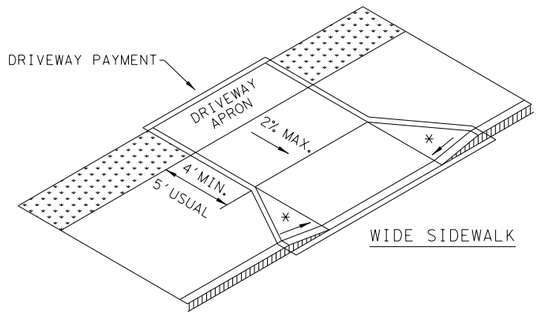
## SIDEWALK TREATMENT AT DRIVEWAYS



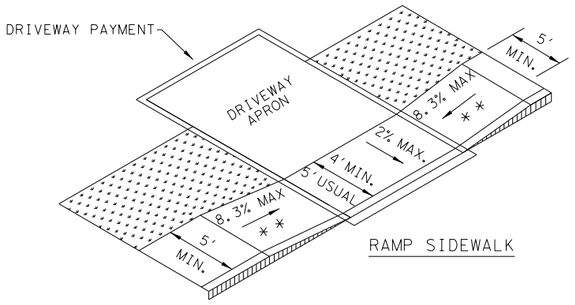

SETBACK SIDEWALK




APRON OFFSET SIDEWALK




WIDE SIDEWALK

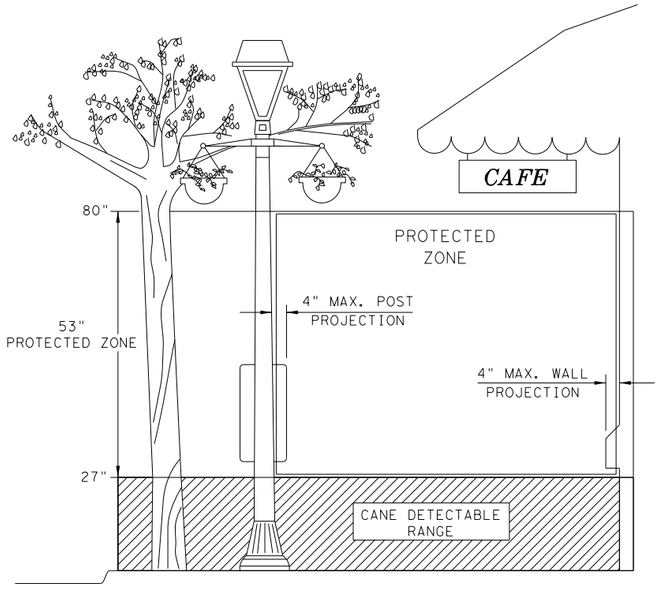



RAMP SIDEWALK

NOTES:

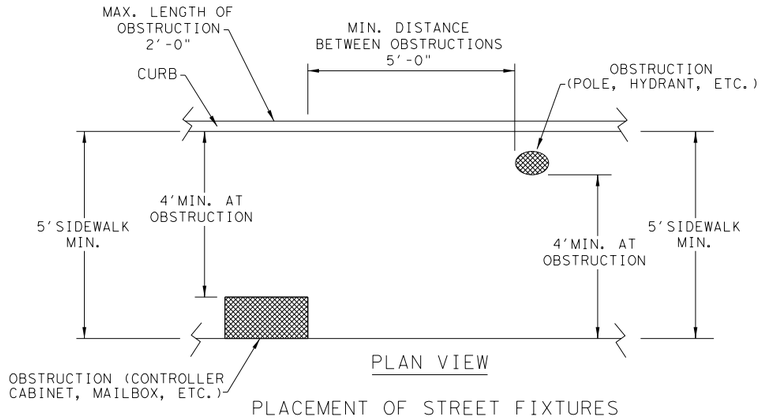
* WHERE DRIVEWAYS CROSS THE PEDESTRIAN ROUTE, SIDES SHALL BE FLARED AT 10% MAX SLOPE.

* * IF CURB HEIGHT IS GREATER THAN 6 INCHES, USE GRADE LESS THAN OR EQUAL TO 5%. HANDRAIL AND DETECTABLE WARNING ARE NOT REQUIRED.




PROTECTED ZONE

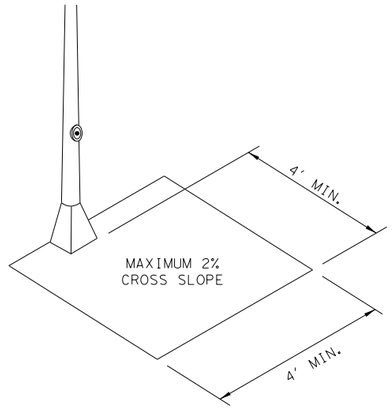
NOTE: IN PEDESTRIAN CIRCULATION AREA, MAXIMUM 4" PROJECTION FOR POST OR WALL MOUNTED OBJECTS BETWEEN 27" AND 80" ABOVE THE SURFACE.



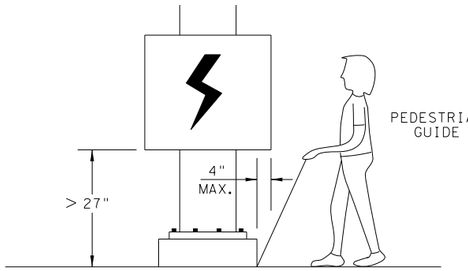

PLAN VIEW

PLACEMENT OF STREET FIXTURES

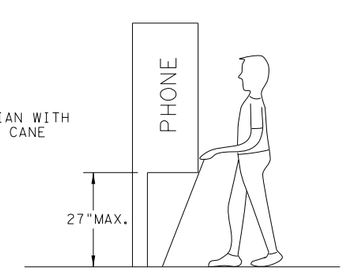
NOTE: ITEMS NOT INTENDED FOR PUBLIC USE. MINIMUM 4' X 4' CLEAR GROUND SPACE REQUIRED AT PUBLIC USE FIXTURES.




CLEAR SPACE ADJACENT TO PEDESTRIAN PUSH BUTTON




WHEN AN OBSTRUCTION OF A HEIGHT GREATER THAN 27" FROM THE SURFACE WOULD CREATE A PROTRUSION OF MORE THAN 4" INTO THE PEDESTRIAN CIRCULATION AREA, CONSTRUCT ADDITIONAL CURB OR FOUNDATION AT THE BOTTOM TO PROVIDE A MAXIMUM 4" OVERHANG.




PROTRUDING OBJECTS OF A HEIGHT ≤ 27" ARE DETECTABLE BY CANE AND DO NOT REQUIRE ADDITIONAL TREATMENT.

DETECTION BARRIER FOR VERTICAL CLEARANCE < 80"



Texas Department of Transportation

Design Division Standard

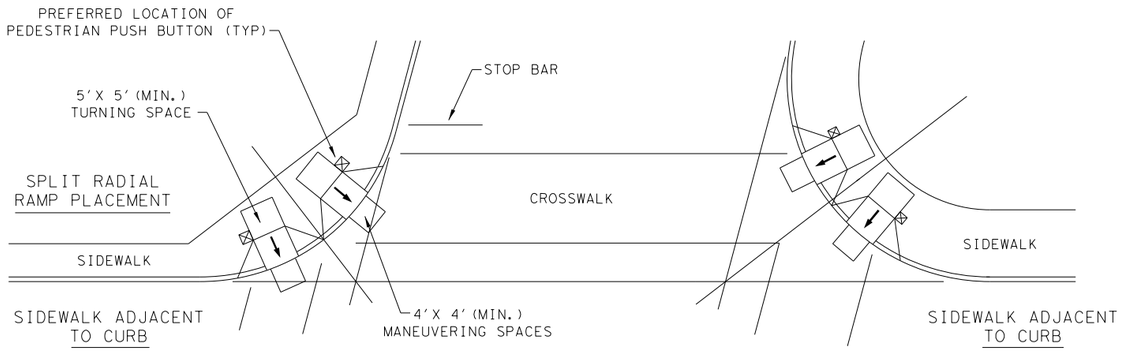
# PEDESTRIAN FACILITIES CURB RAMPS

# PED-18

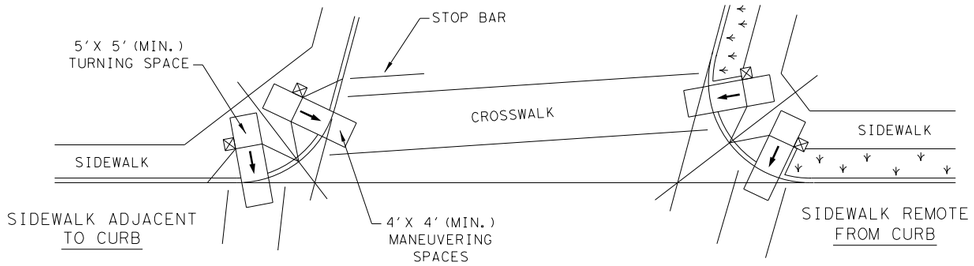
| | | | | | |
|---|---|---|---|---|---|
| FILE: ped18 | DN: TxDOT | | DW: VP | CK: KM | CK: PK & JG |
| © TxDOT: MARCH, 2002 | CONT | SECT | JOB | | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | | VARIES |
| REVISED 08,2005<br>REVISED 06,2012<br>REVISED 01,2018 | DIST | COUNTY | | | SHEET NO. |
| | SAT | BEXAR | | | 511 |

DATE: 4/10/2019
FILE: P:\111\35\08\Design\Civil\Standards\Roadway\ped18.dgn

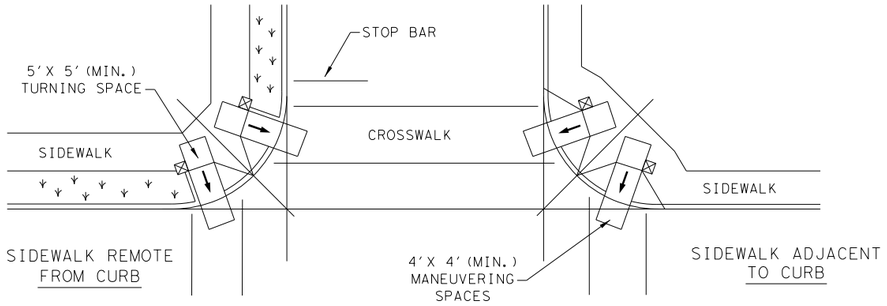
TYPICAL CROSSING LAYOUTS
SEE SHEET 1 OF 4 FOR DETAILS AND DIMENSIONS



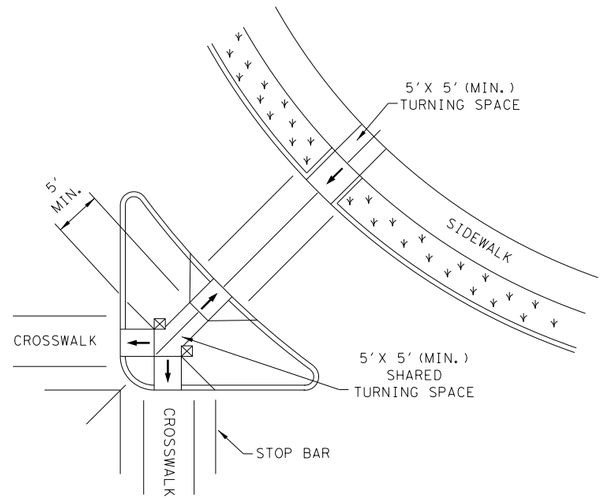

SKEWED INTERSECTION WITH "LARGE" RADIUS



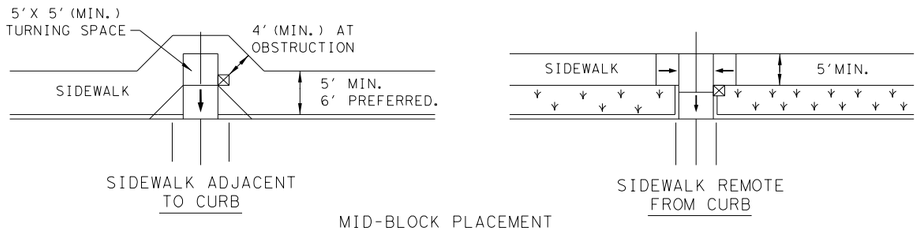

SKEWED INTERSECTION WITH "SMALL" RADIUS




NORMAL INTERSECTION WITH "SMALL" RADIUS




AT INTERSECTION
W/FREE RIGHT TURN & ISLAND




MID-BLOCK PLACEMENT
PERPENDICULAR RAMPS

LEGEND:

SHOWS DOWNWARD SLOPE. →

DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON (IF APPLICABLE). ⊠

DENOTES PLANTING OR NON-WALKING SURFACE NOT PART OF PEDESTRIAN CIRCULATION PATH.

SHEET 4 OF 4

Texas Department of Transportation

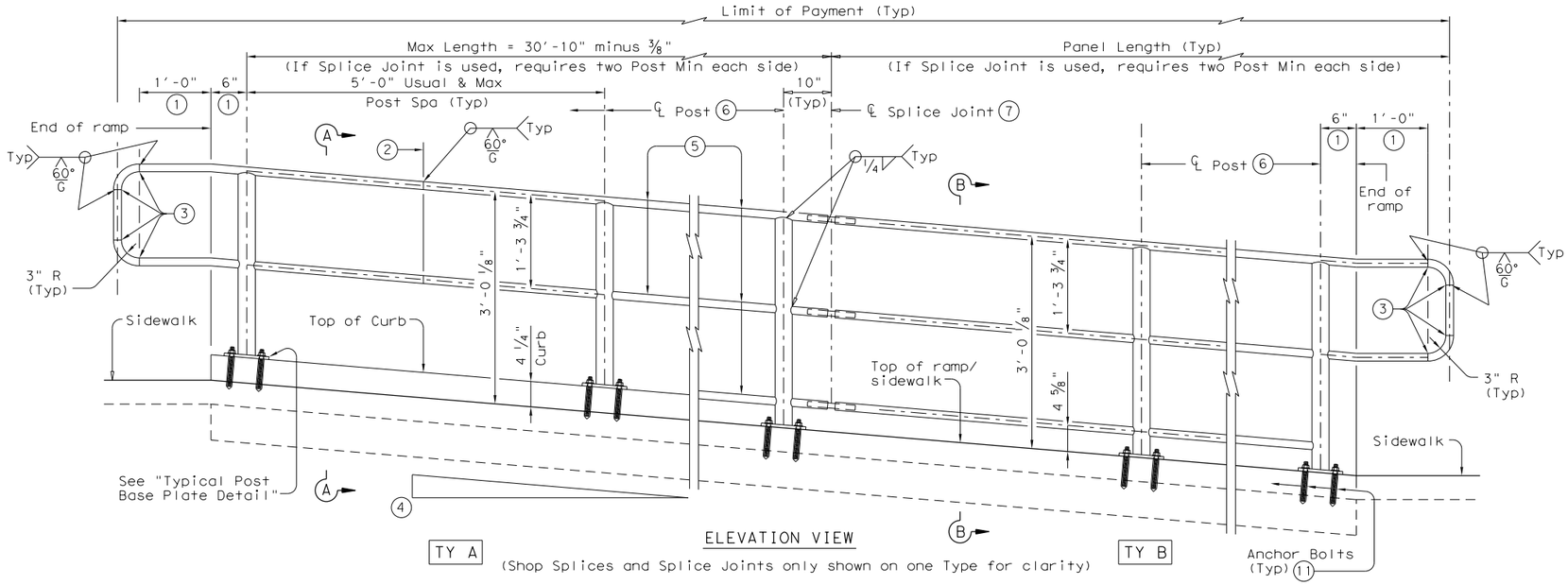
Design Division Standard

# PEDESTRIAN FACILITIES
# CURB RAMPS

# PED-18

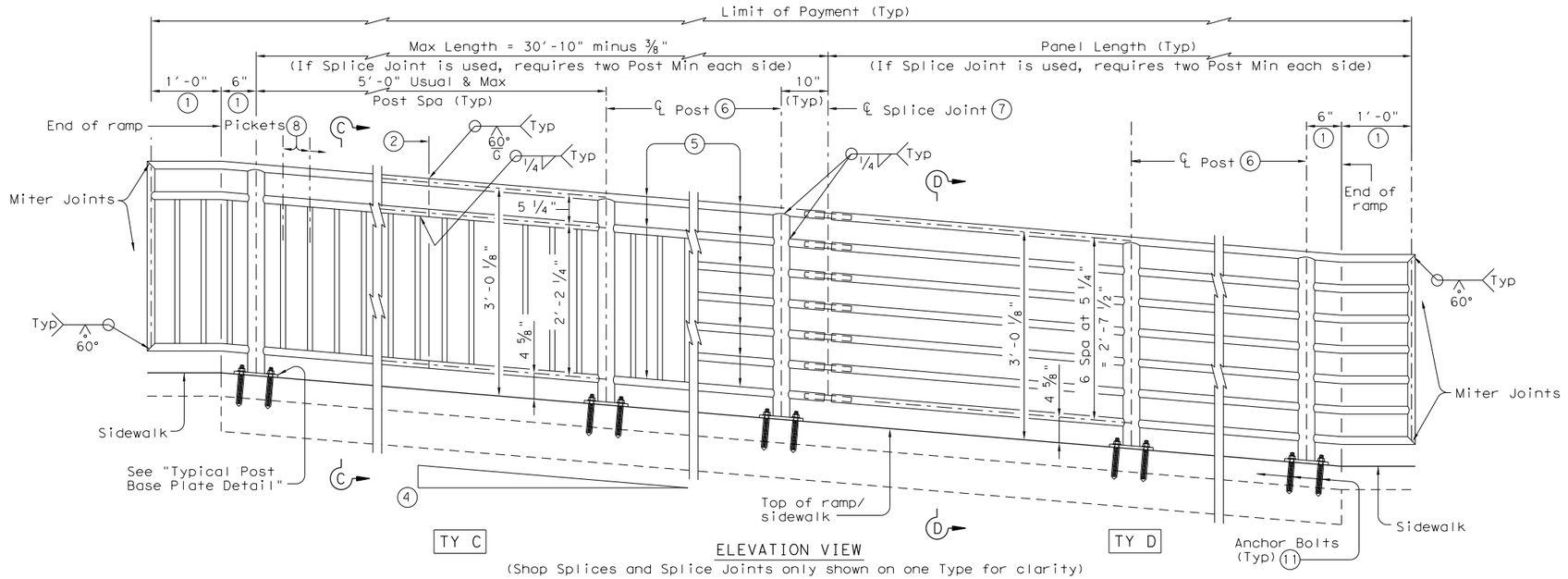
| | | | | | |
|---|---|---|---|---|---|
| FILE: ped18 | DN: TxDOT | | DW: VP | CK: KM | CK: PK & JG |
| © TxDOT: MARCH, 2002 | CONT | SECT | JOB | | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | | VARIES |
| REVISED 08, 2005<br>REVISED 06, 2012<br>REVISED 01, 2018 | DIST | COUNTY | | | SHEET NO. |
| | SAT | BEXAR | | | 512 |

DATE: 4/10/2019
FILE: P:\111\35\08\Design\Civil\Standards\Roadway\prd13.dgn




ELEVATION VIEW

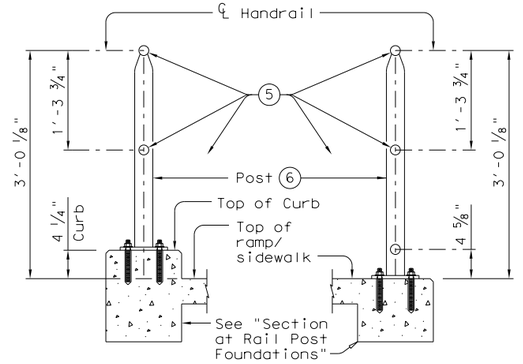
(Shop Splices and Splice Joints only shown on one Type for clarity)




ELEVATION VIEW

(Shop Splices and Splice Joints only shown on one Type for clarity)

| RECOMMENDED USAGE ⑨⑩ | |
|---|---|
| Dropoff Height/ Condition | Recommended Rail Options |
| < 30" dropoff | TY A, TY B, TY C, or TY D |
| ≥ 30" dropoff, or along Bike Path | TY E or TY F |

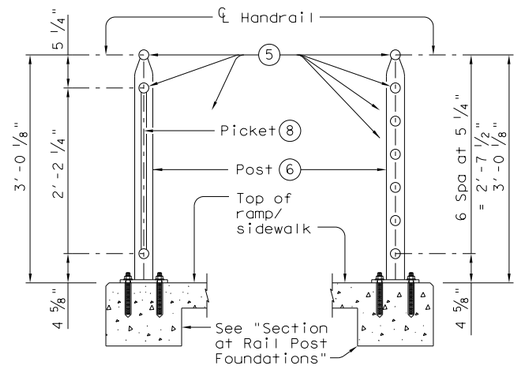



SECTION A-A

(Showing Handrail TY A)

SECTION B-B

(Showing Handrail TY B)




SECTION C-C

(Showing Handrail TY C)

SECTION D-D

(Showing Handrail TY D)

1. Parallel to ground.
2. One shop splice per panel is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
3. Shop splice is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
4. See Ramp Details located elsewhere in plans for ramp slope and dimensions. Maximum ramp slope will not exceed 8.3 percent. Level landing required for each 30" rise if grade exceeds 5 percent.
5. 1 ½" Dia. Standard Pipe (1.900" O.D., 0.145" wall thickness). Parallel to ramp / sidewalk. Provide holes as needed in 1 ½" Dia. pipe for galvanizing drainage and venting.
6. 2 ½" Dia. Standard Pipe (2.875" O.D., 0.203" wall thickness). See "Post Mount Detail" for crimping and trimming post to fit Dia. of top rail. Provide holes as needed in post for galvanizing drainage and venting. Plumb all posts.
7. See "Handrail Fabrication Details" for Splice Joints.
8. ℄ ⅝" Dia. Round Bar equal spacing at 4 ½" Max. Plumb all pickets.
9. When needed for accessibility (grade > 5 percent) or as needed for pedestrian safety.
10. Not to be used on bridges.
11. See "General Notes" for anchor bolt information.

SHEET 1 OF 3

Texas Department of Transportation

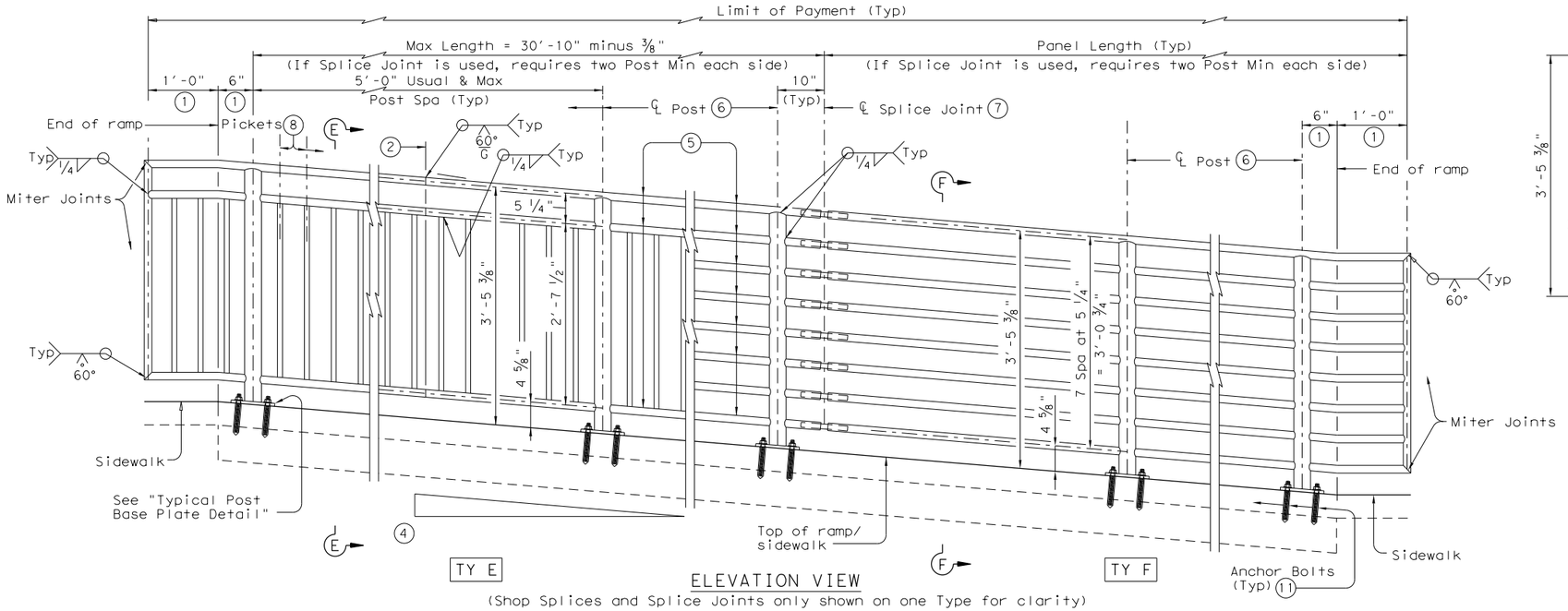
Design Division Standard

# PEDESTRIAN HANDRAIL DETAILS

# PRD-13

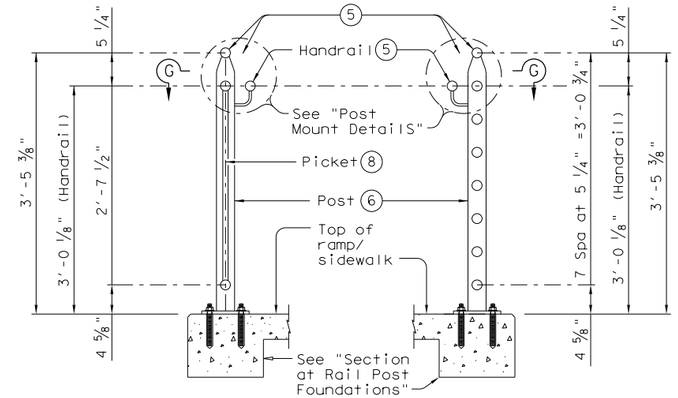
| FILE: prd13.dgn | DN: TxDOT | CK: AM | DW: JTR | CK: CGL |
|---|---|---|---|---|
| ©TxDOT Decmeber 2006 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS REVISED MAY, 2013 (VP) | 0915 | 12 | 574 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 513 |

DATE: 4/10/2019
FILE: P:\11\35\08\Design\Civil\Standards\Roadway\prd13.dgn



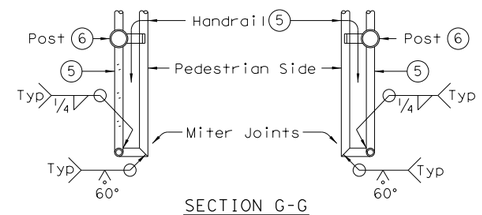

ELEVATION VIEW

(Shop Splices and Splice Joints only shown on one Type for clarity)

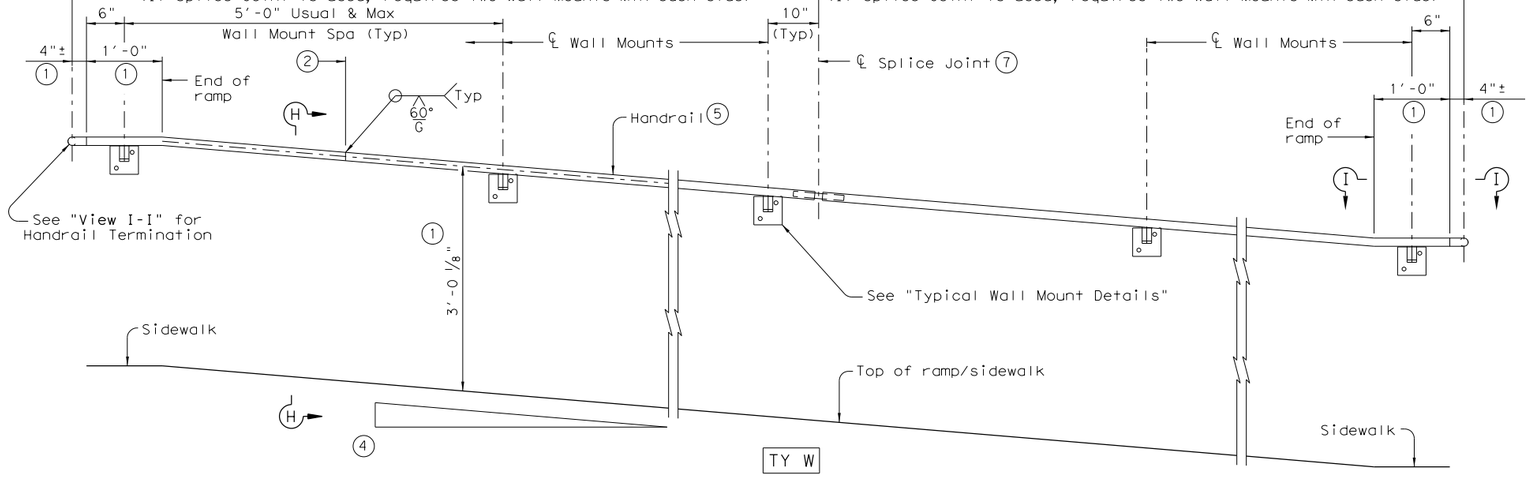



SECTION E-E
(Showing Handrail TY E)

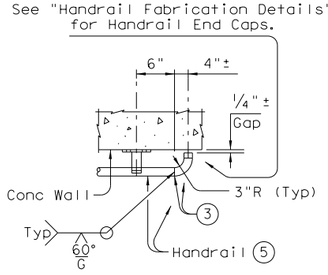
SECTION F-F
(Showing Handrail TY F)



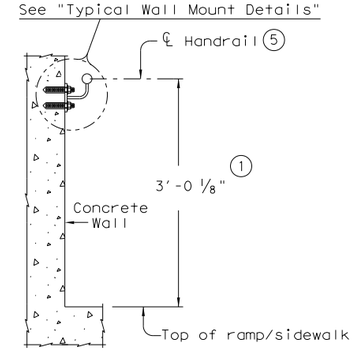

SECTION G-G
(Showing Handrail Termination)




ELEVATION VIEW




VIEW I-I
(Showing Handrail Termination)




SECTION H-H
(Showing Handrail TY W)

1. Parallel to ground.
2. One shop splice per panel is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
3. Shop splice is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
4. See Ramp Details located elsewhere in plans for ramp slope and dimensions. Maximum ramp slope will not exceed 8.3 percent. Level landing required for each 30" rise if grade exceeds 5 percent.
5. 1 ½" Dia. Standard Pipe (1.900" O.D., 0.145" wall thickness). Parallel to ramp / sidewalk. Provide holes as needed in 1 ½" Dia. pipe for galvanizing drainage and venting.
6. 2 ½" Dia. Standard Pipe (2.875" O.D., 0.203" wall thickness). See "Post Mount Detail" for crimping and trimming post to fit Dia. of top rail. Provide holes as needed in post for galvanizing drainage and venting. Plumb all posts.
7. See "Handrail Fabrication Details" for Splice Joints.
8. ℄ ⅝" Dia. Round Bar equal spacing at 4 ½" Max. Plumb all pickets.
11. See "General Notes" for anchor bolt information.



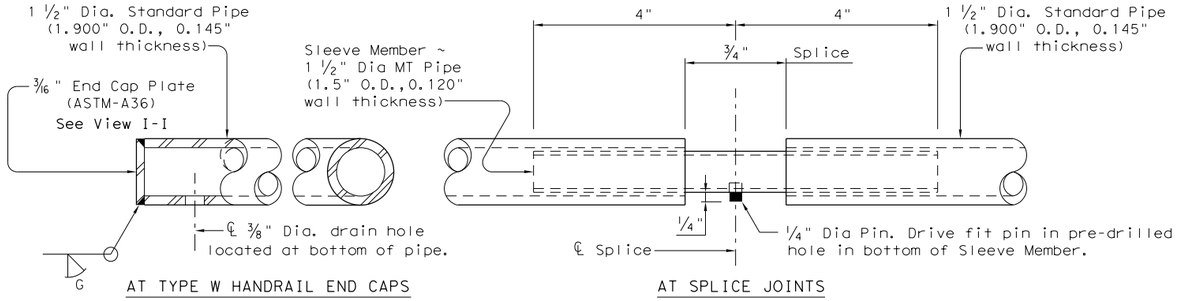
Texas Department of Transportation — Design Division Standard

# PEDESTRIAN HANDRAIL DETAILS

# PRD-13

| FILE: prd13.dgn | DN: TxDOT | CK: AM | DW: JTR | CK: CGL |
|---|---|---|---|---|
| ©TxDOT December 2006 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS REVISED MAY, 2013 (VP) | 0915 | 12 | 574 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 514 |

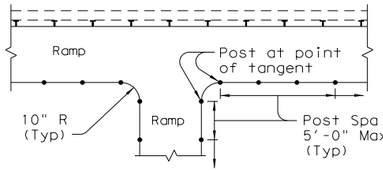
DATE: 4/10/2019
FILE: P:\111\35\08\Design\Civil\Standards\Roadway\prd13.dgn



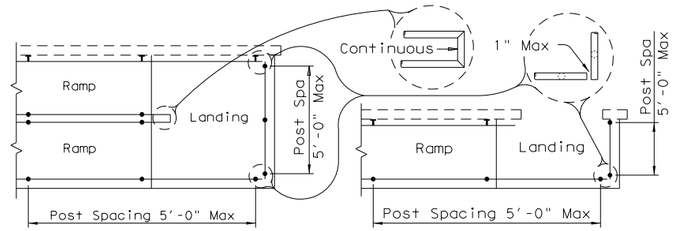

AT TYPE W HANDRAIL END CAPS

AT SPLICE JOINTS

## HANDRAIL FABRICATION DETAILS



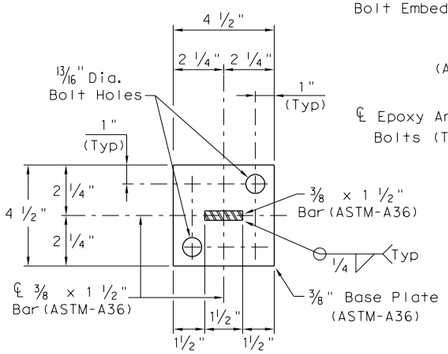

RAMP INTERSECTION



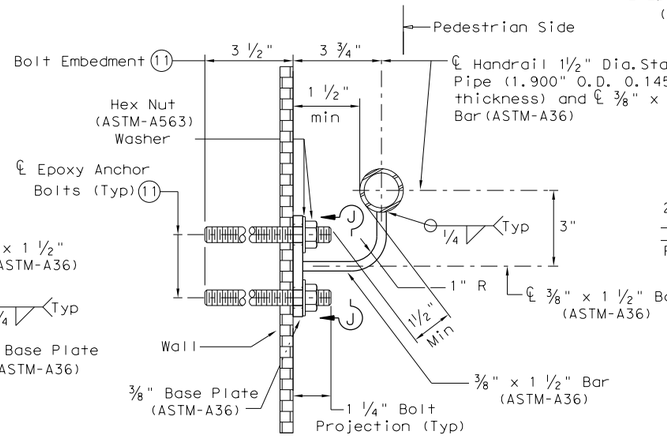

MULTI-LEVEL RAMP

SINGLE-LEVEL RAMP

## PLAN SHOWING RAIL AT RAMP CONDITIONS

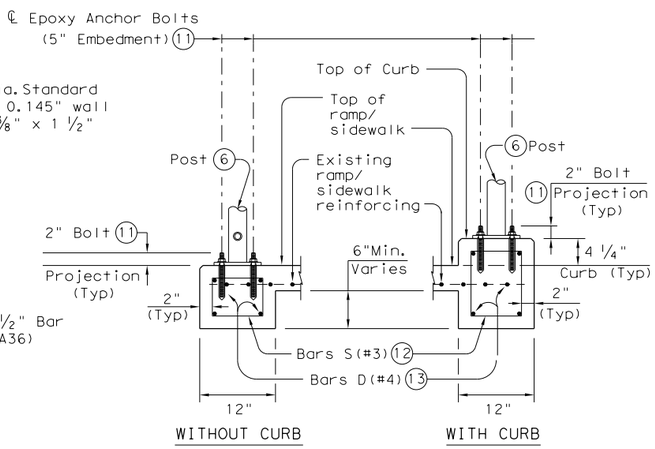



SECTION J-J
(Anchor Bolts not shown for clarity)




SECTION AT WALL MOUNT

## TYPICAL WALL MOUNT DETAILS




WITHOUT CURB

WITH CURB

## SECTION AT RAIL POST FOUNDATIONS

## GENERAL NOTES

Designed according to ADAAG, Texas Accessibility Standards, Uniform Building Code, and AASHTO LRFD Specifications.

Handrail anchorage details shown on this standard may require modification for select structure types. See appropriate details elsewhere in plans for these modifications.

Pipe will conform to ASTM-A53 Grade B or A500 Grade B. Steel plates and steel bars will conform to ASTM-A36. Mechanical tubing (MT) will conform to ASTM A513 Grade 1015 or higher. Galvanize all steel components except reinforcing steel unless noted otherwise.

Concrete for foundations will be in accordance with Item 531 "Sidewalks". All reinforcing steel must be Grade 60. Bar laps, where required, will be as follows: Uncoated ~ #4 = 1'-5" Epoxy coated ~ #4 = 2'-1"

When the plans require painted steel, follow the requirements for painting galvanized steel in Item 446, "Cleaning and Painting Steel". Sleeve Members will receive galvanization and only get field painted after installation unless directed otherwise by Engineer.

Epoxy Anchor bolts for wall mount and post base plate will be ⅝" Dia. ASTM A36 threaded rods with one hex nut and one hardened steel washer at each bolt. ⅝" Dia. threaded rod embedment depth for wall mounts is 3 ½" and embedment depth for post base plate is 5".

Embed threaded rods into concrete with a Type III (Class C) epoxy meeting the requirements of DMS-6100, "Epoxies and Adhesives". Mix and dispense adhesive with the manufacturer's static mixing nozzle/dual cartridge system. Core drill holes (percussion drilling not permitted).

At the contractor's option the post base plate anchor bolts may be cast with the Ramp/Sidewalk (See Cast-in-Place Anchor Bolt Options).

Optional cast-in-place anchor bolts will be ⅝" Dia ASTM A307 Grade A bolts (or A36 threaded rods with one tack welded hex nut each) with one hex nut and one hardened steel washer at each bolt. Embedment depth of cast-in-place bolt will be 8" for post base plate.

Handrails and any wall or other surface adjacent to them will be free of any sharp or abrasive elements.

Submit shop drawings to the Engineer unless otherwise noted. For curved handrail applications, fabricate the handrail to the curve if radius is less than 600 ft. Shop drawings are required when rail is fabricated to the curve.

For all handrails, erection drawings will be submitted to the Engineer for approval to ensure proper installation.

Drawings will show handrail mount locations with bolts setting, spacing, ramp slope, and/or splice joint locations, and handrail lengths with identification showing where each handrail goes on the layout.

Payment for concrete sidewalks or curb ramps will be paid for in accordance with Item 531 "Sidewalks".

Payment for all items shown is to be included in unit price bid in accordance with Item 450 "Railing" of the type specified.

All exposed edges will be rounded or chamfered to approximately ⅛" by grinding.

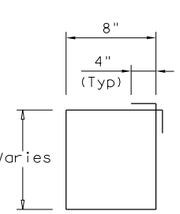
(5) 1 ½" Dia. Standard Pipe (1.900" O.D., 0.145" wall thickness). Parallel to ramp/sidewalk. Provide holes as needed in 1 ½" Dia. pipe for galvanizing drainage and venting.

(6) 2 ½" Dia. Standard Pipe (2.875" O.D., 0.203" wall thickness). Plumb all posts. See "Post Mount Detail" for crimping and trimming post to fit the diamenter of top rail. Provide holes as needed in post for galvanizing drainage and venting.

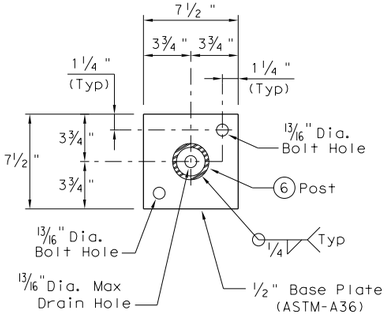
(11) See "General Notes" for anchor bolt information.

(12) Bars S(#3) spaced at 12" Max (Spaced 3" from outside edge of overall length of Ramp/Sidewalk).

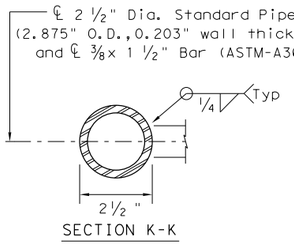
(13) Provide 1 ½" end cover to Bars D(#4) from outside edge of overall length of Ramp/Sidewalk.




BARS S (#3)

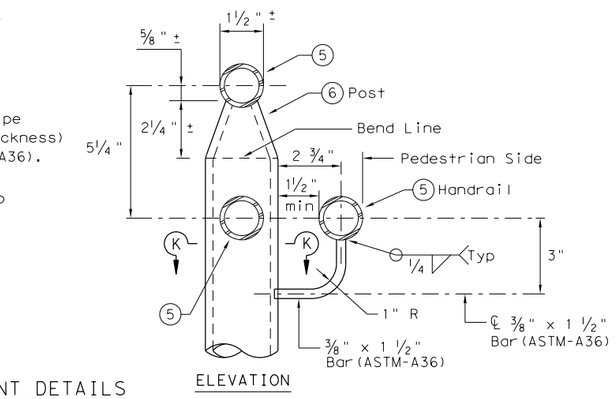



## TYPICAL POST BASE PLATE DETAIL

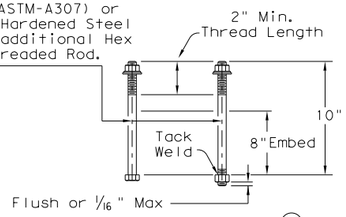



SECTION K-K

## POST MOUNT DETAILS




ELEVATION




CAST-IN-PLACE ANCHOR BOLT OPTIONS
(Used for Post Base Plate only)

SHEET 3 OF 3

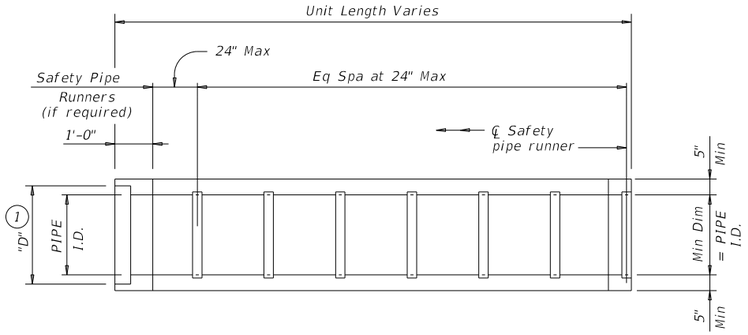
Texas Department of Transportation

Design Division Standard

# PEDESTRIAN HANDRAIL DETAILS

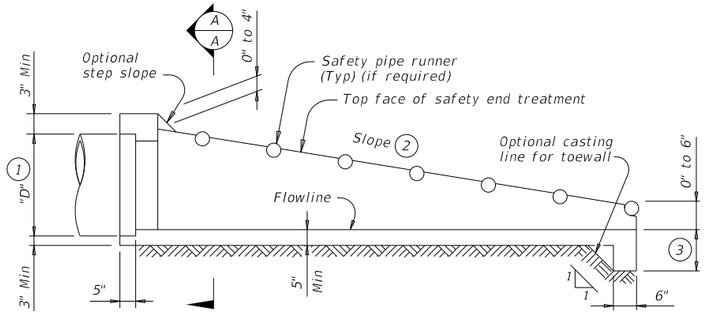
# PRD-13

| FILE: prd13.dgn | DN: TxDOT | CK: AM | DW: JTR | CK: CGL |
|---|---|---|---|---|
| ©TxDOT December 2006 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| REVISED MAY, 2013 (VP) | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 515 |



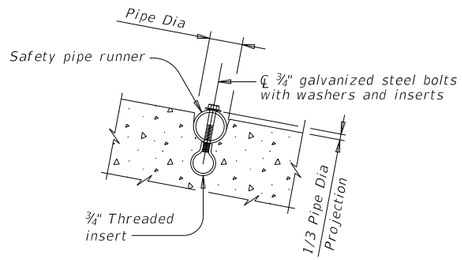

## PLAN

(Showing bell end connection)



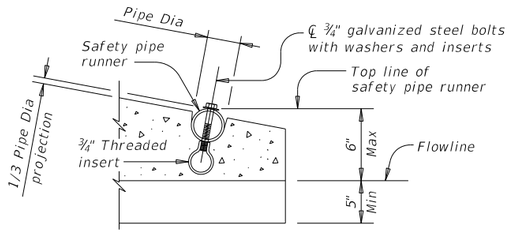

## LONGITUDINAL ELEVATION

(Showing bell end connection)

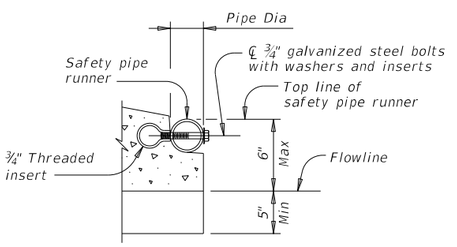



## INSTALLATION DETAIL FOR SAFETY PIPE RUNNERS

(If required)




OPTION A




OPTION B

## END DETAILS FOR INSTALLATION OF SAFETY PIPE RUNNERS

(If required)

| PIPE I.D. | RCP WALL "B" THICKNESS | TP WALL THICKNESS (7) | "D" (1) | MAXIMUM SLOPE | MINIMUM LENGTH OF UNIT | PIPE RUNNERS REQUIRED | | REQUIRED PIPE RUNNER SIZES | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SINGLE PIPE | MULTIPLE PIPE | NOMINAL DIA. | O.D. | I.D. |
| 12" | 2" | 1.15" | 17" | 6:1 | 4'-9" | No | Yes, for >2 pipes | 3" STD | 3.500" | 3.068" |
| 15" | 2.25" | 1.30" | 20.50" | 6:1 | 6'-5" | No | Yes, for >2 pipes | 3" STD | 3.500" | 3.068" |
| 18" | 2.50" | 1.60" | 24" | 6:1 | 8'-0" | No | Yes, for >2 pipes | 3" STD | 3.500" | 3.068" |
| 24" | 3" | 1.95" | 31" | 6:1 | 11'-3" | No | Yes, for >2 pipes | 3" STD | 3.500" | 3.068" |
| 30" | 3.50" | 2.65" | 38.50" | 6:1 | 14'-8" | No | Yes | 4" STD | 4.500" | 4.026" |
| 36" | 4" | 2.75" | 45.50" | 6:1 | 17'-11" | Yes | Yes | 4" STD | 4.500" | 4.026" |
| 42" | 4.50" | N/A | 52.50" | 6:1 | 21'-2" | Yes | Yes | 4" STD | 4.500" | 4.026" |

(1) Dimension "D" is based on Reinforced Concrete Pipe (RCP) meeting the requirements of ASTM C-76, Class III, (RCP Wall "B" thickness). Adjust "D" for any other wall thickness used. For Thermoplastic Pipe (TP) take into account the annular space requirements for grouted connections.

(2) Slope as shown elsewhere in the plans. Slope of 6:1 or flatter is required for vehicle safety.

(3) Toewall to be used only when dimension is shown elsewhere in the plans.

(4) Fill the top 4" of void between precast end treatments with concrete riprap. Concrete riprap is considered subsidiary to the Item "Safety End Treatment".

(5) Adjust clear distance between pipes to provide for the minimum distance between safety end treatments.

(6) Provide cement stabilized bedding and backfill in accordance with the Item, "Excavation and Backfill for Structures". Bedding and backfill is considered subsidiary to the Item "Safety End Treatment". When concrete riprap is specified around the safety end treatment, backfill as directed by Engineer.

(7) Thermoplastic pipe wall thickness may vary. Adjust accordingly. Thermoplastic pipe requires the safety end treatments to have a bell end for grouted connections.

### GENERAL NOTES:

Precast safety end treatment for reinforced concrete pipe (RCP), and thermoplastic pipe (TP) may be used for TYPE II end treatment as specified in Item "Safety End Treatment".

When precast safety end treatment is used as a Contractor's alternate to mitered RCP, riprap will not be required unless noted otherwise on the plans.

Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.

Manufacture this product in accordance with Item "Safety End Treatment" except as noted below :

A. Provide minimum reinforcing of #4 at 6" (Grade 40) or #4 at 9" (Grade 60) each way or 6"x6" - D12 x D12 or 5"x5" - D10 x D10 welded wire reinforcement (WWR).

B. For precast (steel formed) sections, provide Class "C" concrete (f'c = 3,600 psi).

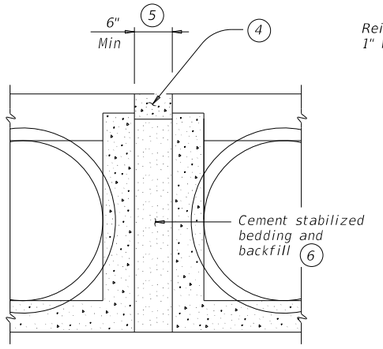
At the option and expense of the Contractor the next larger size of safety end treatment may be furnished; as long as the "D" dimension cast is that of the required size of pipe.

Pipe runners are designed for a traversing load of 10,000 Lbs at yield as recommended by Research Report 280-2F, "Safety Treatment of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981.

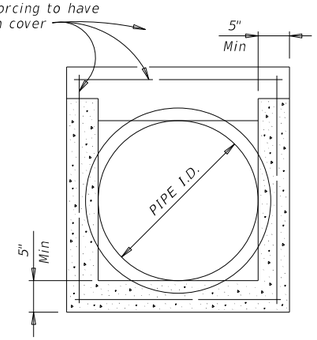
Provide pipe runners meeting the requirements of ASTM A53 (Type E or S, Grade B), ASTM A500 (Grade B), or API 5LX52.

Galvanize all steel components except reinforcing steel after fabrication. Repair galvanizing damaged during transport or construction in accordance with the specifications.

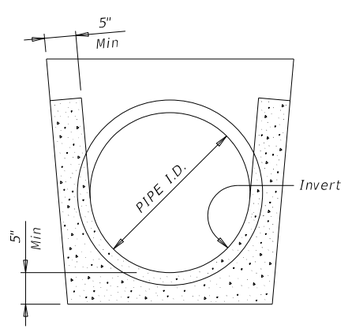
Connect RCP using the Optional Joint for RCP detail shown or in accordance with Item 464 "Reinforced Concrete Pipe". Connect TP by grouting. See PBGC standard for grouted connections with TP and precast safety end treatment.




MULTIPLE PIPE INSTALLATION

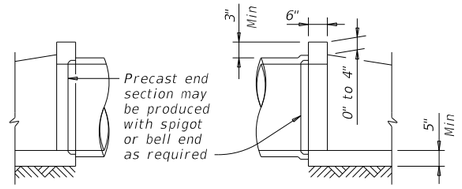



OPTION WITH SQUARE BOTTOM




OPTION WITH INVERT BOTTOM

SECTION A-A




## OPTIONAL JOINT FOR RCP

(Showing joint between RCP and precast safety end treatment)

Texas Department of Transportation

Bridge Division Standard

# PRECAST SAFETY END TREATMENT

## TYPE II ~ PARALLEL DRAINAGE

# PSET-SP

| FILE: psetspss-18.dgn | DN: RLW | CK: KLR | DW: JTR | CK: GAF |
|---|---|---|---|---|
| ©TxDOT February 2010 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| 11-10: Add note for synthetic fibers. 09-18: Added Thermoplastic Pipe in table. | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 516 |

DATE: 4/10/2019 10:12:33 AM
FILE: P:\111\35\08\design\Civil\Standards\Drainage\psetspss-18.dgn

DATE: 4/10/2019 10:12:35 AM
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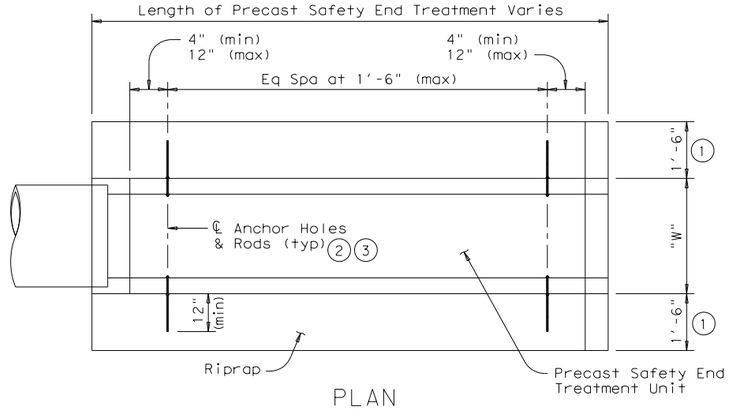
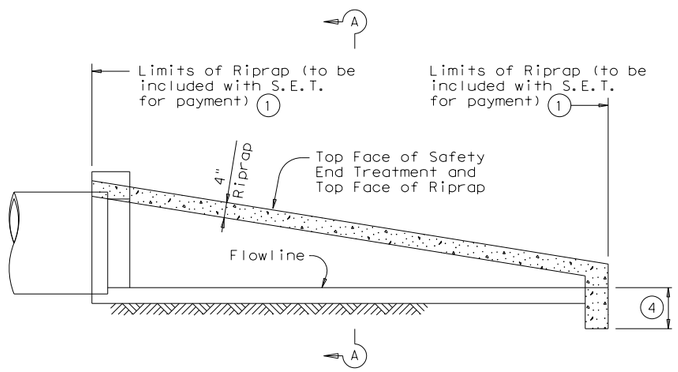
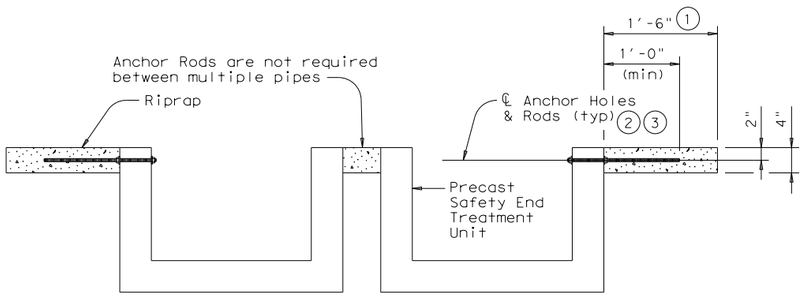


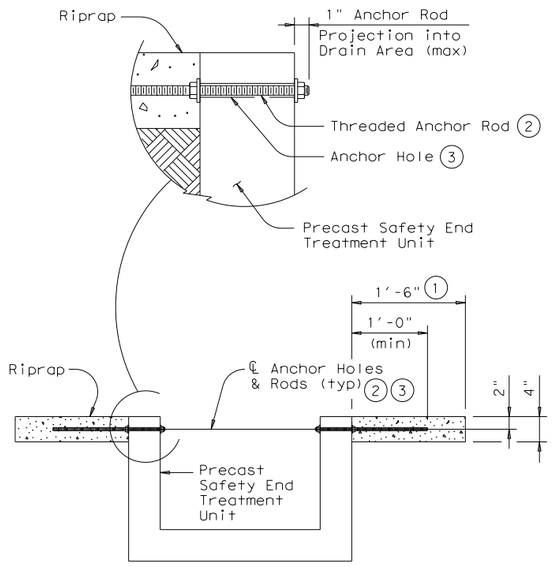

PLAN




LONGITUDINAL ELEVATION




MULTIPLE PIPE INSTALLATION




SINGLE PIPE INSTALLATION

SECTION A-A

ESTIMATED CONCRETE RIPRAP QUANTITIES (CY) 5

| Nominal Culvert (Pipe) I.D. | PSET-SC & PSET-SP Standards | | | | PSET-RC & PSET-RP Standards | | | |
|---|---|---|---|---|---|---|---|---|
| | Unit Width "W" | Side Slope | | | Unit Width "W" | Side Slope | | |
| | | 3:1 | 4:1 | 6:1 | | 3:1 | 4:1 | 6:1 |
| 12" | 23.0" | 0.1 | 0.2 | 0.2 | 16.0" | 0.1 | 0.1 | 0.2 |
| 15" | 26.5" | 0.2 | 0.2 | 0.3 | 19.5" | 0.1 | 0.2 | 0.2 |
| 18" | 30.0" | 0.2 | 0.2 | 0.3 | 23.0" | 0.2 | 0.2 | 0.3 |
| 24" | 37.0" | 0.3 | 0.3 | 0.5 | 30.0" | 0.2 | 0.3 | 0.4 |
| 30" | 44.5" | 0.3 | 0.4 | 0.6 | 37.0" | 0.3 | 0.3 | 0.5 |
| 36" | 51.5" | 0.4 | 0.5 | 0.7 | 44.0" | 0.3 | 0.4 | 0.6 |
| 42" | 58.5" | 0.5 | 0.6 | 0.8 | 51.0" | 0.4 | 0.5 | 0.7 |

(1) Riprap placed beyond the limits shown will be paid as Concrete Riprap in accordance with Item 432, "Riprap". When Riprap is cast integrally with the Precast Safety End Treatment, this dimension shall be 1'-0" minimum.

(2) ½" Diam A307 Gr.A threaded Anchor Rod w/ 2 nuts & 2 washers. All components shall be galvanized in accordance with Item 445, "Galvanizing". Galvanizing that is damaged during transport or construction shall be repaired in accordance with the specifications.

(3) ¾" through holes in walls of Safety End Treatment for Riprap Anchor Rods may be drilled with rotary (coring or masonry) type drilling equipment or may be formed. Percussive (star) type drilling equipment shall not be used. If holes are drilled, spalls in the inside face of the wall exceeding ½" from the holes shall be patched.

(4) Provide Riprap Toe Wall when dimension is shown elsewhere in the plans or when field conditions require a Toe Wall.

(5) Quantities shown are for one end of one reinforced concrete pipe culvert. For multiple pipe culverts, quantities will need to be adjusted. Riprap quantities are for Contractor's information only. Quantities are based on the minimum unit lengths shown on the Precast S.E.T. standards.

GENERAL NOTES:

Precast Safety End Treatment for reinforced concrete pipe may be used for TYPE II end treatment as specified in Item 467, "Safety End Treatment".

Riprap shall be Class "B" Riprap in accordance with Item 432, "Riprap".

Payment for Riprap and Toewalls is included in the Price Bid for each Safety End Treatment.

Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise. The anchor rods shown are always required.

Refer to PSET-SC or PSET-SP standard sheets for details of square Safety End Treatments not shown. Refer to PSET-RC or PSET-RP standard sheets for details of round Safety End Treatments not shown.

For precast units with integrally cast Riprap, reinforcing steel in the amount on 0.26 sq in/ft minimum shall be substituted for the threaded anchor rods shown. When requested, sealed engineering drawings shall be submitted for approval prior to construction. Shop drawings will not be required. Note that a proprietary precast unit with integral Riprap is available from L&R Precast Concrete Works, Inc. (956) 583-6293 or www.lrprecast.com.

These Riprap details are only applicable when notes that require placement of Riprap with Precast Safety End Treatments are shown elsewhere in the plans.

Precast units with integrally cast Riprap shall be permitted unless noted otherwise on the plans.

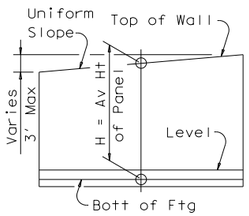
Texas Department of Transportation

Bridge Division Standard

# PRECAST SAFETY END TREATMENT
## TYPE II
## RIPRAP DETAILS

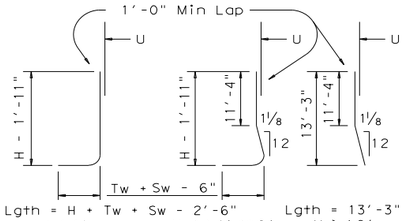
# PSET-RR

| FILE: psetrrse.dgn | DN: GAF | CK: TxDOT | DW: JRP | CK: GAF |
|---|---|---|---|---|
| ©TxDOT February 2010 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| 11-10: Add note for synthetic fibers. | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 517 |

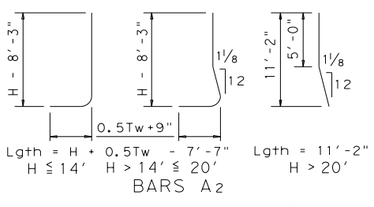



H DEFINITION

| Wall Height "H" | PROPERTIES | | | | | | | REINFORCING STEEL FOR ONE 32' PANEL (DESIGN A) | | | | | | | | | | | | | | | | | | | | | | | | | | | | QUANTITY FOR ONE 32' PANEL | | Wall Height "H" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WALL DIMENSIONS | | | | | | Max Soil Press | $A_1$ ~ 26 #5 at 15" c-c | | $A_2$ ~ 25 #6 at 15" c-c | | $A_3$ ~ 25 #7 at 15" c-c | | $A_4$ ~ 26 #8 at 15" c-c | | $A_5$ ~ 25 #9 at 15" c-c | | $A_6$ ~ 25 #11 at 15" c-c | | $A_7$ ~ 26 #11 at 15" c-c | | B ~ 26 #5 at 15" c-c | | C | | | | | | D (#5) at 12" c-c | | Dowel F at 12" c-c | | H (#5) at 12" c-c | | T (#5) at 12" c-c | | U ~ 26 #5 at 15" c-c | | CONC (CY) | REINF (LB) | |
| (Ft) | Fw | Tw | Sw | Hw | Ft | Kw | T/SF | Lgth | Wt | Lgth | Wt | Lgth | Wt | Lgth | Wt | Lgth | Wt | Lgth | Wt | Lgth | Wt | Lgth | Wt | Size | No | Spa | Lgth | Wt | No | Wt | No | Wt | No | Wt | No | Wt | Lgth | Wt | | | (Ft) |
| 2 | 1'-8" | 8" | 1'-0" | 0 | 9" | 9" | 0.11 | | | | | | | | | | | | | | | | | | | | | | 4 | 131 | 3 | 24 | | | 2 | 66 | 3'-4" | 90 | 3.6 | 312 | 2 |
| 3 | 2'-0" | 1'-0" | 1'-0" | 0 | 9" | 9" | 0.15 | | | | | | | | | | | | | | | | | | | | | | 6 | 197 | 4 | 32 | 2 | 66 | 2 | 66 | 5'-4" | 145 | 5.1 | 506 | 3 |
| 4 | 2'-8" | 1'-4" | 1'-0" | 4" | 1'-0" | 9" | 0.21 | 3'-10" | 104 | | | | | | | | | | | | | 3'-6" | 95 | #4 | 26 | 15" | 1'-10" | 32 | 8 | 263 | 6 | 48 | 2 | 66 | 2 | 66 | 7'-4" | 199 | 7.4 | 873 | 4 |
| 5 | 3'-6" | 1'-9" | 1'-0" | 9" | 1'-0" | 9" | 0.23 | 5'-3" | 142 | | | | | | | | | | | | | 4'-6" | 122 | #4 | 26 | 15" | 2'-3" | 39 | 10 | 329 | 7 | 56 | 2 | 66 | 3 | 99 | 8'-4" | 226 | 9.6 | 1079 | 5 |
| 6 | 4'-3" | 2'-2" | 1'-0" | 1'-1" | 1'-0" | 9" | 0.24 | 6'-8" | 181 | | | | | | | | | | | | | 5'-6" | 149 | #4 | 26 | 15" | 2'-8" | 46 | 12 | 394 | 8 | 64 | 3 | 99 | 3 | 99 | 8'-4" | 226 | 11.6 | 1259 | 6 |
| 7 | 5'-0" | 2'-6" | 1'-0" | 1'-6" | 1'-0" | 9" | 0.27 | 8'-0" | 217 | | | | | | | | | | | | | 6'-6" | 176 | #4 | 26 | 15" | 3'-0" | 52 | 14 | 460 | 9 | 72 | 3 | 99 | 3 | 99 | 8'-4" | 226 | 13.7 | 1401 | 7 |
| 8 | 5'-8" | 2'-10" | 1'-0" | 1'-10" | 1'-0" | 9" | 0.30 | 9'-4" | 253 | | | | | | | | | | | | | 7'-6" | 203 | #4 | 26 | 15" | 3'-4" | 58 | 16 | 526 | 10 | 80 | 3 | 99 | 4 | 131 | 8'-4" | 226 | 15.7 | 1575 | 8 |
| 9 | 6'-4" | 3'-2" | 1'-0" | 2'-2" | 1'-0" | 9" | 0.33 | 10'-8" | 284 | | | | | | | | | | | | | 8'-6" | 231 | #4 | 26 | 15" | 3'-8" | 64 | 18 | 591 | 11 | 88 | 3 | 99 | 4 | 131 | 8'-4" | 226 | 17.7 | 1714 | 9 |
| 10 | 7'-0" | 3'-6" | 1'-0" | 2'-6" | 1'-0" | 9" | 0.36 | 12'-0" | 325 | 4'-2" | 156 | | | | | | | | | | | 9'-6" | 258 | #4 | 38 | 10" | 4'-0" | 102 | 20 | 657 | 12 | 96 | 4 | 131 | 4 | 131 | 8'-4" | 226 | 19.6 | 2082 | 10 |
| 11 | 7'-9" | 3'-10" | 1'-0" | 2'-11" | 1'-0" | 9" | 0.39 | 13'-4" | 362 | 5'-4" | 200 | | | | | | | | | | | 10'-6" | 285 | #6 | 38 | 10" | 4'-4" | 247 | 22 | 723 | 13 | 104 | 4 | 131 | 5 | 164 | 8'-4" | 226 | 21.7 | 2436 | 11 |
| 12 | 8'-6" | 4'-3" | 1'-0" | 3'-3" | 1'-0" | 9" | 0.40 | 14'-9" | 400 | 6'-7" | 247 | | | | | | | | | | | 11'-6" | 312 | #6 | 38 | 10" | 4'-9" | 271 | 24 | 789 | 14 | 112 | 4 | 131 | 5 | 164 | 8'-4" | 226 | 23.8 | 2651 | 12 |
| 13 | 9'-2" | 4'-7" | 1'-0" | 3'-7" | 1'-0" | 9" | 0.43 | 16'-1" | 436 | 7'-8" | 288 | 6'-9" | 345 | | | | | | | | | 12'-6" | 339 | #7 | 38 | 10" | 5'-1" | 395 | 26 | 854 | 15 | 120 | 5 | 164 | 6 | 197 | 8'-4" | 226 | 25.8 | 3364 | 13 |
| 14 | 9'-10" | 4'-11" | 1'-0" | 3'-11" | 1'-0" | 1'-0" | 0.47 | 17'-5" | 472 | 8'-11" | 335 | 8'-1" | 413 | | | | | | | | | 13'-6" | 366 | #8 | 38 | 10" | 5'-5" | 550 | 28 | 920 | 16 | 128 | 5 | 164 | 6 | 197 | 8'-4" | 226 | 28.2 | 3771 | 14 |
| 15 | 10'-6" | 5'-3" | 1'-1 1/8" | 4'-1 7/8" | 1'-0" | 1'-0" | 0.50 | 18'-10' | 511 | 10'-1" | 379 | 9'-6" | 485 | | | | | | | | | 14'-6" | 393 | #9 | 38 | 10" | 5'-9" | 743 | 30 | 986 | 17 | 136 | 6 | 197 | 6 | 197 | 8'-4" | 226 | 30.3 | 4253 | 15 |
| 16 | 11'-2" | 5'-7" | 1'-2" | 4'-5" | 1'-3" | 1'-3" | 0.55 | 13'-3" | 359 | 11'-2" | 419 | 10'-11" | 558 | 8'-5" | 584 | | | | | | | 15'-6" | 420 | #9 | 38 | 10" | 6'-1" | 786 | 32 | 1051 | 18 | 144 | 6 | 197 | 7 | 230 | 8'-4" | 226 | 36.0 | 4974 | 16 |
| 17 | 11'-10" | 5'-11" | 1'-3 1/8" | 4'-7 7/8" | 1'-3" | 1'-3" | 0.58 | 13'-3" | 359 | 12'-5" | 466 | 12'-4" | 630 | 9'-10" | 683 | | | | | | | 16'-6" | 447 | #9 | 38 | 10" | 6'-5" | 829 | 34 | 1117 | 19 | 152 | 7 | 230 | 7 | 230 | 8'-4" | 226 | 38.5 | 5369 | 17 |
| 18 | 12'-6" | 6'-3" | 1'-4" | 4'-11" | 1'-6" | 1'-3" | 0.63 | 13'-3" | 359 | 13'-7" | 510 | 13'-9" | 703 | 11'-2" | 775 | | | | | | | 17'-6" | 475 | #9 | 38 | 10" | 6'-9" | 872 | 34 | 1117 | 19 | 152 | 7 | 230 | 8 | 263 | 8'-4" | 226 | 44.3 | 5682 | 18 |
| 19 | 13'-3" | 6'-7" | 1'-5" | 5'-3" | 1'-6" | 1'-6" | 0.66 | 13'-3" | 359 | 14'-9" | 554 | 15'-2" | 775 | 12'-8" | 879 | | | | | | | 18'-6" | 502 | #9 | 38 | 10" | 7'-2" | 926 | 36 | 1183 | 20 | 160 | 7 | 230 | 8 | 263 | 8'-4" | 226 | 48.1 | 6057 | 19 |
| 20 | 13'-10" | 6'-11" | 1'-6 1/4" | 5'-4 3/4" | 1'-6" | 1'-6" | 0.70 | 13'-3" | 359 | 15'-11" | 598 | 16'-7" | 847 | 14'-1 | 978 | | | | | | | 19'-6" | 529 | #10 | 38 | 10" | 7'-5" | 1213 | 38 | 1248 | 21 | 168 | 8 | 263 | 8 | 263 | 8'-4" | 226 | 50.9 | 6692 | 20 |
| 21 | 14'-6" | 7'-3" | 1'-7" | 5'-8" | 1'-9" | 1'-6" | 0.75 | 13'-3" | 359 | 11'-2" | 419 | 18'-0" | 920 | 15'-5" | 1070 | 9'-7" | 815 | | | | | 20'-6" | 556 | #10 | 38 | 10" | 7'-9" | 1267 | 40 | 1314 | 22 | 176 | 8 | 263 | 9 | 296 | 8'-4" | 226 | 57.7 | 7681 | 21 |
| 22 | 15'-2" | 7'-7" | 1'-8 1/8" | 5'-10 7/8" | 1'-9" | 1'-6" | 0.78 | 13'-3" | 359 | 11'-2" | 419 | 19'-5" | 992 | 16'-11" | 1174 | 10'-11" | 928 | | | | | 21'-6" | 583 | #10 | 38 | 10" | 8'-1" | 1322 | 42 | 1380 | 23 | 184 | 8 | 263 | 9 | 296 | 8'-4" | 226 | 61.0 | 8126 | 22 |
| 23 | 16'-0" | 8'-0" | 1'-9 1/4" | 6'-2 3/4" | 1'-9" | 1'-6" | 0.79 | 13'-3" | 359 | 11'-2" | 419 | 20'-11" | 1069 | 18'-5" | 1278 | 12'-4" | 1048 | | | | | 22'-6" | 610 | #8 | 76 | 5" | 8'-6" | 1725 | 44 | 1446 | 24 | 192 | 9 | 296 | 10 | 329 | 8'-4" | 226 | 64.8 | 8997 | 23 |
| 24 | 16'-6" | 8'-3" | 1'-10 1/8" | 6'-4 7/8" | 2'-0" | 1'-6" | 0.86 | 13'-3" | 359 | 11'-2" | 419 | 22'-3" | 1137 | 19'-9" | 1371 | 13'-7" | 1155 | | | | | 23'-6" | 637 | #8 | 76 | 5" | 8'-9" | 1776 | 46 | 1511 | 25 | 200 | 9 | 296 | 10 | 329 | 8'-4" | 226 | 72.4 | 9416 | 24 |
| 25 | 17'-3" | 8'-7" | 1'-11 1/4" | 6'-8 3/4" | 2'-0" | 1'-6" | 0.89 | 13'-3" | 359 | 11'-2" | 419 | 12'-2" | 622 | 21'-2" | 1469 | 15'-0" | 1275 | 6'-1" | 808 | | | 24'-6" | 664 | #8 | 76 | 5" | 9'-2" | 1860 | 48 | 1577 | 26 | 208 | 9 | 296 | 10 | 329 | 8'-4" | 226 | 76.4 | 10112 | 25 |
| 26 | 18'-0" | 9'-0" | 2'-0 1/8" | 6'-11 1/8" | 2'-3" | 1'-6" | 0.93 | 13'-3" | 359 | 11'-2" | 419 | 12'-2" | 622 | 22'-8" | 1574 | 16'-4" | 1388 | 7'-1" | 941 | | | 25'-6" | 692 | #8 | 76 | 5" | 9'-6" | 1928 | 50 | 1643 | 27 | 217 | 10 | 329 | 11 | 361 | 8'-4" | 226 | 85.2 | 10698 | 26 |
| 27 | 18'-6" | 9'-4" | 2'-1 1/4" | 7'-0 3/4" | 2'-3" | 1'-6" | 0.97 | 13'-3" | 359 | 11'-2" | 419 | 12'-2" | 622 | 24'-1" | 1672 | 17'-8" | 1502 | 8'-1" | 1074 | | | 26'-6" | 719 | #9 | 76 | 5" | 9'-10" | 2541 | 52 | 1708 | 28 | 225 | 10 | 329 | 11 | 361 | 8'-4" | 226 | 89.0 | 11757 | 27 |
| 28 | 19'-3" | 9'-7" | 2'-2 3/8" | 7'-5 5/8" | 2'-3" | 1'-9" | 1.00 | 13'-3" | 359 | 11'-2" | 419 | 12'-2" | 622 | 25'-5" | 1764 | 19'-0" | 1615 | 9'-1" | 1206 | | | 27'-6" | 746 | #9 | 76 | 5" | 10'-1" | 2606 | 54 | 1774 | 29 | 233 | 10 | 329 | 12 | 394 | 8'-4" | 226 | 94.5 | 12293 | 28 |
| 29 | 20'-0" | 10'-0" | 2'-3 1/2" | 7'-8 1/2" | 2'-3" | 1'-9" | 1.02 | 13'-3" | 359 | 11'-2" | 419 | 12'-2" | 622 | 27'-0" | 1874 | 20'-5" | 1735 | 10'-1" | 1339 | | | 28'-6" | 773 | #9 | 76 | 5" | 10'-5" | 2692 | 56 | 1840 | 30 | 241 | 11 | 361 | 12 | 394 | 8'-4" | 226 | 99.2 | 12874 | 29 |
| 30 | 20'-6" | 10'-4" | 2'-4 5/8" | 7'-9 3/8" | 2'-3" | 1'-9" | 1.06 | 13'-3" | 359 | 11'-2" | 419 | 12'-2" | 622 | 14'-4" | 995 | 21'-9" | 1849 | 11'-1" | 1472 | 17'-0" | 2348 | 29'-6" | 800 | #10 | 76 | 5" | 10'-9" | 3516 | 58 | 1906 | 31 | 249 | 11 | 361 | 12 | 394 | 8'-4" | 226 | 103.3 | 15515 | 30 |
| 31 | 21'-3" | 10'-7" | 2'-5 3/4" | 8'-2 1/4" | 2'-3" | 1'-9" | 1.09 | 13'-3" | 359 | 11'-2" | 419 | 12'-2" | 622 | 14'-4" | 995 | 23'-0" | 1955 | 12'-1" | 1605 | 18'-4" | 2533 | 30'-6" | 827 | #10 | 76 | 5" | 11'-2" | 3652 | 60 | 1971 | 32 | 257 | 11 | 361 | 13 | 427 | 8'-4" | 226 | 108.2 | 16209 | 31 |
| 32 | 22'-0" | 11'-0" | 2'-6 1/2" | 8'-5 1/2" | 2'-6" | 1'-9" | 1.13 | 13'-3" | 359 | 11'-2" | 419 | 12'-2" | 622 | 14'-4" | 995 | 24'-5" | 2075 | 13'-1" | 1738 | 19'-10" | 2740 | 31'-6" | 854 | #10 | 76 | 5" | 11'-6" | 3761 | 60 | 1971 | 32 | 257 | 12 | 394 | 13 | 427 | 8'-4" | 226 | 118.9 | 16837 | 32 |




BARS $A_1$

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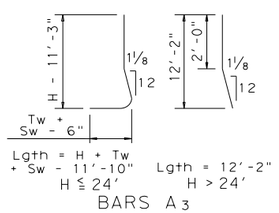


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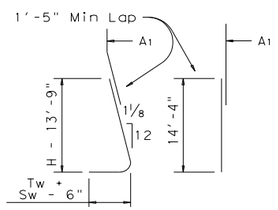


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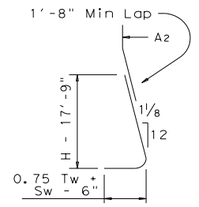


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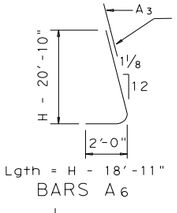


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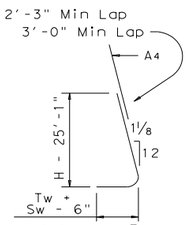


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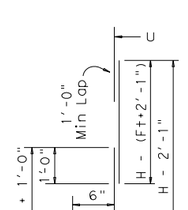
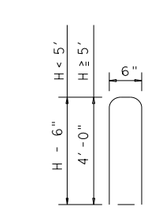
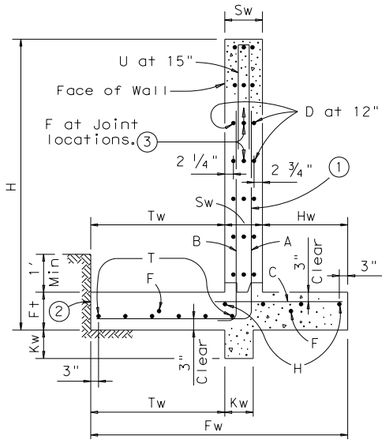



BARS B

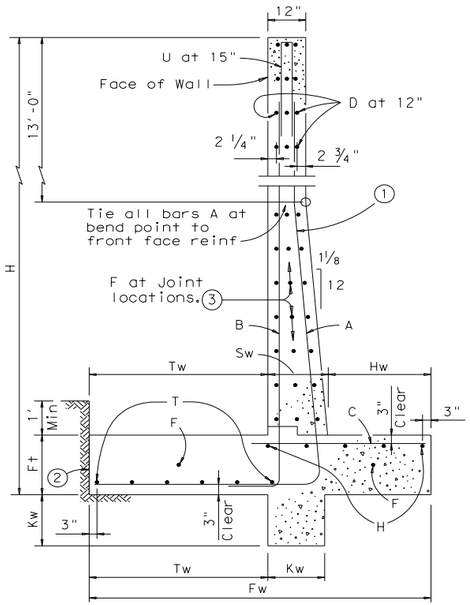



BARS U

1. Place vertical bars inside of horizontal bars (Typ both faces).
2. Place footing toe against undisturbed soil.
3. See standard RW 2 for size.

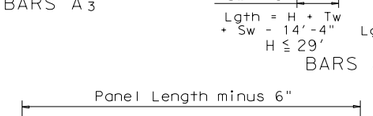



H ≤ 14'



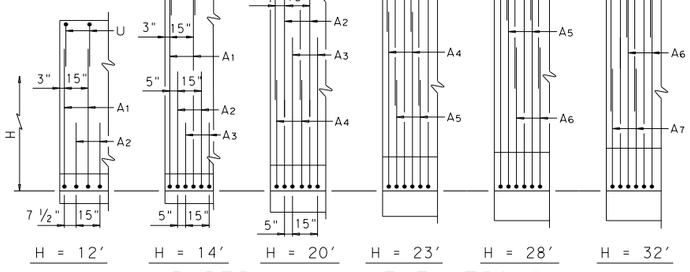

H > 14'

SECTIONS




BARS D, H, T


BARS F ③




PARTIAL WALL ELEVATIONS

(Showing vertical reinforcing pattern in back face)

GENERAL NOTES:

All concrete to be Class "C".
All reinforcing steel to be Grade 60.
For notes and details not shown on this sheet see sheet RW2.
Quantities are based on "H" being average height of panel.
Retaining Walls are designed to be coded as follows on Retaining Wall Layout Sheets.

HC - 21 - 28
LA - 28 - 32

- Panel Length ~ 32' is standard; 28' requires special quantities
- Average Height "H" of panel
- Design - A = no surcharge or slope above wall; B = slopes up to 4:1; C = traffic surcharge and/or slopes up to 2.5:1
- Footing pressure design ~ L = low, H = high

Texas Department of Transportation

Bridge Division Standard

# RETAINING WALLS

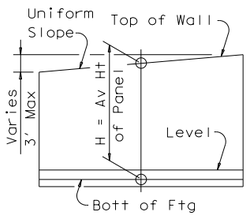
## RW 1(L)A

| FILE: rwstde05.dgn | DN: TxDOT | CK: TxDOT | DW: GHO | CK: MPM |
|---|---|---|---|---|
| ©TxDOT March 2010 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 518 |



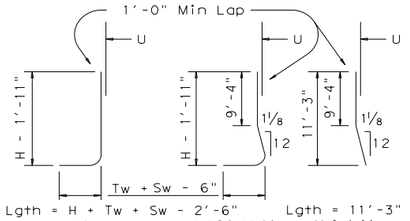
DATE: 4/10/2019 10:12:37 AM
FILE: P:\111\35\08\Design\Civil\Standards\Roadway\rwstde05.dgn

DATE: 4/10/2019 10:12:39 AM
FILE: P:\11\35\08\Design\Civil\Standards\Roadway\rwstde06.dgn




H DEFINITION

| Wall Height "H" | PROPERTIES | | | | | | | REINFORCING STEEL FOR ONE 32' PANEL (DESIGN B) | | | | | | | | | | | | | | | | | | | | | | | | | | | | QUANTITY FOR ONE 32' PANEL | | Wall Height "H" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WALL DIMENSIONS | | | | | | Max Soil Press | A1 ~ 26 #5 at 15" c-c | | A2 ~ 25 #6 at 15" c-c | | A3 ~ 25 #7 at 15" c-c | | A4 ~ 26 #8 at 15" c-c | | A5 ~ 25 #9 at 15" c-c | | A6 ~ 25 #11 at 15" c-c | | A7 ~ 26 #11 at 15" c-c | | B ~ 26 #5 at 15" c-c | | C | | | | | D (#5) at 12" c-c | | Dowel F at 12" c-c | | H (#5) at 12" c-c | | T (#5) at 12" c-c | | U ~ 26 #5 at 15" c-c | | CONC (CY) | REINF (LB) | |
| (Ft) | Fw | Tw | Sw | Hw | Ft | Kw | T/SF | Lgth | Wt | Lgth | Wt | Lgth | Wt | Lgth | Wt | Lgth | Wt | Lgth | Wt | Lgth | Wt | Lgth | Wt | Size | No | Spa | Lgth | Wt | No | Wt | No | Wt | No | Wt | No | Wt | Lgth | Wt | | | (Ft) |
| 2 | 2'-8" | 1'-4" | 1'-0" | 4" | 1'-0" | 9" | 0.15 | | | | | | | | | | | | | | | | | #4 | 26 | 15" | 1'-10" | 32 | 4 | 131 | 4 | 32 | 2 | 66 | 2 | 66 | 3'-4" | 90 | 5.0 | 418 | 2 |
| 3 | 3'-6" | 1'-9" | 1'-0" | 9" | 1'-0" | 9" | 0.18 | | | | | | | | | | | | | | | | | #4 | 26 | 15" | 2'-3" | 39 | 6 | 197 | 5 | 40 | 2 | 66 | 3 | 99 | 5'-4" | 145 | 7.2 | 586 | 3 |
| 4 | 4'-3" | 2'-2" | 1'-0" | 1'-1" | 1'-0" | 9" | 0.21 | 4'-8" | 127 | | | | | | | | | | | | | 3'-6" | 95 | #4 | 26 | 15" | 2'-8" | 46 | 8 | 263 | 6 | 48 | 3 | 99 | 3 | 99 | 7'-4" | 199 | 9.3 | 976 | 4 |
| 5 | 5'-0" | 2'-6" | 1'-0" | 1'-6" | 1'-0" | 9" | 0.24 | 6'-0" | 163 | | | | | | | | | | | | | 4'-6" | 122 | #4 | 26 | 15" | 3'-0" | 52 | 10 | 329 | 7 | 56 | 3 | 99 | 3 | 99 | 8'-4" | 226 | 11.3 | 1146 | 5 |
| 6 | 5'-8" | 2'-10" | 1'-0" | 1'-10" | 1'-0" | 9" | 0.28 | 7'-4" | 199 | | | | | | | | | | | | | 5'-6" | 149 | #4 | 26 | 15" | 3'-4" | 58 | 12 | 394 | 8 | 64 | 3 | 99 | 4 | 131 | 8'-4" | 226 | 13.3 | 1321 | 6 |
| 7 | 6'-4" | 3'-2" | 1'-0" | 2'-2" | 1'-0" | 9" | 0.31 | 8'-8" | 235 | | | | | | | | | | | | | 6'-6" | 176 | #4 | 26 | 15" | 3'-8" | 64 | 14 | 460 | 9 | 72 | 3 | 99 | 4 | 131 | 8'-4" | 226 | 15.3 | 1463 | 7 |
| 8 | 7'-0" | 3'-6" | 1'-0" | 2'-6" | 1'-0" | 9" | 0.35 | 10'-0" | 271 | 4'-2" | 156 | | | | | | | | | | | 7'-6" | 203 | #4 | 38 | 10" | 4'-0" | 102 | 16 | 526 | 10 | 80 | 4 | 131 | 4 | 131 | 8'-4" | 226 | 17.3 | 1825 | 8 |
| 9 | 7'-9" | 3'-10" | 1'-0" | 2'-11" | 1'-0" | 9" | 0.38 | 11'-4" | 307 | 5'-4" | 200 | | | | | | | | | | | 8'-6" | 231 | #6 | 38 | 10" | 4'-4" | 247 | 18 | 591 | 11 | 88 | 4 | 131 | 5 | 164 | 8'-4" | 226 | 19.3 | 2185 | 9 |
| 10 | 8'-6" | 4'-3" | 1'-0" | 3'-3" | 1'-0" | 9" | 0.40 | 12'-9" | 346 | 6'-7" | 247 | | | | | | | | | | | 9'-6" | 258 | #6 | 38 | 10" | 4'-9" | 271 | 20 | 657 | 12 | 96 | 4 | 131 | 5 | 164 | 8'-4" | 226 | 21.4 | 2396 | 10 |
| 11 | 9'-2" | 4'-7" | 1'-0" | 3'-7" | 1'-0" | 9" | 0.43 | 14'-1" | 382 | 7'-8" | 288 | 6'-9" | 345 | | | | | | | | | 10'-6" | 285 | #7 | 38 | 10" | 5'-1" | 395 | 22 | 723 | 13 | 104 | 5 | 164 | 6 | 197 | 8'-4" | 226 | 23.4 | 3103 | 11 |
| 12 | 9'-10" | 4'-11" | 1'-0" | 3'-11" | 1'-0" | 1'-0" | 0.46 | 15'-5" | 418 | 8'-11" | 335 | 8'-1" | 413 | | | | | | | | | 11'-6" | 312 | #8 | 38 | 10" | 5'-5" | 550 | 24 | 789 | 14 | 112 | 5 | 164 | 6 | 197 | 8'-4" | 226 | 25.9 | 3515 | 12 |
| 13 | 10'-6" | 5'-3" | 1'-1 1/8" | 4'-1 7/8" | 1'-0" | 1'-0" | 0.50 | 16'-10" | 456 | 10'-1" | 379 | 9'-6" | 485 | | | | | | | | | 12'-6" | 339 | #9 | 38 | 10" | 5'-9" | 743 | 26 | 854 | 15 | 120 | 6 | 197 | 6 | 197 | 8'-4" | 226 | 27.9 | 3996 | 13 |
| 14 | 11'-2" | 5'-7" | 1'-2" | 4'-5" | 1'-3" | 1'-3" | 0.55 | 11'-3" | 307 | 11'-2" | 419 | 10'-11" | 558 | 8'-5" | 584 | | | | | | | 13'-6" | 366 | #9 | 38 | 10" | 6'-1" | 786 | 28 | 920 | 16 | 128 | 6 | 197 | 7 | 230 | 8'-4" | 226 | 33.7 | 4721 | 14 |
| 15 | 11'-10" | 5'-11" | 1'-3 1/8" | 4'-7 7/8" | 1'-3" | 1'-3" | 0.59 | 11'-3" | 307 | 12'-5" | 466 | 12'-4" | 630 | 9'-10" | 683 | | | | | | | 14'-6" | 393 | #9 | 38 | 10" | 6'-5" | 829 | 30 | 986 | 17 | 136 | 7 | 230 | 7 | 230 | 8'-4" | 226 | 36.1 | 5116 | 15 |
| 16 | 12'-6" | 6'-3" | 1'-4" | 4'-11" | 1'-6" | 1'-3" | 0.64 | 11'-3" | 307 | 13'-7" | 510 | 13'-9" | 703 | 11'-2" | 775 | | | | | | | 15'-6" | 420 | #9 | 38 | 10" | 6'-9" | 872 | 30 | 986 | 17 | 136 | 7 | 230 | 8 | 263 | 8'-4" | 226 | 41.9 | 5427 | 16 |
| 17 | 13'-3" | 6'-7" | 1'-5" | 5'-3" | 1'-6" | 1'-6" | 0.67 | 11'-3" | 307 | 14'-9" | 554 | 15'-2" | 775 | 12'-8" | 879 | | | | | | | 16'-6" | 447 | #9 | 38 | 10" | 7'-2" | 926 | 32 | 1051 | 18 | 144 | 7 | 230 | 8 | 263 | 8'-4" | 226 | 45.7 | 5802 | 17 |
| 18 | 13'-10" | 6'-11" | 1'-6 1/4" | 5'-4 3/4" | 1'-6" | 1'-6" | 0.71 | 11'-3" | 307 | 15'-11" | 598 | 16'-7" | 847 | 14'-1 | 978 | | | | | | | 17'-6" | 475 | #10 | 38 | 10" | 7'-5" | 1213 | 34 | 1117 | 19 | 152 | 8 | 263 | 8 | 263 | 8'-4" | 226 | 48.5 | 6439 | 18 |
| 19 | 14'-6" | 7'-3" | 1'-7" | 5'-8" | 1'-9" | 1'-6" | 0.76 | 11'-3" | 307 | 11'-2" | 419 | 18'-0" | 920 | 15'-5" | 1070 | 9'-7" | 815 | | | | | 18'-6" | 502 | #10 | 38 | 10" | 7'-9" | 1267 | 36 | 1183 | 20 | 160 | 8 | 263 | 9 | 296 | 8'-4" | 226 | 55.4 | 7428 | 19 |
| 20 | 15'-2" | 7'-7" | 1'-8 1/8" | 5'-10 7/8" | 1'-9" | 1'-6" | 0.80 | 11'-3" | 307 | 11'-2" | 419 | 19'-5" | 992 | 16'-11" | 1174 | 10'-11" | 928 | | | | | 19'-6" | 529 | #10 | 38 | 10" | 8'-1" | 1322 | 38 | 1248 | 21 | 168 | 8 | 263 | 9 | 296 | 8'-4" | 226 | 58.7 | 7872 | 20 |
| 21 | 16'-0" | 8'-0" | 1'-9 1/4" | 6'-2 3/4" | 1'-9" | 1'-6" | 0.81 | 11'-3" | 307 | 11'-2" | 419 | 20'-11" | 1069 | 18'-5" | 1278 | 12'-4" | 1048 | | | | | 20'-6" | 556 | #8 | 76 | 5" | 8'-6" | 1725 | 40 | 1314 | 22 | 176 | 9 | 296 | 10 | 329 | 8'-4" | 226 | 62.4 | 8743 | 21 |
| 22 | 16'-6" | 8'-3" | 1'-10 1/8" | 6'-4 7/8" | 2'-0" | 1'-6" | 0.88 | 11'-3" | 307 | 11'-2" | 419 | 22'-3" | 1137 | 19'-9" | 1371 | 13'-7" | 1155 | | | | | 21'-6" | 583 | #8 | 76 | 5" | 8'-9" | 1776 | 42 | 1380 | 23 | 184 | 9 | 296 | 10 | 329 | 8'-4" | 226 | 70.0 | 9163 | 22 |
| 23 | 17'-3" | 8'-7" | 1'-11 1/4" | 6'-8 3/4" | 2'-0" | 1'-6" | 0.91 | 11'-3" | 307 | 11'-2" | 419 | 12'-2" | 622 | 21'-2" | 1469 | 15'-0" | 1275 | 6'-1" | 808 | | | 22'-6" | 610 | #8 | 76 | 5" | 9'-2" | 1860 | 44 | 1446 | 24 | 192 | 9 | 296 | 10 | 329 | 8'-4" | 226 | 74.0 | 9859 | 23 |
| 24 | 18'-0" | 9'-0" | 2'-0 1/8" | 6'-11 7/8" | 2'-3" | 1'-6" | 0.95 | 11'-3" | 307 | 11'-2" | 419 | 12'-2" | 622 | 22'-8" | 1574 | 16'-4" | 1388 | 7'-1" | 941 | | | 23'-6" | 637 | #8 | 76 | 5" | 9'-6" | 1928 | 46 | 1511 | 25 | 200 | 10 | 329 | 11 | 361 | 8'-4" | 226 | 82.9 | 10443 | 24 |
| 25 | 18'-6" | 9'-4" | 2'-1 1/4" | 7'-0 3/4" | 2'-3" | 1'-6" | 0.99 | 11'-3" | 307 | 11'-2" | 419 | 12'-2" | 622 | 24'-1" | 1672 | 17'-8" | 1502 | 8'-1" | 1074 | | | 24'-6" | 664 | #9 | 76 | 5" | 9'-10" | 2541 | 48 | 1577 | 26 | 208 | 10 | 329 | 11 | 361 | 8'-4" | 226 | 86.6 | 11502 | 25 |
| 26 | 19'-3" | 9'-7" | 2'-2 3/8" | 7'-5 5/8" | 2'-3" | 1'-9" | 1.03 | 11'-3" | 307 | 11'-2" | 419 | 12'-2" | 622 | 25'-5" | 1764 | 19'-0" | 1615 | 9'-1" | 1206 | | | 25'-6" | 692 | #9 | 76 | 5" | 10'-1" | 2606 | 50 | 1643 | 27 | 217 | 10 | 329 | 12 | 394 | 8'-4" | 226 | 92.1 | 12040 | 26 |
| 27 | 20'-0" | 10'-0" | 2'-3 1/2" | 7'-8 1/2" | 2'-3" | 1'-9" | 1.05 | 11'-3" | 307 | 11'-2" | 419 | 12'-2" | 622 | 27'-0" | 1874 | 20'-5" | 1735 | 10'-1" | 1339 | | | 26'-6" | 719 | #9 | 76 | 5" | 10'-5" | 2692 | 52 | 1708 | 28 | 225 | 11 | 361 | 12 | 394 | 8'-4" | 226 | 96.8 | 12621 | 27 |
| 28 | 20'-6" | 10'-4" | 2'-4 5/8" | 7'-9 3/8" | 2'-3" | 1'-9" | 1.09 | 11'-3" | 307 | 11'-2" | 419 | 12'-2" | 622 | 14'-4" | 995 | 21'-9" | 1849 | 11'-1" | 1472 | 17'-0" | 2348 | 27'-6" | 746 | #10 | 76 | 5" | 10'-9" | 3516 | 54 | 1774 | 29 | 233 | 11 | 361 | 12 | 394 | 8'-4" | 226 | 100.9 | 15261 | 28 |
| 29 | 21'-3" | 10'-7" | 2'-5 3/4" | 8'-2 1/4" | 2'-3" | 1'-9" | 1.12 | 11'-3" | 307 | 11'-2" | 419 | 12'-2" | 622 | 14'-4" | 995 | 23'-0" | 1955 | 12'-1" | 1605 | 18'-4" | 2533 | 28'-6" | 773 | #10 | 76 | 5" | 11'-2" | 3652 | 56 | 1840 | 30 | 241 | 11 | 361 | 13 | 427 | 8'-4" | 226 | 105.8 | 15955 | 29 |
| 30 | 22'-0" | 11'-0" | 2'-6 1/2" | 8'-5 1/2" | 2'-6" | 1'-9" | 1.16 | 11'-3" | 307 | 11'-2" | 419 | 12'-2" | 622 | 14'-4" | 995 | 24'-5" | 2075 | 13'-1" | 1738 | 19'-10" | 2740 | 29'-6" | 800 | #10 | 76 | 5" | 11'-6" | 3761 | 56 | 1840 | 30 | 241 | 12 | 394 | 13 | 427 | 8'-4" | 226 | 116.5 | 16584 | 30 |

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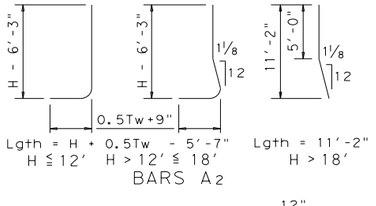


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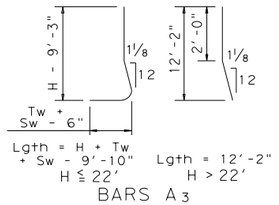


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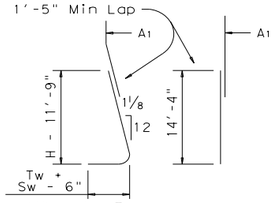


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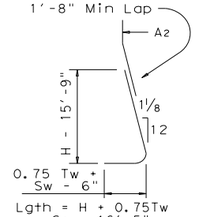


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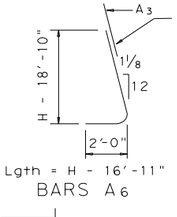


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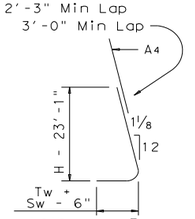


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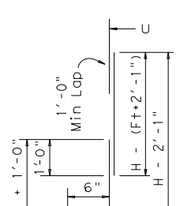
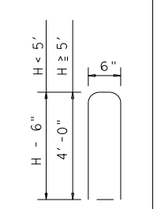
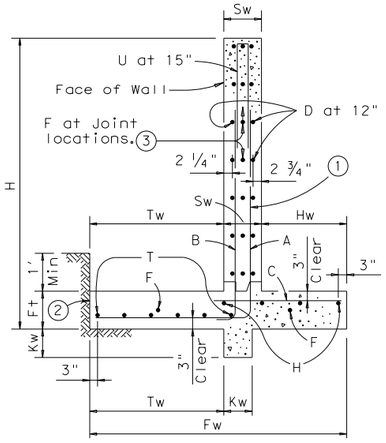



BARS B

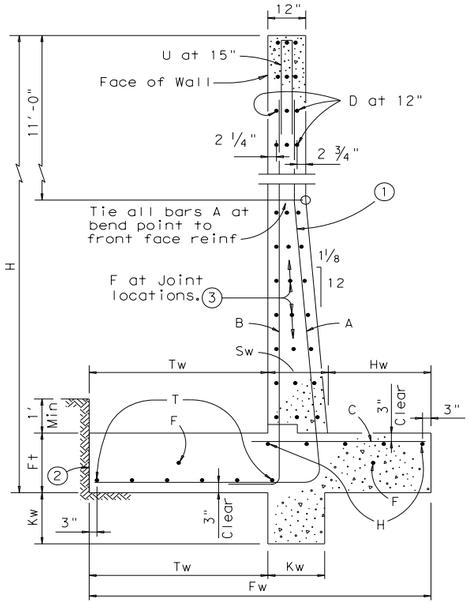



BARS U

1. Place vertical bars inside of horizontal bars (Typ both faces).
2. Place footing toe against undisturbed soil.
3. See standard RW 2 for size.



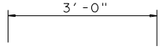

H ≤ 12'



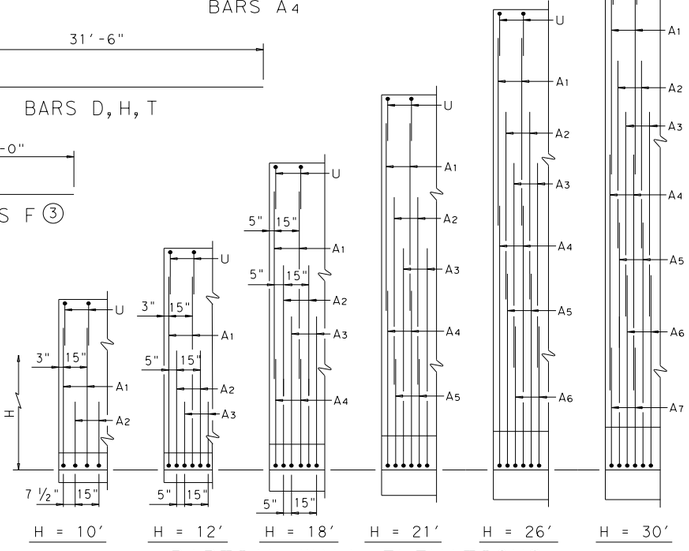

H > 12'

SECTIONS


BARS D, H, T




BARS F ③




PARTIAL WALL ELEVATIONS
(Showing vertical reinforcing pattern in back face)

GENERAL NOTES:
All concrete to be Class "C".
All reinforcing steel to be Grade 60.
For notes and details not shown on this sheet see sheet RW2.
Quantities are based on "H" being average height of panel.
Retaining Walls are designed to be coded as follows on Retaining Wall Layout Sheets.

HC - 21 - 28
LA - 28 - 32
- Panel Length ~ 32' is standard; 28' requires special quantities
- Average Height "H" of panel
- Design - A = no surcharge or slope above wall; B = slopes up to 4:1; C = traffic surcharge and/or slopes up to 2.5:1
- Footing pressure design ~ L = low, H = high

Texas Department of Transportation

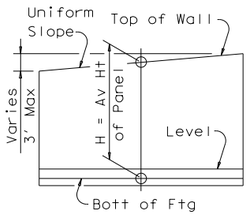
Bridge Division Standard

# RETAINING WALLS

## RW 1(L)B

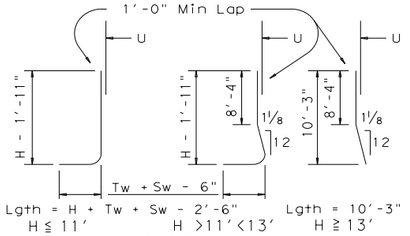
| FILE: rwstde06.dgn | DN: TxDOT | CK: TxDOT | DW: GHO | CK: MPM |
|---|---|---|---|---|
| ©TxDOT March 2010 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 519 |

DATE: 4/10/2019 10:12:41 AM
FILE: P:\11\35\08\Design\Civil\Standards\Roadway\rwstde07.dgn

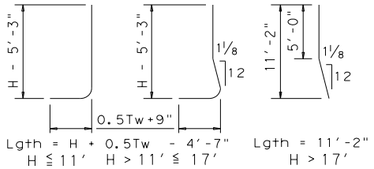



H DEFINITION

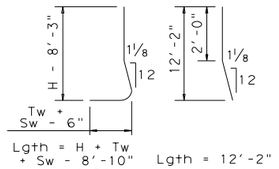
| Wall Height "H" | PROPERTIES | | | | | | | REINFORCING STEEL FOR ONE 32' PANEL (DESIGN C) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | QUANTITY FOR ONE 32' PANEL | | Wall Height "H" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | WALL DIMENSIONS | | | | | | Max Soil Press | A1 ~ 26 #5 at 15" c-c | | A2 ~ 25 #6 at 15" c-c | | A3 ~ 25 #7 at 15" c-c | | A4 ~ 26 #8 at 15" c-c | | A5 ~ 25 #9 at 15" c-c | | A6 ~ 25 #11 at 15" c-c | | A7 ~ 26 #11 at 15" c-c | | B ~ 26 #5 at 15" c-c | | C | | | | | D (#5) at 12" c-c | | Dowel F at 12" c-c | | H (#5) at 12" c-c | | T (#5) at 12" c-c | | U ~ 26 #5 at 15" c-c | | CONC (CY) | REINF (LB) | |
| (Ft) | Fw | Tw | Sw | Hw | Ft | Kw | T/SF | Lgth | Wt | Lgth | Wt | Lgth | Wt | Lgth | Wt | Lgth | Wt | Lgth | Wt | Lgth | Wt | Lgth | Wt | Size | No | Spa | Lgth | Wt | No | Wt | No | Wt | No | Wt | No | Wt | Lgth | Wt | | | (Ft) |
| 2 | 3'-6" | 1'-9" | 1'-0" | 9" | 1'-0" | 9" | 0.14 | | | | | | | | | | | | | | | | | #4 | 26 | 15" | 2'-3" | 39 | 4 | 131 | 4 | 32 | 2 | 66 | 3 | 99 | 3'-4" | 90 | 6.0 | 458 | 2 |
| 3 | 4'-3" | 2'-2" | 1'-0" | 1'-1" | 1'-0" | 9" | 0.17 | | | | | | | | | | | | | | | | | #4 | 26 | 15" | 2'-8" | 46 | 6 | 197 | 5 | 40 | 3 | 99 | 3 | 99 | 5'-4" | 145 | 8.1 | 626 | 3 |
| 4 | 5'-0" | 2'-6" | 1'-0" | 1'-6" | 1'-0" | 9" | 0.20 | 5'-0" | 136 | | | | | | | | | | | | | 3'-6" | 95 | #4 | 26 | 15" | 3'-0" | 52 | 8 | 263 | 6 | 48 | 3 | 99 | 3 | 99 | 7'-4" | 199 | 10.1 | 991 | 4 |
| 5 | 5'-8" | 2'-10" | 1'-0" | 1'-10" | 1'-0" | 9" | 0.24 | 6'-4" | 172 | | | | | | | | | | | | | 4'-6" | 122 | #4 | 26 | 15" | 3'-4" | 58 | 10 | 329 | 7 | 56 | 3 | 99 | 4 | 131 | 8'-4" | 226 | 12.1 | 1193 | 5 |
| 6 | 6'-4" | 3'-2" | 1'-0" | 2'-2" | 1'-0" | 9" | 0.28 | 7'-8" | 208 | | | | | | | | | | | | | 5'-6" | 149 | #4 | 26 | 15" | 3'-8" | 64 | 12 | 394 | 8 | 64 | 3 | 99 | 4 | 131 | 8'-4" | 226 | 14.1 | 1336 | 6 |
| 7 | 7'-0" | 3'-6" | 1'-0" | 2'-6" | 1'-0" | 9" | 0.32 | 9'-0" | 244 | 4'-2" | 156 | | | | | | | | | | | 6'-6" | 176 | #4 | 38 | 10" | 4'-0" | 102 | 14 | 460 | 9 | 72 | 4 | 131 | 4 | 131 | 8'-4" | 226 | 16.1 | 1698 | 7 |
| 8 | 7'-9" | 3'-10" | 1'-0" | 2'-11" | 1'-0" | 9" | 0.35 | 10'-4" | 280 | 5'-4" | 200 | | | | | | | | | | | 7'-6" | 203 | #6 | 38 | 10" | 4'-4" | 247 | 16 | 526 | 10 | 80 | 4 | 131 | 5 | 164 | 8'-4" | 226 | 18.1 | 2056 | 8 |
| 9 | 8'-6" | 4'-3" | 1'-0" | 3'-3" | 1'-0" | 9" | 0.37 | 11'-9" | 319 | 6'-7" | 247 | | | | | | | | | | | 8'-6" | 231 | #6 | 38 | 10" | 4'-9" | 271 | 18 | 591 | 11 | 88 | 4 | 131 | 5 | 164 | 8'-4" | 226 | 20.2 | 2268 | 9 |
| 10 | 9'-2" | 4'-7" | 1'-0" | 3'-7" | 1'-0" | 9" | 0.41 | 13'-1" | 355 | 7'-8" | 288 | 6'-9" | 345 | | | | | | | | | 9'-6" | 258 | #7 | 38 | 10" | 5'-1" | 395 | 20 | 657 | 12 | 96 | 5 | 164 | 6 | 197 | 8'-4" | 226 | 22.2 | 2981 | 10 |
| 11 | 9'-10" | 4'-11" | 1'-0" | 3'-11" | 1'-0" | 1'-0" | 0.44 | 14'-5" | 391 | 8'-11" | 335 | 8'-1" | 413 | | | | | | | | | 10'-6" | 285 | #8 | 38 | 10" | 5'-5" | 550 | 22 | 723 | 13 | 104 | 5 | 164 | 6 | 197 | 8'-4" | 226 | 24.7 | 3382 | 11 |
| 12 | 10'-6" | 5'-3" | 1'-1 1/8" | 4'-1 7/8" | 1'-0" | 1'-0" | 0.45 | 15'-10" | 429 | 10'-1" | 379 | 9'-6" | 485 | | | | | | | | | 11'-6" | 312 | #9 | 38 | 10" | 5'-9" | 743 | 24 | 789 | 14 | 112 | 6 | 197 | 6 | 197 | 8'-4" | 226 | 26.7 | 3868 | 12 |
| 13 | 11'-2" | 5'-7" | 1'-2" | 4'-5" | 1'-3" | 1'-3" | 0.54 | 10'-3" | 278 | 11'-2" | 419 | 10'-11" | 558 | 8'-5" | 584 | | | | | | | 12'-6" | 339 | #9 | 38 | 10" | 6'-1" | 786 | 26 | 854 | 15 | 120 | 6 | 197 | 7 | 230 | 8'-4" | 226 | 32.5 | 4591 | 13 |
| 14 | 11'-10" | 5'-11" | 1'-3 1/8" | 4'-7 7/8" | 1'-3" | 1'-3" | 0.57 | 10'-3" | 278 | 12'-5" | 466 | 12'-4" | 630 | 9'-10" | 683 | | | | | | | 13'-6" | 366 | #9 | 38 | 10" | 6'-5" | 829 | 28 | 920 | 16 | 128 | 7 | 230 | 7 | 230 | 8'-4" | 226 | 34.9 | 4986 | 14 |
| 15 | 12'-6" | 6'-3" | 1'-4" | 4'-11" | 1'-6" | 1'-3" | 0.63 | 10'-3" | 278 | 13'-7" | 510 | 13'-9" | 703 | 11'-2" | 775 | | | | | | | 14'-6" | 393 | #9 | 38 | 10" | 6'-9" | 872 | 28 | 920 | 16 | 128 | 7 | 230 | 8 | 263 | 8'-4" | 226 | 40.8 | 5298 | 15 |
| 16 | 13'-3" | 6'-7" | 1'-5" | 5'-3" | 1'-6" | 1'-6" | 0.66 | 10'-3" | 278 | 14'-9" | 554 | 15'-2" | 775 | 12'-8" | 879 | | | | | | | 15'-6" | 420 | #9 | 38 | 10" | 7'-2" | 926 | 30 | 986 | 17 | 136 | 7 | 230 | 8 | 263 | 8'-4" | 226 | 44.5 | 5672 | 16 |
| 17 | 13'-10" | 6'-11" | 1'-6 1/4" | 5'-4 3/4" | 1'-6" | 1'-6" | 0.70 | 10'-3" | 278 | 15'-11" | 598 | 16'-7" | 847 | 14'-1 | 978 | | | | | | | 16'-6" | 447 | #10 | 38 | 10" | 7'-5" | 1213 | 32 | 1051 | 18 | 144 | 8 | 263 | 8 | 263 | 8'-4" | 226 | 47.3 | 6308 | 17 |
| 18 | 14'-6" | 7'-3" | 1'-7" | 5'-8" | 1'-9" | 1'-6" | 0.76 | 10'-3" | 278 | 11'-2" | 419 | 18'-0" | 920 | 15'-5" | 1070 | 9'-7" | 815 | | | | | 17'-6" | 475 | #10 | 38 | 10" | 7'-9" | 1267 | 34 | 1117 | 19 | 152 | 8 | 263 | 9 | 296 | 8'-4" | 226 | 54.2 | 7298 | 18 |
| 19 | 15'-2" | 7'-7" | 1'-8 1/8" | 5'-10 7/8" | 1'-9" | 1'-6" | 0.79 | 10'-3" | 278 | 11'-2" | 419 | 19'-5" | 992 | 16'-11" | 1174 | 10'-11" | 928 | | | | | 18'-6" | 502 | #10 | 38 | 10" | 8'-1" | 1322 | 36 | 1183 | 20 | 160 | 8 | 263 | 9 | 296 | 8'-4" | 226 | 57.5 | 7743 | 19 |
| 20 | 16'-0" | 8'-0" | 1'-9 1/4" | 6'-2 3/4" | 1'-9" | 1'-6" | 0.80 | 10'-3" | 278 | 11'-2" | 419 | 20'-11" | 1069 | 18'-5" | 1278 | 12'-4" | 1048 | | | | | 19'-6" | 529 | #8 | 76 | 5" | 8'-6" | 1725 | 38 | 1248 | 21 | 168 | 9 | 296 | 10 | 329 | 8'-4" | 226 | 61.3 | 8613 | 20 |
| 21 | 16'-6" | 8'-3" | 1'-10 1/8" | 6'-4 7/8" | 2'-0" | 1'-6" | 0.88 | 10'-3" | 278 | 11'-2" | 419 | 22'-3" | 1137 | 19'-9" | 1371 | 13'-7" | 1155 | | | | | 20'-6" | 556 | #8 | 76 | 5" | 8'-9" | 1776 | 40 | 1314 | 22 | 176 | 9 | 296 | 10 | 329 | 8'-4" | 226 | 68.8 | 9033 | 21 |
| 22 | 17'-3" | 8'-7" | 1'-11 1/4" | 6'-8 3/4" | 2'-0" | 1'-6" | 0.91 | 10'-3" | 278 | 11'-2" | 419 | 12'-2" | 622 | 21'-2" | 1469 | 15'-0" | 1275 | 6'-1" | 808 | | | 21'-6" | 583 | #8 | 76 | 5" | 9'-2" | 1860 | 42 | 1380 | 23 | 184 | 9 | 296 | 10 | 329 | 8'-4" | 226 | 72.8 | 9729 | 22 |
| 23 | 18'-0" | 9'-0" | 2'-0 1/8" | 6'-11 7/8" | 2'-3" | 1'-6" | 0.95 | 10'-3" | 278 | 11'-2" | 419 | 12'-2" | 622 | 22'-8" | 1574 | 16'-4" | 1388 | 7'-1" | 941 | | | 22'-6" | 610 | #8 | 76 | 5" | 9'-6" | 1928 | 44 | 1446 | 24 | 192 | 10 | 329 | 11 | 361 | 8'-4" | 226 | 81.7 | 10314 | 23 |
| 24 | 18'-6" | 9'-4" | 2'-1 1/4" | 7'-0 3/4" | 2'-3" | 1'-6" | 0.99 | 10'-3" | 278 | 11'-2" | 419 | 12'-2" | 622 | 24'-1" | 1672 | 17'-8" | 1502 | 8'-1" | 1074 | | | 23'-6" | 637 | #9 | 76 | 5" | 9'-10" | 2541 | 46 | 1511 | 25 | 200 | 10 | 329 | 11 | 361 | 8'-4" | 226 | 85.4 | 11372 | 24 |
| 25 | 19'-3" | 9'-7" | 2'-2 3/8" | 7'-5 5/8" | 2'-3" | 1'-9" | 1.03 | 10'-3" | 278 | 11'-2" | 419 | 12'-2" | 622 | 25'-5" | 1764 | 19'-0" | 1615 | 9'-1" | 1206 | | | 24'-6" | 664 | #9 | 76 | 5" | 10'-1" | 2606 | 48 | 1577 | 26 | 208 | 10 | 329 | 12 | 394 | 8'-4" | 226 | 91.0 | 11909 | 25 |
| 26 | 20'-0" | 10'-0" | 2'-3 1/2" | 7'-8 1/2" | 2'-3" | 1'-9" | 1.05 | 10'-3" | 278 | 11'-2" | 419 | 12'-2" | 622 | 27'-0" | 1874 | 20'-5" | 1735 | 10'-1" | 1339 | | | 25'-6" | 692 | #9 | 76 | 5" | 10'-5" | 2692 | 50 | 1643 | 27 | 217 | 11 | 361 | 12 | 394 | 8'-4" | 226 | 95.6 | 12491 | 26 |
| 27 | 20'-6" | 10'-4" | 2'-4 5/8" | 7'-9 3/8" | 2'-3" | 1'-9" | 1.09 | 10'-3" | 278 | 11'-2" | 419 | 12'-2" | 622 | 14'-4" | 995 | 21'-9" | 1849 | 11'-1" | 1472 | 17'-0" | 2348 | 26'-6" | 719 | #10 | 76 | 5" | 10'-9" | 3516 | 52 | 1708 | 28 | 225 | 11 | 361 | 12 | 394 | 8'-4" | 226 | 99.7 | 15132 | 27 |
| 28 | 21'-3" | 10'-7" | 2'-5 3/4" | 8'-2 1/4" | 2'-3" | 1'-9" | 1.13 | 10'-3" | 278 | 11'-2" | 419 | 12'-2" | 622 | 14'-4" | 995 | 23'-0" | 1955 | 12'-1" | 1605 | 18'-4" | 2533 | 27'-6" | 746 | #10 | 76 | 5" | 11'-2" | 3652 | 54 | 1774 | 29 | 233 | 11 | 361 | 13 | 427 | 8'-4" | 226 | 104.6 | 15825 | 28 |
| 29 | 22'-0" | 11'-0" | 2'-6 1/2" | 8'-5 1/2" | 2'-6" | 1'-9" | 1.17 | 10'-3" | 278 | 11'-2" | 419 | 12'-2" | 622 | 14'-4" | 995 | 24'-5" | 2075 | 13'-1" | 1738 | 19'-10" | 2740 | 28'-6" | 773 | #10 | 76 | 5" | 11'-6" | 3761 | 54 | 1774 | 29 | 233 | 12 | 394 | 13 | 427 | 8'-4" | 226 | 115.3 | 16454 | 29 |



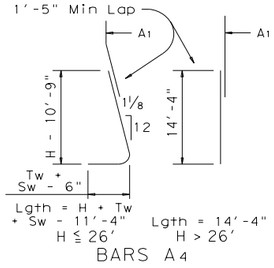

BARS A1



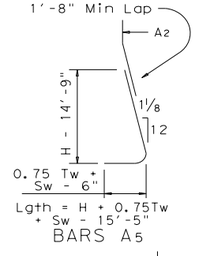

BARS A2



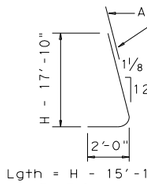

BARS A3



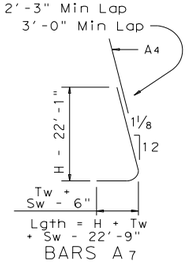

BARS A4



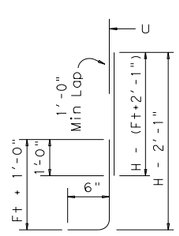

BARS A5



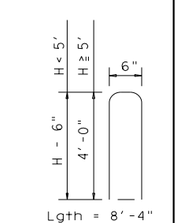

BARS A6




BARS A7

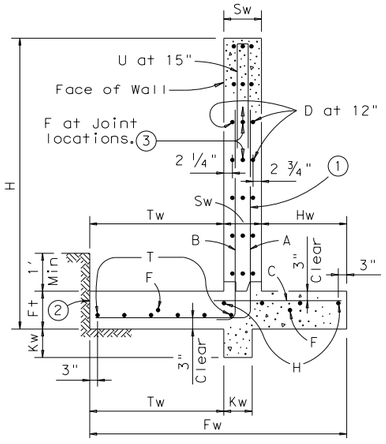



BARS B

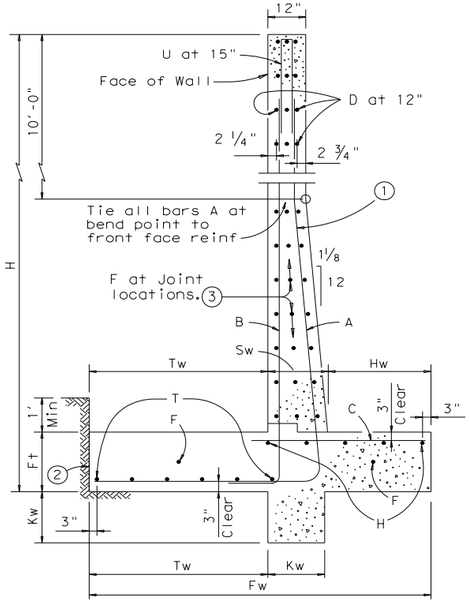



BARS U

1. Place vertical bars inside of horizontal bars (Typ both faces).
2. Place footing toe against undisturbed soil.
3. See standard RW 2 for size.



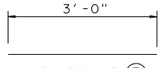

H ≤ 11'



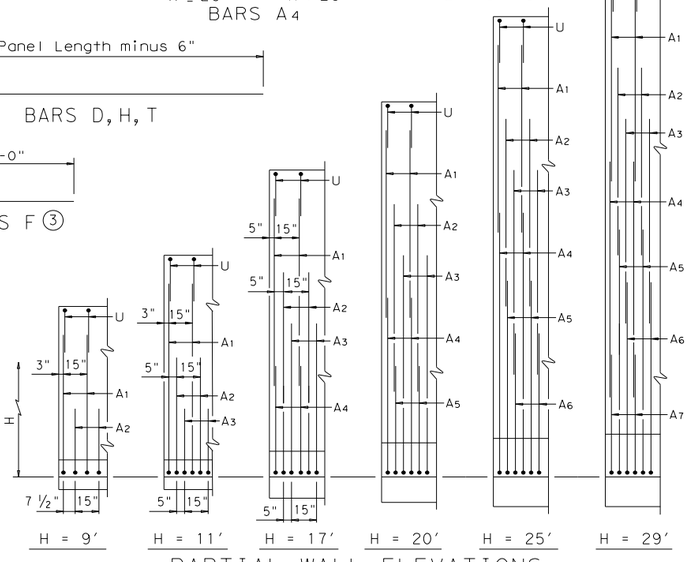

H > 11'

SECTIONS


BARS D, H, T




BARS F ③




PARTIAL WALL ELEVATIONS
(Showing vertical reinforcing pattern in back face)

GENERAL NOTES:
All concrete to be Class "C".
All reinforcing steel to be Grade 60.
For notes and details not shown on this sheet see sheet RW2.
Quantities are based on "H" being average height of panel.
Retaining Walls are designed to be coded as follows on Retaining Wall Layout Sheets.

HC - 21 - 28
LA - 28 - 32
- Panel Length ~ 32' is standard; 28' requires special quantities
- Average Height "H" of panel
- Design - A = no surcharge or slope above wall; B = slopes up to 4:1; C = traffic surcharge and/or slopes up to 2.5:1
- Footing pressure design ~ L = low, H = high

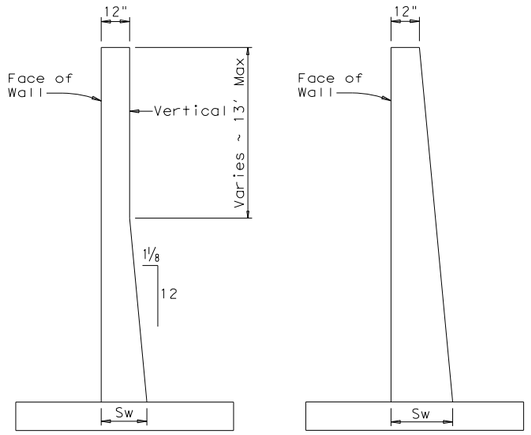
Texas Department of Transportation

Bridge Division Standard

# RETAINING WALLS

## RW 1(L)C

| FILE: rwstde07.dgn | DN: TxDOT | CK: TxDOT | DW: GHO | CK: MPM |
|---|---|---|---|---|
| ©TxDOT March 2010 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 520 |

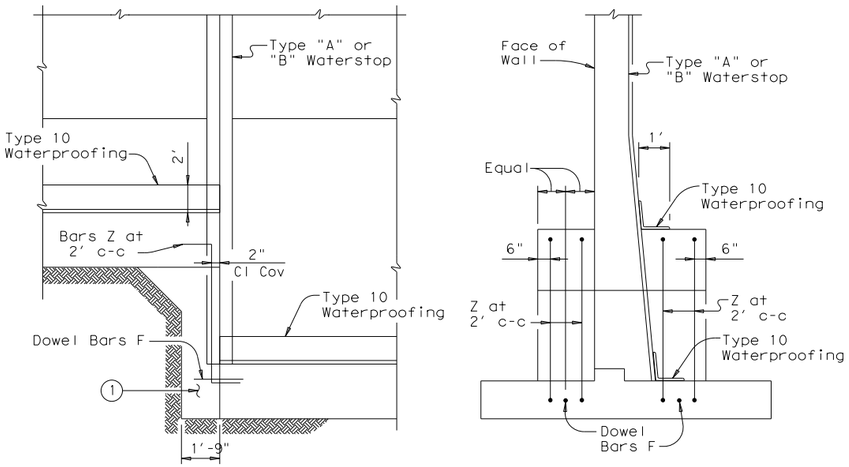



AS DETAILED
ALL HEIGHTS
(Basis for payment)

FRONT FACE VERTICAL
BACK FACE SLOPED

## ALTERNATE STEM SLOPE DETAILS

Walls with slopes other than those shown may be used after approval by the Engineer. Sw shall not be less than shown in Table on Sheet 1. No payment will be made for excess concrete due to changing of slope of wall stem.

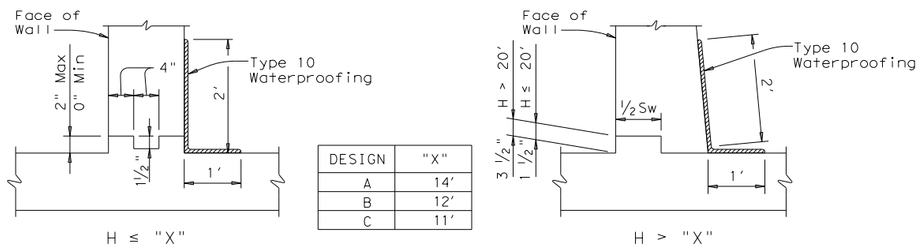



PARTIAL ELEVATION

PARTIAL SECTION

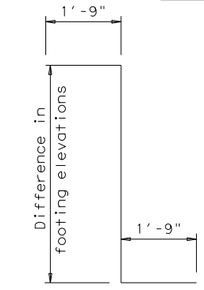
## SHOWING WATERSTOP AT FOOTING JOINT

(1) Unreinforced Class "C" Concrete when difference in top of footing elevations is less than 6'. Omit when Dowel Bars F can be placed between adjacent footings with 4" cover top and bottom.



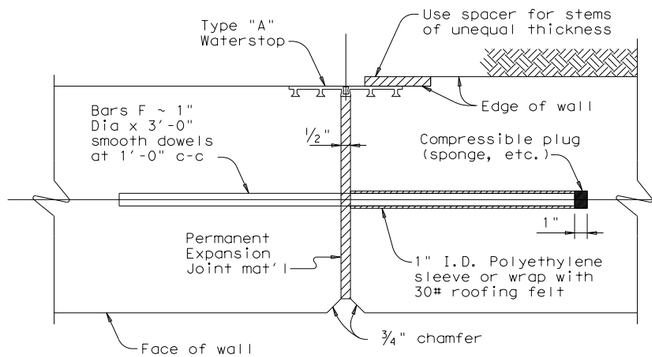

| DESIGN | "X" |
|---|---|
| A | 14' |
| B | 12' |
| C | 11' |

## JOINT AND WATERSTOP DETAILS

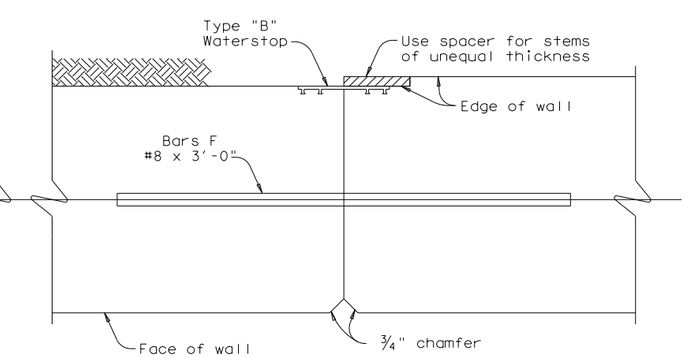



BARS Z (#5)

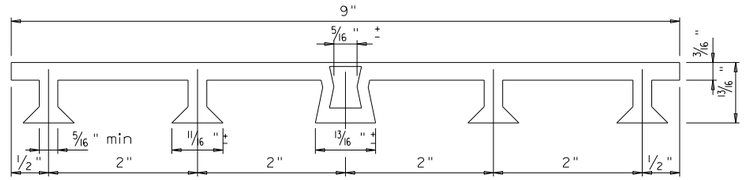
Omit Bars Z when difference in top of footing elevations is less than 6'.



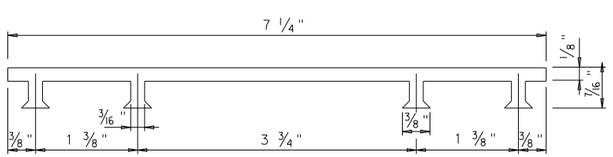

## EXPANSION JOINT




## CONSTRUCTION JOINT



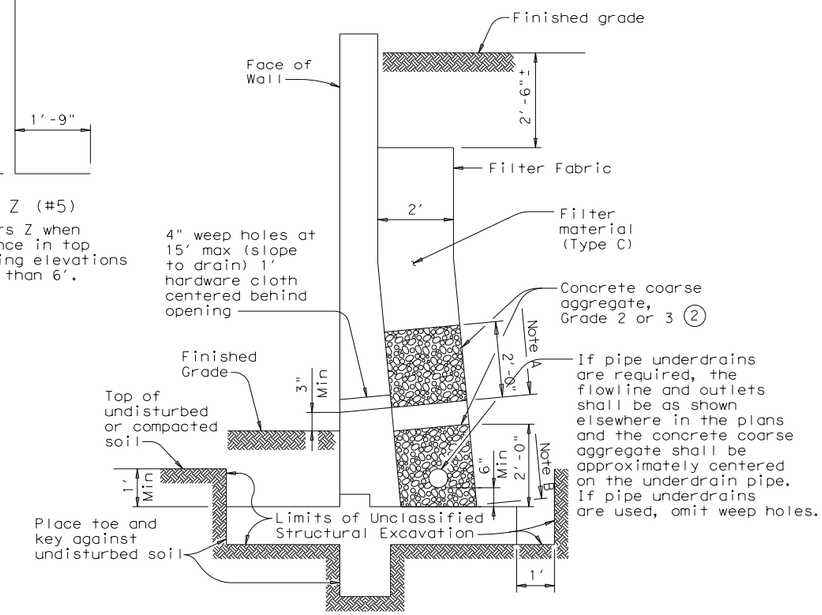

## PVC WATERSTOP TYPE "A"




## PVC WATERSTOP TYPE "B"

Note: Dimensions and shapes may vary slightly depending on manufacturer.

(2) Crushed blast furnace slag, recycled crushed hydraulic cement concrete or combination there of may not be used.




## DRAINAGE DETAILS AND EXCAVATION DIAGRAM

Note A: Stop coarse aggregate at this level when weep holes are used.

Note B: Use coarse aggregate to here with filter material above when underdrains are used.

GENERAL NOTES:

Walls are designed assuming unit weight of soil = 120 pcf, and coefficient of horizontal earth pressure = 0.33.

Walls are designed to provide a minimum factor of safety against sliding of 1.5. The undisturbed or compacted soil depth in front of walls, from bottom of Key up, shall not be less than Kw + Ft + 1'.

Retaining walls are detailed to be placed on grades up thru 10% with footing level, with no changes in reinforcing steel. Steeper grades can be accommodated by shortening Bars A1 and B and increasing length of legs of Bars U by the same amount. No change in Quantities will be involved

Retaining walls may be placed on Horizontal Curves by adjusting lengths of footing Bars T and H. Minor revisions of Concrete Quantities may be required.

Designed in accordance with current AASHTO Standard and Interim Specifications.

All concrete to be Class "C".

All reinforcing steel to be Grade 60.

Texas Department of Transportation

Bridge Division Standard

# RETAINING WALL MISCELLANEOUS DETAILS

RW 2

| FILE: rwstde11.dgn | DN: TxDOT | CK: TxDOT | DW: JGD | CK: MJG |
|---|---|---|---|---|
| ©TxDOT March 2010 | CONT | SECT | JOB | HIGHWAY |
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| 04-11: Added Note 2. | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 521 |

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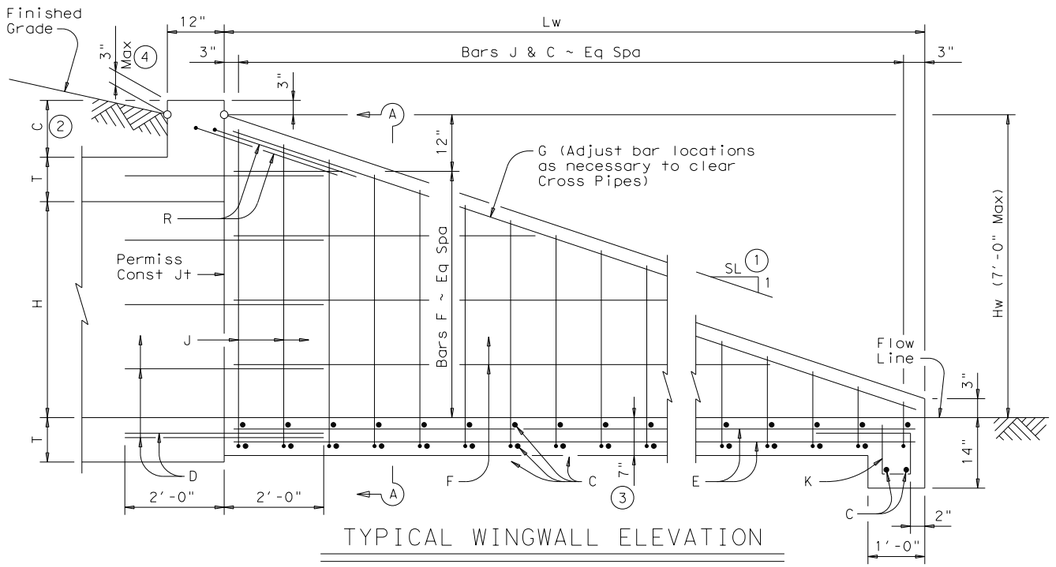
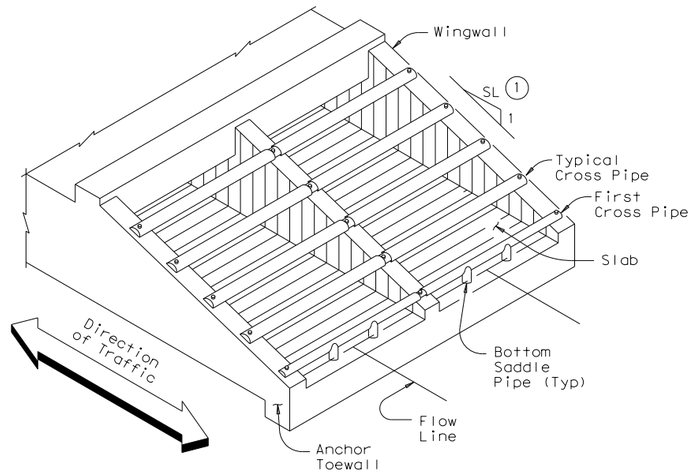



## TYPICAL WINGWALL ELEVATION

(Cross Pipes not shown for clarity)




## ISOMETRIC VIEW OF TYPICAL INSTALLATION

(Showing Bolted Anchor Option)

Formulas: (All values are in Feet)

Hw = H + T + C - 0.250'

Lw = (Hw - 0.250') (SL)

For Cast-in-place culverts:

Atw = (N) (S) + (N + 1) (U)

For Precast culverts:

Atw = (N) (2U + S) + (N - 1) (0.500')

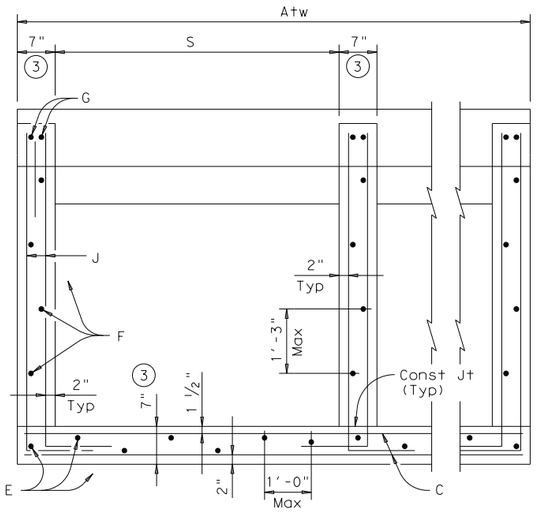
Total Wingwall Area (S.F.)
= (0.5) (Hw + 0.250') (Lw) (N + 1)

Total Concrete Volume (C.Y.)
= [(Wingwall Area) (0.583') +
(Lw) (Atw) (0.583') +
(Atw) (1.000') (1.167' - 0.583')] ÷ (27)

Total Reinforcing (Lbs)
= (1.55) (Lw) (Atw) +
(4.43) (Atw) +
(K) (Hw) (N + 1) ($\sqrt{Lw}$)

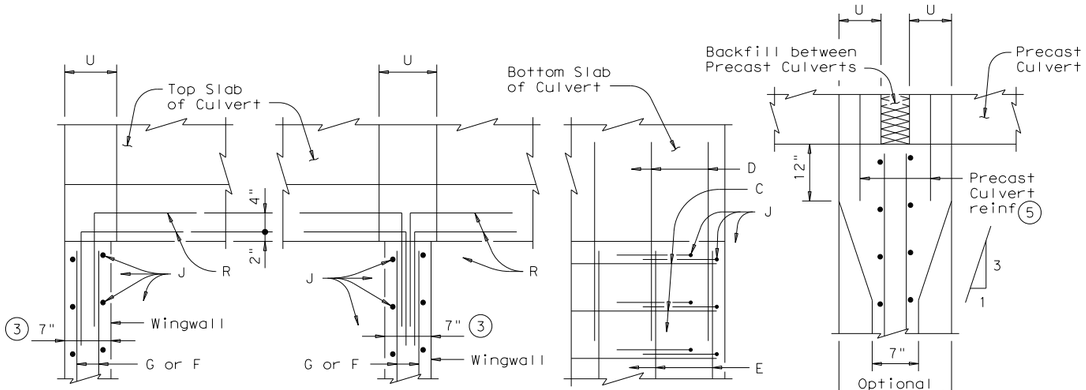
C = Height of Curb above top of Top Slab
Hw = Height of Wingwall
K = Constant Value for use in formulas
Slope SL:1 K
6:1 ~ 10.41
Atw = Anchor Toewall Length
Lw = Length of Wingwall
N = Number of Culvert Barrels
S = Clear Span of each Barrel
SL:1 = Side Slope Ratio (Horizontal : 1 Vertical)

See applicable box culvert standard for H, S, T, and U values.




## SECTION A-A

(Showing typical Wingwall and Wing Slab reinforcing)
(Pipe Runners not shown for clarity)



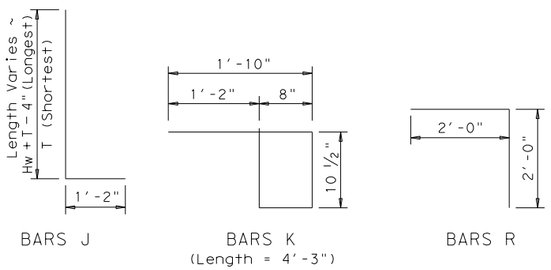

AT TOP OF EXTERIOR WINGWALL (Cast-in-Place Culvert)

AT TOP OF INTERIOR WINGWALL (Cast-in-Place Culvert)

AT OUTSIDE OF BOTTOM SLAB (Cast-in-Place Culvert)

AT INTERIOR WINGWALL (Precast Culvert)

## PLAN VIEWS OF CORNER DETAILS




BARS J BARS K (Length = 4'-3") BARS R

| TABLE OF REINFORCING BAR SIZES & SPACING | | |
|---|---|---|
| Bar | Size | Spacing |
| C | #4 | 10" Max |
| D | #4 | match F & E |
| E | #4 | 1'- 0" Max |
| F | #4 | 1'- 3" Max |
| G | #6 | Shown |
| J | #4 | 10" Max |
| K | #4 | 1'- 0" Max |
| R | #4 | Shown |
| | | |

1. Slope will be 6:1 or flatter.
2. 0" min to 5'-0" max. Estimated curb heights are shown elsewhere in the plans. For structures without railing and curbs taller than 1'-0", refer to ECD standard.
3. Wingwall and slab thicknesses may be the same as the adjacent culvert wall and slab thicknesses (7" Minimum). If thicknesses greater than the minimum (7") are used, no changes will be made in quantities and no additional compensation will be allowed.
4. For vehicle safety, curbs shall project no more than 3" above finished grade. Curb heights shall be reduced, if necessary, to meet these requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
5. For Culverts with C = 0", the precast culvert reinforcing may extend 1'-0" minimum into Wingwall. Wingwall Bars D and R may be omitted. Otherwise, refer to the "Wingwall Connection Detail" on the SCP-MD standard.

GENERAL NOTES:

Designed according to AASHTO LRFD Specifications.

The Safety End Treatments shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the Cross Pipes.

Cross Pipes are designed for a traversing load of 10,000 pounds at yield as recommended by Research Report 280-2F, "Safety Treatment of Roadside Parallel-Drainage Structures", Texas Transportation Institute, March 1981.

All concrete shall be Class "C" and shall have a minimum compressive strength of 3600 psi.

All reinforcing steel shall be Grade 60. All reinforcing shall be adjusted as necessary to provide a minimum clear cover of 1 1/4".

The quantities for concrete, reinforcing steel, and Cross Pipes resulting from the formulas given herein are for Contractor's information only.

Cross Pipes, Sleeve Pipes, and Saddle Pipes shall conform to the requirements of ASTM A53 (Type E or S, Grade B), ASTM A500 (Grade B), or API 5LX52.

Bolts and nuts shall conform to ASTM A307.

All steel components, except the concrete reinforcing, shall be galvanized after fabrication. Galvanizing damaged during transport or construction shall be repaired in accordance with the specifications.

See BCS standard sheet for additional dimensions and information.

Alternate design drawings bearing the seal of a professional engineer will be acceptable for precast construction of the Safety End Treatments.



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SHEET 1 OF 2

Texas Department of Transportation

Bridge Division Standard

# SAFETY END TREATMENT

FOR BOX CULVERTS
(MAXIMUM Hw = 7'-0")
TYPE I ~ PARALLEL DRAINAGE

## SETB-PD

| FILE: setbpdse.dgn | DN: GAF | CK: CAT | DW: JRP | CK: GAF |
|---|---|---|---|---|
| ©TxDOT February 2010 | CONT | SECT | JOB | HIGHWAY |
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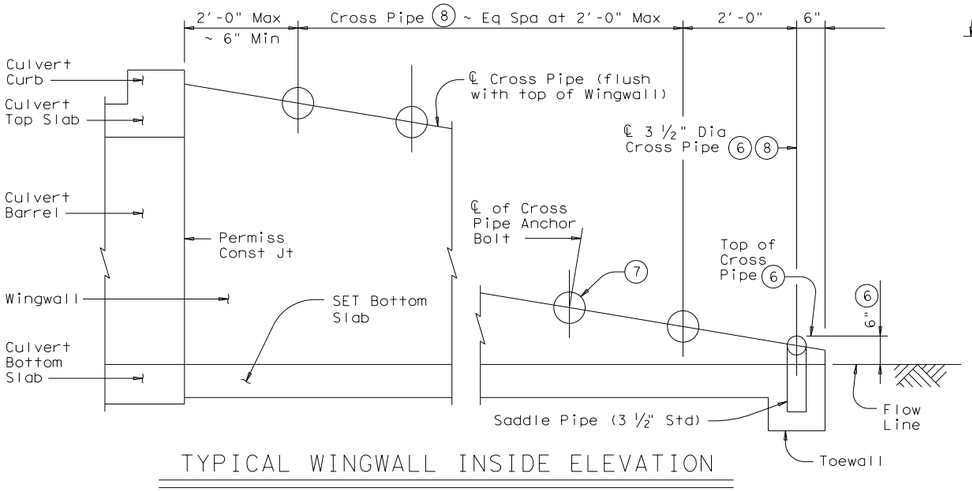
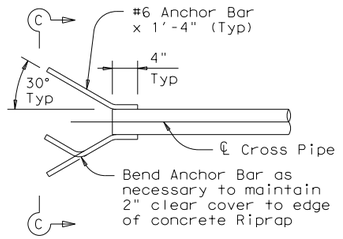
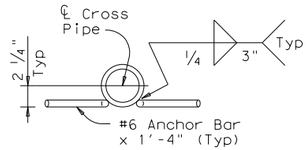



## TYPICAL WINGWALL INSIDE ELEVATION

(Showing installation of Cross Pipes)




PART PLAN




SECTION C-C

## OPTIONAL ANCHOR BAR DETAILS

| REQUIRED PIPE SIZES (8) | | |
|---|---|---|
| Culvert Span Sizes | Cross Pipe Size | Sleeve Pipe Size (9) |
| First Pipe | 3 ½" STD | 2 ½" STD |
| 30" to 42" | 4" STD | 3" STD |
| 48" to 72" | 5" STD | 4" STD |
| 78" to 120" | 6" STD | 5" STD |

| STANDARD PIPE SIZES | | |
|---|---|---|
| Pipe Size | Pipe O.D. | Pipe I.D. |
| 2 ½" STD | 2.875" | 2.469" |
| 3" STD | 3.500" | 3.068" |
| 3 ½" STD | 4.000" | 3.548" |
| 4" STD | 4.500" | 4.026" |
| 5" STD | 5.563" | 5.047" |
| 6" STD | 6.625" | 6.065" |

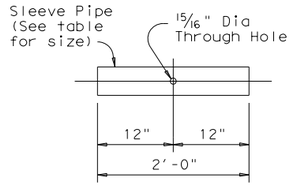
(6) The proper installation of the first Cross Pipe is critical for vehicle safety. The top of the first Cross Pipe must be placed at no more than 6" above the flow line.

(7) The third Cross Pipe from the bottom of the Culvert shall always be installed using a bolted connection. Care shall be taken to ensure that concrete does not flow into this Cross Pipe so as to permit disassembly of the bolted connection to allow cleanout access.

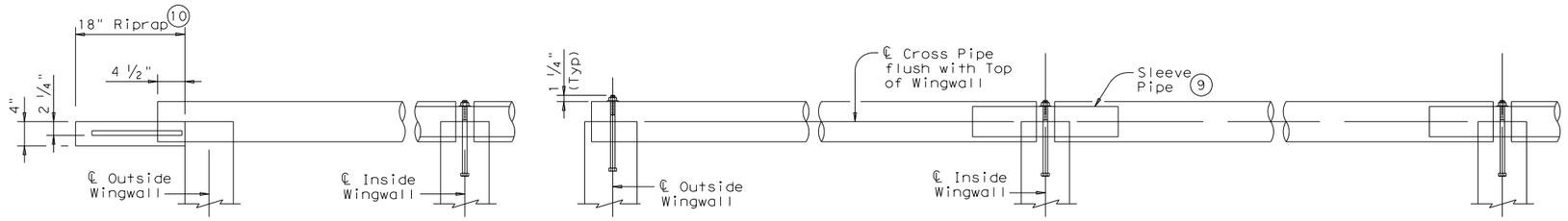
(8) Cross Pipes and Sleeve Pipes (if required) shall be as shown in the REQUIRED PIPE SIZES table. Saddle Pipes for the 3 ½" first Cross Pipe shall also be 3 ½".

(9) At Contractor's option, the Cross Pipe may be continuous across the Inside Wingwalls. If such option is selected, the Sleeve Pipe shall be omitted and a 15/16" diameter through hole made in the Cross Pipe to accept the anchor bolt at the centerline of each Interior Wingwall.

(10) Riprap will be required when using the optional Anchor Bar details and shall be included in the Price Bid for Safety End Treatment. Such Riprap shall be concrete Riprap in accordance with Item 432, "Riprap".

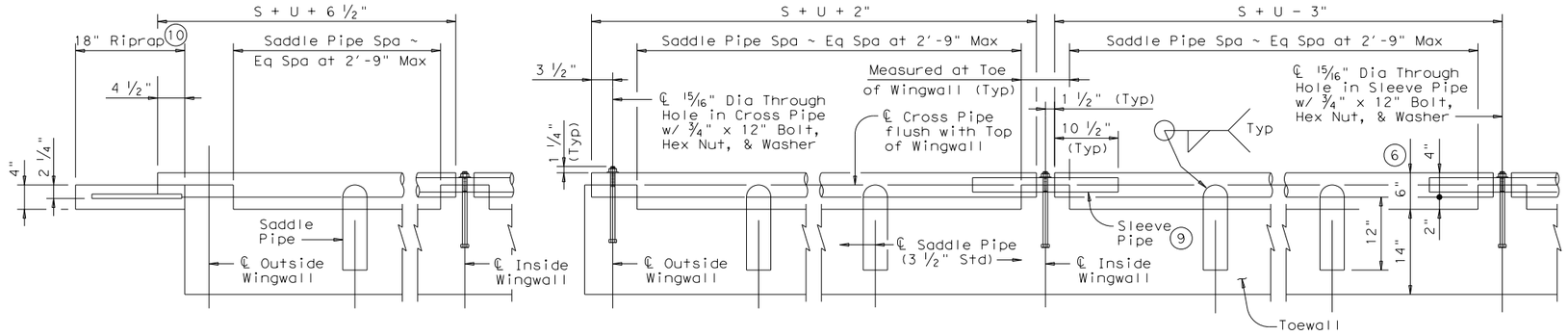



## SLEEVE PIPE DETAILS (9)




## SECTION THROUGH INSTALLATION OF TYPICAL FULL CROSS PIPE

(Anchor details and dimensions are similar to those shown below in SECTION THROUGH INSTALLATION OF 3 ½" FIRST CROSS PIPE detail.)




## SECTION THROUGH INSTALLATION OF 3 ½" FIRST CROSS PIPE

OUTSIDE CULVERT BARREL WITH OPTIONAL ANCHOR BARS & RIPRAP

OUTSIDE CULVERT BARREL WITH BOLTED ANCHOR

INSIDE CULVERT BARREL

## CROSS PIPE INSTALLATION DETAILS

SHEET 2 OF 2

Texas Department of Transportation

Bridge Division Standard

# SAFETY END TREATMENT

FOR BOX CULVERTS
(MAXIMUM Hw = 7'-0")
TYPE I ~ PARALLEL DRAINAGE

## SETB-PD

| FILE: setbpdse.dgn | DN: GAF | CK: CAT | DW: JRP | CK: GAF |
|---|---|---|---|---|
| ©TxDOT February 2010 | CONT | SECT | JOB | HIGHWAY |
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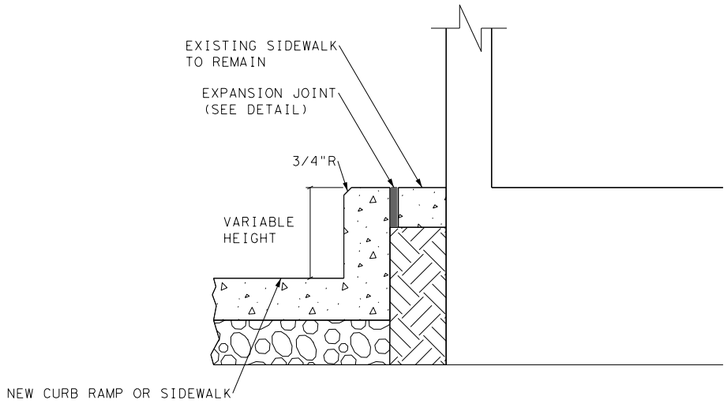
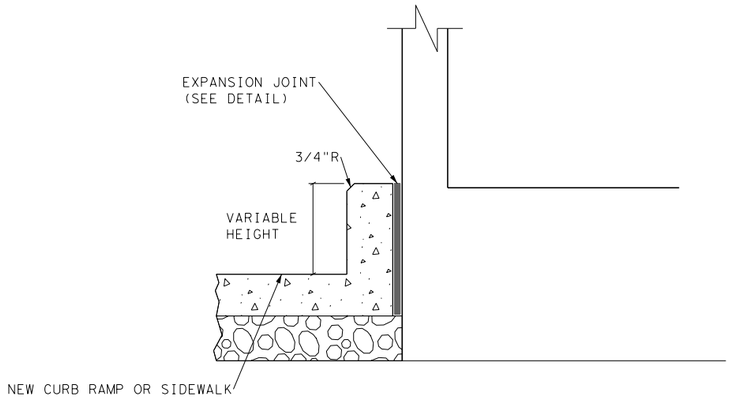
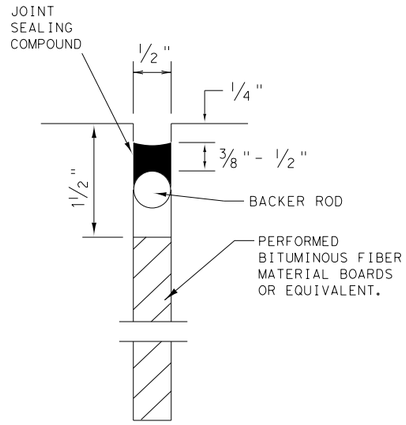
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 523 |



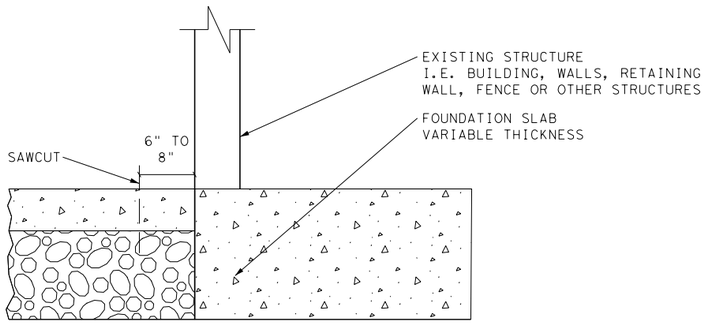

ADJACENT SIDEWALK
TO REMAIN DETAIL




ADJACENT SIDEWALK
REMOVED DETAIL




EXPANSION
JOINT DETAIL




SAWCUT DETAIL

# PAVING OPTION @ BUILDING FACE

NOT TO SCALE

## GENERAL PROTECTION NOTES FOR BUILDINGS AND HISTORIC STRUCTURES:

1. SAW CUT EXISTING SIDEWALK 6 TO 8 INCHES AWAY FROM PROTECTED BUILDING/STRUCTURE TO MINIMIZE POTENTIAL DAMAGE PRIOR TO DEMOLITION OF WALK.

2. CONTRACTOR IS RESPONSIBLE FOR PREVENTING DAMAGE TO ALL BUILDINGS AND STRUCTURES DURING THE ENTIRE CONSTRUCTION PROJECT. IF DIRECTED BY ENGINEER TO HAND REMOVE EXISTING PAVING ADJACENT TO HISTORIC STRUCTURES, PROTECT FOUNDATION, MATERIALS, ELEVATION AND ENTRYWAYS. DO NOT REMOVE EXISTING MATERIALS IF FACADE (BRICK/STONE, ETC.) UTILIZES THE MATERIALS TO BE REMOVED AS A FOOTING, FOUNDATION OR SUPPORT. IF THIS CONDITION IS OBSERVED, IMMEDIATELY CONTACT ENGINEER AND DO NOT EXCAVATE FURTHER. SEPARATE PAYMENT WILL NOT BE MADE FOR HAND REMOVAL.

3. REPAIR OR REPLACE IN KIND, AT CONTRACTORS EXPENSE, ANY DAMAGE TO HISTORIC OR NON-HISTORIC MATERIAL THAT RESULTS FROM AN ACT OF OMISSION ON THE PART OF OR ON BEHALF OF THE CONTRACTOR. CONTRACTOR IS REPONSIBLE FOR LOCATING A REPLACEMENT SOURCE FOR HISTORIC AND NON-HISTORIC MATERIALS DAMAGED IN THE PROCESS OF CONSTRUCTION. INFORM TXDOT ENVIRONMENTAL AFFAIRS DIVISION (ENV) OF PROPOSED REPAIRS AND/OR DAMAGED AREAS IN ORDER TO FACILITATE CONSULTATION WITH TEXAS HISTORICAL COMMISSION. MATERIAL AND SOURCE SHALL BE APPROVED BY TXDOT ENV PRIOR TO REPLACEMENT.

4. PROTECT BUILDINGS AND STRUCTURE FROM CONCRETE SPLASH UTILIZING A MATERIAL APPROVED BY THE ENGINEER. ANY CONCRETE SPLASH AS A RESULT OF CONSTRUCTION ACTIVITIES MUST BE REMOVED FROM THE BUILDING OR STRUCTURE AT CONTRACTORS EXPENSE. NO PAYMENT WILL BE MADE FOR BUILDING PROTECTION.

5. REFER TO HISTORIC BUILDING PROTECTION NOTES, EPIC (ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS) SHEET FOR FURTHER DIRECTION INFORMATION.

DESIGN

INTERIM REVIEW

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

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# BUILDING WALL DETAIL

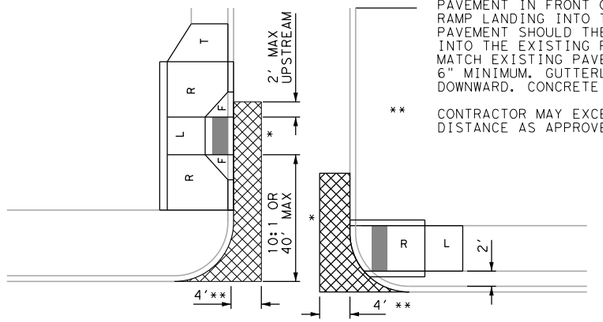
SHEET 1 OF 1

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 524 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\1113508_sample01.dgn

## CONCRETE ROADWAY OR CURB AND GUTTER SECTION

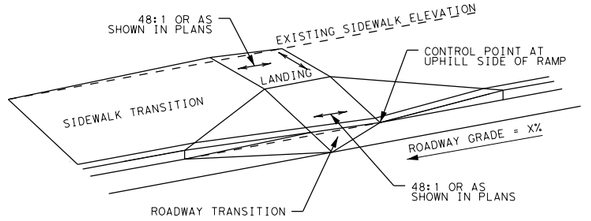



* SAW CUT (NSPI)

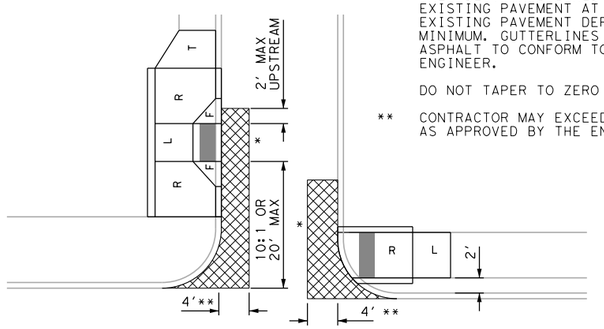
IN AREAS OF ROADWAY CROSS SLOPES EXCEEDING 48:1 LONGITUDINAL SLOPE, SAW CUT AND EXCAVATE 4' OF PAVEMENT IN FRONT OF RAMP AND TRANSITION THE RAMP LANDING INTO THE EXISTING PAVEMENT. THE PAVEMENT SHOULD THEN BE TRANSITIONED HORIZONTALLY INTO THE EXISTING PAVEMENT AT 10:1. PAVEMENT SHOULD MATCH EXISTING PAVEMENT DEPTH BUT NOT LESS THAN 6" MINIMUM. GUTTERLINES SHOULD NOT BE ADJUSTED DOWNWARD. CONCRETE PAVEMENT TO CONFORM TO ITEM 360.

** CONTRACTOR MAY EXCEED CROSS SLOPE TRANSITION DISTANCE AS APPROVED BY THE ENGINEER.

## ROADWAY TRANSITION




## ASPHALT/SEALCOAT ROADWAY



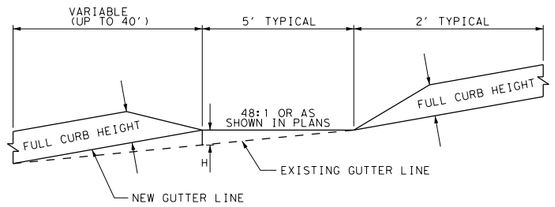

* SAW CUT (NSPI)

IN AREAS OF ROADWAY CROSS SLOPES EXCEEDING 48:1 LONGITUDINAL SLOPE, EXCAVATE 2' OF PAVEMENT IN FRONT OF RAMP AND TRANSITION THE RAMP LANDING INTO THE EXISTING PAVEMENT. THE PAVEMENT SHOULD THEN BE TRANSITIONED HORIZONTALLY INTO THE EXISTING PAVEMENT AT 10:1. PAVEMENT SHOULD MATCH EXISTING PAVEMENT DEPTH BUT NOT LESS THAN 2" MINIMUM. GUTTERLINES SHOULD NOT BE ADJUSTED DOWNWARD. ASPHALT TO CONFORM TO ITEM 340 AS DIRECTED BY THE ENGINEER.

DO NOT TAPER TO ZERO MINIMUM 1 1/2" DEPTH @ TIE-IN

** CONTRACTOR MAY EXCEED CROSS SLOPE TRANSITION DISTANCE AS APPROVED BY THE ENGINEER.

## CURB ELEVATION




| TABLE 1 | | |
|---|---|---|
| DIFFERENTIAL BETWEEN RAMP AND ROADWAY LONGITUDINAL SLOPE | H | |
| 1% | 0.04 ' | 0.50 " |
| 2% | 0.08 ' | 1.00 " |
| 3% | 0.12 ' | 1.50 " |
| 4% | 0.16 ' | 2.00 " |
| 5% | 0.20 ' | 2.40 " |
| 6% | 0.24 | 2.90 " |

DESIGN

INTERIM REVIEW

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

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# SPECIAL DETAILS

SHEET 1 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 525 |

Plotted on: 4/10/2019

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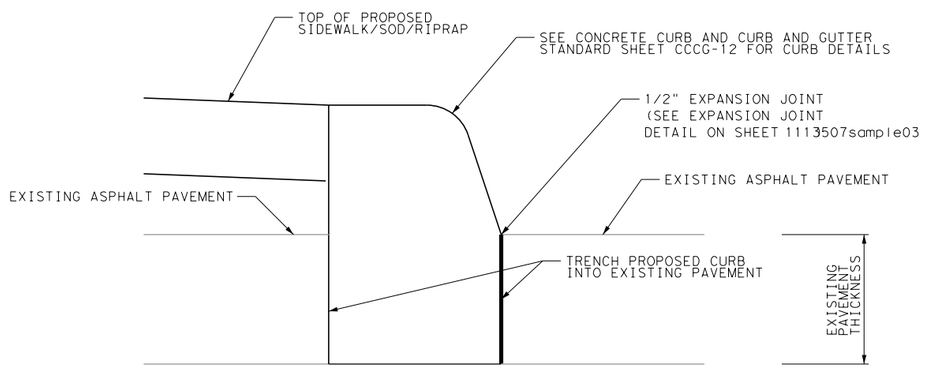
# CURB TRENCH DETAIL

USE WHEN INSTALLING A CURB INTO EXISTING ASPHALT PAVEMENT

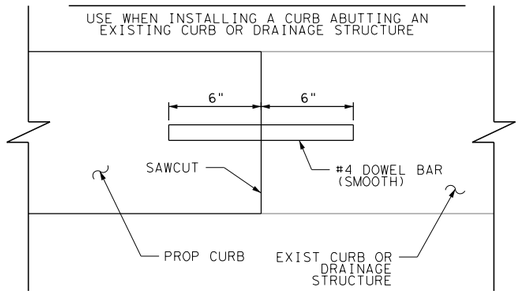



NOTES:

1. VERTICAL DOWELING PROPOSED CURB INTO EXISTING PAVEMENT IS NOT PERMITTED
2. NO ADDITIONAL PAYMENT SHALL BE MADE FOR ADDITIONAL CONCRETE REQUIRED TO MATCH EXISTING PAVEMENT THICKNESS

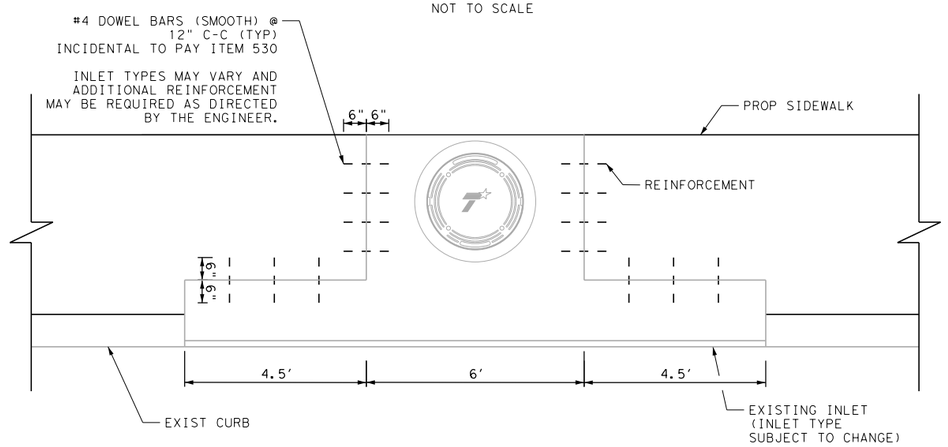
# CURB TIE-IN DETAIL

USE WHEN INSTALLING A CURB ABUTTING AN EXISTING CURB OR DRAINAGE STRUCTURE

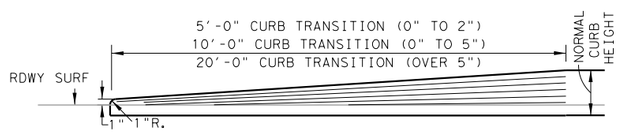



# INLET DOWELING DETAIL

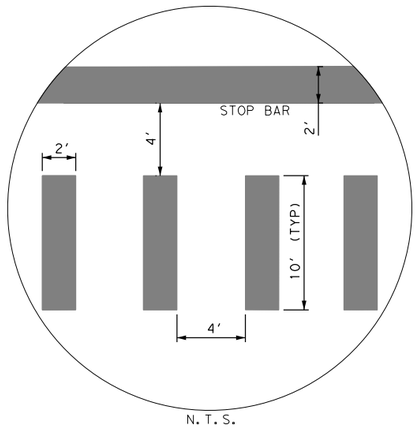
NOT TO SCALE




# TYPICAL TRANSITION FOR CONCRETE CURB ENDS




# TYPICAL CONTINENTAL CROSSWALK DETAIL




N.T.S.

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

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SPECIAL DETAILS

SHEET 2 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 526 |

Plotted on: 4/10/2019

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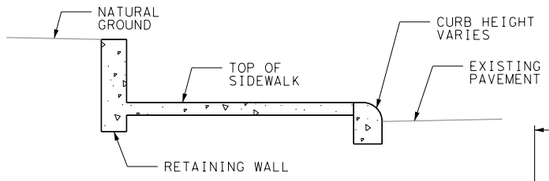
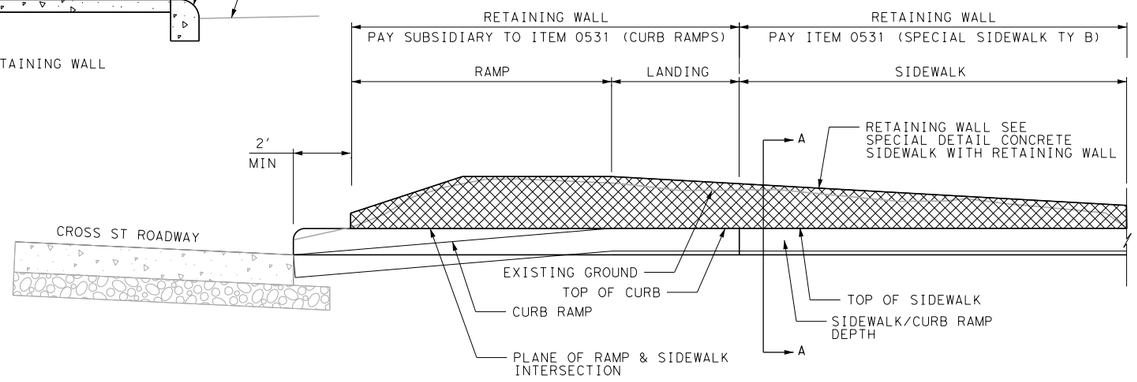
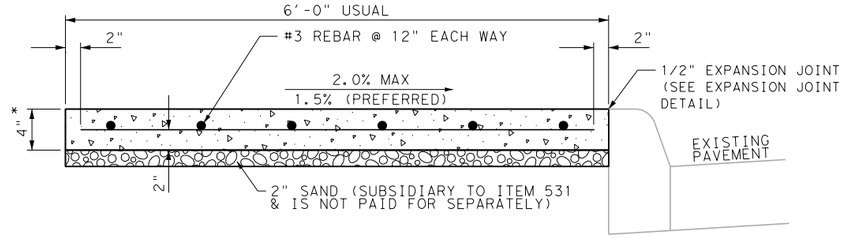
## SECTION A-A




## RETAINING WALL DETAIL



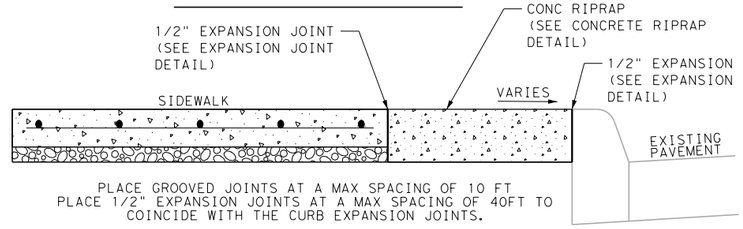

## SIDEWALK DETAILS



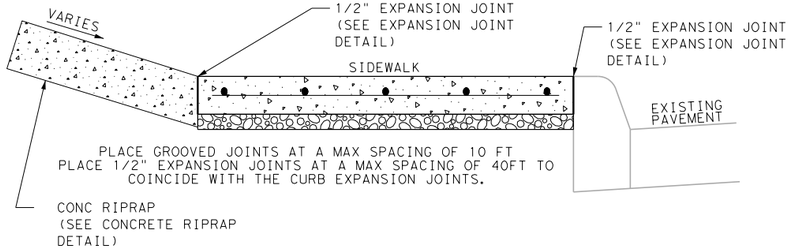

PLACE GROOVED JOINTS IN THE SIDEWALK AT A MAX SPACING OF 10 FT
PLACE 1/2" EXPANSION JOINTS AT A MAX SPACING OF 40FT TO COINCIDE WITH THE CURB EXPANSION JOINTS.

* UNLESS OTHERWISE SHOWN

## RIPRAP DETAIL

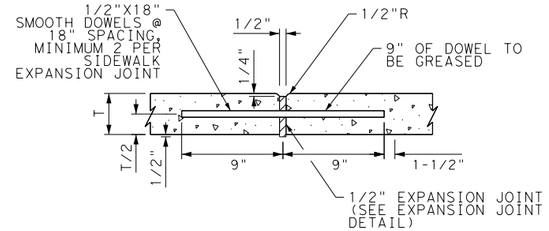



PLACE GROOVED JOINTS AT A MAX SPACING OF 10 FT
PLACE 1/2" EXPANSION JOINTS AT A MAX SPACING OF 40FT TO COINCIDE WITH THE CURB EXPANSION JOINTS.




PLACE GROOVED JOINTS AT A MAX SPACING OF 10 FT
PLACE 1/2" EXPANSION JOINTS AT A MAX SPACING OF 40FT TO COINCIDE WITH THE CURB EXPANSION JOINTS.

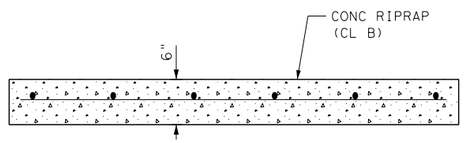
## SIDEWALK EXPANSION JOINT DETAIL



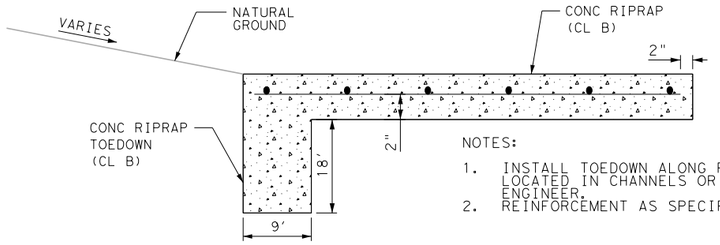

NOTES:

1. SIDEWALK EXPANSION JOINT DOWELS ARE CONSIDERED SUBSIDIARY TO ITEM 531.
2. SIDEWALK EXPANSION JOINTS SHALL BE INSTALLED AT MAXIMUM 40 FT INTERVALS, COINCIDE WITH CURB EXPANSION JOINT, CONNECTIONS TO EXISTING CONCRETE, CONNECTIONS TO PROPOSED CONCRETE DRIVEWAYS, WHERE DAILY WORK TERMINATES, AND AS DIRECTED BY THE ENGINEER.

## CONCRETE RIPRAP DETAIL



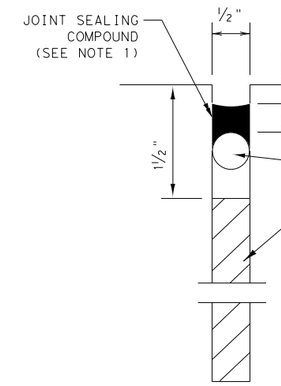

## CONCRETE RIPRAP W/ TOEDOWN DETAIL




NOTES:

1. INSTALL TOEDOWN ALONG PERIMETER OF RIPRAP LOCATED IN CHANNELS OR AS DIRECTED BY THE ENGINEER.
2. REINFORCEMENT AS SPECIFIED IN ITEM 432.

## EXPANSION JOINT DETAIL




NOTES:

1. USE JOINT SEALANT CLASS 5 OR 8 AT NEW JOINTS. USE JOINT SEALANT CLASS 4, 5, 7, OR 8 FOR MAINTAINING EXISTING JOINTS.

DESIGN

INTERIM REVIEW

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

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SPECIAL DETAILS

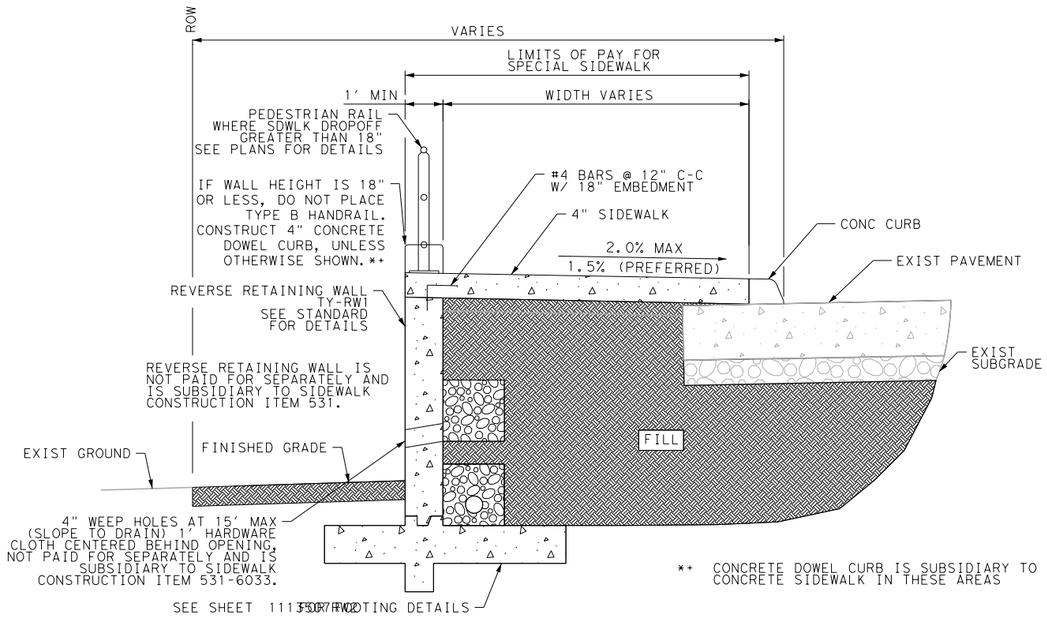
SHEET 3 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 527 |

Plotted on: 4/10/2019

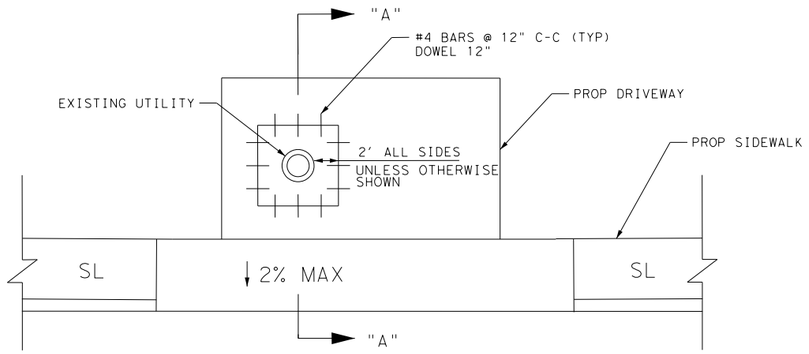
Design Filename: P:\111\35\08\Design\Civil\General\1113508_sample04.dgn

# REVERSE RETAINING WALL DETAIL (CONCRETE SIDEWAK (SPECIAL) (TY B))




** CONCRETE DOWEL CURB IS SUBSIDIARY TO CONCRETE SIDEWALK IN THESE AREAS

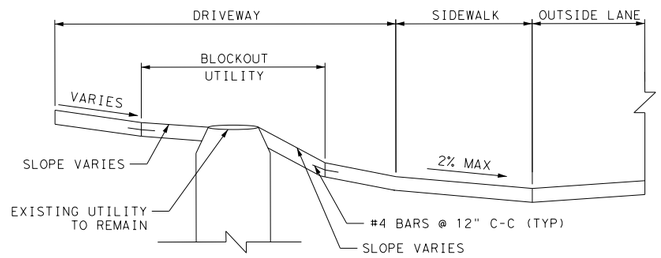
# UTILITY BLOCKOUT




SEQUENCE OF WORK:
1. REMOVE EXISTING CONCRETE OR ASPHALT WITHIN LIMITS OF PROPOSED WORK. CONSTRUCT FORMWORK FOR PROPOSED IMPROVEMENTS, INCLUDING UTILITY BLOCKOUT AS SHOWN. EXISTING UTILITY RIM TO REMAIN UNDISTURBED.

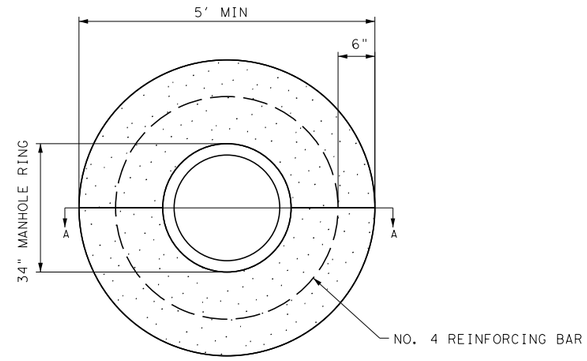
2. CONSTRUCT PROPOSED IMPROVEMENTS EXCEPT WITHIN UTILITY BLOCKOUT AREA. ALLOW TIME TO CURE, REMOVE FORMWORK.

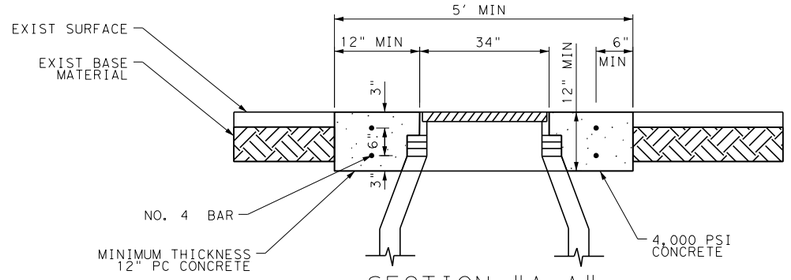
3. DOWEL REINFORCEMENT AS SHOWN. CONSTRUCT IMPROVEMENTS WITHIN UTILITY BLOCKOUT AREA FLUSH WITH RIM OF UTILITY AND SURROUNDING (COMPLETED) IMPROVEMENTS.




SECTION "A-A"

# MANHOLE RING ENCASEMENT DETAIL




SECTION "A-A"

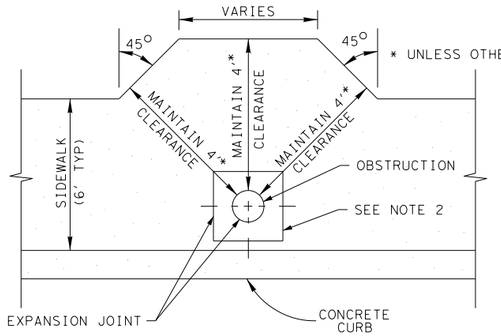
NOTE:
1. ALL ENCASEMENT IS SUBSIDIARY TO ITEM 7090.
2. THE CONRETE SHALL BE 4,000 PSI, MIN, AND REINFORCED WITH NO. 4 BARS, AS SHOWN.
3. MANHOLE RING ENCASEMENT IS REQUIERED ON ALL MANHOLES.

# OBSTRUCTION CONFLICT

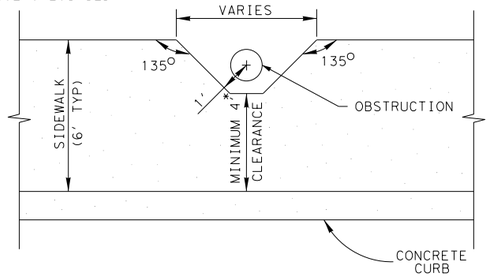
NOTES:

1. UTILIZE DETAIL AT OBSTRUCTION ENCROACHMENTS INTO THE PEDESTRIAN ACCESS ROUTE. A MINIMUM UNOBSTRUCTED CLEARANCE OF 4', UNLESS OTHERWISE SPECIFIED, SHOULD BE MAINTAINED AROUND THE OBSTRUCTION MEASURED FROM THE MOST RESTRICTIVE LOCATION OR AS APPROVED BY THE ENGINEER

2. IF OBSTRUCTION IS LOCATED WITHIN THE SIDEWALK, CONSTRUCT 2' SQUARE CONSTRUCTION JOINT CENTERED ON OBSTRUCTION TO FACILITATE FUTURE MAINTENANCE WITHOUT FULL SIDEWALK PANEL REMOVAL/REPLACEMENT




OBSTRUCTION IN SIDEWALK




OBSTRUCTION OUTSIDE SIDEWALK

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

| REV. NO. | DATE | DESCRIPTION | BY |
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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800




## SPECIAL DETAILS

SHEET 4 OF 10

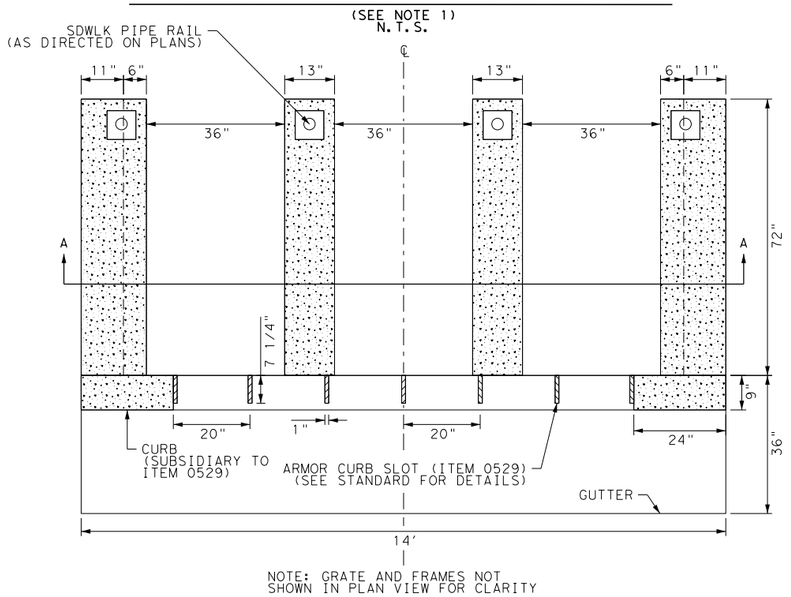
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 528 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\111508_sample10.dgn

# SIDEWALK (TYPE A) DETAIL

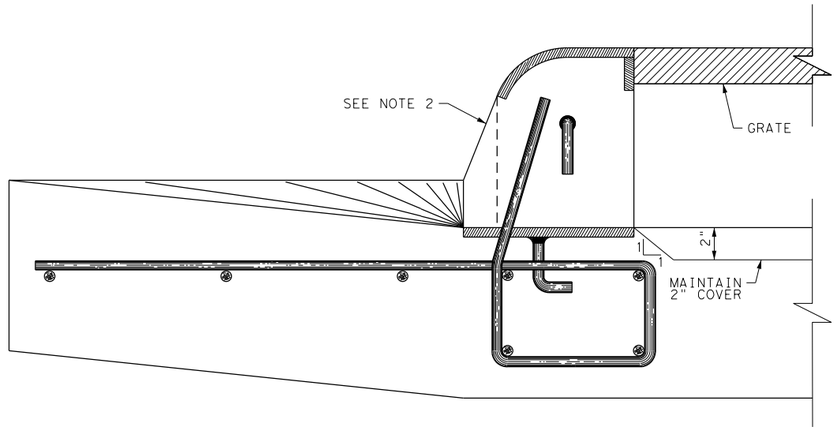
(SEE NOTE 1)
N.T.S.




NOTE: GRATE AND FRAMES NOT SHOWN IN PLAN VIEW FOR CLARITY

# ARMOR CURB SLOT DETAIL

N.T.S.




NOTES:

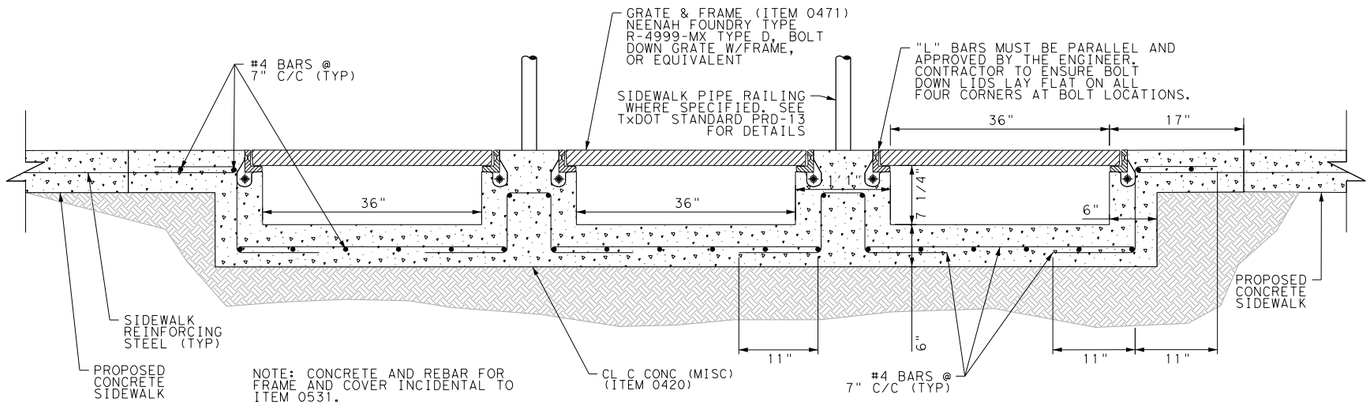
1) SIDEWALK (TY A) IS PAID SEPARATELY UNDER THE FOLLOWING PAY ITEMS UNLESS OTHERWISE SHOW:

   ITEM 0104-6029 REMOVING CONC (CURB OR CURB & GUTTER)
   ITEM 0471-6003 GRATE & FRAME
   ITEM 0529-6020 CONC CURB & GUTTER (ARMOR CURB)
   ITEM 0420-6074 CL C CONC (MISC)

2) SEE ARMOR CURB SLOT STANDARD FOR ADDITIONAL DETAILS

# SECTION A-A

N.T.S.




NOTE: CONCRETE AND REBAR FOR FRAME AND COVER INCIDENTAL TO ITEM 0531.

DESIGN

INTERIM REVIEW
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW
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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

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## SIDEWALK TYPE A SPECIAL DETAILS

SHEET 5 OF 10

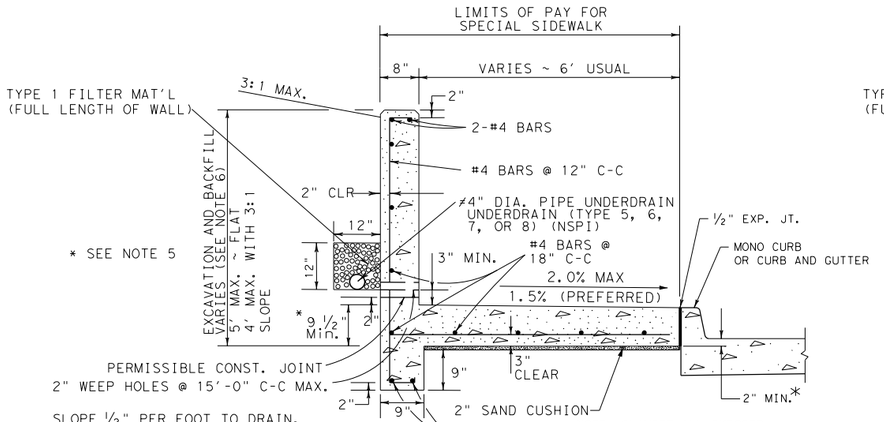
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 529 |

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\1113508_sample06.dgn

# SPECIAL CONCRETE SIDEWALK w/ RETAINING WALL

## (CONCRETE SIDEWALK (SPECIAL) (TY B))

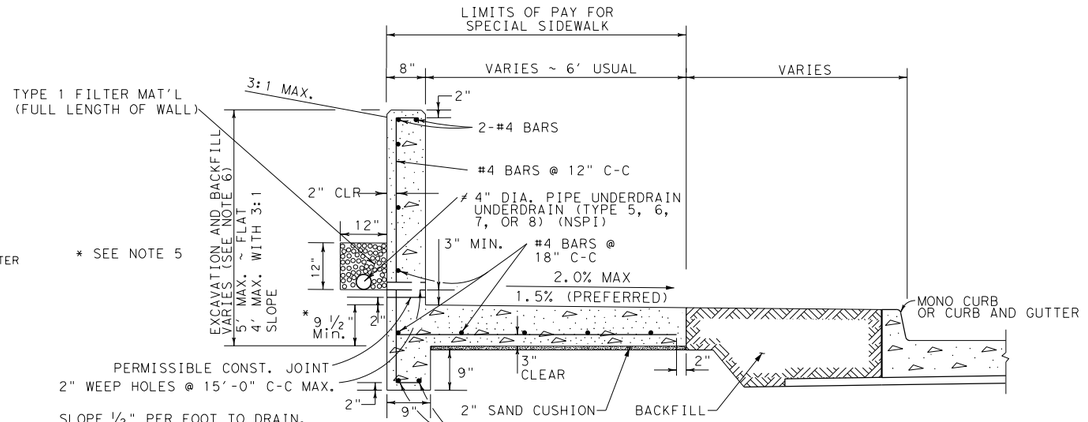



SLOPE ½" PER FOOT TO DRAIN.
1'-0" SQUARE HARDWARE CLOTH (1/4" MESH) CENTERED BEHIND OPENING.

≠ SLOPE TO DRAIN AND TERMINATE AT WALL LIMITS OR AS DIRECTED BY THE ENGINEER. IF, IN THE OPINION OF THE ENGINEER, THE USE OF AN UNDERDRAIN IS IMPRACTICAL, WEEP HOLES MAY BE USED (NSPI).

*2" MIN. REQUIRED FOR LATERAL SUPPORT.

ADJACENT TO CURB

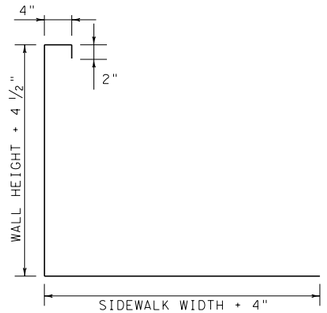



SLOPE ½" PER FOOT TO DRAIN.
1'-0" SQUARE HARDWARE CLOTH (1/4" MESH) CENTERED BEHIND OPENING.

≠ SLOPE TO DRAIN AND TERMINATE AT WALL LIMITS OR AS DIRECTED BY THE ENGINEER. IF, IN THE OPINION OF THE ENGINEER, THE USE OF AN UNDERDRAIN IS IMPRACTICAL, WEEP HOLES MAY BE USED (NSPI).

NOTE: CHAMFER ALL EXPOSED CORNERS ¾". PLACE CURB AND COMPACT PAVEMENT BACKFILL BEFORE BACKFILLING BEHIND WALL

SEPARATED FROM CURB




REINFORCING STEEL DETAIL

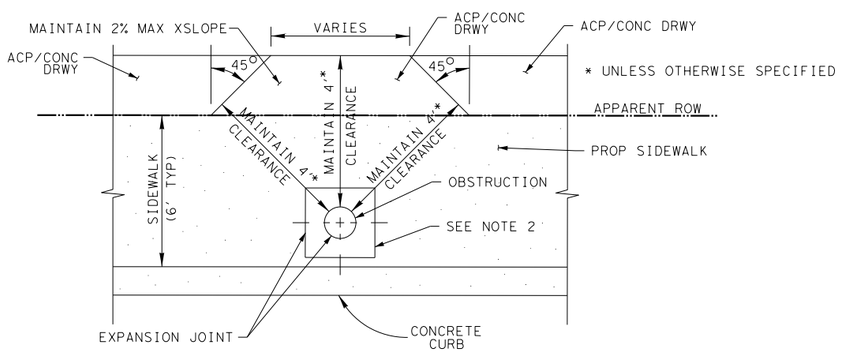
NOTES:

1. SEE PLAN SHEETS FOR LOCATIONS OF SIDEWALKS AND RETAINING WALLS.
2. LONGITUDINAL SLOPE OF SIDEWALKS SHALL NOT EXCEED 5% EXCEPT IN CASES WHERE THE ADJACENT ROADWAY SLOPE EXCEEDS 5%. IF ROADWAY SLOPE EXCEEDS 5%, LONGITUDINAL SLOPE OF SIDEWALK MAY MATCH THAT OF ROADWAY.
3. IF SIDEWALK WIDTH IS LESS THAN 5', PROVIDE 5' x 5' PASSING AREAS AT INTERVALS NOT TO EXCEED 200' SPACING.
4. WHERE SIDEWALK WITH RETAINING WALL IS SPECIFIED, RETAINING WALL WILL BE SUBSIDIARY TO THE ITEM, "CONCRETE SIDEWALK (SPECIAL) (TYPE B)", ITEM 0531-6033 WITH LIMITS OF PAY AS SHOWN HEREON. ESTIMATED FACE OF RETAINING WALL IS INDICATED ON THE PLANS FOR CONTRACTOR INFORMATION ONLY.
5. CONCRETE SIDEWALK (SPECIAL) (TY B) THICKNESS IS PERMITTED TO BE 6" IN AREAS WHERE WALL HEIGHTS ARE LESS THAN OR EQUAL TO 3' AS MEASURED FROM TOP OF SIDEWALK TO TOP OF WALL. THE SIDEWALK THICKNESS SHALL BE CONSTRUCTED AS INDICATED ON DETAIL FOR WALL HEIGHTS IN EXCESS OF 3' OR WHERE WALLS OF ANY HEIGHT ARE TO BE CONSTRUCTED ADJACENT TO PARKING.
6. EXCAVATION, HAULING, AND DISPOSAL OF EXCAVATED MATERIAL IS NOT PAID FOR SEPARATELY, CONSIDERED SUBSIDIARY TO ITEM 531.

# PARKING LOT GRADING DETAIL

NOTES:

1. CONSTRUCT ACP DRIVEWAY AT 2% XSLOPE WHERE INDICATED.
2. IF OBSTRUCTION IS LOCATED WITHIN THE SIDEWALK, CONSTRUCT 2' SQUARE CONSTRUCTION JOINT CENTERED ON OBSTRUCTION TO FACILITATE FUTURE MAINTENANCE WITHOUT FULL SIDEWALK PANEL REMOVAL/REPLACEMENT




OBSTRUCTION IN SIDEWALK

DESIGN

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW
DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

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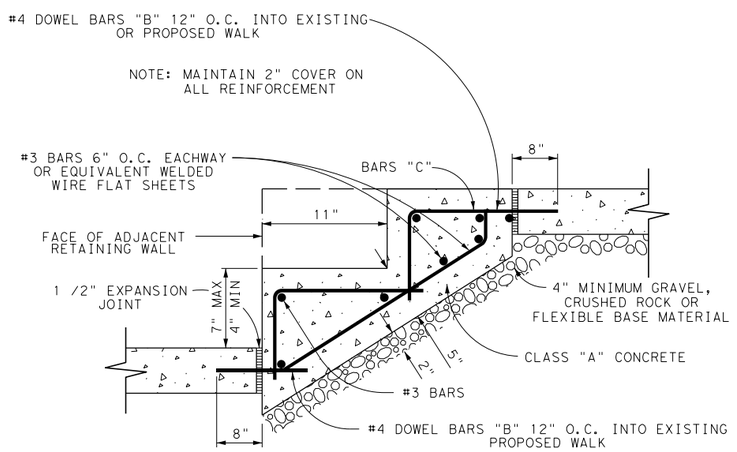
SIDEWALK TYPE B SPECIAL DETAILS

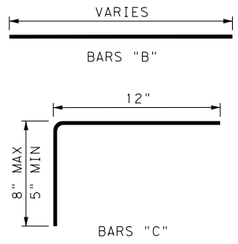
SHEET 6 OF 10

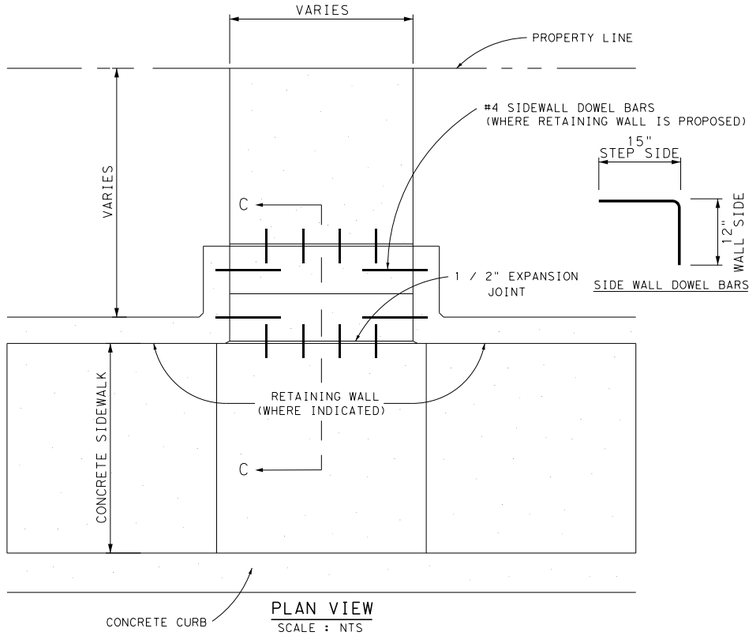
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 530 |

# CONCRETE STEPS



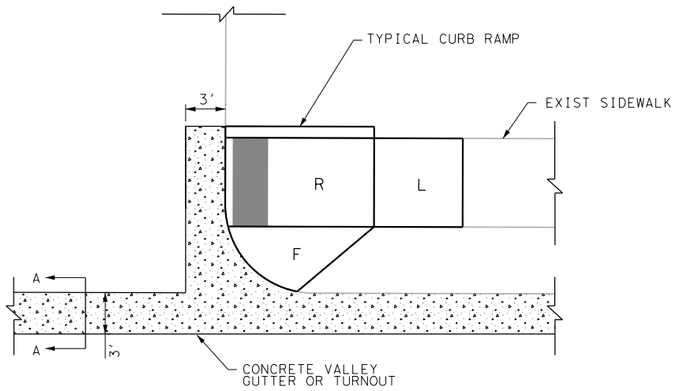

SECTION "C-C"
SCALE : NTS



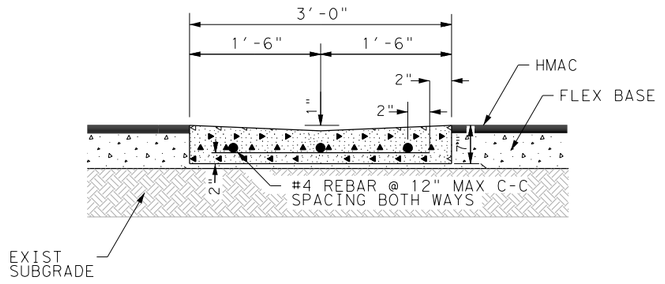

PLAN VIEW
SCALE : NTS

# TYPICAL CONC. VALLEY GUTTER




# CONC. VALLEY GUTTER

TO BE USED WHERE REQUIRED TO CARRY DRAINAGE ACROSS SIDE STREETS




SECTION A-A
N.T.S.

DESIGN

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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

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SPECIAL DETAILS

SHEET 7 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 531 |

Plotted on: 4/10/2019

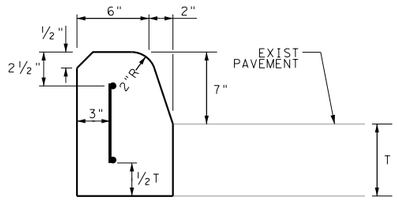
Design Filename: P:\111\35\08\Design\Civil\General\111508_sample07.dgn

Plotted on: 4/10/2019

Design Filename: P:\111\35\08\Design\Civil\General\111508_sample09.dgn

# SLOTTED CURB DETAIL

N.T.S.

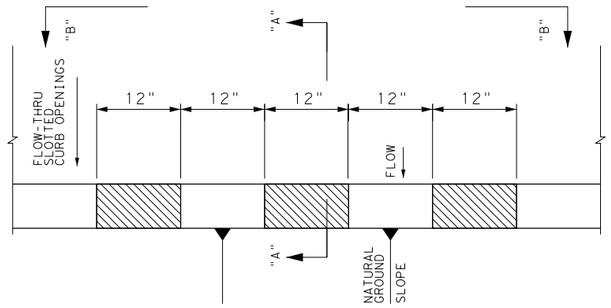



SECTION "A-A"

SCALE : NTS


SECTION "B-B"

SCALE : NTS

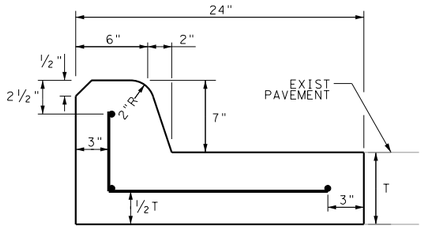



PLAN VIEW

SCALE : NTS

# SLOTTED CURB AND GUTTER DETAIL

N.T.S.

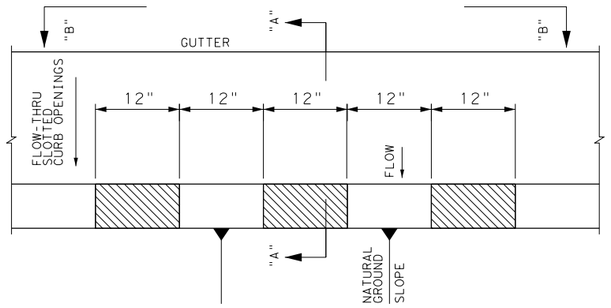



SECTION "A-A"

SCALE : NTS


SECTION "B-B"

SCALE : NTS

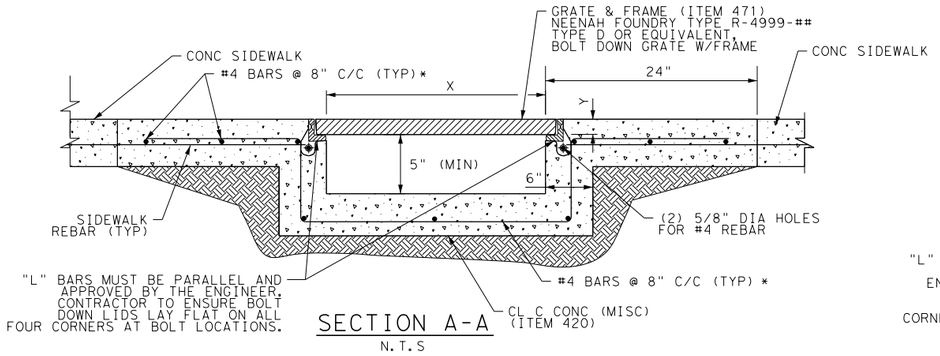



PLAN VIEW

SCALE : NTS

# GRATE & FRAME DETAIL

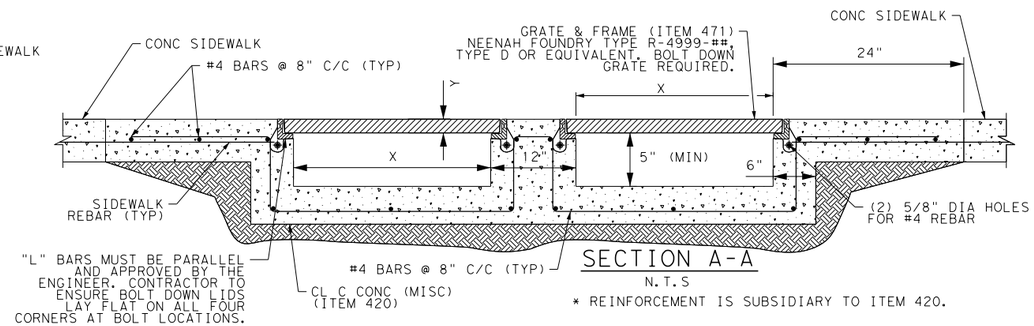
N.T.S




SECTION A-A

N.T.S

* REINFORCEMENT IS SUBSIDIARY TO ITEM 420.




SECTION A-A

N.T.S

* REINFORCEMENT IS SUBSIDIARY TO ITEM 420.

| GRATE LENGTH | X | Y | R-4999-## |
|---|---|---|---|
| 24" | 24" | 1.5" | HK |
| 36" | 36" | 2.0" | MX |
| 48" | 48" | 2.0" | OX |

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
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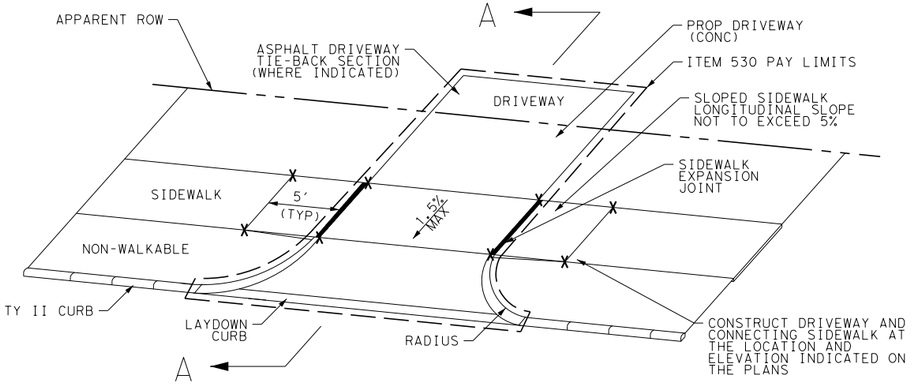
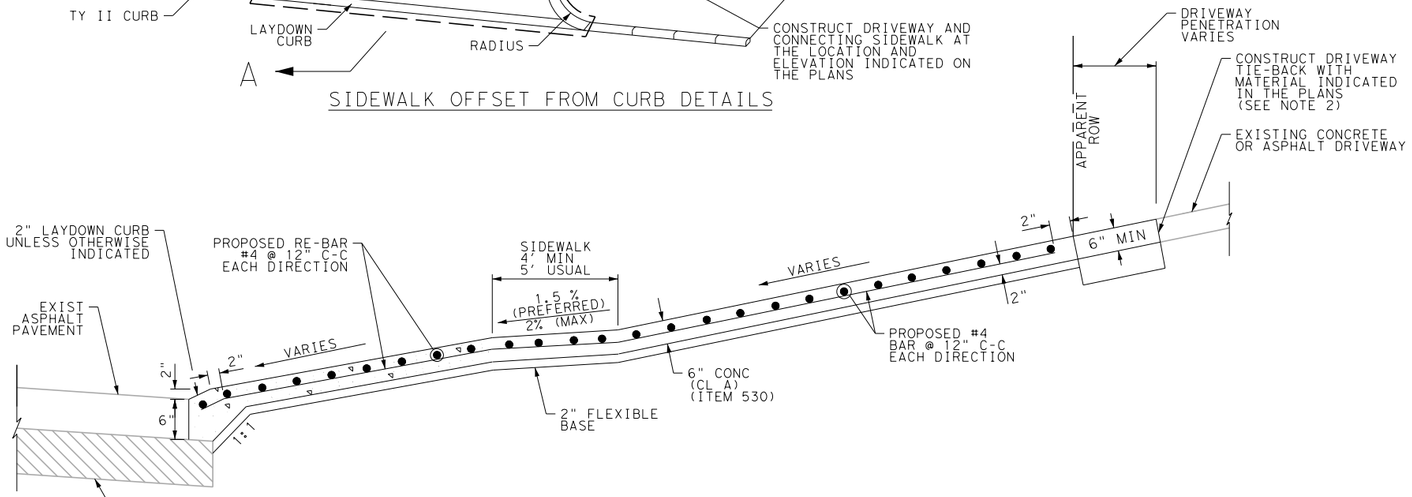
SPECIAL DETAILS

SHEET 8 OF 10

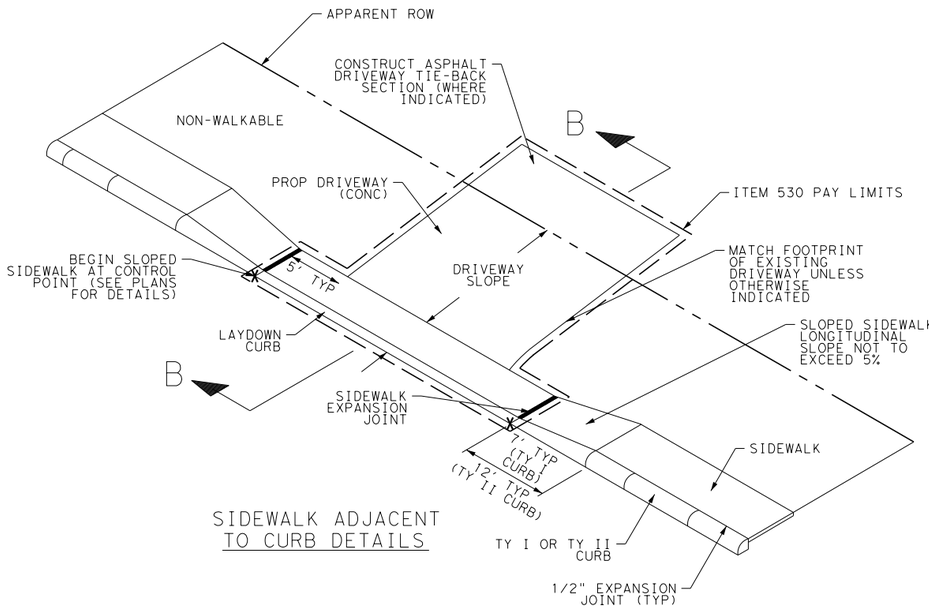
| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 532 |



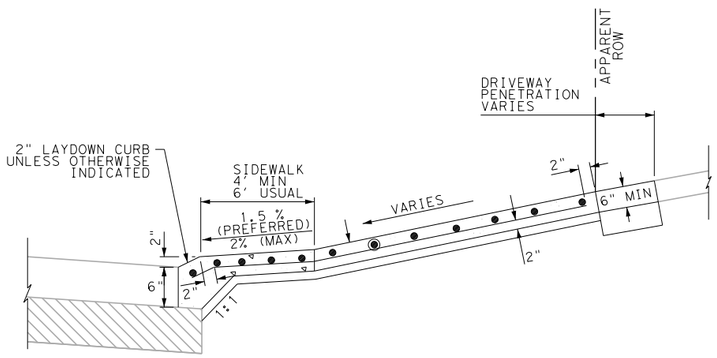

SIDEWALK OFFSET FROM CURB DETAILS




SLOPES W/ SIDEWALKS OFFSET FROM CURB
(SECTION A-A)




SIDEWALK ADJACENT TO CURB DETAILS




DRIVEWAY SLOPES W/ SIDEWALKS ADJACENT TO CURB
(SECTION B-B)

LEGEND

X CONTROL POINT

NOTES:

1) SLOPED SIDEWALK SEGMENT LENGTHS ARE SHOWN TO CONSERVATIVELY ACCOMMODATE STANDARD CURB HEIGHTS ON LEVEL STREETS. SOME SLOPED SIDEWALK SEGMENTS MAY REQUIRE ADDITIONAL LENGTH TO ENSURE LONGITUDINAL SLOPES DO NOT EXCEED 5%. WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY EXTEND THE SLOPED SIDEWALK SEGMENT TO THE NEXT PLANAR ELEMENT (LS, L, SL, R, T, ETC.) OR UNTIL THE SLOPED SIDEWALK REACHES CURB HEIGHT, WHICHEVER IS SHORTER.

2) IF DRIVEWAY TIE-BACK IS SPECIFIED AS CONCRETE, SAWCUT EXISTING CONCRETE AT THE TIE-IN LOCATION MIN. 1/2", THEN BREAKBACK, CLEAN, AND EXPOSE 18" STEEL REINFORCING IN EXISTING CONCRETE. INSTALL FLEXIBLE BASE AS INDICATED. CONSTRUCT CONCRETE DRIVEWAY PER ITEM 530.

IF DRIVEWAY TIE-BACK IS SPECIFIED AS ASPHALT, SAWCUT EXISTING ASPHALT AT THE TIE-IN LOCATION, INSTALL 6" FLEXIBLE BASE OR ASPHALTIC CONCRETE BASE (SUBSIDIARY TO ITEM 530). CONSTRUCT ASPHALT DRIVEWAY (PG 64-22 SAC C) PER ITEM 530.

DESIGN

INTERIM REVIEW
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ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

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ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

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2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
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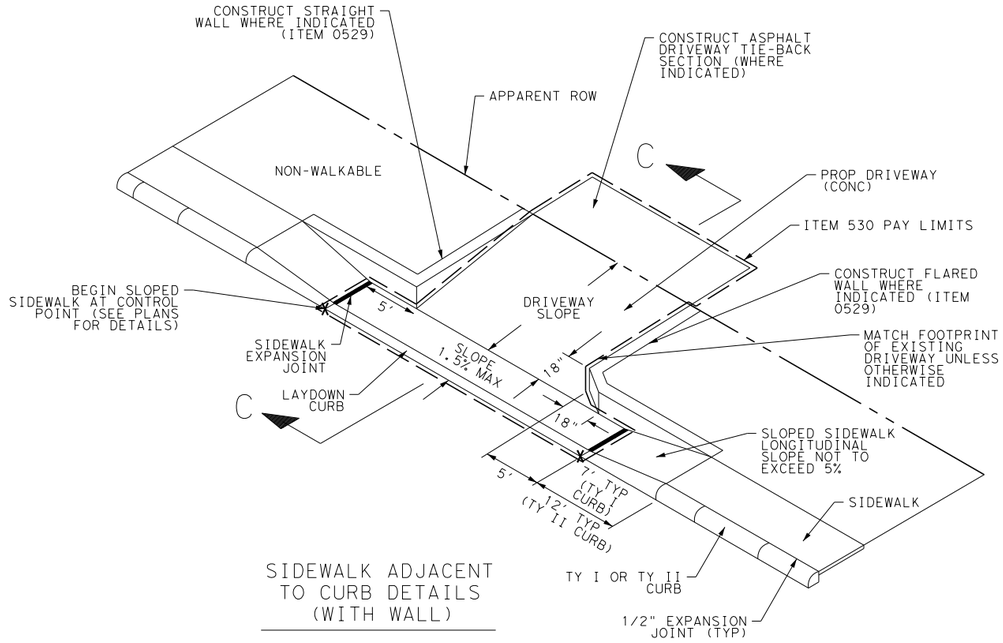
# SPECIAL DETAILS

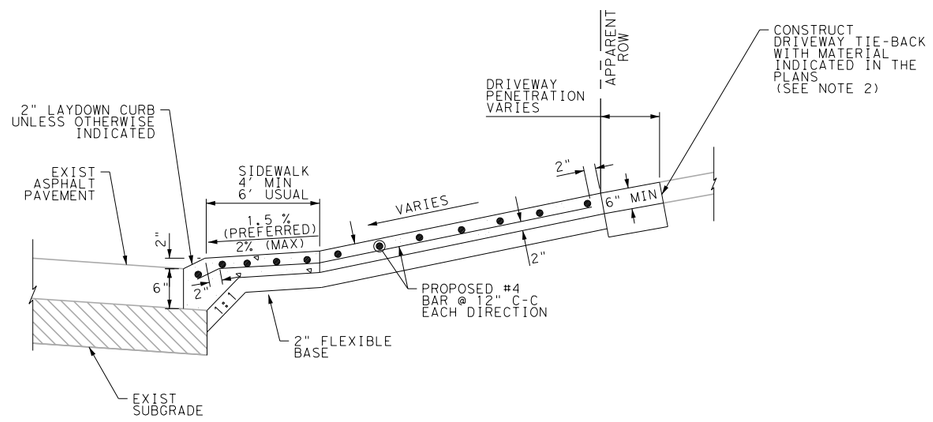
SHEET 9 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 533 |

Plotted on: 4/10/2019
Design Filename: P:\111\35\08\Design\Civil\General\111508_sample12.dgn




SIDEWALK ADJACENT TO CURB DETAILS (WITH WALL)




DRIVEWAY SLOPES W/ SIDEWALKS ADJACENT TO CURB
(SECTION C-C)

LEGEND

X CONTROL POINT

NOTES:

1) SLOPED SIDEWALK SEGMENT LENGTHS ARE SHOWN TO CONSERVATIVELY ACCOMMODATE STANDARD CURB HEIGHTS ON LEVEL STREETS. SOME SLOPED SIDEWALK SEGMENTS MAY REQUIRE ADDITIONAL LENGTH TO ENSURE LONGITUDINAL SLOPES DO NOT EXCEED 5%. WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY EXTEND THE SLOPED SIDEWALK SEGMENT TO THE NEXT PLANAR ELEMENT (LS, L, SL, R, T, ETC.) OR UNTIL THE SLOPED SIDEWALK REACHES CURB HEIGHT, WHICHEVER IS SHORTER.

2) IF DRIVEWAY TIE-BACK IS SPECIFIED AS CONCRETE, SAWCUT EXISTING CONCRETE AT THE TIE-IN LOCATION MIN. 1/2", THEN BREAKBACK, CLEAN, AND EXPOSE 18" STEEL REINFORCING IN EXISTING CONCRETE. INSTALL FLEXIBLE BASE AS INDICATED. CONSTRUCT CONCRETE DRIVEWAY PER ITEM 530.

IF DRIVEWAY TIE-BACK IS SPECIFIED AS ASPHALT, SAWCUT EXISTING ASPHALT AT THE TIE-IN LOCATION, INSTALL 6" FLEXIBLE BASE OR ASPHALTIC CONCRETE BASE (SUBSIDIARY TO ITEM 530). CONSTRUCT ASPHALT DRIVEWAY (PG 64-22 SAC C) PER ITEM 530.

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# SPECIAL DETAILS

SHEET 10 OF 10

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 534 |

# BILLS OF REINFORCING STEEL (For Box Length = 40 feet)

| NUMBER OF SPANS | SECTION DIMENSIONS | | | | Bars B | | | | | Bars C & D | | | | | | Bars E | | | | | Bars $F_1$ ~#4 | | | | Bars $F_2$ ~#4 at 1'-6" Max | | | Bars M~#4 at 1'-6" Max | | | Bars Y & Z~#4 at 1'-0" Max | | | | | Bars H 4~#4 | | Bars K | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | S | H | T | U | No. | Size | Spa | Length | Wt | No. | Size | Spa | Bar C Length | Bar C Wt | Bar D Length | Bar D Wt | No. | Size | Spa | Length | Wt | No. | Spa | Length | Wt | No. | Length | Wt | No. | Length | Wt | No. | Bar Y Length | Bar Y Wt | Bar Z Length | Bar Z Wt | Length | Weight | No. | Weight |
| 2 | 5'-0" | 2'-0" | 7" | 7" | 194 | #4 | 5" | 11'- 6" | 1,490 | 162 | #4 | 6" | 7'- 1" | 767 | 6'-10" | 739 | 162 | #5 | 6" | 5'- 8" | 957 | 14 | 8" | 39'-9" | 372 | 38 | 39'-9" | 1,009 | 56 | 2'- 0" | 75 | 41 | 4'- 6" | 123 | 5'- 0" | 137 | 11'- 6" | 31 | 26 | 74 |
| 3 | 5'-0" | 2'-0" | 7" | 7" | 194 | #4 | 5" | 17'- 1" | 2,214 | 162 | #4 | 6" | 7'- 1" | 767 | 6'-10" | 739 | 162 | #5 | 6" | 11'- 3" | 1,901 | 21 | 8" | 39'-9" | 558 | 54 | 39'-9" | 1,434 | 56 | 2'- 0" | 75 | 82 | 4'- 6" | 246 | 5'- 0" | 274 | 17'- 1" | 46 | 36 | 102 |
| 4 | 5'-0" | 2'-0" | 7" | 7" | 194 | #4 | 5" | 22'- 8" | 2,937 | 162 | #4 | 6" | 7'- 1" | 767 | 6'-10" | 739 | 162 | #5 | 6" | 16'-10" | 2,844 | 28 | 8" | 39'-9" | 743 | 70 | 39'-9" | 1,859 | 56 | 2'- 0" | 75 | 123 | 4'- 6" | 370 | 5'- 0" | 411 | 22'- 8" | 61 | 48 | 136 |
| 5 | 5'-0" | 2'-0" | 7" | 7" | 194 | #4 | 5" | 28'- 3" | 3,661 | 162 | #4 | 6" | 7'- 1" | 767 | 6'-10" | 739 | 162 | #5 | 6" | 22'- 5" | 3,788 | 35 | 8" | 39'-9" | 929 | 86 | 39'-9" | 2,284 | 56 | 2'- 0" | 75 | 164 | 4'- 6" | 493 | 5'- 0" | 548 | 28'- 3" | 75 | 60 | 170 |
| 6 | 5'-0" | 2'-0" | 7" | 7" | 194 | #4 | 5" | 33'-10" | 4,385 | 162 | #4 | 6" | 7'- 1" | 767 | 6'-10" | 739 | 162 | #5 | 6" | 28'- 0" | 4,731 | 42 | 8" | 39'-9" | 1,115 | 102 | 39'-9" | 2,708 | 56 | 2'- 0" | 75 | 205 | 4'- 6" | 616 | 5'- 0" | 685 | 33'-10" | 90 | 70 | 199 |
| 2 | 5'-0" | 3'-0" | 7" | 7" | 194 | #4 | 5" | 11'- 6" | 1,490 | 138 | #4 | 7" | 8'- 1" | 745 | 6'-10" | 630 | 162 | #5 | 6" | 5'- 8" | 957 | 14 | 8" | 39'-9" | 372 | 44 | 39'-9" | 1,168 | 56 | 3'- 0" | 112 | 41 | 4'- 6" | 123 | 7'- 0" | 192 | 11'- 6" | 31 | 26 | 74 |
| 3 | 5'-0" | 3'-0" | 7" | 7" | 194 | #4 | 5" | 17'- 1" | 2,214 | 138 | #4 | 7" | 8'- 1" | 745 | 6'-10" | 630 | 162 | #5 | 6" | 11'- 3" | 1,901 | 21 | 8" | 39'-9" | 558 | 62 | 39'-9" | 1,646 | 56 | 3'- 0" | 112 | 82 | 4'- 6" | 246 | 7'- 0" | 383 | 17'- 1" | 46 | 36 | 102 |
| 4 | 5'-0" | 3'-0" | 7" | 7" | 194 | #4 | 5" | 22'- 8" | 2,937 | 138 | #4 | 7" | 8'- 1" | 745 | 6'-10" | 630 | 162 | #5 | 6" | 16'-10" | 2,844 | 28 | 8" | 39'-9" | 743 | 80 | 39'-9" | 2,124 | 56 | 3'- 0" | 112 | 123 | 4'- 6" | 370 | 7'- 0" | 575 | 22'- 8" | 61 | 48 | 136 |
| 5 | 5'-0" | 3'-0" | 7" | 7" | 194 | #4 | 5" | 28'- 3" | 3,661 | 138 | #4 | 7" | 8'- 1" | 745 | 6'-10" | 630 | 162 | #5 | 6" | 22'- 5" | 3,788 | 35 | 8" | 39'-9" | 929 | 98 | 39'-9" | 2,602 | 56 | 3'- 0" | 112 | 164 | 4'- 6" | 493 | 7'- 0" | 767 | 28'- 3" | 75 | 60 | 170 |
| 6 | 5'-0" | 3'-0" | 7" | 7" | 194 | #4 | 5" | 33'-10" | 4,385 | 138 | #4 | 7" | 8'- 1" | 745 | 6'-10" | 630 | 162 | #5 | 6" | 28'- 0" | 4,731 | 42 | 8" | 39'-9" | 1,115 | 116 | 39'-9" | 3,080 | 56 | 3'- 0" | 112 | 205 | 4'- 6" | 616 | 7'- 0" | 959 | 33'-10" | 90 | 70 | 199 |
| 2 | 5'-0" | 4'-0" | 7" | 7" | 194 | #4 | 5" | 11'- 6" | 1,490 | 138 | #4 | 7" | 9'- 1" | 837 | 6'-10" | 630 | 162 | #5 | 6" | 5'- 8" | 957 | 14 | 8" | 39'-9" | 372 | 44 | 39'-9" | 1,168 | 56 | 4'- 0" | 150 | 41 | 4'- 6" | 123 | 9'- 0" | 246 | 11'- 6" | 31 | 26 | 74 |
| 3 | 5'-0" | 4'-0" | 7" | 7" | 194 | #4 | 5" | 17'- 1" | 2,214 | 138 | #4 | 7" | 9'- 1" | 837 | 6'-10" | 630 | 162 | #5 | 6" | 11'- 3" | 1,901 | 21 | 8" | 39'-9" | 558 | 62 | 39'-9" | 1,646 | 56 | 4'- 0" | 150 | 82 | 4'- 6" | 246 | 9'- 0" | 493 | 17'- 1" | 46 | 36 | 102 |
| 4 | 5'-0" | 4'-0" | 7" | 7" | 194 | #4 | 5" | 22'- 8" | 2,937 | 138 | #4 | 7" | 9'- 1" | 837 | 6'-10" | 630 | 162 | #5 | 6" | 16'-10" | 2,844 | 28 | 8" | 39'-9" | 743 | 80 | 39'-9" | 2,124 | 56 | 4'- 0" | 150 | 123 | 4'- 6" | 370 | 9'- 0" | 739 | 22'- 8" | 61 | 48 | 136 |
| 5 | 5'-0" | 4'-0" | 7" | 7" | 194 | #4 | 5" | 28'- 3" | 3,661 | 138 | #4 | 7" | 9'- 1" | 837 | 6'-10" | 630 | 162 | #5 | 6" | 22'- 5" | 3,788 | 35 | 8" | 39'-9" | 929 | 98 | 39'-9" | 2,602 | 56 | 4'- 0" | 150 | 164 | 4'- 6" | 493 | 9'- 0" | 986 | 28'- 3" | 75 | 60 | 170 |
| 6 | 5'-0" | 4'-0" | 7" | 7" | 194 | #4 | 5" | 33'-10" | 4,385 | 138 | #4 | 7" | 9'- 1" | 837 | 6'-10" | 630 | 162 | #5 | 6" | 28'- 0" | 4,731 | 42 | 8" | 39'-9" | 1,115 | 116 | 39'-9" | 3,080 | 56 | 4'- 0" | 150 | 205 | 4'- 6" | 616 | 9'- 0" | 1,232 | 33'-10" | 90 | 70 | 199 |
| 2 | 5'-0" | 5'-0" | 7" | 7" | 194 | #4 | 5" | 11'- 6" | 1,490 | 138 | #4 | 7" | 10'- 1" | 930 | 6'-10" | 630 | 162 | #5 | 6" | 5'- 8" | 957 | 14 | 8" | 39'-9" | 372 | 50 | 39'-9" | 1,328 | 56 | 5'- 0" | 187 | 41 | 4'- 6" | 123 | 11'- 0" | 301 | 11'- 6" | 31 | 26 | 74 |
| 3 | 5'-0" | 5'-0" | 7" | 7" | 194 | #4 | 5" | 17'- 1" | 2,214 | 138 | #4 | 7" | 10'- 1" | 930 | 6'-10" | 630 | 162 | #5 | 6" | 11'- 3" | 1,901 | 21 | 8" | 39'-9" | 558 | 70 | 39'-9" | 1,859 | 56 | 5'- 0" | 187 | 82 | 4'- 6" | 246 | 11'- 0" | 603 | 17'- 1" | 46 | 36 | 102 |
| 4 | 5'-0" | 5'-0" | 7" | 7" | 194 | #4 | 5" | 22'- 8" | 2,937 | 138 | #4 | 7" | 10'- 1" | 930 | 6'-10" | 630 | 162 | #5 | 6" | 16'-10" | 2,844 | 28 | 8" | 39'-9" | 743 | 90 | 39'-9" | 2,390 | 56 | 5'- 0" | 187 | 123 | 4'- 6" | 370 | 11'- 0" | 904 | 22'- 8" | 61 | 48 | 136 |
| 5 | 5'-0" | 5'-0" | 7" | 7" | 194 | #4 | 5" | 28'- 3" | 3,661 | 138 | #4 | 7" | 10'- 1" | 930 | 6'-10" | 630 | 162 | #5 | 6" | 22'- 5" | 3,788 | 35 | 8" | 39'-9" | 929 | 110 | 39'-9" | 2,921 | 56 | 5'- 0" | 187 | 164 | 4'- 6" | 493 | 11'- 0" | 1,205 | 28'- 3" | 75 | 60 | 170 |
| 6 | 5'-0" | 5'-0" | 7" | 7" | 194 | #4 | 5" | 33'-10" | 4,385 | 138 | #4 | 7" | 10'- 1" | 930 | 6'-10" | 630 | 162 | #5 | 6" | 28'- 0" | 4,731 | 42 | 8" | 39'-9" | 1,115 | 130 | 39'-9" | 3,452 | 56 | 5'- 0" | 187 | 205 | 4'- 6" | 616 | 11'- 0" | 1,506 | 33'-10" | 90 | 70 | 199 |

| QUANTITIES | | | | | |
|---|---|---|---|---|---|
| Per foot of Barrel | | Curb | | Total | |
| Conc (CY) | Reinf (Lb) | Conc (CY) | Reinf (Lb) | Conc (CY) | Reinf (Lb) |
| 0.637 | 141.7 | 0.9 | 105 | 26.4 | 5,774 |
| 0.922 | 205.2 | 1.3 | 148 | 38.2 | 8,356 |
| 1.206 | 268.6 | 1.7 | 197 | 49.9 | 10,942 |
| 1.491 | 332.1 | 2.1 | 245 | 61.7 | 13,529 |
| 1.775 | 395.5 | 2.5 | 289 | 73.5 | 16,110 |
| 0.702 | 144.7 | 0.9 | 105 | 29.0 | 5,894 |
| 1.008 | 210.9 | 1.3 | 148 | 41.6 | 8,583 |
| 1.314 | 277.0 | 1.7 | 197 | 54.3 | 11,277 |
| 1.620 | 343.2 | 2.1 | 245 | 66.9 | 13,972 |
| 1.926 | 409.3 | 2.5 | 289 | 79.5 | 16,662 |
| 0.767 | 149.3 | 0.9 | 105 | 31.6 | 6,078 |
| 1.095 | 216.9 | 1.3 | 148 | 45.1 | 8,823 |
| 1.422 | 284.4 | 1.7 | 197 | 58.6 | 11,571 |
| 1.750 | 351.9 | 2.1 | 245 | 72.1 | 14,321 |
| 2.078 | 419.4 | 2.5 | 289 | 85.6 | 17,065 |
| 0.832 | 158.0 | 0.9 | 105 | 34.2 | 6,423 |
| 1.181 | 228.2 | 1.3 | 148 | 48.5 | 9,276 |
| 1.530 | 298.4 | 1.7 | 197 | 62.9 | 12,132 |
| 1.880 | 368.6 | 2.1 | 245 | 77.3 | 14,989 |
| 2.229 | 438.8 | 2.5 | 289 | 91.7 | 17,841 |

Deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064 may be used to replace conventional reinforcement shown at the Contractor's option. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min and 18" Max. When required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes.

Example Conversion: Replacement of No. 6 Gr 60 at 6" Spacing with WWR.
WWR required = (0.44 sq in/ 0.5') x (60 ksi/70 ksi) = 0.754 sq in/ft.
If D30.6 wire is used to meet the 0.754 sq in/ft requirement in this example, the required spacing = (0.306 sq in/ 0.754 sq in/ft) x 12 in/ft = 4.87" Max spacing.
Required lap length for the provided D30.6 wire is 2'-2" (Lap required for uncoated No. 5 bars, as shown in Item 440).

HL93 LOADING SHEET 2 OF 2

Texas Department of Transportation

Bridge Division Standard

# MULTIPLE BOX CULVERTS CAST-IN-PLACE
## 5'-0" SPAN
## 0' TO 20' FILL

# MC-5-20

| FILE: mc520ste.dgn | DN: GAF | CK: LMW | DW: BWH/TxDOT | CK: GAF |
|---|---|---|---|---|
| ©TxDOT February 2010 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| 10-12 Added WWR | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 535 |

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/10/2019 10:13:11 AM
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DATE: 4/10/2019 10:13:13 AM
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## TABLE OF DIMENSIONS & REINFORCING STEEL
(Wings for One Structure End)

| Dimensions | | | | | Variable Reinforcing | | | | Estimated (3) Quantities per ft of wing length (2~Wings) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Bars J1 | | Bars J2 | | | |
| Maximum Wingwall Height Hw | W | X | Y | Z | Size | Spa | Size | Spa | Reinf (Lb/Ft) | Conc (CY/Ft) |
| 2'-6" | 2'- 5" | 1'- 0" | 9" | 7" | #4 | 1'-0" | #4 | 1'-0" | 33.73 | 0.248 |
| 3'-0" | 2'- 5" | 1'- 0" | 9" | 7" | #4 | 1'-0" | #4 | 1'-0" | 37.07 | 0.261 |
| 3'-6" | 2'- 5" | 1'- 0" | 9" | 7" | #4 | 1'-0" | #4 | 1'-0" | 37.74 | 0.273 |
| 4'-0" | 2'- 5" | 1'- 0" | 9" | 7" | #4 | 1'-0" | #4 | 1'-0" | 38.41 | 0.285 |
| 4'-6" | 3'- 2" | 1'- 6" | 1'- 0" | 7" | #4 | 1'-0" | #4 | 1'-0" | 41.75 | 0.330 |
| 5'-0" | 3'- 2" | 1'- 6" | 1'- 0" | 7" | #4 | 1'-0" | #4 | 1'-0" | 45.09 | 0.343 |
| 5'-6" | 3'- 2" | 1'- 6" | 1'- 0" | 7" | #4 | 1'-0" | #4 | 1'-0" | 45.75 | 0.355 |
| 6'-0" | 3'- 2" | 1'- 6" | 1'- 0" | 7" | #4 | 1'-0" | #4 | 1'-0" | 46.42 | 0.367 |
| 7'-0" | 3'- 8" | 1'- 9" | 1'- 3" | 7" | #4 | 1'-0" | #4 | 1'-0" | 52.77 | 0.414 |
| 8'-0" | 4'- 2" | 2'- 0" | 1'- 6" | 8" | #5 | 1'-0" | #4 | 1'-0" | 60.19 | 0.486 |
| 9'-0" | 4'- 8" | 2'- 3" | 1'- 9" | 8" | #4 | 6" | #4 | 6" | 81.49 | 0.535 |
| 10'-0" | 5'- 2" | 2'- 6" | 2'- 0" | 8" | #5 | 6" | #4 | 6" | 97.25 | 0.584 |
| 11'-0" | 5'- 8" | 2'- 9" | 2'- 3" | 8" | #6 | 6" | #5 | 6" | 133.65 | 0.634 |
| 12'-0" | 6'- 2" | 3'- 0" | 2'- 6" | 9" | #7 | 6" | #5 | 6" | 162.29 | 0.721 |
| 13'-0" | 6'- 8" | 3'- 3" | 2'- 9" | 11" | #7 | 6" | #5 | 6" | 178.80 | 0.856 |
| 14'-0" | 7'- 2" | 3'- 6" | 3'- 0" | 1'- 0" | #8 | 6" | #5 | 6" | 216.78 | 0.959 |
| 15'-0" | 7'- 8" | 4'- 0" | 3'- 0" | 1'- 1" | #9 | 6" | #6 | 6" | 283.06 | 1.068 |
| 16'-0" | 8'- 2" | 4'- 6" | 3'- 0" | 1'- 3" | #9 | 6" | #6 | 6" | 297.02 | 1.234 |

## TABLE OF WINGWALL REINFORCING (2~Wings)

| Bar | Size | No. | Spa |
|---|---|---|---|
| D | #5 | ~ | 1'-0" |
| E | #4 | ~ | 1'-0" |
| F | #4 | ~ | 1'-0" |
| G | #6 | 4 | ~ |
| M | #4 | 4 | ~ |
| P | #4 | ~ | 1'-0" |
| R | #5 | 6 | ~ |
| V | #4 | ~ | 1'-0" |

## TABLE OF ESTIMATED CULVERT TOEWALL QUANTITIES

| Bar | Size | No. | Spa |
|---|---|---|---|
| L | #4 | ~ | 1'-6" |
| Q | #4 | 1 | ~ |
| Reinf (Lb/Ft) | | | 2.45 |
| Conc (CY/Ft) | | | 0.037 |

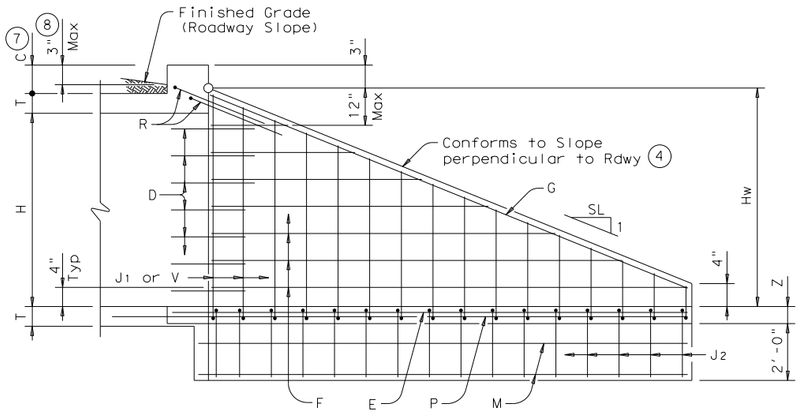
## WING DIMENSION CALCULATIONS:

Formulas: (All values are in Feet)
Hw = H + T + C - 0.250'
Lw = (Hw - 0.333') (SL)
For Cast-in-place culverts:
Ltw = (N) (S) + (N + 1) (U)
For Precast culverts:
Ltw = (N) (2U + S) + (N - 1) (0.5')
Total Wingwall Area (Two Wings ~ S.F.) = (Hw + 0.333') (Lw)

Hw = Height of Wingwall
SL:1 = Side Slope Ratio (Horizontal:1 Vertical)
Lw = Length of Wingwall
Ltw = Culvert Toewall Length
N = Number of Culvert Spans

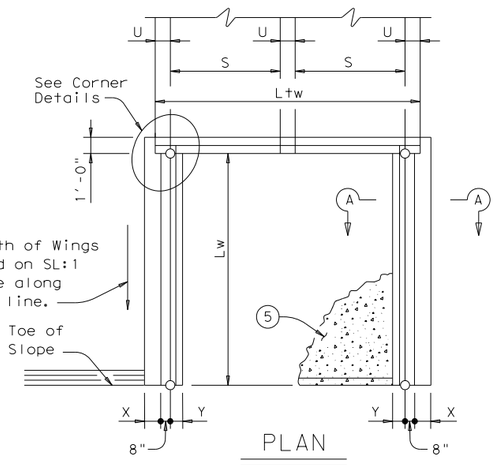
See applicable box culvert standard for H, S, T, and U values.

1. Extend Bars P 3'-0" minimum into bottom slab of Box Culvert.
2. Adjust to fit as necessary to maintain 1 ¼" clear cover and 4" minimum between bars.
3. Quantities shown are based on an average wing height for two wings (one structure end). To determine total quantities for two wings multiply the tabulated values by Lw.
4. Recommended values of Slope are: 2:1, 3:1, 4:1, & 6:1.
5. When shown elsewhere on the plans, a 5" deep concrete riprap shall be constructed. Payment for riprap shall be as required by Item 432, "Riprap". Unless otherwise shown on the plans or directed by the Engineer, the riprap shall have a 6" wide by 1'-6" deep reinforced concrete toewall along all edges adjacent to natural ground; the toewall shall be reinforced by extending typical riprap reinforcing into the toewall; construction joints or grooved joints, oriented in the direction of flow, shall extend across the full distance of the riprap, at intervals of approximately 20'. When such riprap is provided, the culvert toewall shown in SECTION B-B will not be required.
6. At Contractor's option, Culvert Toewall may be ended flush with Wingwall Toewall. Adjust reinforcing from that shown as necessary.
7. 0" min to 5'-0" max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail, bicycle rail or curbs taller than 1'-0", refer to ECD standard. For structures with T6 bridge rail, refer to T6-CM standard. For structures with traffic rail, other than T6, refer to RAC standard.
8. For vehicle safety, curb heights and wall heights shall be reduced, if necessary, to provide a maximum 3" projection above finished grade. No changes will be made in quantities and no additional compensation will be allowed for this work.



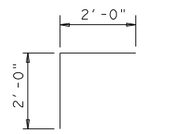

INSIDE ELEVATION

(Showing reinforcing. Culvert and Culvert Toewall reinforcing not shown for clarity.)

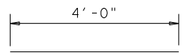



PLAN

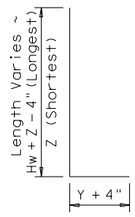
(Showing Dimensions)



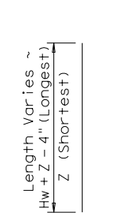

BARS R



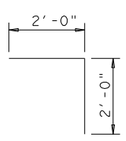

BARS D



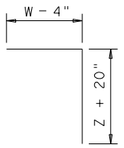

BARS J1




BARS V

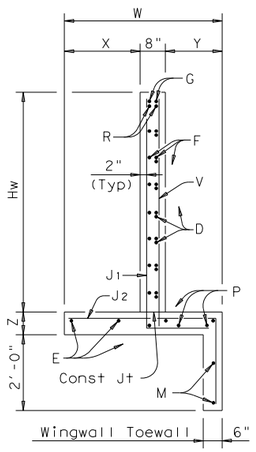



BARS L

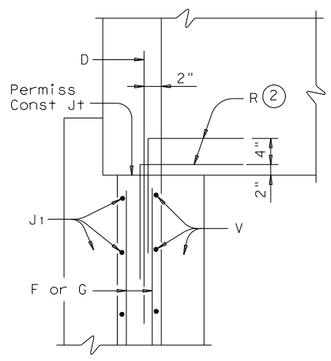



BARS J2

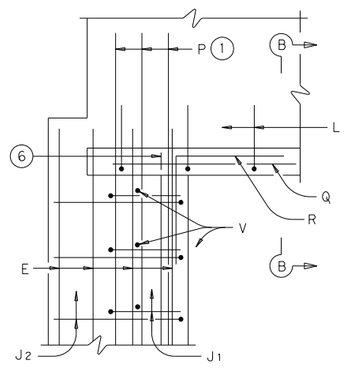
GENERAL NOTES:
Designed according to AASHTO LRFD Specifications.
All reinforcing steel shall be Grade 60.
Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.
All concrete shall be Class "C" and shall have a minimum compressive strength of 3600 psi.
All reinforcing bars shall be adjusted to provide a minimum of 1 ¼" clear cover.
When structure is founded on solid rock, depth of toewalls for culverts and wingwalls may be reduced or eliminated as directed by the Engineer.
See BCS sheet for additional dimensions and information.
The quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for Contractor's information only.




SECTION A-A

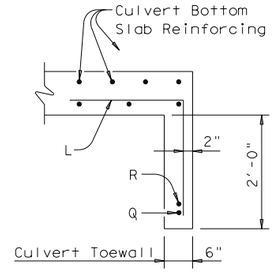



WINGWALL




FOOTING AND TOEWALL

CORNER DETAILS




SECTION B-B (5)

Texas Department of Transportation

Bridge Division Standard

# CONCRETE WINGWALLS
## WITH STRAIGHT WINGS FOR 0° SKEW BOX CULVERTS

## SW-0

| FILE: sw-0std e.dgn | DN: GAF | CK: CAT | DW: TxDOT | CK: GAF |
|---|---|---|---|---|
| ©TxDOT February 2010 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| 11-10: Add note for synthetic fibers. | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 536 |

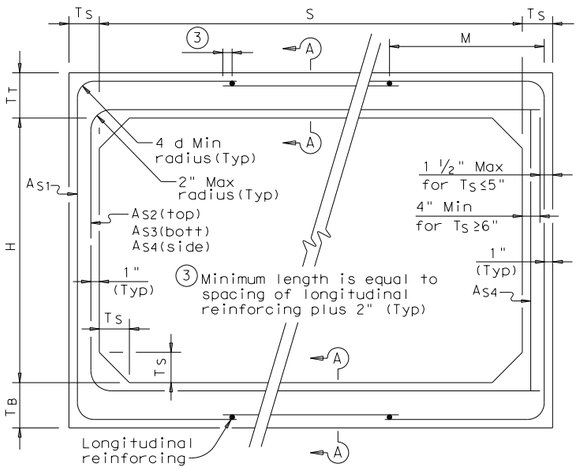
DATE: 4/10/2019
FILE: P:\111\35\08\Design\Civil\Standards\Roadway\scp06sts.dgn

## BOX DATA

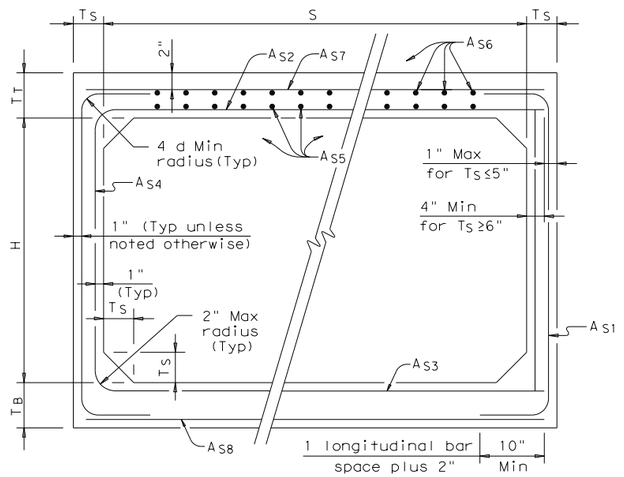
| SECTION DIMENSIONS | | | | | Fill Height | M (Min) | REINFORCING (in²/ft) ② | | | | | | | | ① Lift Weight (Tons) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S (ft) | H (ft) | $T_T$ (in) | $T_B$ (in) | $T_S$ (in) | (ft) | (in) | $A_{S1}$ | $A_{S2}$ | $A_{S3}$ | $A_{S4}$ | $A_{S5}$ | $A_{S6}$ | $A_{S7}$ | $A_{S8}$ | |
| 6 | 3 | 8 | 7 | 7 | <2 | - | 0.20 | 0.31 | 0.22 | 0.17 | 0.19 | 0.19 | 0.19 | 0.17 | 7.9 |
| 6 | 3 | 7 | 7 | 7 | 2<3 | 43 | 0.21 | 0.24 | 0.19 | 0.17 | - | - | - | - | 7.5 |
| 6 | 3 | 7 | 7 | 7 | 3-5 | 39 | 0.17 | 0.18 | 0.17 | 0.17 | - | - | - | - | 7.5 |
| 6 | 3 | 7 | 7 | 7 | 10 | 39 | 0.17 | 0.18 | 0.19 | 0.17 | - | - | - | - | 7.5 |
| 6 | 3 | 7 | 7 | 7 | 15 | 38 | 0.22 | 0.24 | 0.24 | 0.17 | - | - | - | - | 7.5 |
| 6 | 3 | 7 | 7 | 7 | 20 | 38 | 0.28 | 0.31 | 0.31 | 0.17 | - | - | - | - | 7.5 |
| 6 | 3 | 7 | 7 | 7 | 25 | 38 | 0.35 | 0.38 | 0.39 | 0.17 | - | - | - | - | 7.5 |
| 6 | 3 | 7 | 7 | 7 | 30 | 38 | 0.42 | 0.46 | 0.46 | 0.17 | - | - | - | - | 7.5 |
| | | | | | | | | | | | | | | | |
| 6 | 4 | 8 | 7 | 7 | <2 | - | 0.19 | 0.34 | 0.25 | 0.17 | 0.19 | 0.19 | 0.19 | 0.17 | 8.6 |
| 6 | 4 | 7 | 7 | 7 | 2<3 | 43 | 0.19 | 0.27 | 0.21 | 0.17 | - | - | - | - | 8.2 |
| 6 | 4 | 7 | 7 | 7 | 3-5 | 39 | 0.17 | 0.21 | 0.19 | 0.17 | - | - | - | - | 8.2 |
| 6 | 4 | 7 | 7 | 7 | 10 | 39 | 0.17 | 0.20 | 0.21 | 0.17 | - | - | - | - | 8.2 |
| 6 | 4 | 7 | 7 | 7 | 15 | 38 | 0.18 | 0.27 | 0.27 | 0.17 | - | - | - | - | 8.2 |
| 6 | 4 | 7 | 7 | 7 | 20 | 38 | 0.24 | 0.34 | 0.35 | 0.17 | - | - | - | - | 8.2 |
| 6 | 4 | 7 | 7 | 7 | 25 | 38 | 0.29 | 0.43 | 0.42 | 0.17 | - | - | - | - | 8.2 |
| 6 | 4 | 7 | 7 | 7 | 30 | 38 | 0.35 | 0.51 | 0.52 | 0.17 | - | - | - | - | 8.2 |
| | | | | | | | | | | | | | | | |
| 6 | 5 | 8 | 7 | 7 | <2 | - | 0.19 | 0.37 | 0.28 | 0.17 | 0.19 | 0.19 | 0.19 | 0.17 | 9.3 |
| 6 | 5 | 7 | 7 | 7 | 2<3 | 43 | 0.17 | 0.30 | 0.24 | 0.17 | - | - | - | - | 8.9 |
| 6 | 5 | 7 | 7 | 7 | 3-5 | 43 | 0.17 | 0.23 | 0.21 | 0.17 | - | - | - | - | 8.9 |
| 6 | 5 | 7 | 7 | 7 | 10 | 39 | 0.17 | 0.22 | 0.23 | 0.17 | - | - | - | - | 8.9 |
| 6 | 5 | 7 | 7 | 7 | 15 | 38 | 0.17 | 0.28 | 0.29 | 0.17 | - | - | - | - | 8.9 |
| 6 | 5 | 7 | 7 | 7 | 20 | 38 | 0.20 | 0.37 | 0.38 | 0.17 | - | - | - | - | 8.9 |
| 6 | 5 | 7 | 7 | 7 | 25 | 38 | 0.25 | 0.45 | 0.46 | 0.17 | - | - | - | - | 8.9 |
| 6 | 5 | 7 | 7 | 7 | 30 | 38 | 0.30 | 0.54 | 0.55 | 0.17 | - | - | - | - | 8.9 |
| | | | | | | | | | | | | | | | |
| 6 | 6 | 8 | 7 | 7 | <2 | - | 0.19 | 0.38 | 0.30 | 0.17 | 0.19 | 0.19 | 0.19 | 0.17 | 10.0 |
| 6 | 6 | 7 | 7 | 7 | 2<3 | 52 | 0.17 | 0.32 | 0.26 | 0.17 | - | - | - | - | 9.6 |
| 6 | 6 | 7 | 7 | 7 | 3-5 | 52 | 0.17 | 0.24 | 0.22 | 0.17 | - | - | - | - | 9.6 |
| 6 | 6 | 7 | 7 | 7 | 10 | 43 | 0.17 | 0.23 | 0.24 | 0.17 | - | - | - | - | 9.6 |
| 6 | 6 | 7 | 7 | 7 | 15 | 39 | 0.17 | 0.29 | 0.31 | 0.17 | - | - | - | - | 9.6 |
| 6 | 6 | 7 | 7 | 7 | 20 | 39 | 0.18 | 0.38 | 0.39 | 0.17 | - | - | - | - | 9.6 |
| 6 | 6 | 7 | 7 | 7 | 25 | 38 | 0.23 | 0.46 | 0.48 | 0.17 | - | - | - | - | 9.6 |
| 6 | 6 | 7 | 7 | 7 | 30 | 38 | 0.27 | 0.55 | 0.57 | 0.17 | - | - | - | - | 9.6 |

① For Box Length = 8'-0"

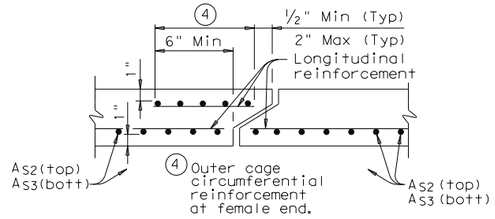
② $A_{S1}$ thru $A_{S4}$, $A_{S7}$ and $A_{S8}$ are minimum required areas of reinforcement per linear foot of box length. $A_{S6}$ and $A_{S5}$ are minimum required areas of reinforcement per linear foot of box width.




## FILL HEIGHT 2 FT AND GREATER




## FILL HEIGHT LESS THAN 2 FT




## SECTION A-A

(TOP AND BOTTOM SLAB JOINT REINFORCEMENT)

GENERAL NOTES:

Designs shown conform to ASTM C1577.

Refer to ASTM C1577 for information or details not shown.

All concrete shall be Class "H" Concrete with a minimum compressive strength of 5,000 psi.

See SCP-MD standard sheet for miscellaneous details and notes not shown.

In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Shop plans for alternate designs shall be submitted in accordance with Item "Precast Concrete Structural Members (Fabrication)".

HL93 LOADING

Texas Department of Transportation

Bridge Division Standard

# SINGLE BOX CULVERTS PRECAST

## 6'-0" SPAN

## SCP-6

| FILE: scp06sts.dgn | DN: GAF | CK: LMW | DW: BWH/TxDOT | CK: GAF |
|---|---|---|---|---|
| ©TxDOT February 2010 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 537 |

| Culvert Station and/or Creek name followed by applicable end (Lt, Rt or Both) | Description of Box Culvert<br>No. Spans ~ Span X Height | Max Fill Height<br>(Ft) | Applicable Box Culvert Standard (4) | Applicable Wingwall or End Treatment Standard | Skew Angle<br>(0°, 15°, 30° or 45°) | Side Slope or Channel Slope Ratio<br>(SL:1) | T Culvert Top Slab Thickness<br>(In) | U Culvert Wall Thickness<br>(In) | C Estimated Curb Height<br>(Ft) | Hw (1) Height of Wingwall<br>(Ft) | A Curb to End of Wingwall<br>(Ft) | B Offset of End of Wingwall<br>(Ft) | Lw Length of Longest Wingwall<br>(Ft) | Ltw Culvert Toewall Length<br>(Ft) | Atw Anchor Toewall Length<br>(Ft) | Riprap Apron<br>(C.Y.) | Class "C" Conc (Curb) (2)<br>(C.Y.) | Class "C" Conc (Wingwall) (3)<br>(C.Y.) | Total Wingwall Area<br>(S.F.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STA 1449+50, RT | 1 ~ 6′ X 3′ | 3′ | SCP-6 | SETB-PD | 0 | 6:1 | 8" | 7 | 1.0 | 4.9 | N/A | N/A | 27.9 | N/A | 7.16 | N/A | 0.60 | 6.0 | 71.84 |
| STA 1482+00, RT | 2 ~ 5′ X 2′ | 2′ | MC-5-20 | SETB-PD | 0 | 6:1 | 7" | 7" | 0.0 | 2.92 | N/A | N/A | 16.0 | N/A | 11.24 | N/A | 0.0 | 5.8 | 76.08 |

NOTES:

Skew Angle = 0° for SW-0, FW-0, SETB-CD, SETB-SW-0, and SETB-FW-0 standards.
30° Maximum for Safety End Treatment

SL:1 = Horizontal:1 Vertical
Side Slope at culvert for Flared or Straight Wingwalls. Channel Slope for Parallel Wingwalls.
Slope shall be 3:1 or flatter for Safety End Treatments.

T = Box Culvert Top Slab Thickness. Dimension can be found on the applicable Box Culvert Standard.

U = Box Culvert Wall Thickness. Dimension can be found on the applicable Box Culvert Standard.

C = Curb Height.

See applicable wing or end treatment standards for calculations of Hw, A, B, Lw, Ltw, Atw, and Total Wingwall Area.
Hw = Height of Wingwall.
A = Distance from Face of Curb to End of Wingwall (Not applicable to Parallel or Straight Wingwalls).
B = Offset of End of Wingwall (Not applicable to Parallel or Straight Wingwalls).
Lw = Length of Longest Wingwall.
Ltw = Length of Culvert Toewall (Not applicable when using Riprap Apron).
Atw = Length of Anchor Toewall (Applicable to Safety End Treatment only).
Total Wingwall Area = Wingwall area in S.F. for two wingwalls (one structure end) if Lt or Rt.
Area for four wingwalls (two structure ends) if Both.

(1) The wall heights shown will be rounded to the nearest Foot for bidding purposes.

(2) Concrete volume shown is for box culvert curb only. For curbs using the RAC standard, quantities shown must be increased by a factor of 2. If Class "S" concrete is required for the top slab of the culvert, the curb concrete shall also be Class "S". Curb concrete is considered part of the Box Culvert for payment.

(3) Concrete volume shown is total of wing, footing, culvert toewall (if any), anchor toewall (if any) and wingwall toewall. Riprap apron, culvert and curb quantities are not included.

(4) Regardless of the type of culvert shown on this sheet, the Contractor shall have the option of furnishing cast-in-place or precast culverts unless otherwise shown elsewhere on the plans. If the Contractor elects to provide culverts of a different type than those shown on this sheet, it shall be the Contractor's responsibility to make the necessary adjustments to the dimensions and quantities shown.

SPECIAL NOTE:

This sheet is a supplement to the Box Culvert standards. It is to be filled out by the culvert specifier and provides dimensions for the construction of the Box Culvert Wingwalls and Safety End Treatments.

An Excel 97 spreadsheet to assist in completing this table can be downloaded from the Bridge Standards (English) web page on the TxDOT web site. The completed sheet shall be signed, sealed, and dated by a licensed Professional Engineer.

Texas Department of Transportation

Bridge Division Standard

# BOX CULVERT SUPPLEMENT
## WINGS AND END TREATMENTS

BCS

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|---|---|---|---|---|
| ©TxDOT February 2010 REVISIONS | CONT | SECT | JOB | HIGHWAY |
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| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 538 |

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## GENERAL NOTES FOR ALL ELECTRICAL WORK

1. The location of all conduits, junction boxes, ground boxes, and electrical services is diagrammatic and may be shifted to accommodate field conditions.

2. Provide new and unused materials. Ensure that all materials and installations comply with the applicable articles of the National Electrical Code (NEC), TxDOT standards and specifications, National Electrical Manufacturers Association (NEMA), and are listed by Underwriters Laboratories (UL) or a Nationally Recognized Testing Lab (NRTL). NRTLs such as Canadian Standard Association (CSA), Intertek Testing Services NA Inc., or FM Approvals LLC can be considered equivalent to UL. Where reference is made to NEMA listed devices, International Electrotechnical Commission (IEC) listed devices will not be considered an acceptable equal to a NEMA listed device. Acceptable devices may have both a NEMA and IEC listing. Faulty fabrication or poor workmanship in any material, equipment, or installation is justification for rejection. Replace or reinstall rejected material or equipment at no additional cost to the Department.

3. Miscellaneous nuts, bolts and hardware, except for high strength bolts, may be stainless steel when plans specify galvanized, provided the bolt size is ½ in. or less in diameter.

4. Provide the following test equipment as required by the Engineer to confirm compliance with the contract and the NEC: voltmeter, ammeter, megohm meter (1000 volt DC), ground resistance tester, torque wrenches, and torque screwdrivers. Ensure all equipment has been properly calibrated within the last year. Provide calibration certification to the Engineer upon request. Operate test equipment during inspection as requested by the Engineer.

5. Install grounding as shown on the plans and in accordance with the NEC. Ensure all metallic conduits; metal poles; luminaires; and metal enclosures are bonded to the equipment grounding conductor. Provide stranded bare copper or green insulated grounding conductors. Ground rods, connectors, and bonding jumpers are subsidiary to the various bid items.

6. When required by the Engineer, notify the Department in writing of materials from the Material Producers List (MPL) intended for use on each project. Prequalified materials are listed on the MPL on TxDOT's website under "Roadway Illumination and Electrical Supplies." No substitutions will be allowed for materials on this list.

## CONDUIT

### A. MATERIALS

1. Provide conduit, junction boxes, fittings, and hardware as per TxDOT Departmental Material Specification (DMS) 11030 "Conduit" and Item 618 "Conduit" of TxDOT's "Standard Specifications For Construction And Maintenance Of Highways, Streets, And Bridges," latest edition. Provide conduits listed under Item 618 on the MPL under "Roadway Illumination and Electrical Supplies." Provide conduit types according to the descriptive code or as shown on the plans. Do not substitute other types of conduits for those shown. Provide liquidtight flexible metal conduit (LFMC) when flexible conduit is called for on galvanized steel rigid metallic conduit (RMC) systems. Provide liquidtight flexible nonmetallic conduit (LFNC) when flexible conduit is called for on polyvinyl chloride (PVC) systems.

2. Provide galvanized steel RMC for all exposed conduits, unless otherwise shown on the plans. Properly bond all metal conduits.

3. Unless otherwise shown on the plans, provide junction boxes with a minimum size as shown in the following table, which applies to the greatest number of conductors entering the box through one conduit with no more than four conduits per box. When a mixture of conductor sizes is present, count the conductors as if all are of the larger size. For situations not applicable to the table, size junction boxes in accordance with NEC.

| AWG | 3 CONDUCTORS | 5 CONDUCTORS | 7 CONDUCTORS |
|---|---|---|---|
| #1 | 10" x 10" x 4" | 12" x 12" x 4" | 16" x 16" x 4" |
| #2 | 8" x 8" x 4" | 10" x 10" x 4" | 12" x 12" x 4" |
| #4 | 8" x 8" x 4" | 10" x 10" x 4" | 10" x 10" x 4" |
| #6 | 8" x 8" x 4" | 8" x 8" x 4" | 10" x 10" x 4" |
| #8 | 8" x 8" x 4" | 8" x 8" x 4" | 8" x 8" x 4" |

4. Junction boxes with an internal volume of less than 100 cu. in. and supported by entering raceways must have threaded entries or hubs identified for the intended purpose and supported by connection of two or more rigid metal conduits. Secure conduit within 3 ft. of the enclosure or within 18 in. of the enclosure if all conduit entries are on the same side. Mechanically secure all junction boxes with an internal volume greater than 100 cu. inches.

5. Provide hot dipped galvanized cast iron or sand cast aluminum outlet boxes for junction boxes containing only 10 AWG or 12 AWG conductors. Do not use die cast aluminum boxes. Size outlet boxes according to the NEC.

6. Do not use intermediate metal conduit (IMC) or electrical metallic tubing (EMT) unless specifically required by the plan sheets. When EMT is called for, provide junction boxes made from galvanized steel sheeting, listed and approved for outdoor use, unless otherwise noted on the plans. Size all galvanized steel junction boxes in accordance with the NEC. Provide junction boxes for IMC conduit systems that meet the same requirements for junction boxes used with RMC systems.

7. Provide PVC junction boxes intended for outdoor use on PVC conduit systems, unless otherwise noted on the plans.

8. Provide PVC elbows in PVC conduit systems, unless otherwise shown on the plans. Use only a flat, high tensile strength polyester fiber pull tape for pulling conductors through the PVC conduit system. When galvanized steel RMC elbows are specifically called for in the plans and any portion of the RMC elbow is buried less than 18 in., ground the RMC elbow by means of a grounding bushing on a rigid metal extension. Grounding of the rigid metal elbow is not required if the entire RMC elbow is encased in a minimum of 2 in. of concrete. PVC extensions are allowed on these concrete encased rigid metal elbows. RMC or PVC elbows are subsidiary to various bid items.

9. When required, provide High-Density Polyethylene (HDPE) conduit with factory installed internal conductors according to Item 622 "Duct Cable." At the Contractor's request and with approval by the Engineer, substitute HDPE conduit with no conductors for bored schedule 40 or schedule 80 PVC conduit bid under Item 618. Ensure bored HDPE substituted for PVC is schedule 40 and of the same size PVC called for in the plans. Ensure the substituted HDPE meets the requirements of Item 622, except that the conduit is supplied without factory-installed conductors. Make the transition of the HDPE conduit to PVC (or RMC elbow when required) at the bore pit. Provide conduit of the size and schedule as shown on the plans. Do not extend substituted conduit into ground boxes or foundations. Provide PVC or galvanized steel RMC elbows as called for at all ground boxes and foundations.

10. Use two-hole straps when supporting 2 in. and larger conduits. On electrical service poles, properly sized stainless steel or hot dipped galvanized one-hole standoff straps are allowed on the service riser conduit.

### B. CONSTRUCTION METHODS

1. Provide and install expansion joint conduit fittings on all structure-mounted conduits at the structure's expansion joints to allow for movement of the conduit. In addition, provide and install expansion joint fittings on all continuous runs of galvanized steel RMC conduit externally exposed on structures such as bridges at maximum intervals of 150 ft. When requested by the project Engineer, supply manufacturer's specification sheet for expansion joint conduit fittings. Repair or replace expansion joint fittings that do not allow for movement at no additional cost to the Department. Provide the method of determining the amount of expansion to the Engineer upon request. Do not use LFMC or LFNC as a substitute for the required expansion conduit fittings.

2. Space all conduit supports at maximum intervals of 5 ft. Install conduit spacers when attaching metal conduit to surface of concrete structures. See "Conduit Mounting Options" on ED(2). Install conduit support within 3 ft. of all enclosures and conduit terminations.

3. Do not attach conduit supports directly to pre-stressed concrete beams except as shown specifically in the plans or as approved by the Engineer.

4. Unless otherwise shown on the plans, jack or bore conduit placed beneath existing roadways, driveways, sidewalks, or after the base or surfacing operation has begun. Backfill and compact the bore pits below the conduit per Item 476 "Jacking, Boring, or Tunneling Pipe or Box" prior to installing conduit or duct cable to prevent bending of the connections.

5. When placing conduit in the sub-grade of new roadways, backfill all trenches with excavated material unless otherwise noted on the plans. When placing conduit in the sub-base of new roadways, backfill all trenches with cement-stabilized base as per requirements of Items 110 "Excavation", 400 "Excavation and Backfill for Structures", 401 "Flowable Backfill", 402 "Trench Excavation Protection", and 403 "Temporary Special Shoring."

6. Provide and place warning tape approximately 10 in. above all trenched conduit as per Item 618.

7. During construction, temporarily cap or plug open ends of all conduit and raceways immediately after installation to prevent entry of dirt, debris and animals. Temporary caps constructed of durable duct tape are allowed. Tightly fix the tape to the conduit opening. Clean out the conduit and prove it clear in accordance with Item 618 prior to installing any conductors.

8. Ensure conduit entry into the top of any enclosure is waterproof by installing conduit sealing hubs or using boxes with threaded bosses. This includes surface mounted safety switches, meter cans, service enclosures, auxiliary enclosures and junction boxes. Grounding bushings on water tight sealing hubs are not required.

9. Fit the ends of all PVC conduit terminations with bushings or bell end fittings. Provide and install a grounding type bushing on all metal conduit terminations.

10. Install a bonding jumper from each grounding bushing to the nearest ground rod, grounding lug, or equipment grounding conductor. Ensure all bonding jumpers are the same size as the equipment grounding conductor. Bonding of conduit used as a casing under roadways for duct cable is not required, if the duct extends the full length through the casing.

11. At all electrical services, install a 6 AWG solid copper grounding electrode conductor.

12. Place conduits entering ground boxes so that the conduit openings are between 3 in. and 6 in. from the bottom of the box. See the ground box detail on sheet ED(4).

13. Seal ends of all conduits with duct seal, expandable foam, or by other methods approved by the Engineer. Seal conduit immediately after completion of conductor installation and pull tests. Do not use duct tape as a permanent conduit sealant. Do not use silicone caulk as a conduit sealant.

14. File smooth the cut ends of all mounting strut and conduit. Before installing, paint the field cut ends of all mounting strut and RMC (threaded or non-threaded) with zinc rich paint (94% or more zinc content) to alleviate overspray. Use zinc rich paint to touch up galvanized material as allowed under Item 445 "Galvanizing." Do not paint non-galvanized material with a zinc rich paint as an alternative for materials required to be galvanized.

Texas Department of Transportation

Traffic Operations Division Standard

# ELECTRICAL DETAILS CONDUITS & NOTES

## ED(1)-14

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| © TxDOT | October 2014 | CONT | SECT | JOB | HIGHWAY |
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## ELECTRICAL CONDUCTORS

### A. MATERIAL INFORMATION

1. Provide Type XHHW insulated conductors in accordance with Departmental Material Specification (DMS)11040 "Conductors" and Item 620 "Electrical Conductors." Provide conductors as listed on the Material Producers List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies" Item 620. Color code insulated conductors in conformance with the NEC. Identify grounded (neutral) conductors with white insulation. Identify grounding conductors (ground wires) with green insulation or bare conductors. Identify ungrounded (hot) conductors with any color insulation except green, white, or gray. Keep color scheme consistent throughout the wiring system. Identify conductors 6 American Wire Gauge (AWG) and smaller by continuous color jacket. Identify electrical conductors 4 AWG and larger by continuous color jacket or by colored tape. When identifying conductors with colored tape, mark at least 6 in. of the conductor's insulation with half laps of tape.

2. Provide a solid copper 6 AWG grounding electrode conductor to bond the electrical service equipment to the concrete encased grounding electrode or the ground rod at the service location. Connect the grounding electrode conductor to the ground rod with a UL listed connector in accordance with DMS 11040. Connect the grounding electrode conductor to the concrete encased grounding electrode as shown in the plans.

3. Where two or more circuits are present in one conduit or enclosure, permanently identify the conductors of each branch circuit by attaching a non-metallic tag around both circuit conductors at each accessible location. Provide tags with two straps, large enough to indicate circuit number, letter, or other identification as shown in the plans. Print circuit identification on the tag with a permanent marker.

4. Use listed compression or screw type pressure connectors, terminal blocks, or split bolt connectors for splicing as specified in DMS 11040. Use hot melt adhesive tape to fill the gap and seal the ends of heat shrink tubing. Provide UL listed gel-filled insulating splice covers. Splicing materials, insulating materials, breakaway disconnects, splice covers, and fuse holders are subsidiary to various bid items.

### B. CONSTRUCTION METHODS

1. Use only a flat, high tensile strength polyester fiber pull tape for pulling conductors through the conduit system. After installing conductors in conduit, perform conductor pull test. If a conductor cannot be freely pulled, make any needed alterations or repairs at no additional cost to the department. Perform insulation resistance tests in accordance with Item 620. Coordinate with the Engineer to witness the tests.

2. Leave 2 ft. minimum, 3 ft. maximum length for each conductor up to the splice in ground boxes. Leave 3 ft. minimum, 4 ft. maximum length of conductor in ground boxes when pulled through with no splice. Leave 1 ft. minimum, 1.5 ft. maximum length of conductor at enclosures, weatherheads and pole bases.

3. Make splices only in junction boxes, ground boxes, pole bases, or electrical enclosures and use only listed compression or screw type pressure connectors, terminal blocks, or split bolt connectors. Insulate splices with heavy wall heat shrink tubing or gel-filled insulating splice covers to provide a watertight splice. Overlap conductor insulation with heat shrink tubing a minimum of 2 in. past both sides of the splice. Where heat shrink tubing may not shrink sufficiently to provide a watertight seal around the individual conductors, prior to heating the tubing, increase the diameter of the conductor insulation using hot melt adhesive tape to provide a watertight seal between the individual conductors and the heat shrink tubing. Ensure the tape extends past the heat shrink tubing. Use hot melt adhesive tape to fill the gap and seal the ends of heat shrink tubing. Heat shrink tubing that appears to have been burned, or overheated, is considered defective and must be replaced.

4. Size and install gel-filled insulating splice covers according to manufacturer's specifications when used in place of heat shrink tubing.

5. Wire nuts with factory applied waterproof sealant may be used for 8 AWG or smaller conductors in above ground junction boxes, but not in pole bases or ground boxes. Install wire nuts in an upright position to prevent the accumulation of water.

6. Support conductors in illumination poles with a J-hook at the top of the pole.

7. When terminating conductors, remove the insulation and jacketing material without nicking the individual strands of the conductor. Conductors with nicked individual conductor strands or removed strands will be considered damaged.

8. Replace conductors and cables that are damaged beyond repair or that fail an insulation resistance test at no additional cost to the department.

9. Do not repair damaged conductors with duct tape, electrical tape, or wire nuts. Use only approved splicing methods.

10. Do not terminate more than one conductor under a single connector, unless the connector is rated for multiple conductors. Do not exceed the pressure connector's listing for maximum number and size of conductors allowed.

11. Install breakaway connectors on conductors bid under Item 620 whenever those conductors pass through a breakaway support device. Follow manufacturer's instructions when terminating conductors to breakaway connectors. Properly torque threaded connections. Proper terminations are critical to the safe operation of breakaway devices. Trim waterproofing boots on breakaway connectors to fit snugly around the conductor to ensure waterproof connection. Only one conductor may enter a single opening in a boot. Provide waterproof boots with the correct number of openings. Leave unused openings factory sealed. Use prequalified breakaway connectors as shown on the MPL.

12. Provide and install a separate stranded equipment grounding conductor (EGC) in all conduits that contain circuit wiring of 50 volts or more. Unless shown elsewhere, size the EGC to be the same size as the largest current carrying conductor contained in the conduit. Ensure all EGCs are bonded together at every accessible location. For traffic signal installations, provide a minimum size 8 AWG EGC. The EGC is paid for under Item 620.

### C. TEMPORARY WIRING

1. Install temporary conductors and electrical equipment in accordance with the NEC article "Temporary Installations" and Department standard sheets.

2. Provide a ground fault circuit interrupter (GFCI) for power outlets for portable electrical equipment, power tools, ice machines, ice storage bins and refrigerators located outdoors at grade. GFCI may be any one of the following: molded cord and plug set, receptacle, or circuit breaker type.

3. Use listed wire nuts with factory applied sealant for temporary wiring where approved.

4. Enclose conductor splices within a listed enclosure or ground box, or ensure the splices are more than 10 ft. above grade vertically and more than 5 ft. horizontally from any metal structure. Where installing temporary conductors in areas subject to vehicle traffic or mobile construction equipment, ensure the vertical clearance to ground is at least 18 ft. when measured at the lowest point. Ground messenger wires that support power conductors in conformance with the NEC.

5. Protect and when necessary repair any existing electrical conduits uncovered during the construction process in a timely manner and in conformance with the NEC.

## GROUND RODS & GROUNDING ELECTRODES

### A. MATERIAL INFORMATION

1. Provide and install a grounding electrode at electrical services. Provide ground rods according to DMS 11040 and the plans. Larger diameter or longer length rods may be called for in some specific locations, see the individual plans sheets. Concrete encased grounding electrodes may be called for in specific locations including electrical service, see individual plan sheets.

### B. CONSTRUCTION METHODS

1. Furnish auxiliary ground rods for lightning protection and install in soil, concrete, or both, as called for in the plans. For ground rods installed in concrete, ensure the connection of the conductor to the ground rod is readily accessible for inspection or repairs. For ground rods installed in soil, ensure that the upper end is between 2 to 4 in. below finished grade.

2. Do not place ground rods in the same drilled hole as a timber pole.

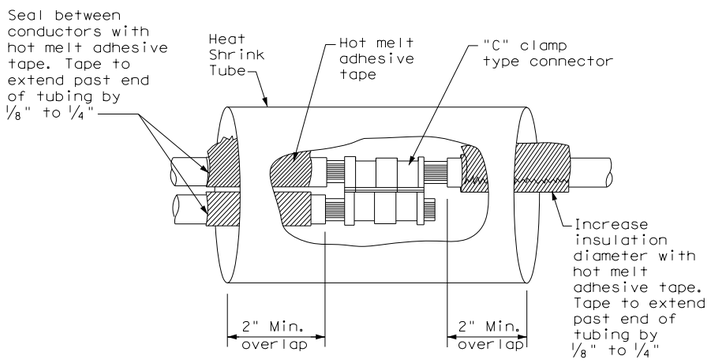
3. Install ground rods so the imprinted part number is at the upper end of the rod.

4. Remove all non-conductive coatings such as concrete splatter from the rod at the clamp location.

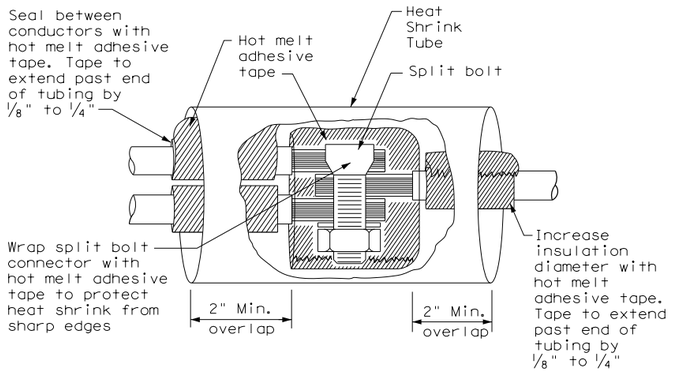
5. Route all conductors as short and straight as possible for connection to lightning protection ground rods. When a bend is required, ensure a minimum radius bend of four inches for these conductors.

6. Unless otherwise called for in the plans, protect grounding electrode conductors with non-metallic conduit. When protecting grounding electrode conductors with metal conduit, provide and install a grounding type bushing and properly sized bonding jumper on each end of the metal conduit.

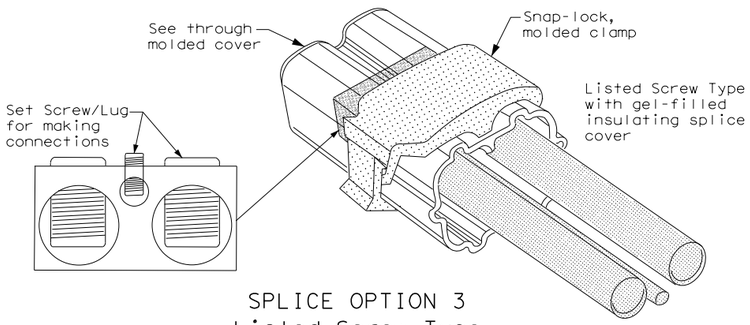
7. Written authorization is required before installing a ground rod in a horizontal trench for rocky soil or a solid rock bottom.




SPLICE OPTION 1
Compression Type




SPLICE OPTION 2
Split Bolt Type




SPLICE OPTION 3
Listed Screw Type

Texas Department of Transportation

Traffic Operations Division Standard

# ELECTRICAL DETAILS CONDUCTORS

## ED(3)-14

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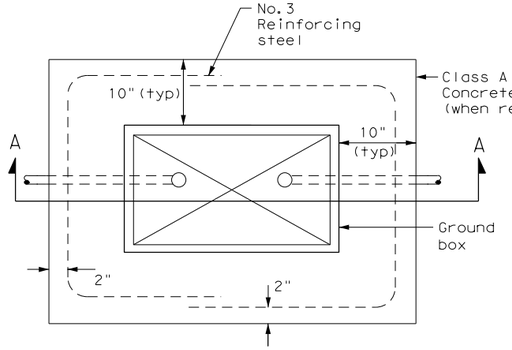
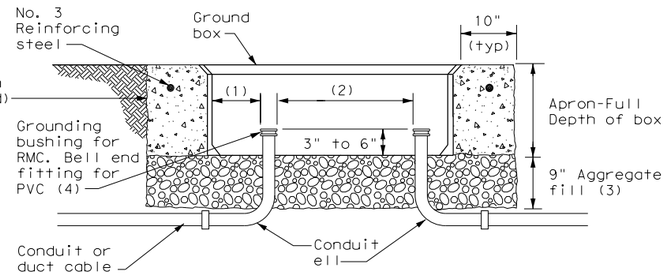



PLAN VIEW




SECTION A - A

## APRON FOR GROUND BOX

(1) Uniformly space ends of conduits within the ground box. Position ends of conduits so that ground box walls do not interfere with the installation of grounding bushings or bell end fittings.

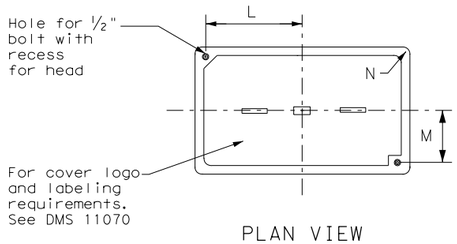
(2) Maintain sufficient space between conduits to allow for proper installation of bushings.

(3) Place aggregate under the box, not in the box. Aggregate should not encroach on the interior volume of the box.

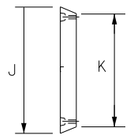
(4) Install a grounding bushing on the upper end of all RMC terminating in a ground box. Ground RMC elbows when any part of the elbow is less than 18 in. below the bottom of the ground box. Install a PVC bushing or bell end fitting on the upper end of all PVC conduits terminating in a ground box.

| GROUND BOX DIMENSIONS | |
|---|---|
| TYPE | OUTSIDE DIMENSIONS (INCHES) (Width x Length X Depth) |
| A | 12 X 23 X 11 |
| B | 12 X 23 X 22 |
| C | 16 X 29 X 11 |
| D | 16 X 29 X 22 |
| E | 12 X 23 X 17 |

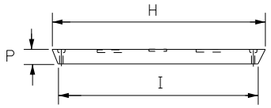
| GROUND BOX COVER DIMENSIONS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TYPE | DIMENSIONS (INCHES) | | | | | | | |
| | H | I | J | K | L | M | N | P |
| A, B & E | 23 1/4 | 23 | 13 3/4 | 13 1/2 | 9 7/8 | 5 1/8 | 1 3/8 | 2 |
| C & D | 30 1/2 | 30 1/4 | 17 1/2 | 17 1/4 | 13 1/4 | 6 3/4 | 1 3/8 | 2 |




PLAN VIEW




END




SIDE

GROUND BOX COVER

## GROUND BOXES

A. MATERIALS

1. Provide polymer concrete ground boxes measuring 16x30x24 in. (WxLxD) or smaller in accordance with Departmental Material Specification (DMS) 11070 "Ground Boxes" and Item 624 "Ground Boxes."

2. Provide Type A, B, C, D, and E ground boxes as shown in the plans, and as listed on the Material Producers List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies," Item 624.

3. Ensure ground box cover is correctly labeled in accordance with DMS 11070.

4. Provide larger ground boxes in accordance with Item 624 and as shown in the plans.

B. CONSTRUCTION METHODS

1. Remove all gravel and dirt from conduit. Cap all conduits prior to placing aggregate and setting ground box. Provide Grade 3 or 4 coarse aggregate as shown on Table 2 of Item 302 "Aggregates for Surface Treatments." Ensure aggregate bed is in place and at least 9 inches deep, prior to setting the ground box. Install ground box on top of aggregate.

2. Cast ground box aprons in place. Reinforcing steel may be field bent. Ensure the depth of concrete for the apron extends from finished grade to the top of the aggregate bed under the box. Ground box aprons, including concrete and reinforcing steel, are subsidiary to ground boxes when called for by descriptive code.

3. Keep bolt holes in the box clear of dirt. Bolt covers down when not working in ground boxes.

4. Install all conduits and ells in a neat and workmanlike manner. Uniformly space conduits so grounding bushings and bell end fittings can easily be installed.

5. Temporarily seal all conduits in the ground box until conductors are installed.

6. Permanently seal conduits immediately after the completion of conductor installation and pull tests. Permanently seal the ends of all conduits with duct seal, expandable foam, or other method as approved. Do not use duct tape as a permanent conduit sealant. Do not use silicone caulk as a sealant.

7. When a ground rod is present in a ground box, bond all equipment grounding conductors together and to the ground rod with listed connectors.

8. When a type B or D ground box is stacked to meet volume requirements, it is allowable to cut an appropriately sized hole for conduit entry in the side wall at least 18 inches below grade.

9. If an existing ground box in the contract has a metal cover, bond the cover to the equipment grounding conductor with a 3 ft. long stranded bonding jumper the same size as the grounding conductor. The bonding jumper is subsidiary to various bid items. Verify existing ground boxes with metal covers are shown on the plans, with notes fully describing the work required.

10. If other ground boxes with metal covers are within the project limits but are not part of the contract, the Engineer may direct the Contractor to bond the metal covers, identifying the specific boxes in writing. This work will be paid for separately.

11. Bond metal ground box covers to the grounding conductor with a tank ground type lug.

Texas Department of Transportation

Traffic Operations Division Standard

# ELECTRICAL DETAILS
# GROUND BOXES

## ED(4)-14

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# SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive Codes correspond to project estimate and quantities sheets)

SM RD SGN ASSM TY XXXXX(X)XX(X-XXXX)

**Post Type**

FRP = Fiberglass Reinforced Plastic Pipe (see SMD(FRP))
TWT = Thin-Walled Tubing (see SMD(TWT))
10BWG = 10 BWG Tubing (see SMD(SLIP-1) to (SLIP-3))
S80 = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

**Number of Posts (1 or 2)**

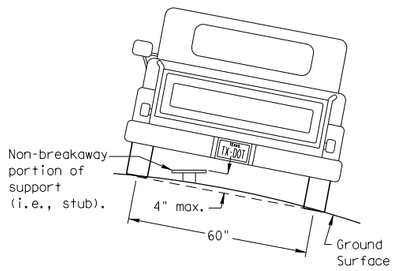
**Anchor Type**

UA = Universal Anchor - Concreted (see SMD(FRP) and (TWT))
UB = Universal Anchor - Bolted down (see SMD(FRP) and (TWT))
WS = Wedge Anchor Steel - (see SMD(TWT))
WP = Wedge Anchor Plastic (see SMD(TWT))
SA = Slipbase - Concreted (see SMD(SLIP-1) to (SLIP-3))
SB = Slipbase - Bolted Down (see SMD(SLIP-1) to (SLIP-3))

**Sign Mounting Designation**

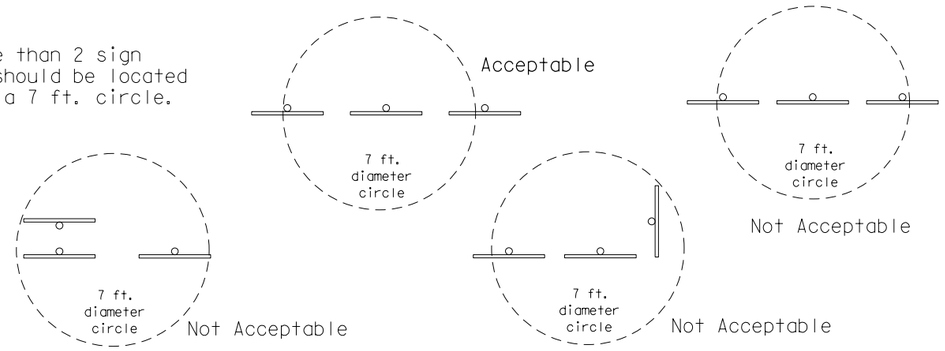
P = Prefab. "Plain" (see SMD(SLIP-1) to (SLIP-3), (TWT), (FRP))
T = Prefab. "T" (see SMD(SLIP-1) to (SLIP-3), (TWT))
U = Prefab. "U" (see SMD(SLIP-1) to (SLIP-3))
IF REQUIRED
1EXT or 2EXT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))
BM = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))
WC = 1.12 #/ft Wing Channel (see SMD(SLIP-1) to (SLIP-3))
EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-1))

# REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT



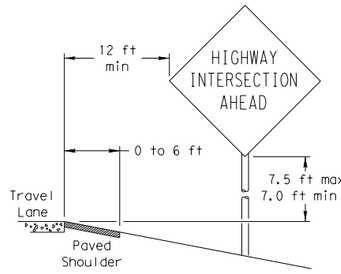

To avoid vehicle undercarriage snagging, any substantial remains of a breakaway support, when it is broken away, should not project more than 4 inches above a 60-inch chord (i.e., typical space between wheel paths).

No more than 2 sign posts should be located within a 7 ft. circle.



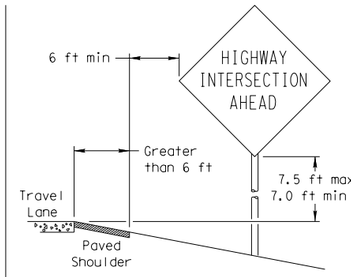

# SIGN LOCATION

## PAVED SHOULDERS




LESS THAN 6 FT. WIDE

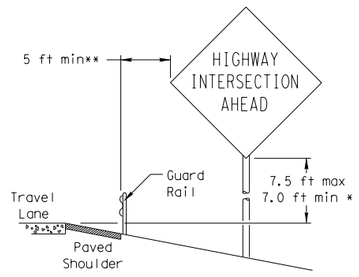
When the shoulder is 6 ft. or less in width, the sign must be placed at least 12 ft. from the edge of the travel lane.



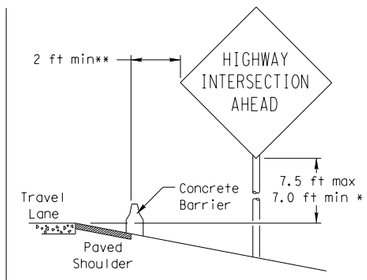

GREATER THAN 6 FT. WIDE

When the shoulder is greater than 6 ft in width, the sign must be placed at least 6 ft. from the edge of the shoulder.

## BEHIND BARRIER



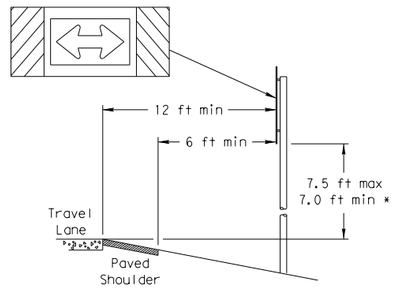

BEHIND GUARDRAIL



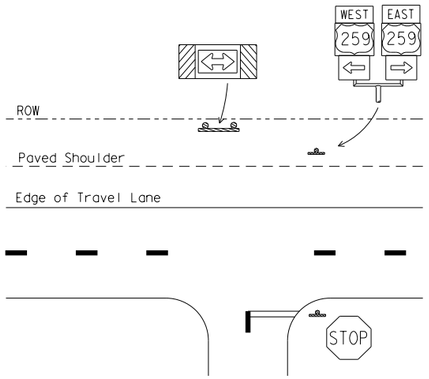

BEHIND CONCRETE BARRIER

**Sign clearance based on distance required for proper guard rail or concrete barrier performance.

## T-INTERSECTION




When this sign is needed at the end of a two-lane, two way roadway, the right edge of the sign should be in line with the centerline of the roadway. Place as close to ROW as practical.




* Signs shall be mounted using the following condition that results in the greatest sign elevation:

(1) a minimum of 7 to a maximum of 7.5 feet above the edge of the travel lane or

(2) a minimum of 7 to a maximum of 7.5 feet above the grade at the base of the support when sign is installed on the backslope.

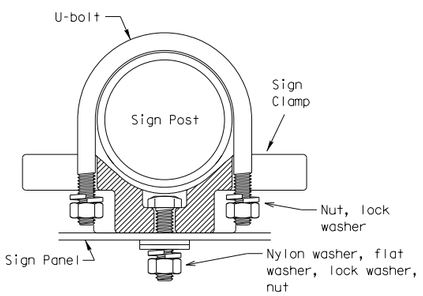
The maximum values may be increased when directed by the Engineer.

See the Traffic Operations Division website for detailed drawings of sign clamps, Triangular Slipbase System components and Wedge Anchor System components.

The website address is:
http://www.txdot.gov/publications/traffic.htm

# TYPICAL SIGN ATTACHMENT DETAIL

## Single Signs

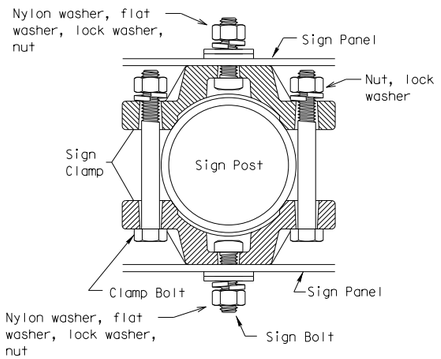



Bolts used to mount sign panels to the clamp are 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

When two sign clamps are used to mount signs back-to-back, use a 5/16-18 UNC galvanized hex head per ASTM A307 with nut and helical-spring lock washer. The approximate bolt lengths for various post sizes and sign clamp types are given in the table at right. The bolt length may need to be adjusted depending upon field conditions.

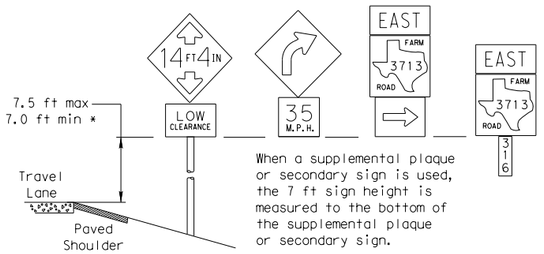
Sign clamps may be either the specific size clamp or the universal clamp.

## Back-to-Back Signs



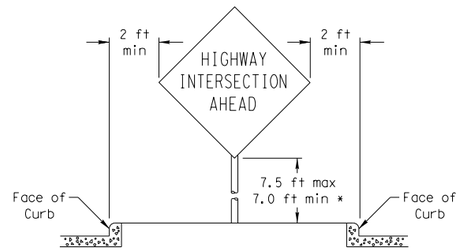

| Pipe Diameter | Approximate Bolt Length | |
|---|---|---|
| | Specific Clamp | Universal Clamp |
| 2" nominal | 3" | 3 or 3 1/2" |
| 2 1/2" nominal | 3 or 3 1/2" | 3 1/2 or 4" |
| 3" nominal | 3 1/2 or 4" | 4 1/2" |

## SIGNS WITH PLAQUES



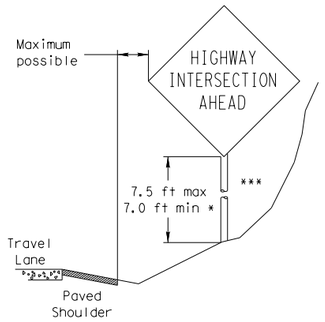

When a supplemental plaque or secondary sign is used, the 7 ft sign height is measured to the bottom of the supplemental plaque or secondary sign.

## CURB & GUTTER OR RAISED ISLAND




## RESTRICTED RIGHT-OF-WAY

(When 6 ft min. is not possible.)




Right-of-way restrictions may be created by rocks, water, vegetation, forest, buildings, a narrow island, or other factors.

In situations where a lateral restriction prevents the minimum horizontal clearance from the edge of the travel lane, signs should be placed as far from the travel lane as practical.

*** Post may be shorter if protected by guardrail or if Engineer determines the post could not be hit due to extreme slope.

*Texas Department of Transportation*
*Traffic Operations Division*

# SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS GENERAL NOTES & DETAILS

SMD(GEN)-08



REVISIONS
9-08

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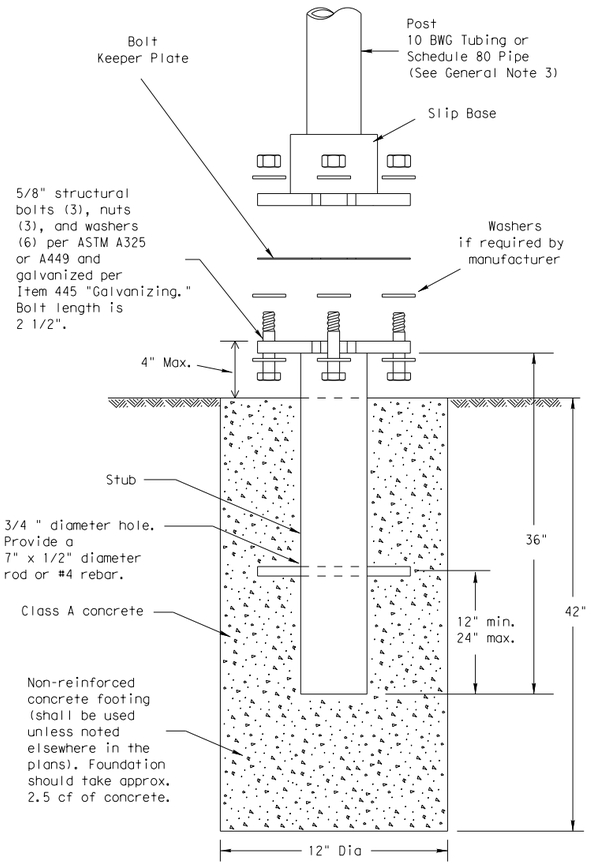
# TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS




SM RD SGN ASSM TY XXXXX(X)SA(X-XXXX)

NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. http://www.txdot.gov/business/producer_list.htm The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:

1. Slip base shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
2. Material used as post with this system shall conform to the following specifications:
   10 BWG Tubing (2.875" outside diameter)
   - 0.134" nominal wall thickness
   - Seamless or electric-resistance welded steel tubing or pipe
   - Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   - Other steels may be used if they meet the following:
     - 55,000 PSI minimum yield strength
     - 70,000 PSI minimum tensile strength
     - 20% minimum elongation in 2"
   - Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
   - Outside diameter (uncoated) shall be within the range of 2.867" to 2.883"
   - Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.

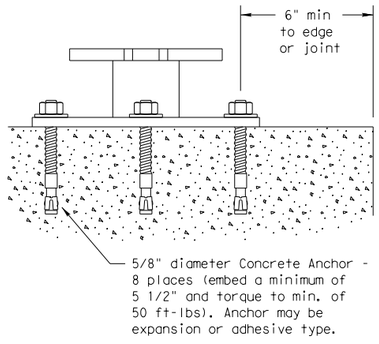
   Schedule 80 Pipe (2.875" outside diameter)
   - 0.276" nominal wall thickness
   - Steel tubing per ASTM A500 Gr C
   - Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the following:
     - 46,000 PSI minimum yield strength
     - 62,000 PSI minimum tensile strength
     - 21% minimum elongation in 2"
   - Wall thickness (uncoated) shall be within the range of 0.248" to 0.304"
   - Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
   - Galvanization per ASTM A123
3. See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is: http://www.txdot.gov/publications/traffic.htm
4. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

ASSEMBLY PROCEDURE

Foundation
1. Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor-driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Push the pipe end of the slip base stub into the center of the concrete. Rotate the stub back and forth while pushing it down into the concrete to assure good contact between the concrete and stub. Continue to work the stub into the concrete until it is between 2 to 4 inches above the ground.
4. Plumb the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
5. The triangular slipbase system is multidirectional and is designed to release when struck from any direction.

Support
1. Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the travelway (i.e., edge of the closest lane) when slip plate is below the edge of pavement or 7 to 7.5 feet above slip plate when the slip plate is above the edge of the travelway. The cut shall be plumb and straight.
2. Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2) for clearances based on sign types.

## CONCRETE ANCHOR




SM RD SGN ASSM TY XXXXX(X)SB(X-XXXX)

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy hex nut per ASTM A563, and hardened washer per ASTM F436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 KSI, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations. Top of bolt shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 5 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 3100 psi, respectively.

Texas Department of Transportation
Traffic Operations Division

# SIGN MOUNTING DETAILS
# SMALL ROADSIDE SIGNS
# TRIANGULAR SLIPBASE SYSTEM

## SMD(SLIP-1)-08



| DN: TXDOT | CK: TXDOT | DW: TXDOT | CK: TXDOT |
|---|---|---|---|

REVISIONS
9-08

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| 0915 | 12 | 574 | VARIES |

| DIST | COUNTY | SHEET NO. |
|---|---|---|
| SAT | BEXAR | 543 |



DATE: 4/10/2019 10:13:28 AM
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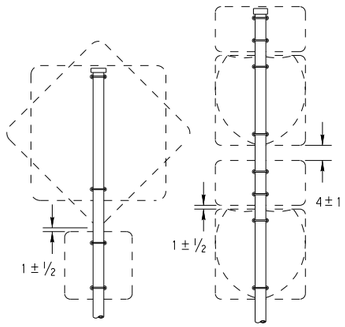
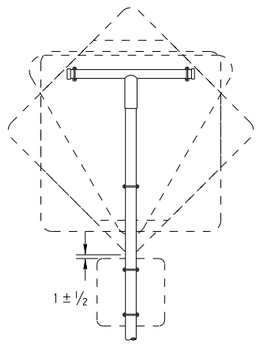



SM RD SGN ASSM TY XXXXX(1)XX(P)

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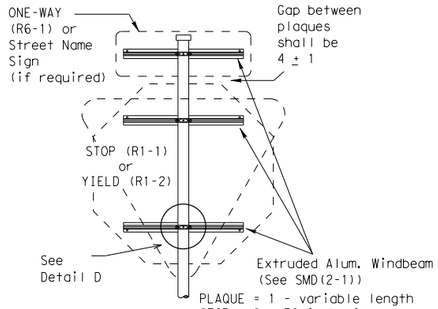


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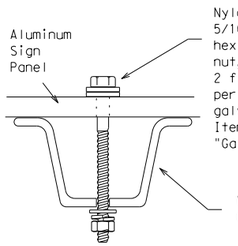
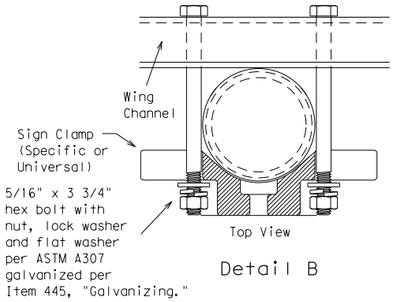
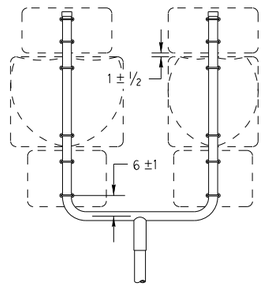



Detail A




Detail B

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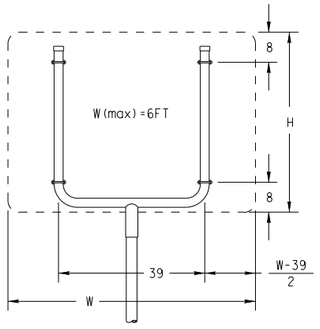


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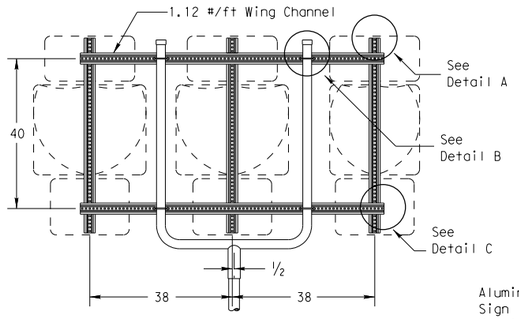
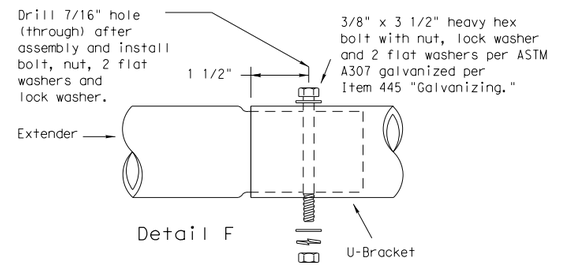
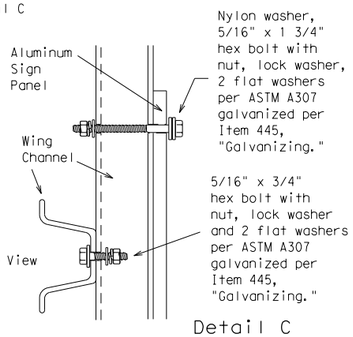



SM RD SGN ASSM TY XXXXX(1)XX(U-WC)
(See Note 11)

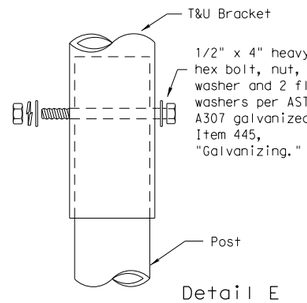



Detail F

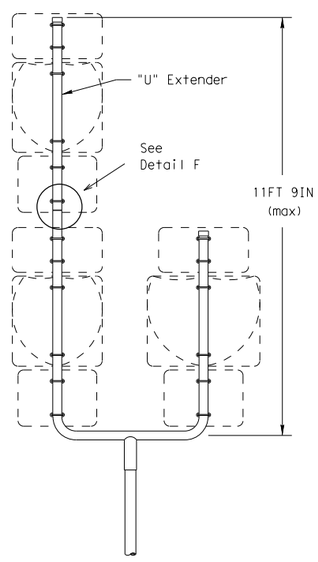
Splices shall only be allowed behind the sign substrate.



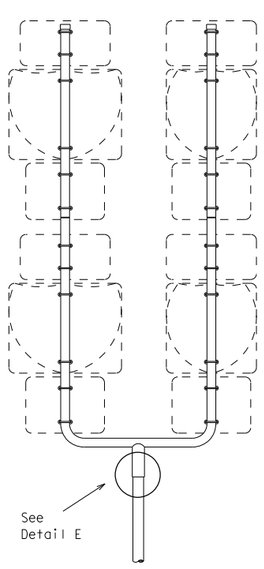

Detail C




Detail E




SM RD SGN ASSM TY S80(1)XX(U-1EXT)

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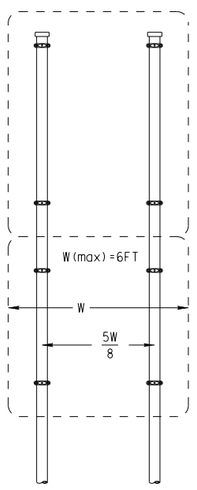
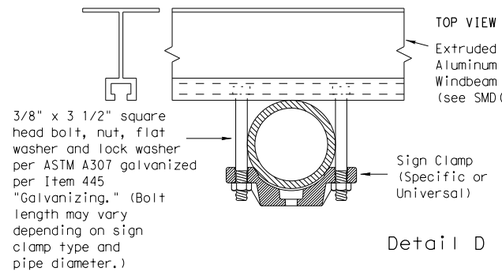
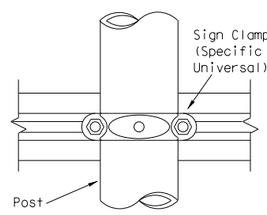


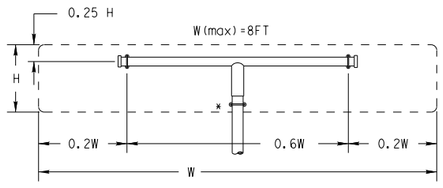

SM RD SGN ASSYM TY XXXXX(2)XX(P)

SIDE VIEW



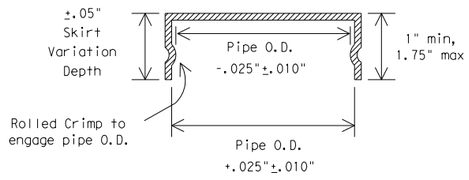

Detail D




SM RD SGN ASSM TY XXXXX(1)XX(T)
(* - See Note 12)

All dimensions are in english unless detailed otherwise.

## FRICTION CAP DETAIL




Friction caps may be manufactured from hot rolled or cold rolled steel sheets. The minimum sheet metal thickness shall be 24 gauge for all cap sizes.

The rim edges shall be reasonably straight and smooth. Caps shall be sized and formed in such a manner as to produce a drive-on friction fit and have no tendency to rock when seated on the pipe. The depth shall be sufficient to give positive protection against entrance of rainwater. They shall be free of sharp creases or indentations and show no evidence of metal fracture.

Caps shall have an electrodeposited coating of zinc in accordance with the requirements of ASTM B633 Class FE/ZN 8.

GENERAL NOTES:

1.

| SIGN SUPPORT | # OF POSTS | MAX. SIGN AREA |
|---|---|---|
| 10 BWG | 1 | 16 SF |
| 10 BWG | 2 | 32 SF |
| Sch 80 | 1 | 32 SF |
| Sch 80 | 2 | 64 SF |

2. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
10. Additional route markers may be added vertically, provided the total sign area does not exceed the maximum allowable amount per Note 1.
11. Additional sign clamp required on the "T-bracket" post for 24 inch height signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with Friction Caps.
13. Sign blanks shall be the sizes and shapes shown on the plans.

REQUIRED SUPPORT

| | SIGN DESCRIPTION | SUPPORT |
|---|---|---|
| Regulatory | 48-inch STOP sign (R1-1) | TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM) |
| | 60-inch YIELD sign (R1-2) | TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM) |
| | 48x16-inch ONE-WAY sign (R6-1) | TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM) |
| | 36x48, 48x36, and 48x48-inch signs | TY 10BWG(1)XX(T) |
| | 48x60-inch signs | TY S80(1)XX(T) |
| Warning | 48x48-inch signs (diamond or square) | TY 10BWG(1)XX(T) |
| | 48x60-inch signs | TY S80(1)XX(T) |
| | 48-inch Advance School X-ing sign (S1-1) | TY 10BWG(1)XX(T) |
| | 48-inch School X-ing sign (S2-1) | TY 10BWG(1)XX(T) |
| | Large Arrow sign (W1-6 & W1-7) | TY 10BWG(1)XX(T) |

Texas Department of Transportation
Traffic Operations Division

# SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-2)-08



| REVISIONS | DN: TXDOT | CK: TXDOT | DW: TXDOT | CK: TXDOT |
|---|---|---|---|---|
| 9-08 | CONT | SECT | JOB | HIGHWAY |
| | 0915 | 12 | 574 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 544 |

26C

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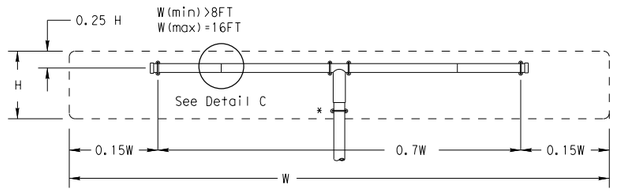
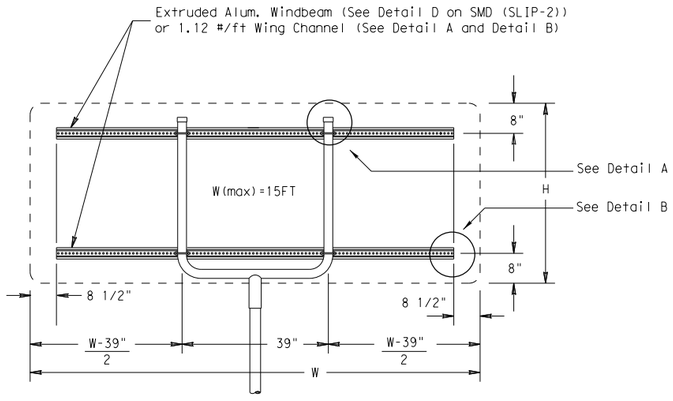
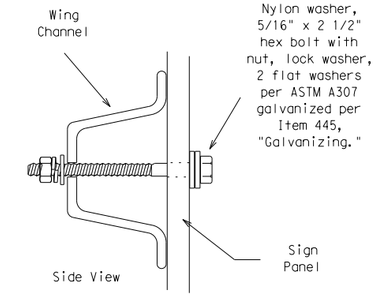


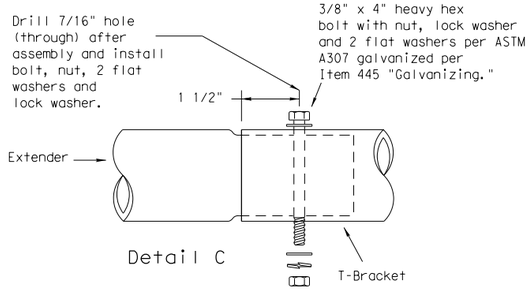

SM RD SGN ASSM TY XXXXX(1)XX(T-2EXT)
(* - See Note 12)




SM RD SGN ASSM TY XXXXX(1)XX(U-XX)




Detail B




Detail C

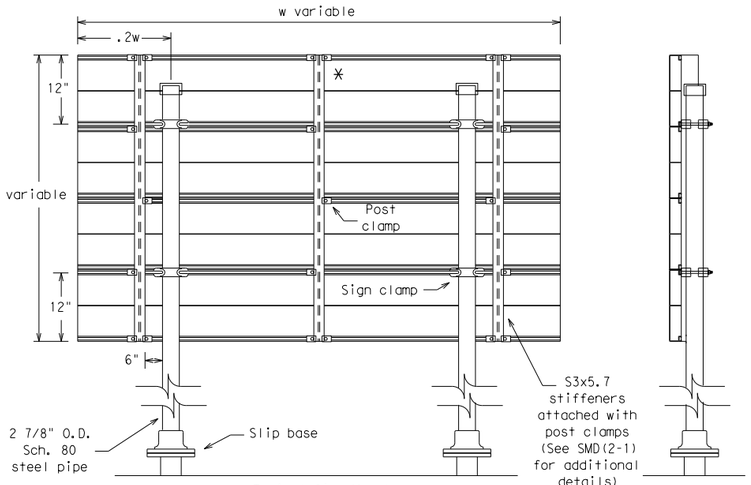
Splices shall only be allowed behind the sign substrate.

GENERAL NOTES:

1.

| SIGN SUPPORT | # OF POSTS | MAX. SIGN AREA |
|---|---|---|
| 10 BWG | 1 | 16 SF |
| 10 BWG | 2 | 32 SF |
| Sch 80 | 1 | 32 SF |
| Sch 80 | 2 | 64 SF |

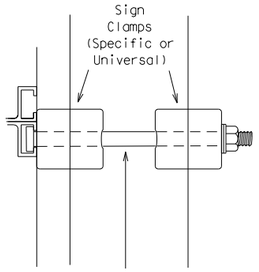
2. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
10. Sign blanks shall be the sizes and shapes shown on the plans.
11. Additional sign clamp required on the "T-bracket" post for 24 inch high signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with Friction Caps.



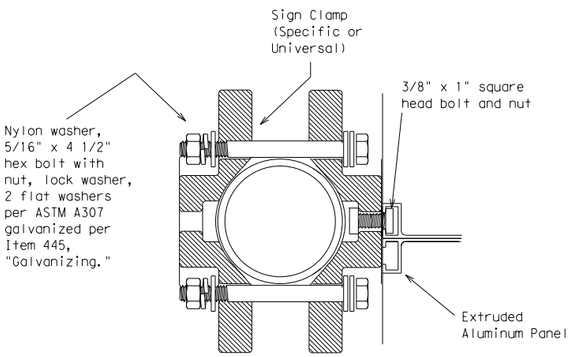

Typical Sign Mount

SM RD SGN ASSM TY S80(2)XX(P-EXAL)

* Additional stiffener placed at approximate center of signs when sign width is greater than 10'.



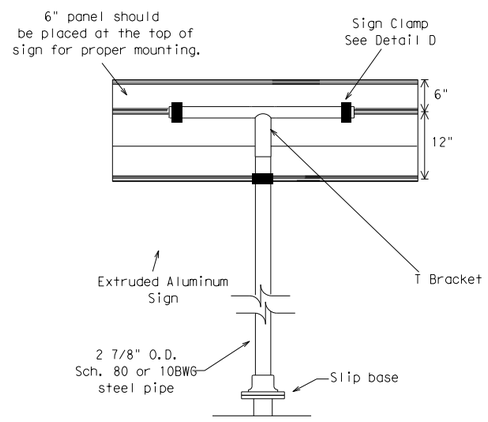

Detail E



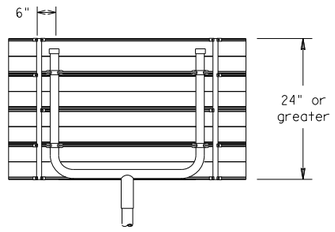

Detail A




Detail D
EXTRUDED ALUMINUM SIGN WITH T BRACKET




Extruded Aluminum Sign
With T Bracket




Use Extruded Alum. Windbeam as stiffeners
See SMD (2-1) for additional details

See Detail E
for clamp installation

REQUIRED SUPPORT

| | SIGN DESCRIPTION | SUPPORT |
|---|---|---|
| Regulatory | 48-inch STOP sign (R1-1) | TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM) |
| | 60-inch YIELD sign (R1-2) | TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM) |
| | 48x16-inch ONE-WAY sign (R6-1) | TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM) |
| | 36x48, 48x36, and 48x48-inch signs | TY 10BWG(1)XX(T) |
| | 48x60-inch signs | TY S80(1)XX(T) |
| Warning | 48x48-inch signs (diamond or square) | TY 10BWG(1)XX(T) |
| | 48x60-inch signs | TY S80(1)XX(T) |
| | 48-inch Advance School X-ing sign (S1-1) | TY 10BWG(1)XX(T) |
| | 48-inch School X-ing sign (S2-1) | TY 10BWG(1)XX(T) |
| | Large Arrow sign (W1-6 & W1-7) | TY 10BWG(1)XX(T) |

Texas Department of Transportation
Traffic Operations Division

# SIGN MOUNTING DETAILS
# SMALL ROADSIDE SIGNS
# TRIANGULAR SLIPBASE SYSTEM

## SMD(SLIP-3)-08



| REVISIONS | DN: TXDOT | CK: TXDOT | DW: TXDOT | CK: TXDOT |
|---|---|---|---|---|
| 9-08 | CONT | SECT | JOB | HIGHWAY |
| | 0915 | 12 | 574 | VARIES |
| | DIST | COUNTY | | SHEET NO. |
| | SAT | BEXAR | | 545 |

26D

DATE: 4/10/2019 10:13:32 AM
FILE: P:\!!!\35\08\Design\Civil\Standards\Signing\smds3.dgn

## REFLECTOR UNIT SIZES FOR DELINEATORS AND OBJECT MARKERS

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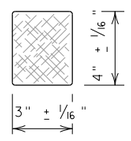
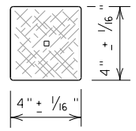
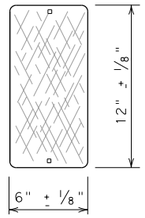
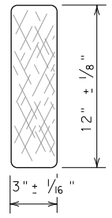
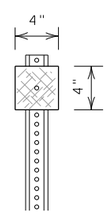
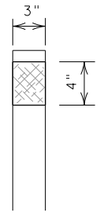
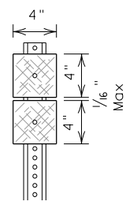
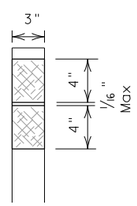
| DEVICE |   |   |   |   |
| SHEETING | Yellow, White or Red Type B or C reflective sheeting | | | |
| NOTE | 1. Size 1 and 4 - Direct applied reflective sheeting for use on flexible post (flx).<br>2. Size 2 and 3 - For use on wing channel (wc) post only. Use approved metal, plastic or fiberglass backplate with 17/64" mounting holes. | | | |

## DELINEATORS

| | SINGLE | | DOUBLE | |
|---|---|---|---|---|
| DEVICE |   |   |   |   |
| | 1-Size 2 reflector unit | 1-Size 1 reflector unit | 2-Size 2 reflector units | 2-Size 1 reflector units |
| SHEETING | Yellow, White or Red Type B or C Reflective Sheeting | | | |
| POST TYPE | WC | FLX | WC | FLX |
| MOUNT TYPE | GND | GND, SRF | GND | GND, SRF |

## D & OM DESCRIPTIVE CODES

INSTL DEL ASSM (D-XX) SZ X (XXX) XXX (XX)

NUMBER OF REFLECTORS
- S = Single
- D = Double

COLOR OF REFLECTORS
- W = White
- Y = Yellow
- R = Red

REFLECTOR UNIT SIZE
- 1 or 2

TYPE OF POST OR DELINEATOR
- WC = Wing Channel Post
- FLX = Flexible Post
- BRF = Barrier Reflector

TYPE OF MOUNT
- GND = Embedded (drivable or set in concrete)
- CTB = Concrete Barrier Mount
- GF1 or GF2 = Guard Fence Attachment
- SRF = Surface Mount

DIRECTION
- If Required
- BI = Bi-Directional
- BR = Bi-Directional with red on back

INSTL OM ASSM (OM-XX) (XXX) XXX (XX)

TYPE OF OBJECT MARKER
- 1, 2, 3, or 4

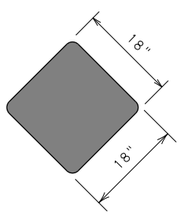
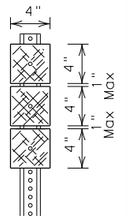
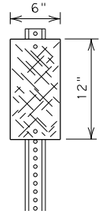
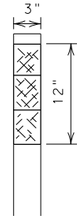
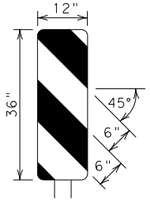
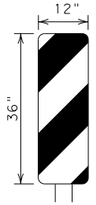
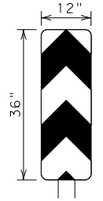
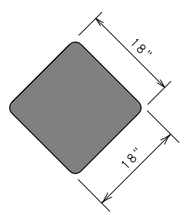
NUMBER OF REFLECTORS OR DIRECTION
- X = 3-Size 2 reflector units (Type 2 only)
- Y = 1-Size 3 reflector unit (Type 2 only)
- Z = 3-Size 1 or 1-Size 4 reflector unit(s) (Type 2 only)
- L = Left Side (Type 3 Object Marker only)
- R = Right Side (Type 3 Object Marker only)
- C = Center (Type 3 Object Marker only)

TYPE OF POST
- WC = Wing Channel Post
- FLX = Flexible Post
- TWT = Thin Walled Tubing

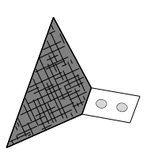
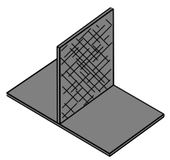
TYPE OF MOUNT
- GND = Embedded (drivable)
- SRF = Surface Mount
- WAS = Wedge Anchor Steel
- WAP = Wedge Anchor Plastic

DIRECTION
- If Required
- BI = Bi-Directional

## OBJECT MARKERS

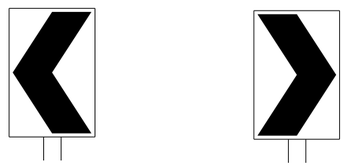
| | Type 1 (OM-1) | Type 2 (OM-2) | | | Type 3 (OM-3) | | | Type 4 (OM-4) |
|---|---|---|---|---|---|---|---|---|
| | OM-1 | OM-2X | OM-2Y | OM-2Z | OM-3L | OM-3R | OM-3C | OM-4 |
| DEVICE |   |   |   |   |   |   |   |   |
| | | 3-Size 2 reflector units | 1-Size 3 reflector unit | 3-Size 1 reflector units or 1-Size 4 reflector unit | | | | |
| SHEETING | Yellow-Type $B_{FL}$ or $C_{FL}$ Sheeting | Yellow - Type B or C Sheeting | | | Alternating acrylic black and retroflective yellow - Type $B_{FL}$ or $C_{FL}$ Sheeting | | | Red -Type $B_{FL}$ or $C_{FL}$ Sheeting |
| POST TYPE | TWT | WC | WC | FLX | TWT | | | TWT |
| MOUNT TYPE | WAS, WAP | GND | GND | GND, SRF | WAS, WAP | | | WAS, WAP |

## BARRIER REFLECTORS (BRF)

| | GF1 | GF2 | CTB |
|---|---|---|---|
| DEVICE |  |  |  |
| | 1. Barrier reflectors shall meet the requirements of DMS 8600.<br>2. Approved Barrier Reflectors are listed on the "Barrier Reflectors" Material Producer List at: www.txdot.gov. | | |
| SHEETING | Yellow, White, Red | | |
| NOTE | 1. Minimum 9 square inches of reflective sheeting surface area. | | |

## CHEVRONS

DEVICE



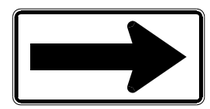
W1-8

| SIZE (W x L) | 18"x 24" (Conventional) | 24"x 30" (Conventional Oversize) | 30"x 36" (Expressway) | 36" x 48" (Freeway) |
|---|---|---|---|---|
| MOUNTING HEIGHT | 4'-0" or 7'-0" | | 7'-0" Only | |

NOTE
1. CHEVRON (W1-8) signs and ONE DIRECTION LARGE ARROW (W1-6) Signs shall be installed per Sign Mounting Details (SMD) Standard Sheets and paid under Item 644 (Small Roadside Sign Assemblies).
2. The Texas version of the ONE DIRECTION LARGE ARROW sign (W1-9T) may be used instead of the ONE DIRECTIONAL LARGE ARROW (W1-6).

## ONE DIRECTION LARGE ARROW

DEVICE



W1-6

| SIZE (W x L) | 48" x 24" (Conventional) | 60" x 30" (Expressway & Freeway) |
|---|---|---|
| MOUNTING HEIGHT | 7'-0" | |

## DEPARTMENTAL MATERIAL SPECIFICATIONS

| | |
|---|---|
| FLEXIBLE DELINEATOR & OBJECT MARKER POSTS (EMBEDDED & SURFACE MOUNT TYPES) | DMS-4400 |
| SIGN FACE MATERIALS | DMS-8300 |
| DELINEATORS, OBJECT MARKERS AND BARRIER REFLECTORS | DMS-8600 |

NOTE:

Delineator and object marker backplates and sign substrates shall be 0.080" Aluminum sign blank to conform to ASTM B-209 Alloy 6061-T6 or approved alternative.

Texas Department of Transportation

Traffic Operations Division Standard

# DELINEATOR & OBJECT MARKER MATERIAL DESCRIPTION

# D & OM(1)-15

| FILE: dom1-15.dgn | DN: TXDOT | CK: TXDOT | DW: TXDOT | CK: TXDOT |
|---|---|---|---|---|
| ©TxDOT August 2004 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| 10-09 3-15 | DIST | COUNTY | | SHEET NO. |
| 4-10 | SAT | BEXAR | | 546 |

20A

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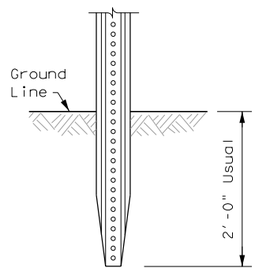
# POST TYPE AND SUPPORT FOUNDATION DETAILS

## WING CHANNEL (WC)

GND

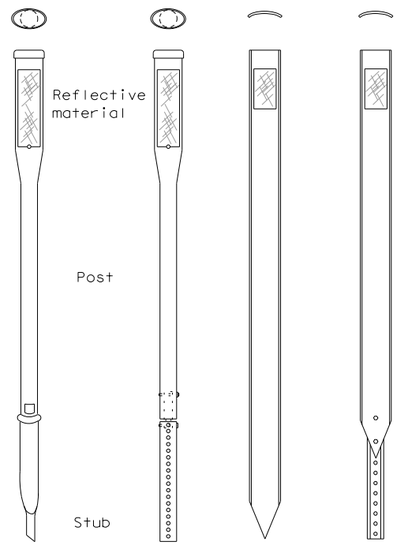



NOTES

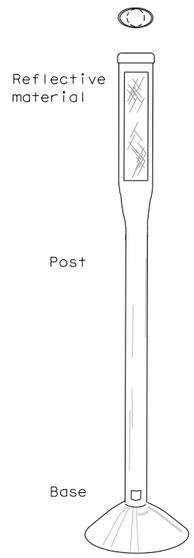
1. Embedded Wing Channel (WC) post option may be used for Type 2 Object Markers and Delineators only.
2. 1.12 lbs/ft steel per ASTM A 1011 SS Gr. 50, or ASTM A499.

## FLEXIBLE POSTS (FLX)

GND




SRF




EMBEDDED

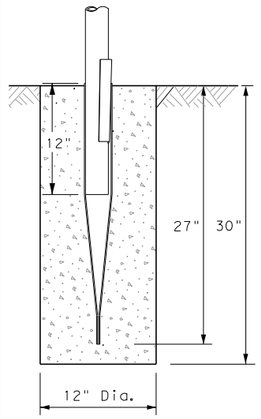
SURFACE MOUNT

NOTES

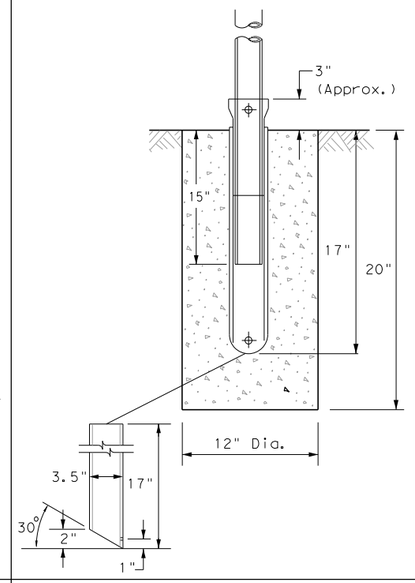
1. See "Flexible Delineator and Object Marker Posts" Material Producer List for approved devices.
2. Install per manufacturer's recommendations.
3. Post length may vary to meet field conditions.

## WEDGE ANCHOR SYSTEMS

WAS




WAP




STEEL

PLASTIC

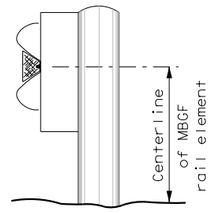
NOTE

1. Install per manufacturer's recommendations.

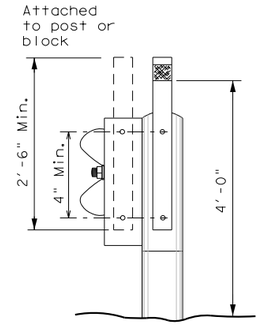
# TYPE OF BARRIER MOUNTS

## GUARD FENCE ATTACHMENT

GF1

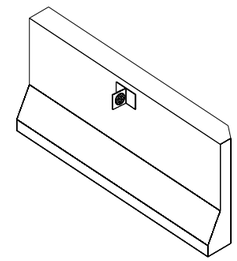



GF2




## CONCRETE BARRIER / BRIDGE RAIL

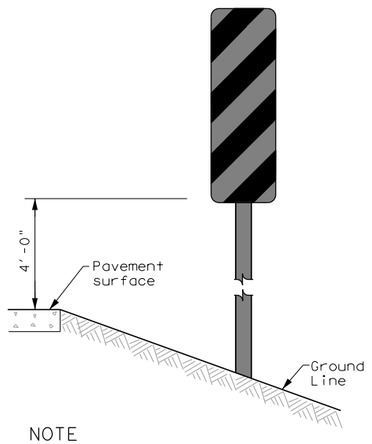
CTB



GENERAL NOTES

1. Place delineators on a section of roadway at a consistent distance from the edge of pavement.
2. Where a restriction prevents consistent placement from the pavement edge, place the affected object markers in line with the innermost edge of the obstruction.
3. When Type 2 object markers and delineators are more than 8'-0" from the edge of the pavement, it may not be possible to maintain a height of approximately 4'-0". If this is the case, place the object marker or delineator as close to the desired height as possible.
4. Install all delineators, object markers and barrier reflectors in accordance with the manufacturer's recommendation.
5. Barrier reflectors should be installed a minimum of 18 inches above the edge of the pavement surface.

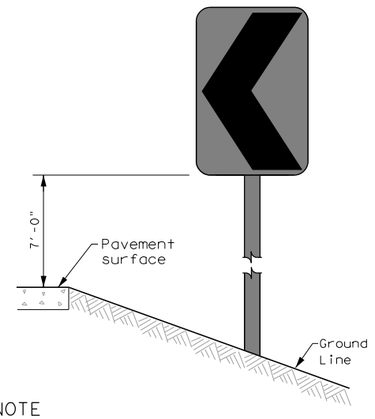
## TYPES 1, 3, AND 4 OBJECT MARKERS AND CHEVRONS




NOTE

Mounting at 4 feet to the bottom of the chevron is permitted for chevrons that will not exceed a height of 6'-6" to the top of the chevron (sizes 24" x 30" and smaller)

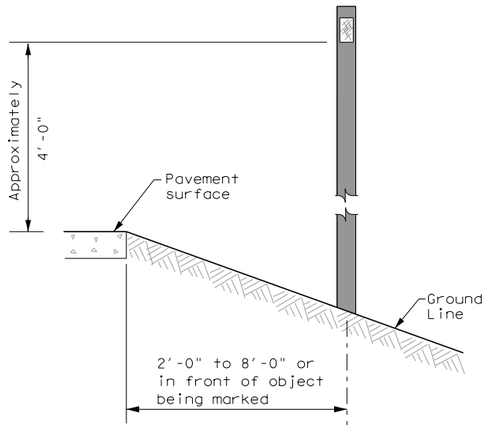
## CHEVRONS AND ONE DIRECTION LARGE ARROW SIGN




NOTE

Chevrons 30" x 36" and larger shall be mounted at a height of 7' to the bottom of the chevron. Chevron sign and ONE DIRECTIONAL LARGE ARROW sign (W1-9T) shall be installed per SMD standard sheets and paid under item 644.

## DELINEATORS AND TYPE 2 OBJECT MARKERS




See general notes 1, 2 and 3.

Texas Department of Transportation

Traffic Operations Division Standard

# DELINEATOR & OBJECT MARKER INSTALLATION

# D & OM(2)-15

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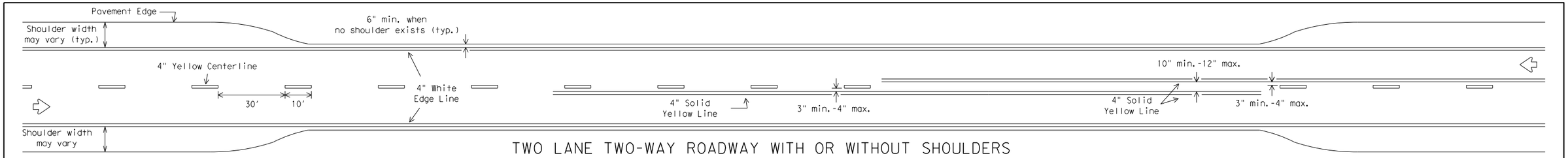
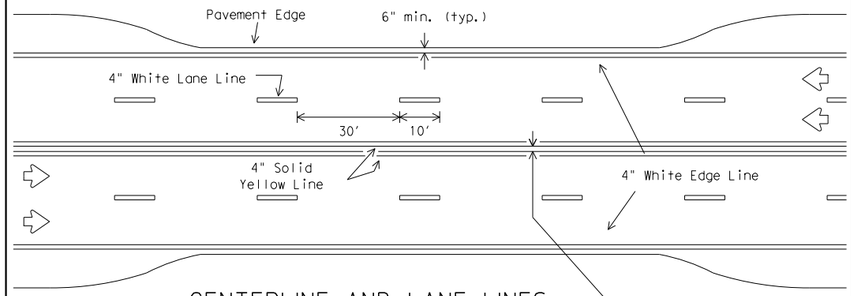
|---|---|---|---|---|
| ©TxDOT August 2004 | CONT | SECT | JOB | HIGHWAY |
| REVISIONS | 0915 | 12 | 574 | VARIES |
| 10-09 3-15 | DIST | COUNTY | | SHEET NO. |
| 4-10 | SAT | BEXAR | | 547 |

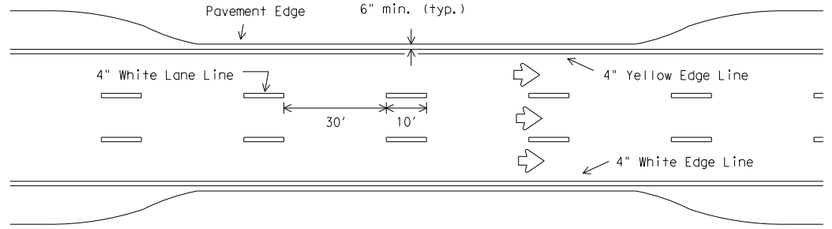
20B



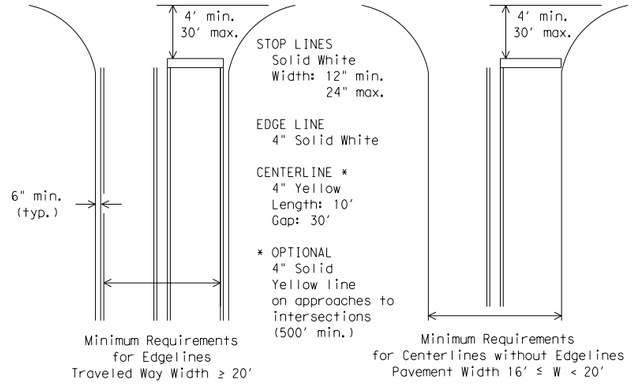

## TWO LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS




## CENTERLINE AND LANE LINES FOUR LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS

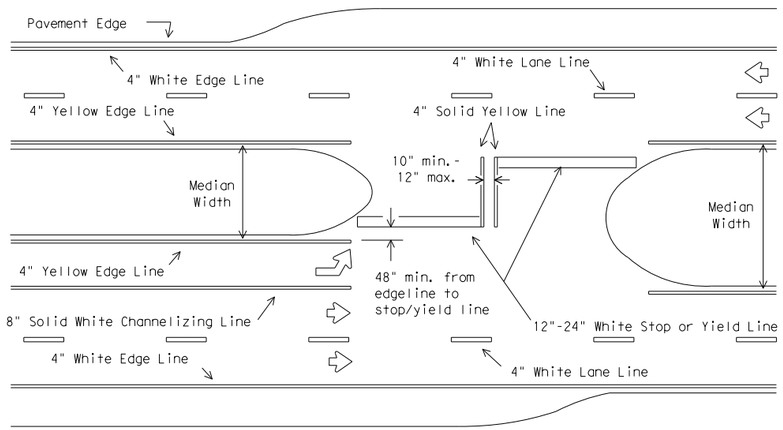



## EDGE LINE AND LANE LINES ONE-WAY ROADWAY WITH OR WITHOUT SHOULDERS



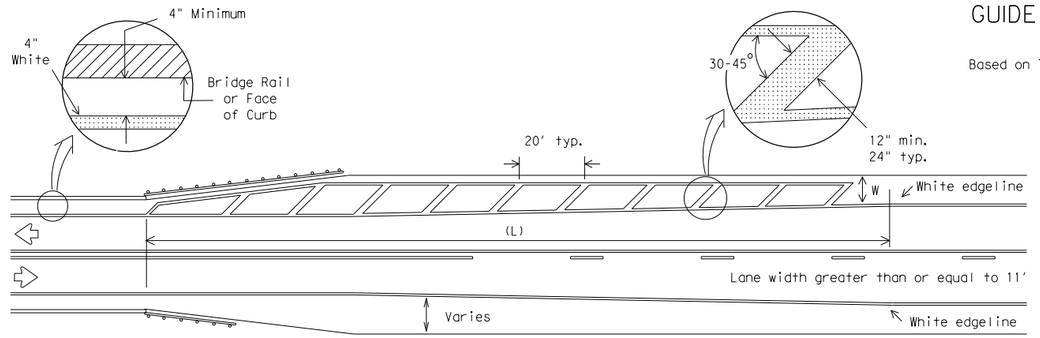

## GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE

Based on Traveled Way and Pavement Widths for Undivided Highways




All medians shall be field measured to determine the location of necessary striping. Stop/Yield bars and centerlines shall be placed when the median width is greater than 30 ft. The median width is defined as the area between two roadways of a divided highway measured from edge of traveled way to edge of traveled way. The median excludes turn lanes. The median width might be different between intersections, interchanges and of opposite approaches of the same intersection. The narrow median width will be the controlling width to determine if markings are required.

## FOUR LANE DIVIDED ROADWAY INTERSECTIONS




NOTES:

1. No-passing zone on bridge approach is optional but if used, it shall be a minimum 500 feet long.
2. For crosshatching length (L) see Table 1.
3. The width of the offset (W) and the required crosshatching width is the full shoulder width in advance of the bridge.
4. The crosshatching is not required if delineators or barrier reflectors are used along the structure.
5. For guard fence details, refer elsewhere in the plans.

## ROADWAYS WITH REDUCED SHOULDER WIDTHS ACROSS BRIDGE OR CULVERT

### TABLE 1 - TYPICAL LENGTH (L)

| Posted Speed * | Formula |
|---|---|
| ≤ 40 | $L = \frac{WS^2}{60}$ |
| ≥ 45 | L=WS |

* 85th Percentile Speed may be used on roads where traffic speeds normally exceed the posted speed limit. Crosshatching length should be rounded up to nearest 5 foot increment.

L=Length of Crosshatching (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

EXAMPLES:

An 8 foot shoulder in advance of a bridge reduces to 4 feet on a 70 MPH roadway. The length of the cross-hatching should be:

$L = 8 \times 70 = 560$ ft.

A 4 foot shoulder in advance of a bridge reduces to 2 feet on a 40 MPH roadway. The length of the cross-hatching should be:

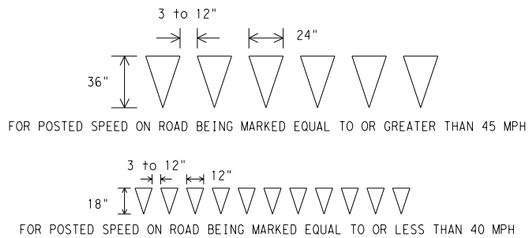
$L = 4(40)^2 / 60 = 106.67$ ft. rounded to 110 ft.

### GENERAL NOTES

1. Edgeline striping shall be as shown in the plans or as directed by the Engineer. The edgeline should typically be placed a minimum of 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edgelines are not required in curb and gutter sections of roadways.
2. The traveled way includes only that portion of the roadway used for vehicular travel and not the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the inside of edgeline to inside of edgeline of a two lane roadway.

| MATERIAL SPECIFICATIONS | |
|---|---|
| PAVEMENT MARKERS (REFLECTORIZED) | DMS-4200 |
| EPOXY AND ADHESIVES | DMS-6100 |
| BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS | DMS-6130 |
| TRAFFIC PAINT | DMS-8200 |
| HOT APPLIED THERMOPLASTIC | DMS-8220 |
| PERMANENT PREFABRICATED PAVEMENT MARKINGS | DMS-8240 |

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.




## YIELD LINES

Texas Department of Transportation
Traffic Operations Division

# TYPICAL STANDARD PAVEMENT MARKINGS

PM(1)-12



| DN: TXDOT | CK: TXDOT | DW: TXDOT | CK: TXDOT |
|---|---|---|---|

| REVISIONS | CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|---|
| 8-95 2-12 | 0915 | 12 | 574 | VARIES |
| 5-00 | DIST | COUNTY | | SHEET NO. |
| 8-00 | SAT | BEXAR | | 548 |
| 3-03 | | | | |

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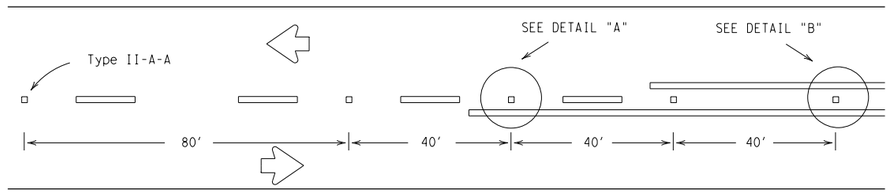
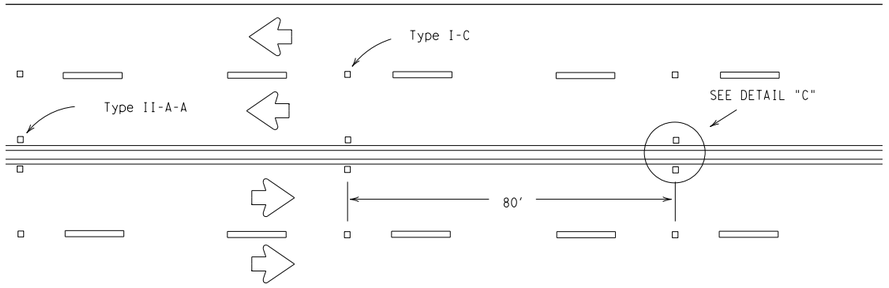
# REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE

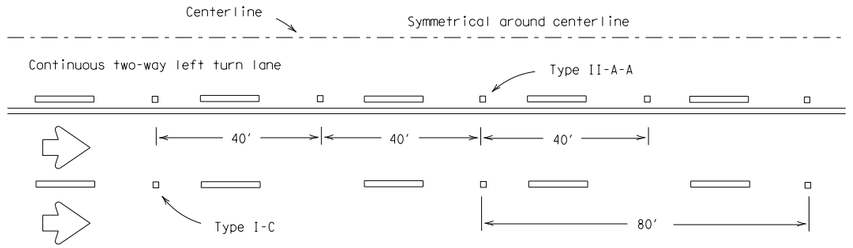



## CENTERLINE FOR ALL TWO LANE ROADWAYS

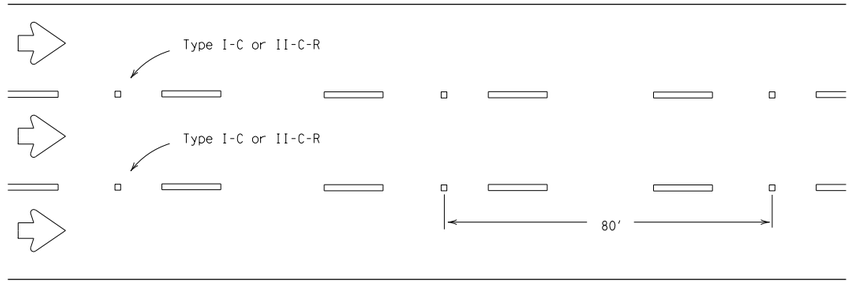



## CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY HIGHWAYS

Raised pavement marker Type I-C, clear face toward normal traffic, shall be placed on 80-foot centers.

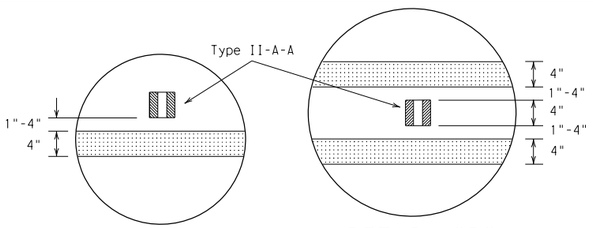



## CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE




## LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

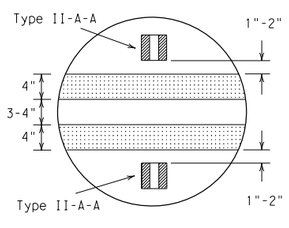
Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.



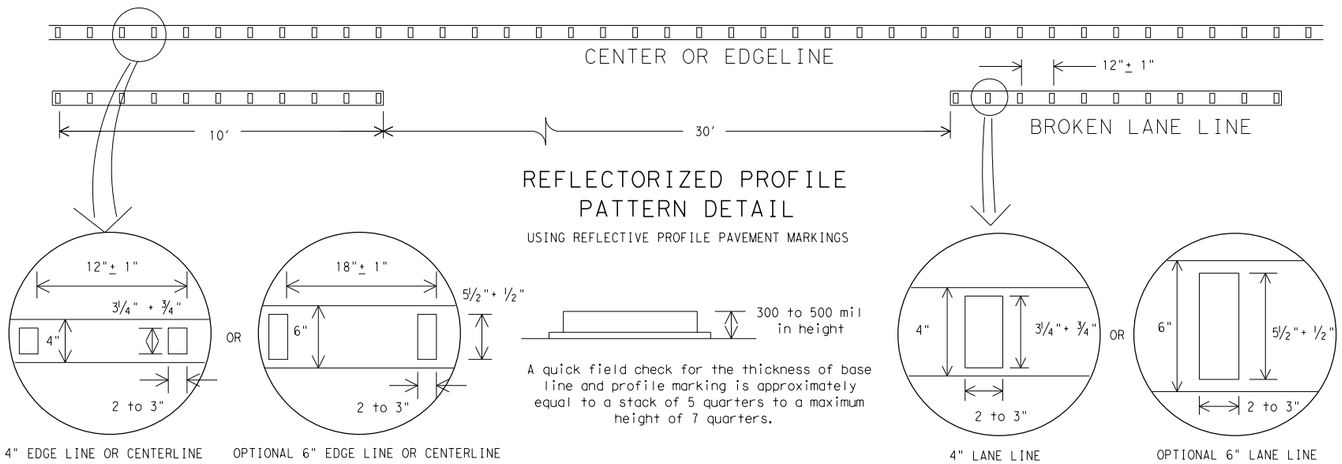

DETAIL "A"



DETAIL "B"




DETAIL "C"




## REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTIVE PROFILE PAVEMENT MARKINGS

A quick field check for the thickness of base line and profile marking is approximately equal to a stack of 5 quarters to a maximum height of 7 quarters.

4" EDGE LINE OR CENTERLINE

OPTIONAL 6" EDGE LINE OR CENTERLINE

4" LANE LINE

OPTIONAL 6" LANE LINE

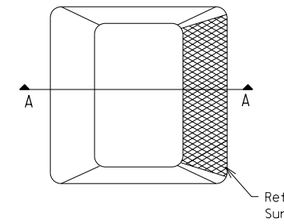
**NOTE:**
Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

## GENERAL NOTES

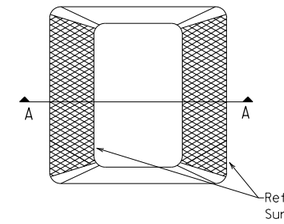
1. All raised pavement markers placed in broken lines shall be placed in line with and midway between the stripes.
2. On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.

| MATERIAL SPECIFICATIONS | |
|---|---|
| PAVEMENT MARKERS (REFLECTORIZED) | DMS-4200 |
| EPOXY AND ADHESIVES | DMS-6100 |
| BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS | DMS-6130 |
| TRAFFIC PAINT | DMS-8200 |
| HOT APPLIED THERMOPLASTIC | DMS-8220 |
| PERMANENT PREFABRICATED PAVEMENT MARKINGS | DMS-8240 |

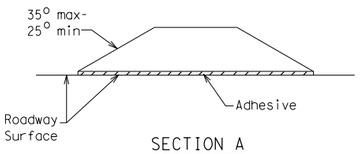
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.




Type I (Top View)




Type II (Top View)




SECTION A

## RAISED PAVEMENT MARKERS

Texas Department of Transportation
Traffic Operations Division

## POSITION GUIDANCE USING RAISED MARKERS
## REFLECTORIZED PROFILE MARKINGS
## PM(2)-12



| REVISIONS | | DN: TXDOT | CK: TXDOT | DW: TXDOT | CK: TXDOT |
|---|---|---|---|---|---|
| 4-92 | 2-10 | CONT | SECT | JOB | HIGHWAY |
| 5-00 | 2-12 | 0915 | 12 | 574 | VARIES |
| 8-00 | | DIST | COUNTY | | SHEET NO. |
| 2-08 | | SAT | BEXAR | | 549 |

22B

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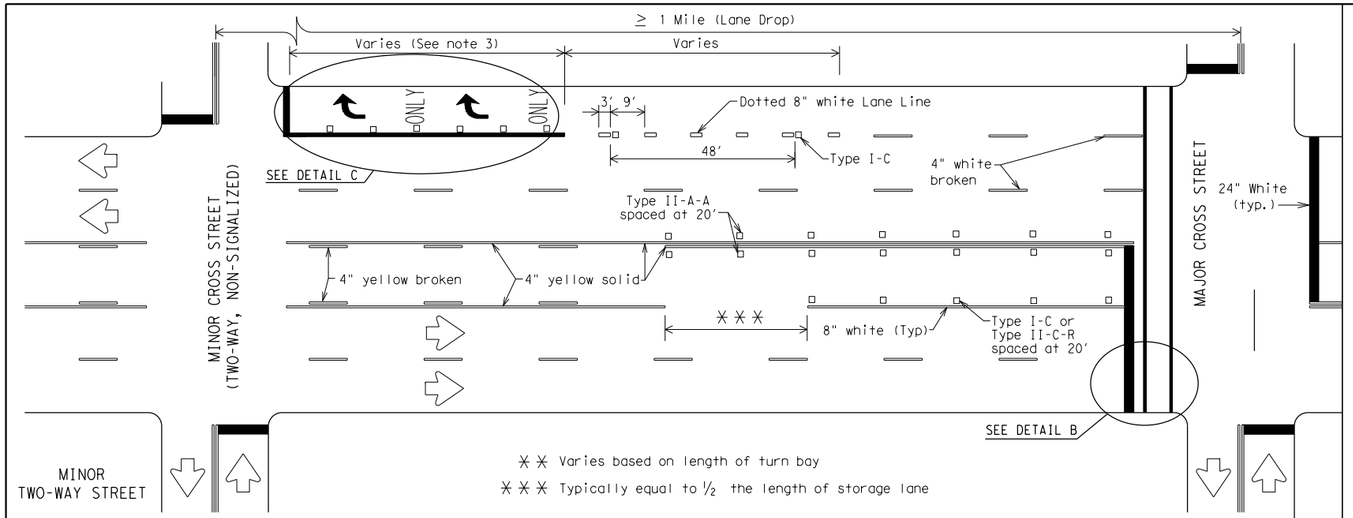
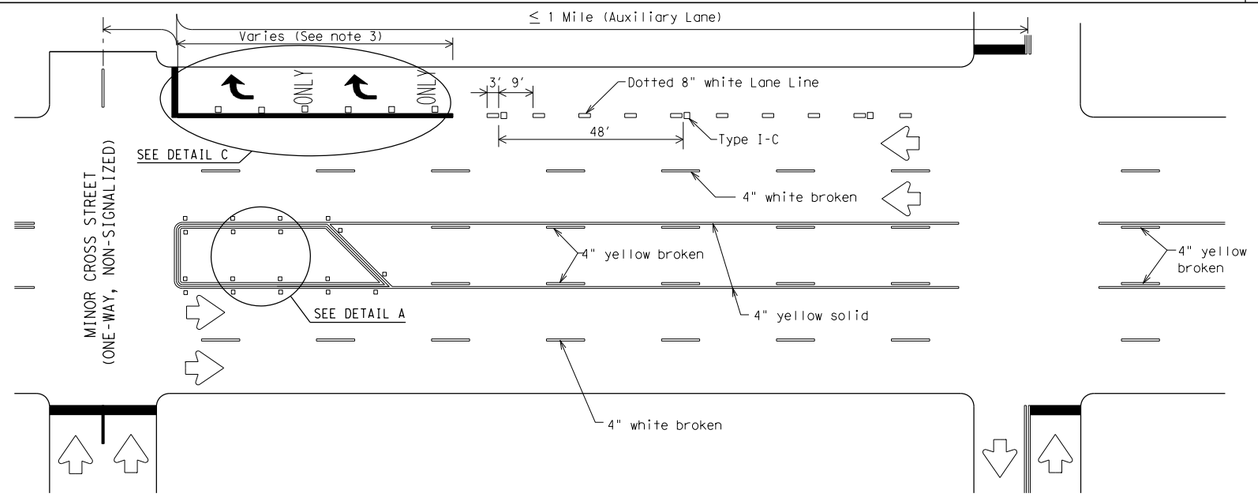
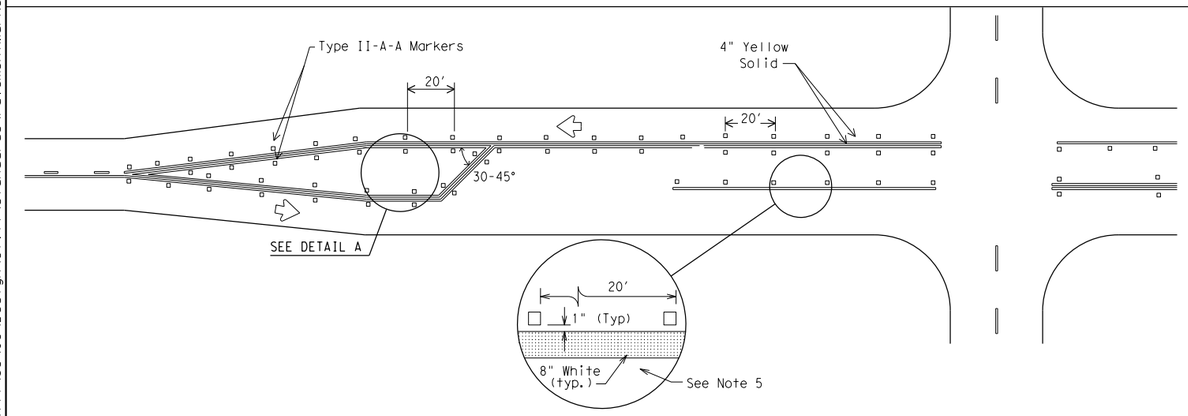


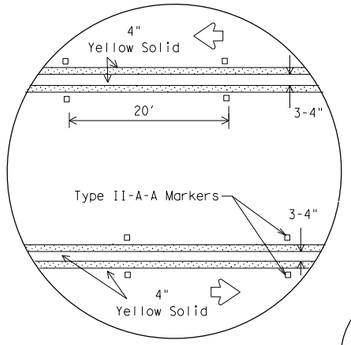

TYPICAL TWLTL AT TWO-WAY CROSS STREET AND RIGHT TURN LANE DROP



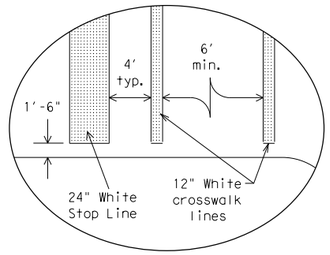

TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE




TYPICAL TWO-LANE HIGHWAY INTERSECTION WITH LEFT TURN BAYS

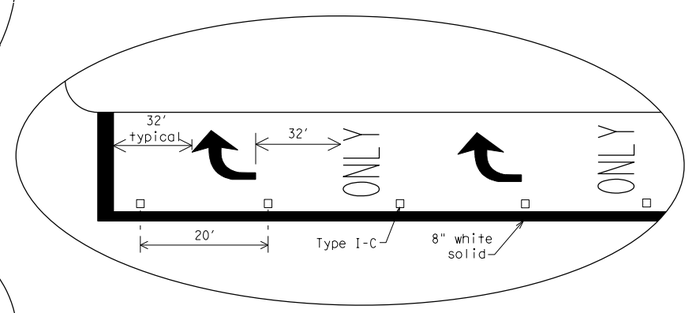



DETAIL A




Final placement of Stop Bar and Crosswalk shall be approved by the Engineer in the field.

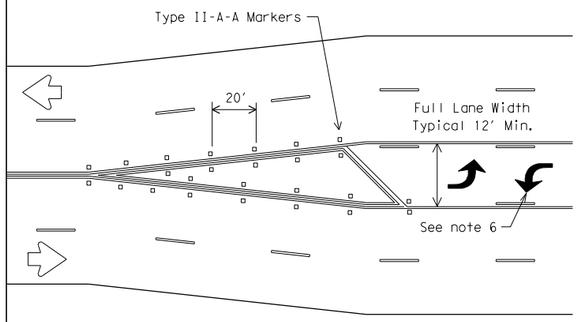
DETAIL B




DETAIL C

| MATERIAL SPECIFICATIONS | |
|---|---|
| PAVEMENT MARKERS (REFLECTORIZED) | DMS-4200 |
| EPOXY AND ADHESIVES | DMS-6100 |
| BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS | DMS-6130 |
| TRAFFIC PAINT | DMS-8200 |
| HOT APPLIED THERMOPLASTIC | DMS-8220 |
| PERMANENT PREFABRICATED PAVEMENT MARKINGS | DMS-8240 |

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.




TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY

## GENERAL NOTES

1. Refer elsewhere in plans for additional RPM placement and details.
2. Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows as shown in the Standard Highway Sign Designs for Texas.
3. When lane used word and arrow markings are used, two sets of arrows should be used if the length of the bay is greater than 180 feet. When a single lane use arrow or word and arrow marking is used for a short turn lane, it should be located at or near the upstream end of the full-width turn lane.
4. Other crosswalk paterns as shown in the "Texas Manual on Uniform Traffic Control Devices" may be used.
5. Raised pavement marker Type I-C with undivided highways, flush medians and two way left turn lanes. Raised pavement marker Type II-C-R with divided highways and raised medians.
6. A two-way left-turn (TWLT) lane-use arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or dedicated turn bay is not required unless stated elsewhere in the plans.

Texas Department of Transportation
Traffic Operations Division

# PAVEMENT MARKINGS FOR TWO-WAY LEFT TURN LANES DIVIDED HIGHWAYS AND RURAL LEFT TURN BAYS

PM(3)-12



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| REVISIONS |
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| 5-00 2-12 |
| 8-00 |
| 3-03 |
| 2-10 |

| CONT | SECT | JOB | HIGHWAY |
|---|---|---|---|
| 0915 | 12 | 574 | VARIES |
| DIST | COUNTY | | SHEET NO. |
| SAT | BEXAR | | 550 |

22C

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## I. STORMWATER POLLUTION PREVENTION-CLEAN WATER ACT SECTION 402

Texas Pollutant Discharge Elimination System (TPDES) TXR 150000: Stormwater Discharge Permit or Construction General Permit (CGP) required for projects with 1 or more acres distrubed soil. Projects with any disturbed soil must protect for erosion and sedimentation in accordance with Item 506.

☒ No Action Required ☐ Required Action

Action No.

1. Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit TXR 150000.
2. Comply with the Storm Water Pollution Prevention Plan (SW3P) and revise when necessary to control pollution or required by the Engineer.
3. Post Construction Site Notice (CSN) with SW3P information on or near the site, accessible to the public and Texas Commission on Environmental Quality (TCEQ), Environmental Protection Agency (EPA) or other inspectors.
4. When Contractor project specific locations (PSL's) increase disturbed soil area to 5 acres or more, Contractor shall submit Notice of Intent (NOI) to TCEQ and the Engineer.
5. NOI required: ☐Yes ☐No

Note: If amount of soil disturbance changes, permit requirements may change.

## II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404

US Army Corps of Engineers (USACE) Permit required for filling, dredging, excavating or other work in any potential USACE jurisdictional water, such as, rivers, creeks, streams, or wetlands.

The Contractor shall adhere to all of the terms and conditions associated with the following permit(s):

☒ No Permit Required

☐ Nationwide Permit (NWP) 14 - Pre-construction Notice (PCN) not Required

☐ Nationwide Permit 14 - PCN Required

☐ Individual 404 Permit Required

☐ Other Nationwide Permit Required: NWP# _____

Required Actions: List waters of the US permit applies to, location in project and check Best Management Practices (BMPs) planned to control erosion, sedimentation and post-project total suspended solids (TSS).

1.

2.

3.

4.

401 Best Management Practices: (Not applicable if no USACE permit)

| Erosion | Sedimentation | Post-Construction TSS |
|---|---|---|
| ☐ Temporary Vegetation | ☐ Silt Fence | ☐ Vegetative Filter Strips |
| ☐ Blankets/Matting | ☐ Rock Berm | ☐ Retention/Irrigation Systems |
| ☐ Mulch | ☐ Triangular Filter Dike | ☐ Extended Detention Basin |
| ☐ Sodding | ☐ Sand Bag Berm | ☐ Constructed Wetlands |
| ☐ Interceptor Swale | ☐ Straw Bale Dike | ☐ Wet Basin |
| ☐ Diversion Dike | ☐ Brush Berms | ☐ Erosion Control Compost |
| ☐ Erosion Control Compost | ☐ Erosion Control Compost | ☐ Mulch Filter Berm and Socks |
| ☐ Mulch Filter Berm and Socks | ☐ Mulch Filter Berm and Socks | ☐ Compost Filter Berm and Socks |
| ☐ Compost Filter Berm and Socks | ☐ Compost Filter Berm and Socks | ☐ Vegetation Lined Ditches |
| | ☐ Stone Outlet Sediment Traps | ☐ Sand Filter Systems |
| | ☐ Sediment Basins | ☐ Sedimentation Chambers |
| | | ☐ Grassy Swales |

## III. CULTURAL RESOURCES

Refer to TxDOT Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the Engineer immediately.

☒ No Action Required ☐ Required Action

Action No.

1.

2.

3.

4.

## IV. VEGETATION RESOURCES

Preserve native vegetation to the extent practical. Contractor must adhere to Construction Specification Requirements Specs 162,164, 192, 193, 506, 730, 751, 752 in order to comply with requirements for invasive species, beneficial landscaping, and tree/brush removal commitments.

☒ No Action Required ☐ Required Action

Action No.

1.

2.

3.

4.

## V. FEDERAL LISTED, PROPOSED THREATENED, ENDANGERED SPECIES, CRITICAL HABITAT, STATE LISTED SPECIES, CANDIDATE SPECIES AND MIGRATORY BIRDS.

☐ No Action Required ☒ Required Action

Action No.

1. MIGRATORY BIRD NESTS: Schedule construction activities as needed to meet the following requirements:

   A. Do not remove or destroy any active migratory bird nests (nests containing eggs and/or flightless birds) at any time of year. If there are any active nests, they shall not be removed until the nests become inactive.

   B. On/in structures, if there are any active nests, they shall not be removed until all nests become inactive. After inactive nests are removed and/or before nest activity begins, deterrent materials may be applied to the structures to prevent future nest building.

2. See Item 5 in General Notes.

3.

4.

If any of the listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the Engineer immediately. The work may not remove active nests from bridges and other structures during nesting season of the birds associated with the nests. If caves or sinkholes are discovered, cease work in the immediated area, and contact the Engineer immediately.

## VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES

General (applies to all projects):

Comply with the Hazard Communication Act (the Act) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used.

Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: Paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bare ground and covered, for products which may be hazardous. Maintain product labelling as required by the Act.

Maintain an adequate supply of on-site spill response materials, as indicated in the MSDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the District Spill Coordinator immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the Engineer if any of the follwing are detected:

* Dead or distressed vegetation (not identified as normal)
* Trash piles, drums, canister, barrels, etc.
* Undesirable smells or odors
* Evidence of leaching or seepage of substances

Hazardous Materials or Contamination Issues Specific to this Project:

☒ No Action Required ☐ Required Action

Action No.

1.

2.

3.

Does the project involve the demolition of a span bridge?

☐ Yes ☒ No (No further action required)

If "Yes", a pre- demolition notification must be submitted to the Texas Department of State Health Services. The contractor shall contact TxDOT's Project Engineer 25 calendar days prior to the demolition of the bridges(s) on the project to assist with the notification.

## VII. OTHER ENVIRONMENTAL ISSUES

(includes regional issues such as Edwards Aquifer District, etc.)

☒ No Action Required ☐ Required Action

Action No.

1.

2.

3.

*Texas Department of Transportation*
*San Antonio District Standard*

# ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS

# EPIC

| | | | | | | | |
|---|---|---|---|---|---|---|---|
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| ©TxDOT OCTOBER 2015 | CONT | SECT | JOB | | HIGHWAY | | |
| REVISIONS | 0915 | 12 | 574 | | VARIES | | |
| | DIST | COUNTY | | | | SHEET NO. | |
| | SAT | BEXAR | | | | 551 | |

Note To Designer:
1. Do not alter Sheet Design or Font style, size or weight - match text attributes.
2. If additional space is needed for a numbered section, fence and adjust sections up or down as needed for proportioning and readability but do not relocate from it's relative position.

# A. GENERAL SITE DATA

1. PROJECT LIMITS: *At various locations in the San Antonio District*

2. PROJECT SITE MAPS:
- *Project Latitude* 29.356643 *Project Longitude* -98.527648
- *Project Location Map: See Sheets III3507BEXCOJ04*
- *Drainage Patterns: N/A*
- *Approx. Slopes Anticipated After Major Gradings and Areas of Soil Disturbance: N/A*
- *Major Controls and Locations of Stabilization Practices: See sheet III3507SWSHR02 details*
- *Project Specific Locations: N/A*
- *Surface Waters and Discharge Locations: N/A*

3. PROJECT DESCRIPTION: *For pedestrian improvements including bus shelter pads, sidewalks, ADA curb ramps*

- *Joint-bid utilities are covered by this SW3P (Sheets X-Y)*
  *Non-Joint Bid Utilities are not part of this SW3P.*

4. FOR MAJOR SOIL DISTURBING ACTIVITIES SEQUENCE OF EVENTS:

1. *Install controls down-slope of work area and initiate inspection and maintenance activities.*
2. *Begin phased construction with interim stabilization practices. Adjust erosion and sedimentation controls during construction to meet requirements and changing conditions and as directed/approved by the Engineer.*
3. *Major soil disturbing activities may include but are not limited to: right-of-way preparation, cut and/or fill to improve roadway profile, final grading and placement of topsoil and the following (if marked):*

____ *Placement of road base*
____ *Exstensive ditch grading*
____ *Upgrading or replacing culverts or bridges*
____ *Temporary detour road(s)*
____ *Other:* _____

5. EXISTING AND PROPOSED CONDITIONS:

*Description of existing vegetative cover: (Provide type and description of vegetative cover)*
*Percentage of existing vegetative cover: (Provide percentage)*
*Existing vegetative cover: (mark one)*
____ *Thick or uniformly established*
____ *Thin and Patchy*
____ *None or minimal cover*
*Description of soils: (Provide classification and description of soils)*
*Site Acreage: N/A* *Acreage disturbed: 0.55*
*Site runoff coefficient (pre-construction): N/A* *Site runoff coefficient (post-construction): N/A*

6. RECEIVING WATERS: *(Mark all that apply)*

__X__ *A classified stream does not pass through project.*
____ *A classified stream passes through project. Name* _____ *Segment Number* _____
*Name of receiving waters that will receive discharges from disturbed areas of the project:* _____

*Site is in a Municipal Separate Storm Sewer System (MS4).*
*MS4 Operator (name):* _____

# B. BEST MANAGEMENT PRACTICES

*General timing or sequence for implementation of BMPs shall be as required and/or as directed/approved by the Engineer to provide adequate controls. BMPs shown on plan sheets are to be considered "proposed" unless/until install date is shown. BMPs are to reduce sediments from road construction activities.*

1. SOIL STABILIZATION PRACTICES: (Select T = Temporary or P = Permanent, as applicable)

____ SEEDING
____ MULCHING (Hay or Straw)
____ BUFFER ZONES
____ PLANTING
____ COMPOST/MULCH FILTER BERM
__P__ SODDING
____ PRESERVATION OF NATURAL RESOURCES
____ FLEXIBLE CHANNEL LINER
____ RIGID CHANNEL LINER
____ SOIL RETENTION BLANKET
____ COMPOST MANUFACTURED TOPSOIL
____ OTHER: (Specify Practice)

2. STRUCTURAL PRACTICES: (Select T = Temporary or P = Permanent, as applicable)

__T__ SILT FENCES
____ HAY BALES
____ ROCK FILTER DAMS
____ DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
____ DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
____ DIVERSION DIKE AND SWALE COMBINATIONS
____ PIPE SLOPE DRAINS
____ PAVED FLUMES
____ ROCK BEDDING AT CONSTRUCTION EXIT
____ TIMBER MATTING AT CONSTRUCTION EXIT
____ CHANNEL LINERS
____ SEDIMENT TRAPS
____ SEDIMENT BASINS
____ STORM INLET SEDIMENT TRAP
____ STONE OUTLET STRUCTURES
__P__ CURBS AND GUTTERS
____ STORM SEWERS
____ VELOCITY CONTROL DEVICES
__T__ OTHER: *EROSION CONTROL LOGS*

3. STORM WATER MANAGEMENT:

*The proposed facility was designed in consideration of hydraulic design standards to convey stormwater in a manner that is protective of public safety and property. The control of erosion from the facility is inherent to the design. Additional factors affecting post-construction stormwater at the project location include: (mark all that apply)*

____ *Existing or new vegetation provides natural filtration.*
____ *The design includes provisions for permanent erosion controls provided by strategically placed pervious and impervious surfaces.*
____ *Project includes permanent sedimentation controls (other than grass).*
____ *Velocities do not require dissipation devices.*
____ *Velocity-dissipation devices included in the design.*
____ *Other :* _____
_____

4. NON-STORM WATER DISCHARGES:

*Off-site discharges are prohibited except as follows:*

1. *Discharges from fire fighting activities and/or fire hydrant flushings.*
2. *Vehicle, external building, and pavement wash water where detergents and soaps are not used and where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed).*
3. *Plain water used to control dust.*
4. *Plain water originating from potable water sources.*
5. *Uncontaminated groundwater, spring water or accumulated stormwater.*
6. *Foundation or footing drains where flows are not contaminated with process materials such as solvents.*
7. *Other:* _____

*Concrete truck wash water discharges on the site should be prohibited or minimized. If allowed by the Engineer, they must be managed in a manner so as not to contaminate surface water. They must not be located in areas of concentrated flow. Concrete truck wash-out locations must be shown on the SW3P Layout and included in the inspections.*

*Hazardous material spill/leak shall be prevented or minimized. At a minimum, this includes asphalt products, fuels, oils, lubricants, solvents, paints, acids, concrete curing compounds and chemical additives for soil stabilization. BMPs shall be implemented to the storage areas of these products. All spills must be cleaned and disposed properly and reported to the Engineer. Report any release at or above the reportable quantity during a 24 hour period to the National Response Center at 1-800-424-8802.*

# C. OTHER REQUIREMENTS & PRACTICES

1. MAINTENANCE:

*All erosion and sediment controls shall be maintained in good working order. If a repair is necessary, it shall be performed before the next anticipated storm event but no later than 7 calendar days after the surrounding exposed ground has dried sufficiently to prevent further damage from equipment. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable. Disturbed areas on which construction activities have ceased, temporarily or permanently, shall be stabilized within 14 calendar days unless they are scheduled to and do resume within 21 calendar days. The areas adjacent to creeks and drainageways shall have priority followed by protecting storm sewer inlets.*

2. INSPECTION:

*For areas of the construction site that have not been finally stabilized, areas used for storage of materials, structural control measures, and locations where vehicles enter or exit the site, personnel provided by the permittee and familiar with the SW3P must inspect disturbed areas at least once every seven (7) calendar days. An Inspection and Maintenance Report shall be prepared for each inspection and the controls shall be revised on the SW3P within seven (7) calendar days following the inspection.*

3. WASTE MATERIALS:

*All non-hazardous municipal waste materials such as litter, rubbish, trash and garbage located on or originating from the project shall be collected and stored in a securely lidded metal dumpster, provided by the Contractor. The dumpster shall be emptied as necessary or as required by local regulation and the trash shall be hauled to a permitted disposal facility. The burying of non-hazardous municipal waste on the project shall not be permitted. Construction material waste sites, stockpiles and haul roads shall be constructed to minimize and control the amount of sediment that may enter receiving waters. Construction material waste sites shall not be located in any wetland, water body or stream bed. Construction staging areas and vehicle maintenance areas shall be constructed in a manner to minimize the runoff of pollutants.*

4. OFFSITE VEHICLE TRACKING:

*Off-site vehicle tracking of sediments and the generation of dust must be minimized. Excess sediments on road shall be removed on a regular basis as directed/approved by the Engineer.*

5. OTHER:

*See the EPIC sheet for additional environmental information.*

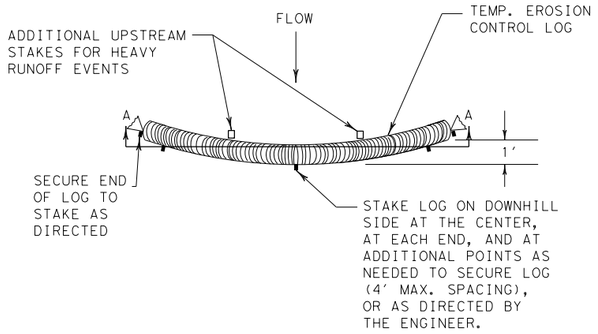
Design Consultant Logo here - delete block if not applicable

 *Texas Department of Transportation*

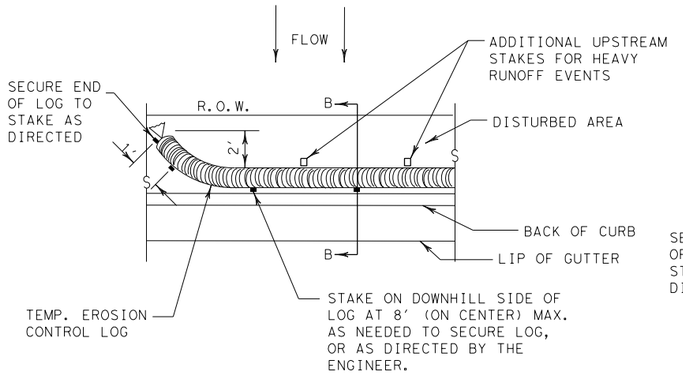
## STORM WATER POLLUTION PREVENTION PLAN (SW3P)

| FED. RD. DIV. NO. | FEDERAL AID PROJECT NO. | | HIGHWAY NO. |
|---|---|---|---|
| 6 | | | VARIES |
| STATE | DISTRICT | COUNTY | |
| TEXAS | SAT | BEXAR | |
| CONTROL | SECTION | JOB | SHEET NO. |
| 0915 | 12 | 574 | 552 |

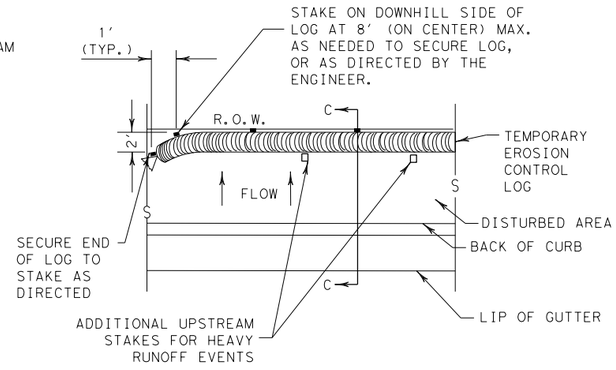
REVISION DATE: 10/12



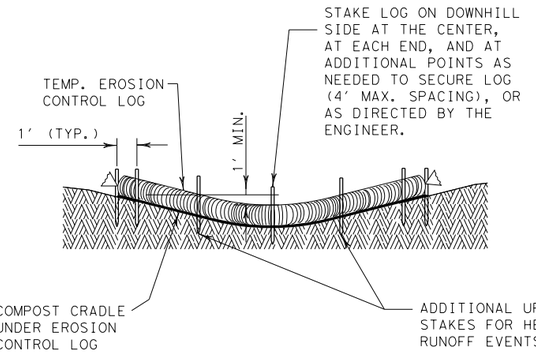

PLAN VIEW




PLAN VIEW



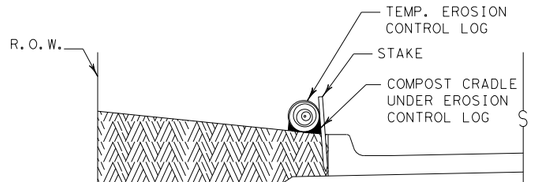

PLAN VIEW




SECTION A-A

EROSION CONTROL LOG DAM

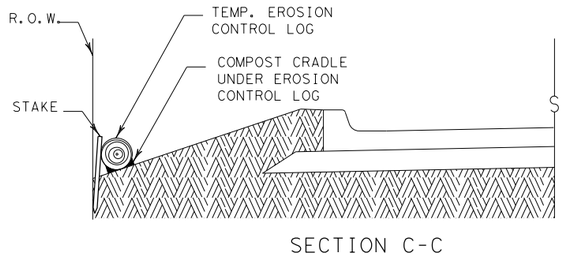
CL-D




SECTION B-B

EROSION CONTROL LOG AT BACK OF CURB

CL-BOC



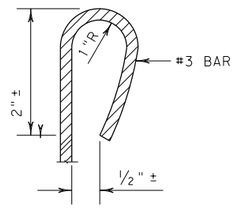

SECTION C-C

EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY

CL-ROW

LEGEND

- CL-D — EROSION CONTROL LOG DAM
- CL-BOC — EROSION CONTROL LOG AT BACK OF CURB
- CL-ROW — EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY
- CL-SST — EROSION CONTROL LOGS ON SLOPES STAKE AND TRENCHING ANCHORING
- CL-SSL — EROSION CONTROL LOGS ON SLOPES STAKE AND LASHING ANCHORING
- CL-DI — EROSION CONTROL LOG AT DROP INLET
- CL-CI — EROSION CONTROL LOG AT CURB INLET
- CL-GI — EROSION CONTROL LOG AT CURB & GRATE INLET




REBAR STAKE DETAIL

## GENERAL NOTES:

1. EROSION CONTROL LOGS SHALL BE INSTALLED IN ACCORDANCE WITH MANFACTURER'S RECOMMENDATIONS, OR AS DIRECTED BY THE ENGINEER.
2. LENGTHS OF EROSION CONTROL LOGS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS REQUIRED FOR THE PURPOSE INTENDED.
3. UNLESS OTHERWISE DIRECTED, USE BIODEGRADABLE OR PHOTODEGRADABLE CONTAINMENT MESH ONLY WHERE LOG WILL REMAIN IN PLACE AS PART OF A VEGETATIVE SYSTEM. FOR TEMPORARY INSTALLATIONS, USE RECYCLABLE CONTAINMENT MESH.
4. FILL LOGS WITH SUFFICIENT FILTER MATERIAL TO ACHIEVE THE MINIMUM COMPACTED DIAMETER SPECIFIED IN THE PLANS WITHOUT EXCESSIVE DEFORMATION.
5. STAKES SHALL BE 2" X 2" WOOD OR #3 REBAR, 2'-4' LONG, EMBEDDED SUCH THAT 2" PROTRUDES ABOVE LOG, OR AS DIRECTED BY THE ENGINEER.
6. DO NOT PLACE STAKES THROUGH CONTAINMENT MESH.
7. COMPOST CRADLE MATERIAL IS INCIDENTAL & WILL NOT BE PAID FOR SEPARATELY.
8. SANDBAGS USED AS ANCHORS SHALL BE PLACED ON TOP OF LOGS & SHALL BE OF SUFFICIENT SIZE TO HOLD LOGS IN PLACE.
9. TURN THE ENDS OF EACH ROW OF LOGS UPSLOPE TO PREVENT RUNOFF FROM FLOWING AROUND THE LOG.
10. FOR HEAVY RUNOFF EVENTS, ADDITIONAL UPSTREAM STAKES MAY BE NECESSARY TO KEEP LOG FROM FOLDING IN ON ITSELF.

### SEDIMENT BASIN & TRAP USAGE GUIDELINES

An erosion control log sediment trap may be used to filter sediment out of runoff draining from an unstabilized area.

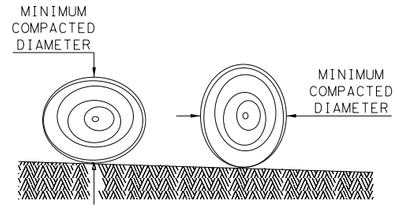
Log Traps: The drainage area for a sediment trap should not exceed 5 acres. The trap capacity should be 1800 CF/Acre (0.5" over the drainage area).

Control logs should be placed in the following locations:

1. Within drainage ditches spaced as needed or min. 500' on center
2. Immediately preceding ditch inlets or drain inlets
3. Just before the drainage enters a water course
4. Just before the drainage leaves the right of way
5. Just before the drainage leaves the construction limits where drainage flows away from the project.

The logs should be cleaned when the sediment has accumulated to a depth of 1/2 the log diameter.

Cleaning and removal of accumulated sediment deposits is incidental and will not be paid for separately.




DIAMETER MEASUREMENTS OF EROSION CONTROL LOGS SPECIFIED IN PLANS



DATE: 4/10/2019
FILE: P:\111\35\08\Design\Civil\Standards\SW3P\ec916.dgn

SHEET 1 OF 3

Texas Department of Transportation | Design Division Standard

# TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

## EROSION CONTROL LOG

## EC(9)-16

| | | | | | |
|---|---|---|---|---|---|
| FILE: ec916 | DN: TxDOT | CK: KM | DW: LS/PT | CK: LS | |
| © TxDOT: JULY 2016 | CONT | SECT | JOB | HIGHWAY | |
| REVISIONS | 0915 | 12 | 574 | VARIES | |
| | DIST | COUNTY | | SHEET NO. | |
| | SAT | BEXAR | | 553 | |

DATE: 4/10/2019
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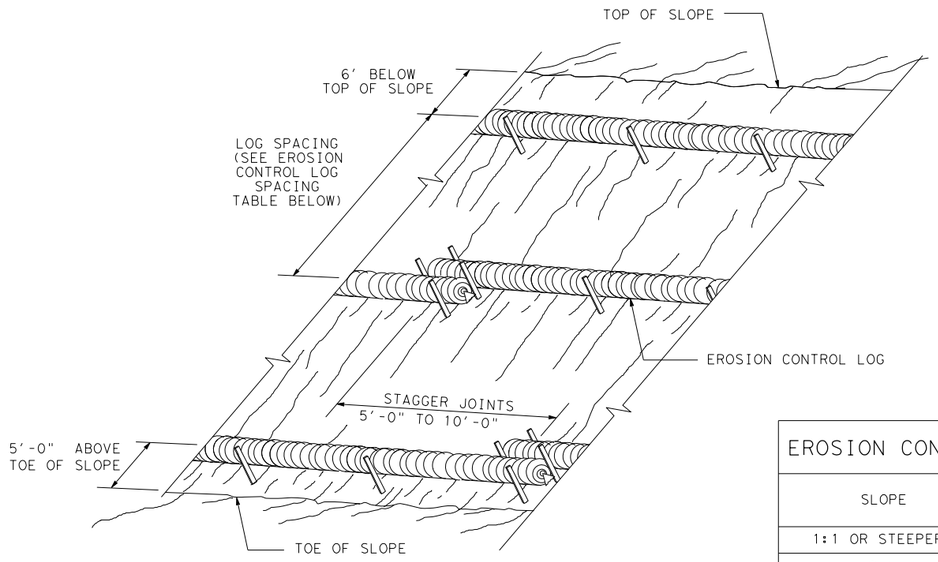
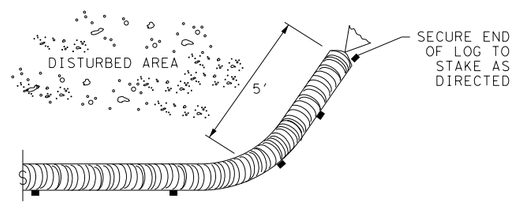



EROSION CONTROL LOGS ON SLOPES
STAKE AND TRENCHING ANCHORING

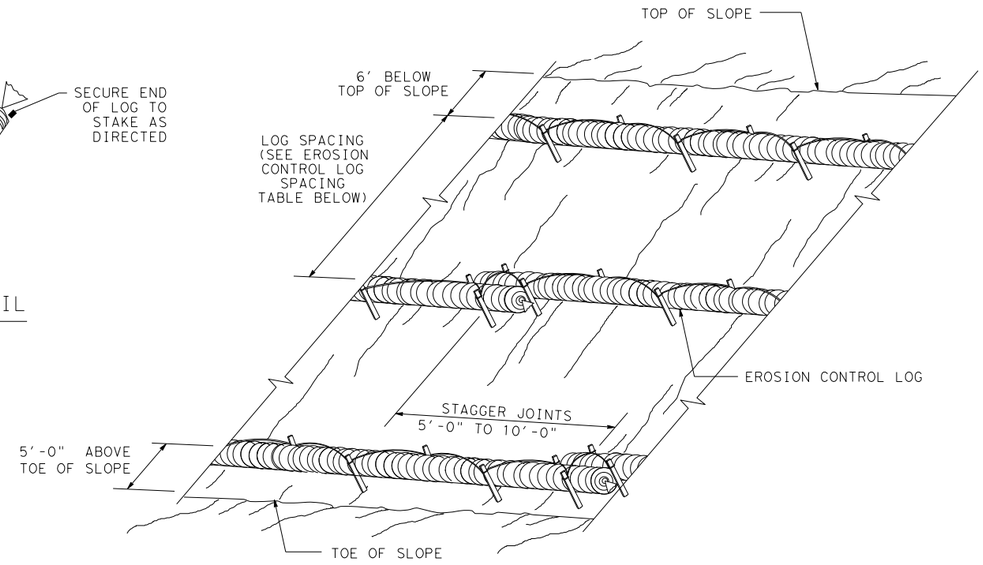
CL-SST




END SECTION RAP DETAIL

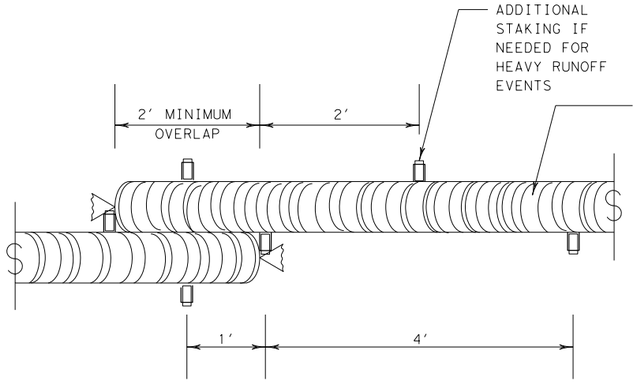
| EROSION CONTROL LOG SPACING TABLE | | | | |
|---|---|---|---|---|
| SLOPE | LOG DIAMETER | | | |
| | 6" | 8" | 12" | 18" |
| 1:1 OR STEEPER | 5' | 10' | 15' | 20' |
| 2:1 | 10' | 20' | 30' | 40' |
| 3:1 | 15' | 30' | 45' | 60' |
| 4:1 OR FLATTER | 20' | 40' | 60' | 80' |

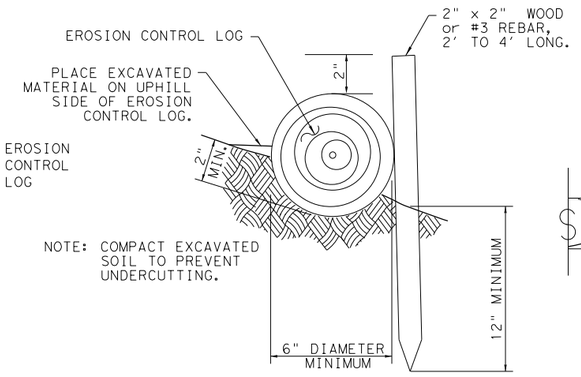
* ADJUSTMENTS CAN BE MADE FOR SOIL TYPE:
SOFT, LOAMY SOILS-ADJUST ROWS CLOSER TOGETHER;
HARD, ROCKY SOILS- ADJUST ROWS FARTHER APART




EROSION CONTROL LOGS ON SLOPES
STAKE AND LASHING ANCHORING

CL-SSL

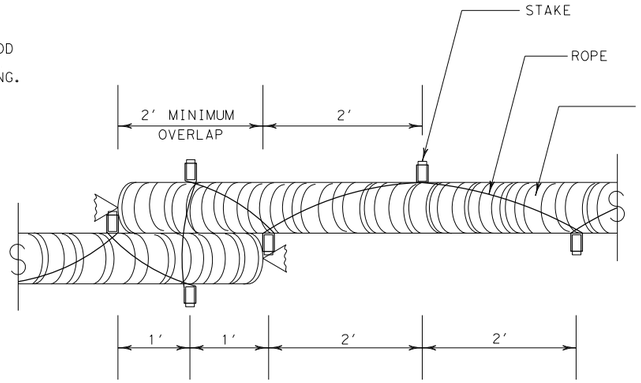


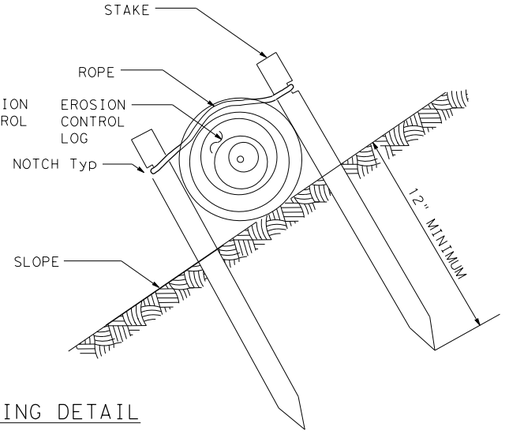




STAKE AND TRENCHING ANCHORING DETAIL

CL-SST

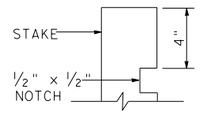
| TRENCH DEPTH TABLE | |
|---|---|
| LOG DIAMETER | DEPTH |
| 6" | 2" |
| 8" | 3" |
| 12" | 4" |
| 18" | 5" |




STAKE AND LASHING ANCHORING DETAIL

CL-SSL




STAKE NOTCH DETAIL



Texas Department of Transportation | Design Division Standard

# TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

## EROSION CONTROL LOG

## EC(9)-16

| | | | | | |
|---|---|---|---|---|---|
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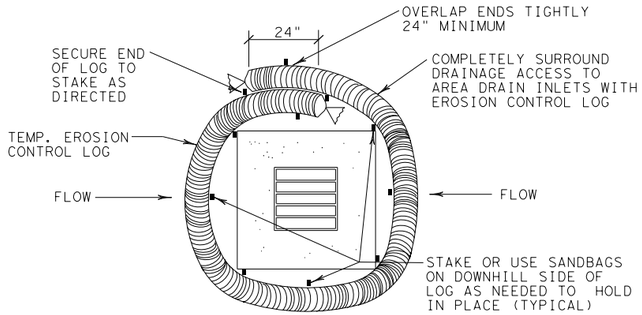
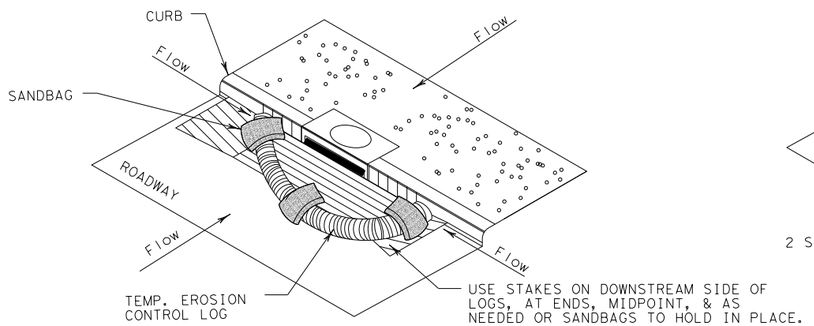
|  | CONT | SECT | JOB | HIGHWAY | |
| REVISIONS | 0915 | 12 | 574 | VARIES | |
| | DIST | COUNTY | | SHEET NO. | |
| | SAT | BEXAR | | 554 | |

DATE: 4/10/2019
FILE: P:\11\35\08\Design\Civil\Standards\SW3P\ec916.dgn



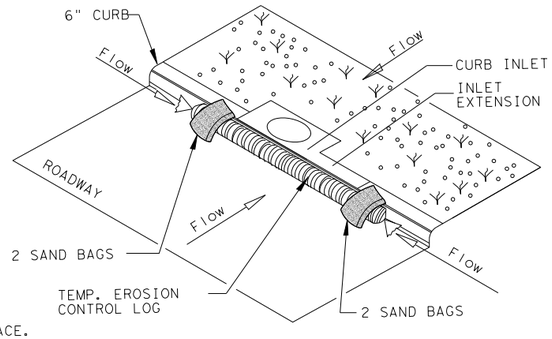

EROSION CONTROL LOG AT DROP INLET

CL-DI




EROSION CONTROL LOG AT CURB INLET

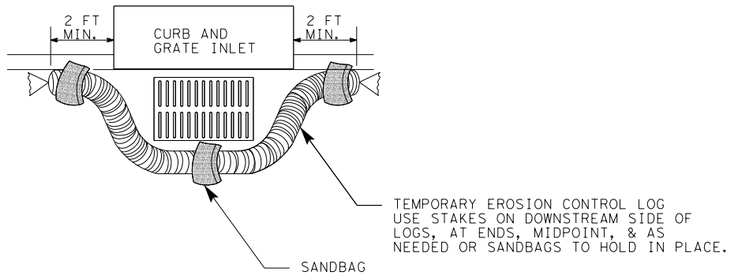
CL-CI




EROSION CONTROL LOG AT CURB INLET

CL-CI

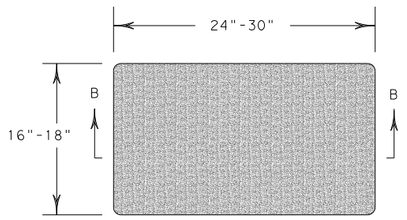
NOTE:
EROSION CONTROL LOGS USED AT CURB INLETS SHOULD ONLY BE USED IF THEY WILL NOT IMPEDE TRAFFIC OR FLOOD THE ROADWAY OR WHEN THE STORM SEWER SYSTEM IS NOT FULLY FUNCTIONAL.




EROSION CONTROL LOG AT CURB & GRADE INLET

CL-GI


SECTION B-B




SANDBAG DETAIL



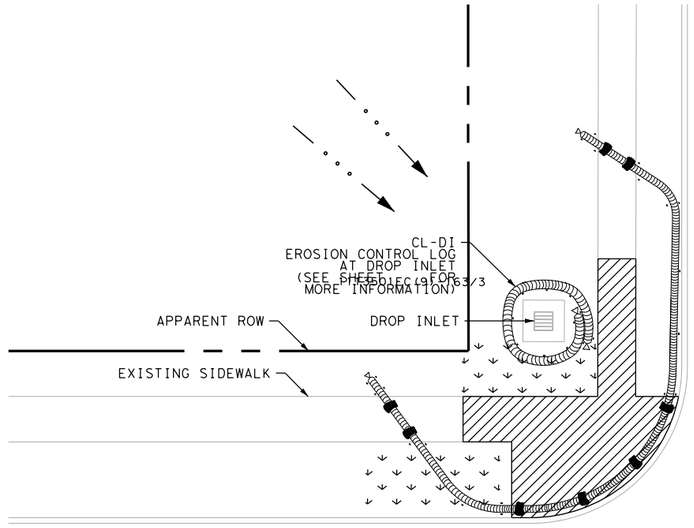
Texas Department of Transportation | Design Division Standard

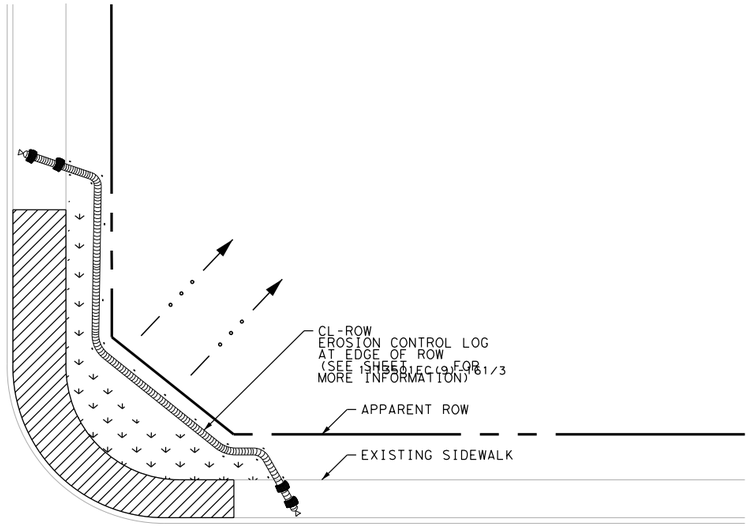
# TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

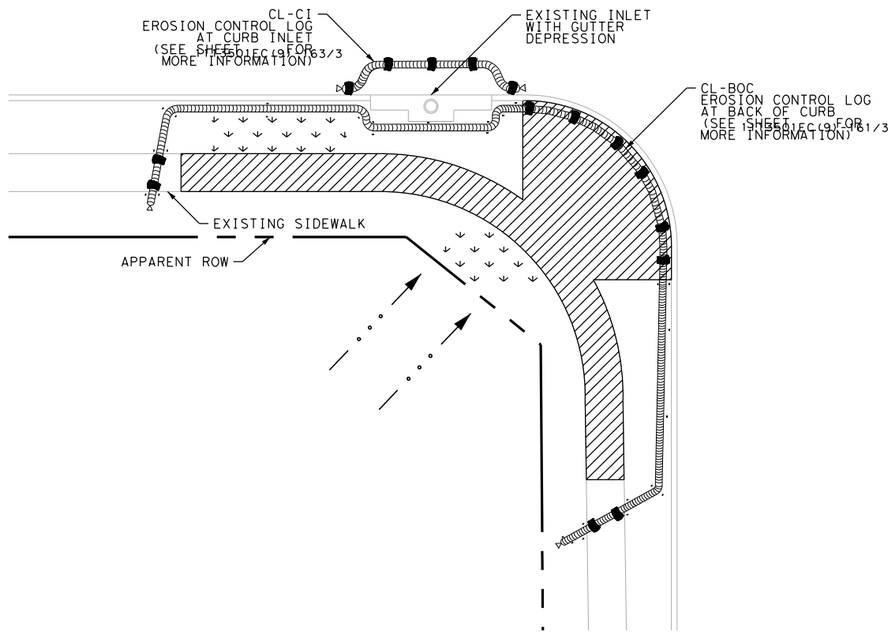
## EROSION CONTROL LOG

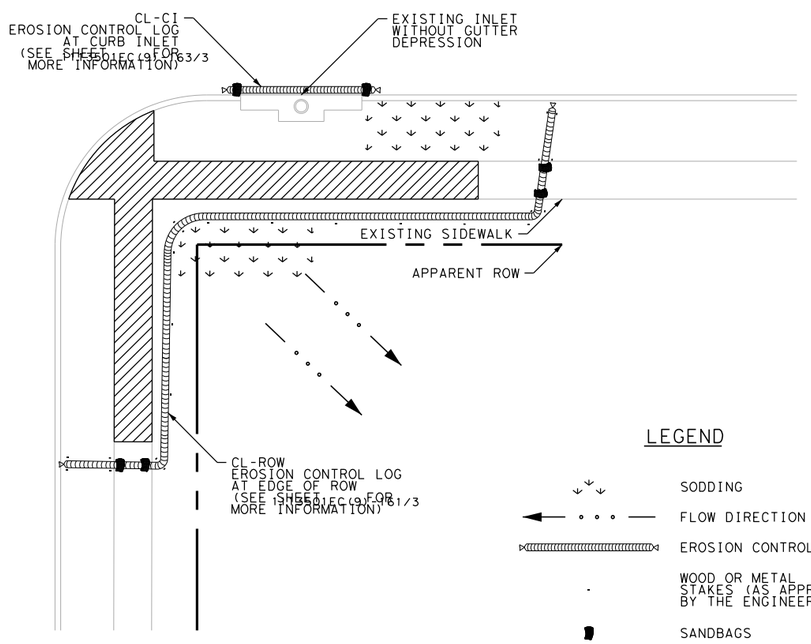
## EC(9)-16

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| FILE: ec916 | DN: TxDOT | | CK: KM | | DW: LS/PT | | CK: LS |
| © TxDOT: JULY 2016 | CONT | SECT | JOB | | HIGHWAY | | |
| REVISIONS | 0915 | 12 | 574 | | VARIES | | |
| | DIST | COUNTY | | | SHEET NO. | | |
| | SAT | BEXAR | | | 555 | | |




## LEGEND

- SODDING
- FLOW DIRECTION
- EROSION CONTROL LOG
- WOOD OR METAL STAKES (AS APPROVED BY THE ENGINEER)
- SANDBAGS
- EXISTING FEATURES
- PROPOSED WORK AREA

NOTES:

REFERENCE ENVIRONMENTAL PERMITS, ISSUES, AND COMMITMENTS (EPIC)AND STORM WATER POLLUTION PREVENTION PLAN (SW3P) SHEETS FOR SPECIFIC CONSTRUCTION CONSIDERATIONS OR REQUIREMENTS.

EXAMPLES SHOWN ON THE SHEET ARE FOR GENERAL GUIDANCE AND MAY BE MODIFIED AS DIRECTED BY THE ENGINEER.

SITE CONDITIONS MAY DICTATE ADDITIONAL COUNTERMEASURES AS DIRECTED BY THE ENGINEER.

USE ADDITIONAL STAKES OR SAND BAGS AS NEEDED TO HOLD IN PLACE (NSPI)

INSTALLATION OF COUNTERMEASURES MUST BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.

DESIGN

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JOHN A. TYLER
P.E. SERIAL NO: 105193
DATE: 4/10/2019

REVIEW AND APPROVAL

INTERIM REVIEW

DOCUMENT INCOMPLETE. NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: JAMES A. LUTZ
P.E. SERIAL NO: 84722
DATE: 4/10/2019

SCALE: NOT TO SCALE

| REV. NO. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



# SWP3 EXAMPLE INTERSECTION

SHEET 1 OF 1

| DGN: | FED. RD. DIV. NO. | STATE | FEDERAL AID PROJECT NO. | | | HIGHWAY NO. |
|---|---|---|---|---|---|---|
| CHK DGN: | 6 | TEXAS | | | | VARIES |
| DWG: | DIST. | COUNTY | CONT. NO. | SECT. NO. | JOB NO. | SHEET NO. |
| CHK DWG: | SAT | BEXAR | 0915 | 12 | 574 | 556 |