

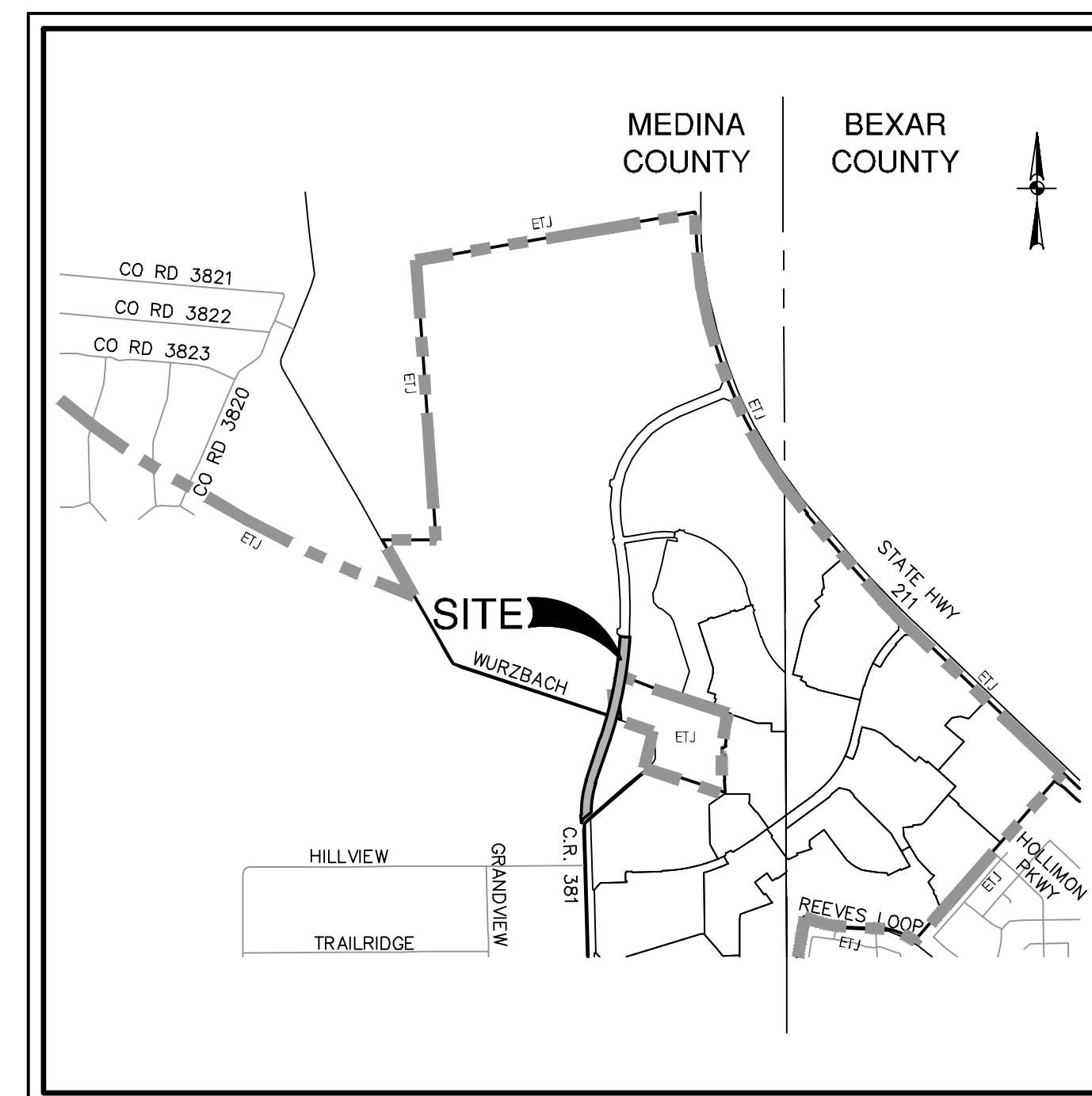
GALM ROAD PHASE 3

SAN ANTONIO, TEXAS

CIVIL CONSTRUCTION PLANS

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LOCATION MAP
NOT-TO-SCALE

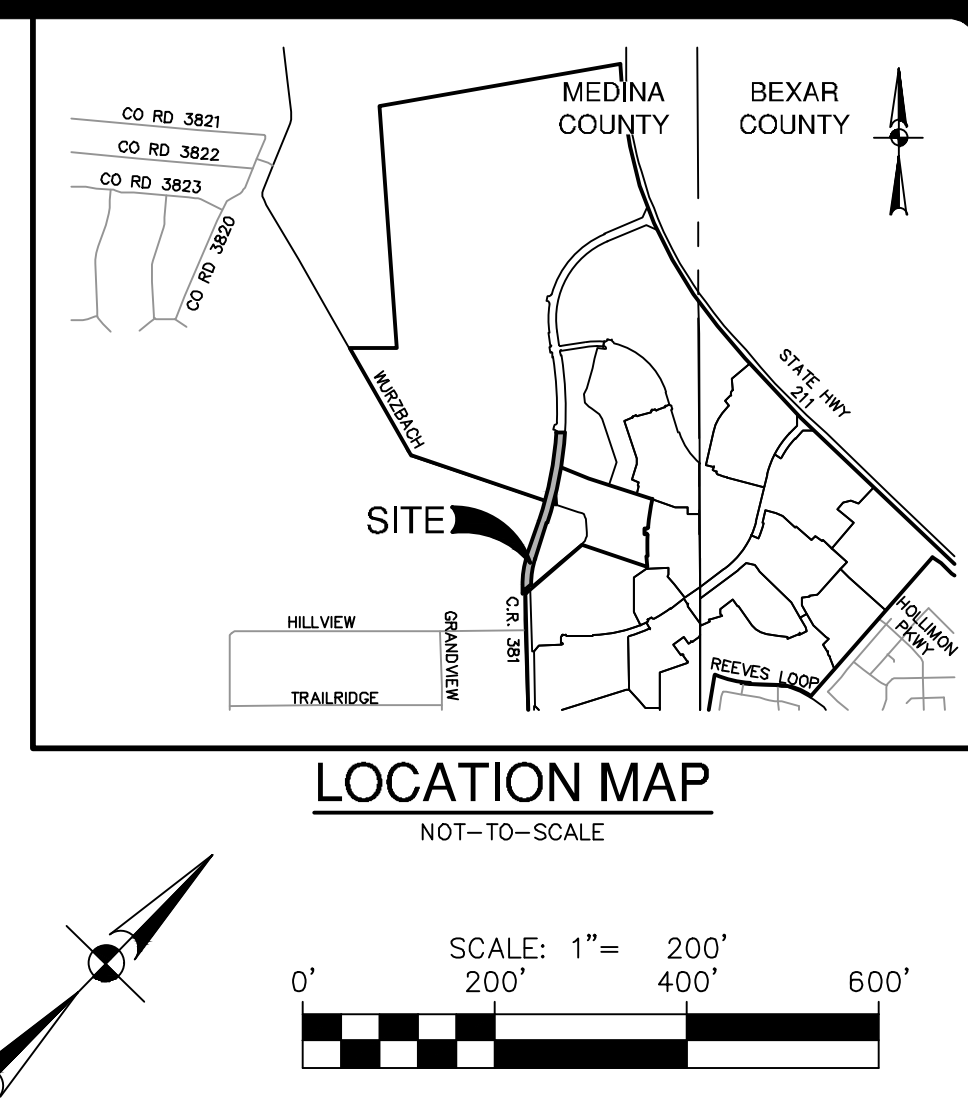
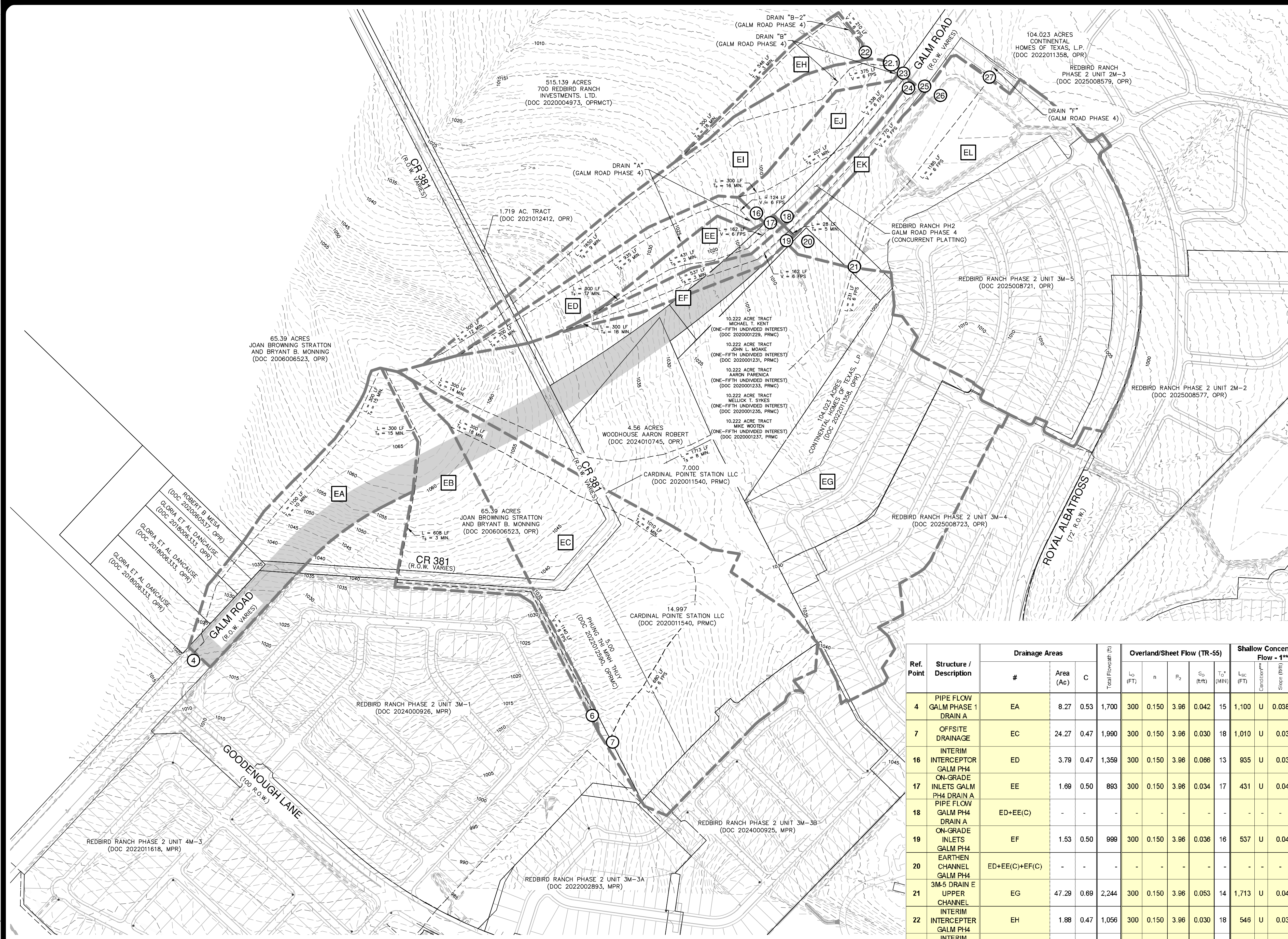
PREPARED FOR:

CONTINENTAL HOMES OF TEXAS, L.P.
5419 N. LOOP 1604 E.
SAN ANTONIO, TEXAS 78247

OCTOBER 2025

PAPE-DAWSON
1672 INDEPENDENCE DR, STE 102 | NEW BRAUNFELS, TX 78132 | 830.832.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800





MASTER DRAINAGE LEGEND

- PROJECT LIMITS: - - - - -
- EXISTING CONTOUR: - - - - - 690
- 100 YR FLOODPLAIN: - - - - -
- RUNOFF FLOW PATH: - - - - -
- DRAINAGE AREA BOUNDARY: - - - - -
- FHA LOT GRADING TYPE: - - - - -
- PROPOSED DIRECTION OF FLOW: \rightarrow
- DRAINAGE CALCULATION POINT: $\textcircled{11}$
- DRAINAGE AREA: \textcircled{A}
- PROJECT LIMITS: \square

| Ref. Point | Structure / Description | Drainage Areas | | | Total Flow (cfs) | Overland/Sheet Flow (TR-55) | | | | | Shallow Concentrated Flow - 1** | | | Channelized Flow** | | | T _c TOT | Rational Method Q=CIA | | | | | | |
|------------|---------------------------------------|-------------------|-----------|------|------------------|-----------------------------|-------|----------------|----------------------|----------------------|---------------------------------|-----------------|-------------|--------------------------|----------------------|-----------------------|--------------------|--------------------------|-------------|-------------------|---------|---------------|-------------------|----------------|
| | | # | Area (Ac) | C | | L _s (FT) | n | P ₂ | S ₀ (PCT) | T ₀ (MIN) | L _{oc} (FT) | C _{em} | Slope (PCT) | T _{oc} ** (MIN) | L _{ch} (FT) | V _{ch} (FPS) | | T _{ch} ** (MIN) | Return Year | Intensity (in/hr) | Q (cfs) | Q Total (cfs) | Q Intercept (cfs) | Q Bypass (cfs) |
| 4 | PIPE FLOW GALM PHASE 1 DRAIN A | EA | 8.27 | 0.53 | 1,700 | 300 | 0.150 | 3.96 | 0.042 | 15 | 1,100 | U | 0.038 | 5.8 | 300 | 6.0 | 0.8 | 21 | 5 | 4.43 | 19 | | | |
| | | | | | | | | | | | | | | | | | | 21 | 25 | 6.12 | 27 | | | |
| | | | | | | | | | | | | | | | | | | 21 | 100 | 7.59 | 33 | | | |
| 7 | OFFSITE DRAINAGE | EC | 24.27 | 0.47 | 1,990 | 300 | 0.150 | 3.96 | 0.030 | 18 | 1,010 | U | 0.03 | 6.0 | 690 | 6.0 | 1.9 | 25 | 5 | 4.06 | 46 | | | |
| | | | | | | | | | | | | | | | | | | 25 | 25 | 5.60 | 64 | | | |
| | | | | | | | | | | | | | | | | | | 25 | 100 | 6.93 | 79 | | | |
| | | | | | | | | | | | | | | | | | | 19 | 5 | 4.80 | 9 | | | |
| 16 | INTERCEPTOR GALM PH4 ON-GRADE | ED | 3.79 | 0.47 | 1,359 | 300 | 0.150 | 3.96 | 0.066 | 13 | 935 | U | 0.03 | 5.6 | 124 | 6.0 | 0.3 | 19 | 25 | 6.63 | 12 | | | |
| | | | | | | | | | | | | | | | | | | 19 | 100 | 8.24 | 15 | | | |
| | | | | | | | | | | | | | | | | | | 19 | 5 | 4.66 | 4 | 4 | 4 | |
| 17 | INLETS GALM PH4 DRAIN A | EE | 1.69 | 0.50 | 893 | 300 | 0.150 | 3.96 | 0.034 | 17 | 431 | U | 0.04 | 2.2 | 162 | 6.0 | 0.5 | 19 | 25 | 6.45 | 6 | 6 | 6 | |
| | | | | | | | | | | | | | | | | | | 19 | 100 | 8.00 | 7 | 7 | 7 | |
| | | | | | | | | | | | | | | | | | | 5 | - | - | 13 | | | |
| 18 | PIPE FLOW GALM PH4 DRAIN A | ED+EE(C) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 25 | - | - | 18 | | | |
| | | | | | | | | | | | | | | | | | | 100 | - | - | 22 | | | |
| | | | | | | | | | | | | | | | | | | 19 | 5 | 4.66 | 4 | 4 | 4 | |
| 19 | ON-GRADE INLETS GALM PH4 | EF | 1.53 | 0.50 | 999 | 300 | 0.150 | 3.96 | 0.036 | 16 | 537 | U | 0.04 | 2.8 | 162 | 6.0 | 0.5 | 19 | 25 | 6.45 | 5 | 5 | 5 | |
| | | | | | | | | | | | | | | | | | | 19 | 100 | 8.00 | 6 | 6 | 6 | |
| | | | | | | | | | | | | | | | | | | 5 | - | - | 17 | | | |
| 20 | EARTHEN CHANNEL GALM PH4 3M-5 DRAIN E | ED+EE(C)+EF(C) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 25 | - | - | 23 | | | |
| | | | | | | | | | | | | | | | | | | 100 | - | - | 28 | | | |
| | | | | | | | | | | | | | | | | | | 23 | 5 | 4.23 | 138 | | | |
| 21 | UPPER CHANNEL INTERIM | EG | 47.29 | 0.69 | 2,244 | 300 | 0.150 | 3.96 | 0.053 | 14 | 1,713 | U | 0.04 | 8.8 | 231 | 6.0 | 0.6 | 23 | 25 | 5.84 | 191 | | | |
| | | | | | | | | | | | | | | | | | | 23 | 100 | 7.24 | 236 | | | |
| | | | | | | | | | | | | | | | | | | 21 | 5 | 4.43 | 4 | | | |
| 22 | INTERCEPTOR GALM PH4 INTERIM | EH | 1.88 | 0.47 | 1,056 | 300 | 0.150 | 3.96 | 0.030 | 18 | 546 | U | 0.03 | 3.3 | 210 | 6.0 | 0.6 | 21 | 25 | 6.12 | 5 | | | |
| | | | | | | | | | | | | | | | | | | 21 | 100 | 7.59 | 7 | | | |
| | | | | | | | | | | | | | | | | | | 22 | 5 | 4.33 | 19 | | | |
| 22.1 | INTERCEPTOR GALM PH4 | EH+EI | 9.26 | 0.47 | 2,325 | 300 | 0.150 | 3.96 | 0.077 | 12 | 1,650 | U | 0.03 | 9.8 | 375 | 6.0 | 1.0 | 22 | 25 | 5.98 | 26 | | | |
| | | | | | | | | | | | | | | | | | | 22 | 100 | 7.41 | 32 | | | |
| | | | | | | | | | | | | | | | | | | 18 | 5 | 4.80 | 9 | 9 | 8 | 1 |
| 23 | ON-GRADE INLET GALM PH4 DRAIN B | EJ | 3.46 | 0.52 | 845 | 300 | 0.150 | 3.96 | 0.038 | 16 | 207 | U | 0.034 | 1.2 | 338 | 6.0 | 0.9 | 18 | 25 | 6.63 | 12 | 12 | 10 | 2 |
| | | | | | | | | | | | | | | | | | | 18 | 100 | 8.24 | 15 | 15 | 12 | 3 |
| | | | | | | | | | | | | | | | | | | 5 | - | - | 29 | | | |
| 24 | PIPE FLOW GALM PH4 DRAIN B | EE(B)+EH+EI+EJ(C) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 25 | - | - | 39 | | | |
| | | | | | | | | | | | | | | | | | | 100 | - | - | 44 | | | |
| | | | | | | | | | | | | | | | | | | 7 | 5 | 7.11 | 6 | 6 | 6 | |
| 25 | ON-GRADE INLET GALM PH4 | EK | 1.12 | 0.69 | 798 | 28 | 0.150 | 3.96 | 0.020 | 5 | - | - | - | - | 770 | 6.0 | 2.1 | 7 | 25 | 9.95 | 8 | 8 | 8 | |
| | | | | | | | | | | | | | | | | | | 7 | 100 | 12.49 | 10 | 10 | 9 | 1 |
| | | | | | | | | | | | | | | | | | | 5 | - | - | 32 | | | |
| 26 | PIPE FLOW GALM PH4 DRAIN B | EH+EI+EJ(C)+EK(C) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 25 | - | - | 44 | | | |
| | | | | | | | | | | | | | | | | | | 100 | - | - | 53 | | | |
| | | | | | | | | | | | | | | | | | | 26 | 5 | 3.98 | 212 | 260 | | |
| 27 | CROSSING GALM PH4 | EL | 77.35 | 0.69 | 3,198 | 300 | 0.150 | 3.96 | 0.053 | 14 | 1,713 | U | 0.04 | 8.8 | 1,185 | 6.0 | 3.3 | 26 | 25 | 5.49 | 293 | 359 | | |
| | | | | | | | | | | | | | | | | | | 26 | 100 | 6.80 | 363 | 443 | | |
| | | | | | | | | | | | | | | | | | | 26 | 5 | 3.98 | 212 | 260 | | |

Date: Dec 18, 2025, 3:32pm, User ID: jmyr
 File: P:\300\04\1\Design\Civil\SD04-EXIST-30004-41.dwg
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DATE: _____

NO. REVISION: _____

PAPE-DAWSON
 1872 INDEPENDENCE DR. STE 102 | NEW BRUNNELL, TX 78133 | 512.632.5633
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10288600

GALM ROAD PHASE 3
 SAN ANTONIO, TEXAS

OVERALL DRAINAGE PLAN - EXISTING CONDITIONS

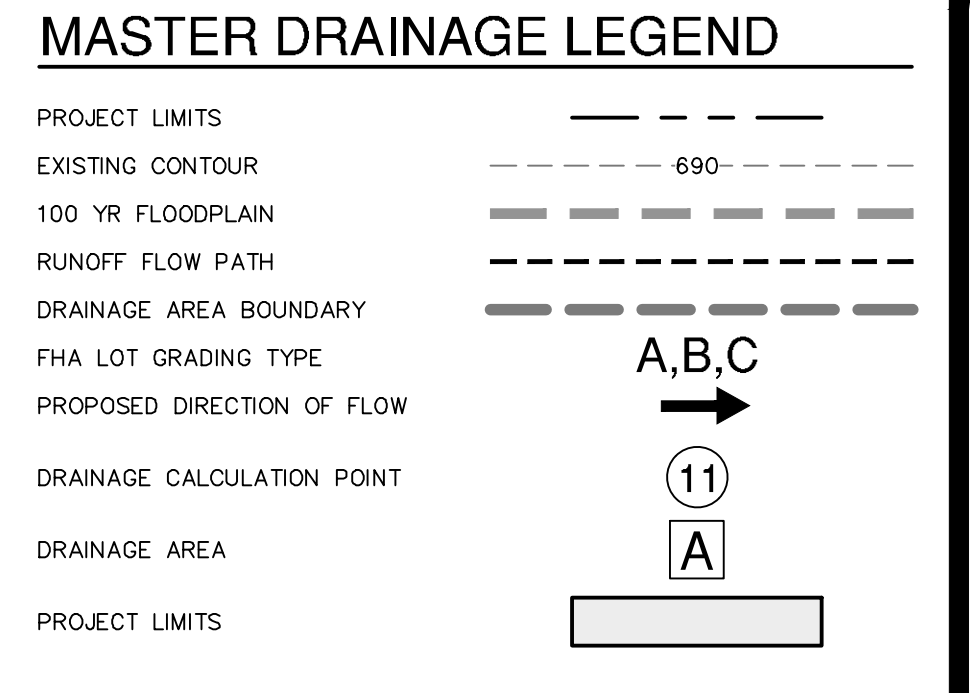
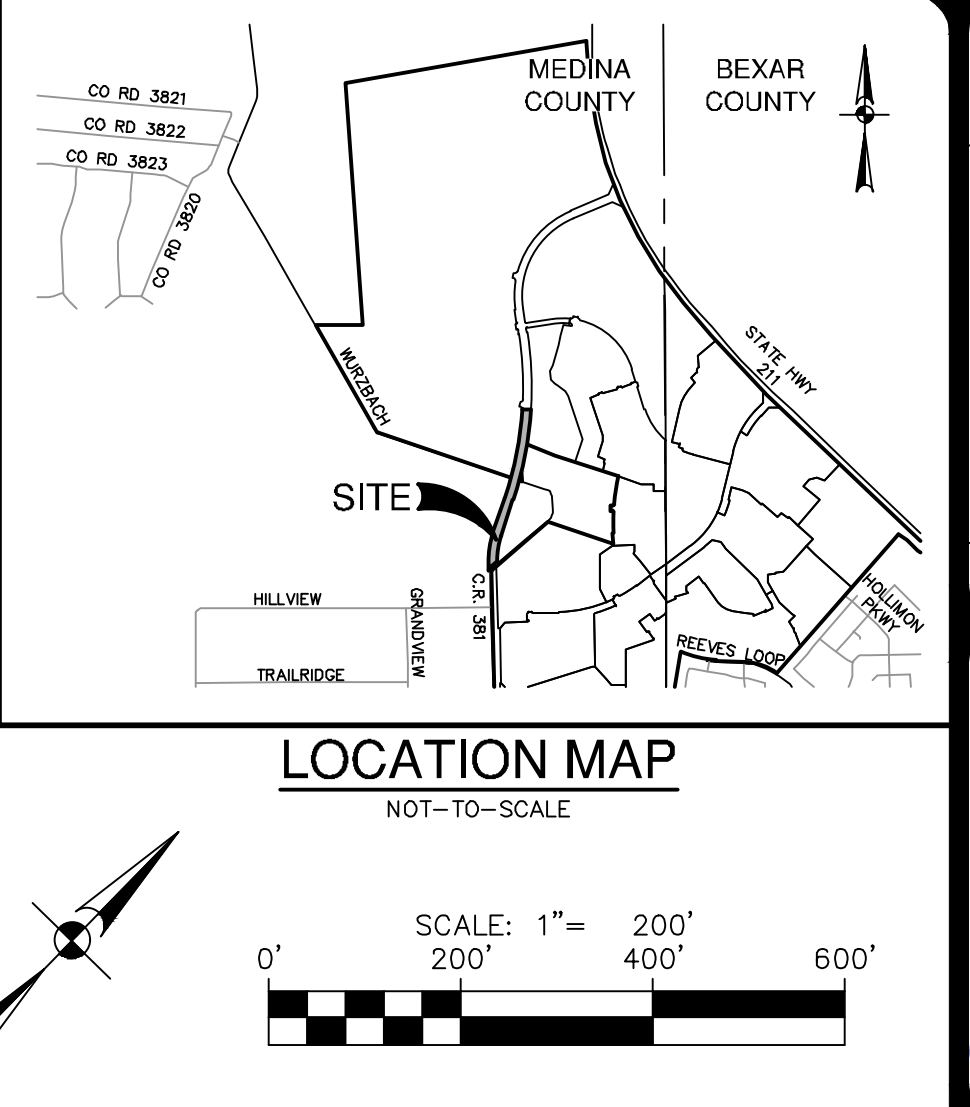
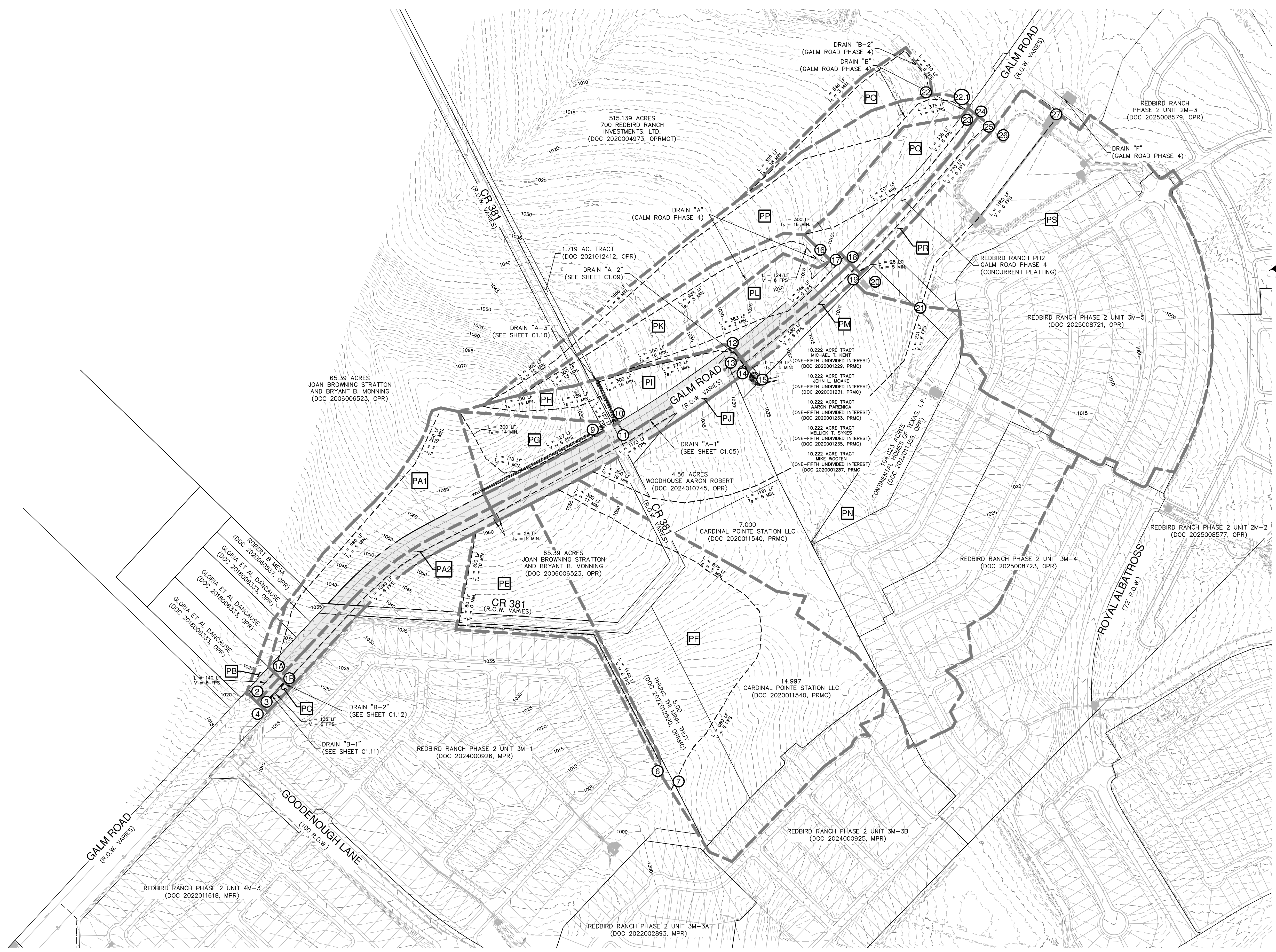
PLAT NO. N/A
 JOB NO. 30004-41
 DATE: OCTOBER 2025
 DESIGNER: GDL
 CHECKED: DRAWN: CA

SHEET **C1.00**

FOR PERMIT

Date: Dec 18, 2025 3:32pm User ID: jperz
 File: P:\300\041\Drawings\Civil\SD04-PROP-30004-41.dwg

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NOTE
 SEE SHEET C1.02 FOR CALC TABLE.

DATE: _____
 NO. REVISION: _____

12-19-2025

JOCELYN PEREZ
 98367
 LICENSED PROFESSIONAL ENGINEER

J. Pape-Dawson

PAPE-DAWSON
 1872 INDEPENDENCE DR. STE 102 | NEW BRUNNELL, TX 78132 | 512.632.5633
 TEXAS SURVEYING FIRM #1028800
 TEXAS ENGINEERING FIRM #470 |

GALM ROAD PHASE 3
 SAN ANTONIO, TEXAS

OVERALL DRAINAGE PLAN - PROPOSED CONDITIONS

| | |
|----------|--------------|
| PLAT NO. | N/A |
| JOB NO. | 30004-41 |
| DATE | OCTOBER 2025 |
| DESIGNER | GDL |
| CHECKED | DRAWN CA |
| SHEET | C1.01 |

FOR PERMIT

Date: Dec 18, 2025, 3:32pm User ID: jperz File: P:\300\041\Drawings\Civil\SD04-PROP-30004-41.dwg

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| Ref. Point | Structure / Description | Drainage Areas | | | | Total Flowrate (cfs) | Overland/Sheet Flow (TR-55) | | | | | Shallow Concentrated Flow | | | | Channelized Flow** | | | Rational Method Q=CIA | | | Curb Inlet | | |
|------------|--|--|-----------|------|---------------------|----------------------|-----------------------------|----------------|------------------------|----------------------|----------------------|---------------------------|---------------|-----------------------|----------------------|-----------------------|-----------------------|------------------|---------------------------|-------------------|---------|---------------|-------------------|----------------|
| | | # | Area (Ac) | C | L _o (FT) | | n | P ₂ | S _o (ft/ft) | T _o (MIN) | L _{oc} (FT) | Condition** | Slope (ft/ft) | T _{oc} (MIN) | L _{ch} (FT) | V _{ch} (FPS) | T _{ch} (MIN) | T _{tot} | IDF Curve: CoSA, RI4, PA3 | | | Q Total (cfs) | Q Intercept (cfs) | Q Bypass (cfs) |
| | | | | | | | | | | | | | | | | | | | Return Year | Intensity (in/hr) | Q (cfs) | | | |
| 1A | PROPOSED ON-GRADE INLETS DRAIN A GALM RD | PA1 | 6.50 | 0.52 | 1,260 | 300 | 0.150 | 3.96 | 0.042 | 15 | 960 | U | 0.042 | 4.8 | - | - | - | 19 | 5 | 4.66 | 16 | | | |
| | | | | | | | | | | | | | | | | | | 25 | 6.45 | 22 | | | | |
| | | | | | | | | | | | | | | | | | | 100 | 8.00 | 27 | | | | |
| 1B | PROPOSED ON-GRADE INLETS DRAIN A GALM RD | PA2 | 1.51 | 0.69 | 1,118 | 28 | 0.150 | 3.96 | 0.020 | 5 | - | - | - | 1,090 | 6.0 | 3.0 | 8 | 5 | 6.81 | 7 | | | | |
| | | | | | | | | | | | | | | | | | 25 | 9.54 | 10 | | | | | |
| | | | | | | | | | | | | | | | | | 100 | 11.97 | 12 | | | | | |
| 2 | STREET FLOWS TO EXISTING 10' INLETS | PB | 0.46 | 0.56 | 1,400 | 300 | 0.150 | 3.96 | 0.042 | 15 | 960 | U | 0.042 | 4.8 | 140 | 6.0 | 0.4 | 20 | 5 | 4.54 | 1 | | | |
| | | | | | | | | | | | | | | | | | | 25 | 6.28 | 2 | | | | |
| | | | | | | | | | | | | | | | | | | 100 | 7.79 | 2 | | | | |
| 3 | STREET FLOWS TO EXISTING 10' INLETS | PC | 0.19 | 0.69 | 1,253 | 28 | 0.150 | 3.96 | 0.020 | 5 | - | - | - | 1,225 | 6.0 | 3.4 | 8 | 5 | 6.81 | 1 | | | | |
| | | | | | | | | | | | | | | | | | 25 | 9.54 | 1 | | | | | |
| | | | | | | | | | | | | | | | | | 100 | 11.97 | 2 | | | | | |
| 4 | PIPE FLOW TO EXISTING SYSTEM | PA1+PA2+PB+PC | 8.66 | 0.56 | 1,400 | 300 | 0.150 | 3.96 | 0.042 | 15 | 960 | U | 0.042 | 4.8 | 140 | 6.0 | 0.4 | 20 | 5 | 4.54 | 22 | | | |
| | | | | | | | | | | | | | | | | | | 25 | 6.28 | 30 | | | | |
| | | | | | | | | | | | | | | | | | | 100 | 7.79 | 38 | | | | |
| 6 | EXISTING EARTHEN CHANNEL 3M-1 DRAIN B | PE | 4.85 | 0.47 | 1,520 | 300 | 0.150 | 3.96 | 0.040 | 16 | 80 | U | 0.040 | 0.4 | 1,140 | 6.0 | 3.2 | 19 | 5 | 4.66 | 11 | | | |
| | | | | | | | | | | | | | | | | | | 25 | 6.45 | 15 | | | | |
| | | | | | | | | | | | | | | | | | | 100 | 8.00 | 18 | | | | |
| 7 | OFFSITE DRAINAGE | PF | 23.35 | 0.47 | 1,855 | 300 | 0.150 | 3.96 | 0.032 | 17 | 875 | U | 0.030 | 5.2 | 680 | 6.0 | 1.9 | 24 | 5 | 4.14 | 45 | | | |
| | | | | | | | | | | | | | | | | | | 25 | 5.72 | 63 | | | | |
| | | | | | | | | | | | | | | | | | | 100 | 7.08 | 78 | | | | |
| 9 | EARTHEN CHANNEL DRAIN A-1 | PG | 2.44 | 0.47 | 740 | 300 | 0.150 | 3.96 | 0.049 | 14 | 113 | U | 0.023 | 0.8 | 327 | 6.0 | 0.9 | 15 | 5 | 5.28 | 6 | | | |
| | | | | | | | | | | | | | | | | | | 25 | 7.32 | 8 | | | | |
| | | | | | | | | | | | | | | | | | | 100 | 9.12 | 10 | | | | |
| 10 | INTERCEPTOR EARTHEN CHANNEL DRAIN A-3 | PH | 1.31 | 0.47 | 615 | 300 | 0.150 | 3.96 | 0.050 | 14 | 188 | U | 0.067 | 0.8 | 127 | 6.0 | 0.4 | 15 | 5 | 5.28 | 3 | | | |
| | | | | | | | | | | | | | | | | | | 25 | 7.32 | 5 | | | | |
| | | | | | | | | | | | | | | | | | | 100 | 9.12 | 6 | | | | |
| 11 | PIPE FLOW DRAIN A-1 | PG+PH | 3.75 | 0.47 | 790 | 300 | 0.150 | 3.96 | 0.049 | 14 | 113 | U | 0.023 | 0.8 | 377 | 6.0 | 1.0 | 15 | 5 | 5.28 | 9 | | | |
| | | | | | | | | | | | | | | | | | | 25 | 7.32 | 13 | | | | |
| | | | | | | | | | | | | | | | | | | 100 | 9.12 | 16 | | | | |
| 12 | ON-GRADE INLETS DRAIN A-3 | PI | 2.96 | 0.59 | 570 | 300 | 0.150 | 3.96 | 0.036 | 16 | 270 | U | 0.036 | 1.5 | - | - | - | 17 | 5 | 4.94 | 9 | 7 | 2 | |
| | | | | | | | | | | | | | | | | | | 25 | 6.84 | 12 | 12 | 8 | 4 | |
| | | | | | | | | | | | | | | | | | | 100 | 8.50 | 15 | 15 | 10 | 5 | |
| 13 | PIPE FLOW DRAIN A-1 | PG+PH+PI(C) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | - | - | 16 | | | | |
| | | | | | | | | | | | | | | | | | 25 | - | - | 21 | | | | |
| | | | | | | | | | | | | | | | | | 100 | - | - | 26 | | | | |
| 14 | ON-GRADE INLETS DRAIN A-1 | PJ | 1.63 | 0.69 | 1,201 | 28 | 0.150 | 3.96 | 0.020 | 5 | - | - | - | 1,173 | 6.0 | 3.3 | 8 | 5 | 6.81 | 8 | 6 | 2 | | |
| | | | | | | | | | | | | | | | | | 25 | 9.54 | 11 | 11 | 8 | 3 | | |
| | | | | | | | | | | | | | | | | | 100 | 11.97 | 13 | 13 | 9 | 4 | | |
| 15 | EARTHEN CHANNEL DRAIN A-1 | PG+PH+PI(C)+PJ(C) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | - | - | 22 | | | | |
| | | | | | | | | | | | | | | | | | 25 | - | - | 29 | | | | |
| | | | | | | | | | | | | | | | | | 100 | - | - | 35 | | | | |
| 16 | INTERIM INTERCEPTOR GALM PH4 DRAIN A | PK | 3.78 | 0.47 | 1,359 | 300 | 0.150 | 3.96 | 0.066 | 13 | 935 | U | 0.030 | 5.6 | 124 | 6.0 | 0.3 | 18 | 5 | 4.80 | 9 | | | |
| | | | | | | | | | | | | | | | | | | 25 | 6.63 | 12 | | | | |
| | | | | | | | | | | | | | | | | | | 100 | 8.24 | 15 | | | | |
| 17 | ON-GRADE INLETS GALM PH4 DRAIN A | PL +PI(B) | 3.10 | 0.53 | 1,032 | 300 | 0.150 | 3.96 | 0.037 | 16 | 383 | U | 0.040 | 2.0 | 349 | 6.0 | 1.0 | 19 | 5 | 4.68 | 8 | 10 | 9 | |
| | | | | | | | | | | | | | | | | | | 25 | 6.45 | 11 | 15 | 13 | 2 | |
| | | | | | | | | | | | | | | | | | | 100 | 8.00 | 13 | 18 | 14 | 4 | |
| 18 | PIPE FLOW GALM PH4 DRAIN A | PK+PL(C) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | - | - | 18 | | | | |
| | | | | | | | | | | | | | | | | | 25 | - | - | 25 | | | | |
| | | | | | | | | | | | | | | | | | 100 | - | - | 29 | | | | |
| 19 | ON-GRADE INLETS GALM PH4 DRAIN A | PM +PJ(B) | 0.81 | 0.69 | 608 | 28 | 0.150 | 3.96 | 0.020 | 5 | - | - | - | 580 | 6.0 | 1.6 | 8 | 5 | 7.45 | 4 | 6 | - | | |
| | | | | | | | | | | | | | | | | | 25 | 10.43 | 6 | 9 | 9 | - | | |
| | | | | | | | | | | | | | | | | | 100 | 13.08 | 7 | 11 | 10 | 1 | | |
| 20 | EARTHEN CHANNEL GALM PH4 DRAIN A | PK+PL(C)+PM(C) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | - | - | 24 | | | | |
| | | | | | | | | | | | | | | | | | 25 | - | - | 34 | | | | |
| | | | | | | | | | | | | | | | | | 100 | - | - | 39 | | | | |
| 21 | 3M-5 DRAIN E UPPER CHANNEL | PN +PG+PH+PI(C)+PJ(C) | 40.33 | 0.73 | 1,712 | 300 | 0.150 | 3.96 | 0.026 | 19 | 1,181 | U | 0.041 | 6.0 | 231 | 6.0 | 0.6 | 25 | 5 | 4.06 | 120 | 142 | | |
| | | | | | | | | | | | | | | | | | | 25 | 5.60 | 165 | 194 | | | |
| | | | | | | | | | | | | | | | | | | 100 | 6.93 | 204 | 239 | | | |
| 22 | INTERIM INTERCEPTOR GALM PH4 DRAIN B2 | PO | 1.88 | 0.47 | 1,056 | 300 | 0.150 | 3.96 | 0.030 | 18 | 546 | U | 0.030 | 3.3 | 210 | 6.0 | 0.6 | 21 | 5 | 4.43 | 4 | | | |
| | | | | | | | | | | | | | | | | | | 25 | 6.12 | 5 | | | | |
| | | | | | | | | | | | | | | | | | | 100 | 7.59 | 7 | | | | |
| 22.1 | INTERIM INTERCEPTOR GALM PH 4 DRAIN B | PO+PP | 9.26 | 0.47 | 2,325 | 300 | 0.150 | 3.96 | 0.077 | 12 | 1,850 | U | 0.030 | 9.8 | 375 | 6.0 | 1.0 | 22 | 5 | 4.33 | 19 | | | |
| | | | | | | | | | | | | | | | | | | 25 | 5.98 | 26 | | | | |
| | | | | | | | | | | | | | | | | | | 100 | 7.41 | 32 | | | | |
| 23 | ON-GRADE INLET GALM PH 4 DRAIN B | PQ +PL(B) | 3.46 | 0.52 | 845 | 300 | 0.150 | 3.96 | 0.038 | 16 | 207 | U | 0.034 | 1.2 | 338 | 6.0 | 0.9 | 18 | 5 | 4.80 | 9 | 10 | 9 | |
| | | | | | | | | | | | | | | | | | | 25 | 6.63 | 12 | 14 | 12 | 2 | |
| | | | | | | | | | | | | | | | | | | 100 | 8.24 | 15 | 19 | 14 | 5 | |
| 24 | PIPE FLOW GALM PH4 DRAIN B | PO+PP+PQ(C) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | - | - | 28 | | | | |
| | | | | | | | | | | | | | | | | | 25 | - | - | 38 | | | | |
| | | | | | | | | | | | | | | | | | 100 | - | - | 46 | | | | |
| 25 | ON-GRADE INLET GALM PH 4 DRAIN B | PR +PM(B) | 1.12 | 0.69 | 798 | 28 | 0.150 | 3.96 | 0.020 | 5 | - | - | - | 770 | 6.0 | 2.1 | 7 | 5 | 7.11 | 5 | 5 | - | | |
| | | | | | | | | | | | | | | | | | 25 | 9.95 | 8 | 8 | 8 | - | | |
| | | | | | | | | | | | | | | | | | 100 | 12.49 | 10 | 11 | 10 | 1 | | |
| 26 | PIPE FLOW GALM PH 4 DRAIN B | PO+PP+PQ(C)+PR(C) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5 | - | - | 33 | | | | |
| | | | | | | | | | | | | | | | | | 25 | - | - | 46 | | | | |
| | | | | | | | | | | | | | | | | | 100 | - | - | 56 | | | | |
| 27 | BOX CROSSING GALM PH4 DRAIN F | PS +PG+PH+PI+PJ+PK+PL+PM+PN +PO+PP+PQ(C)+PR(C) | 70.39 | 0.69 | 2,666 | 300 | 0.150 | 3.96 | 0.026 | 19 | 1,181 | U | 0.041 | 6.0 | 1,185 | 6.0 | 3.3 | 28 | 5 | 3.93 | 189 | 265 | | |
| | | | | | | | | | | | | | | | | | | 25 | 5.28 | 256 | 365 | | | |
| | | | | | | | | | | | | | | | | | | 100 | 6.54 | 318 | 448 | | | |

DATE: _____

NO. REVISION: _____

Jocelyn Perez

PAPE - DAWSON
 1872 INDEPENDENCE DR. STE 102 | NEW BRUNNELL, TX 76132 | 817.632.5633
 TEXAS SURVEYING FIRM #1028800

GALM ROAD PHASE 3
 SAN ANTONIO, TEXAS

PROPOSED CONDITIONS DRAINAGE CALCULATIONS

PLAT NO. N/A
 JOB NO. 30004-41
 DATE OCTOBER 2025
 DESIGNER GDL
 CHECKED DRAWN CA
 SHEET C1.02

FOR PERMIT

| Ref. Point | Structure / Description | Drainage Areas | | | Total Flowrate (ft³) | Overland/Sheet Flow (TR-55) | | | | | Shallow Concentrated Flow - 1** | | | | Channelized Flow** | | | | Rational Method Q=CIA IDF Curve: CoSA_A14_PA3 | | | Curb Inlet | | | |
|------------|---|---|-----------|------|----------------------|-----------------------------|-------|------|------------|-----------|---------------------------------|-------------|---------------|-------------|--------------------|------------|-------------|--------|--|-------------------|---------|---------------|-------------------|----------------|---------|
| | | # | Area (Ac) | C | | Lc (FT) | n | P2 | S0 (ft/ft) | T0* (MIN) | LcC (FT) | Condition** | Slope (ft/ft) | T0C** (MIN) | LcCH (FT) | VcCH (FPS) | T0C** (MIN) | Tc-TOT | Return Year | Intensity (in/hr) | Q (cfs) | Q Total (cfs) | Q Intercept (cfs) | Q Bypass (cfs) | |
| | | | | | | | | | | | | | | | | | | | | | | | | | Q (cfs) |
| 1A | PROPOSED ON-GRADE INLETS DRAIN B1 GALM RD | UA1 | 6.50 | 0.70 | 1,260 | 300 | 0.150 | 3.96 | 0.042 | 15 | 960 | U | 0.042 | 4.8 | - | - | - | 19 | 5 | 4.66 | 21 | 21 | 7 | 14 | |
| 1B | PROPOSED ON-GRADE INLETS DRAIN B2 GALM RD | UA2 | 1.51 | 0.69 | 1,118 | 28 | 0.150 | 3.96 | 0.042 | 5 | - | - | - | 1,090 | 6.0 | 3.0 | - | 8 | 5 | 6.81 | 7 | 7 | 4 | 3 | |
| 2 | STREET FLOWS TO EXISTING 10' INLETS | UB | 0.46 | 0.70 | 1,400 | 300 | 0.150 | 3.96 | 0.042 | 15 | 960 | U | 0.042 | 4.8 | 140 | 6.0 | 0.4 | 20 | 5 | 4.54 | 1 | 15 | 5 | 10 | |
| 3 | STREET FLOWS TO EXISTING 10' INLETS | UC | 0.19 | 0.69 | 1,253 | 28 | 0.150 | 3.96 | 0.020 | 5 | - | - | - | 1,225 | 6.0 | 3.4 | - | 8 | 5 | 6.81 | 1 | 4 | 3 | 1 | |
| 4 | PIPE FLOW TO EXISTING SYSTEM | UA1+UA2+UB+UC | 8.66 | 0.70 | 1,400 | 300 | 0.150 | 3.96 | 0.042 | 15 | 960 | U | 0.042 | 4.8 | 140 | 6.0 | 0.4 | - | - | - | - | - | - | - | - |
| 6 | EXISTING EARTHEN CHANNEL 3M-1 DRAIN B | UE | 4.85 | 0.70 | 1,520 | 300 | 0.150 | 3.96 | 0.040 | 16 | 80 | U | 0.040 | 0.4 | 1,140 | 6.0 | 3.2 | - | - | - | - | - | - | - | - |
| 7 | OFFSITE DRAINAGE | UF | 23.35 | 0.70 | 1,855 | 300 | 0.150 | 3.96 | 0.032 | 17 | 875 | U | 0.030 | 5.2 | 680 | 6.0 | 1.8 | - | - | - | - | - | - | - | - |
| 8 | FUTURE CHANNEL | UG | 3.71 | 0.70 | 1,176 | 300 | 0.150 | 3.96 | 0.036 | 16 | 241 | U | 0.089 | 0.9 | 635 | 6.0 | 1.8 | - | - | - | - | - | - | - | - |
| 9 | EARTHEN CHANNEL DRAIN A-1 | UH | 2.44 | 0.70 | 740 | 300 | 0.150 | 3.96 | 0.049 | 14 | 113 | U | 0.023 | 0.8 | 327 | 6.0 | 0.9 | - | - | - | - | - | - | - | - |
| 10 | INTERCEPTOR EARTHEN CHANNEL DRAIN A-3 | UI | 1.31 | 0.70 | 612 | 300 | 0.150 | 3.96 | 0.050 | 14 | 188 | U | 0.067 | 0.8 | 124 | 6.0 | 0.3 | - | - | - | - | - | - | - | - |
| 11 | PIPE FLOW DRAIN A-1 | UI+UH | 3.75 | 0.70 | 790 | 300 | 0.150 | 3.96 | 0.049 | 14 | 113 | U | 0.023 | 0.8 | 377 | 6.0 | 1.0 | - | - | - | - | - | - | - | - |
| 12 | ON-GRADE INLETS DRAIN A-2 | UJ | 1.61 | 0.69 | 1,192 | 28 | 0.150 | 3.96 | 0.020 | 5 | - | - | - | 1,164 | 6.0 | 3.2 | - | - | - | - | - | - | - | - | - |
| 13 | PIPE FLOW DRAIN A-1 | UI+UH+UJ(C) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 14 | ON-GRADE INLETS DRAIN A-1 | UK | 1.63 | 0.69 | 1,201 | 28 | 0.150 | 3.96 | 0.020 | 5 | - | - | - | 1,173 | 6.0 | 3.3 | - | - | - | - | - | - | - | - | - |
| 15 | EARTHEN CHANNEL DRAIN A-1 | UI+UH+UJ(C)+UK(C) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 16 | FUTURE INLETS GALM PH4 DRAIN A | UL | 8.30 | 0.69 | 1,129 | 178 | 0.150 | 3.96 | 0.020 | 13 | - | - | - | 951 | 6.0 | 2.6 | - | - | - | - | - | - | - | - | - |
| 17 | ON-GRADE INLETS GALM PH4 DRAIN A | UM +UJ(B)+UL(B) | 1.09 | 0.69 | 600 | 28 | 0.150 | 3.96 | 0.020 | 5 | - | - | - | 572 | 6.0 | 1.6 | - | - | - | - | - | - | - | - | - |
| 18 | PIPE FLOW GALM PH4 DRAIN A | UL(C)+UM(C) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 19 | ON-GRADE INLETS GALM PH4 DRAIN A | UN +UK(B) | 0.81 | 0.69 | 608 | 28 | 0.150 | 3.96 | 0.020 | 5 | - | - | - | 580 | 6.0 | 1.6 | - | - | - | - | - | - | - | - | - |
| 20 | EARTHEN CHANNEL GALM PH4 DRAIN A | UL(C)+UM(C)+UN(C) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 21 | 3M-5 DRAIN E UPPER CHANNEL | UO+UH+UI UJ(C)+UK(C) | 44.08 | 0.73 | 1,750 | 300 | 0.150 | 3.96 | 0.020 | 20 | 1,220 | U | 0.020 | 8.9 | 230 | 6.0 | 0.6 | - | - | - | - | - | - | - | - |
| 22 | FUTURE SUMP INLET GALM PH4 DRAIN B | UP | 4.27 | 0.69 | 934 | 192 | 0.150 | 3.96 | 0.020 | 14 | - | - | - | 742 | 6.0 | 2.1 | - | - | - | - | - | - | - | - | - |
| 23 | ON-GRADE INLET GALM PH4 DRAIN B | UQ +UM(B) | 3.36 | 0.69 | 925 | 161 | 0.150 | 3.96 | 0.020 | 12 | - | - | - | 764 | 6.0 | 2.1 | - | - | - | - | - | - | - | - | - |
| 24 | PIPE FLOW GALM PH4 DRAIN B | UP+UQ(C) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 25 | ON-GRADE INLET GALM PH4 DRAIN B | UR +UN(B) | 1.12 | 0.69 | 799 | 29 | 0.150 | 3.96 | 0.020 | 5 | - | - | - | 770 | 6.0 | 2.1 | - | - | - | - | - | - | - | - | - |
| 26 | PIPE FLOW GALM PH4 DRAIN B | UP+UQ(C)+UR(C) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 27 | BOX CROSSING GALM PH4 DRAIN F | UH+UI+UJ+UK+UL+UM+UN+UO+UP+US +UQ(C)+UR(C) | 91.85 | 0.73 | 2,705 | 300 | 0.150 | 3.96 | 0.020 | 20 | 1,220 | U | 0.020 | 8.9 | 1,185 | 6.0 | 3.3 | - | - | - | - | - | - | - | - |

DATE: _____

NO. REVISION: _____

Jocelyn Perez
Professional Engineer
State of Texas

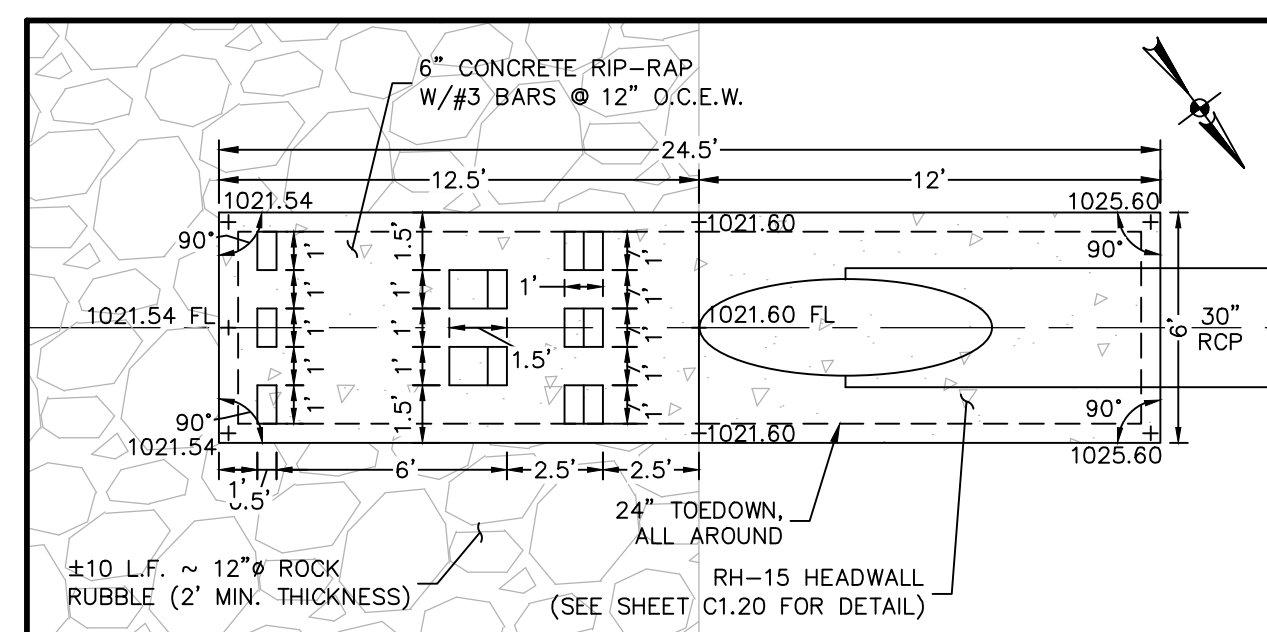
PAPE - DAWSON
1972 INDEPENDENCE DR. STE 102 | NEW BRUNNELL, TX 78132 | 512.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

GALM ROAD PHASE 3
SAN ANTONIO, TEXAS

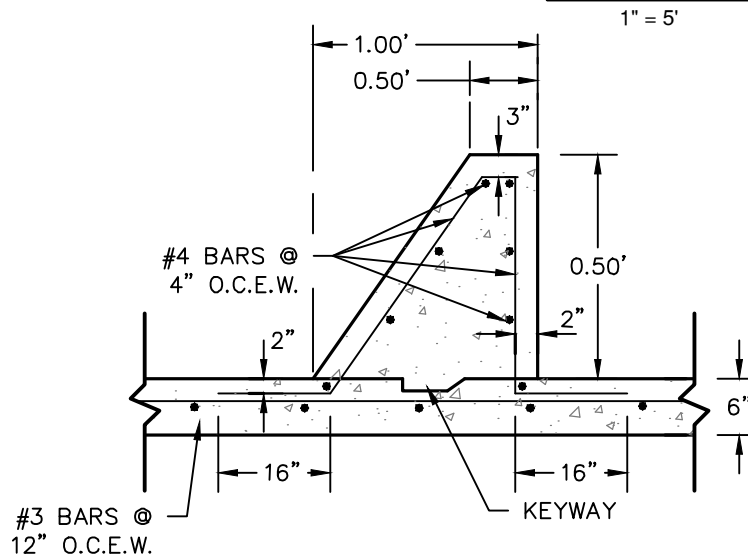
ULTIMATE CONDITIONS DRAINAGE CALCULATIONS

PLAT NO. N/A
JOB NO. 30004-41
DATE OCTOBER 2025
DESIGNER GDL
CHECKED DRAWN CA
SHEET C1.04

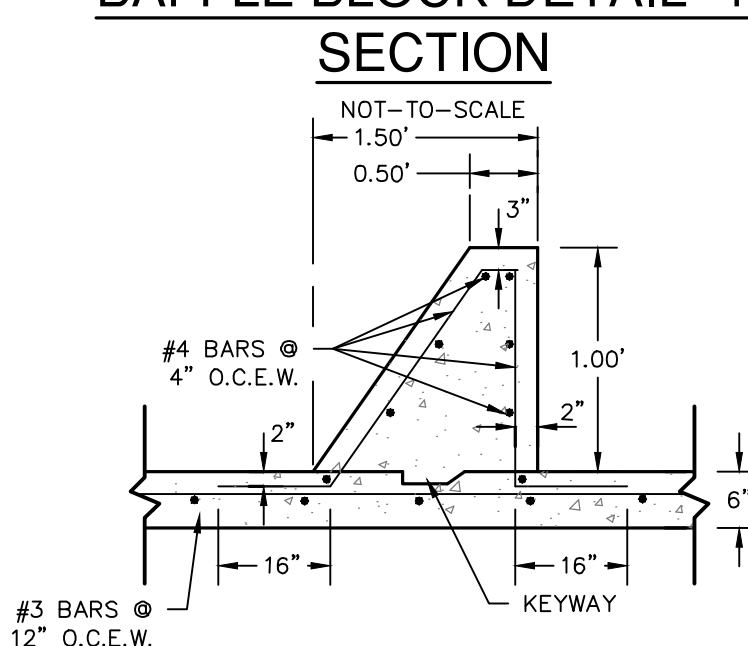
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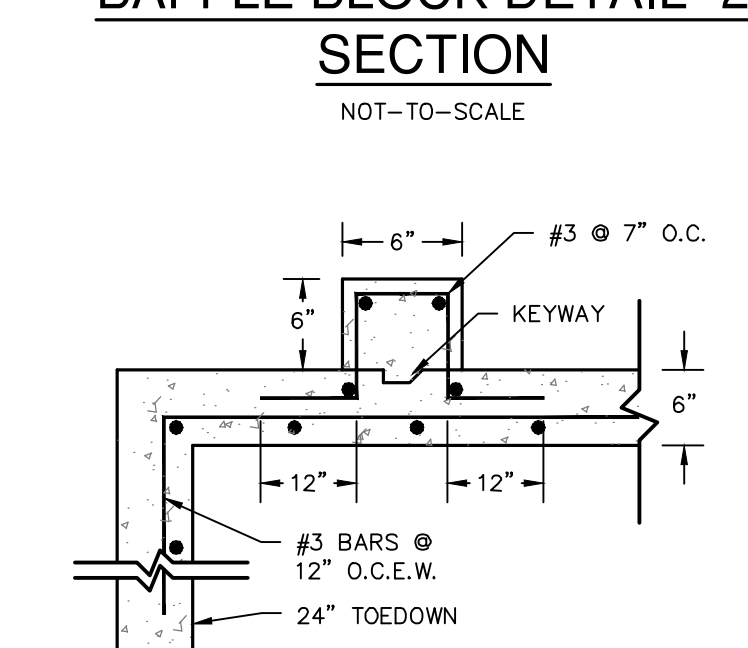
DETAIL "A"



BAFFLE BLOCK DETAIL "1"



SECTION



BAFFLE BLOCK DETAIL "2"



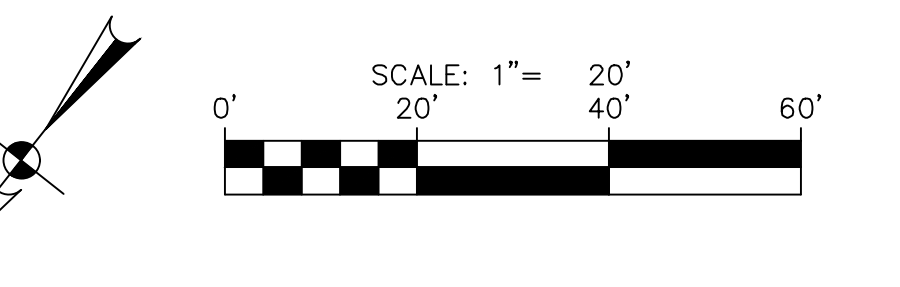
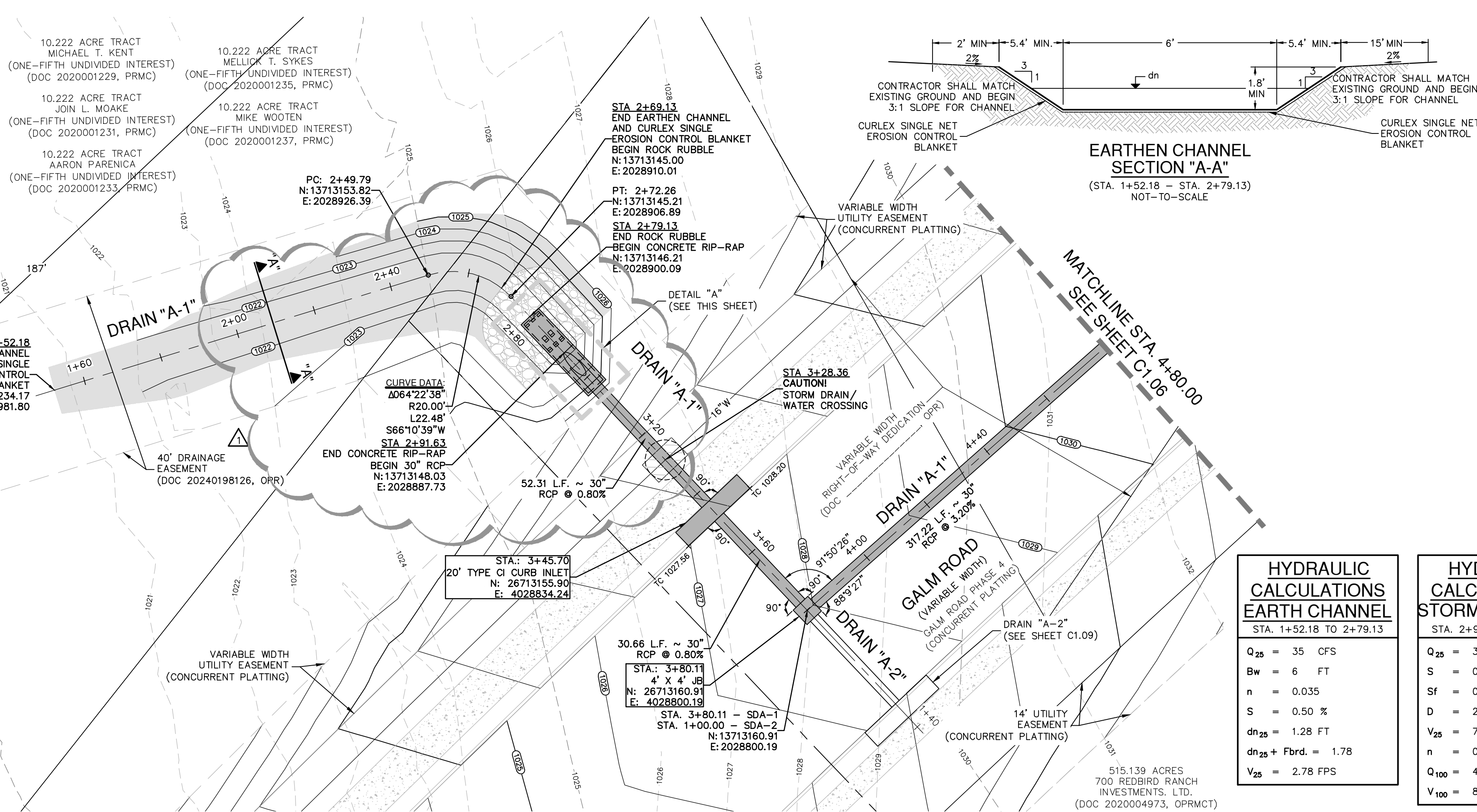
SECTION



END SILL DETAIL



SECTION

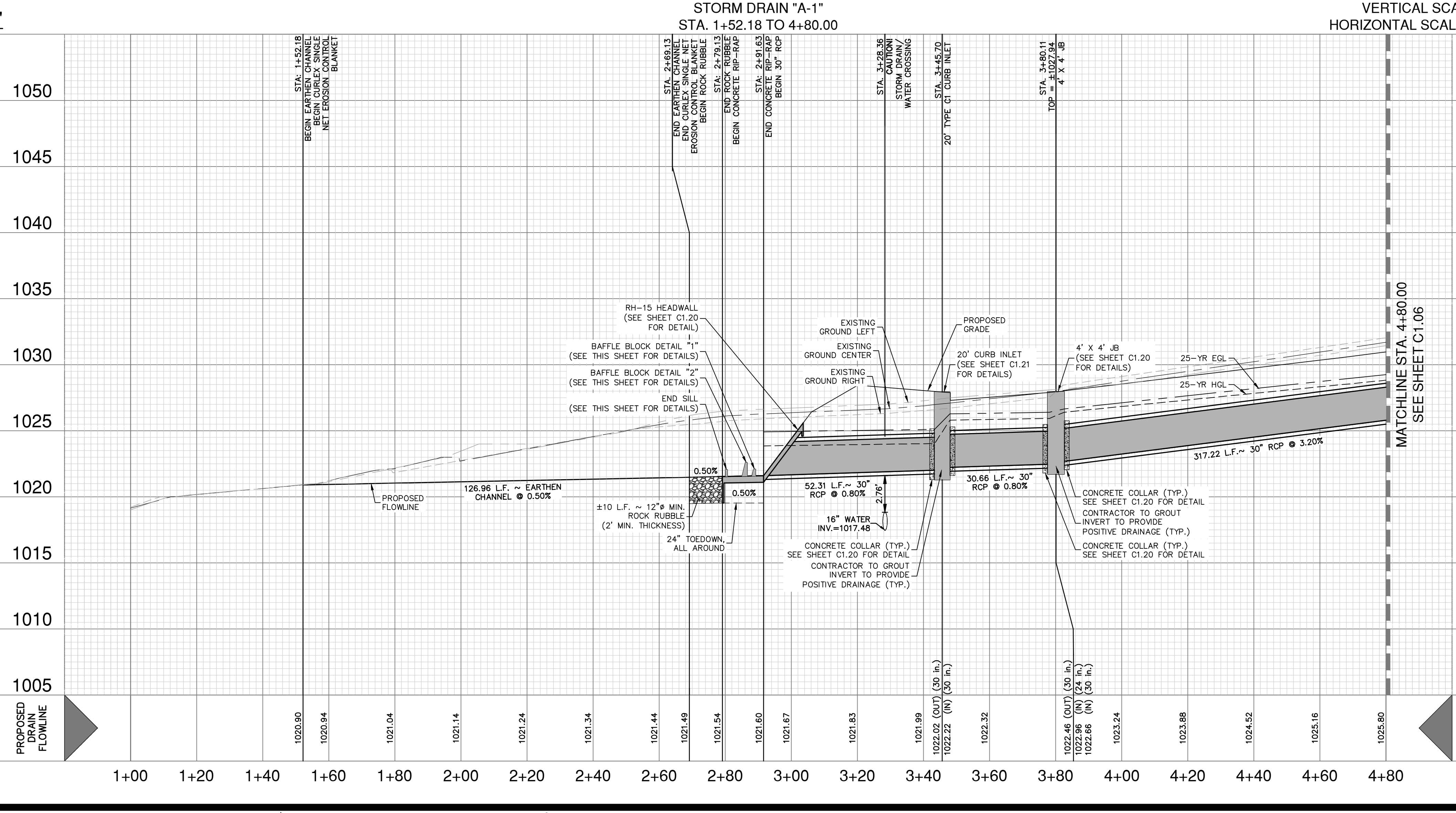


DRAINAGE LEGEND

| | |
|--|-----|
| PROJECT LIMITS | --- |
| 100 YR FLOODPLAIN | --- |
| EXISTING CONTOUR | --- |
| PROPOSED CONTOUR | --- |
| PROPOSED WATER | --- |
| PROPOSED SEWER | --- |
| FLOW ARROW | → |
| GAS, ELECTRIC, TELEPHONE & CABLE TELEVISION EASEMENT | --- |
| CURLEX SINGLE NET EROSION CONTROL BLANKETS | --- |
| LANDLOK 450 EROSION CONTROL MAT | --- |

HYDRAULIC CALCULATIONS

| CHANNEL | Q ₂₅ | S | Sf | D | V ₂₅ | n | Q ₁₀₀ | V ₁₀₀ |
|------------------|-----------------|-------|-------|------|-----------------|-------|------------------|------------------|
| EARTHEN CHANNEL | 35 CFS | 0.80% | 0.73% | 2.50 | 7.35 FPS | 0.013 | 42 CFS | 8.82 FPS |
| STORM DRAIN "A1" | 35 CFS | 0.80% | 0.73% | 2.50 | 7.35 FPS | 0.013 | 42 CFS | 8.82 FPS |
| STORM DRAIN "A1" | 27 CFS | 0.80% | 0.43% | 2.50 | 5.50 FPS | 0.013 | 33 CFS | 6.72 FPS |
| STORM DRAIN "A1" | 19 CFS | 3.20% | 0.22% | 2.50 | 3.87 FPS | 0.013 | 24 CFS | 4.89 FPS |



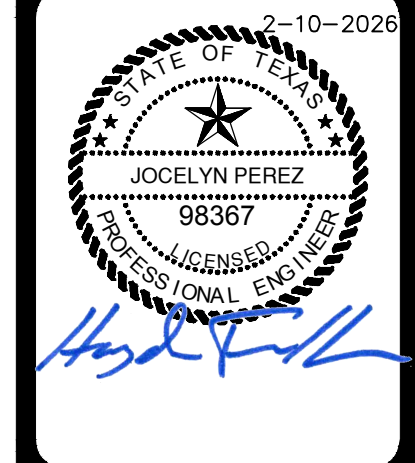
DRAIN "A1" ON-GRADE INLET HYDRAULIC CALCULATIONS

| | |
|--------------------------|-------------------|
| Q ₂₅ | = 11 CFS |
| S | = 3.05% |
| L | = 1 ~ 20 FT INLET |
| Q ₂₅ CAPTURED | = 8 CFS |
| Q ₂₅ BYPASS | = 3 CFS |

- DRAINAGE & GRADING NOTES:**
- A MEDINA COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN MEDINA COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
 - THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
 - ALL CONCRETE FOR TxDOT DRAINAGE STRUCTURES SHALL MEET TxDOT SPECIFICATIONS. ALL OTHER CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
 - REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
 - CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
 - EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE MEDINA COUNTY WILL ACCEPT.
 - CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.

- TRENCH EXCAVATION SAFETY PROTECTION:**
- CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
- CAUTION!!**
- CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

DATE: 10/20/2024
 REVISION: 1
 NO. 1
 EASEMENT & GRADING REVISED 02/10/2024



PAPE-DAWSON
 167 INDEPENDENCE DR. STE 102 | NEW BRUNNELS, TX 78132 | 832.632.5533
 TEXAS SURVEYING FIRM #470 | TEXAS SURVEYING FIRM #1028800

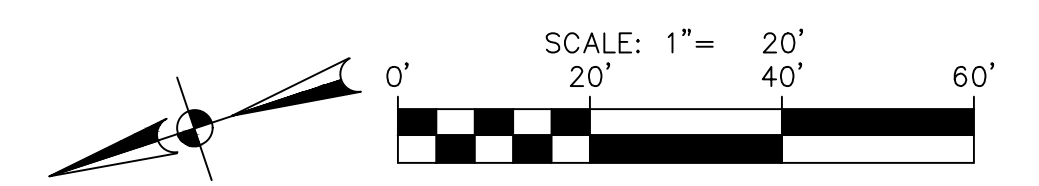
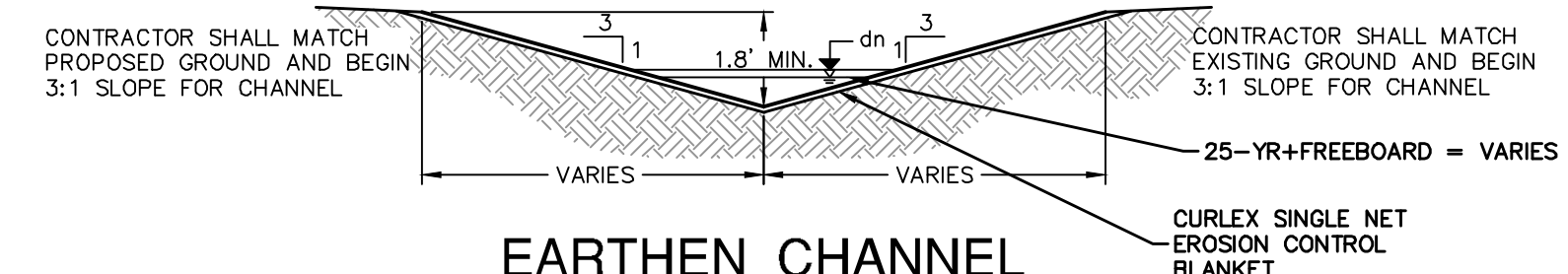
GALM ROAD PHASE 3
 SAN ANTONIO, TEXAS
 STORM DRAIN A-1 - PLAN & PROFILE
 STA. 1+52.18 TO 4+80.00

PLAT NO. N/A
 JOB NO. 30004-41
 DATE: OCTOBER 2025
 DESIGNER: GDL
 CHECKED: DRAWN: CA
 SHEET: C1.05

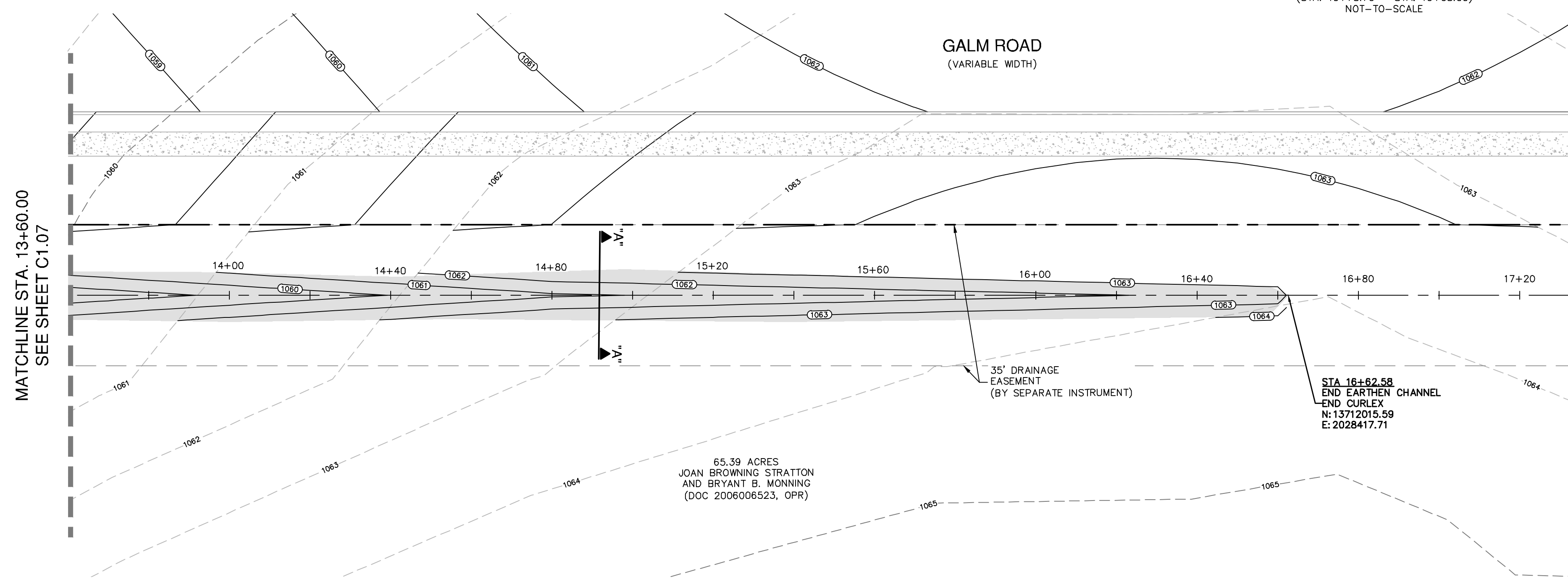
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FOR PERMIT



EARTHEN CHANNEL SECTION "A-A"
(STA. 10+78.76 - STA. 16+65.00)
NOT-TO-SCALE



DRAINAGE LEGEND

| | |
|--|-----------|
| PROJECT LIMITS | --- |
| 100 YR FLOODPLAIN | --- |
| EXISTING CONTOUR | --- |
| PROPOSED CONTOUR | --- |
| PROPOSED WATER | --- |
| PROPOSED SEWER | --- |
| FLOW ARROW | → |
| GAS, ELECTRIC, TELEPHONE & CABLE TELEVISION EASEMENT | GETCTV |
| CURLEX SINGLE NET EROSION CONTROL BLANKETS | [Pattern] |
| LANDLOK 450 EROSION CONTROL MAT | [Pattern] |

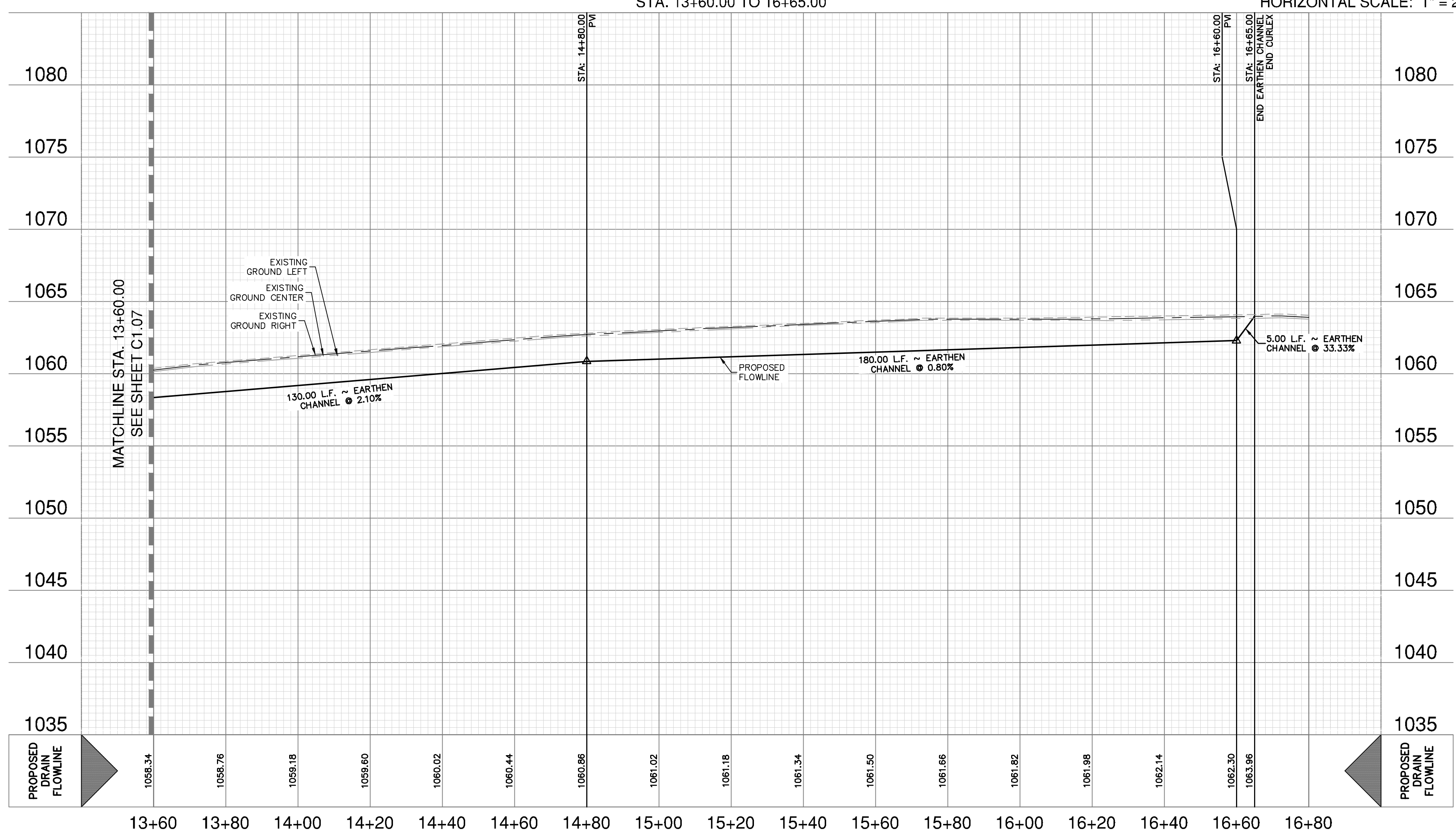
HYDRAULIC CALCULATIONS EARTH CHANNEL
STA. 13+50.00 TO 14+80.00

| | |
|--------------------------|------------|
| Q ₂₅ | = 13 CFS |
| B _w | = 0 FT |
| n | = 0.035 |
| S | = 2.10 % |
| d _{n25} | = 1.06 FT |
| d _{n25} + Fbrd. | = 1.56 |
| V ₂₅ | = 3.88 FPS |

HYDRAULIC CALCULATIONS EARTH CHANNEL
STA. 14+80.00 TO 16+60.00

| | |
|--------------------------|------------|
| Q ₂₅ | = 13 CFS |
| B _w | = 0 FT |
| n | = 0.035 |
| S | = 0.80 % |
| d _{n25} | = 1.27 FT |
| d _{n25} + Fbrd. | = 1.77 |
| V ₂₅ | = 2.70 FPS |

STORM DRAIN "A-1"
STA. 13+60.00 TO 16+65.00
VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 20'



DRAINAGE & GRADING NOTES:

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- ALL CONCRETE FOR TxDOT DRAINAGE STRUCTURES SHALL MEET TxDOT SPECIFICATIONS. ALL OTHER CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
- REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
- CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
- EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE MEDINA COUNTY WILL ACCEPT.
- CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.

TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN, GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND /OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CAUTION!!

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DATE: _____

NO. REVISION: _____

Jocelyn Perez
Professional Engineer
12-19-2025

PAPE-DAWSON
1872 INDEPENDENCE DR. STE 102 | NEW BRUNNELL, TX 78132 | 630.632.5633
TEXAS SURVEYING FIRM #10028800
TEXAS ENGINEERING FIRM #470 |

GALM ROAD PHASE 3
SAN ANTONIO, TEXAS

STORM DRAIN A-1 - PLAN & PROFILE
STA. 13+60.00 TO 16+65.00

PLAT NO. N/A

JOB NO. 30004-41

DATE OCTOBER 2025

DESIGNER GDL

CHECKED DRAWN CA

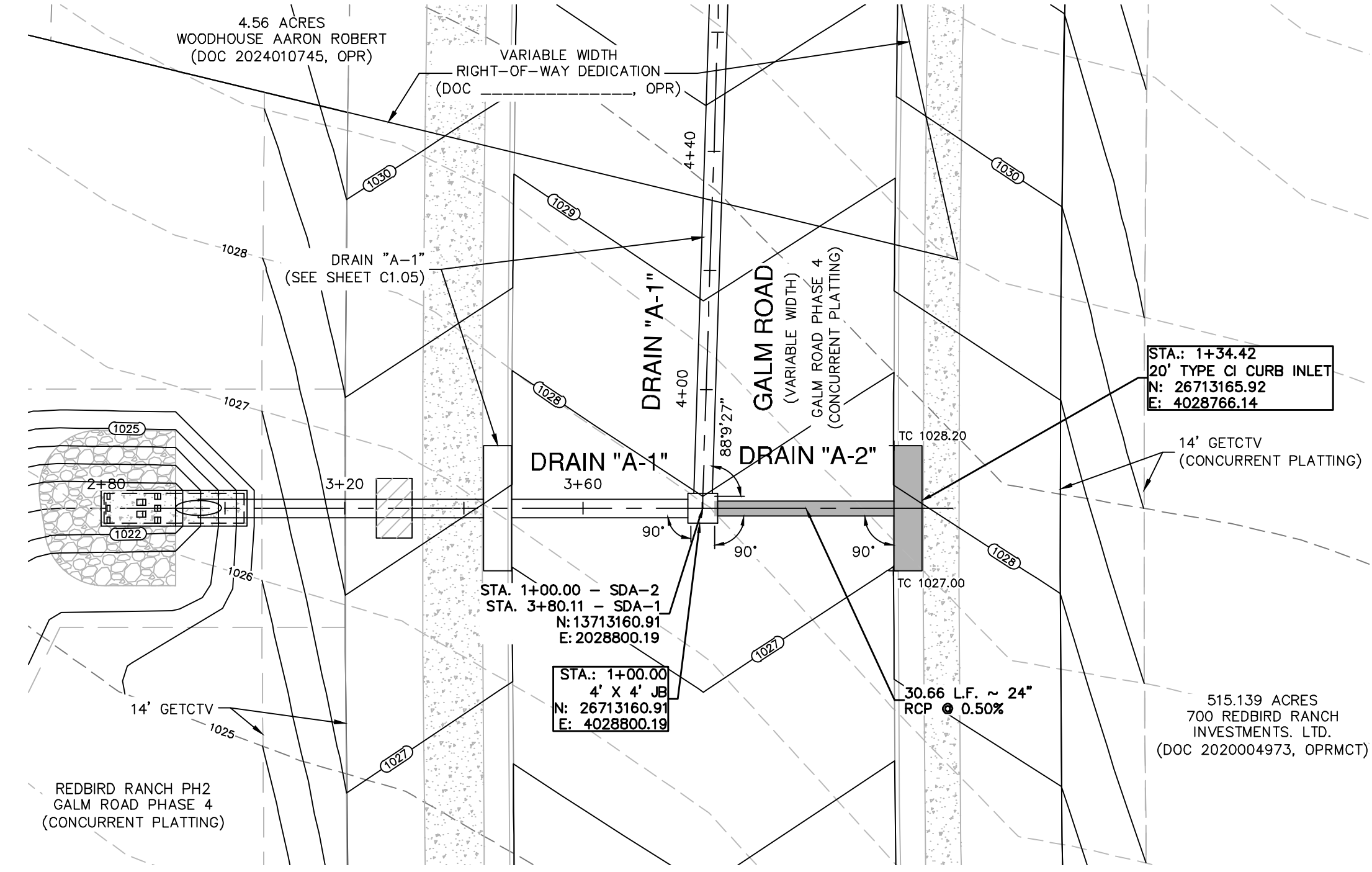
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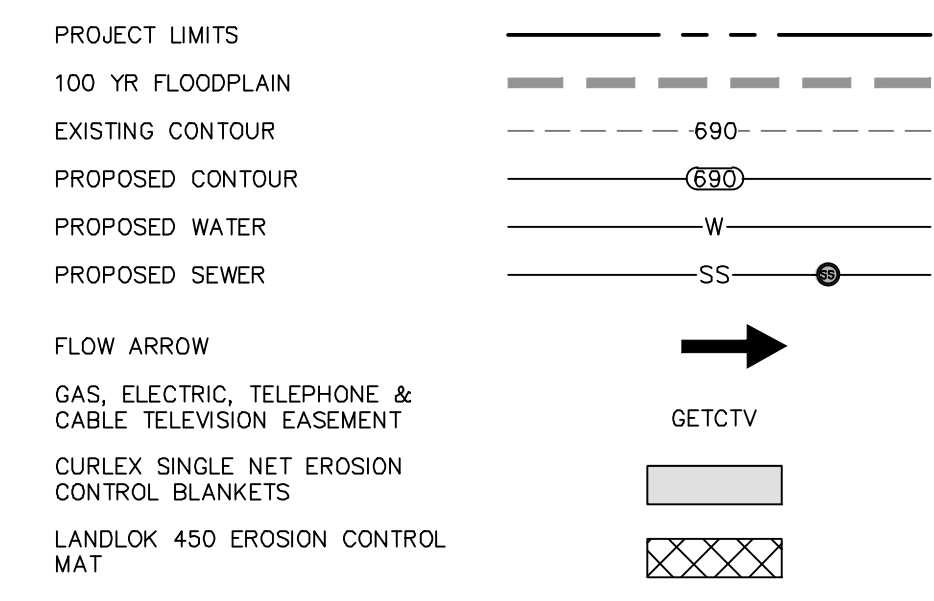
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DRAINAGE LEGEND

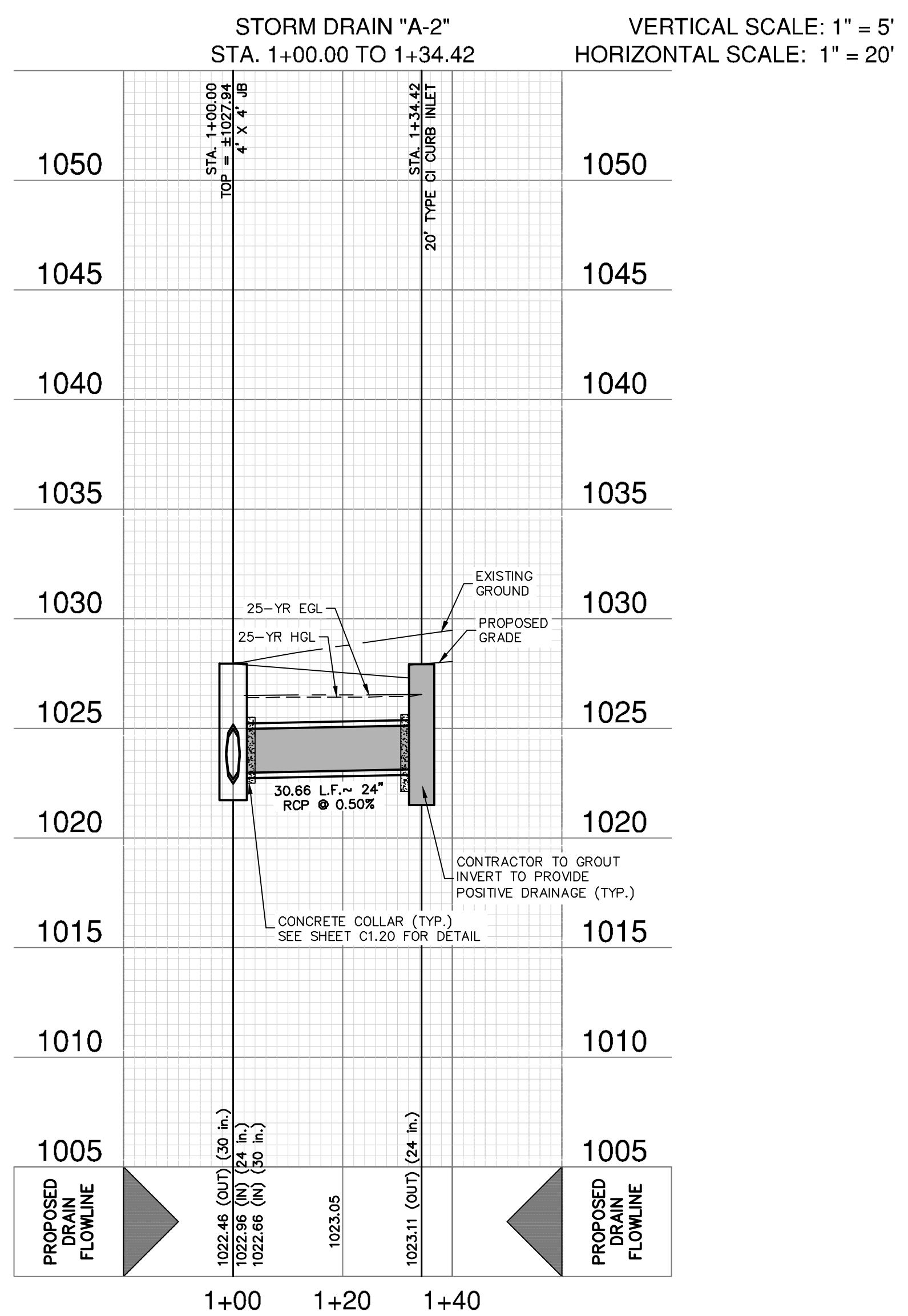


**HYDRAULIC CALCULATIONS
 STORM DRAIN "A2"**
 STA. 1+00.00 TO 1+34.42

Q₂₅ = 8 CFS
 S = 0.50%
 Sf = 0.13%
 D = 2.00
 V₂₅ = 2.55 FPS
 n = 0.013
 Q₁₀₀ = 9 CFS
 V₁₀₀ = 2.87 FPS

**DRAIN "A2" ON-GRADE INLET
 HYDRAULIC CALCULATIONS
 CURB INLET TABLE POINT "12"**

Q₂₅ = 11 CFS
 S = 3.05%
 L = 1 ~ 20 FT INLET
 Q₂₅ CAPTURED = 8 CFS
 Q₂₅ BYPASS = 3 CFS



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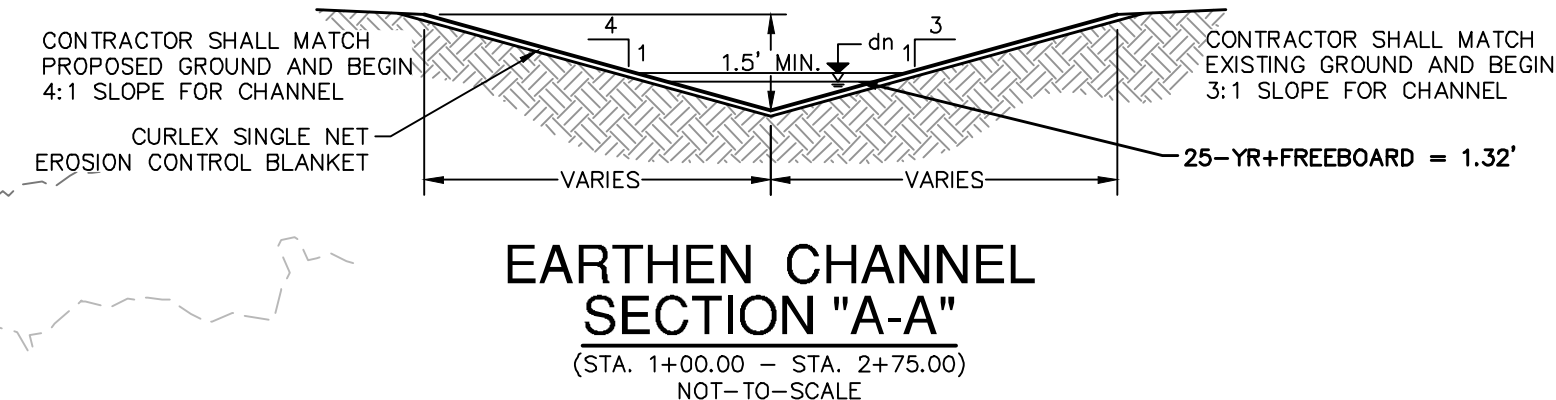
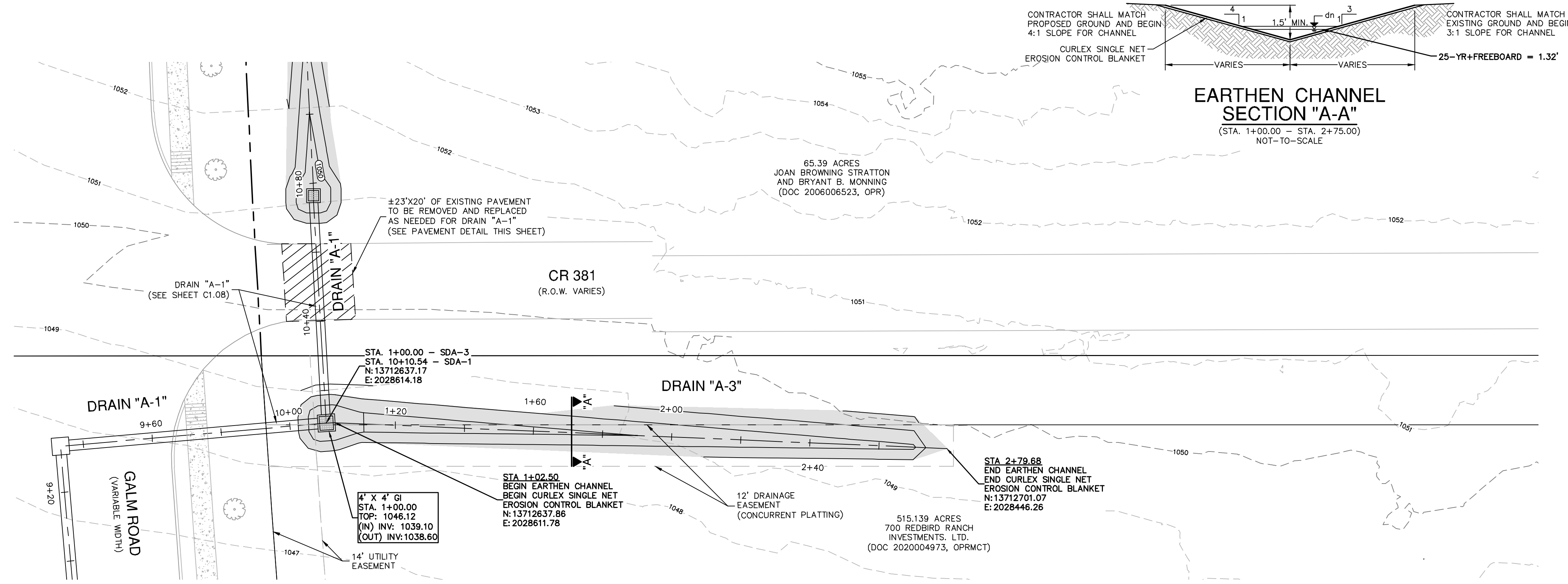
DATE
 NO. REVISION
 12-19-2025
 JOCELYN PEREZ
 98367
 LICENSED PROFESSIONAL ENGINEER
 J. Pape-Dawson

PAPE-DAWSON
 1872 INDEPENDENCE DR. STE 102 L NEW BRAUNFELS, TX 78132 | 830.632.5633
 TEXAS ENGINEERING FIRM #470 J TEXAS SURVEYING FIRM #10288600

GALM ROAD PHASE 3
 SAN ANTONIO, TEXAS
STORM DRAIN A-2 - PLAN & PROFILE
 STA. 1+00.00 TO 1+34.42

PLAT NO. N/A
 JOB NO. 30004-41
 DATE OCTOBER 2025
 DESIGNER GDL
 CHECKED DRAWN CA
 SHEET C1.09

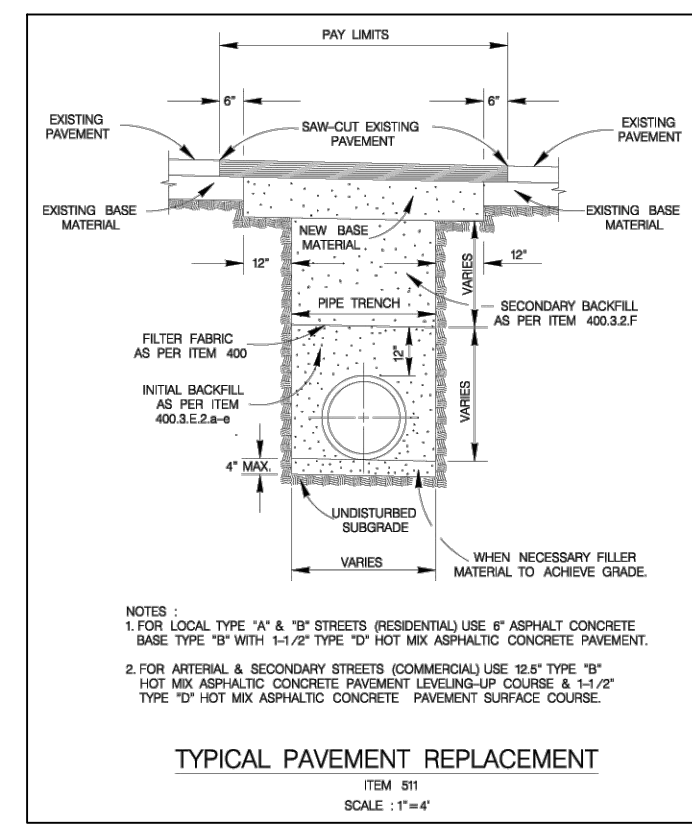
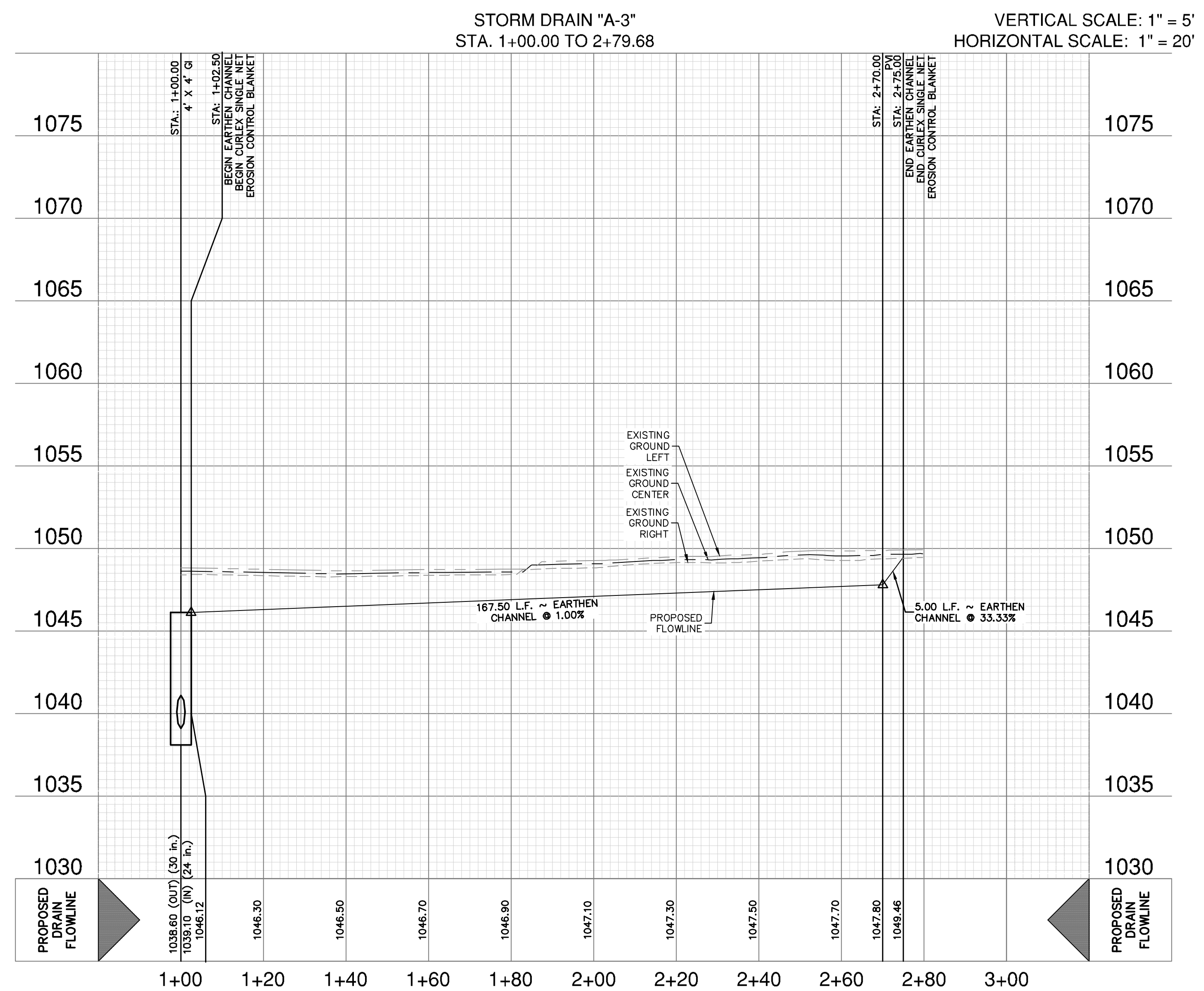
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DRAINAGE LEGEND

| | |
|--|----------|
| PROJECT LIMITS | --- |
| 100 YR FLOODPLAIN | --- |
| EXISTING CONTOUR | --- |
| PROPOSED CONTOUR | --- |
| PROPOSED WATER | --- |
| PROPOSED SEWER | --- |
| FLOW ARROW | → |
| GAS, ELECTRIC, TELEPHONE & CABLE TELEVISION EASEMENT | GETCTV |
| CURLEX SINGLE NET EROSION CONTROL BLANKETS | [Symbol] |
| LANDLOK 450 EROSION CONTROL MAT | [Symbol] |

| HYDRAULIC CALCULATIONS | | GRATE INLET | |
|--------------------------|---------------------|---|--|
| EARTH CHANNEL | | HYDRAULIC CALCULATION: | |
| STA. 1+02.50 TO 2+75.00 | | DRAIN "A-3" | |
| STA. 1+00.00 | | STA. 1+00.00 | |
| $Q_{25} = 7$ CFS | $Q_{25} = 7$ CFS | $Q_{25} = Cd \times (A/2) \times (2 \times g \times H)^{1/2}$ | |
| $Bw = 0$ FT | $n = 0.035$ | $C_d = 0.67$ | |
| $S = 1.00\%$ | $d_{n25} = 0.96$ FT | $H = 1.0$ FT | |
| $d_{n25} + Fbrd. = 1.46$ | $V_{25} = 2.52$ FPS | $g = 32.2$ FT/sec ² | |
| | | $A = 16$ FT ² | |
| | | $Q_{cap} = 43$ CFS | |
| | | $A_{prop} = 16$ FT ² | |



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DATE: _____

NO. REVISION: _____

12-19-2023

JOCELYN PEREZ
98367
LICENSED PROFESSIONAL ENGINEER

Jocelyn Perez

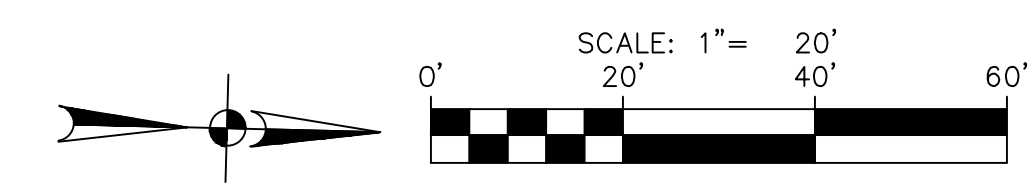
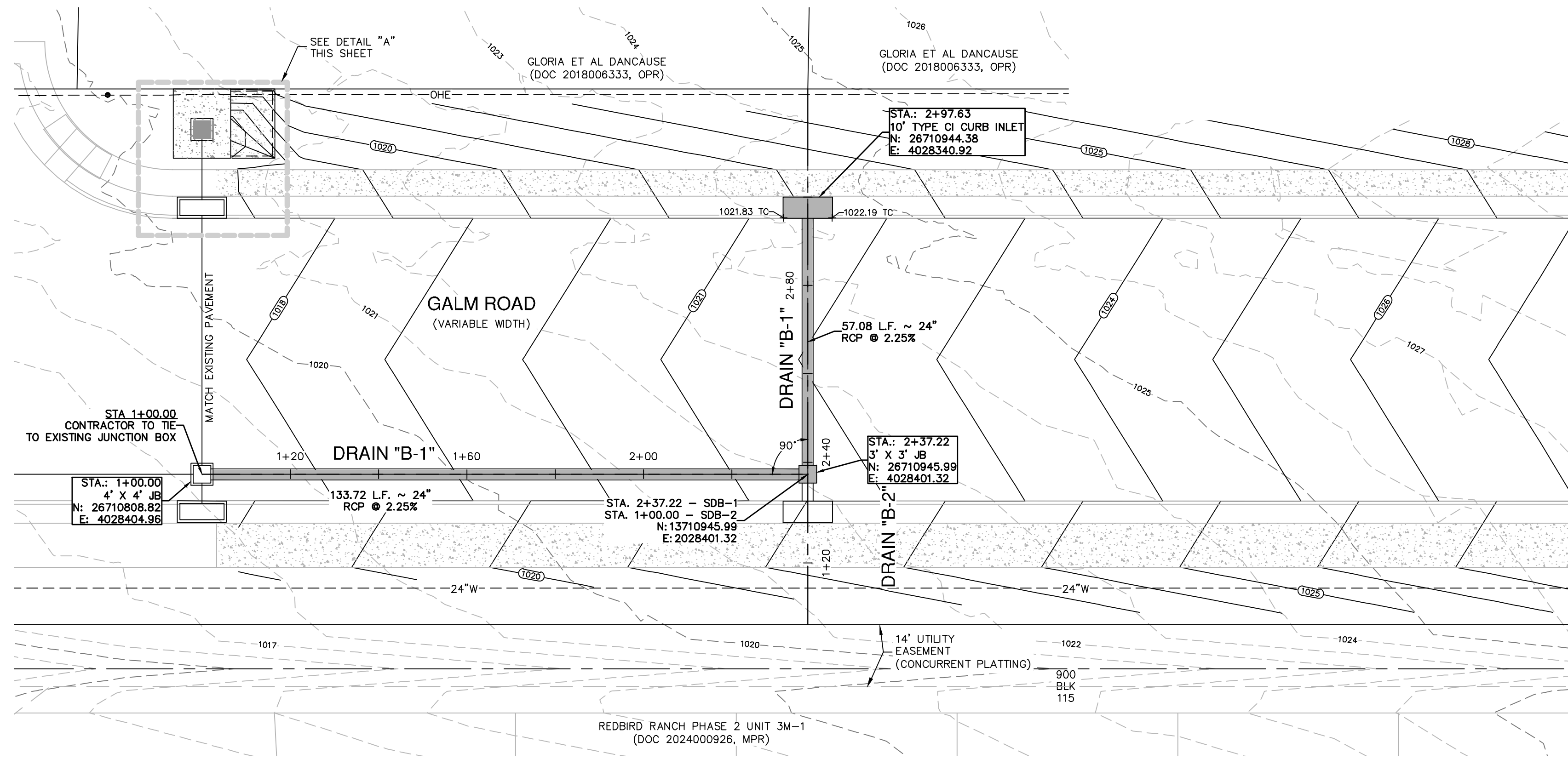
PAPE-DAWSON
1972 INDEPENDENCE DR. STE 102 | NEW BRUNNELL, TX 78132 | 832.632.5633
TEXAS SURVEYING FIRM #10228800
TEXAS ENGINEERING FIRM #470 |

GALM ROAD PHASE 3
SAN ANTONIO, TEXAS

STORM DRAIN A-3 - PLAN & PROFILE
STA. 1+00.00 TO 2+79.68

| | |
|----------|--------------|
| PLAT NO. | N/A |
| JOB NO. | 30004-41 |
| DATE | OCTOBER 2025 |
| DESIGNER | GDL |
| CHECKED | DRAWN CA |
| SHEET | C1.10 |

FOR PERMIT



DRAINAGE LEGEND

| | |
|--|--------|
| PROJECT LIMITS | --- |
| 100 YR FLOODPLAIN | --- |
| EXISTING CONTOUR | --- |
| PROPOSED CONTOUR | --- |
| PROPOSED WATER | --- |
| PROPOSED SEWER | --- |
| FLOW ARROW | → |
| GAS, ELECTRIC, TELEPHONE & CABLE TELEVISION EASEMENT | GETCTV |
| CURLEX SINGLE NET EROSION CONTROL BLANKETS | --- |
| LANDLOK 450 EROSION CONTROL MAT | --- |

**HYDRAULIC CALCULATIONS
STORM DRAIN "B1"**
STA. 1+00.00 TO 2+37.22

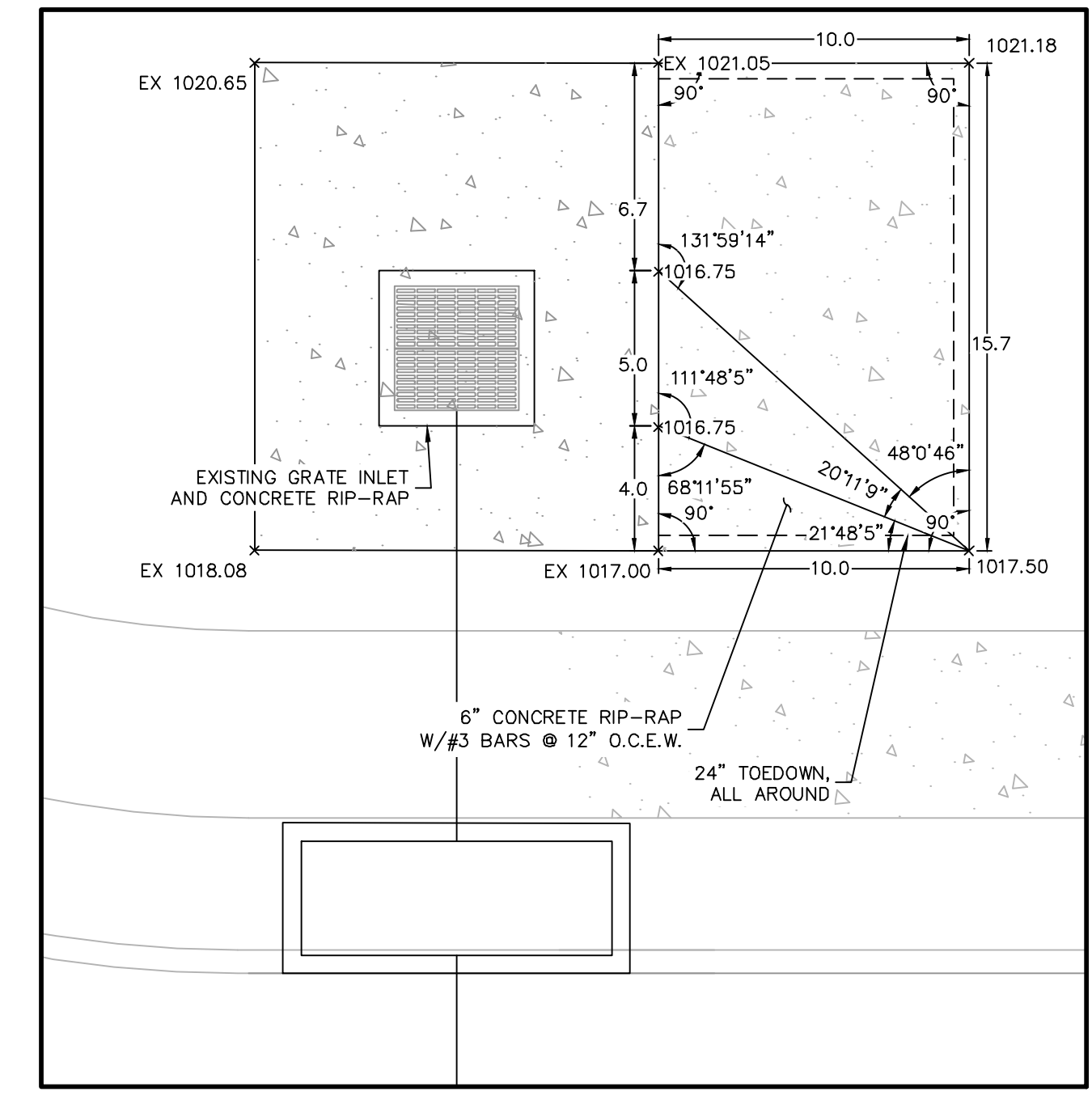
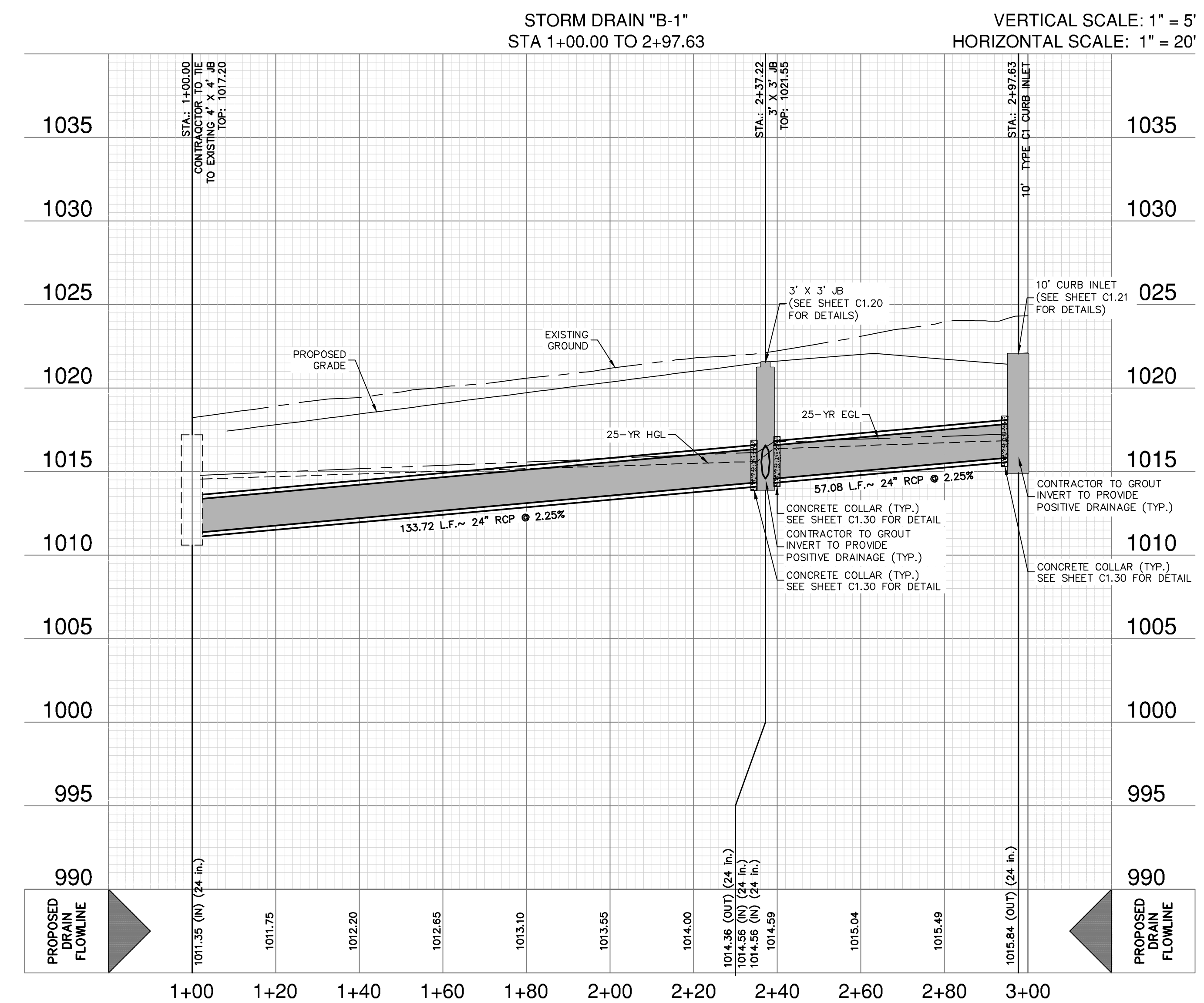
| |
|----------------|
| Q25 = 12 CFS |
| S = 2.25% |
| Sf = 1.42% |
| D = 2.00' |
| V25 = 3.82 FPS |
| n = 0.013 |

**HYDRAULIC CALCULATIONS
STORM DRAIN "B1"**
STA. 2+37.22 TO 2+97.63

| |
|----------------|
| Q25 = 8 CFS |
| S = 2.25% |
| Sf = 0.57% |
| D = 2.00' |
| V25 = 2.68 FPS |
| n = 0.013 |

**DRAIN "B1" ON-GRADE INLET
HYDRAULIC CALCULATIONS
CURB INLET TABLE POINT "1A"**

| |
|----------------------|
| Q25 = 29 CFS |
| S = 3.20% |
| L = 1 ~ 10 FT INLET |
| Q25 CAPTURED = 8 CFS |
| Q25 BYPASS = 21 CFS |



DETAIL "A": EXISTING GRATE
SCALE: 1" = 5'

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DATE _____

NO. REVISION _____

Jocelyn Perez

PAPE-DAWSON
1872 INDEPENDENCE DR. STE 102 | NEW BRUNNELL, TX 76132 | 632.5633
TEXAS SURVEYING FIRM #10228800

GALM ROAD PHASE 3
SAN ANTONIO, TEXAS

STORM DRAIN B-1 - PLAN & PROFILE
STA 1+00.00 TO 2+97.63

PLAT NO. N/A

JOB NO. 30004-41

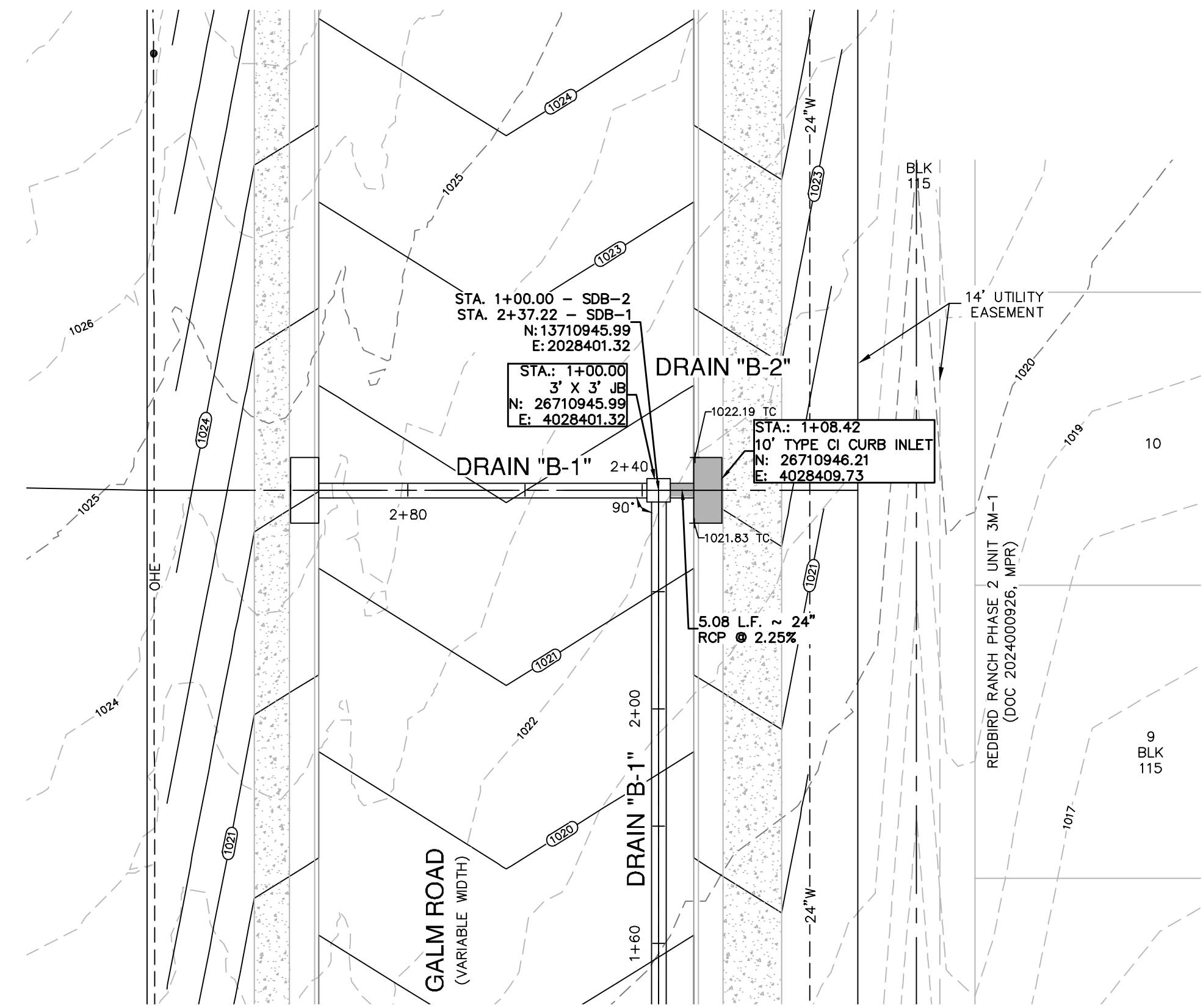
DATE OCTOBER 2025

DESIGNER GDL

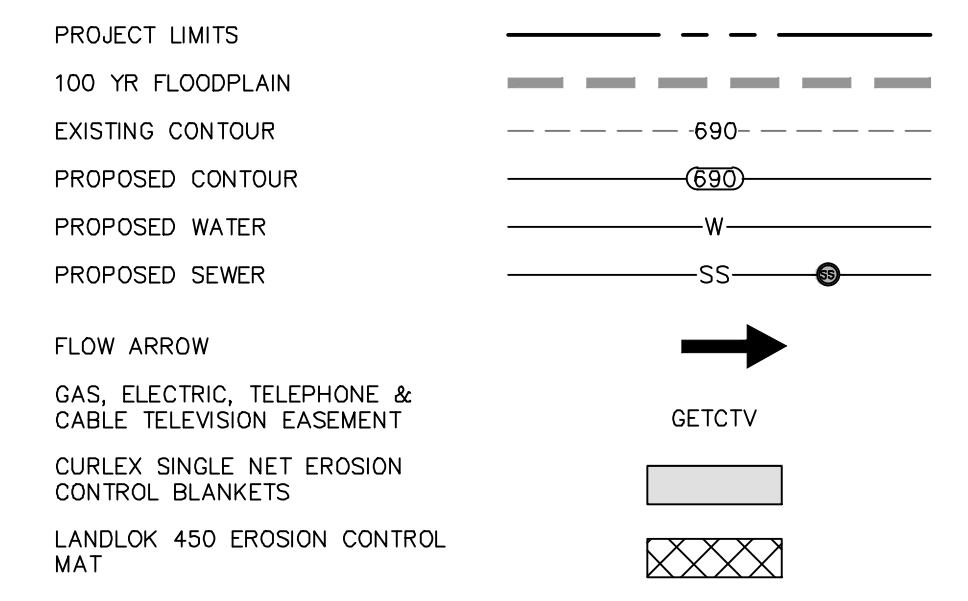
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DRAINAGE LEGEND



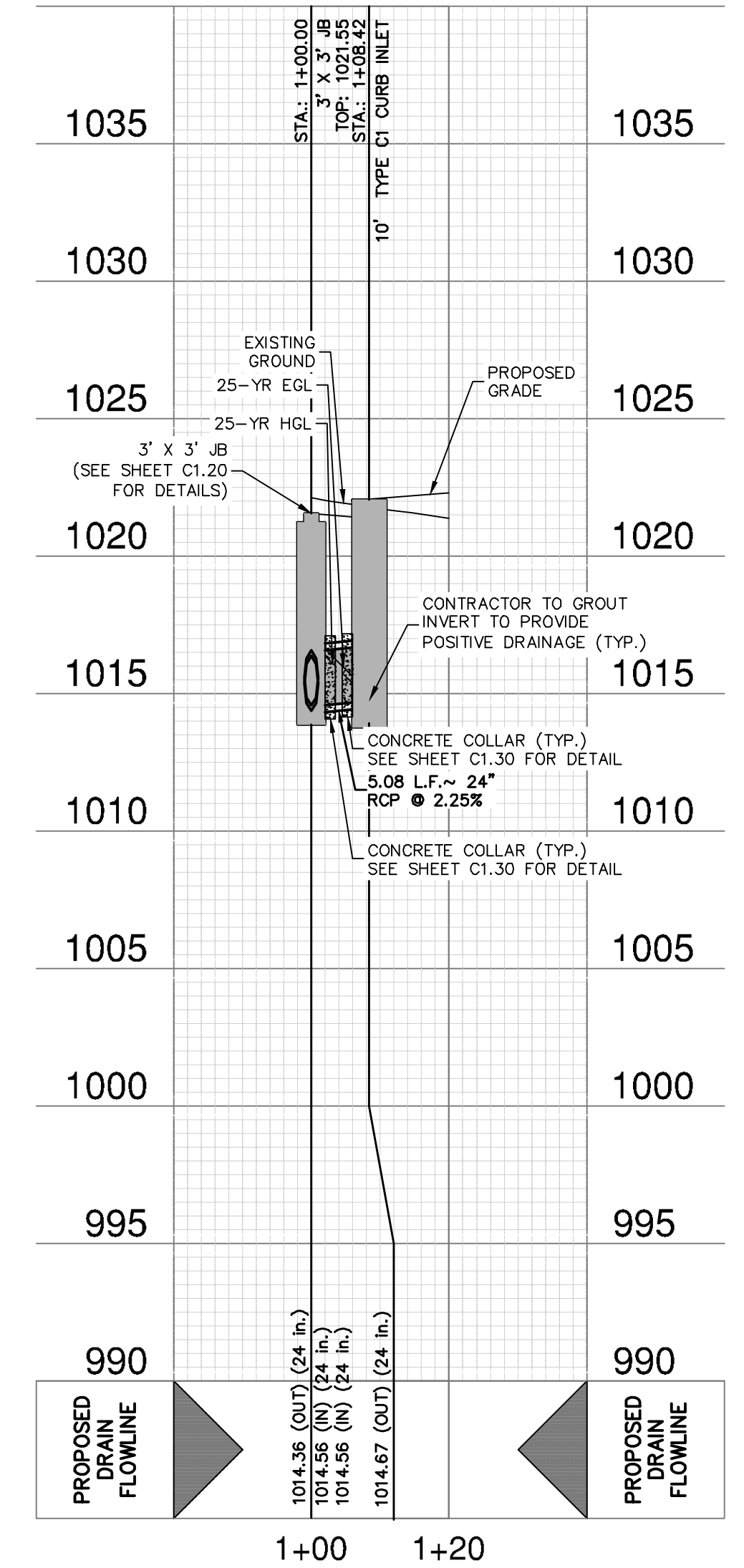
HYDRAULIC CALCULATIONS
STORM DRAIN "B2"
 STA. 1+00.00 TO 1+08.42

Q25 = 4 CFS
 S = 2.25%
 Sf = 0.20%
 D = 2.00'
 V25 = 1.34 FPS
 n = 0.013

DRAIN "B2" ON-GRADE INLET
HYDRAULIC CALCULATIONS
CURB INLET TABLE POINT "1B"

Q25 = 10 CFS
 S = 3.20%
 L = 1 ~ 10 FT INLET
 Q25 CAPTURED = 4 CFS
 Q25 BYPASS = 6 CFS

STORM DRAIN "B-2" VERTICAL SCALE: 1" = 5'
STA 1+00.00 TO 1+08.42 HORIZONTAL SCALE: 1" = 20'



DRAINAGE & GRADING NOTES:

- A MEDINA COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN MEDINA COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
- ALL CONCRETE FOR TXDOT DRAINAGE STRUCTURES SHALL MEET TXDOT SPECIFICATIONS. ALL OTHER CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
- REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
- CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
- EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE MEDINA COUNTY WILL ACCEPT.
- CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.

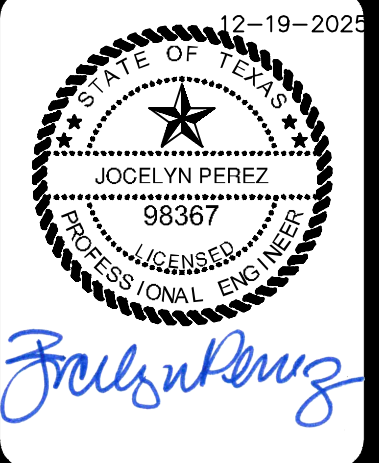
TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND /OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CAUTION!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

| NO. | REVISION | DATE |
|-----|----------|------|
| | | |



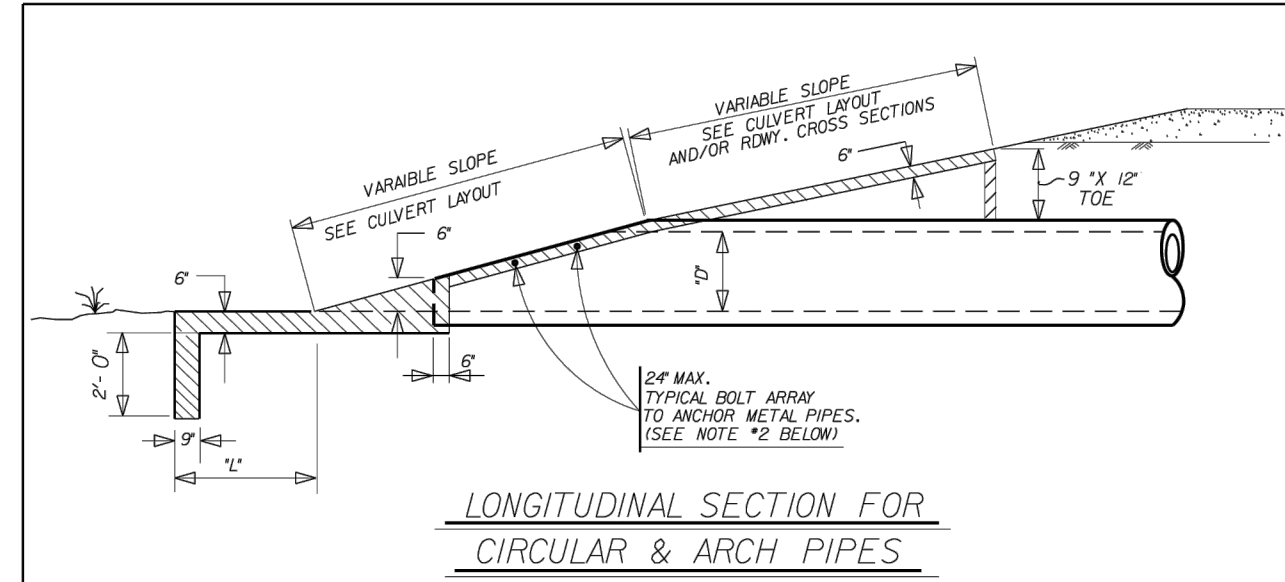
PAPE-DAWSON
 1872 INDEPENDENCE DR. STE 102 | NEW BRUNNELL, TX 78132 | 630.632.5633
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10228800

GALM ROAD PHASE 3
 SAN ANTONIO, TEXAS

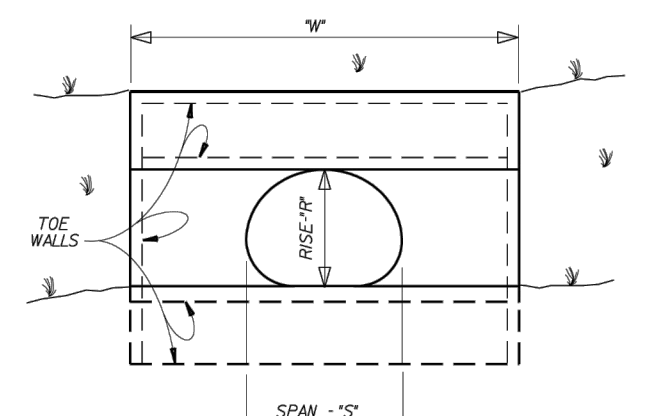
STORM DRAIN B-2 - PLAN & PROFILE
 STA 1+00.00 TO 1+08.42

| | |
|----------|--------------|
| PLAT NO. | N/A |
| JOB NO. | 30004-41 |
| DATE | OCTOBER 2025 |
| DESIGNER | GDL |
| CHECKED | DRAWN CA |
| SHEET | C1.12 |

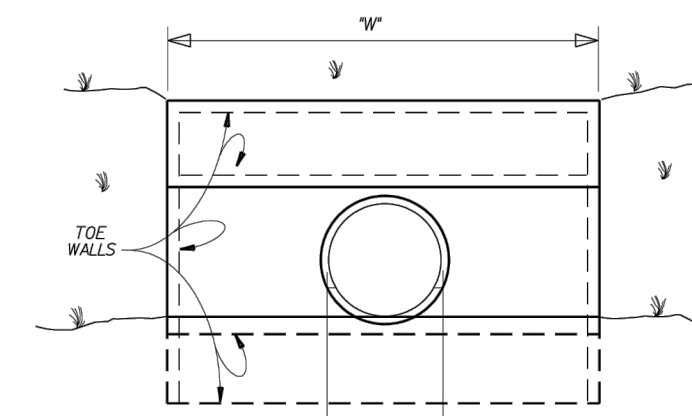
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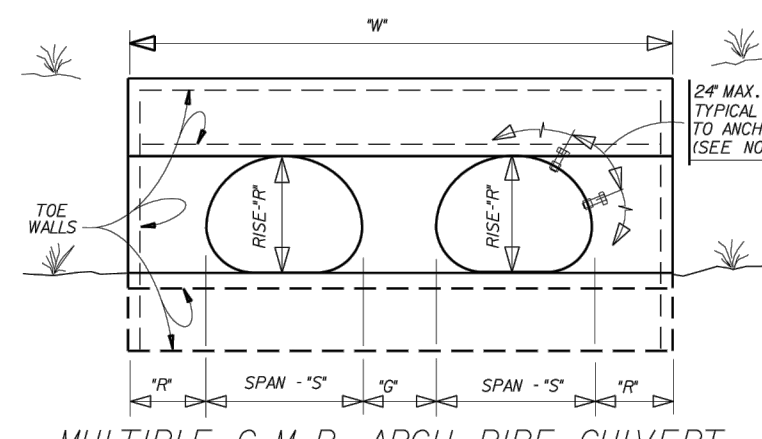
LONGITUDINAL SECTION FOR CIRCULAR & ARCH PIPES



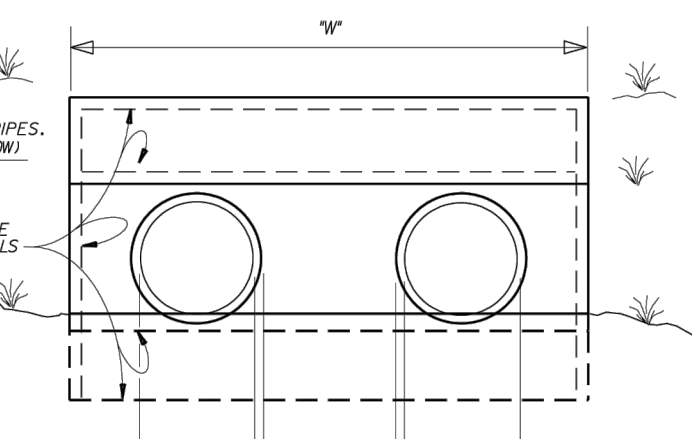
SINGLE C.M.P. ARCH PIPE CULVERT



SINGLE CIRCULAR PIPE CULVERT (CMP or RCP)



MULTIPLE C.M.P. ARCH PIPE CULVERT



MULTIPLE CIRCULAR PIPE CULVERT (CMP or RCP)

DIMENSIONS FOR CIRCULAR (CMP and RCP) PIPE CULVERTS

| 12" INSIDE DIA. OF PIPE | 12" | | 15" | | 18" | | 24" | | 30" | |
|-------------------------|-------|-------|--------|-------|---------|---------|--------|-----|-----|-----|
| | CSM | RCP | CSM | RCP | CSM | RCP | CSM | RCP | CSM | RCP |
| 18" | 2'-0" | 1'-2" | 0'-9" | 4'-6" | 7'-2" | 9'-10" | 10'-6" | | | |
| 24" | 2'-0" | 1'-3" | 0'-10" | 5'-3" | 8'-4" | 11'-4" | 13'-4" | | | |
| 30" | 2'-0" | 1'-3" | 1'-0" | 6'-0" | 9'-2" | 12'-4" | 15'-2" | | | |
| 36" | 2'-0" | 1'-3" | 1'-3" | 6'-9" | 10'-10" | 14'-10" | 18'-0" | | | |
| 42" | 2'-0" | 1'-3" | 1'-6" | 7'-6" | 12'-2" | 16'-2" | 20'-0" | | | |
| 48" | 2'-0" | 1'-3" | 1'-9" | 8'-3" | 13'-5" | 17'-5" | 21'-8" | | | |
| 54" | 2'-0" | 1'-3" | 2'-0" | 9'-0" | 14'-8" | 18'-8" | 23'-0" | | | |
| 60" | 2'-0" | 1'-3" | 2'-3" | 9'-9" | 16'-1" | 20'-1" | 24'-3" | | | |

12" IS MEASURED BETWEEN THE OUTER SURFACES OF THE PIPES.

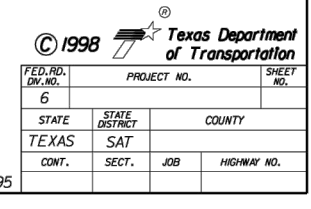
DIMENSIONS FOR C.M.P. ARCH PIPE CULVERTS

| DESIGN SIZE | APPROX ARCH DIA. SPAN | APPROX RISE | 12" | | 15" | | 18" | | 24" | |
|-------------|-----------------------|-------------|-------|-------|--------|---------|---------|---------|-----|-----|
| | | | CSM | RCP | CSM | RCP | CSM | RCP | CSM | RCP |
| 2 | 20" | 15" | 2'-0" | 1'-2" | 4'-3" | 7'-2" | 10'-7" | 13'-0" | | |
| 3 | 28" | 20" | 2'-0" | 1'-5" | 5'-8" | 9'-9" | 13'-2" | 16'-11" | | |
| 4 | 35" | 24" | 2'-0" | 1'-8" | 7'-6" | 11'-6" | 16'-1" | 20'-8" | | |
| 5 | 42" | 29" | 2'-0" | 2'-1" | 9'-4" | 13'-9" | 19'-2" | 24'-7" | | |
| 6 | 49" | 35" | 2'-0" | 2'-2" | 11'-1" | 16'-10" | 22'-7" | 28'-4" | | |
| 7 | 57" | 40" | 2'-0" | 2'-5" | 12'-7" | 19'-3" | 25'-9" | 32'-7" | | |
| 8 | 64" | 45" | 2'-0" | 2'-7" | 14'-5" | 22'-0" | 28'-0" | 37'-0" | | |
| 9 | 71" | 49" | 2'-0" | 3'-2" | 16'-3" | 24'-11" | 31'-11" | 41'-0" | | |

BASED ON 2-2/3" X 1/2" CORRUGATION
12" IS MEASURED BETWEEN THE OUTER SURFACES OF THE PIPES.

- NOTES:
- FOR RIPRAP QUANTITIES AND SLOPES, SEE CULVERT LAYOUT SHEET. CONCRETE SHALL BE CLASS B UNLESS OTHERWISE SHOWN IN THE PLANS.
 - ALL METAL PIPES (CIRCULAR AND/OR ARCH) SHALL HAVE 5/8" X 1/8" GALVANIZED BOLTS WITH 2 HEX NUTS AT 24" CENTERS TO ANCHOR THE PIPE TO THE CONCRETE. THIS WORK WILL BE SUBSIDIARY TO THE RIPRAP HEADWALL.
 - FOR CONCRETE ARCH PIPES, THE CMP ARCH PIPE CULVERT DIMENSIONS WILL HAVE TO BE ADJUSTED FOR THE PIPE WALL THICKNESS.
 - FOR PIPES LARGER THAN SHOWN, USE THE CLEAR DISTANCE BETWEEN PIPES SHOWN IN ITEMS 460 AND/OR 464.
 - IF THE SIDES OF THE HEADWALL IS ADJACENT TO A RIPRAP SLOPE AND IF THE TOP OF THE HEADWALL IS ADJACENT TO THE ROADWAY FOUNDATION OR RIPRAP SLOPE, THE SIDE AND TOP TOE WALLS MAY BE ELIMINATED IF APPROVED BY THE ENGINEER.

SAN ANTONIO DISTRICT STANDARD RIPRAP HEADWALL



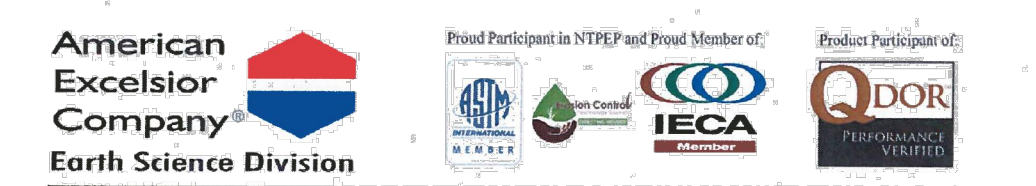
CURLEX® EROSION CONTROL BLANKETS INSTALLATION GUIDELINES

Before installing Curlex blankets, the seedbed shall be inspected by the Owner's Representative to ensure it has been properly compacted and fine graded to remove any existing rills. It shall be free of obstructions, such as tree roots, projections such as stones, and other foreign objects. The contractor shall proceed when satisfactory conditions are present. After the area has been properly shaped, seeded, fertilized, and compacted, remove the Curlex protective cover. Next, locate the start of the roll, making sure the roll is facing toward the area to be covered, and then roll out the product. The product shall be rolled out flat, even, and smooth without stretching the material then anchored to the subgrade.

Slopes: It is recommended the blankets be installed vertically on the slope; however, on short slopes it may be more practical to install horizontally across the width of the application when agreed upon by the Engineer prior to installation. If more than one width is required, simply abut the edges of the vertically installed blankets together and secure them with a common row of staples. Overlapping adjacent sides of Curlex blankets is not required when installed vertically on slopes. Curlex blankets shall be trenched at the head of the slope if the blanket cannot be extended three feet over the slope crest or if overland flow is anticipated from upslope areas.

Channels: Curlex blankets shall be centered to offset a seam in the middle of the waterway. They shall be installed in the same direction as the water flow. The adjoining blankets shall be installed away from the center of channel and overlapped. Curlex blanket installation should continue up the side slopes three feet above the anticipated high water elevation. Flanks exposed to runoff, or sheet flow, must be protected by a check slot or trenched. Curlex blankets shall be trenched at the start of the channel. Curlex blankets shall be anchored using a staggered staple pattern at end of roll overlaps and end of roll terminations.

Disclaimer: Curlex is a system for erosion control and revegetation on slopes and channels. American Excelsior Company (AEC) believes that the information contained herein to be reliable and accurate for use in erosion control and re-vegetation applications. However, since physical conditions vary from job site to job site and even within a given job site, AEC makes no performance guarantee and assumes no obligation or liability for the reliability or accuracy of information contained herein for the results, safety, or suitability of using Curlex, or for damages occurring in connection with the installation of any erosion control product whether or not made by AEC or its affiliates, except as separately and specifically made in writing. These guidelines are subject to change without notice.



MATERIAL SPECIFICATIONS CURLEX I

Materials:
Great Lakes Aspen (naturally seed free)
Polypropylene Netting
Stitching Thread
QuickGRASS® (green excelsior - optional)

Typical Roll Sizes:

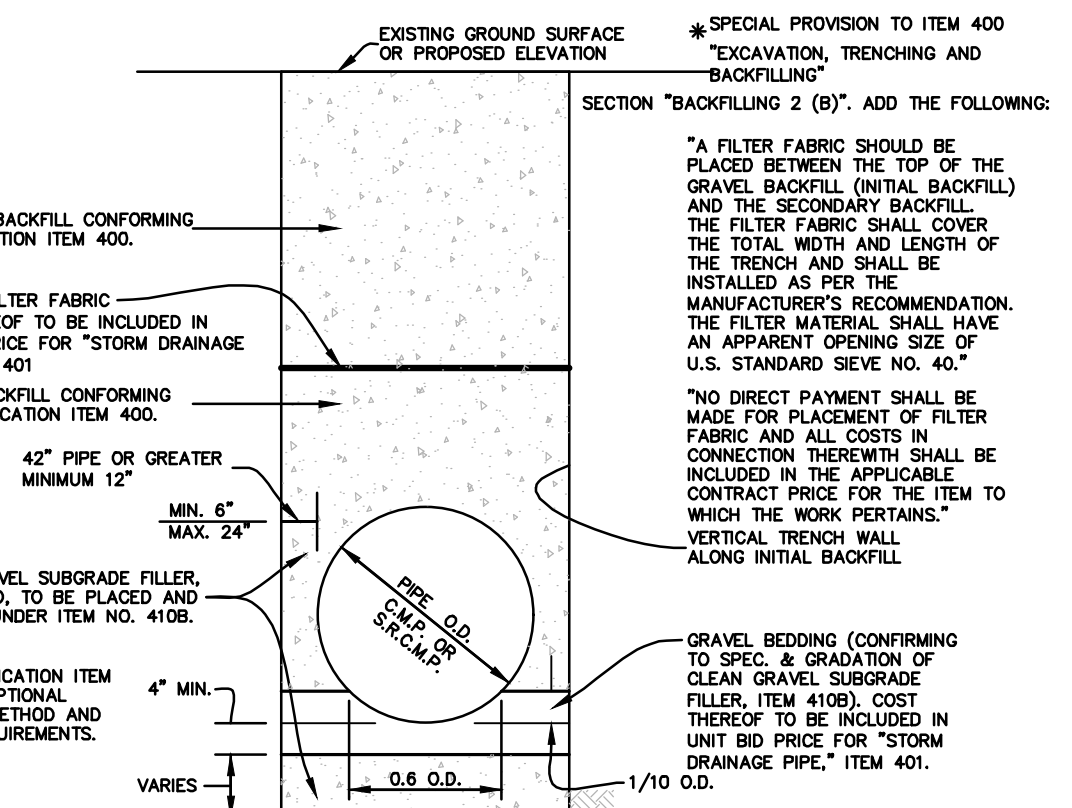
| Width: | 4.0 ft (1.2 m) | 8.0 ft (2.4 m) | 16.0 ft (4.9 m) |
|---------|---|--|---|
| Length: | 112.5 ft (34.29 m) | 112.5 ft (34.29 m) | 112.5 ft (34.29 m) |
| Area: | 50.0 yd ² (43.8 m ²) | 100.0 yd ² (87.6 m ²) | 200.0 yd ² (175.2 m ²) |
| Weight: | 36.5 lb (16.6 kg) | 73.0 lb (33.1 kg) | 146.0 lb (66.2 kg) |

Description:
Curlex I erosion control blanket (ECB) is a natural, stitched excelsior blanket that provides a temporary organic cover to reduce erosion, protect seeds, enhance germination, and hasten re-vegetation. Curlex I is furnished in rolls with polyethylene wrapping to protect against the elements prior to installation, and may be ordered in Master-Paks of fifteen rolls banded together to minimize material handling requirements. Curlex I is also available as QuickGRASS (green pigment). Curlex I shall be manufactured in the U.S.A.

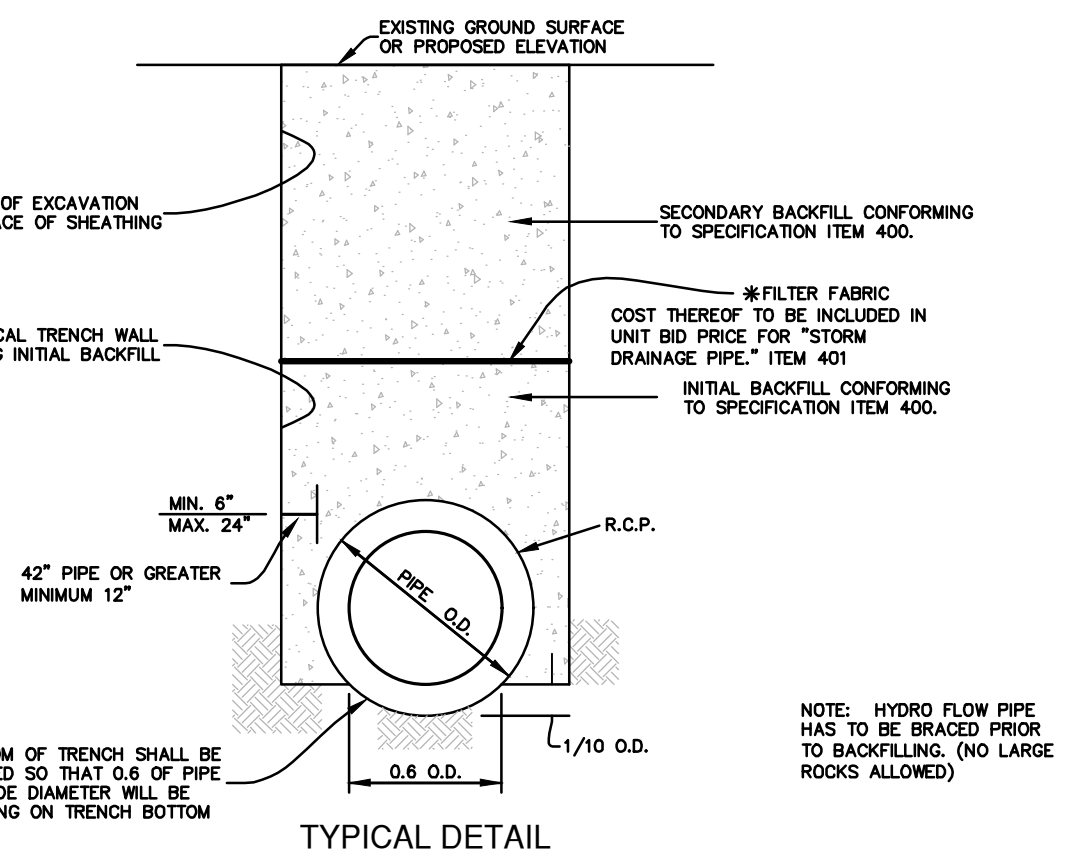
Physical Properties:
Fiber: Great Lakes Aspen (naturally seed free)
Curlex, interlocking fibers with barbed edges
Fiber Size: 80% of fibers a minimum of 6 in (15.2 cm) long
0.038 in ± 0.008 in wide x 0.018 in ± 0.003 in thick
(0.97 mm ± 0.20 mm wide x 0.46 mm ± 0.08 mm thick)
Weight: 0.73 lb/yd² (0.40 kg/m²) ± 10% @ 25% Moisture
Thread Pattern: No more than 4.0 in (10.2 cm) transverse stitch spacing
Net Material: Polypropylene (green with oxo-biodegradable and UV degradable additives or white with UV degradable additive)
Net Openings: 1.0 in wide x 2.0 in long (25.4 mm wide x 50.8 mm long)
Net Configuration: Top side only

*Weight is based on a dry fiber weight basis at time of manufacture. Baseline moisture content of Great Lakes Aspen excelsior is 22%.

850 Avenue H East | Arlington, Texas 76011
Phone 1-800-777-SOIL | Fax 817-385-3585 | www.Curlex.com
W0315R1116



TYPICAL DETAIL FOR C.M.P. AND S.R.C.M.P.



TYPICAL DETAIL

PIPE BEDDING AND BACKFILL DETAILS

Oldcastle Precast Water

3'-0" x 4'-0" I.D. Junction Box Model JB-330

Roof Slab
Weight - See Table
Staple - See Table

Body
Weight - See Table
Staple - See Table

Bottom Section
Weight - See Table
Staple - See Table

GENERAL NOTES:
1. Different Height of Extensions and Bodies are Available by Request.
2. Frame and Cover Also Available.

SPECIFICATIONS:
1. Concrete has a design strength of 8000 psi.
2. Steel reinforcement: ASTM A-615 Grade 60 or ASTM A-615 Welded wire fabric.
3. Loading: Designed for HD Loading.
4. C.I. Castings: ASTM A-8, Class 305.

Oldcastle Precast Water

4'-0" x 4'-0" I.D. Junction Box Model JB-440

Roof Slab
Weight - 2,200 Lbs.
Staple - 1206240

Body
Weight - See Table
Staple - See Table

Bottom Section
Weight - See Table
Staple - See Table

GENERAL NOTES:
1. Different Height of Bodies are Available by Request.
2. Frame and Cover Also Available.

SPECIFICATIONS:
1. Concrete has a design strength of 8000 psi.
2. Steel reinforcement: ASTM A-615 Grade 60 or ASTM A-615 Welded wire fabric.
3. Loading: Designed for HD Loading.
4. C.I. Castings: ASTM A-8, Class 305.

Capital Precast, Inc.

4' x 4' var Grate Inlet

Top Section: 11-20 galvanized grate or as required

Bottom Section: 48" dia thruwall knockouts all four sides

Approximate weight of base: 5,900 lbs

Specifications:
- Concrete has a 28 day strength of 5,000 psi
- Steel reinforcement is ASTM A615 grade 60
- Load design in H-20

Notes:
- Consult manufacturer before handling

Capital Precast, Inc.

3' x 3' var Grate Inlet

Top Section: cast iron frame and grate or as required

Bottom Section: 36" dia thruwall knockouts all four sides

Approximate weight of base: 4,100 lbs

Specifications:
- Concrete has a 28 day strength of 5,000 psi
- Steel reinforcement is ASTM A615 grade 60
- Load design in H-20

Notes:
- Consult manufacturer before handling

| NO. | REVISION | DATE |
|-----|----------|------|
| | | |

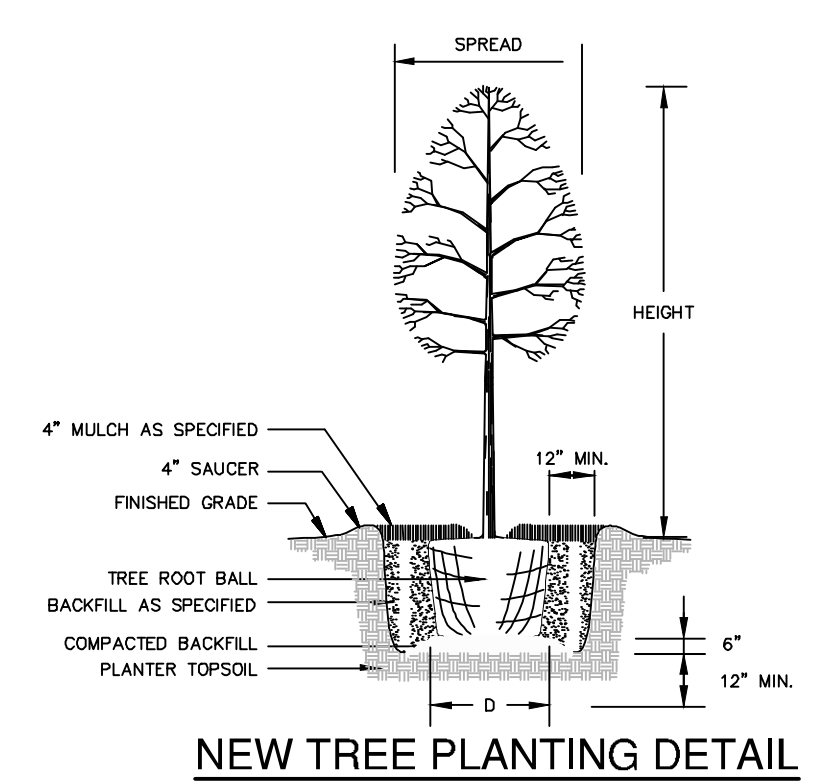
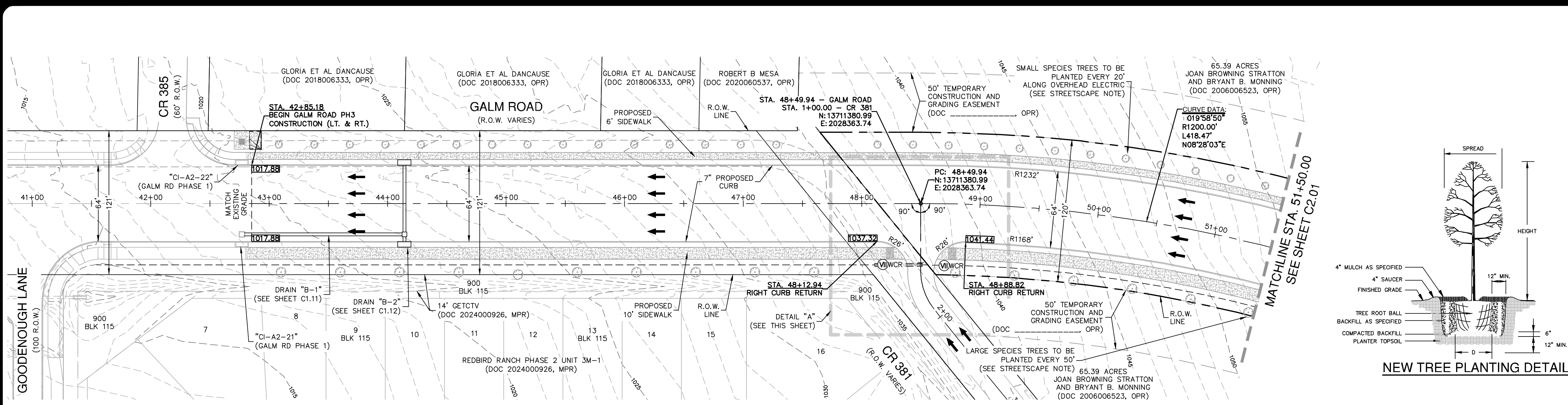


PAPE-DAWSON
1672 INDEPENDENCE DR. STE 102 | NEW BRUNNELL, TX 76133 | 817.621.5633
TEXAS SURVEYING FIRM #470 | TEXAS SURVEYING FIRM # 10028800

GALM ROAD PHASE 3
SAN ANTONIO, TEXAS
DRAINAGE DETAILS

| | |
|----------|--------------|
| PLAT NO. | N/A |
| JOB NO. | 30004-41 |
| DATE | OCTOBER 2025 |
| DESIGNER | GDL |
| CHECKED | DRAWN CA |
| SHEET | C1.20 |

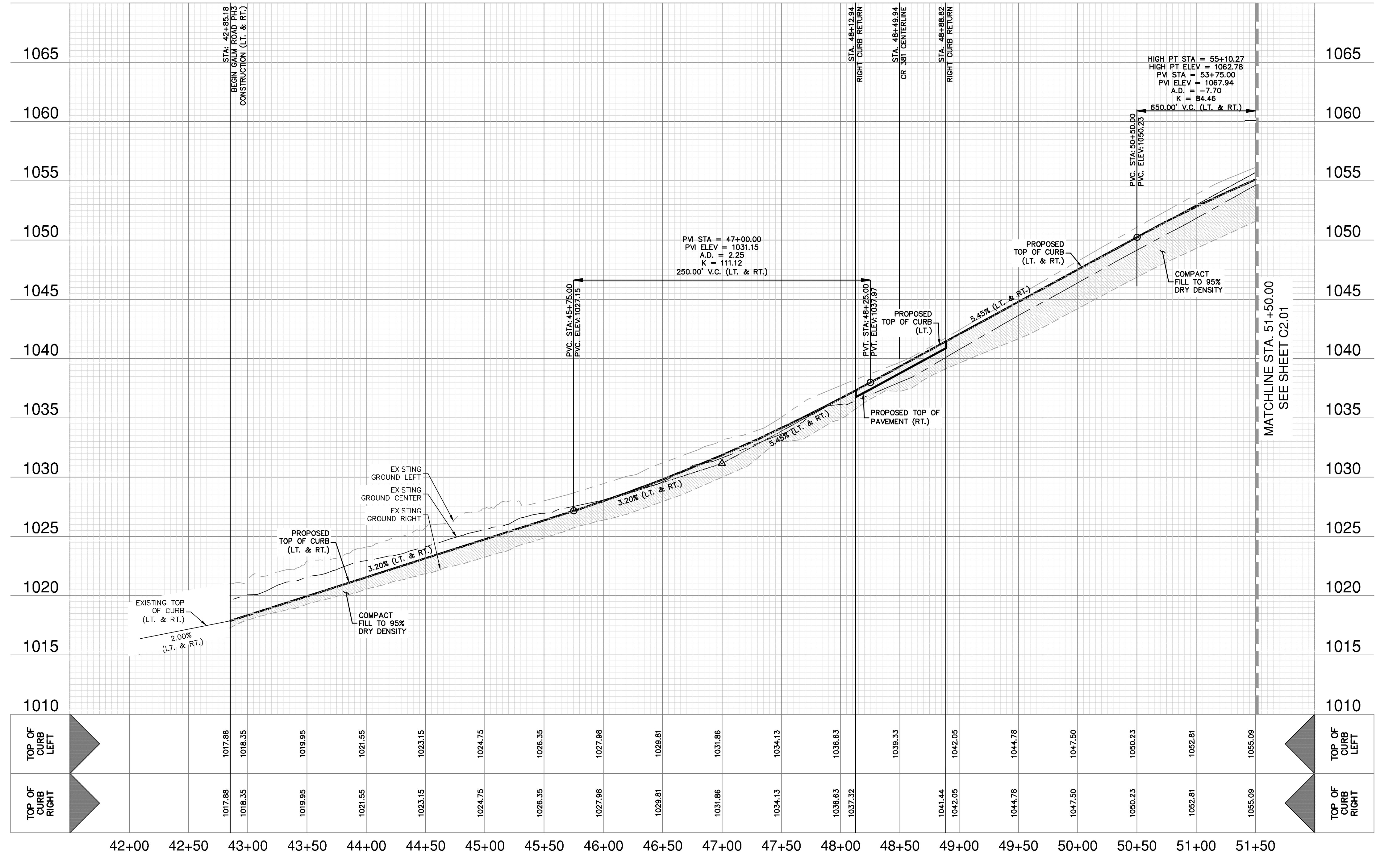
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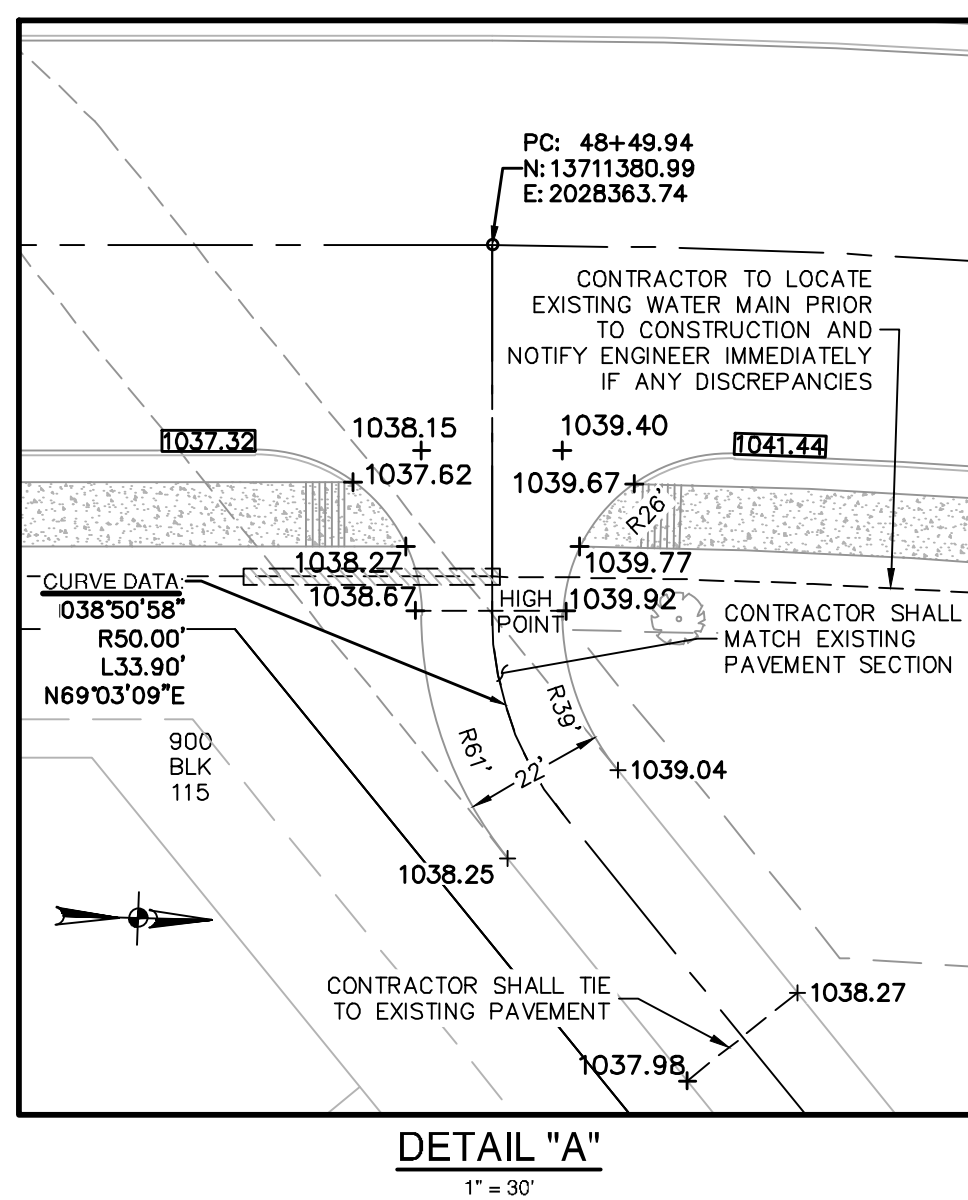
STREET LEGEND

| | |
|--|-------------|
| PROJECT LIMITS | --- |
| MAINTAIN GUTTER | → |
| EXISTING CONTOUR | 970 |
| WHEELCHAIR RAMP | ⊗WCR |
| CENTERLINE | CL |
| RADIUS POINT | RP |
| POINT OF CURVATURE | PC |
| POINT OF TANGENCY | PT |
| RETURN | RET |
| DRAINAGE FLOW ARROW | → |
| TOP OF CURB SPOT ELEVATION | 857.30 |
| PAVEMENT ELEVATION | 857.00(P) x |
| WASHOUT CROWN SECTION | --- |
| SIDEWALK (SEE SHEETS C3.00 & C3.01 FOR DEVELOPER/HOMEBUILDER RESPONSIBILITY) | --- |
| DRIVEWAY | --- |
| GAS, ELECTRIC, TELEPHONE & CABLE TELEVISION EASEMENT | GETCTV |
| BOUNDARY | --- |

GALM ROAD
STA. 42+85.18 TO 51+50.00
VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



- ### STREETSCAPE TREE PLANTING NOTES:
- LARGE TREES (PER UDC) TO BE PLANTED EVERY 50 FEET ALONG GALM ROAD, PER DETAIL THIS SHEET.
 - SPECIES OF TREES TO BE DETERMINED BY DEVELOPER'S PROJECT LANDSCAPE ARCHITECT TO CONFORM WITH THE STREETSCAPE PLANTING STANDARDS.
 - DEVELOPER TO PROVIDE IRRIGATION ON PLANTED STREET TREES FOR A MINIMUM OF 3 YEARS.
 - ALL LANDSCAPING SHALL COMPLY WITH THE CLEAR VISION AREAS DEFINED BY THE LATEST VERSION OF AASHTO'S "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS."
 - TYPES OF TREES AND SPACING ARE BASED ON UNDERGROUND ELECTRIC, IF OVERHEAD ELECTRIC IS REQUIRED BY CPS, PLANS WILL BE REVISED TO REFLECT CHANGES IN SIZE, TYPE, AND SPACING OF TREES, PER THE UDC.



- ### STREET NOTES:
- A MEDINA COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN MEDINA COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
 - CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE-IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
 - SIDEWALKS SHALL BE CONSTRUCTED 3'-FT FROM THE BACK OF CURB FOR ALL LOCATIONS WHERE THE SIDEWALK IS SHOWN OFFSET. REFER TO STREET DETAIL SHEET FOR SIDEWALK AND RAMP DETAILS.
 - NO PERMANENT STRUCTURES HIGHER THAN 3 FEET, AND LOWER THAN 8 FEET ABOVE THE PAVEMENT, INCLUDING STRUCTURES, WALLS, FENCES, AND VEGETATION, SHALL BE CONSTRUCTED OR ALLOWED WITHIN THE CLEAR VISION EASEMENT. CONTRACTOR SHALL GRADE AREAS WITHIN CLEAR VISION EASEMENTS SUCH THAT THE ELEVATION WITHIN THE CLEAR VISION EASEMENT IS NOT HIGHER THAN 3 FEET ABOVE THE ADJACENT TOP OF PAVEMENT.
 - DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.
 - CHANGES IN THE SIDEWALK LOCATION FOR A MAXIMUM LINEAR DISTANCE OF TWO HUNDRED (200) FEET ARE PERMITTED TO BE APPROVED BY THE FIELD INSPECTOR WITHOUT AMENDING THE STREET PLAN OR UTILITY LAYOUT PER UDC SECTION 35-506 (0)(6).

DATE: _____

NO. REVISION: _____

JOCELYN PEREZ
Professional Engineer
No. 98367
State of Texas

PAPE-DAWSON
1972 INDEPENDENCE DR. STE 102 | NEW BRUNNELL, TX 78132 | 832.632.5633
TEXAS SURVEYING FIRM #10228800

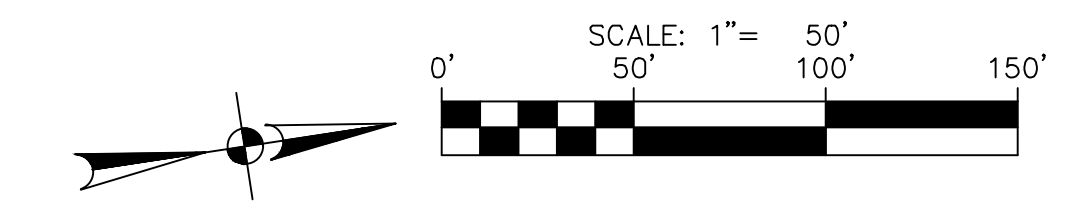
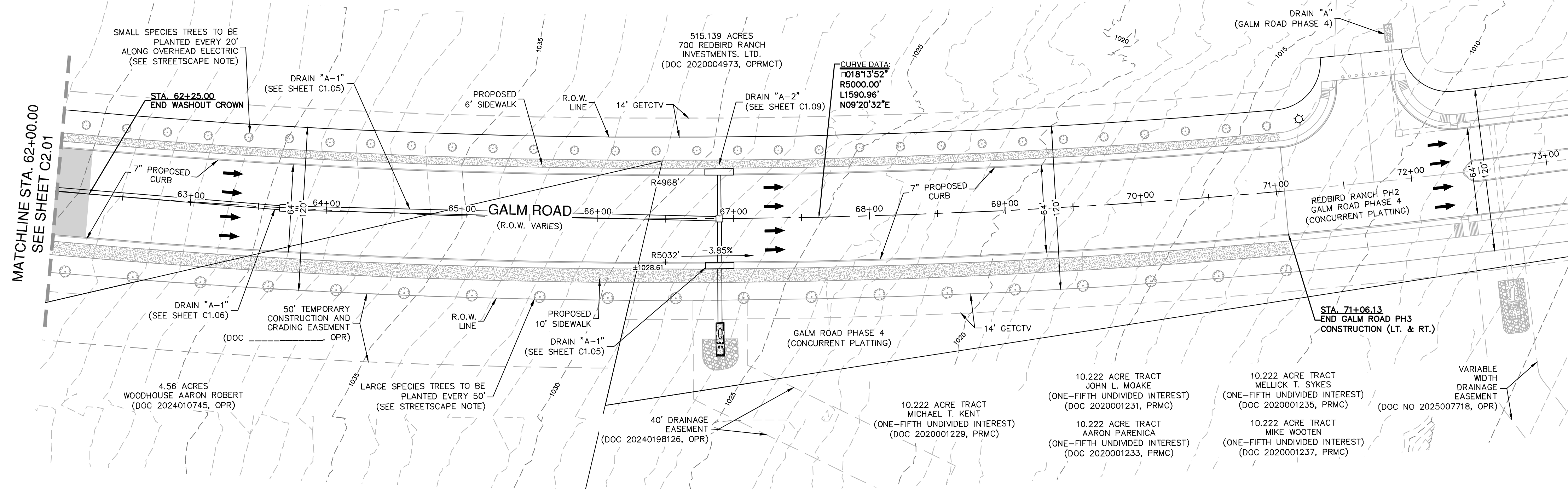
GALM ROAD PHASE 3
SAN ANTONIO, TEXAS
GALM ROAD - PLAN & PROFILE
STA. 42+85.18 TO 51+50.00

PLAT NO. N/A
JOB NO. 30004-41
DATE OCTOBER 2025
DESIGNER GDL
CHECKED DRAWN CA
SHEET C2.00

Date: Dec 18, 2025, 3:36pm, User ID: jper, File: P:\300\041\Design\Civil\ST-GALM ROAD-30004-41.dwg

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FOR PERMIT

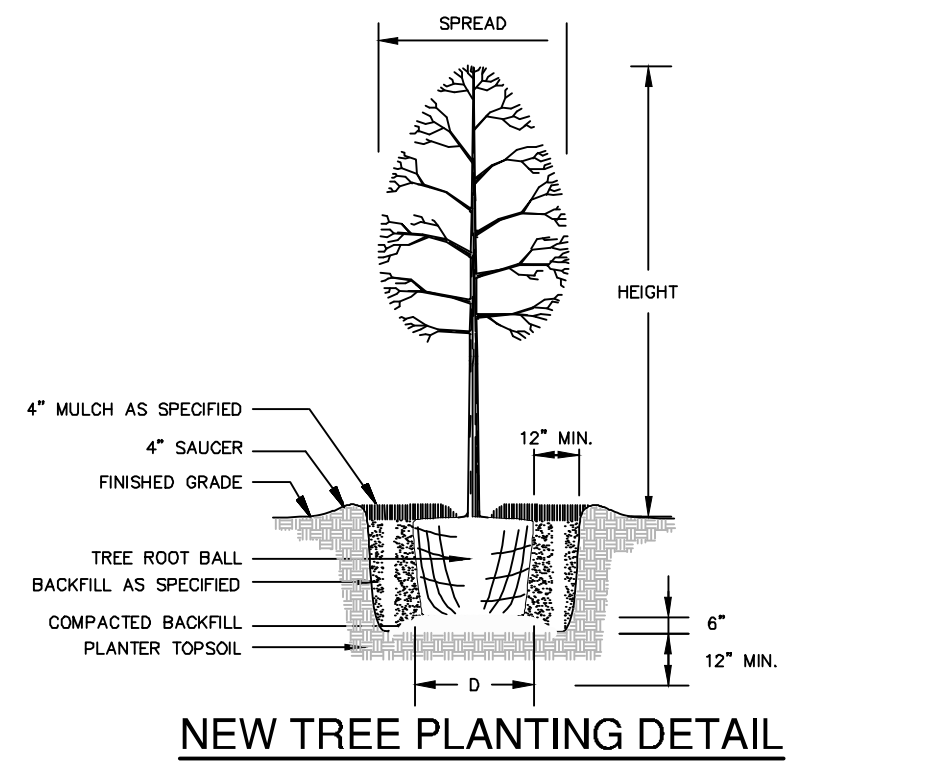


STREET LEGEND

| | |
|--|-------------|
| PROJECT LIMITS | --- |
| MAINTAIN GUTTER | → |
| EXISTING CONTOUR | --- |
| WHEELCHAIR RAMP | ⊗WCR |
| CENTERLINE | CL |
| RADIUS POINT | RP |
| POINT OF CURVATURE | PC |
| POINT OF TANGENCY | PT |
| RETURN | RET |
| DRAINAGE FLOW ARROW | → |
| TOP OF CURB SPOT ELEVATION | 857.30 |
| PAVEMENT ELEVATION | 857.00(P) x |
| WASHOUT CROWN SECTION | --- |
| SIDEWALK (SEE SHEETS C3.00 & C3.01 FOR DEVELOPER/HOMEBUILDER RESPONSIBILITY) | --- |
| DRIVEWAY | --- |
| GAS, ELECTRIC, TELEPHONE & CABLE TELEVISION EASEMENT | GETCTV |
| BOUNDARY | --- |

STREETSCAPE TREE PLANTING NOTES:

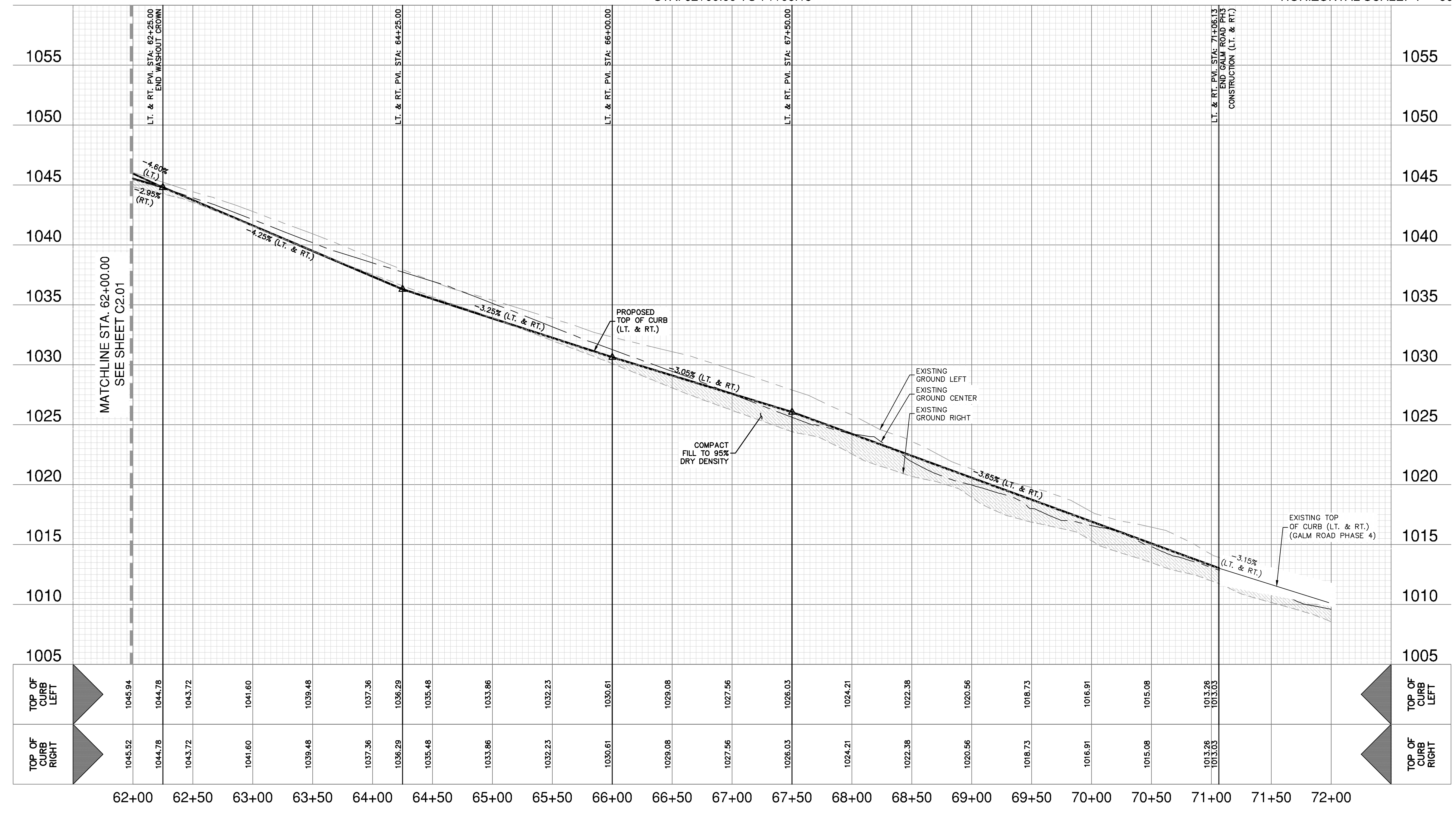
- 1. SPECIES OF TREES TO BE DETERMINED BY DEVELOPER'S PROJECT LANDSCAPE ARCHITECT TO CONFORM WITH THE STREETSCAPE PLANTING STANDARDS.
- 2. DEVELOPER TO PROVIDE IRRIGATION ON PLANTED STREET TREES FOR A MINIMUM OF 3 YEARS.
- 3. ALL LANDSCAPING SHALL COMPLY WITH THE CLEAR VISION AREAS DEFINED BY THE LATEST VERSION OF AASHTO'S "A" POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS."
- 4. TYPES OF TREES AND SPACING ARE BASED ON UNDERGROUND UTILITIES. IF OVERHEAD ELECTRIC IS REQUIRED BY OPS, PLANS WILL BE REVISED TO REFLECT CHANGES IN SIZE, TYPE, AND SPACING OF TREES, PER THE UDC.



STREET NOTES:

- 1. A MEDINA COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN MEDINA COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
- 2. CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE-IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
- 3. SIDEWALKS SHALL BE CONSTRUCTED 3'-FT FROM THE BACK OF CURB FOR ALL LOCATIONS WHERE THE SIDEWALK IS SHOWN OFFSET. REFER TO STREET DETAIL SHEET FOR SIDEWALK AND RAMP DETAILS.
- 4. NO PERMANENT STRUCTURES HIGHER THAN 3 FEET, AND LOWER THAN 8 FEET ABOVE THE PAVEMENT, INCLUDING STRUCTURES, WALLS, FENCES, AND VEGETATION, SHALL BE CONSTRUCTED OR ALLOWED WITHIN THE CLEAR VISION EASEMENT. CONTRACTOR SHALL GRADE AREAS WITHIN CLEAR VISION EASEMENTS SUCH THAT THE ELEVATION WITHIN THE CLEAR VISION EASEMENT IS NOT HIGHER THAN 3 FEET ABOVE THE ADJACENT TOP OF PAVEMENT.
- 5. DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.
- 6. CHANGES IN THE SIDEWALK LOCATION FOR A MAXIMUM LINEAR DISTANCE OF TWO HUNDRED (200) FEET ARE PERMITTED TO BE APPROVED BY THE FIELD INSPECTOR WITHOUT AMENDING THE STREET PLAN OR UTILITY LAYOUT PER UDC SECTION 35-506 (0)(6).

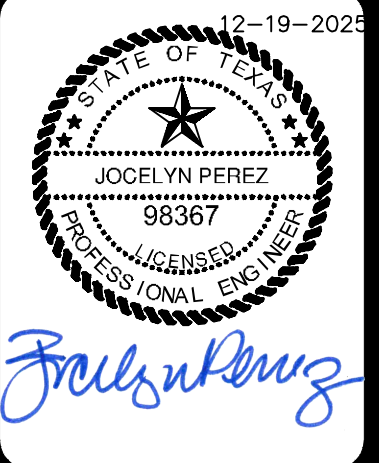
GALM ROAD
STA. 62+00.00 TO 71+06.13
VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



Date: Dec 18, 2025, 3:36pm User ID: jpry File: P:\300\041\Design\Civil\ST-GALM ROAD-30004-41.dwg

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| DATE | |
| NO. | |
| REVISION | |

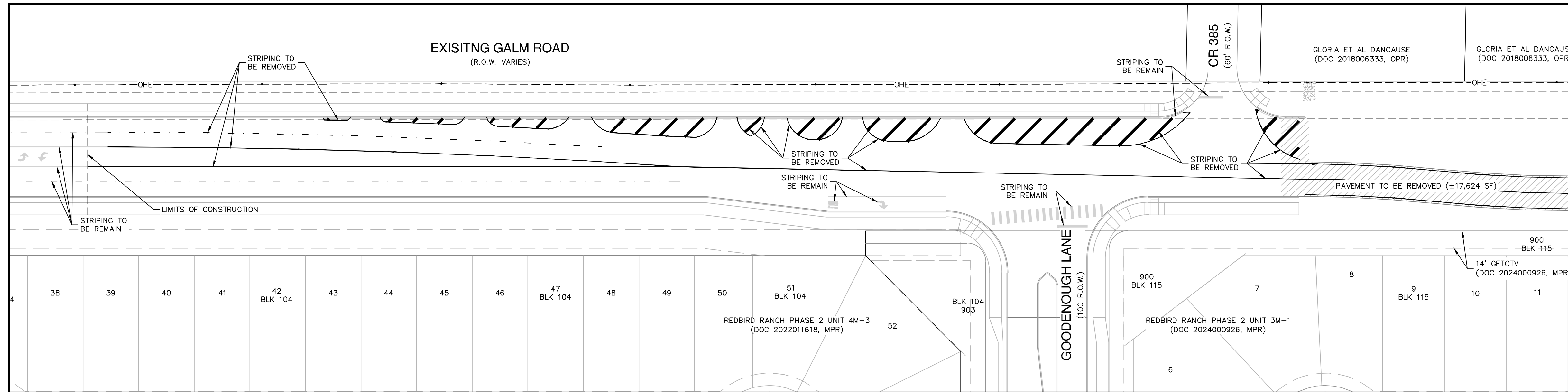


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TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

GALM ROAD PHASE 3
SAN ANTONIO, TEXAS
GALM ROAD - PLAN & PROFILE
STA. 62+00.00 TO 71+06.13

| | |
|----------|--------------|
| PLAT NO. | N/A |
| JOB NO. | 30004-41 |
| DATE | OCTOBER 2025 |
| DESIGNER | GDL |
| CHECKED | DRAWN CA |
| SHEET | C2.02 |

FOR PERMIT



EXISTING CONDITIONS & DEMOLITION PLAN
1" = 50'



STREET LEGEND

| | |
|--|-------------|
| PROJECT LIMITS | → → → → |
| MAINTAIN GUTTER | → → → → |
| EXISTING CONTOUR | ----- 970 |
| WHEELCHAIR RAMP | ⊠WCR |
| CENTERLINE | CL |
| RADIUS POINT | RP |
| POINT OF CURVATURE | PC |
| POINT OF TANGENCY | PT |
| RETURN | RET |
| DRAINAGE FLOW ARROW | → |
| TOP OF CURB SPOT ELEVATION | 857.30 |
| PAVEMENT ELEVATION | 857.00(P) x |
| WASHOUT CROWN SECTION | ----- |
| SIDEWALK (SEE SHEETS C3.00 & C3.01 FOR DEVELOPER/HOMEBUILDER RESPONSIBILITY) | ----- |
| DRIVEWAY | ----- |
| GAS, ELECTRIC, TELEPHONE & CABLE TELEVISION EASEMENT | GETCTV |
| EXISTING PAVEMENT TO BE REMOVED | ----- |

MATCHLINE
SEE THIS SHEET

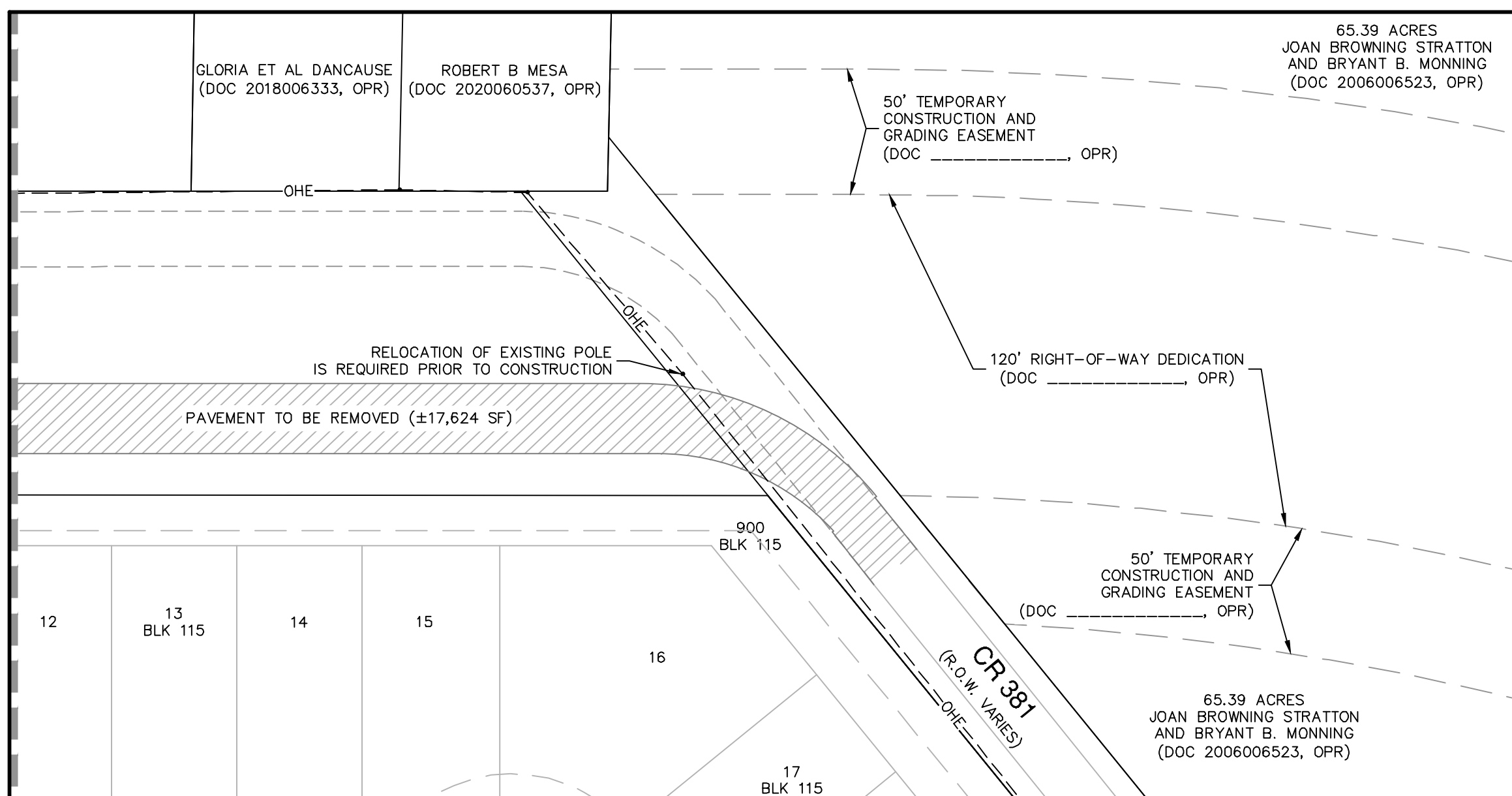
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NO. REVISION: _____

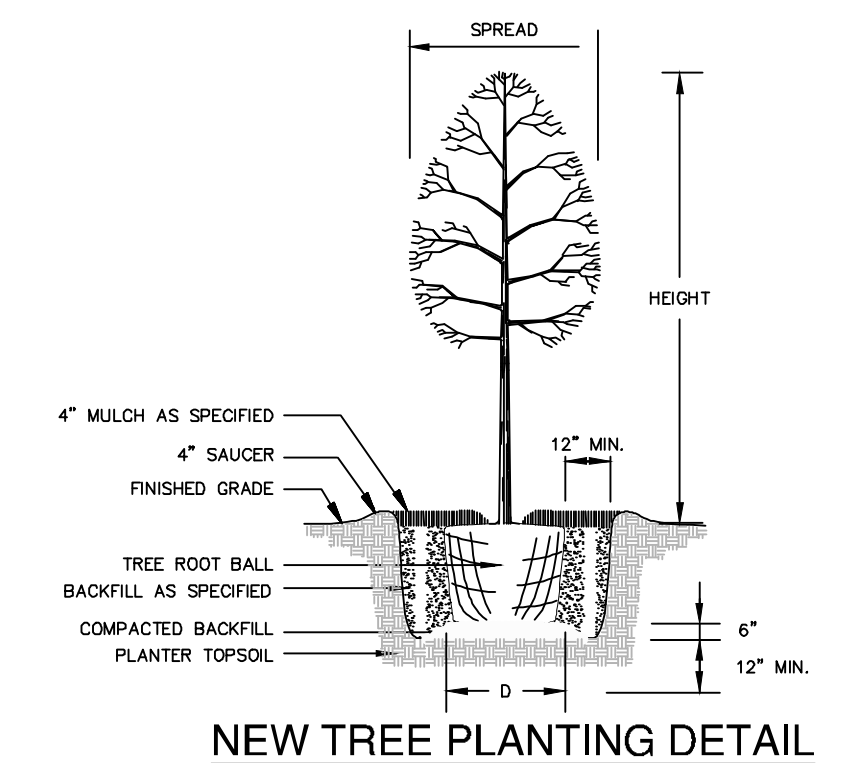
Jocelyn Perez
Professional Engineer

PAPE-DAWSON
1972 INDEPENDENCE DR. STE 102 | NEW BRUNNELL, TX 76132 | 630.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

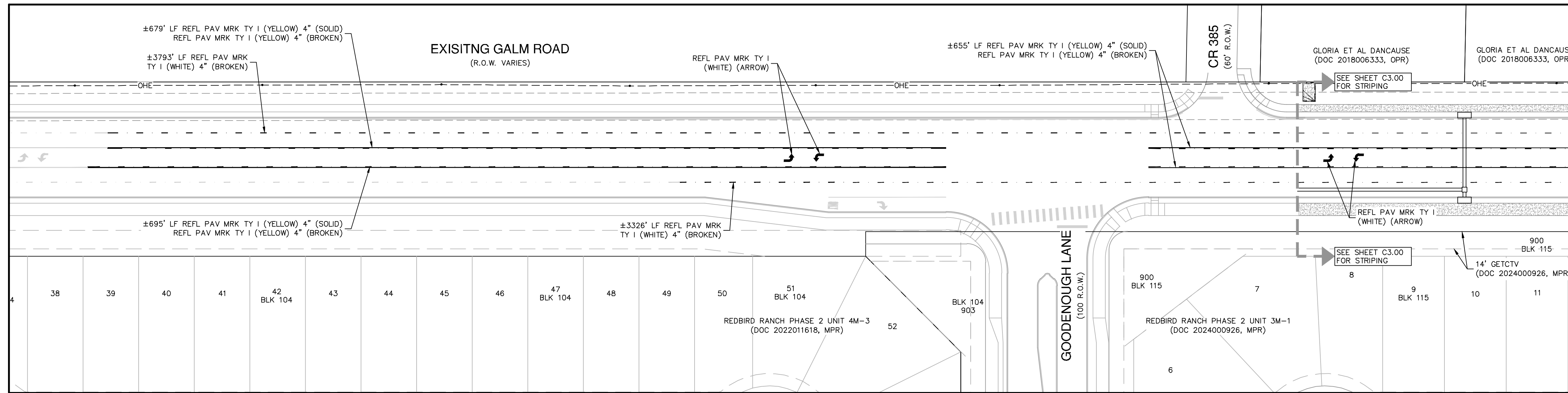
GALM ROAD PHASE 3
SAN ANTONIO, TEXAS
DEMOLITION & RESTRIPING PLAN



EXISTING CONDITIONS & DEMOLITION PLAN
1" = 50'



NEW TREE PLANTING DETAIL



PROPOSED STRIPING PLAN
1" = 50'

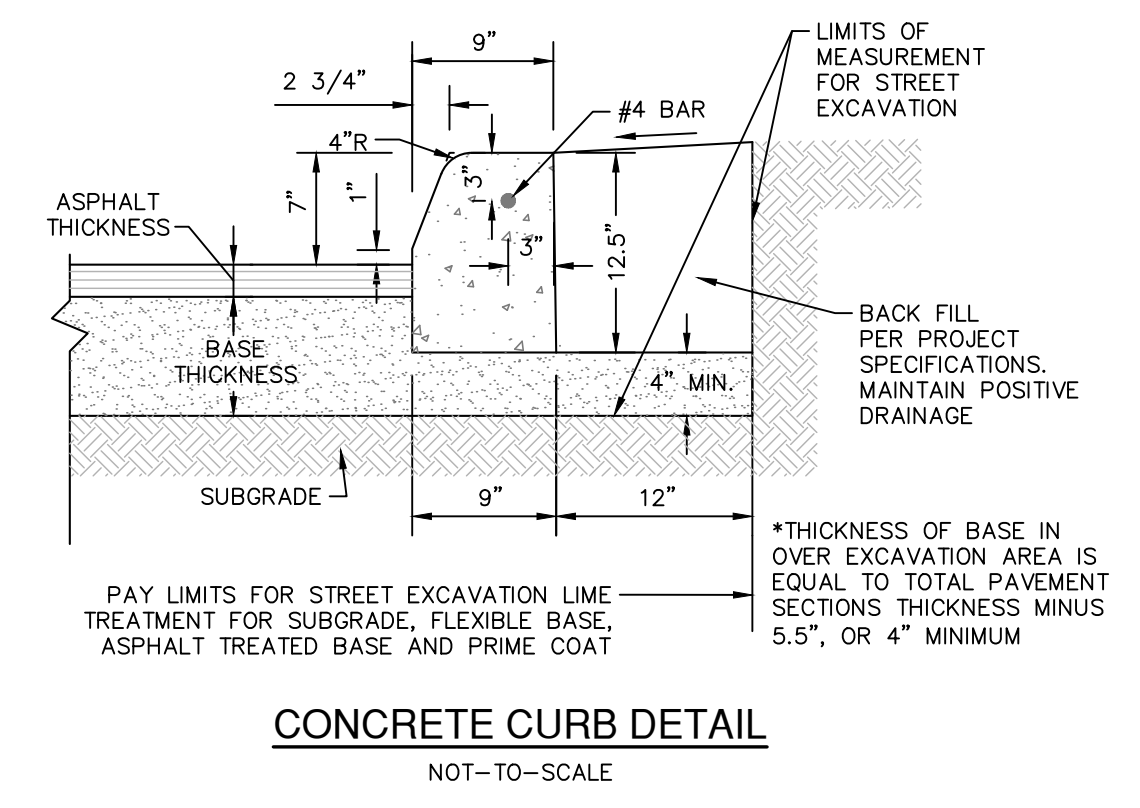
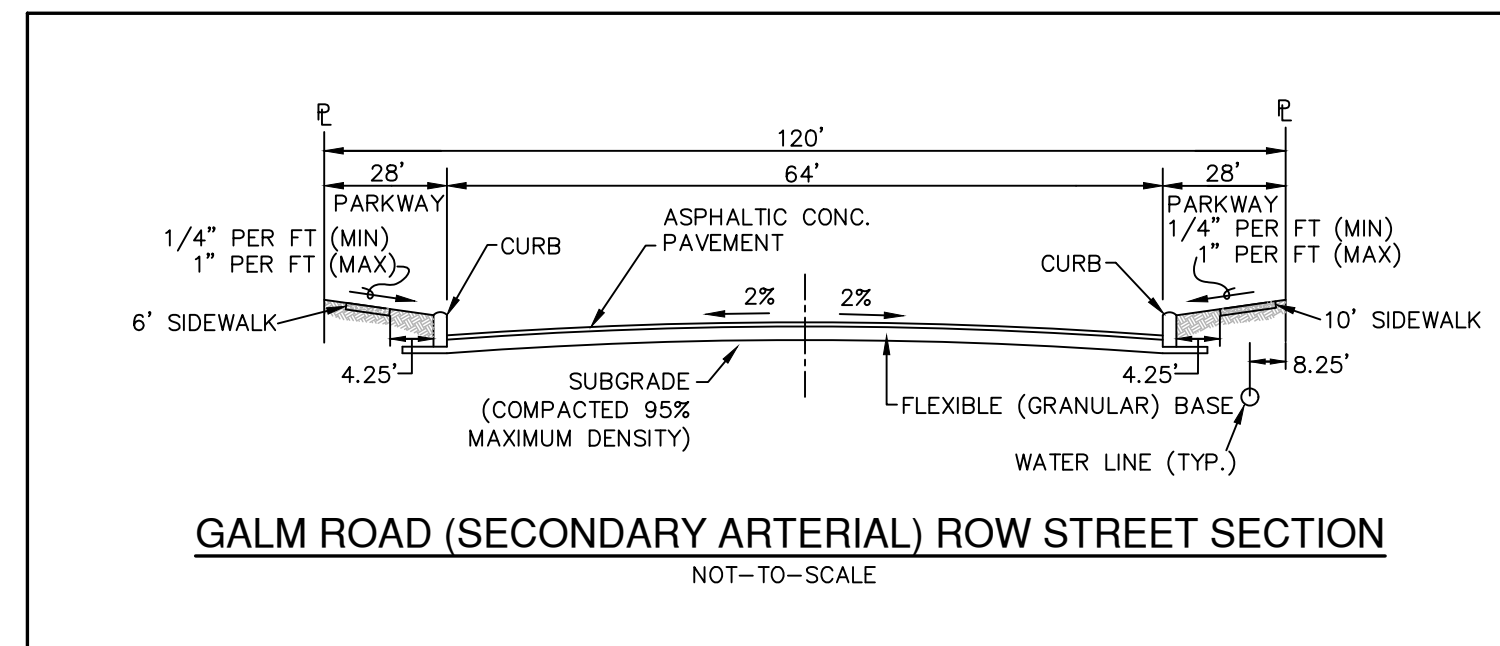
STREET NOTES:

- A MEDINA COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN MEDINA COUNTY ROW. CONTRACTOR SHALL COORDINATE A TRAFFIC CONTROL PLAN FOR ALL WORK WITHIN THE ROW. ADDITIONAL WARNING SIGNS MAY BE RECOMMENDED BY THE ENGINEER ONCE THE ROADWAYS ARE CONSTRUCTED.
- CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE-IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
- SIDEWALKS SHALL BE CONSTRUCTED 3'-FT FROM THE BACK OF CURB FOR ALL LOCATIONS WHERE THE SIDEWALK IS SHOWN OFFSET. REFER TO STREET DETAIL SHEET FOR SIDEWALK AND RAMP DETAILS.
- NO PERMANENT STRUCTURES HIGHER THAN 3 FEET, AND LOWER THAN 8 FEET ABOVE THE PAVEMENT, INCLUDING STRUCTURES, WALLS, FENCES, AND VEGETATION, SHALL BE CONSTRUCTED OR ALLOWED WITHIN THE CLEAR VISION EASEMENT. CONTRACTOR SHALL GRADE AREAS WITHIN THE CLEAR VISION EASEMENT SUCH THAT THE ELEVATION WITHIN THE CLEAR VISION EASEMENT IS NOT HIGHER THAN 3 FEET ABOVE THE ADJACENT TOP OF PAVEMENT.
- DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.
- CHANGES IN THE SIDEWALK LOCATION FOR A MAXIMUM LINEAR DISTANCE OF TWO HUNDRED (200) FEET ARE PERMITTED TO BE APPROVED BY THE FIELD INSPECTOR WITHOUT AMENDING THE STREET PLAN OR UTILITY LAYOUT PER UDC SECTION 35-506 (Q)(6).

| | |
|----------|--------------|
| PLAT NO. | N/A |
| JOB NO. | 30004-41 |
| DATE | OCTOBER 2025 |
| DESIGNER | GDL |
| CHECKED | DRAWN CA |
| SHEET | C2.03 |

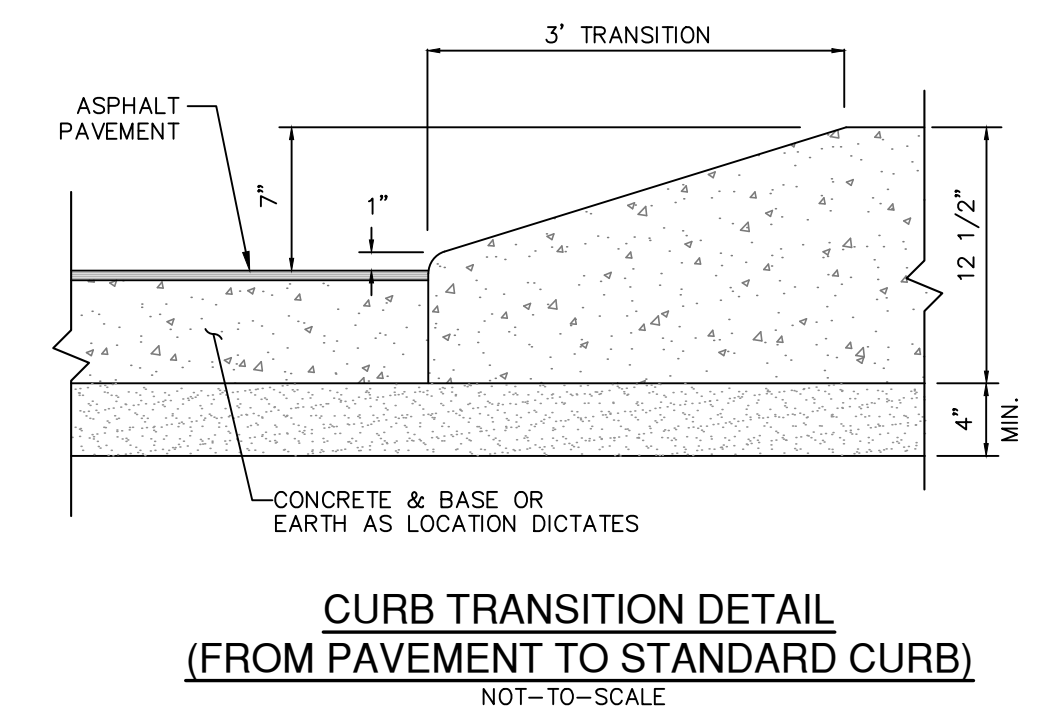
Date: Dec 18, 2025, 3:36pm, User ID: jpry, File: P:\300\041\Design\Civil\DM-GALM-ROAD-30004-41.dwg

FOR PERMIT



| PAVEMENT SECTION DETAIL | | | | | | | | | |
|-------------------------|--------------------------|---------------|---------------|----------------|------------------|----------------------------|-----|--|------|
| STREET NAME | STATION | TYPE "D" HMAC | TYPE "C" HMAC | AGGREGATE BASE | TREATED SUBGRADE | GEOGRID (TENSAR TRIAX TX5) | CBR | STRUCTURAL NUMBER | |
| GALM ROAD | STA 42+85.18 TO 71+06.13 | 2" | 2" | 22.5" | 8" | NO | 2.5 | 4(.44) = 1.76 22.5(.14) = 3.15 8(.08) = 0.64 | 5.55 |

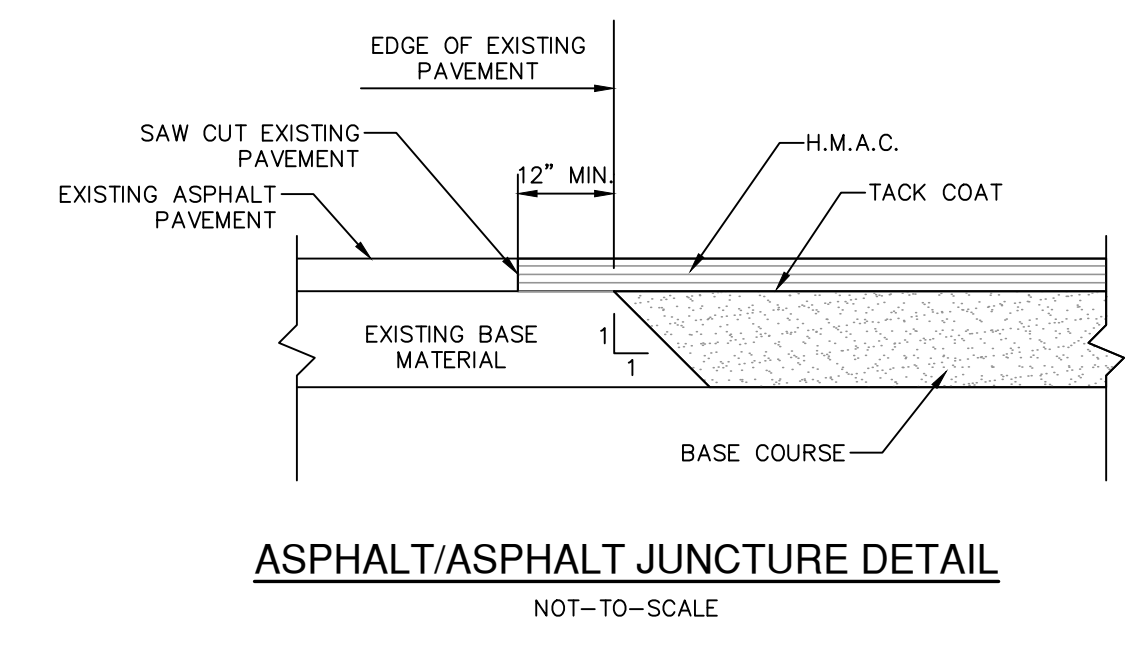
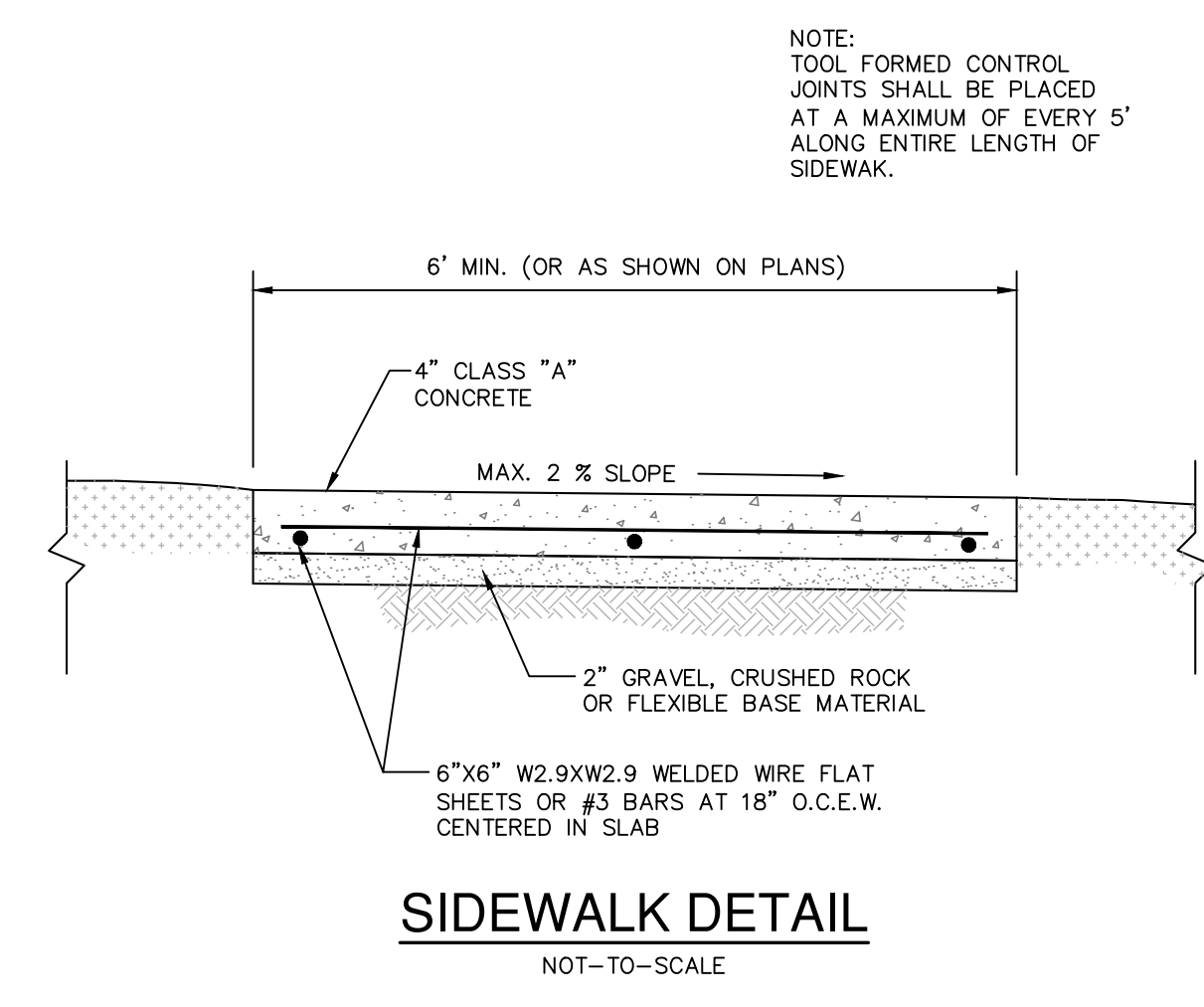
*SEE SUBGRADE NOTES



- GENERAL NOTES:**
- CONTRACTOR SHALL REFERENCE THE PROJECT PAVEMENT DESIGN REPORT PREPARED BY **INTEC OF SAN ANTONIO, LP** DATED **MAY 1, 2024**.
 - CONTRACTOR SHALL RETAIN A GEOTECHNICAL ENGINEER TO VERIFY THE SUB GRADE CONDITION PRIOR TO PLACING ANY BASE MATERIAL. GEOTECHNICAL ENGINEER SHALL DETERMINE THE SUB GRADE CONDITION AND IF LIME STABILIZATION IS REQUIRED.
 - GEOTECHNICAL ENGINEER SHOULD VERIFY THE STREET SUBGRADE AT THE TIME OF CONSTRUCTION PRIOR TO PLACEMENT OF AGGREGATE BASE.
 - THE FLEXIBLE BASE COURSE SHOULD BE CRUSHED LESTONE CONFORMING TO TXDOT STANDARD SPECIFICATIONS, ITEM 247, TYPE A, GRADES 1 OR 2.
 - THE MOISTURE CONTENT OF THE FILL SHOULD BE MAINTAINED WITHIN THE RANGE OF OPTIMUM WATER CONTENT TO 3 PERCENTAGE POINTS ABOVE THE OPTIMUM WATER CONTENT UNTIL PERMANENTLY COVERED.
 - WHERE PAVEMENT SUBGRADE IS LOCATED WITHIN 2- FEET OF THE EXISTING GROUND SURFACE (STRATUM 1 CLAYS), MOISTURE CONDITIONED SUBGRADE WILL BE REQUIRED. GEOTECHNICAL ENGINEER SHOULD VERIFY THE STREET SUBGRADE AT THE TIME OF CONSTRUCTION PRIOR TO PLACEMENT OF AGGREGATE BASE TO DETERMINE WHERE THE MOISTURE CONDITIONED SUBGRADE IS NEEDED. REFERENCE GEOTECHNICAL ENGINEERING REPORT FOR MORE INFORMATION.
 - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL MATERIAL TESTING WITH THE PROJECT GEOTECHNICAL ENGINEER. TESTING SHALL BE PAID FOR BY THE OWNER.
 - FILL MATERIAL SHOULD BE NATIVE ON-SITE MATERIAL, FREE OF DELETERIOUS MATERIAL WITH A MINIMUM CBR VALUE OF 2.5 AND A PI WITHIN RANGE OF 60 OR LESS. THE GRAVEL SIZE SHOULD NOT EXCEED 3 INCHES IN DIAMETER. LIME OR CEMENT APPLICATION RATES SHOULD BE RE-EVALUATED FOR THE FILL MATERIAL. THE MATERIAL SHOULD BE PLACED AS PER APPLICABLE CITY OR COUNTY GUIDELINES. CONTRACTOR TO VERIFY EXACT SPECIFICATIONS WITH PROJECT GEOTECHNICAL ENGINEERING REPORT.

- STREET SUBGRADE NOTES:**
- IF THE STREET SUBGRADE PLASTICITY INDEX VALUE IS GREATER THAN 20, SUBGRADE STABILIZATION IS NEEDED AS PER CITY OF SAN ANTONIO REQUIREMENTS.
 - IF THE SUBGRADE PLASTICITY INDEX VALUE IS 20 OR LESS, SUBGRADE STABILIZATION IS NOT NEEDED. THE SUBGRADE SHOULD BE MOISTURE CONDITIONED (COMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AT A MINIMUM MOISTURE CONTENT OF OPTIMUM PLUS 2 PERCENT (TEX114E)).
 - THE SUBGRADE SHOULD BE STABILIZED USING 7.5 PERCENT LIME TO A DEPTH OF 6 OR 8 INCHES AS NOTED ABOVE.
 - THE SUBGRADE SOILS SHOULD BE TESTED FOR SOIL SULFATE CONTENT PRIOR TO STABILIZATION. IF THE SOIL SULFATE CONTENT IS HIGH, AN ALTERNATE PROCEDURE / RECOMMENDATION WILL BE NEEDED.
 - LIME APPLICATION RATE OF 33 LBS PER SQ YARD FOR 6 INCH DEPTH OF STABILIZATION IS RECOMMENDED.
 - LIME APPLICATION RATE OF 44 LBS PER SQ YARD FOR 8 INCH DEPTH OF STABILIZATION IS RECOMMENDED.
 - APPROVED FILL MATERIAL SHOULD BE USED TO RAISE THE GRADE. THE FILL SHOULD BE FREE OF DELETERIOUS MATERIAL WITH A MINIMUM CBR VALUE OF 2.5. LIME APPLICATION RATES SHOULD BE RE-EVALUATED AND TESTED FOR SULFATE CONTENT PRIOR TO USE OF THE FILL MATERIAL. THE MATERIAL SHOULD BE PLACED AS PER APPLICABLE CITY OR COUNTY GUIDELINES.
 - THE SUBGRADE SHOULD BE PROOF ROLLED TO IDENTIFY SOFT AREAS BEFORE STABILIZATION.

- LIME NOTES:**
- FOR LIME STABILIZATION CONSTRUCTION VERIFICATION THE FOLLOWING SHALL BE CONDUCTED ON THE FIELD:
- AFTER INITIAL MIXING THE SOIL-LIME MIXTURE SHALL MELLOW FOR A PERIOD OF TWO TO THREE (2-3) DAYS. MAINTAIN MOISTURE DURING MELLOWING.
 - AFTER MELLOWING AND FINAL MIXING, THE PULVERIZATION SHALL BE CHECKED USING THE FOLLOWING CRITERIA (REMOVE NON-SLAKING AGGREGATES RETAINED ON THE 3/8 INCH SIEVE FROM THE SAMPLE):
 - MINIMUM PASSING 1/2" SIEVE 100
 - MINIMUM PASSING 3/8" SIEVE 85
 - MINIMUM PASSING NO. 4 SIEVE 80
 - SAMPLE SOIL-LIME MIXTURE FOR DETERMINATION OF MAXIMUM DRY DENSITY (MDD) IN THE LABORATORY. MOLD SPECIMENS TO 95% OF MDD AT OPTIMUM MOISTURE CONTENT AND VERIFY UCS TO BE AT LEAST 160 PSI IN ACCORDANCE WITH PROCEDURE OUTLINED IN THE BEXAR COUNTY FLEXIBLE PAVEMENT DESIGN CRITERIA GUIDE FOR MIXTURE DESIGN.
 - COMPACT AND CHECK FIELD DENSITY (MINIMUM OF 95% OF MDD REQUIRED).
 - CURE FOR AN ADDITIONAL 2 TO 5 DAYS (TOTAL MELLOWING AND CURING TIME SHOULD TOTAL AT LEAST 5 DAYS).
 - VERIFY DEPTH OF LIME STABILIZED LAYER TO DEPTH AS NOTED ON PLAN TO WITHIN +/- 1.0 INCH.



DATE: _____

NO. REVISION: _____

10-29-2025

STATE OF TEXAS
 JOCELYN PEREZ
 98367
 PROFESSIONAL ENGINEER
Jocelyn Perez

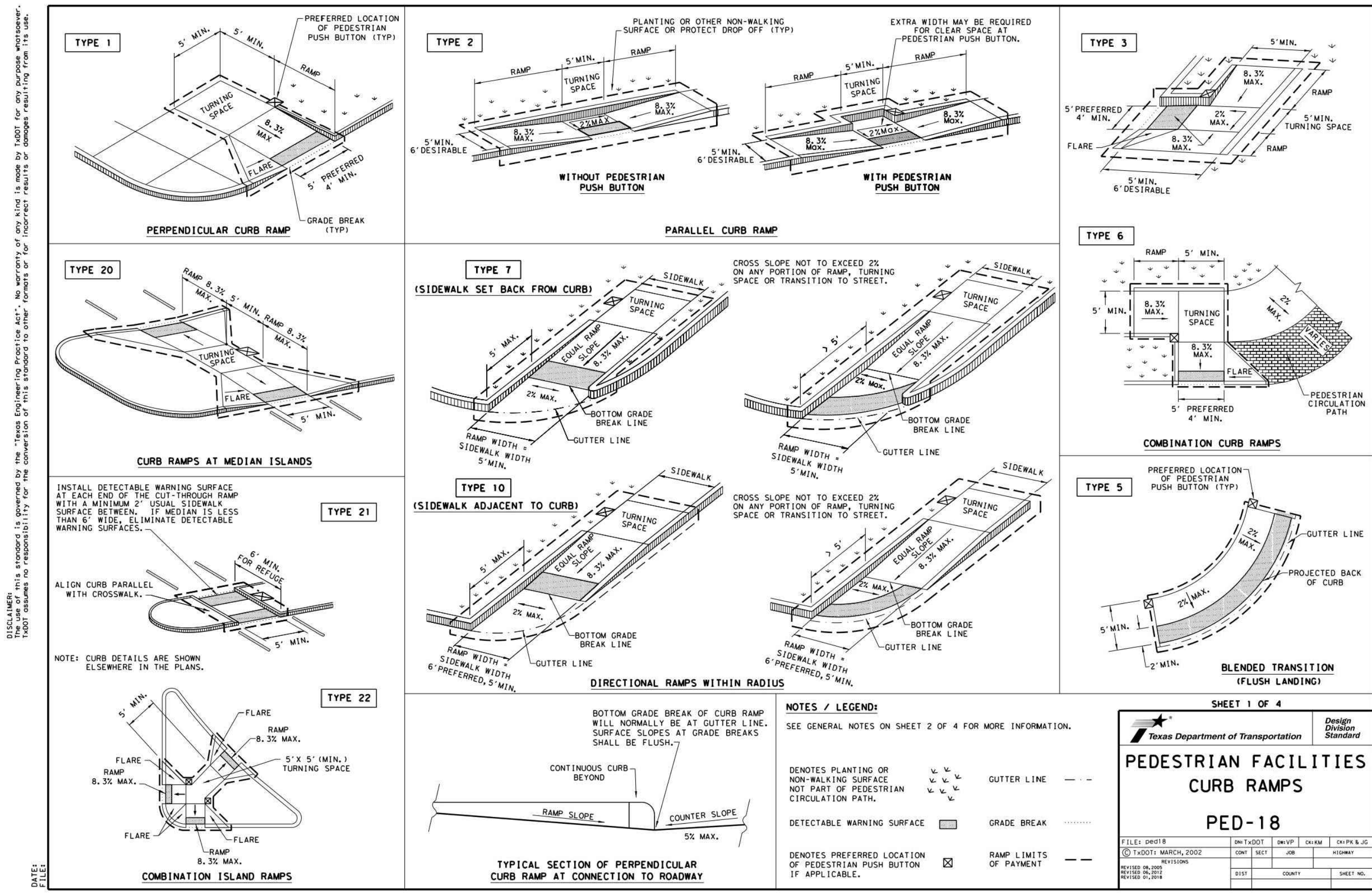
PAPE-DAWSON
 1677 INDEPENDENCE DR. STE 102 | NEW BRAUNFELS, TX 78132 | 832.632.5633
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

GALM ROAD PHASE 3
 SAN ANTONIO, TEXAS
 TYPICAL STREET DETAILS

PLAT NO. N/A
 JOB NO. 30004-41
 DATE OCTOBER 2025
 DESIGNER GDL
 CHECKED DRAWN CA
 SHEET C2.10

Date: Oct 28, 2025 11:06 am User: JD: InTech
 File: P:\30004\CA\1\Design\Civil\STD-C2.10.dwg

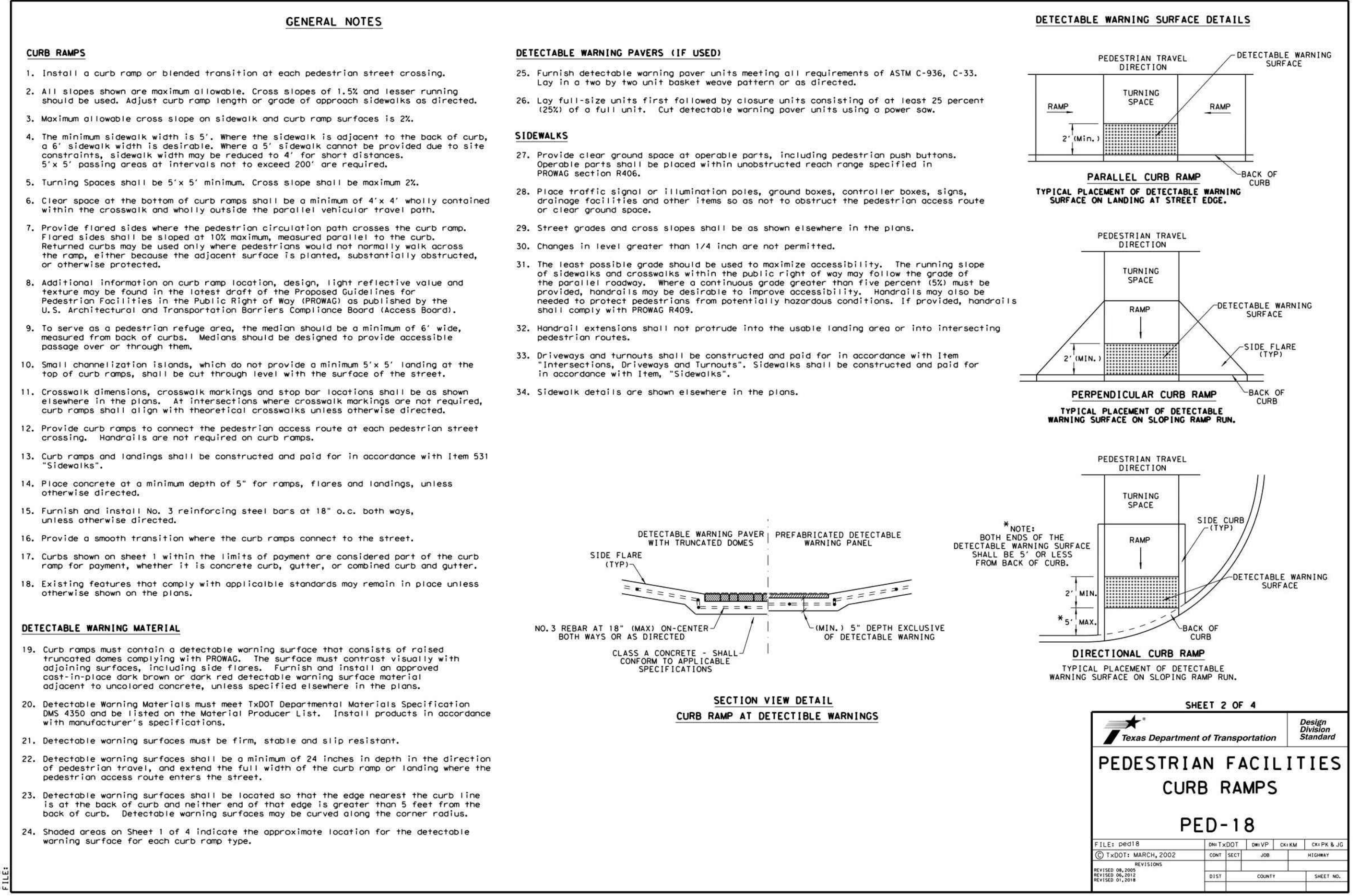
FOR PERMIT



PEDESTRIAN FACILITIES CURB RAMPS
PED-18

DESIGN DIVISION STANDARD

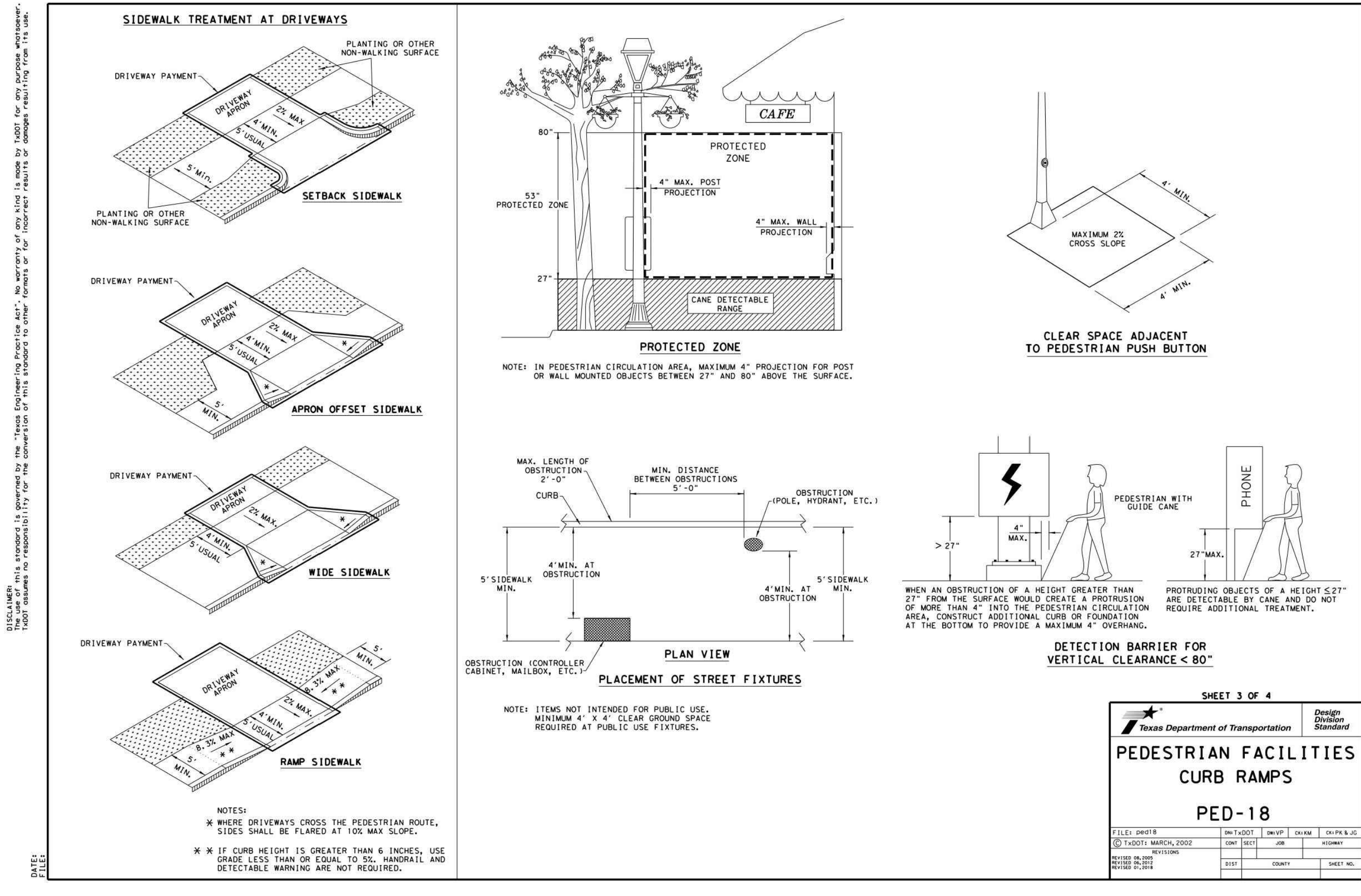
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PEDESTRIAN FACILITIES CURB RAMPS
PED-18

DESIGN DIVISION STANDARD

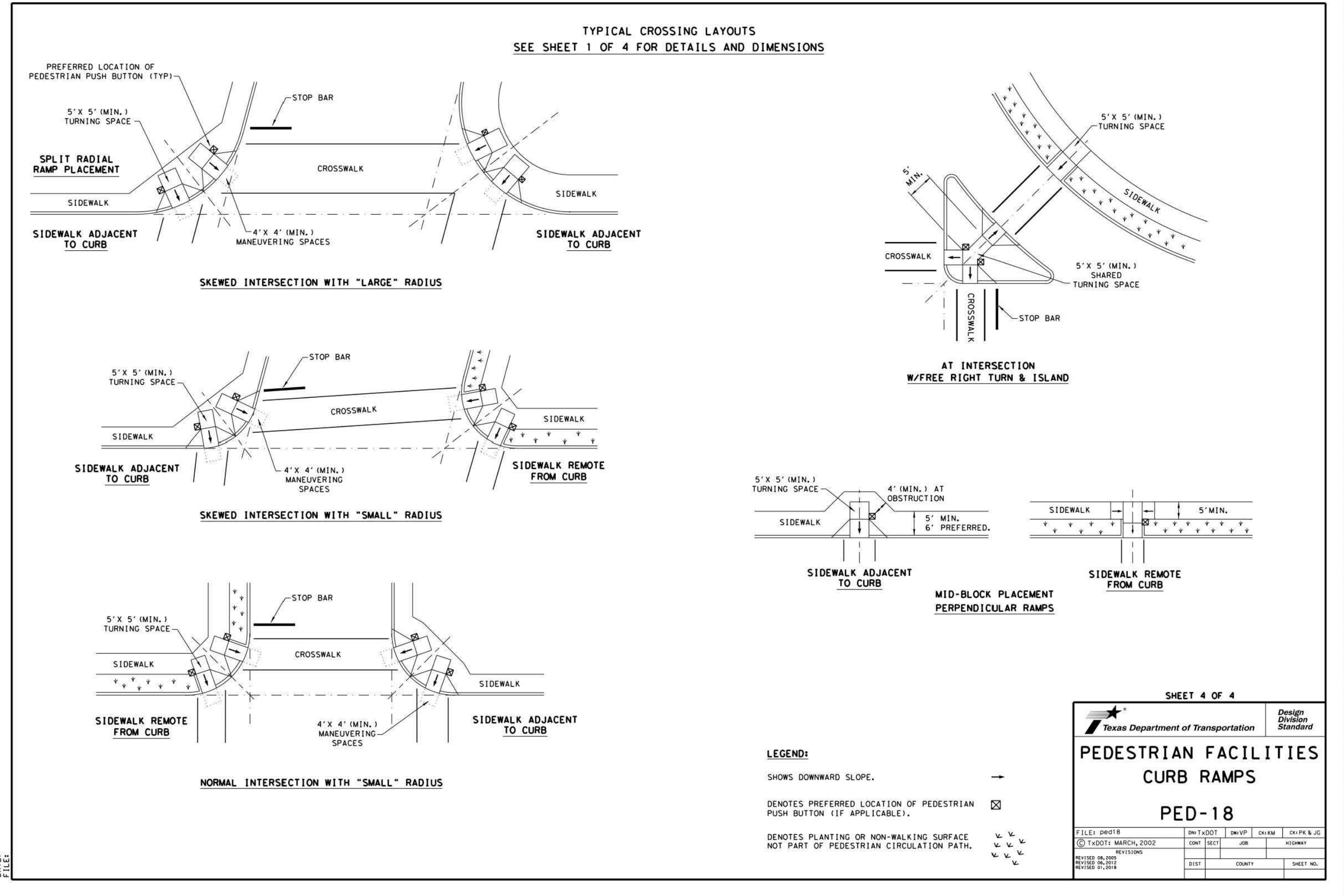
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PEDESTRIAN FACILITIES CURB RAMPS
PED-18

DESIGN DIVISION STANDARD

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DATE: 02/15/2002
BY: [Signature]



PEDESTRIAN FACILITIES CURB RAMPS
PED-18

DESIGN DIVISION STANDARD

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DATE: 02/15/2002
BY: [Signature]

Date: Oct 28, 2025 11:06 am User: ID: [Signature] File: P:\300\04\1\Design\Civil\STD-3004-4.dwg
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DATE: _____

NO. REVISION: _____

10-29-2025

JOCELYN PEREZ
98367
PROFESSIONAL ENGINEER

Jocelyn Perez

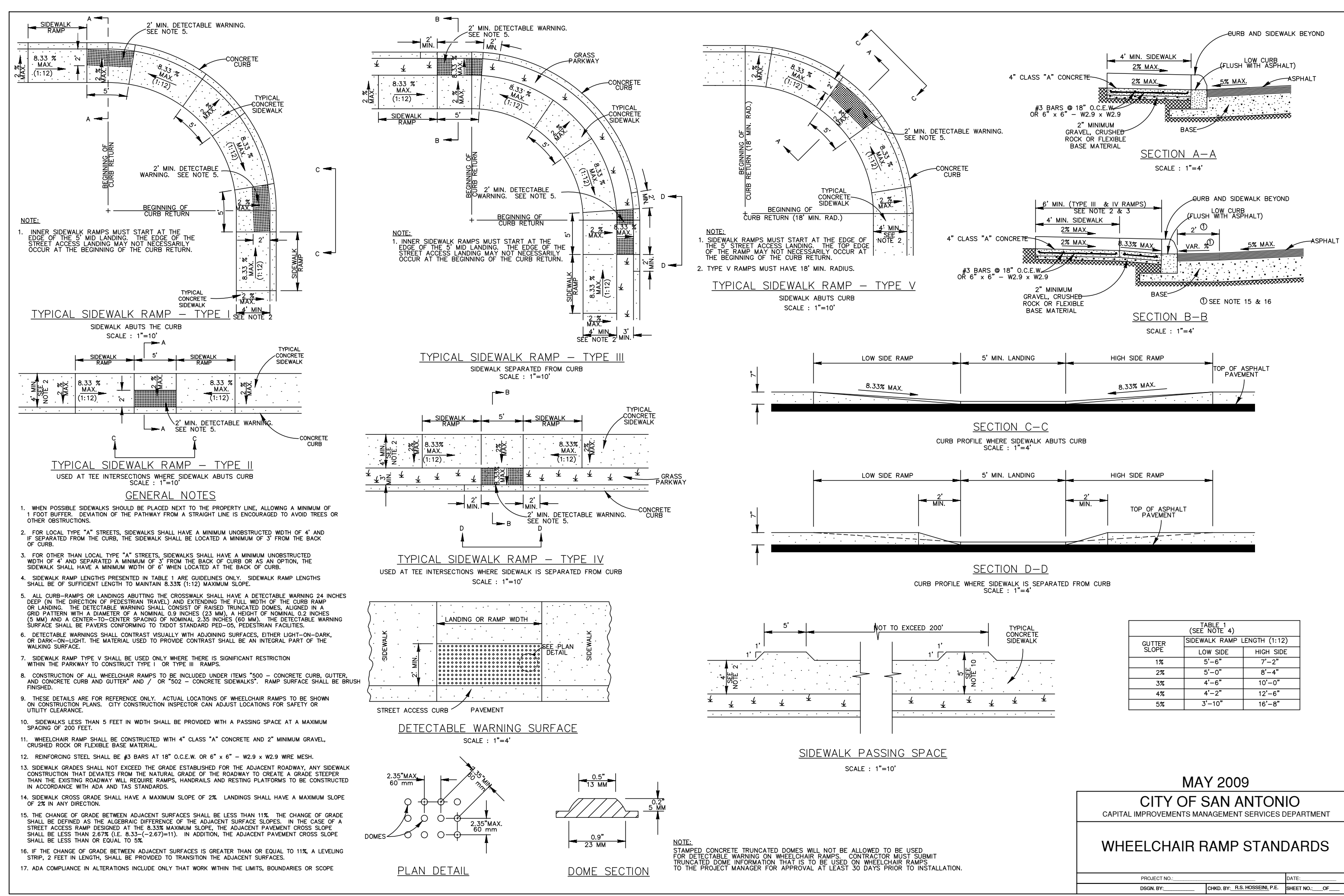
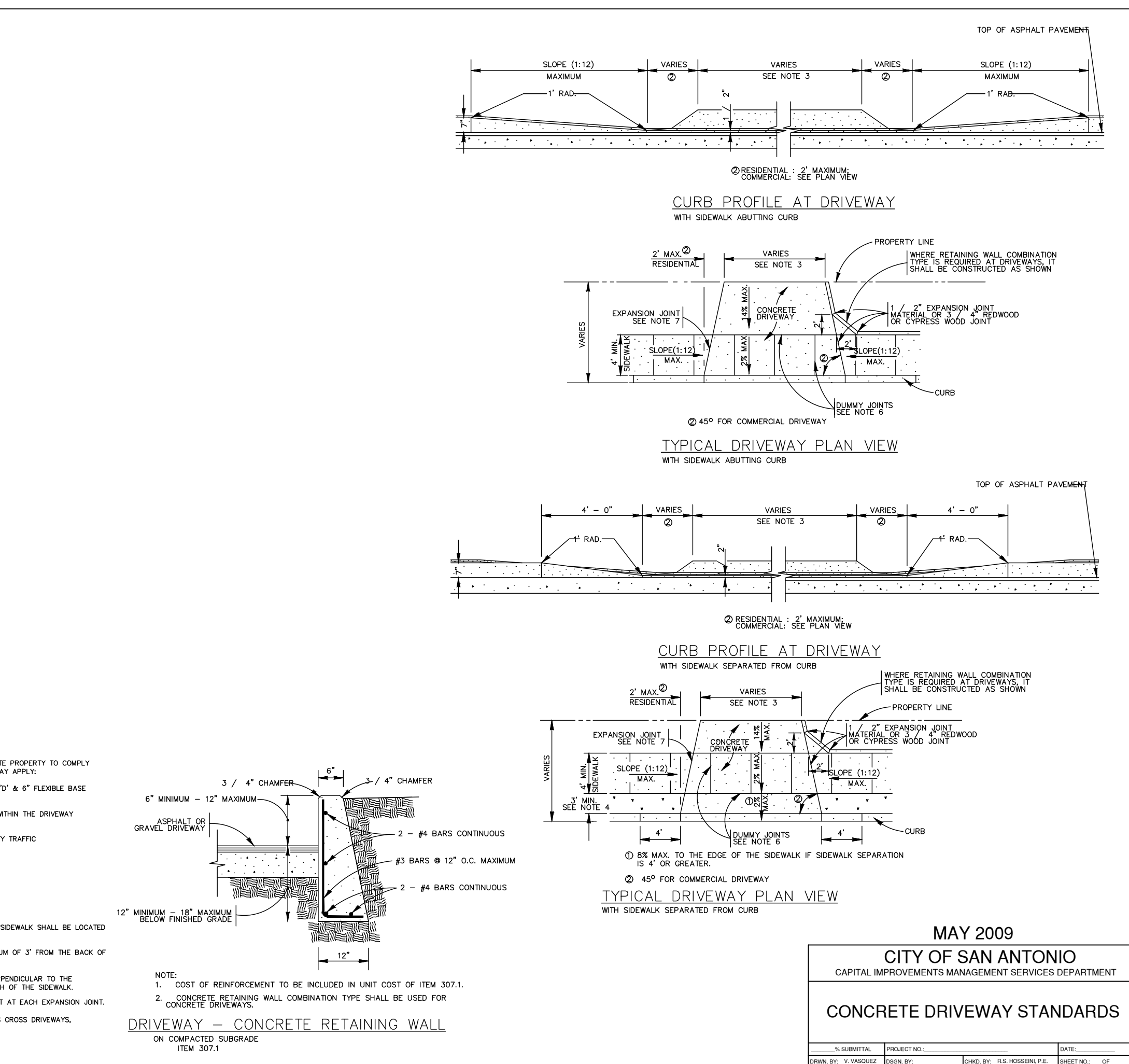
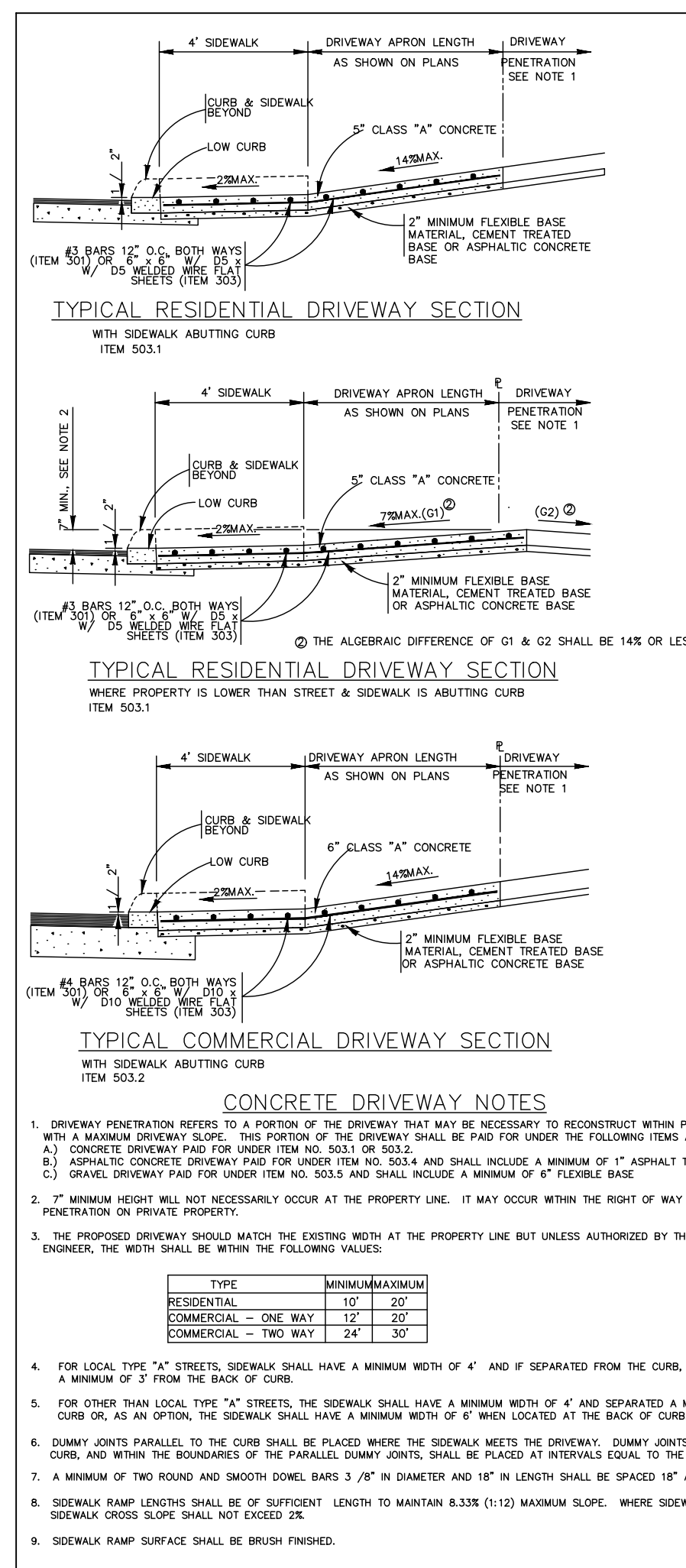
PAPE-DAWSON
1677 INDEPENDENCE DR. STE. 102 | NEW BRUNSWICK, TX 76132 | 817.672.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

GALM ROAD PHASE 3
SAN ANTONIO, TEXAS

TYPICAL STREET DETAILS

PLAT NO. N/A
JOB NO. 30004-41
DATE: OCTOBER 2025
DESIGNER: GDL
CHECKED: DRAWN: CA
SHEET: C2.11

FOR PERMIT



DATE _____

NO. _____ REVISION _____

10-29-2025

JOCYLYN PEREZ
98367
PROFESSIONAL ENGINEER

Frederick King

PAPE - DAWSON
1677 INDEPENDENCE DR. STE 102 | NEW BRUNSWICK, TX 78132 | 832.672.5533
TEXAS SURVEYING FIRM #1028890

MAY 2009
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT
CONCRETE DRIVEWAY STANDARDS

NO. _____ REVISION _____

GALM ROAD PHASE 3
SAN ANTONIO, TEXAS

TYPICAL STREET DETAILS

PLAT NO. N/A

JOB NO. 30004-41

DATE OCTOBER 2025

DESIGNER GDL

CHECKED DRAWN CA

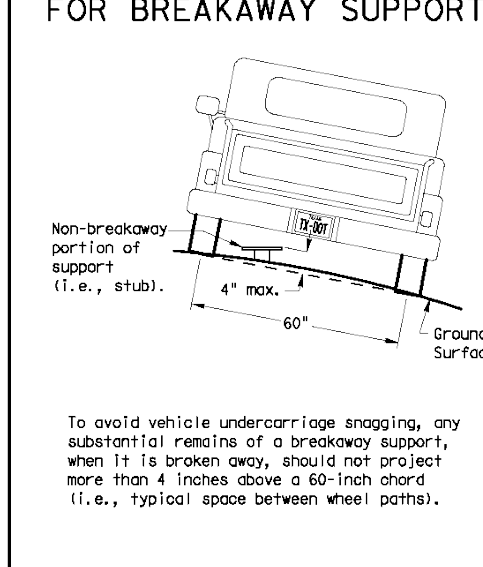
SHEET C2.12

FOR PERMIT

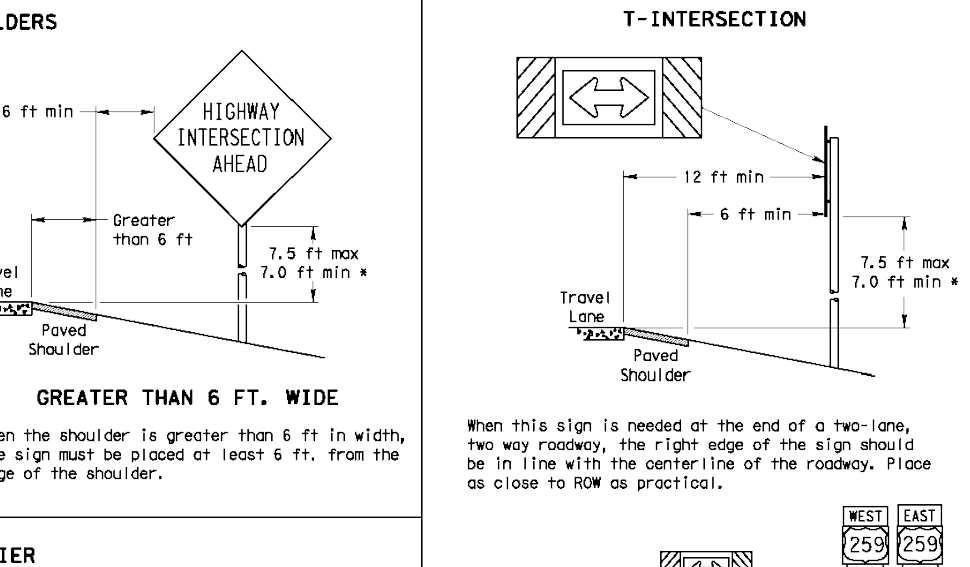
SIGN SUPPORT DESCRIPTIVE CODES

(See the codes assigned to project estimate and quantity sheets)
SM RD SGN ASSM TY XXXX(X)XX(X-XXXX)
Post Type
Fiber-glass Reinforced Plastic Pipe (see SMD(SLIP-1))
TY = 1 1/2" dia. Tubing (see SMD(SLIP-1) to (SLIP-3))
SMD = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))
Number of Posts (1 or 2)
Anchor Type
UA = Universal Anchor - Castored (see SMD(SLIP-1) and (SMD(SLIP-1)))
UB = Universal Anchor - Bolted (see SMD(SLIP-1) and (SMD(SLIP-1)))
WC = Wedge Anchor Steel (see SMD(SLIP-1) to (SLIP-3))
WA = Wedge Anchor Plastic (see SMD(SLIP-1) to (SLIP-3))
SA = Slab Anchor - Castored (see SMD(SLIP-1) to (SLIP-3))
SB = Slab Anchor - Bolted (see SMD(SLIP-1) to (SLIP-3))
Sign Mounting Designation
P = Prefab. "P" sign (see SMD(SLIP-1) to (SLIP-3)), (SMD(SLIP-1)), (SMD(SLIP-1))
T = Prefab. "T" sign (see SMD(SLIP-1) to (SLIP-3)), (SMD(SLIP-1)), (SMD(SLIP-1))
U = Prefab. "U" sign (see SMD(SLIP-1) to (SLIP-3)), (SMD(SLIP-1)), (SMD(SLIP-1))
E = Prefab. "E" sign (see SMD(SLIP-1) to (SLIP-3)), (SMD(SLIP-1)), (SMD(SLIP-1))
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R = Prefab. "R" sign (see SMD(SLIP-1) to (SLIP-3)), (SMD(SLIP-1)), (SMD(SLIP-1))
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C = Prefab. "C" sign (see SMD(SLIP-1) to (SLIP-3)), (SMD(SLIP-1)), (SMD(SLIP-1))
D = Prefab. "D" sign (see SMD(SLIP-1) to (SLIP-3)), (SMD(SLIP-1)), (SMD(SLIP-1))
EAL = Extruded Aluminum Sign Panels (see SMD(SLIP-1))

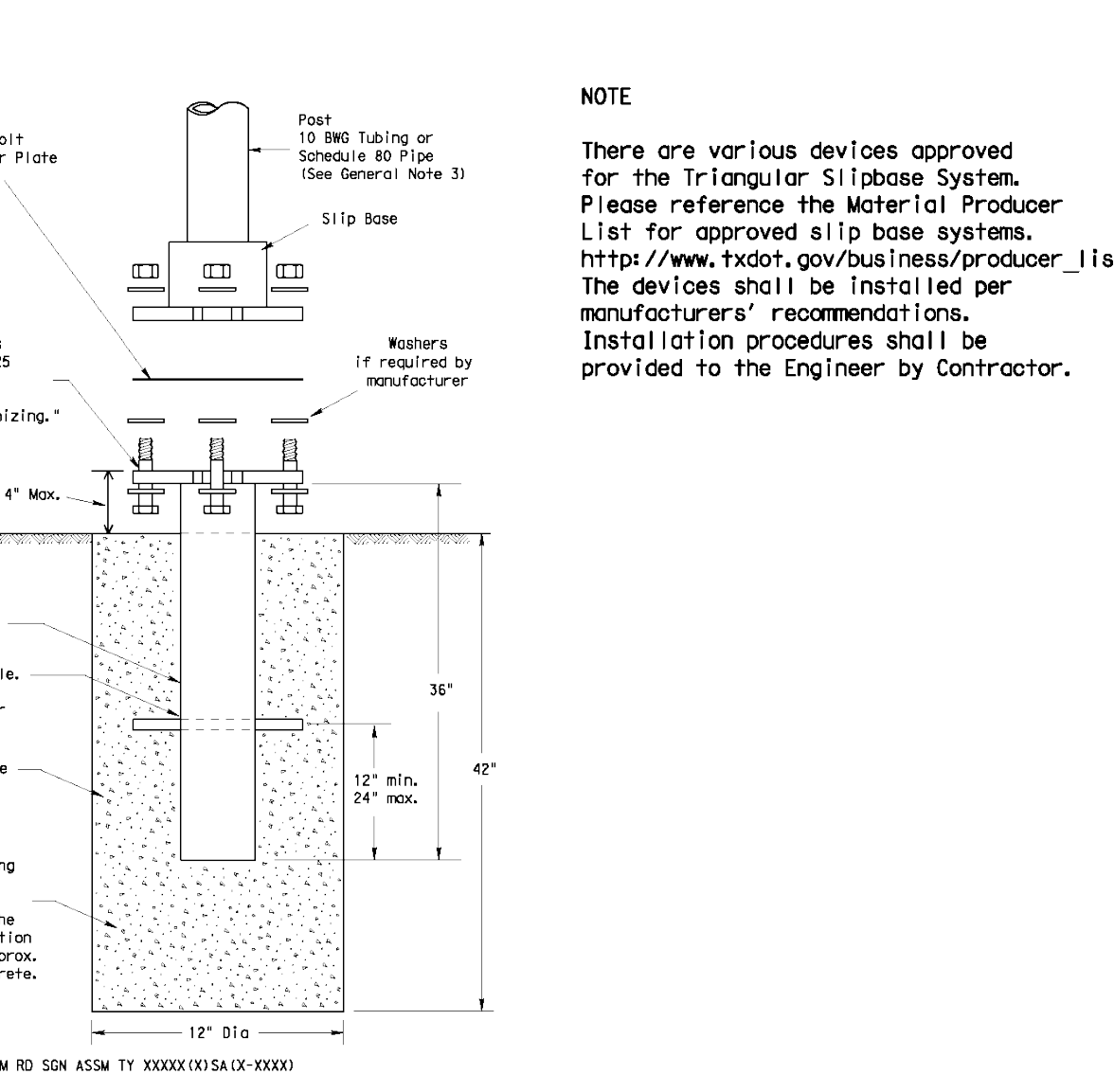
REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT



SIGN LOCATION



TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



- NOTE: There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. The devices shall be installed per manufacturer's 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...
2. Material used on post with this system shall conform to the following specifications...
3. Slip base shall be installed within the range of 0.125" to 0.150"...

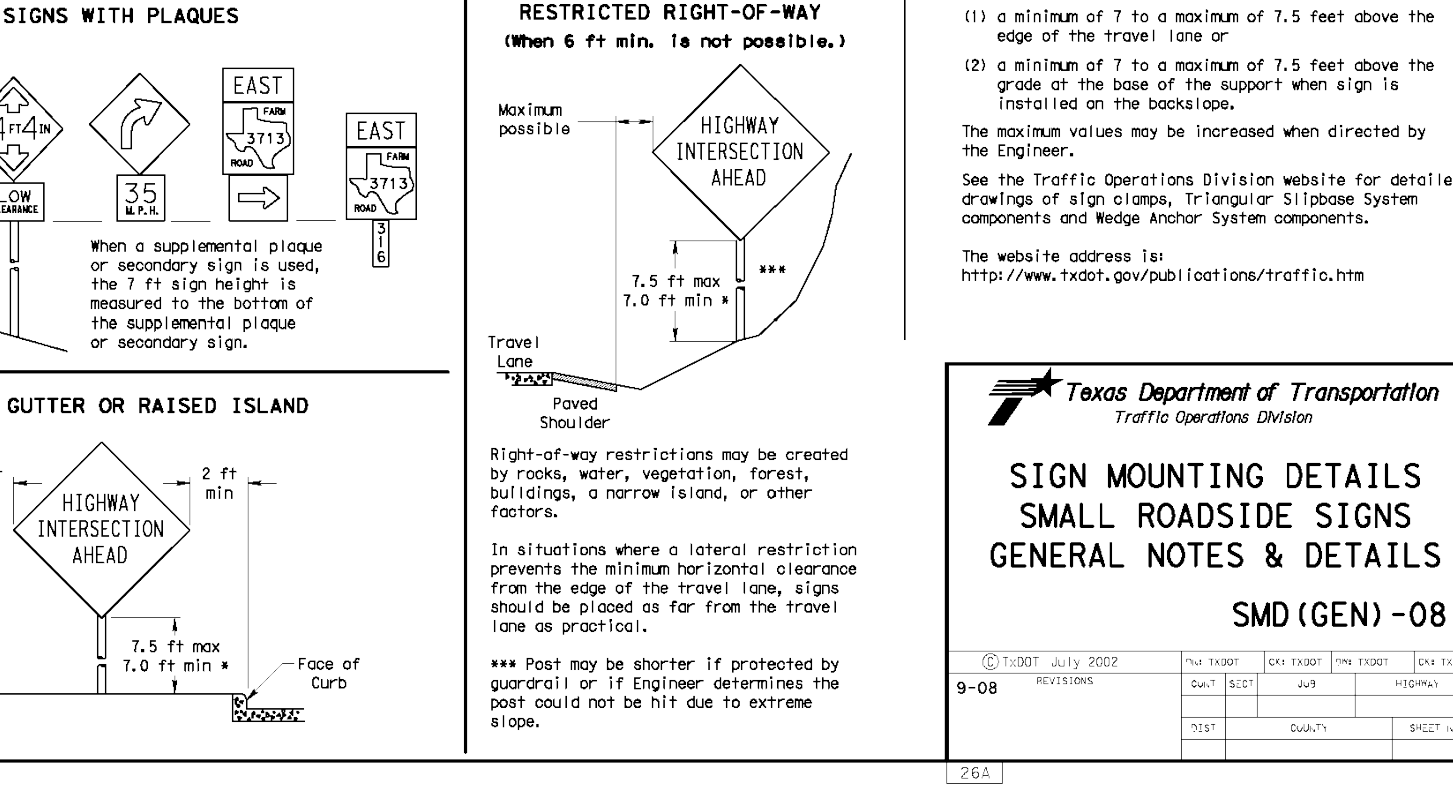
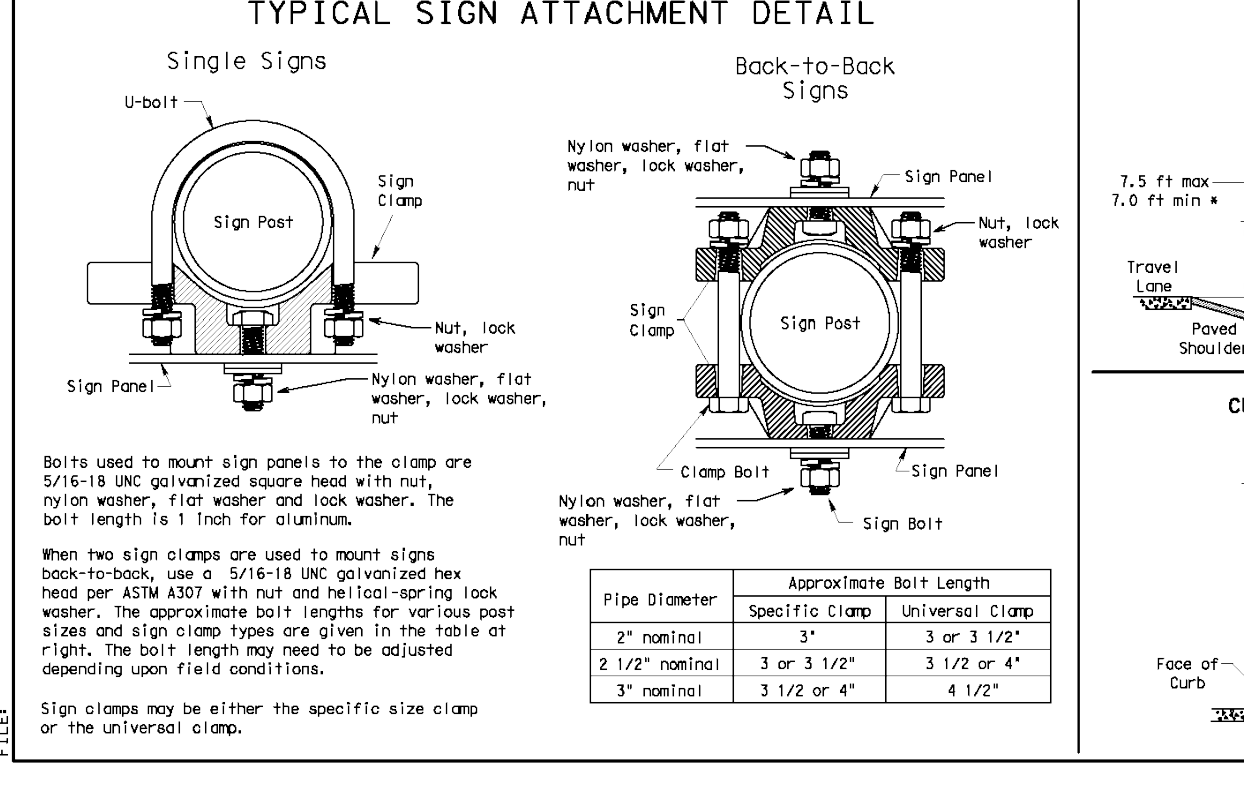
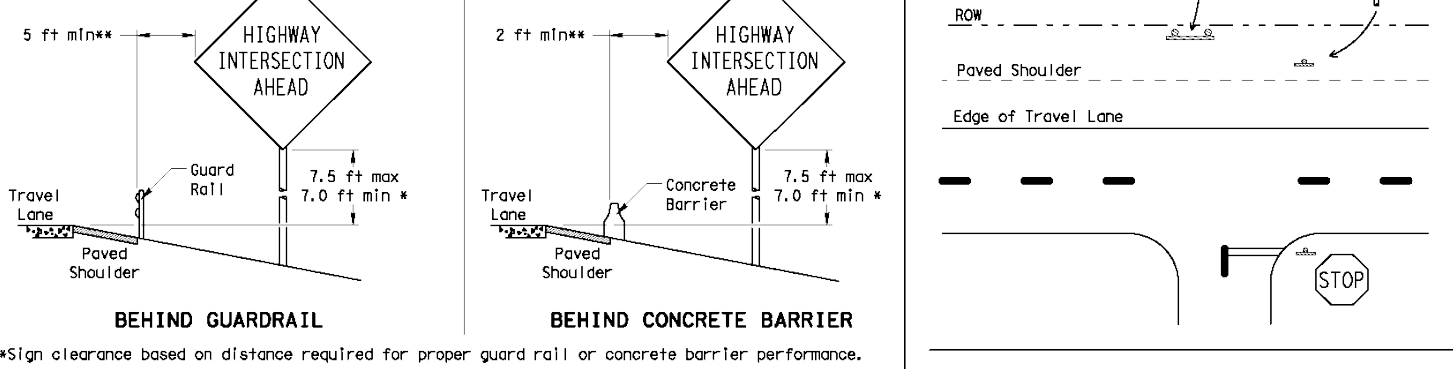
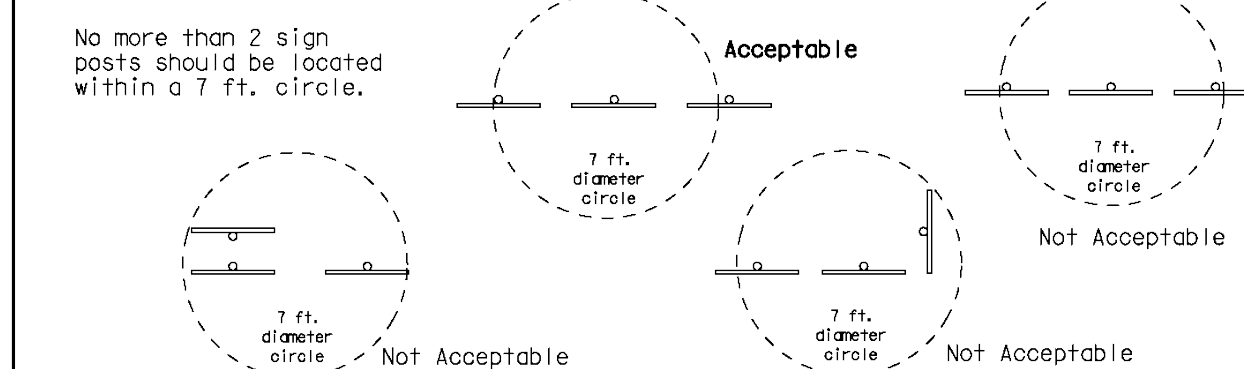


Table with columns for SIGN MOUNTING DETAILS, SMALL ROADSIDE SIGNS, GENERAL NOTES & DETAILS, and SMD (GEN)-08. Includes revision history.

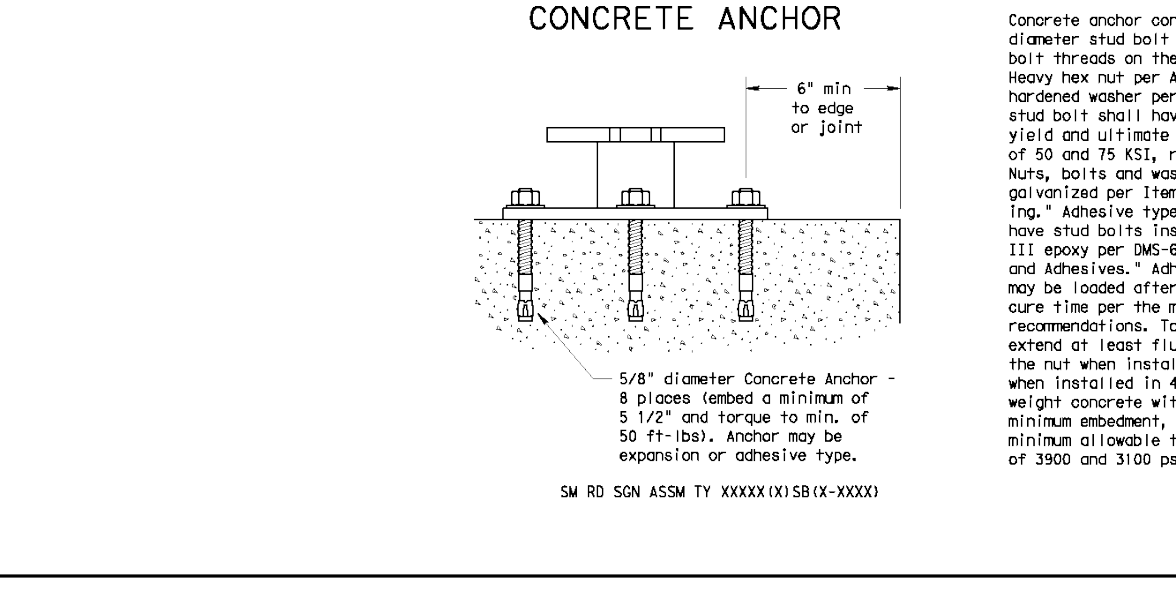


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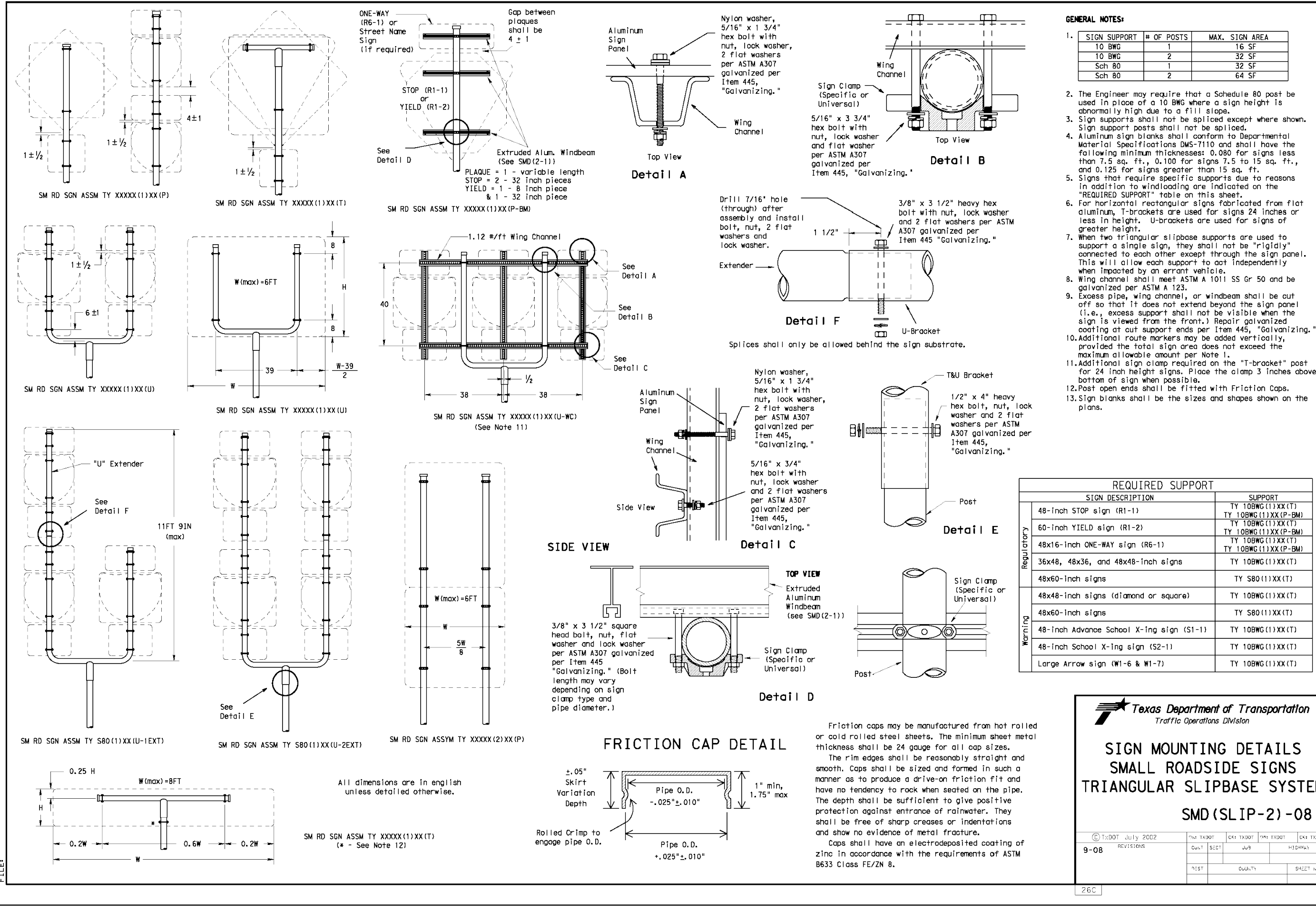


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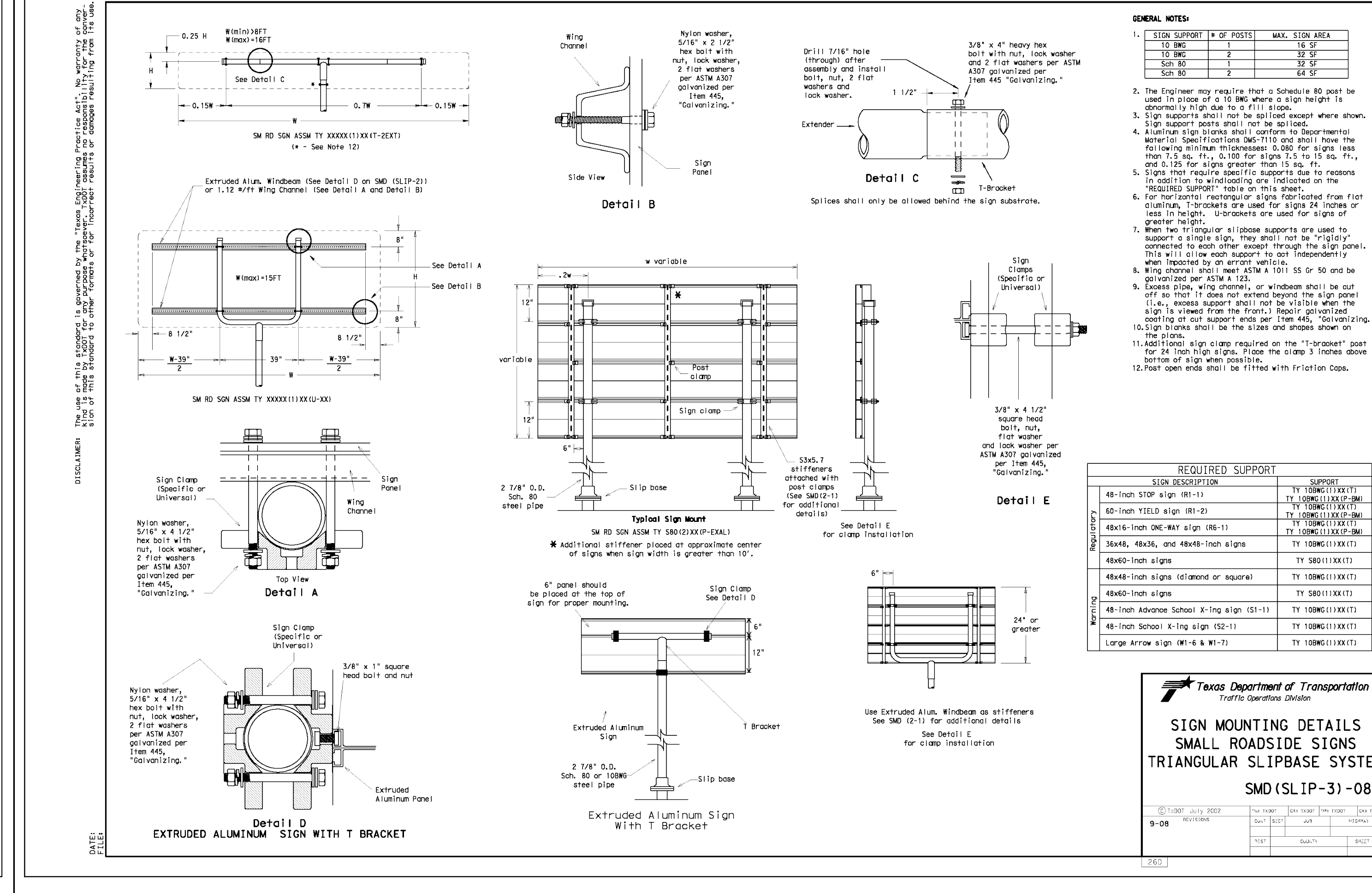
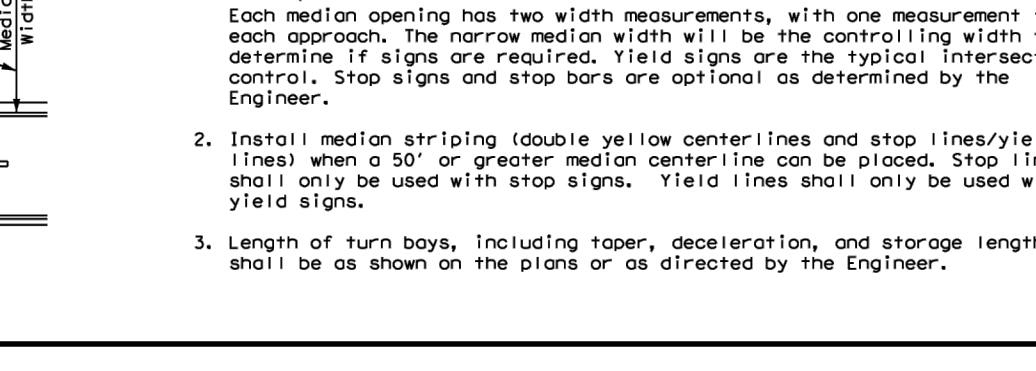
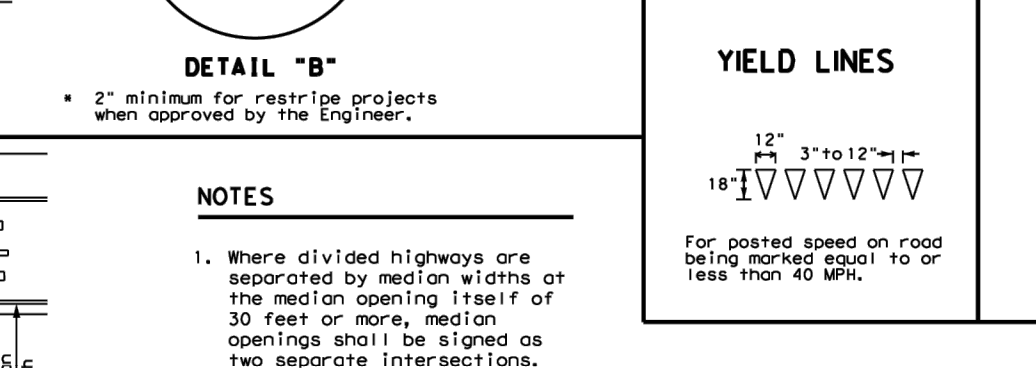
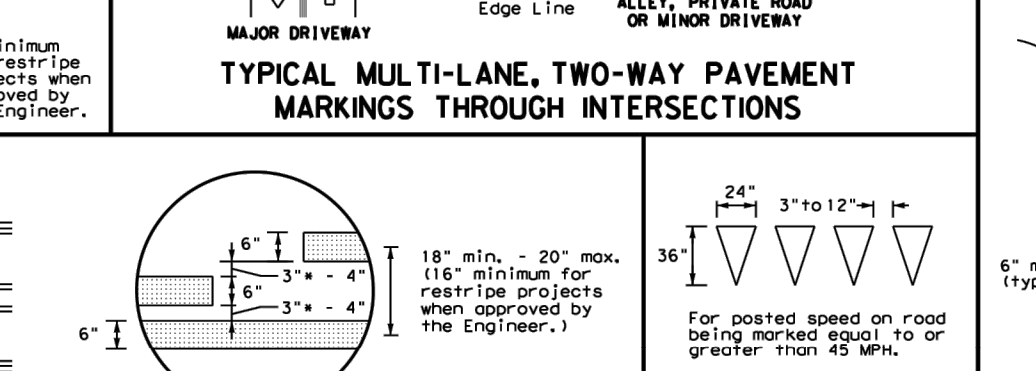
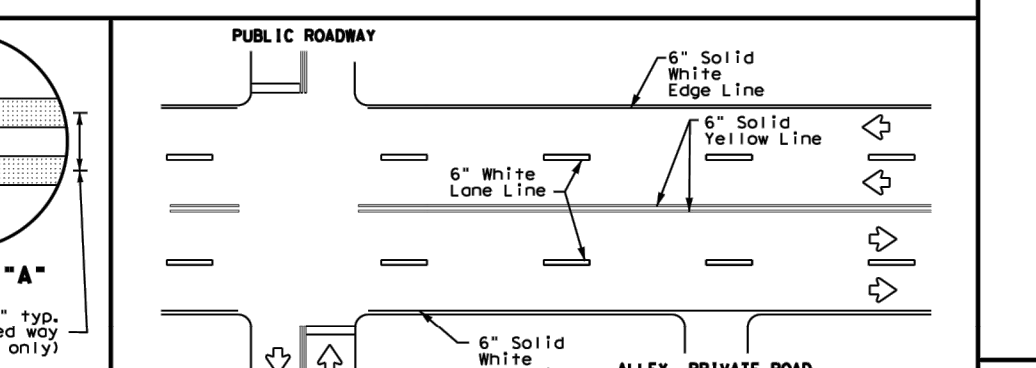
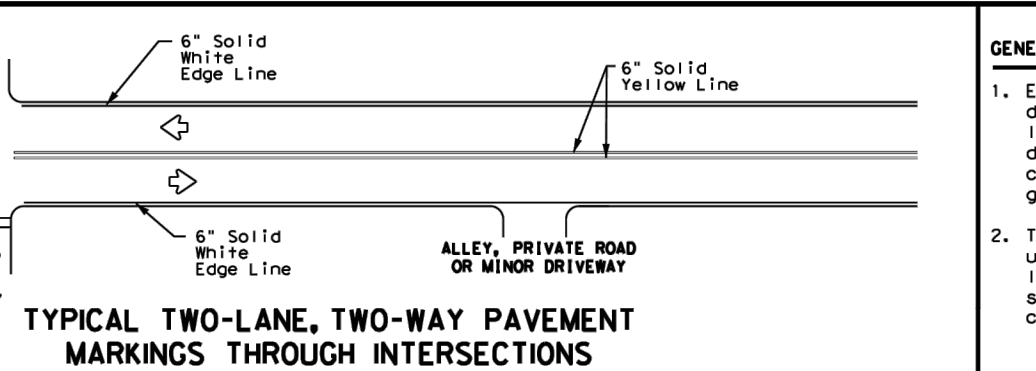
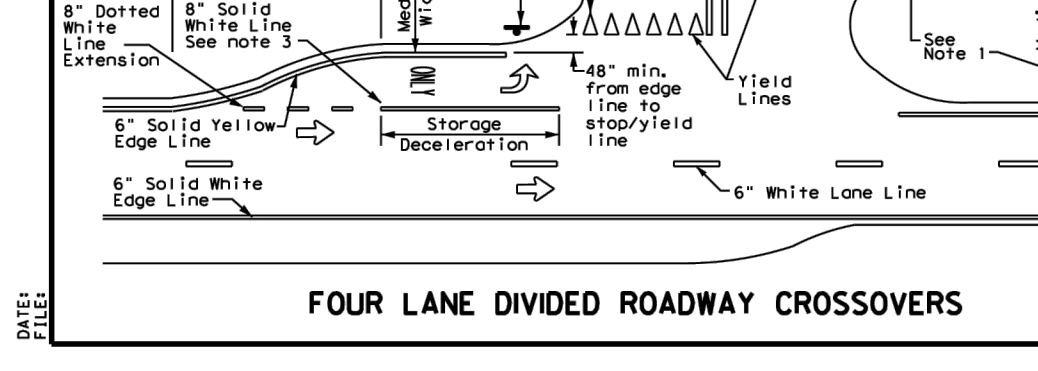
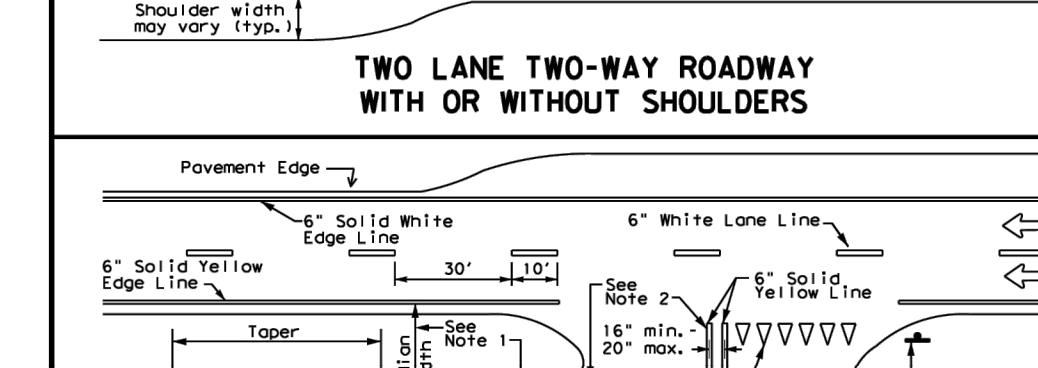
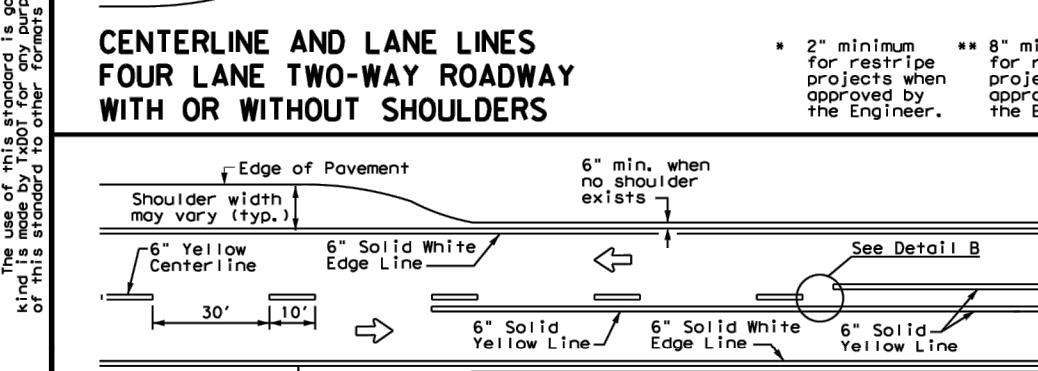
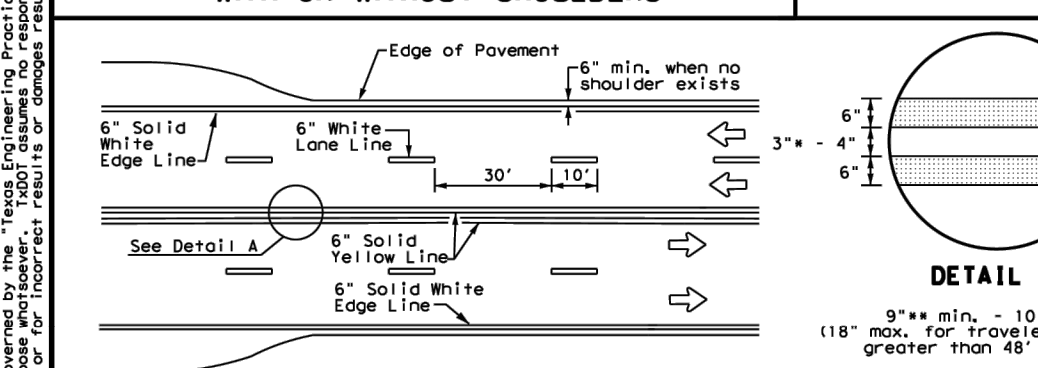
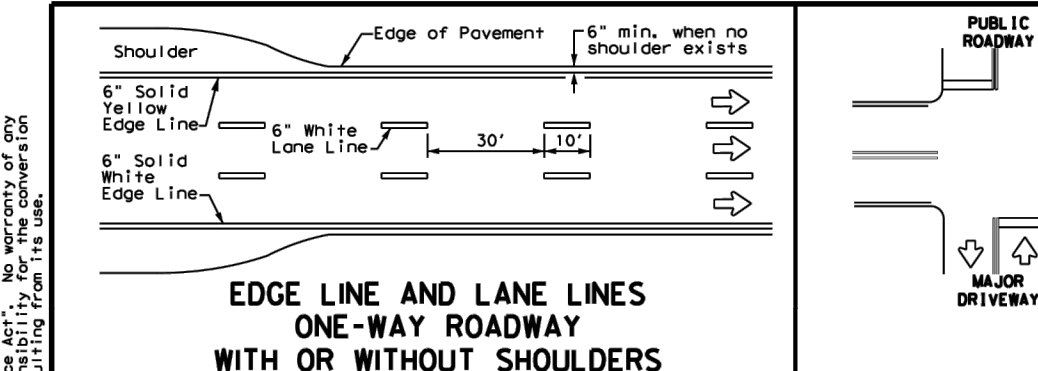


Table with columns for SIGN MOUNTING DETAILS, SMALL ROADSIDE SIGNS, TRIANGULAR SLIPBASE SYSTEM, and SMD (SLIP-3)-08. Includes revision history.

Professional Engineer seal for JOCELYN PEREZ, State of Texas, License No. 98367. Includes contact information for PAPE-DAWSON and TEXAS SURVEYING FIRM #10028800.

Project information for GALM ROAD PHASE 3, SAN ANTONIO, TEXAS. Includes TXDOT SIGN MOUNTED DETAILS, PLAT NO., JOB NO., DATE, DESIGNER, CHECKED, DRAWN, and SHEET C3.10.

FOR PERMIT



GENERAL NOTES

- Edge line striping shall be as shown in the plans or as directed by the Engineer. The edge line should not be placed less than 6 inches from the edge of pavement. This distance may vary due to pavement leveling or other conditions. Edge lines on one or more lanes should be measured from the center of edge line to the center of edge line of a two lane roadway.

MATERIAL SPECIFICATIONS

| | |
|---|----------|
| PAVEMENT MARKERS (REFLECTORIZED) | DMS-4200 |
| EPXY 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.

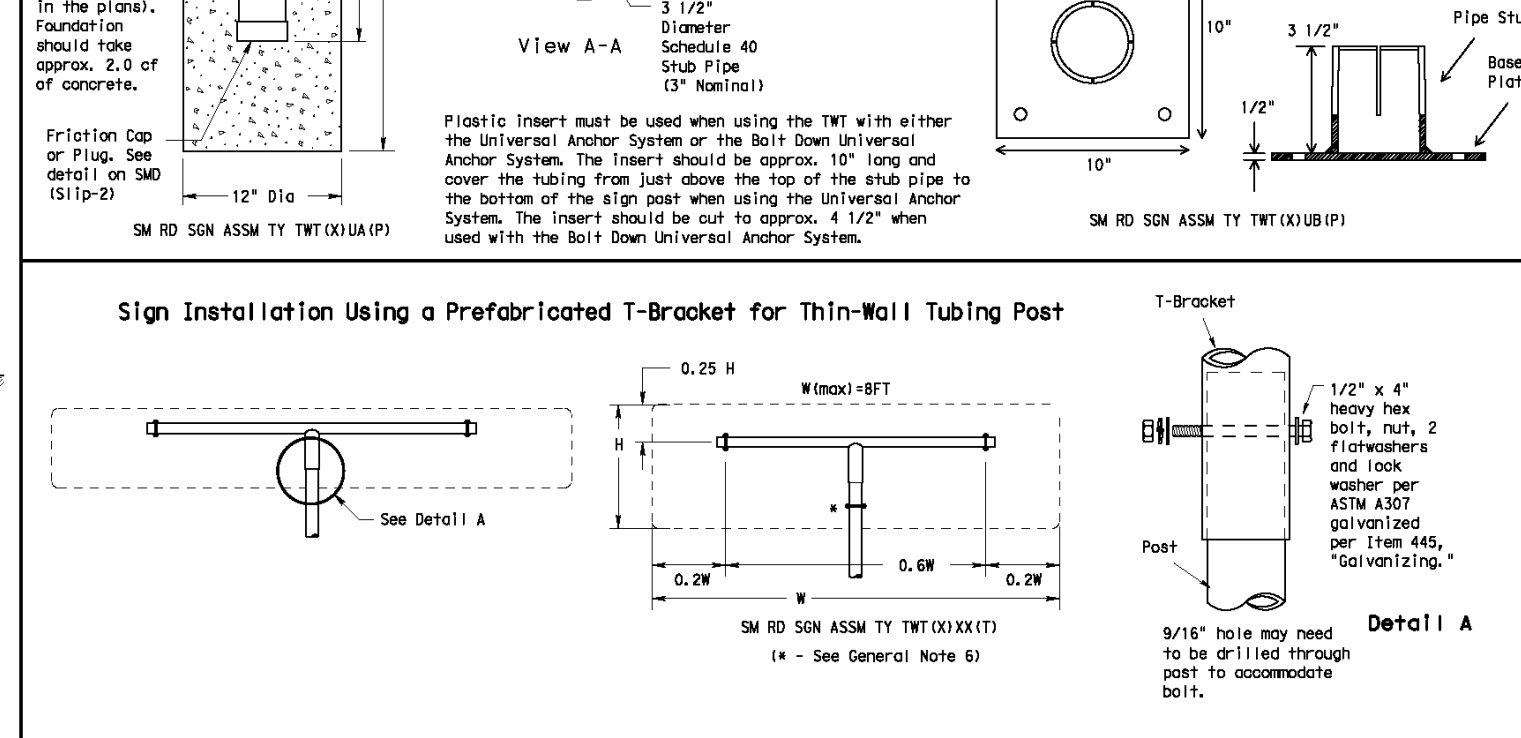
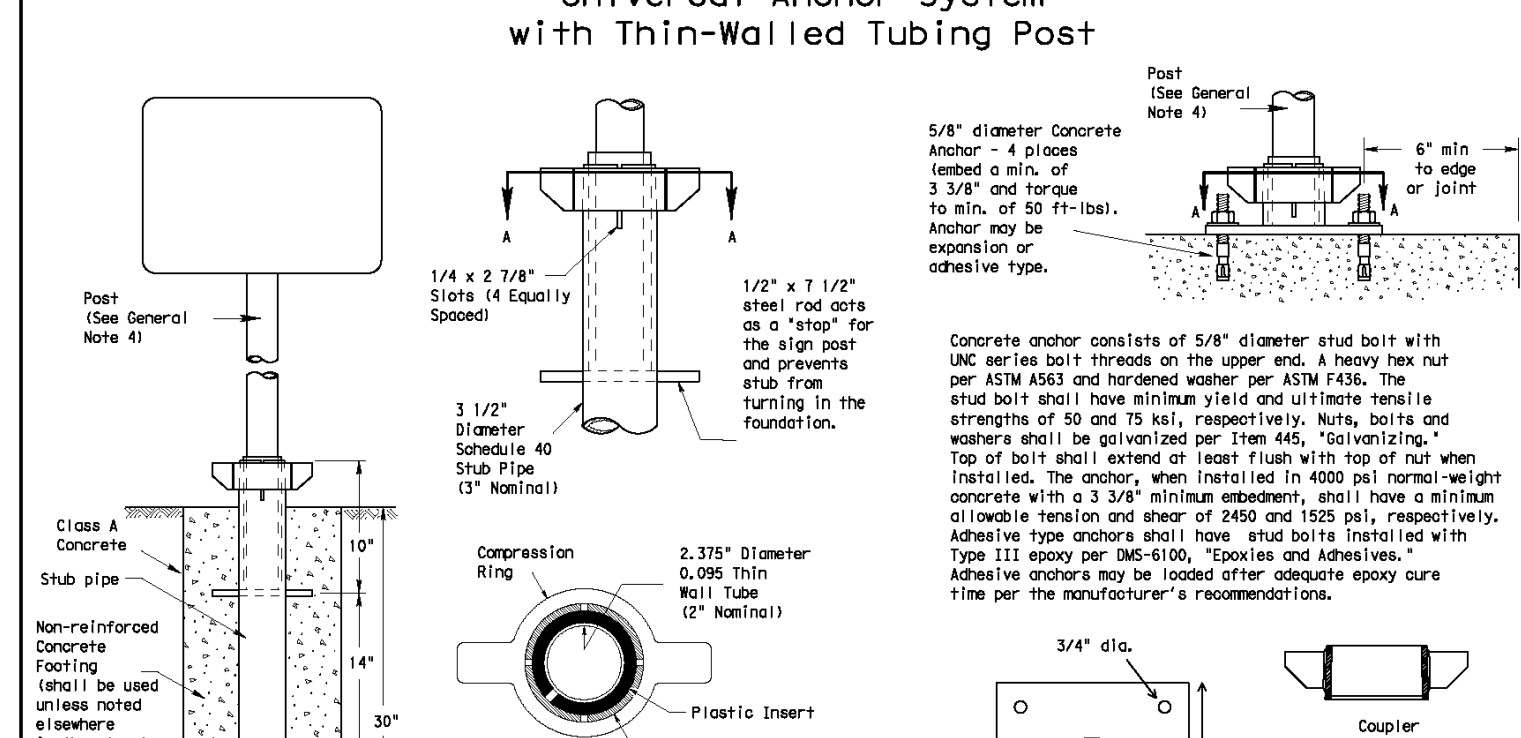
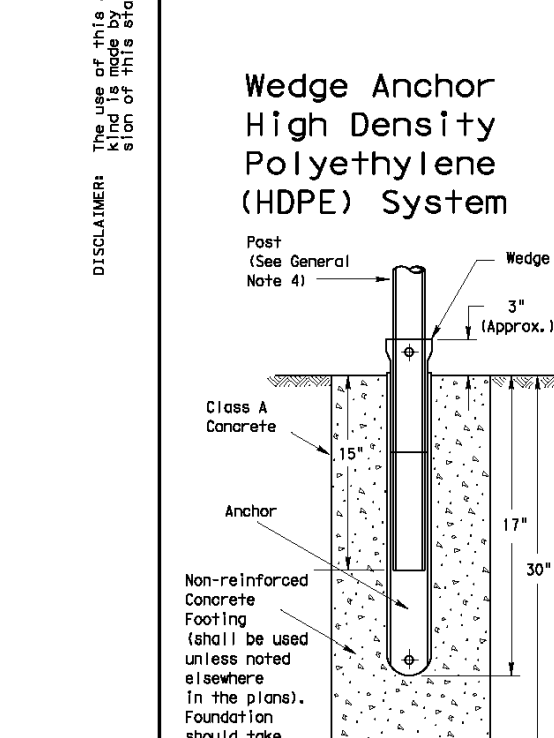
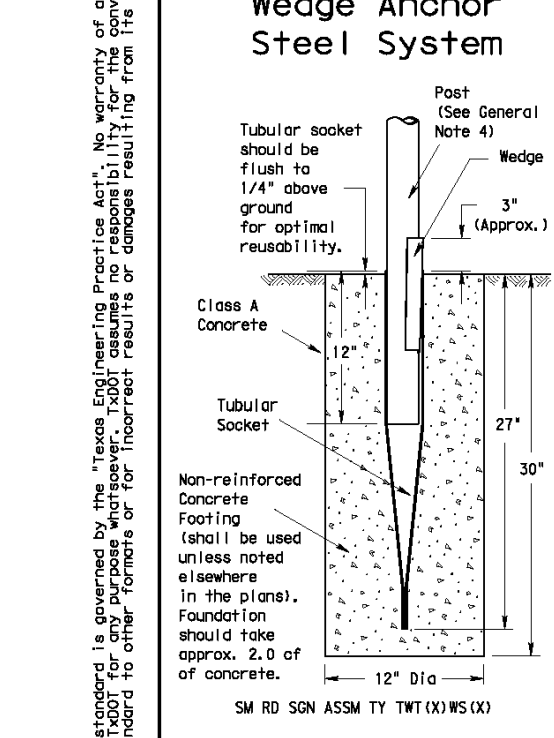
GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE

Based on Traveled Way and Pavement Widths for Undivided Roadways

TYPICAL STANDARD PAVEMENT MARKINGS

PM(1)-22

| DATE | REV | DESCRIPTION | BY | CHKD | APP'D |
|----------|-----|-------------|-----|------|-------|
| 11-18-00 | 1 | ISSUED | ... | ... | ... |
| 08-02-02 | 2 | ... | ... | ... | ... |
| 08-02-02 | 3 | ... | ... | ... | ... |
| 08-02-02 | 4 | ... | ... | ... | ... |



GENERAL NOTES:

- The Wedge Anchor System and the Universal Anchor System with thin wall tubing post may be used to support up to 4 square feet of sign area.
- The tubular socket, wedge and greater (or) T-brocker shall be permanently marked to indicate manufacturer, method, design, and location of marking are subject to the approval of the local Traffic Operations Engineer.
- Except for parts (1) through (4), all components shall be galvanized to meet the requirements of the Traffic Operations Engineer. The manufacturer's website address is: <http://www.hobasite.com>
- Material used on post with this system shall conform to the following specifications:
 - 1. Tubing: 1.315" outer diameter, 0.095" nominal wall thickness, 50,000 PSI minimum yield strength.
 - 2. Steel shall be A36 or 50 per ASTM A101 or ASTM A108.
 - 3. Steel shall be galvanized to meet the following: 55,000 PSI minimum yield strength, 170,000 PSI minimum tensile strength.
 - 4. Minimum elongation: 22%.
 - 5. Wall thickness (uncoated) shall be within the range of .085" to .095" diameter diameter (uncoated) shall be within the range of 2.389" to 2.391" Galvanization per ASTM 123 or ASTM A653 D210. For galvanized steel tubing (ASTM A653), record tube outside diameter weld used by metalizing with zinc wire per ASTM B33.
 - 6. Additional sign clamp required on the "T-brocker" post for 24" high signs. Place clamp on post 3" above center of sign when possible.
 - 7. Sign supports shall not be applied except where shown. Sign support posts shall not be applied to signs.
 - 8. See the Traffic Operations Division website for detailed drawings of sign clamps and Wedge Anchor System components. The website address is: <http://www.hobasite.com>

UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURES:

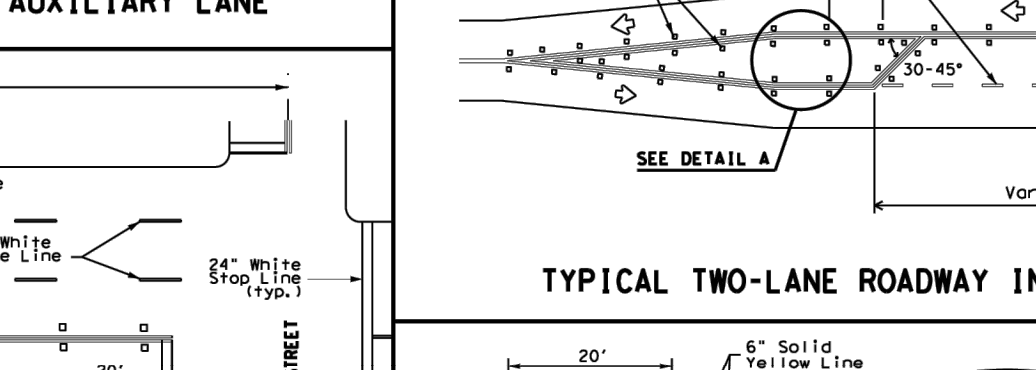
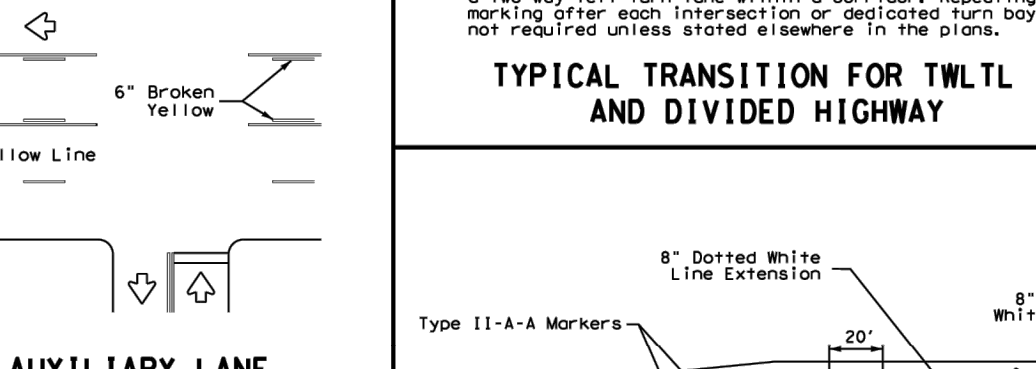
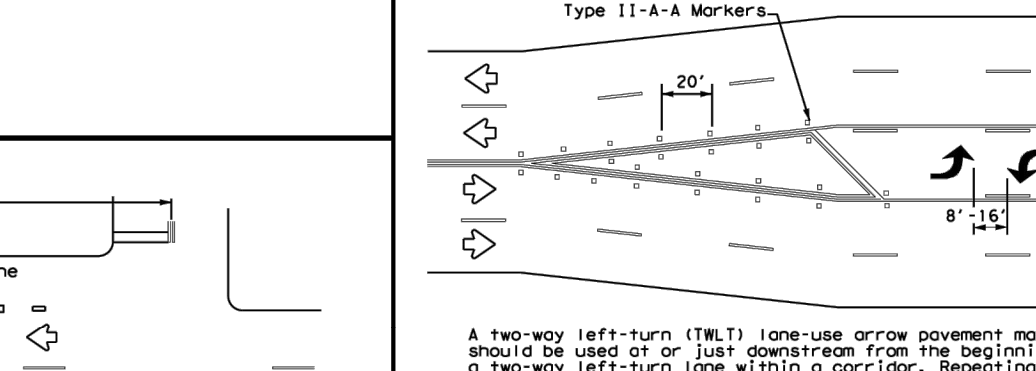
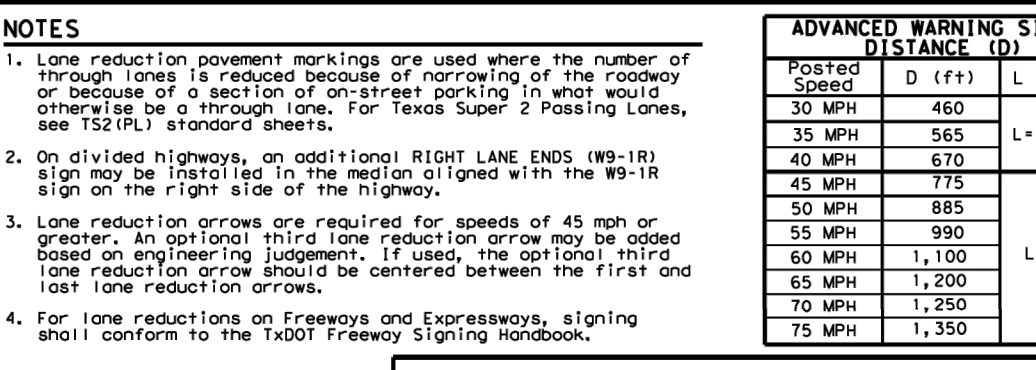
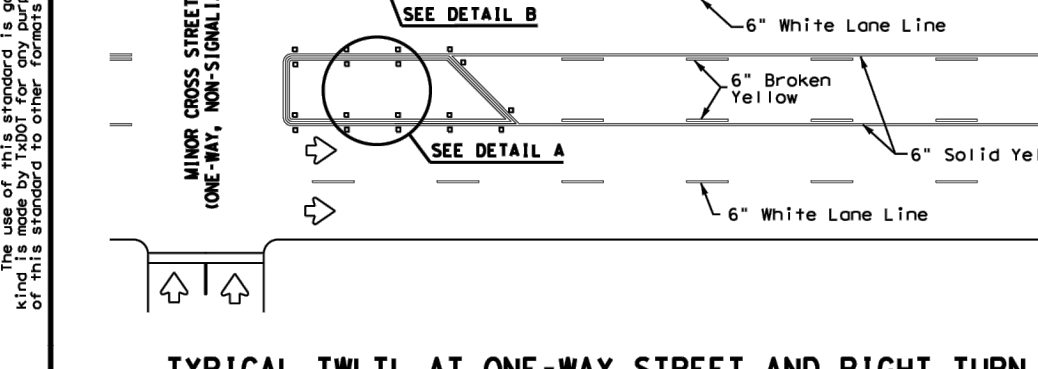
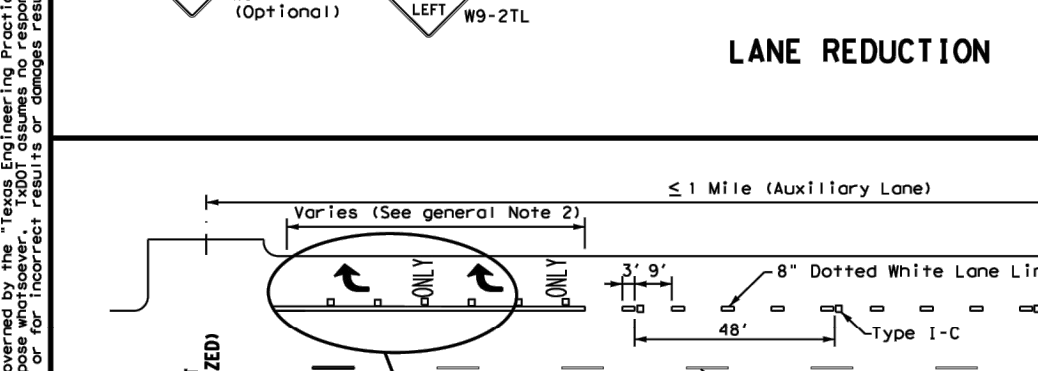
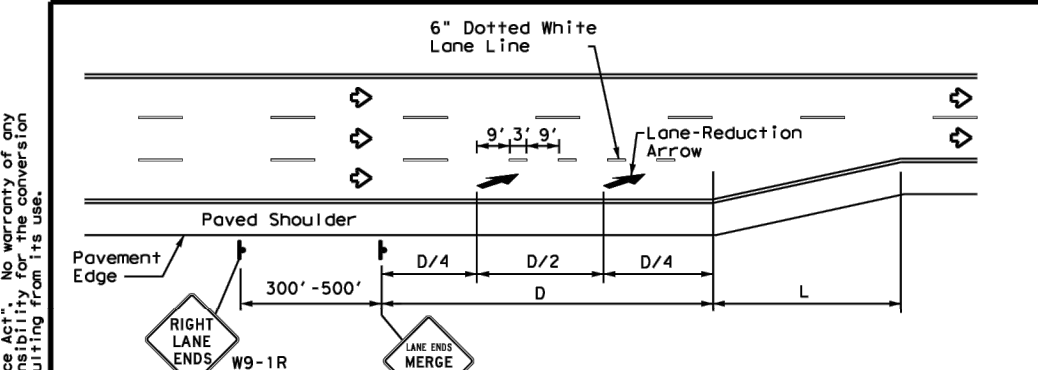
- Drill foundation hole. Where soil rock is encountered at ground level, the foundation shall be a minimum depth of 18". When soil rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If soil rock is encountered, the socket/anchor shall be reduced in length as required to a minimum length of 18". Any material removed from the socket/anchor shall be from the bottom and the clearance requirements given on SMD(1) shall be followed. The inner surfaces of the socket/anchor must remain free of concrete or other debris.
- 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. Place concrete into hole until it is approximately flush with the ground. Concrete shall be Class A.
- Insert tubular socket into concrete until top of socket is approximately 1/4" above the concrete footing.
- Place the sign on the sign post.
- Insert the sign post into socket and align sign face with roadway.
- Attach the sign to the sign post. This will leave approximately 3 inches of the wedge exposed.
- Insert the sign post into base post. Lower until the post comes to rest on steel rod.
- Set compression ring using a hammer. Apply the top of compression ring will be approximately level with top of stub post.
- Check sign post to ensure it is unable to turn. If loose, increase the tightening of the compression ring.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
WEDGE & UNIVERSAL ANCHOR
WITH THIN WALL TUBING POST

SMD(TWT)-08

| DATE | REV | DESCRIPTION | BY | CHKD | APP'D |
|----------|-----|-------------|-----|------|-------|
| 08-02-02 | 1 | ISSUED | ... | ... | ... |
| 08-02-02 | 2 | ... | ... | ... | ... |
| 08-02-02 | 3 | ... | ... | ... | ... |
| 08-02-02 | 4 | ... | ... | ... | ... |



ADVANCED WARNING SIGN

| POSTED SIGN | D (ft.) | L (ft.) | W (ft.) |
|-------------|---------|---------|---------|
| 30 MPH | 460 | 115 | 52 |
| 35 MPH | 560 | 145 | 65 |
| 40 MPH | 670 | 175 | 80 |
| 45 MPH | 775 | 210 | 95 |
| 50 MPH | 885 | 245 | 110 |
| 55 MPH | 990 | 280 | 125 |
| 60 MPH | 1,100 | 315 | 140 |
| 65 MPH | 1,200 | 350 | 155 |
| 70 MPH | 1,250 | 385 | 170 |
| 75 MPH | 1,350 | 420 | 185 |

GENERAL NOTES

- Lane use word and arrow markings shall be used where through lanes cooperating an intersection become mandatory turn lanes. Lane use word and arrow markings shall be used in other lanes of substantial length. Lane use word markings or arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows are as shown in the Standard Highway Sign Designs for Texas.
- When lane use words 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 word or arrow marking is used, it should be placed near the upstream end of the full-width turn lane.
- Use raised pavement marker Type 1-C with undivided highways, flush markers and two way left turn lanes. Use raised pavement marker Type 11-C-R with divided highways and raised medians.
- Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer. See Chapter 3 of the Roadway Design Manual for additional information on turning lanes or storage lengths.

MATERIAL SPECIFICATIONS

| | |
|---|----------|
| PAVEMENT MARKERS (REFLECTORIZED) | DMS-4200 |
| EPXY 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 |

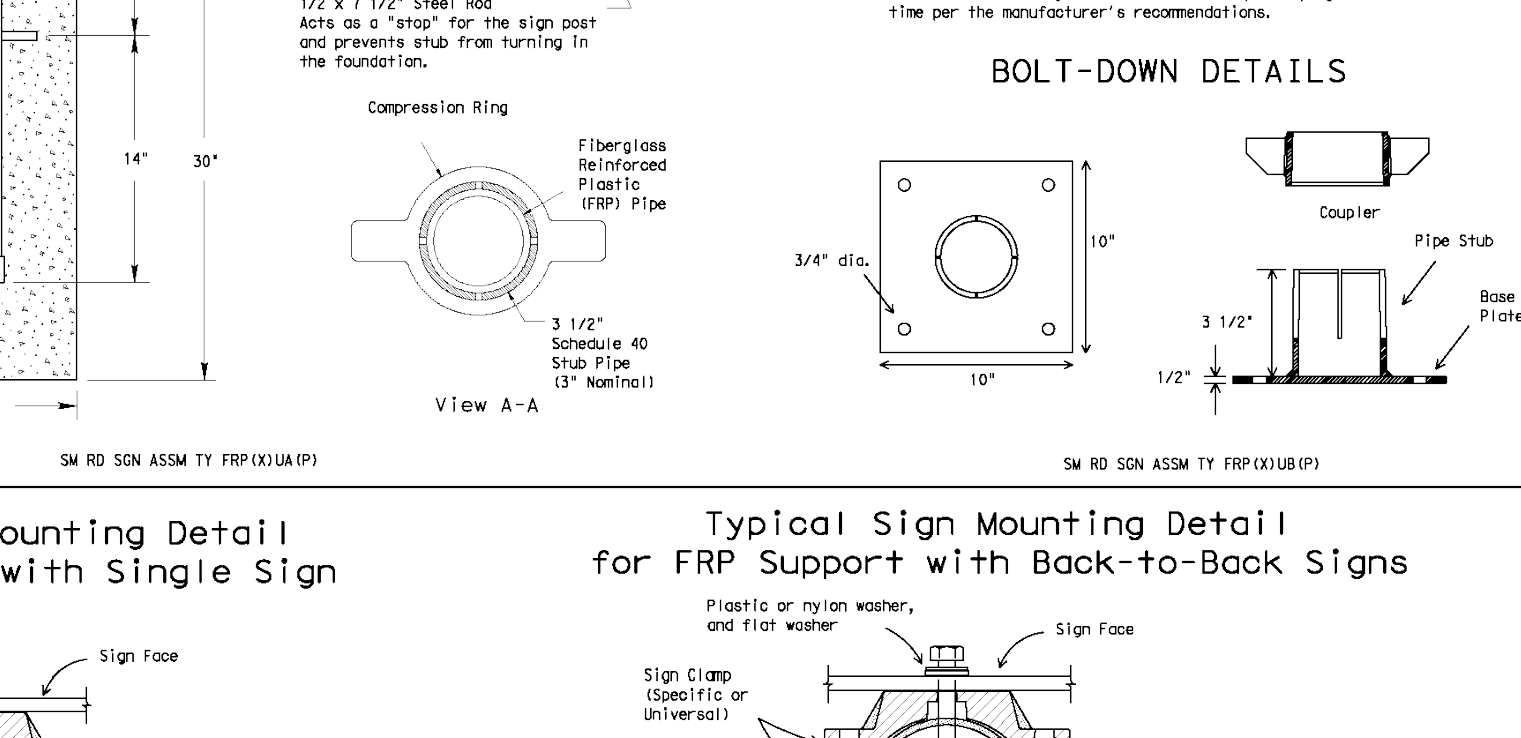
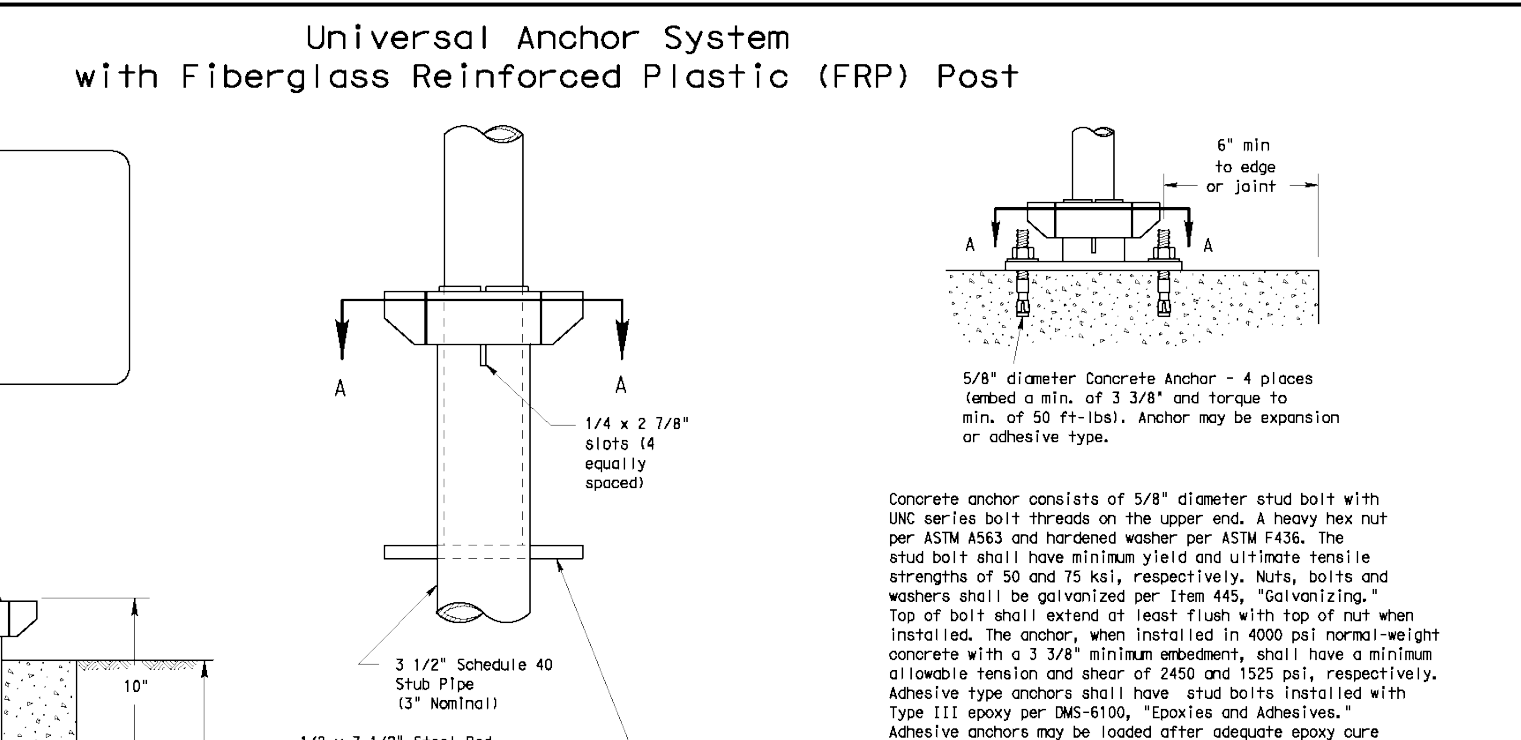
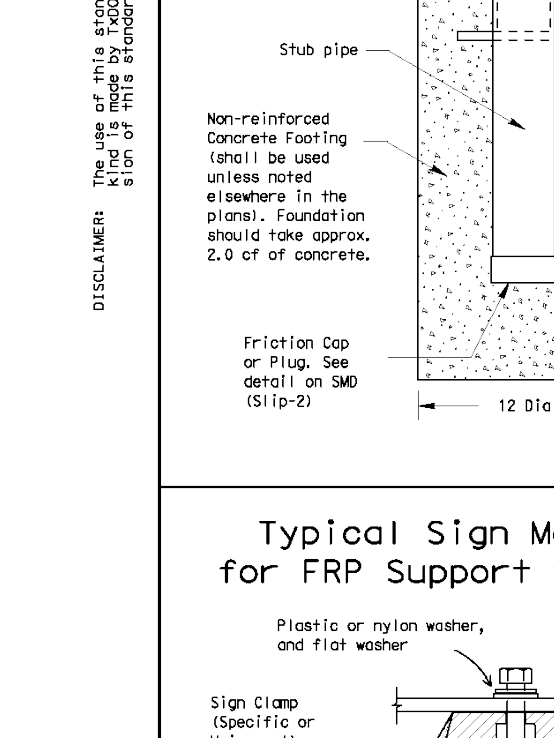
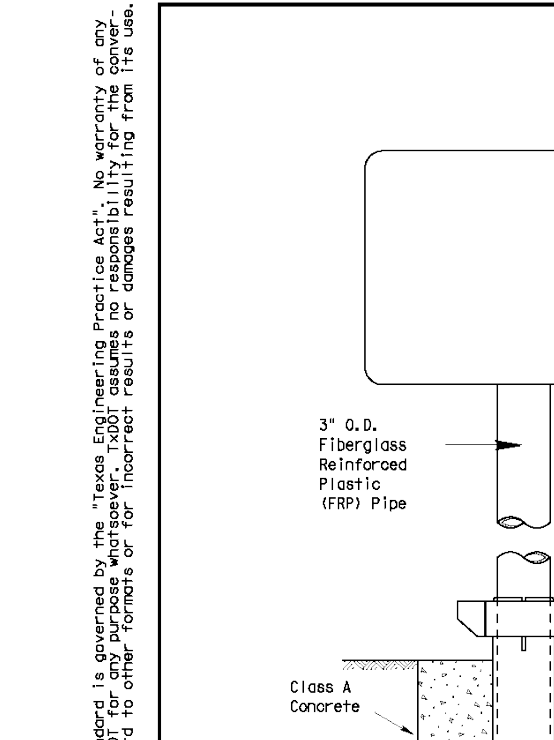
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

Texas Department of Transportation
Traffic Operations Division

TWO-WAY LEFT TURN LANES, RURAL LEFT TURN BAYS, AND LANE REDUCTION PAVEMENT MARKINGS

PM(3)-22

| DATE | REV | DESCRIPTION | BY | CHKD | APP'D |
|----------|-----|-------------|-----|------|-------|
| 08-02-02 | 1 | ISSUED | ... | ... | ... |
| 08-02-02 | 2 | ... | ... | ... | ... |
| 08-02-02 | 3 | ... | ... | ... | ... |
| 08-02-02 | 4 | ... | ... | ... | ... |



GENERAL NOTES:

- FRP sign supports for a single sign shall be galvanized per Item 445, "Galvanizing".
- All nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing".
- See the Traffic Operations Division website for detailed drawings of sign clamps. The website address is: <http://www.hobasite.com>

FRP POST REQUIREMENTS:

- Water-tight sealant shall be applied to the joint between the FRP post and the concrete anchor.
- Thickness of FRP sign support is 0.125" ± 0.031".
- FRP sign supports are galvanized to meet the requirements of the Traffic Operations Division. The website address is: <http://www.hobasite.com>

UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURES:

- Drill foundation hole. Where soil rock is encountered at ground level, the foundation shall be a minimum depth of 18". When soil rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If soil rock is encountered, the socket/anchor shall be reduced in length as required to a minimum length of 18". Any material removed from the socket/anchor shall be from the bottom and the clearance requirements given on SMD(1) shall be followed. The inner surfaces of the socket/anchor must remain free of concrete or other debris.
- 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. Place concrete into hole until it is approximately flush with the ground. Concrete shall be Class A.
- Insert tubular socket into concrete until top of socket is approximately 1/4" above the concrete footing.
- Place the sign on the sign post.
- Insert the sign post into socket and align sign face with roadway.
- Attach the sign to the sign post. This will leave approximately 3 inches of the wedge exposed.
- Insert the sign post into base post. Lower until the post comes to rest on steel rod.
- Set compression ring using a hammer. Apply the top of compression ring will be approximately level with top of stub post.
- Check sign post to ensure it is unable to turn. If loose, increase the tightening of the compression ring.

BOLT-DOWN DETAILS

- Position base plate with coupler on existing concrete.
- Drill holes into concrete and insert the 5/8" diameter bolts with wedge anchors, and tighten nuts.
- Attach sign to FRP post.
- Insert bottom of sign post into sign post.
- Use hammer to ensure the coupler is firmly seated. Top of coupler should be level with top of base post in most instances.
- Check sign to ensure there is no twist. If loose, increase the tightening of coupler.

BOLT-DOWN SIGN SUPPORT:

- Position base plate with coupler on existing concrete.
- Drill holes into concrete and insert the 5/8" diameter bolts with wedge anchors, and tighten nuts.
- Attach sign to FRP post.
- Insert bottom of sign post into sign post.
- Use hammer to ensure the coupler is firmly seated. Top of coupler should be level with top of base post in most instances.
- Check sign to ensure there is no twist. If loose, increase the tightening of coupler.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
UNIVERSAL ANCHOR SYSTEM
WITH FRP POST

SMD(FRP)-08

| DATE | REV | DESCRIPTION | BY | CHKD | APP'D |
|----------|-----|-------------|-----|------|-------|
| 08-02-02 | 1 | ISSUED | ... | ... | ... |
| 08-02-02 | 2 | ... | ... | ... | ... |
| 08-02-02 | 3 | ... | ... | ... | ... |
| 08-02-02 | 4 | ... | ... | ... | ... |

Date: Oct 26, 2025 11:07am User: ID: jperkins File: P:\3000\441\Design\CD\15501-30004-4.dwg

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DATE: _____ NO. REVISION: _____

10-29-2025

JOCYLYN PEREZ
98367
PROFESSIONAL ENGINEER

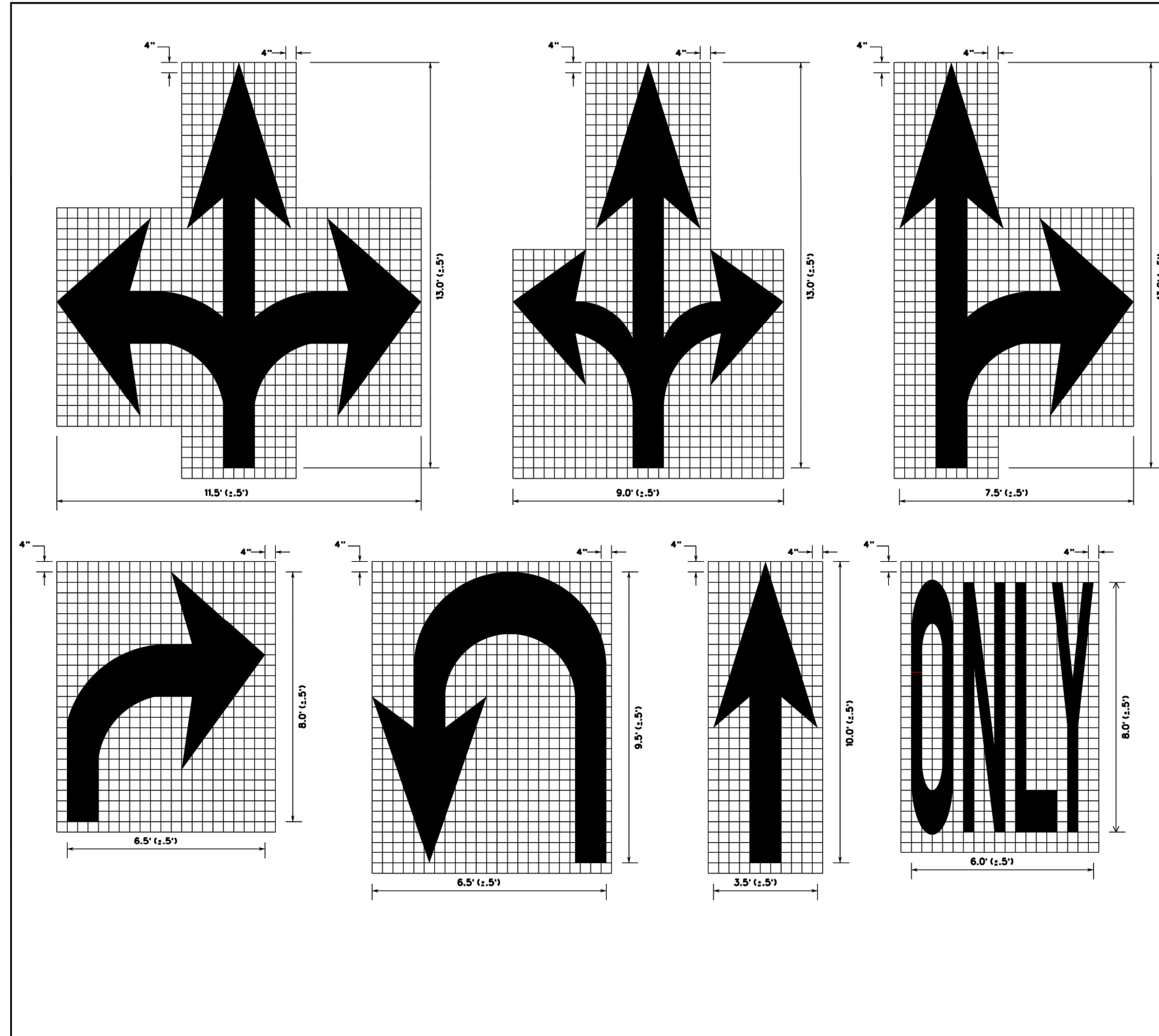
PAPE-DAWSON
1671 INDEPENDENCE DR. STE 102 NEW BRUNSWICK, TX 76132 | 832.632.5533
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM # 0028890

GALM ROAD PHASE 3
SAN ANTONIO, TEXAS

TXDOT SIGN MOUNTED DETAILS

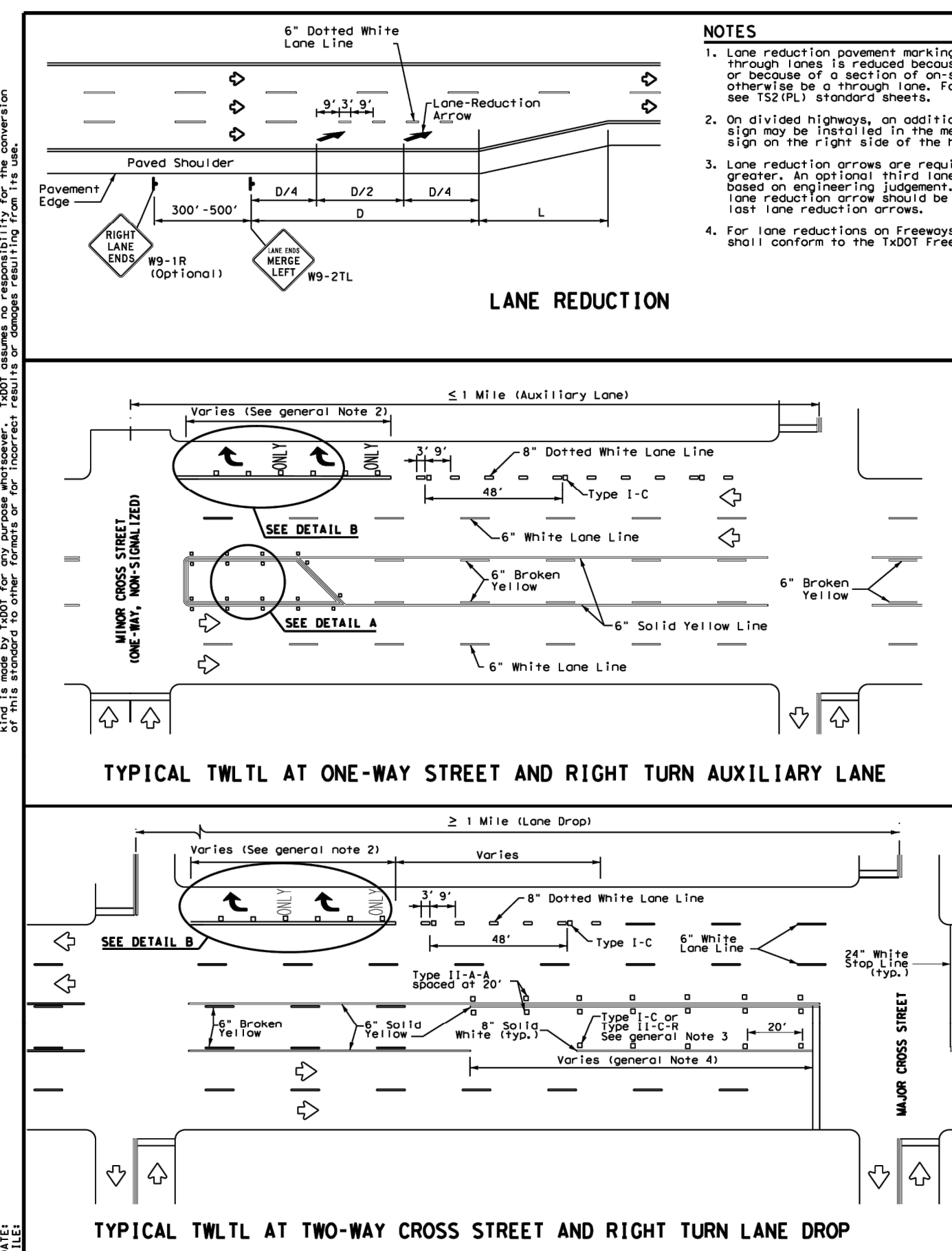
PLAT NO. N/A
JOB NO. 30004-41
DATE: OCTOBER 2025
DESIGNER: GDL
CHECKED: DRAWN: CA
SHEET: C3.11

FOR PERMIT



- NOTES:**
- MINIMUM 8 FOOT WHITE MARKINGS SHALL BE USED, UNLESS OTHERWISE NOTED. MESSAGE CONSISTS OF MORE THAN ONE WORD, IT SHOULD BE PLACED WITH FIRST WORD NEAREST THE DRIVER.
 - THESE DETAILS ARE STANDARD SIZE FOR NORMAL INSTALLATION SIZES MAY BE REDUCED APPROXIMATELY ONE-THIRD DEPENDING ON CONDITIONS.
 - THE LONGITUDINAL SPACE BETWEEN MARKINGS SHOULD BE 30 FEET.
 - MARKINGS CONSIDERED APPROPRIATE FOR USE WHEN WARRANTED INCLUDE THE FOLLOWING:
 - REGULATORY
 - STOP
 - RIGHT (LEFT) TURN ONLY
 - 25 MPH
 - SYMBOL ARROWS
 - WARNING
 - STOP AHEAD
 - SCHOOL AHEAD
 - SCHOOL
 - SCHOOL X-ING
 - SCHOOL X-ING
 - PEDESTRIAN
 - PEDESTRIAN
 - R X R (SEE RCPM DETAIL)
 - UNCONTROLLED USE OF PAVEMENT MARKINGS CAN RESULT IN DRIVER CONFUSION. WORD AND SYMBOL MARKINGS SHOULD BE NO MORE THAN THREE LINES.
 - THE WORD "STOP" SHALL NOT BE USED ON THE PAVEMENT UNLESS ACCOMPANIED BY A STOP LINE AND STOP SIGN. THE WORD "STOP" SHALL NOT BE PLACED ON THE PAVEMENT IN ADVANCE TO A STOP LINE UNLESS EVERY VEHICLE IS REQUIRED TO STOP AT ALL TIMES.
 - PAVEMENT MARKINGS SHOULD GENERALLY BE NO MORE THAN ONE LINE IN WIDTH WITH SCHOOL MESSAGES BEING THE EXCEPTION. FOR DETAILS OF SCHOOL AND SCHOOL CROSSING PAVEMENT MARKINGS, REFER TO PART VI OF THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
 - SPACING BETWEEN LETTERS SHOULD BE APPROXIMATELY 4 INCHES. THE WIDTH OF LETTERS MAY VARY DEPENDING ON THE WIDTH OF THE TRAVEL LINES.
 - LANE-USE ARROW MARKINGS MAY BE USED TO CONVEY EITHER GUIDANCE OR MANDATORY MESSAGES. ARROWS USED TO CONVEY A MANDATORY MOVEMENT MUST BE ACCOMPANIED BY STANDARD SIGNS AND THE PAVEMENT MARKING WORD "ONLY".
 - PAVEMENT MARKINGS ARE TO BE LOCATED AS SPECIFIED ELSEWHERE IN THE PLANS.

SEPTEMBER 2009
 CITY OF SAN ANTONIO
 DEPARTMENT OF PUBLIC WORKS
 TRAFFIC ENGINEERING STANDARDS
 STANDARD PAVEMENT MARKINGS
 (ARROWS)
 SHEET 3 OF 16



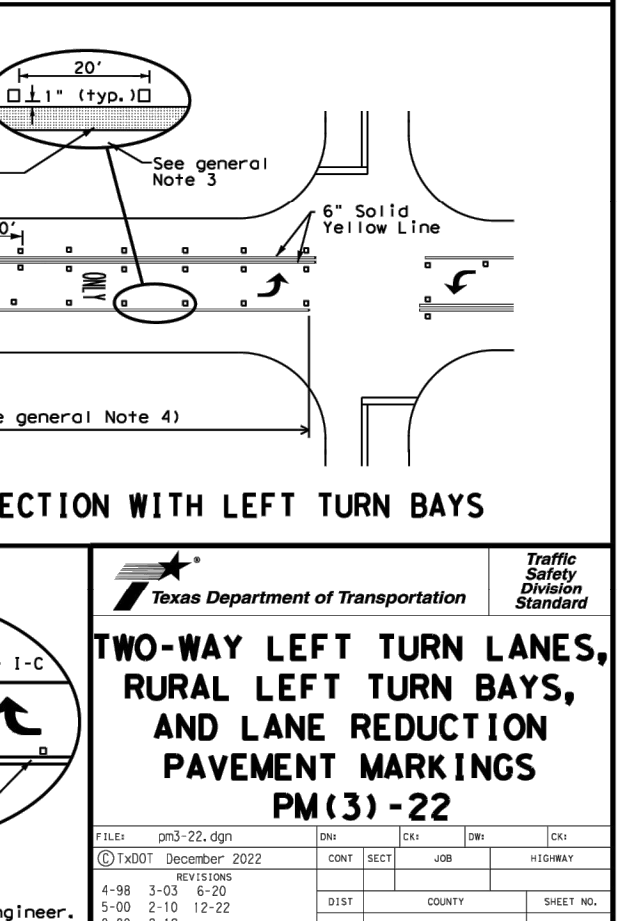
ADVANCED WARNING SIGN DISTANCE (D)

| POSTED SIGN | D (ft) | L (ft) |
|-------------|--------|--------|
| 35 MPH | 460 | W-2 |
| 35 MPH | 565 | L-50 |
| 40 MPH | 670 | W-2 |
| 40 MPH | 775 | L-50 |
| 50 MPH | 885 | W-2 |
| 50 MPH | 990 | L-50 |
| 60 MPH | 1,100 | W-2 |
| 60 MPH | 1,200 | L-50 |
| 70 MPH | 1,250 | W-2 |
| 70 MPH | 1,350 | L-50 |

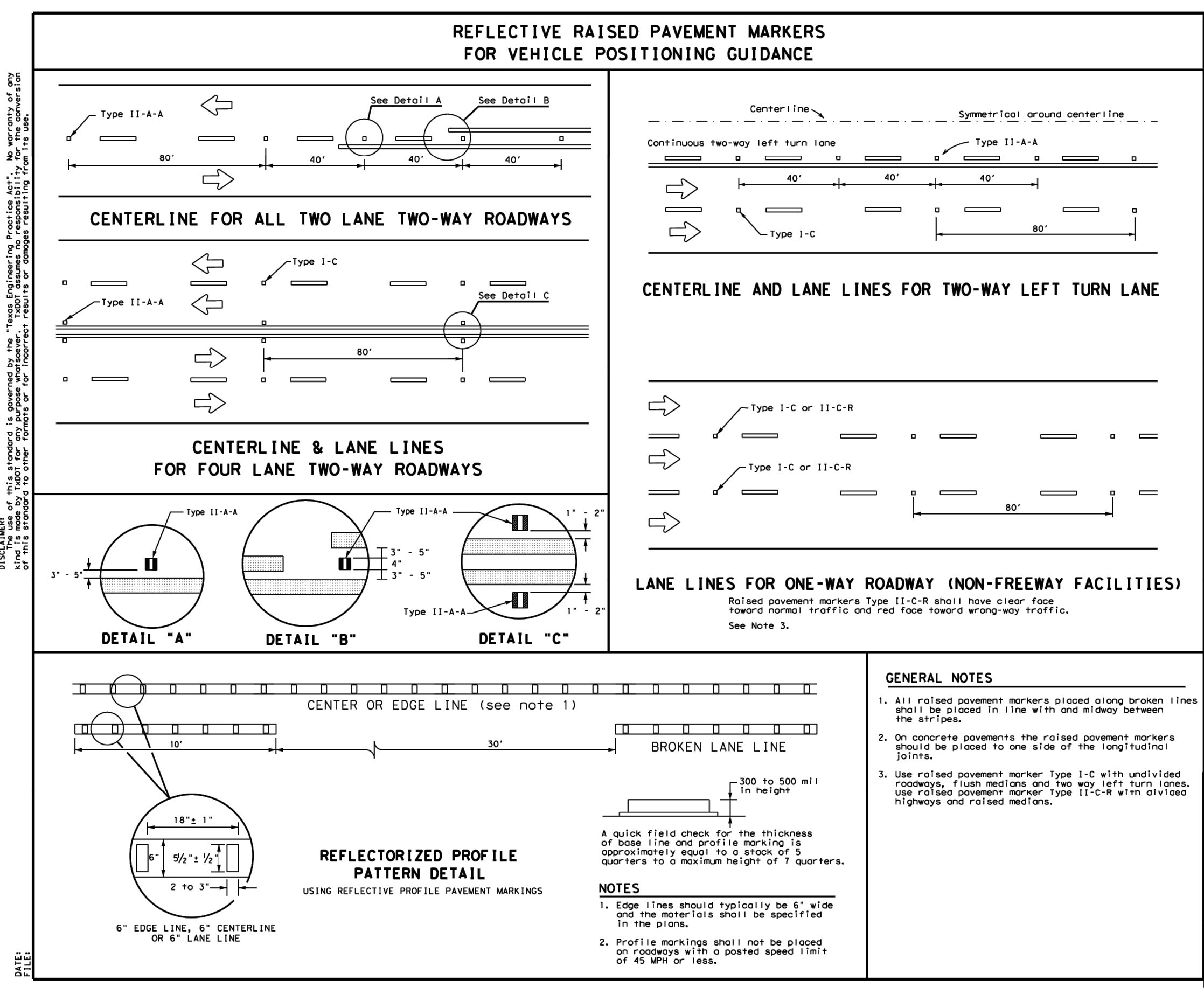
- GENERAL NOTES**
- Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in quality lanes of substantial length. Lane use arrow markings or word or arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows are as shown in the Standard Highway Sign Designs for Texas.
 - When lane use words and arrow markings are used, two sets of crosses should be used if the length of the bay is greater than 180 feet when a single type, use of word or word and arrow markings is used for a through lane. Crosses should be located at or near the upstream end of the full-width turn lane.
 - Use raised pavement marker Type 1-C with undivided highways, flush medians and two way left turn lanes. Use raised pavement marker Type 11-C-R with divided highways and raised medians.
 - Length of turn bays, including taper, deceleration and storage lengths shall be as shown on the plans or as directed by the Engineer. See Chapter 3 of the Roadway Design Manual for additional information on turning lanes or storage lengths.

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 |

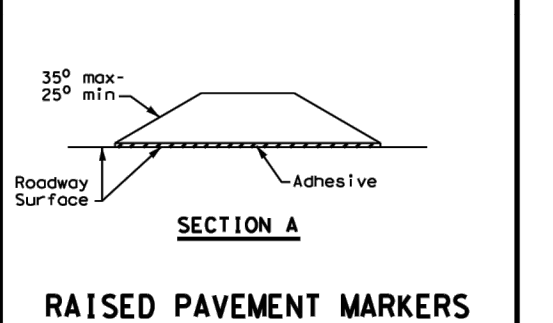
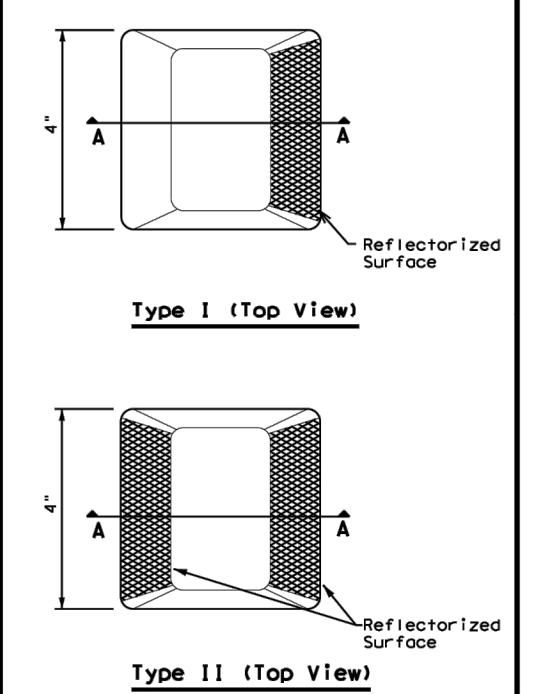


Texas Department of Transportation
 Traffic Engineering Standards
TWO-WAY LEFT TURN LANES, RURAL LEFT TURN BAYS, AND LANE REDUCTION PAVEMENT MARKINGS
 PM(3)-22



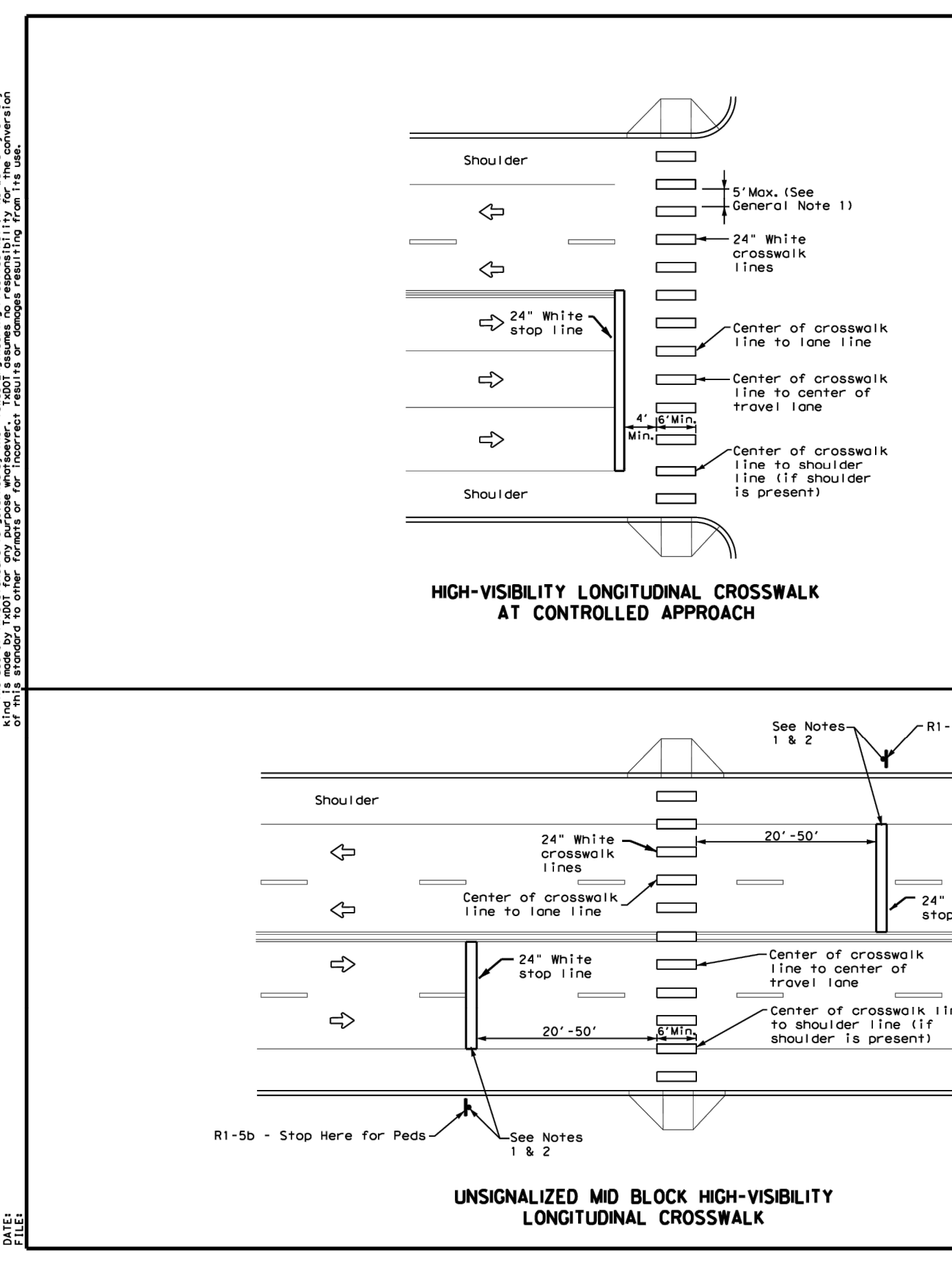
MATERIAL SPECIFICATIONS

| 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 |



POSITION GUIDANCE USING RAISED MARKERS RELECTORIZED PROFILE MARKINGS
 PM(2)-22

- GENERAL NOTES**
- All raised pavement markers placed along broken lines shall be placed in line with and midway between the stripes.
 - On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.
 - Use raised pavement marker Type 1-C with undivided roadways, flush medians and two way left turn lanes. Use raised pavement marker Type 11-C-R with divided highways and raised medians.
- NOTES**
- Edge lines should typically be 6" wide and the materials shall be specified in the plans.
 - Profile markings shall not be placed on roadways with 0 posted speed limit of 45 MPH or less.



- GENERAL NOTES**
- Longitudinal crosswalk lines should not be placed in the wheel path of vehicles. Center the crosswalk lines on travel lanes, lane lines, and shoulder lines (if present).
 - A minimum 6" clear distance shall be provided to the curb face. If the last crosswalk line falls into this distance it must be omitted.
 - For divided roadways, adjustments in spacing of the crosswalk lines should be made in the median so that the crosswalk lines are maintained in their proper location across the travel portion of the roadway.
 - At skewed crosswalks, the crosswalk lines are to remain parallel to the lane lines.
 - Each crosswalk shall be a minimum of 6' wide.
 - The High-visibility Longitudinal Crosswalk is the preferred crosswalk pattern on State Highways. Other crosswalk patterns as shown in the "Texas Manual on Uniform Traffic Control Devices" may be used. All crosswalk designs and dimensions shall comply with the "Texas Manual on Uniform Traffic Control Devices".
 - Final placement of Stop Bar and Crosswalk shall be approved by the Engineer in the field.

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 |

- NOTES:**
- Use stop bars with "Stop Here for Pedestrians" signs at unsignalized mid block crosswalks.
 - Use stop bars with "Stop Here on Red" signs at mid block crosswalks controlled by traffic signals or pedestrian hybrid beacons.

Texas Department of Transportation
 Traffic Engineering Standards
CROSSWALK PAVEMENT MARKINGS
 PM(4)-22

Date: Oct 26, 2025 11:07 am User: JD: Jmcclellan
 File: P:\300\04\1\Design\Civil\SSD\30004-1.dwg

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DATE: _____
 NO. REVISION: _____

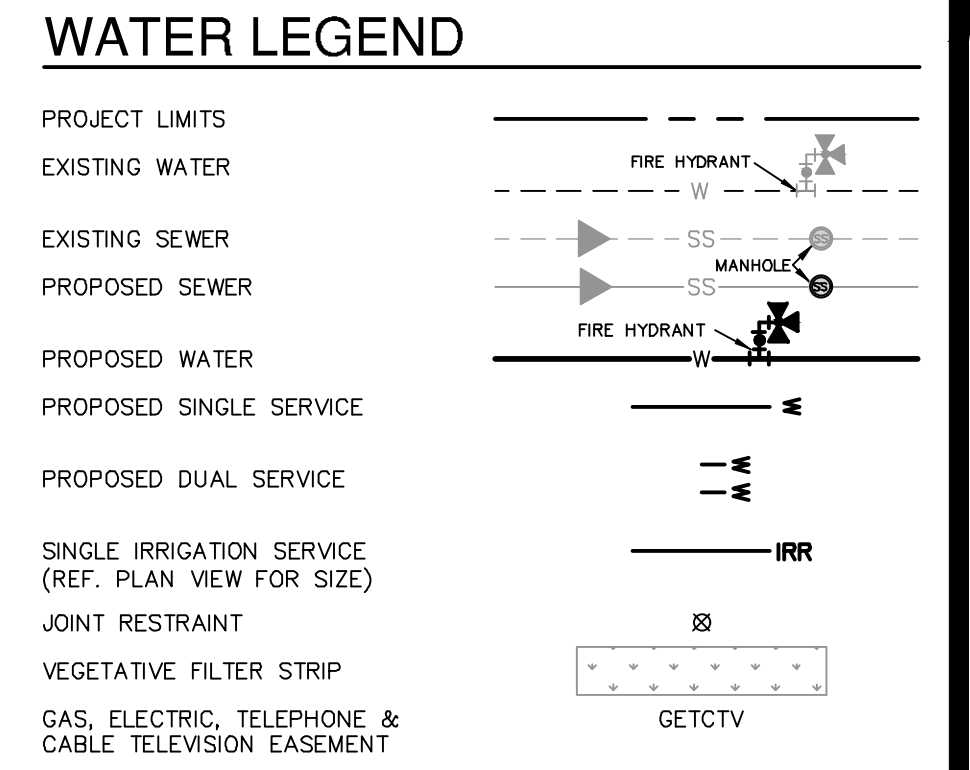
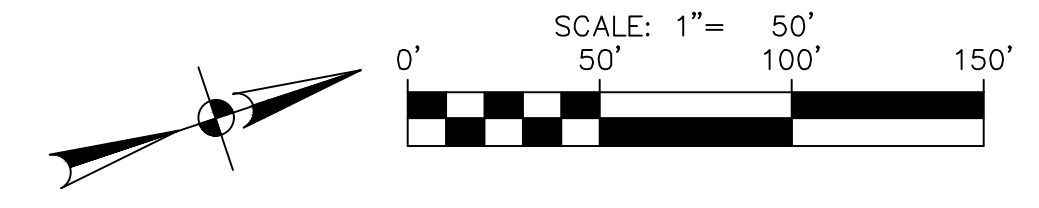
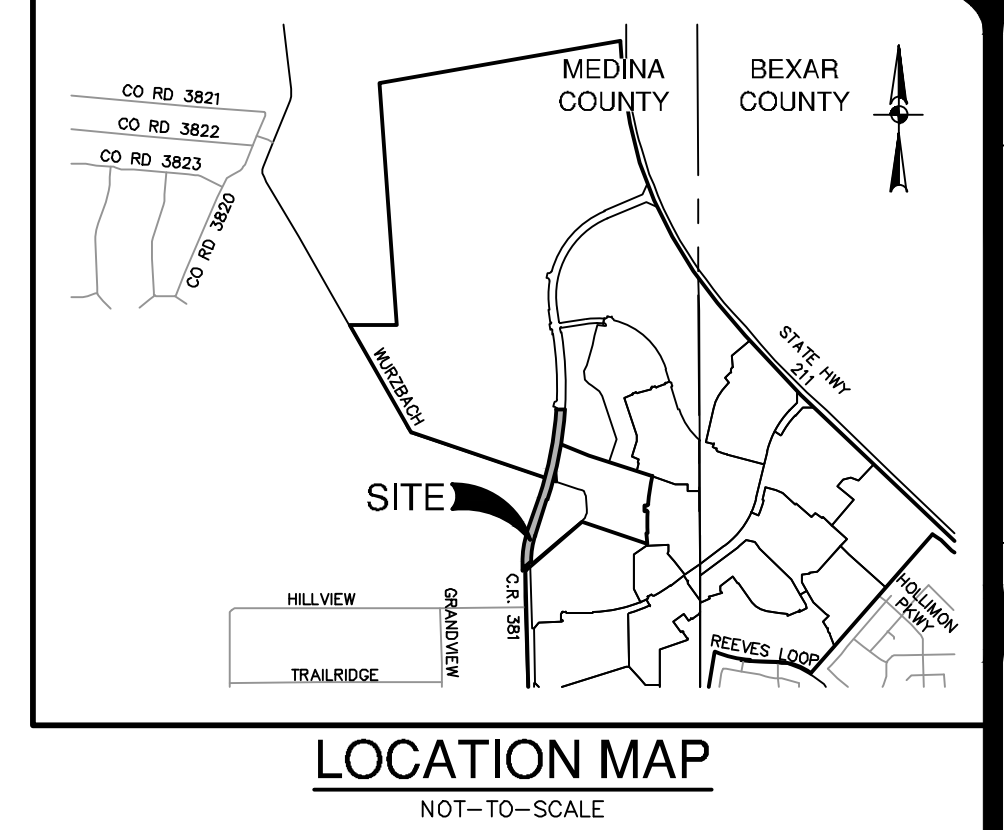
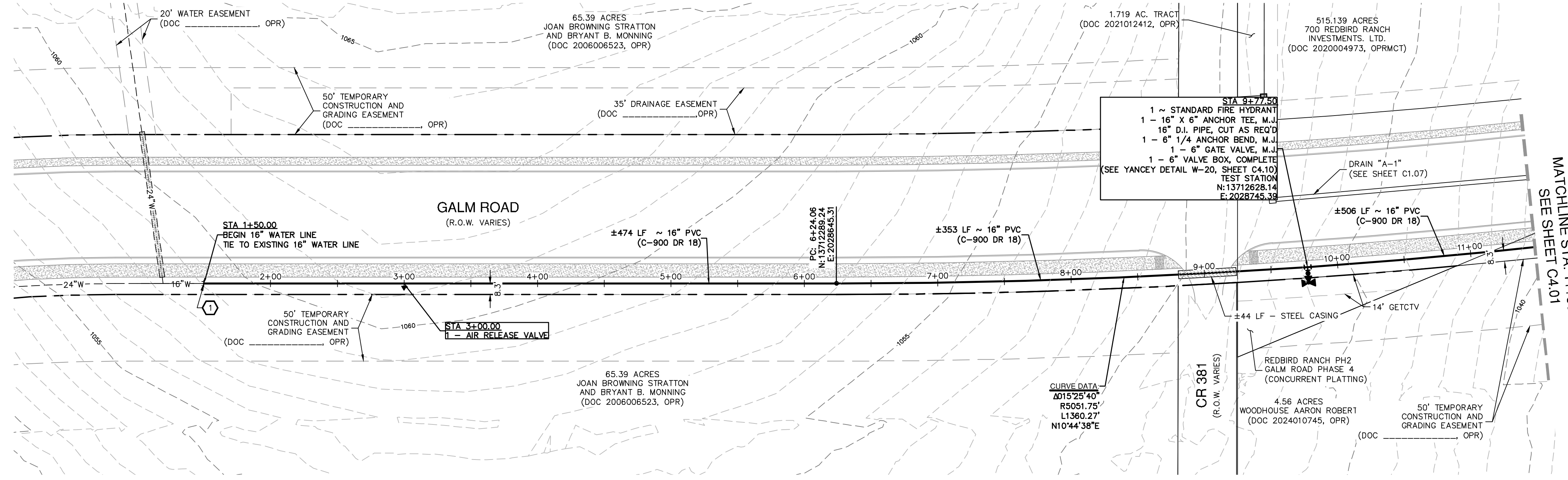
10-29-2025
 JOCELYN PEREZ
 98367
 PROFESSIONAL ENGINEER
 State of Texas
 J. Kelly Kung

PAPE-DAWSON
 1677 INDEPENDENCE DR. STE. 102 | NEW BRUNSWICK, TX 76132 | 817.622.5533
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM # 10028800

GALM ROAD PHASE 3
 SAN ANTONIO, TEXAS
 TXDOT SIGN MOUNTED DETAILS

PLAT NO. N/A
 JOB NO. 30004-41
 DATE: OCTOBER 2025
 DESIGNER: GDL
 CHECKED: DRAWN: CA
 SHEET: C3.12

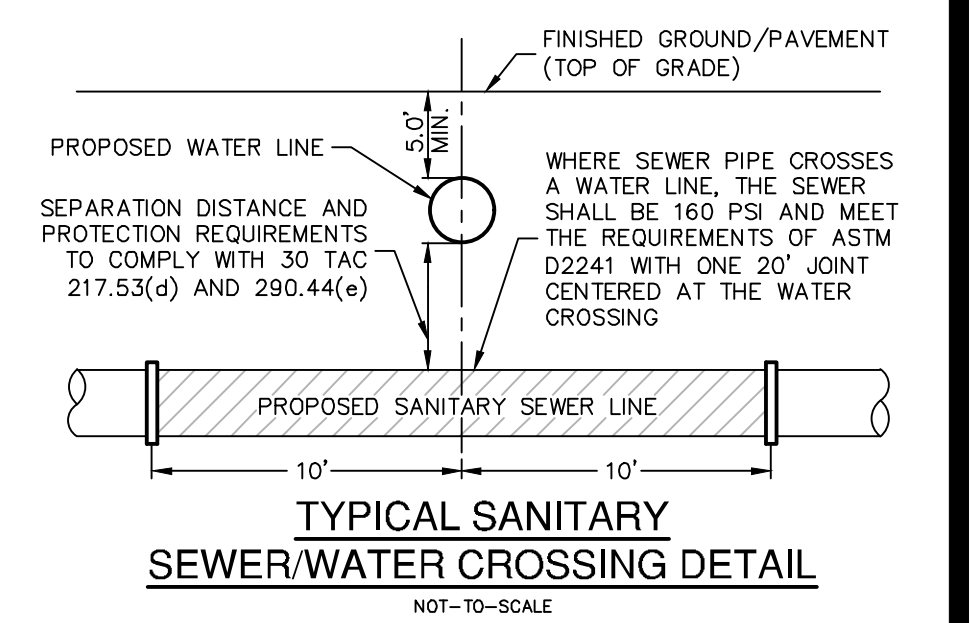
FOR PERMIT



NOTE:
NORTHING & EASTINGS ARE SHOWN TO CENTER OF FIRE HYDRANTS.

1 - 2 1/2" FLUSH VALVE (SEE YANCEY DETAIL W-34, SHEET C4.10)

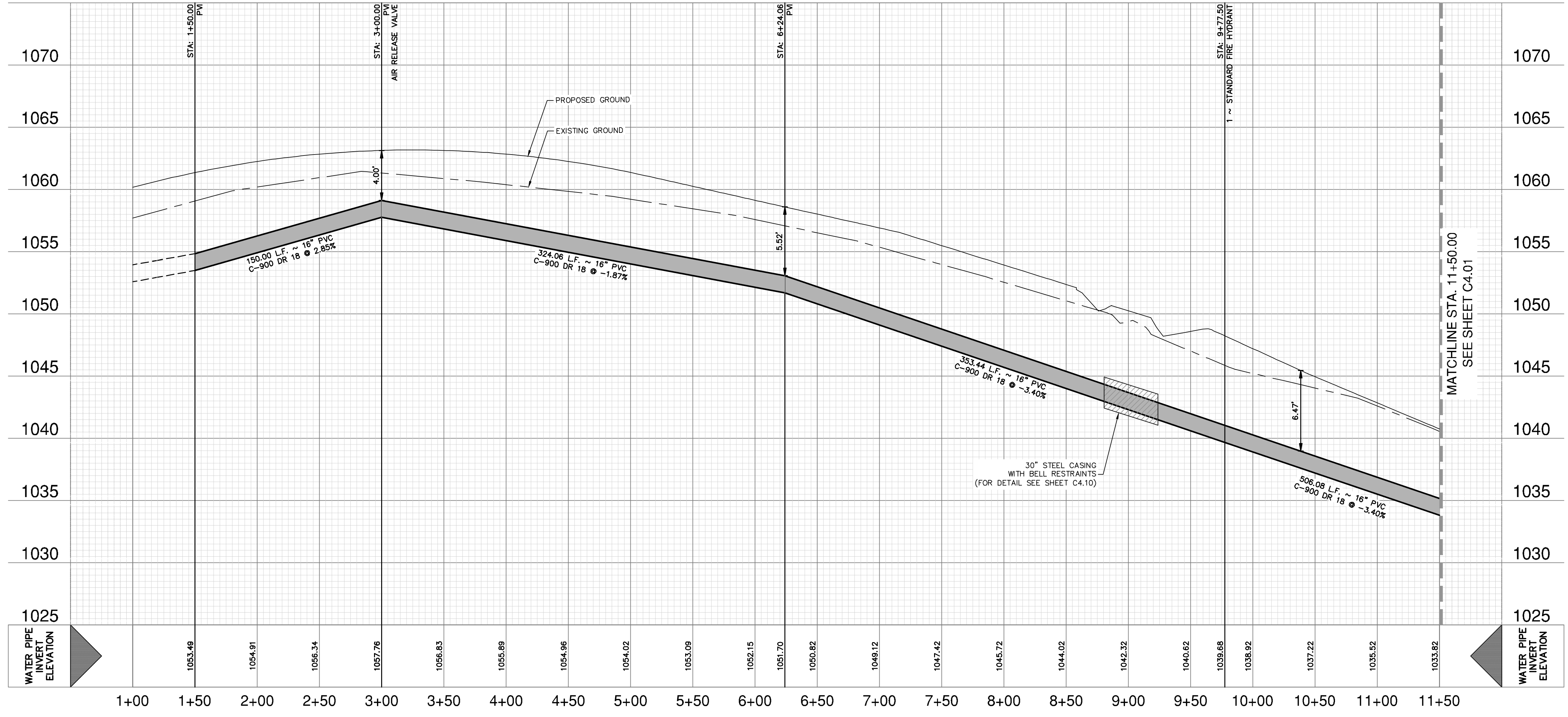
| ITEM | UNIT | QUANTITY |
|------------------|------|----------|
| 16" WATER LINE | LF | 1785 |
| LUES | EA | 0 |
| FIRE HYDRANT | EA | 1 |
| TEST STATION | EA | 1 |
| 30" STEEL CASING | LF | 54 |



JOINT RESTRAINT NOTE:
CONTRACTOR SHALL INSTALL RETAINER GLANDS AT ALL FITTINGS AND PROVIDE JOINT RESTRAINING HARNESSES OR FIELD LOCK GASKETS AT ALL JOINTS WITHIN THE LENGTH SHOWN. CONTRACTOR SHALL INSURE THAT ALL TEES, BENDS, VALVES, ETC. HAVE A MINIMUM OF 5 FT. OF PIPE WITH NO JOINTS ON EACH SIDE OF THE FITTING. JOINT RESTRAINTS AND RETAINER GLANDS SHALL BE CALCULATED BY SAWS APPROVED PROGRAMS. THERE WILL BE NO SEPARATE PAY ITEM FOR RETAINER GLANDS AND OTHER JOINT RESTRAINING HARNESSES AND GASKETS, BUT SHALL BE SUBSIDIARY TO THE UNIT COST PER LINEAL FOOT OF PIPE INSTALLED.

TRENCH EXCAVATION SAFETY PROTECTION:
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

WATER LINE "W-01"
STA. 1+50.00 TO 11+50.00
VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



Date: Dec 18, 2025, 3:37pm, User ID: jmy, File: P:\300\04\1\Drawings\Civil\WFOA-30004-01.dwg

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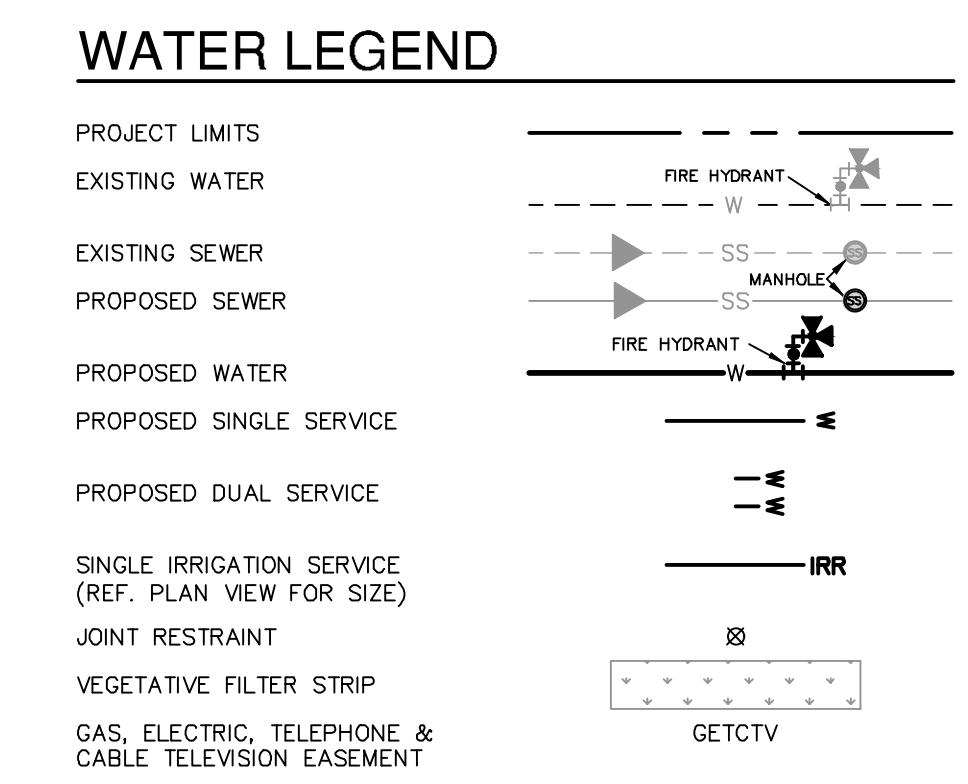
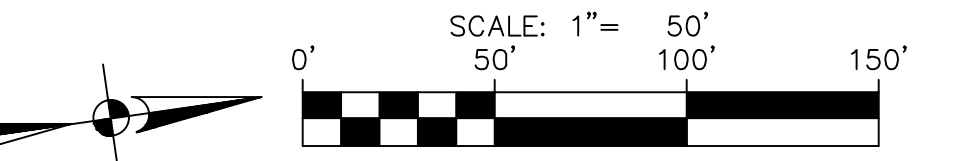
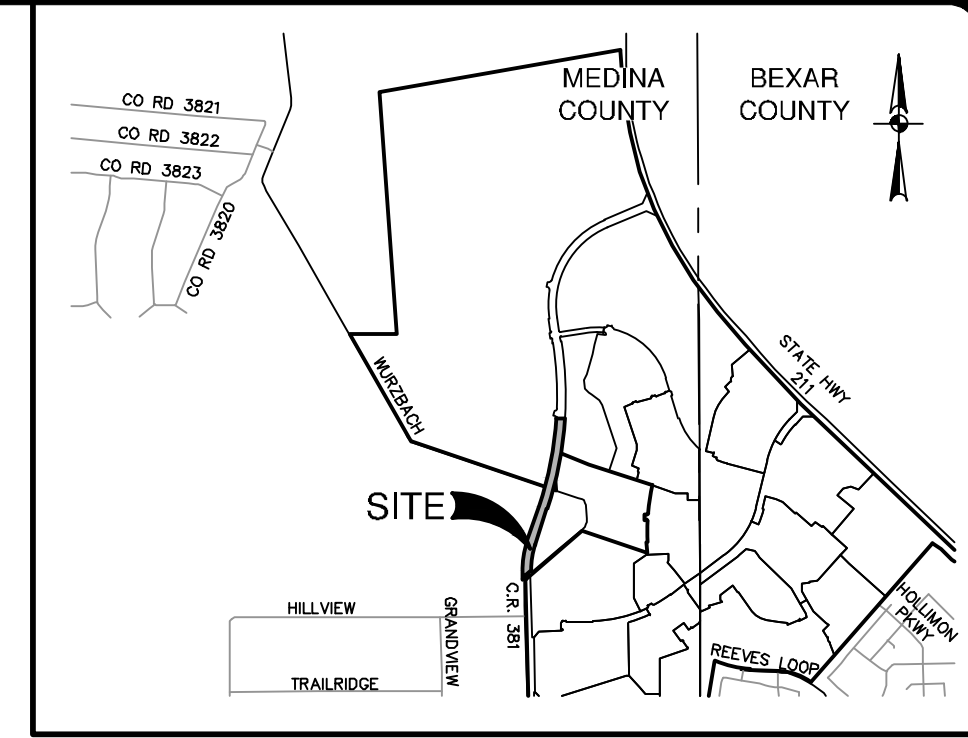
| | |
|----------|--|
| DATE | |
| NO. | |
| REVISION | |

PAPE-DAWSON
1972 INDEPENDENCE DR. STE 102 | NEW BRUNNELL, TX 78132 | 630.632.5633
TEXAS SURVEYING FIRM #10228800

GALM ROAD PHASE 3
SAN ANTONIO, TEXAS
OVERALL WATER DISTRIBUTION PLAN
STA. 1+50.00 TO 11+50.00

| | |
|----------|--------------|
| PLAT NO. | N/A |
| JOB NO. | 30004-41 |
| DATE | OCTOBER 2025 |
| DESIGNER | GDL |
| CHECKED | DRAWN CA |
| SHEET | C4.00 |

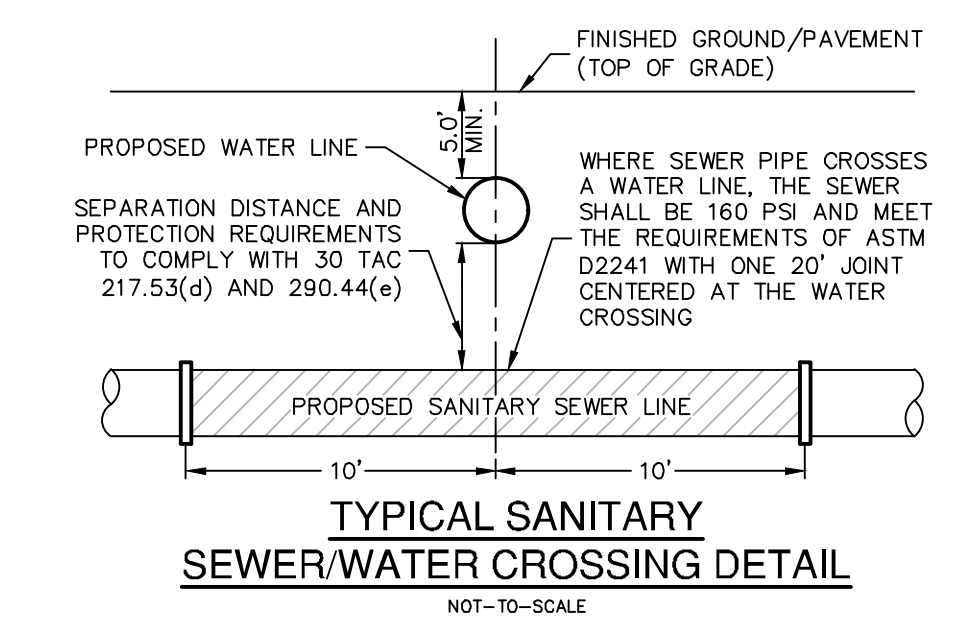
FOR PERMIT



NOTE:
NORTHING & EASTINGS ARE SHOWN TO CENTER OF FIRE HYDRANTS.

1 - 2 1/2" FLUSH VALVE (SEE YANCEY DETAIL W-34, SHEET C4-10)

| ITEM | UNIT | QUANTITY |
|------------------|------|----------|
| 16" WATER LINE | LF | 1785 |
| LUES | EA | 0 |
| FIRE HYDRANT | EA | 1 |
| TEST STATION | EA | 1 |
| 30" STEEL CASING | LF | 54 |



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DATE: _____

NO. REVISION: _____

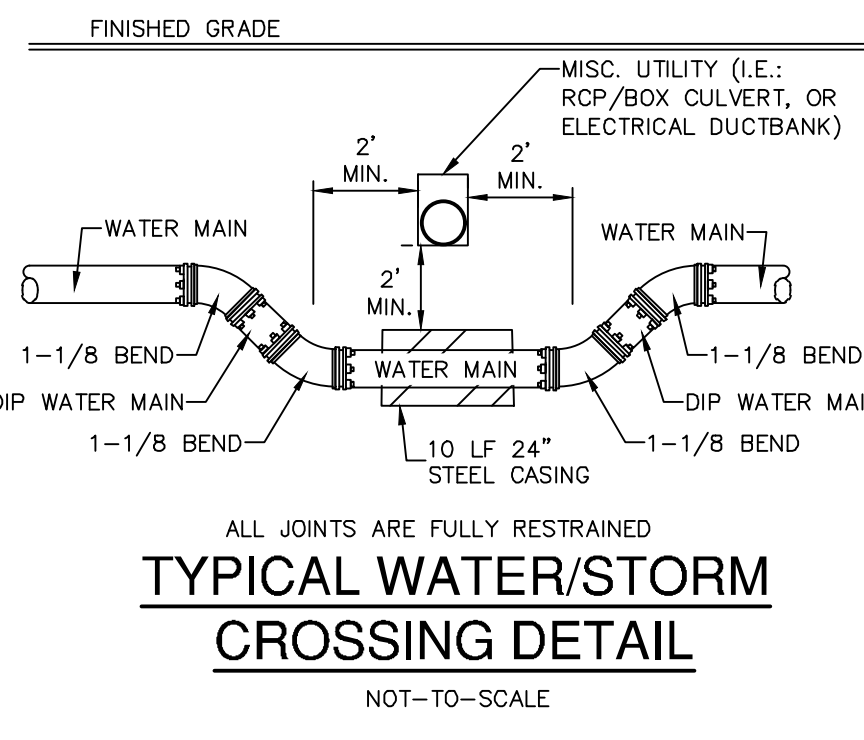
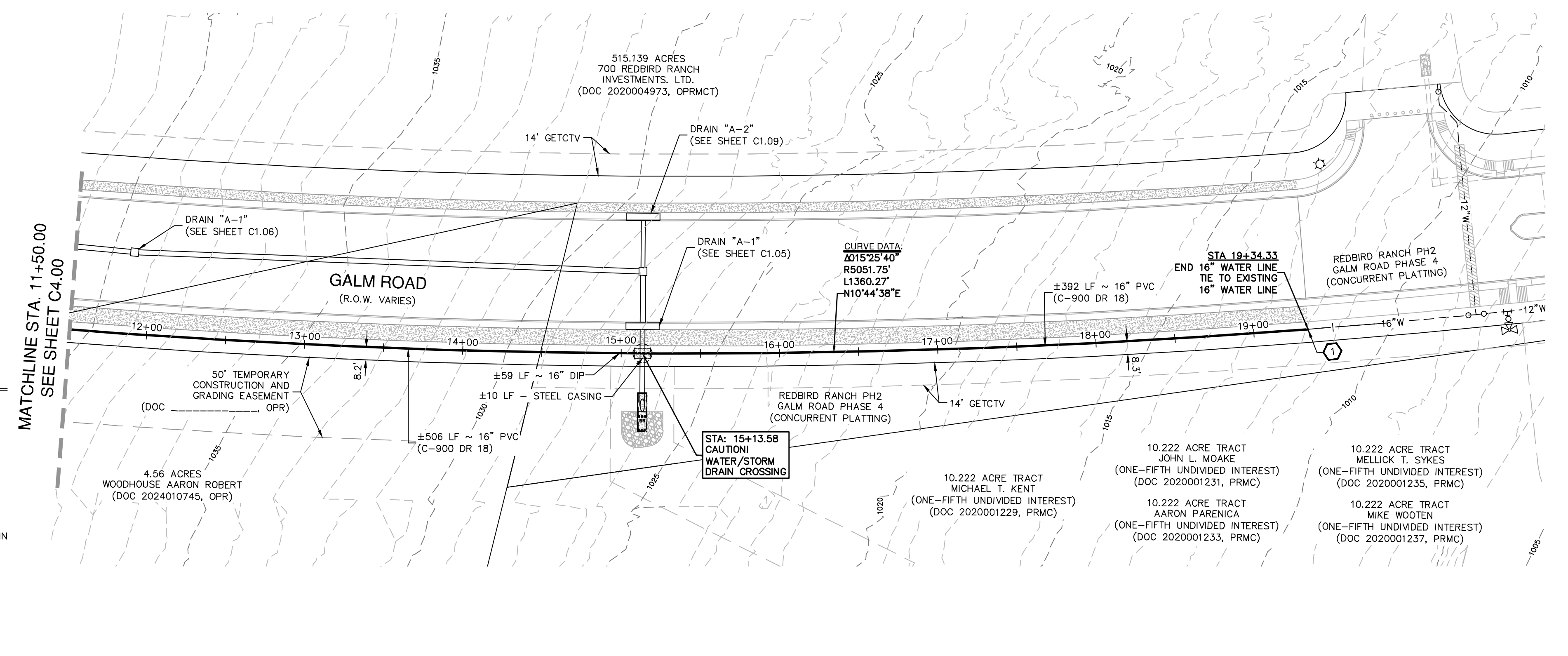
Jocelyn Perez

PAPE-DAWSON
1972 INDEPENDENCE DR. STE 102 | NEW BRUNNELL, TX 76133 | 817.632.6533
TEXAS SURVEYING FIRM #10228800

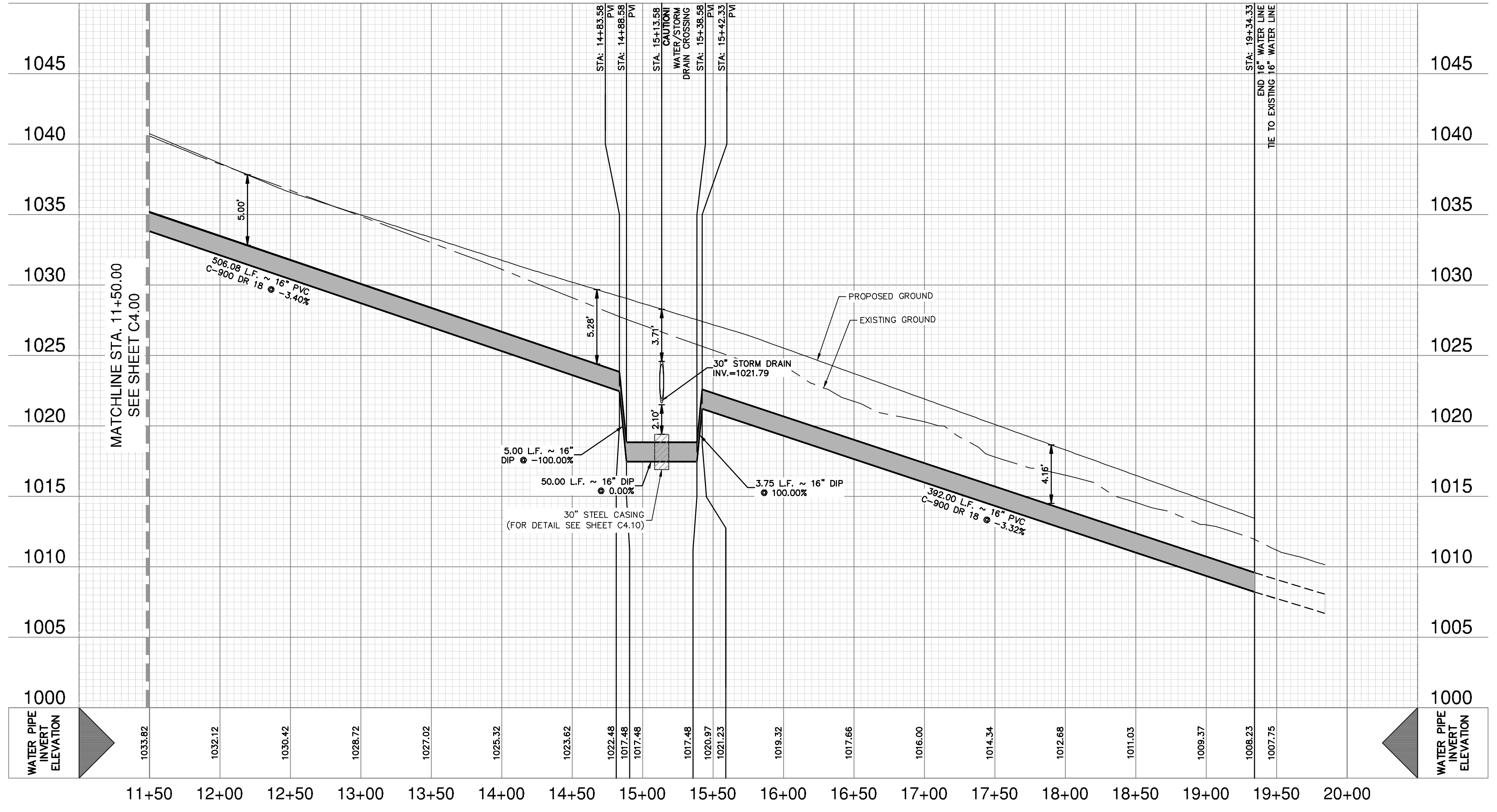
GALLOP ROAD PHASE 3
SAN ANTONIO, TEXAS

OVERALL WATER DISTRIBUTION PLAN
STA. 11+50.00 TO 19+34.33

PLAT NO. N/A
JOB NO. 30004-41
DATE OCTOBER 2025
DESIGNER GDL
CHECKED DRAWN CA
SHEET C4.01



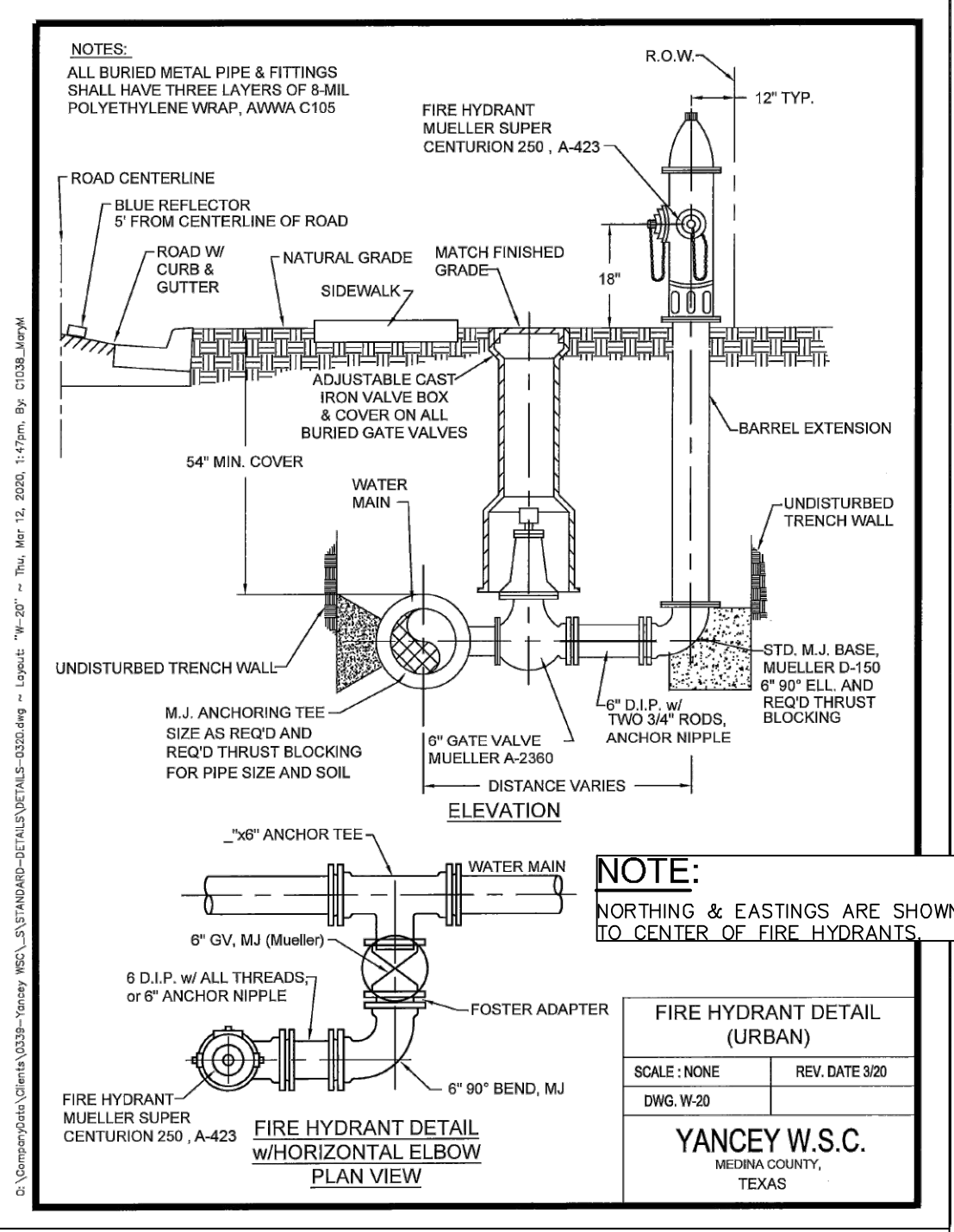
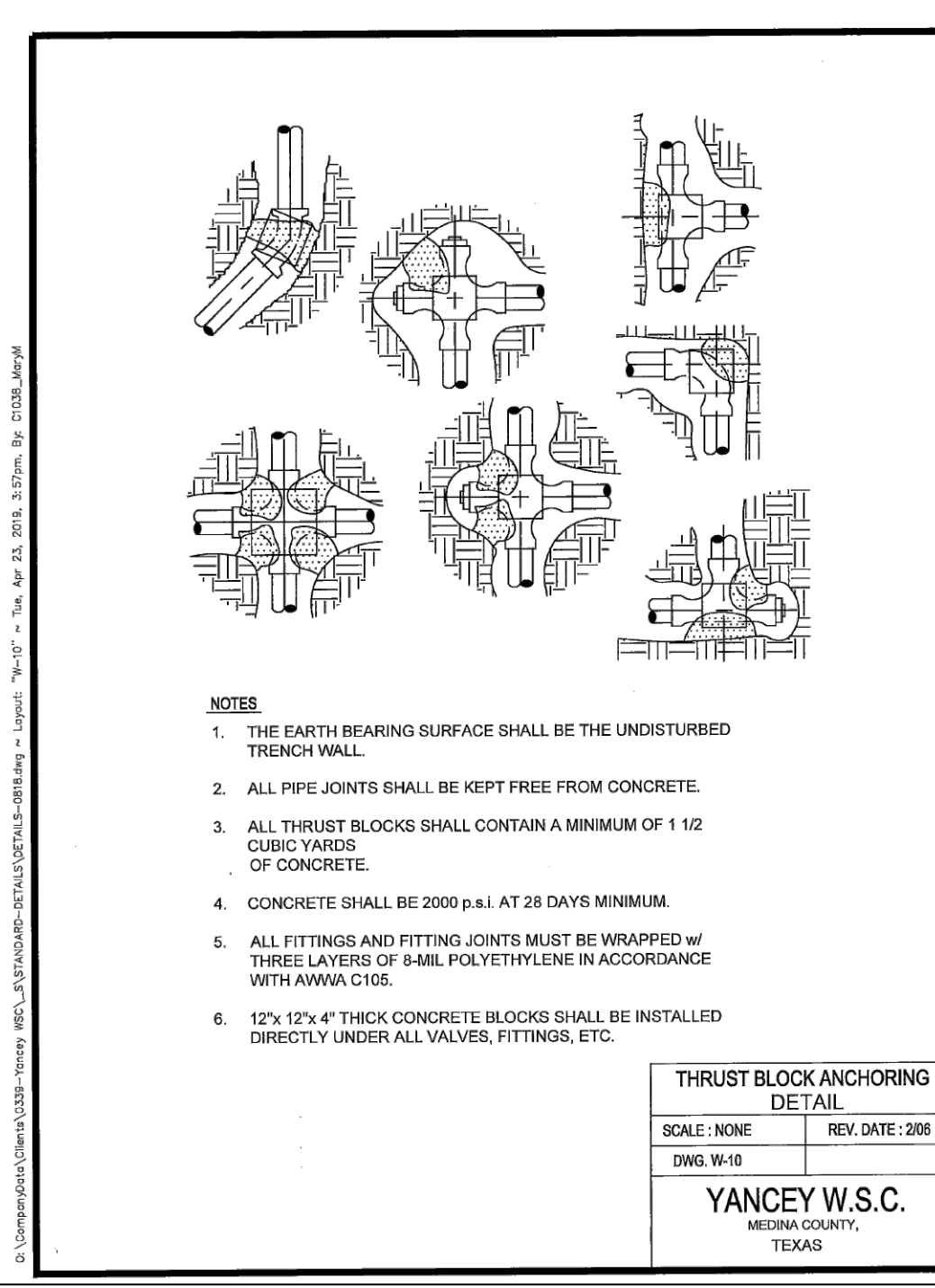
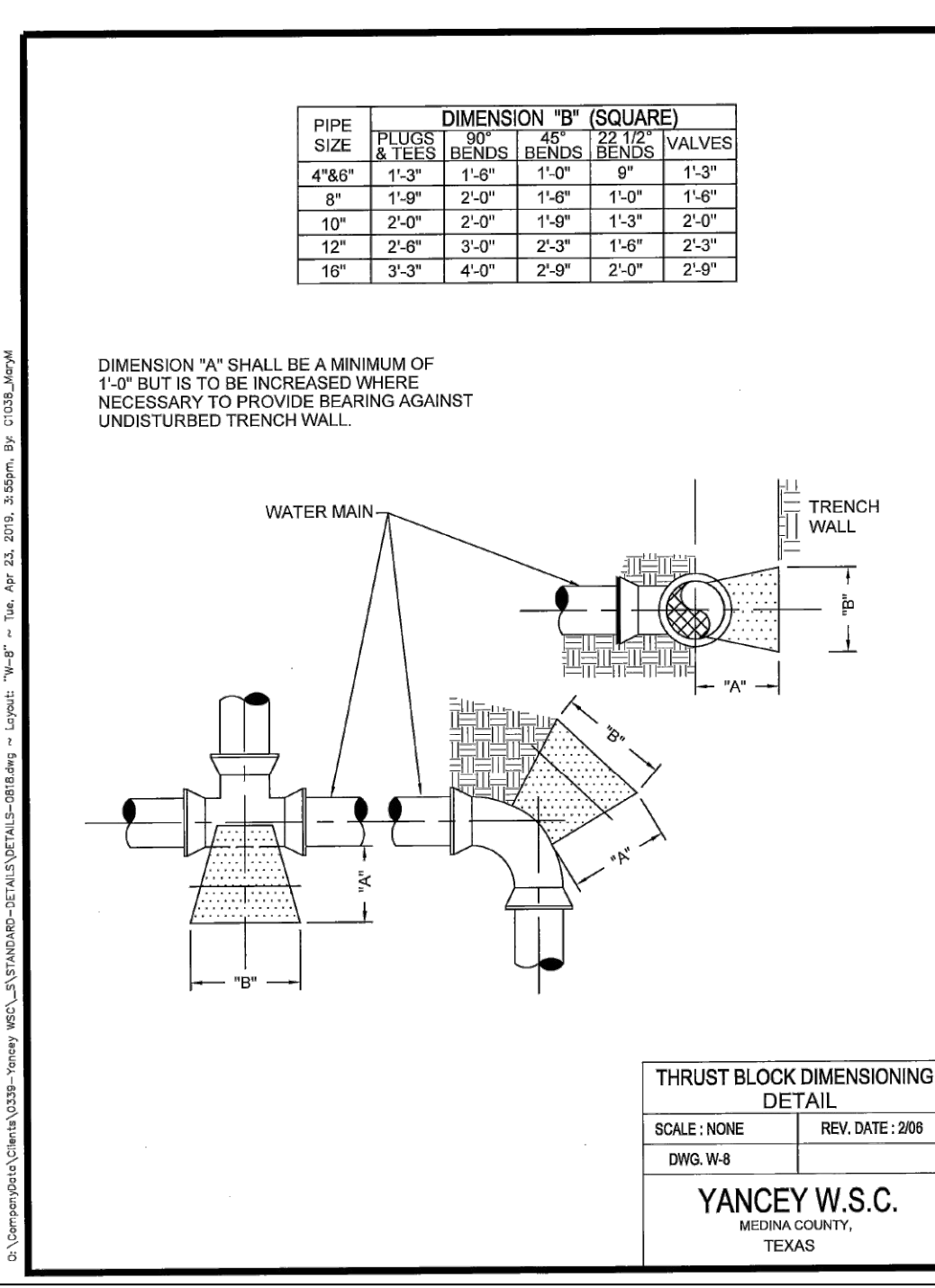
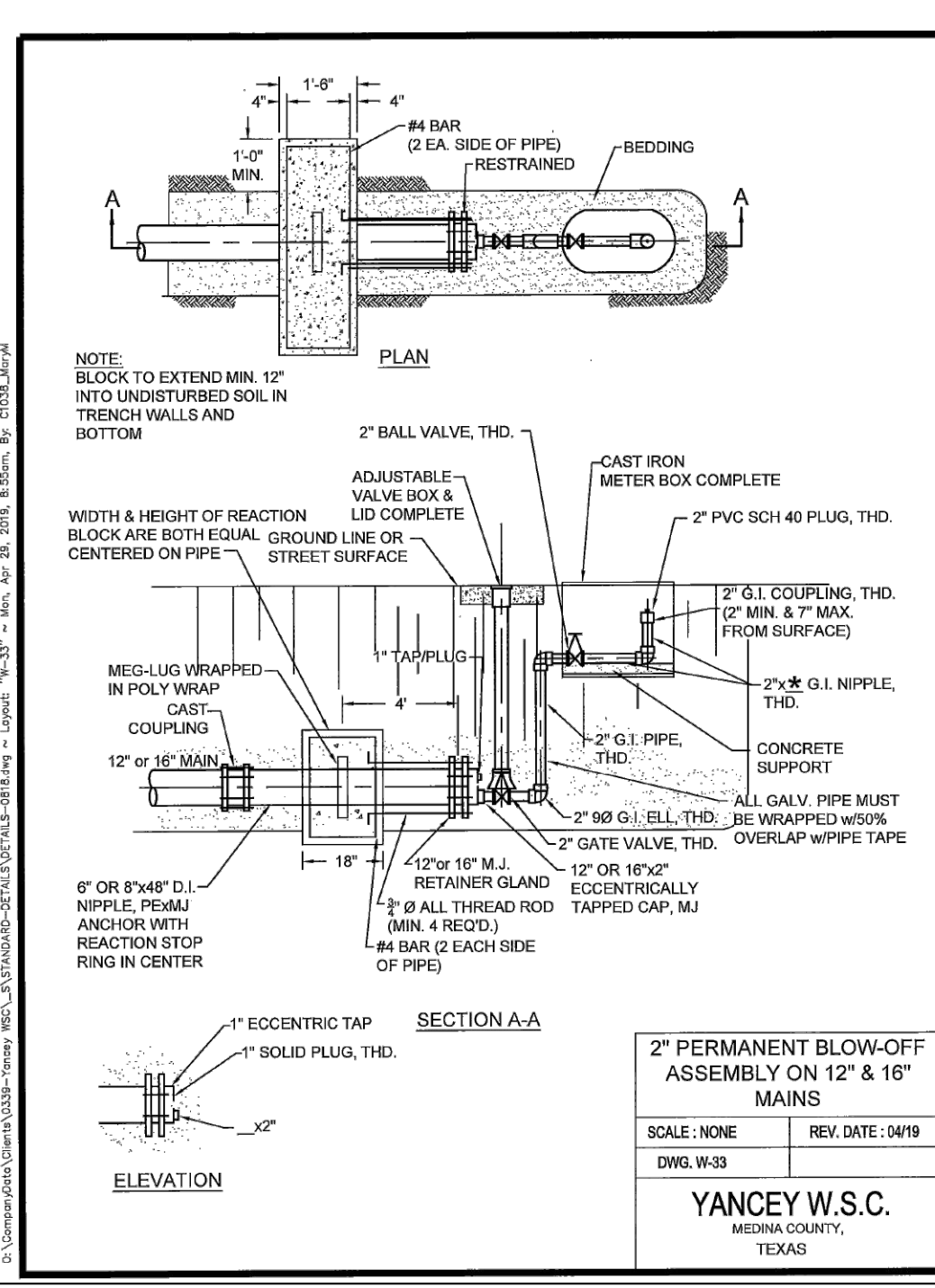
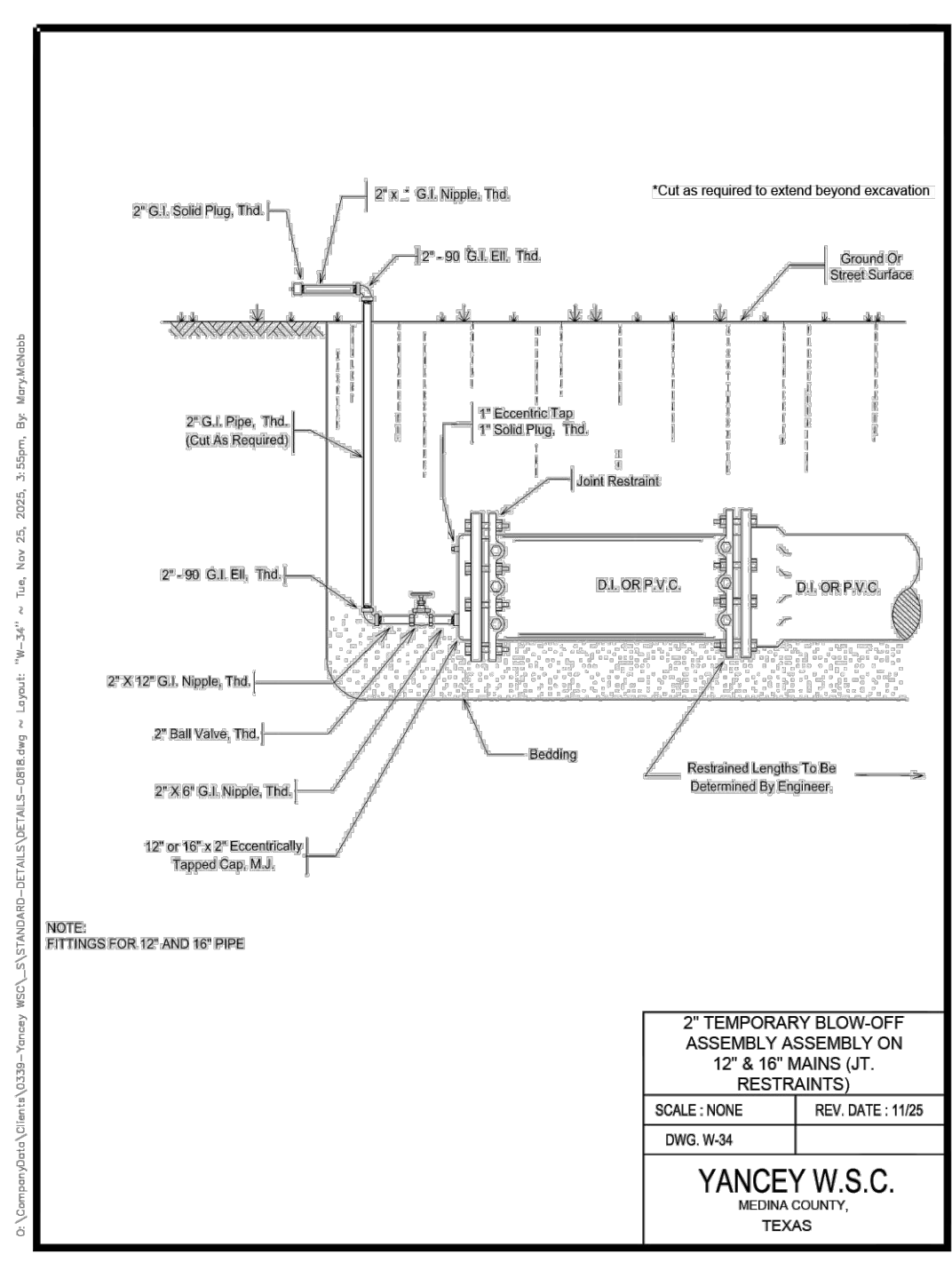
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STA. 11+50.00 TO 19+34.33
VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



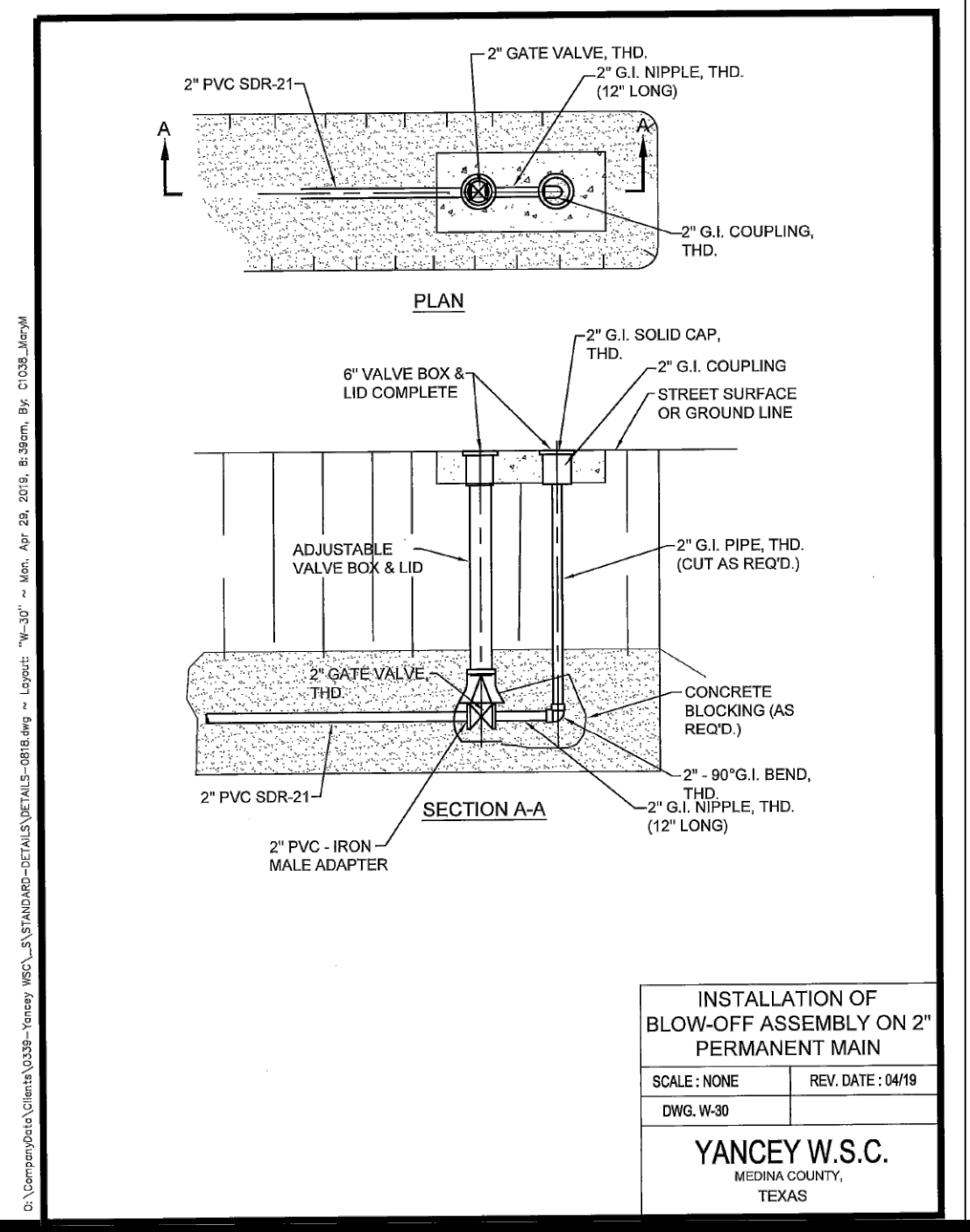
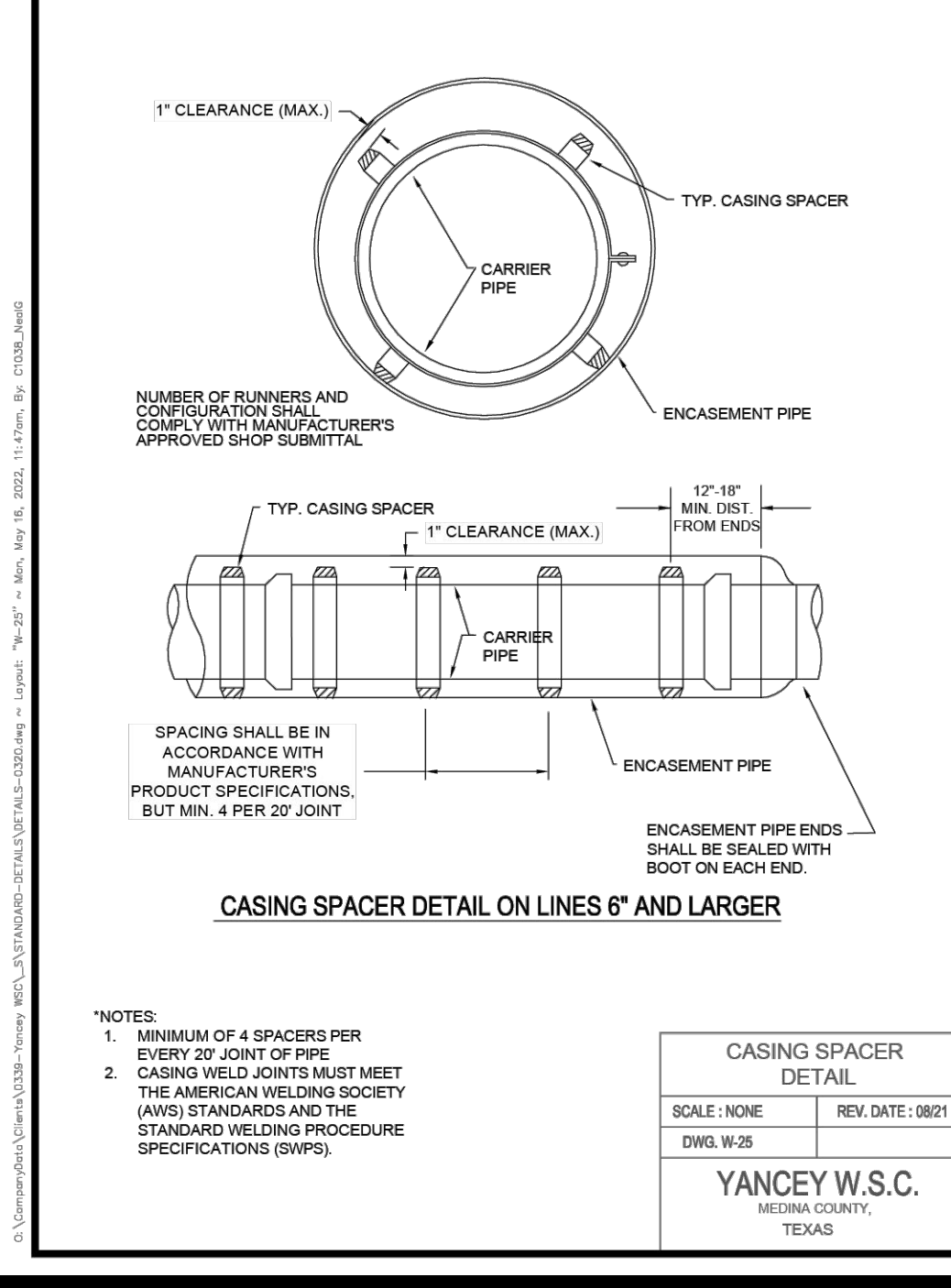
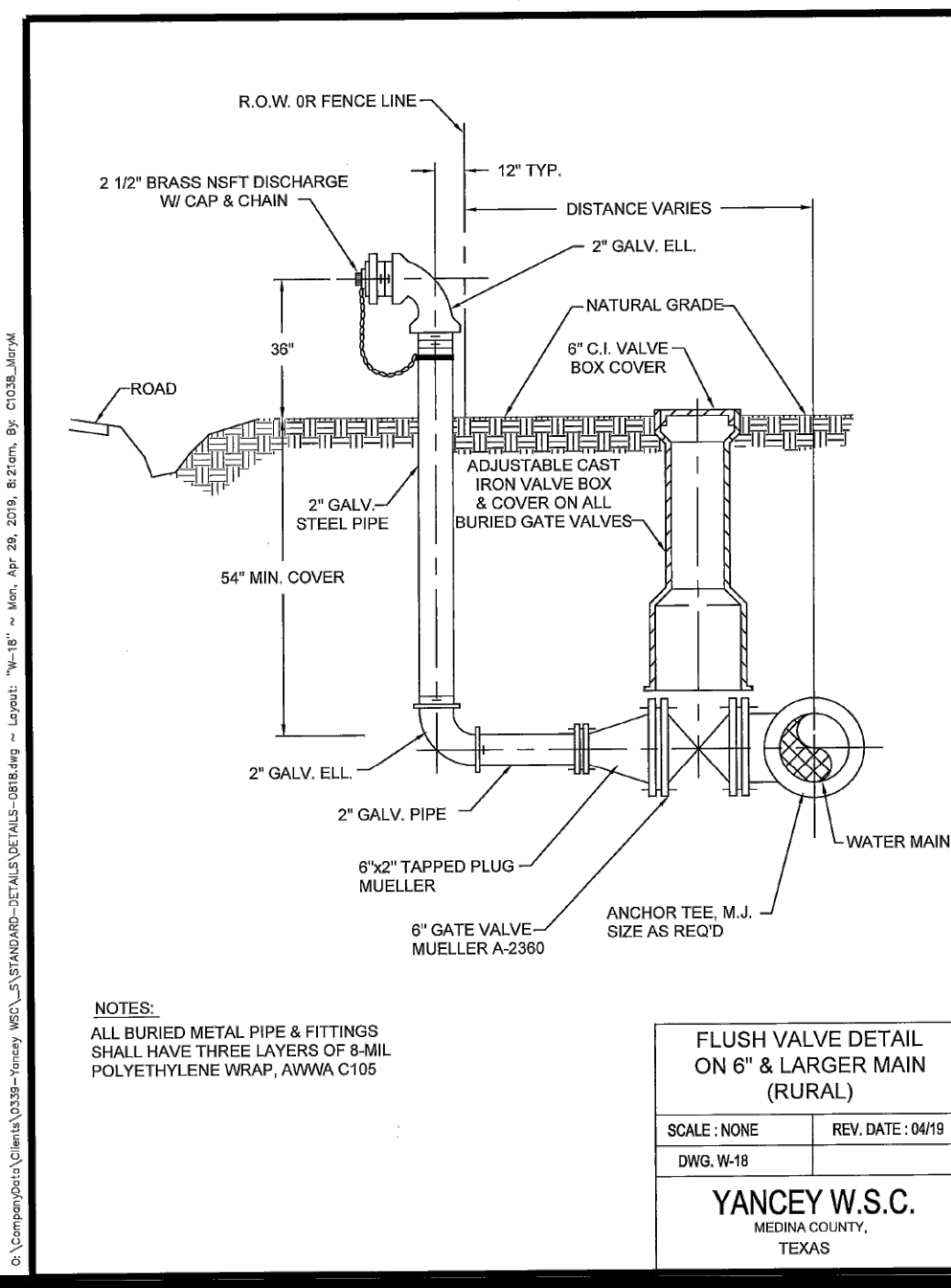
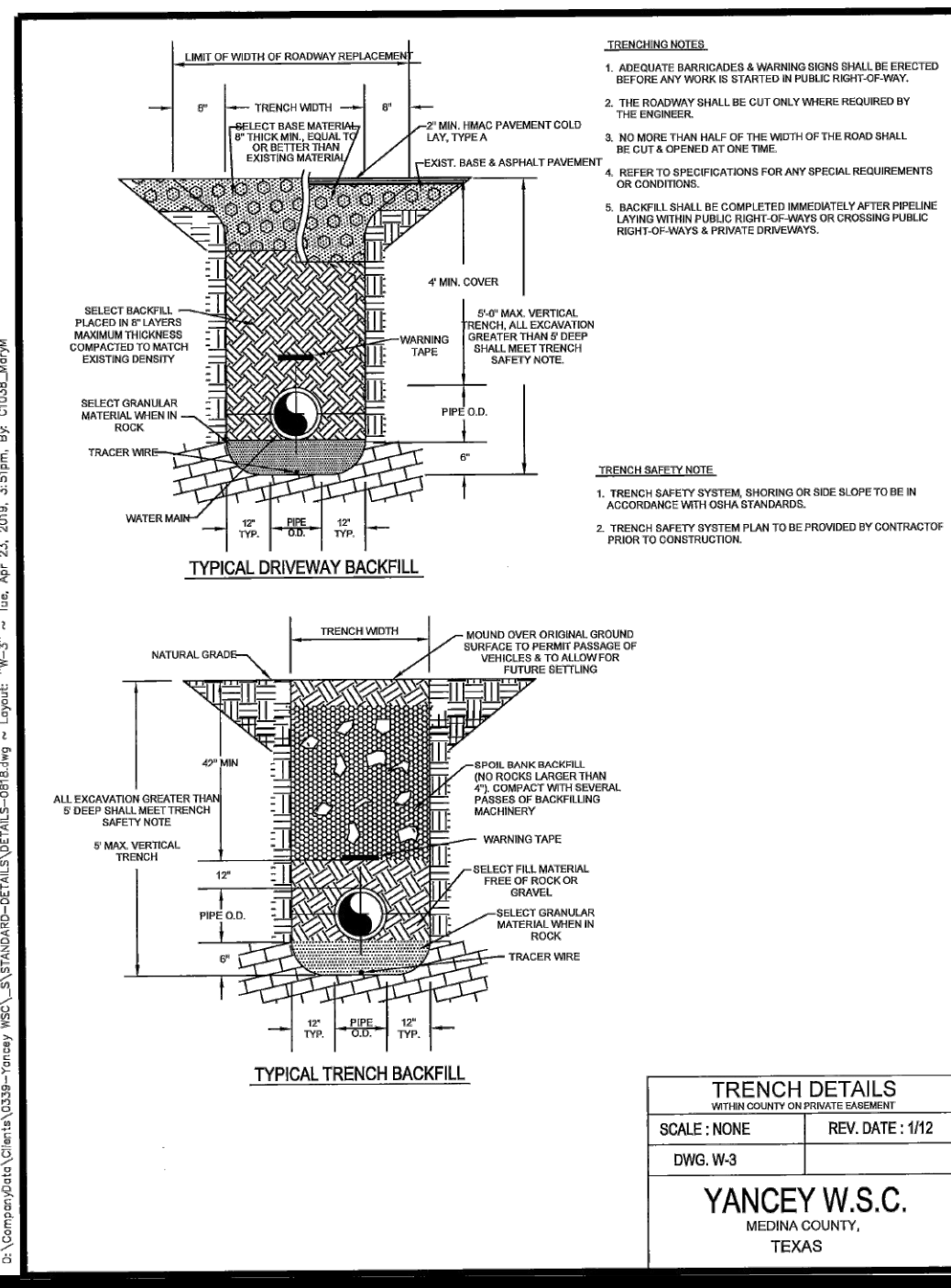
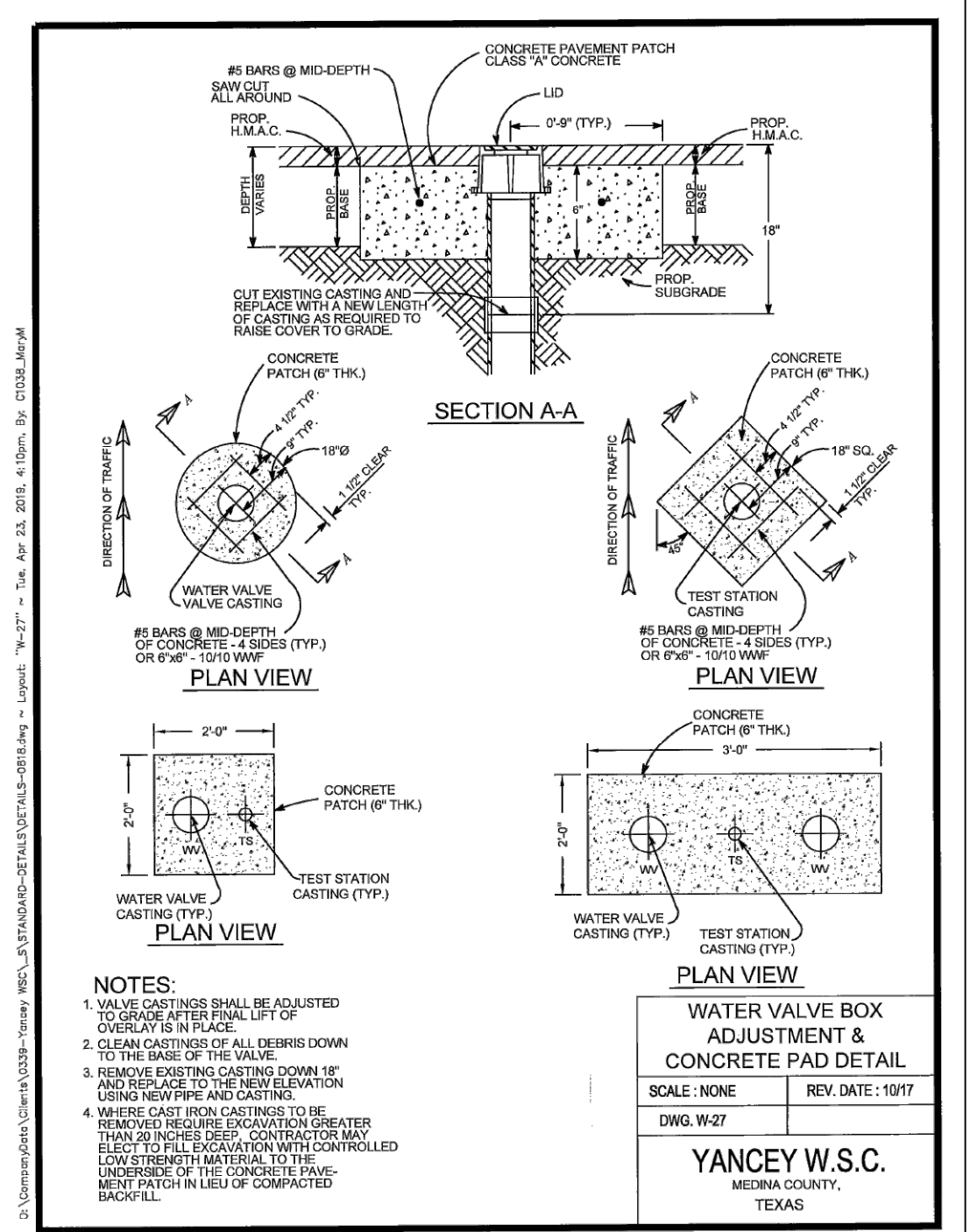
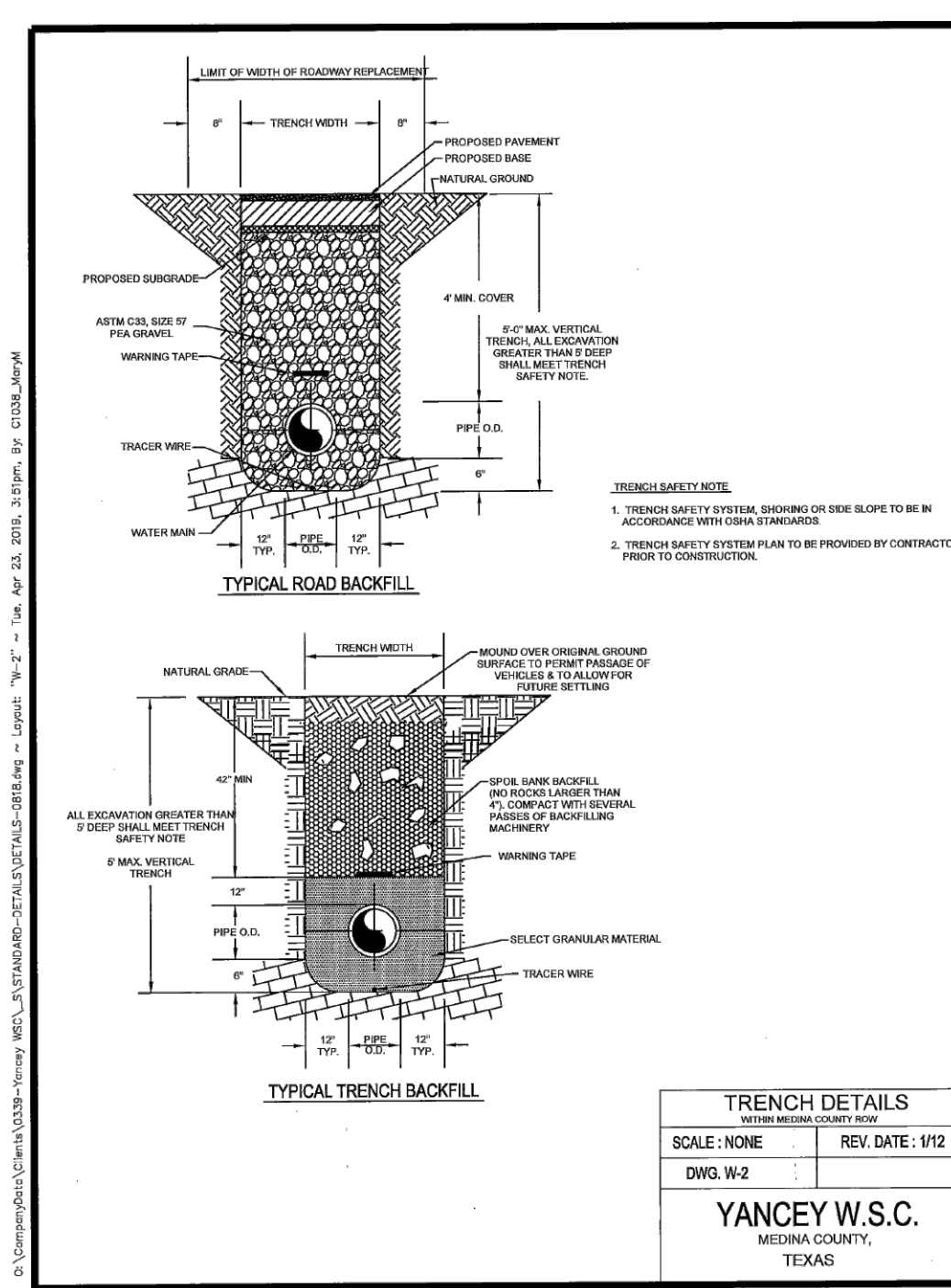
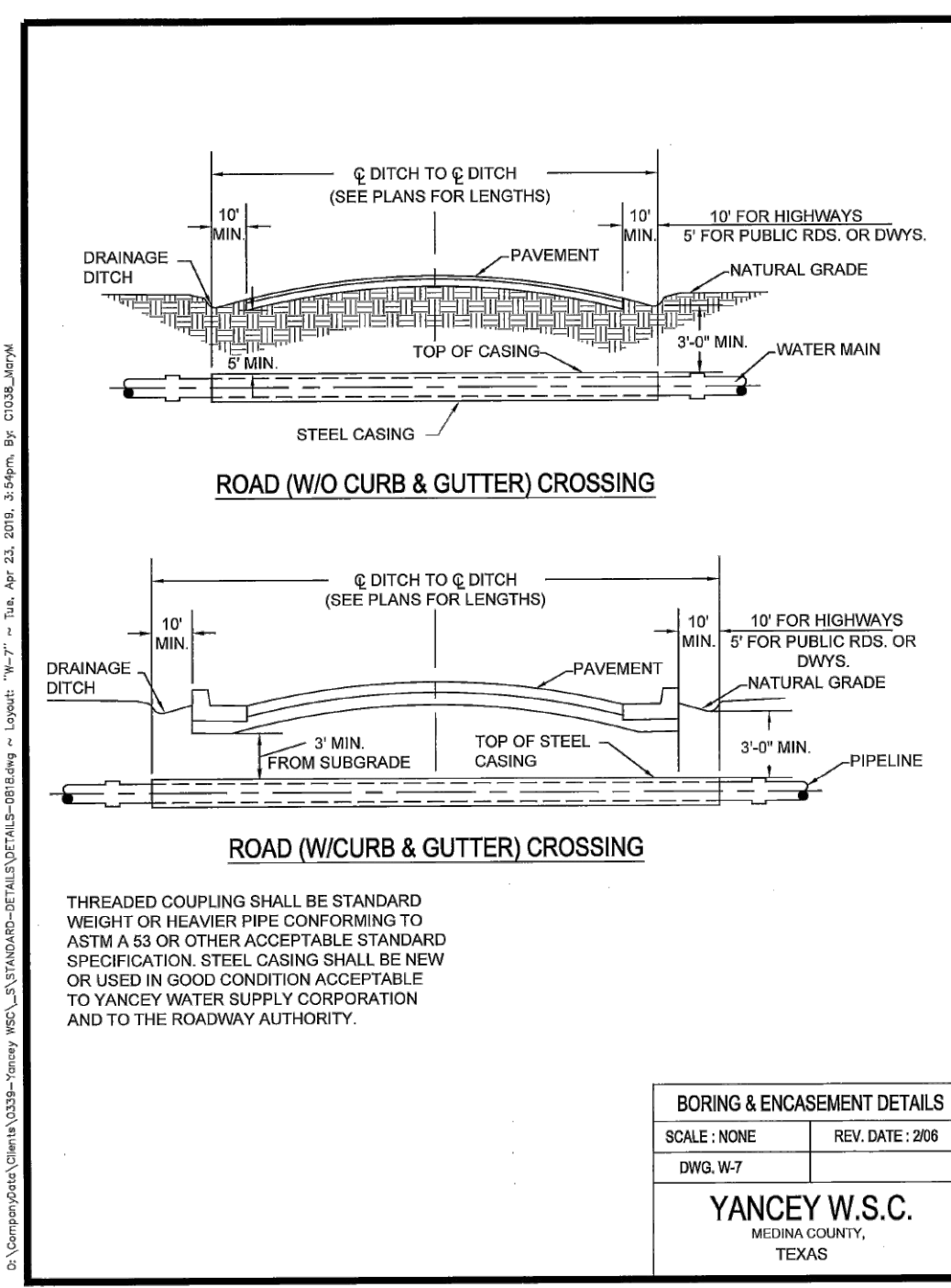
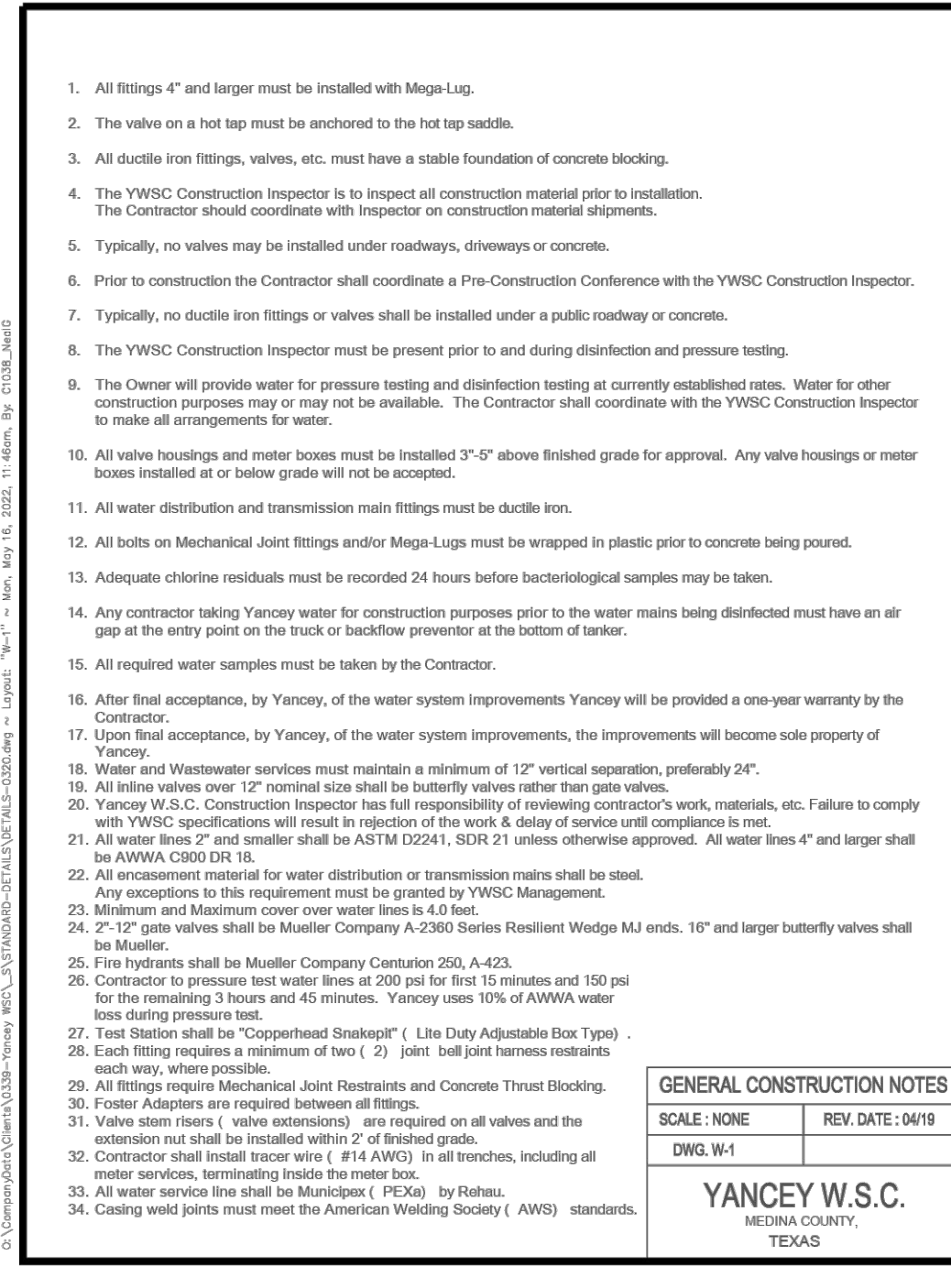
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FOR PERMIT



- All fittings 4" and larger must be installed with Mega-Lug.
- The valve on a hot tap must be anchored to the hot tap saddle.
- All ductile iron fittings, valves, etc. must have a stable foundation of concrete blocking.
- The YWCS Construction Inspector is to inspect all construction material prior to installation. The Contractor should coordinate with Inspector on construction material shipments.
- Typically, no valves may be installed under roadways, driveways or concrete.
- Prior to construction the Contractor shall coordinate a Pre-Construction Conference with the YWCS Construction Inspector.
- Typically, no ductile iron fittings or valves shall be installed under a public roadway or concrete.
- The YWCS Construction Inspector must be present prior to and during dislocation and pressure testing.
- The Owner will provide water for pressure testing and distribution testing at currently established sites. Water for other construction purposes may or may not be available. The Contractor shall coordinate with the YWCS Construction Inspector to make all arrangements for water.
- All valve housings and meter boxes must be installed 3'-5" above finished grade for approval. Any valve housings or meter boxes installed at or below grade will not be accepted.
- All water distribution and transmission main fittings must be ductile iron.
- All bolts on Mechanical Joint fittings and/or Mega-Lugs must be wrapped in plastic prior to concrete being poured.
- Adequate chlorine residuals must be recorded 24 hours before bacteriological samples may be taken.
- Any contractor taking Yancey water for construction purposes prior to the water mains being distributed must have an air gap at the entry point on the truck or backhoe generator at the bottom of water.
- All required water samples must be taken by the Contractor.
- After final acceptance, by Yancey, of the water system improvements Yancey will provide a one-year warranty by the Contractor.
- Upon final acceptance, by Yancey, of the water system improvements, the improvements will become sole property of Yancey.
- Water and Wastewater services must maintain a minimum of 12" vertical separation, preferably 24".
- All inline valves over 12" nominal size shall be butterfly valves other than gate valves.
- Yancey W.S.C. Construction Inspector has full responsibility of reviewing contractor's work, materials, etc. Failure to comply with YWCS specifications will result in rejection of the work & delay of service until corrected.
- All water lines 2" and smaller shall be ASTM D2241, SDR 21 unless otherwise approved. All water lines 4" and larger shall be AWWA C900 (DR 15).
- All encasement material for water distribution or transmission mains shall be steel.
- 24" x 12" gate valves shall be Mueller Company A-230 Series Resilient Wedge MJ ends. 16" and larger butterfly valves shall be Mueller.
- Line hydrants shall be Mueller Company Centurion 250, A-423.
- Contractor to pressure test water lines at 200 psi for first 15 minutes and 100 psi for the remaining 3 hours and 45 minutes. Yancey uses 10% of AWWA water loss during pressure test.
- Test Station shall be "Copperhead Standard" (1. Use Duty Adjustable Box Top).
- Each fitting requires a minimum of two (2) joint seal-joint harness installed each way, when possible.
- All fittings require Mechanical Joint Restraints and Concrete Thrust Blocking.
- Foster Adapters are required between all fittings.
- Valve stems (nuts & valve extensions) are required on all valves and the extension nut shall be installed with 2" of thread gap.
- Contractor shall install tracer wire (1/4" AWG) in all trenches, including all meter services, terminating inside the meter box.
- All water services shall be Manufacture (P) (G) by Rohau.
- Casting weld joints must meet the American Welding Society (AWS) standards.



DATE: _____

NO. REVISION: _____

12-19-2025

JOCelyn PEREZ
98367
PROFESSIONAL ENGINEER

J. Pape-Dawson

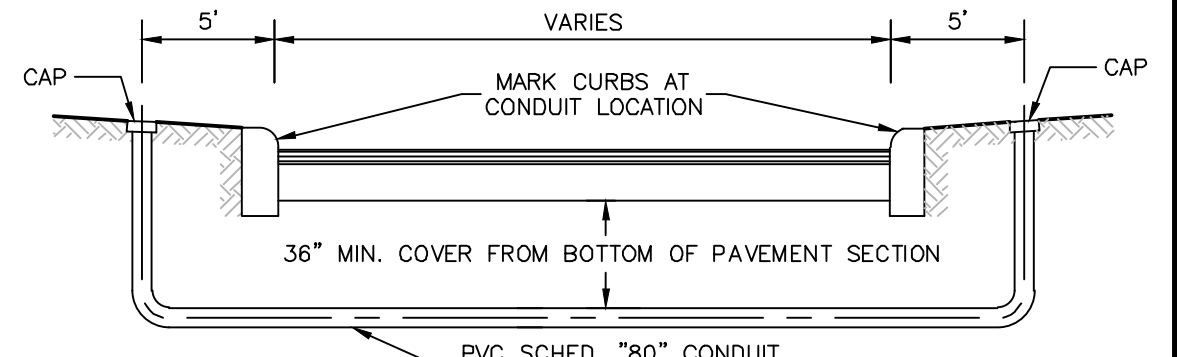
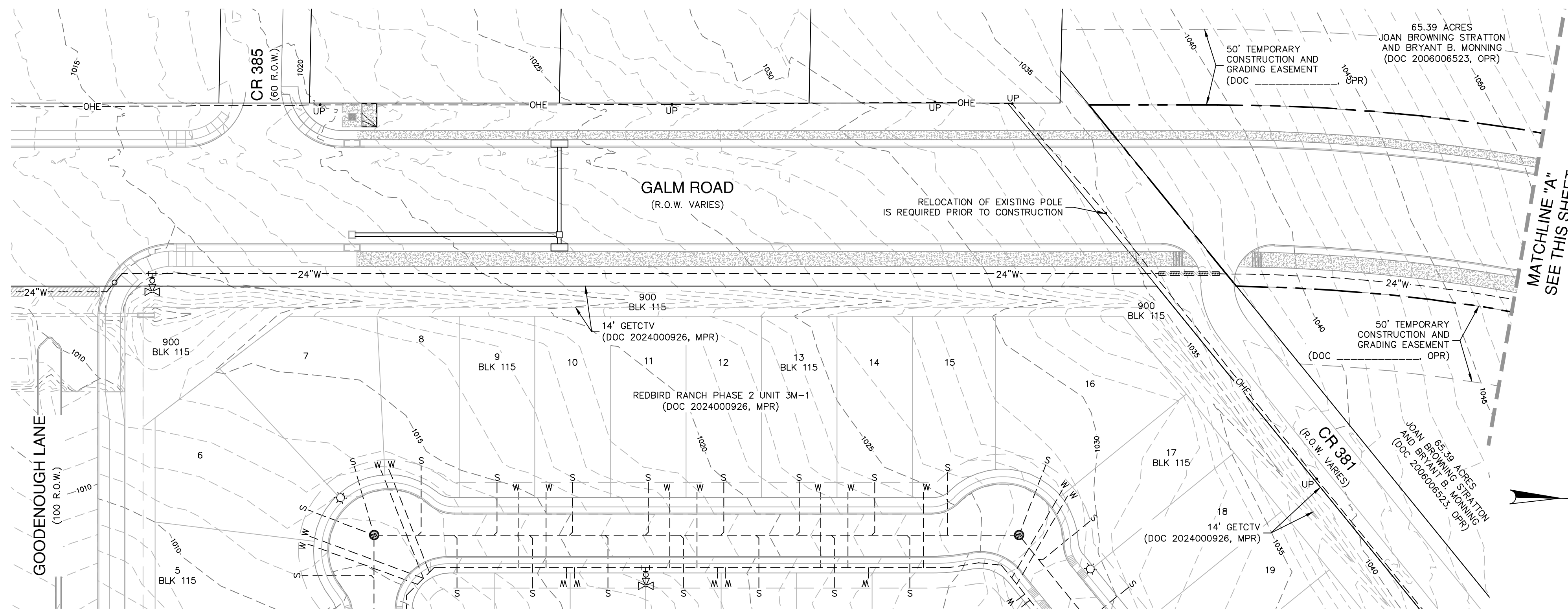
PAPE-DAWSON
1972 INDEPENDENCE DR. STE 102 | NEW BRUNNELL, TX 76132 | 530.632.5633
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #1028800

GALM ROAD PHASE 3
SAN ANTONIO, TEXAS

WATER DISTRIBUTION DETAILS

PLAT NO. N/A
JOB NO. 30004-41
DATE: OCTOBER 2025
DESIGNER: GDL
CHECKED: DRAWN: CA
SHEET: C4.10

FOR PERMIT



CONDUIT NOTES

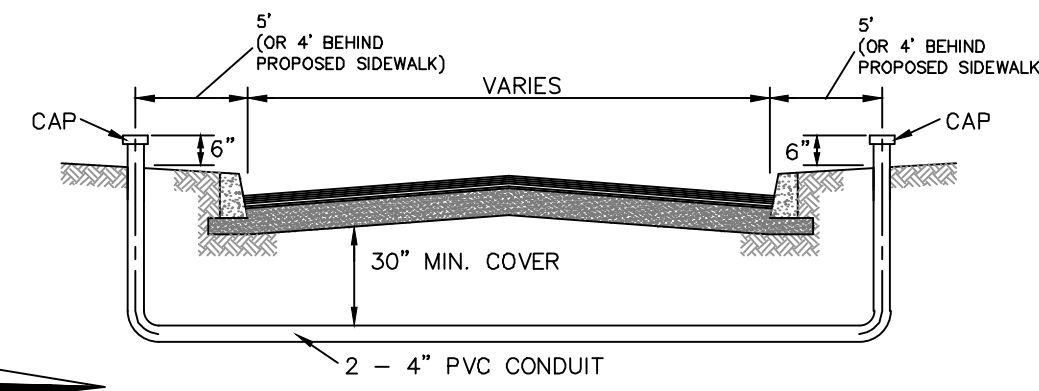
CONTRACTOR SHALL INSTALL PERMANENT MARKERS IN PROPOSED CURB WHERE CONDUITS CROSS THE ROADWAY (BOTH SIDES).

ALL CONDUIT SHALL BE P.V.C. SCHEDULE 80 WITH MINIMUM BURY OF 30 INCHES.

ALL CONDUIT SHALL BE EXTENDED BEHIND CURBS OR PROPOSED SIDEWALKS A MINIMUM OF 3 FEET AND CAPPED FOR FUTURE USE.

A NYLON "PULL STRING" SHALL BE LEFT IN PLACE IN ALL CONDUITS AFTER FINAL ACCEPTANCE OF CONDUIT WORK. THE NYLON "PULL STRING" SHALL HAVE A MINIMUM TENSILE STRENGTH OF 100 LBS.

TYPICAL CONDUIT DETAIL

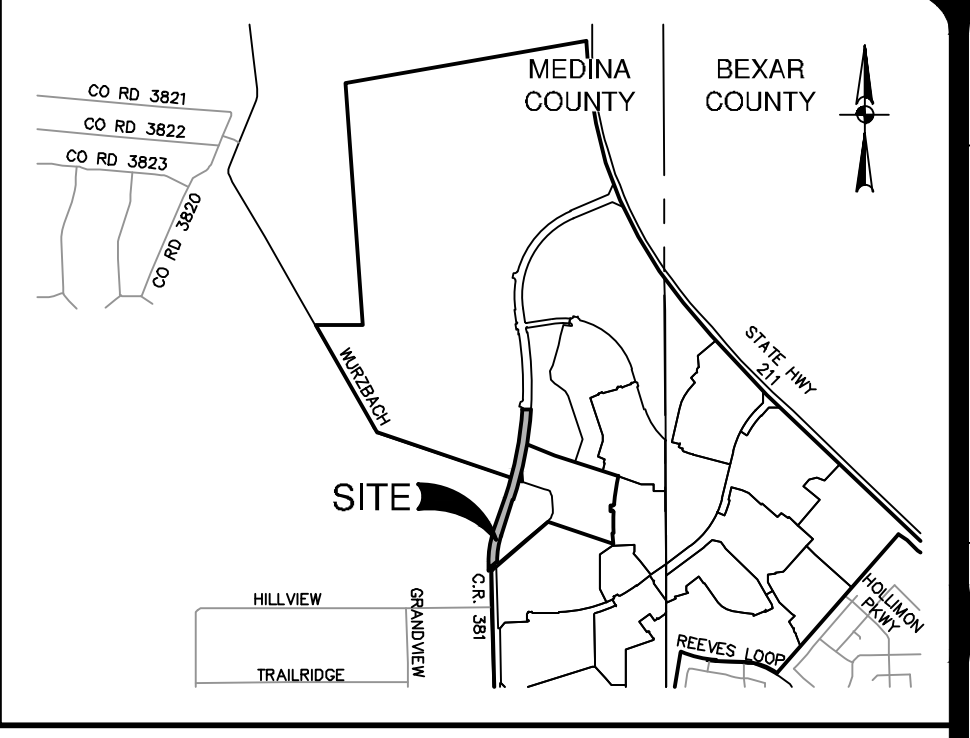


TYPICAL CONDUIT DETAIL (D.R. HORTON)

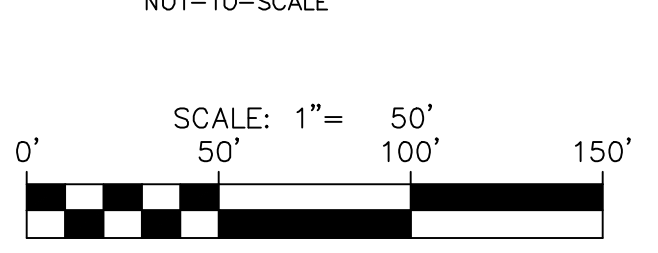
NOTE:

IN ADDITION TO ANY CONDUIT REQUIRED FOR CPS, AT&T, AND/OR SPECTRUM CABLE UTILITY CROSSINGS, D.R. HORTON REQUIRES THE FOLLOWING CONDUITS TO BE INSTALLED AT ALL STREET CROSSINGS:

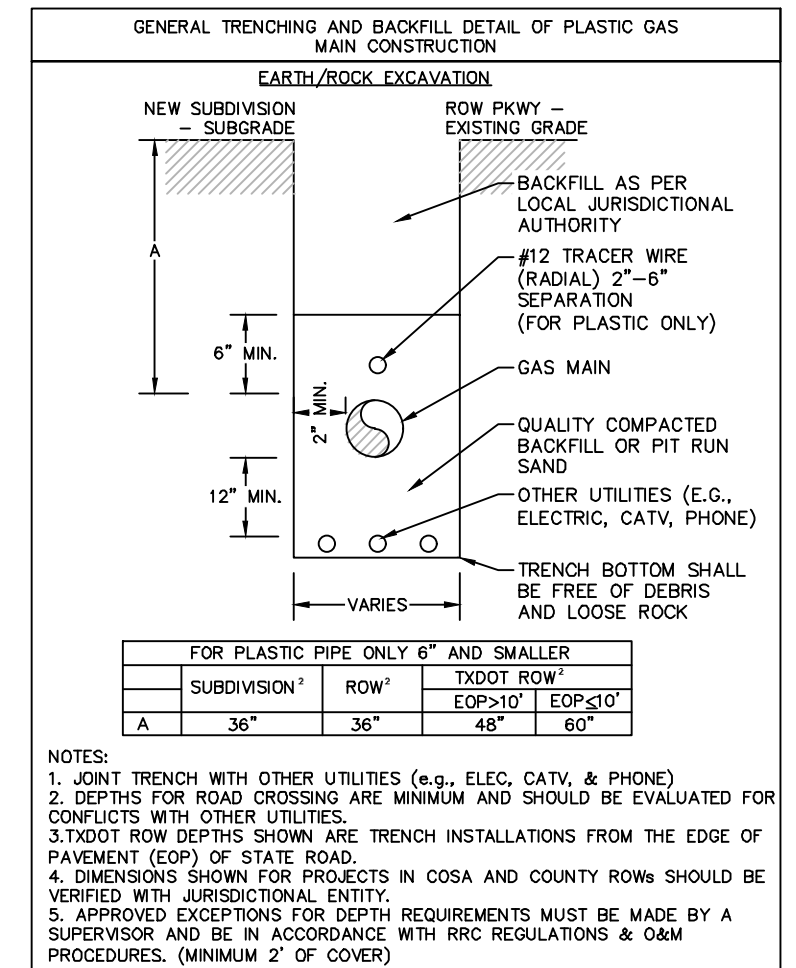
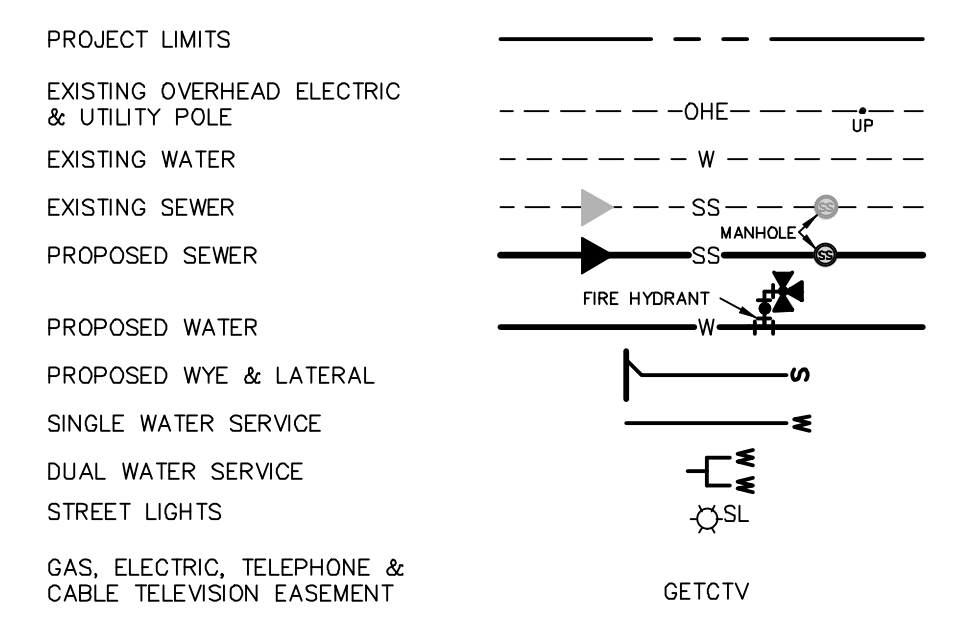
1. 2-4" P.V.C. SCHEDULE 40 CONDUITS, GREY WITH LONG SWEEPS, UNLESS OTHERWISE NOTED.



LOCATION MAP



UTILITY LEGEND



CONDUIT DETAIL

CPS NOTES:

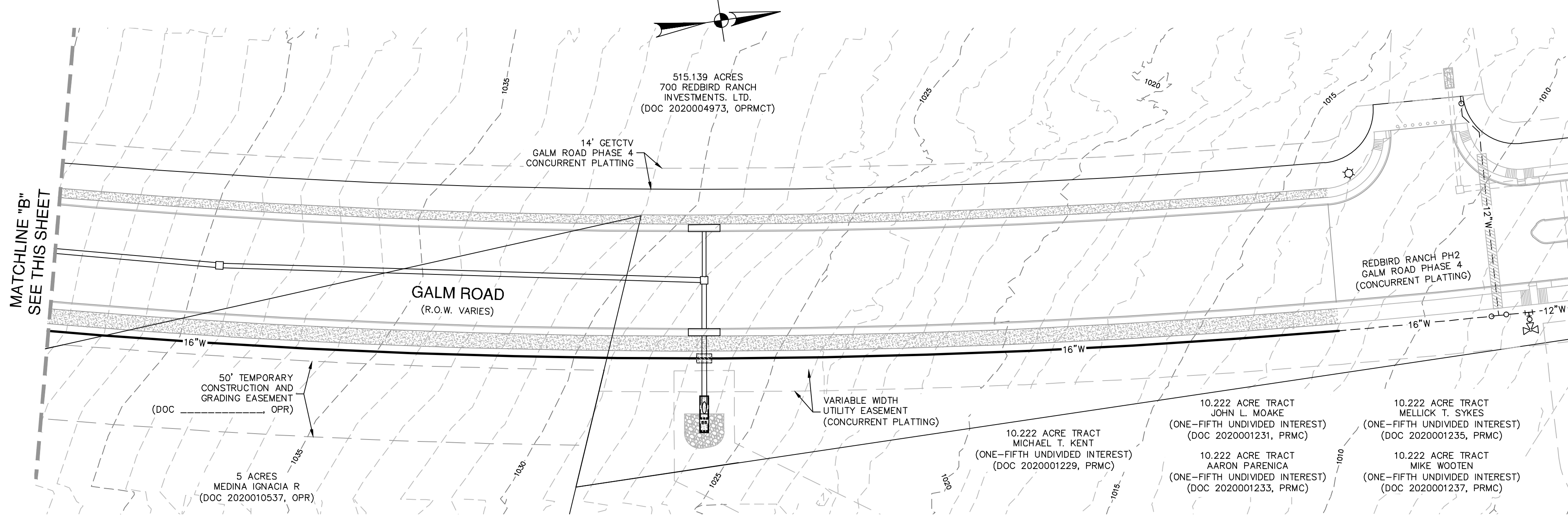
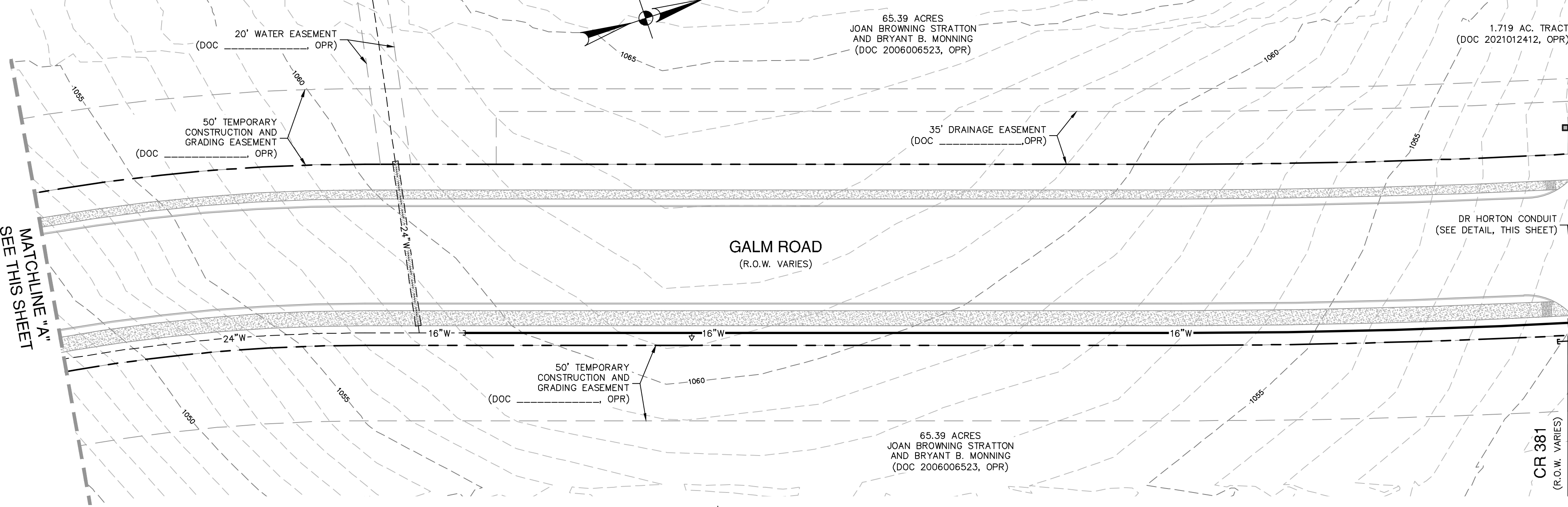
- WHEN TRENCHING IS IN FRONT LOT CONSTRUCTION WATER &/OR SEWER SERVICES ARE NOT TO BE PLACED UNTIL CPS ENERGY FACILITIES ARE INSTALLED WHEN TRENCHING IN RIGHT OF WAY WATER & SEWER SERVICE WILL NEED TO BE ROLLED BACK &/OR OUT OF CPS ENERGY TRENCHLINE.
- WHEN CPS ENERGY AND WATER SERVICES ARE CROSSING STREET CPS ENERGY REQUIRES A MINIMUM OF 6' (FEET) OF HORIZONTAL SEPARATION (WHEN PARALLEL) AND 1' (FOOT) VERTICAL SEPARATION (WHEN CROSSING) TO AVOID CONFLICTS.

TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CAUTION!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESTS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.



DATE: _____

NO. REVISION: _____

12-19-2023

JOCELYN PEREZ
98367
PROFESSIONAL ENGINEER
TEXAS

Jocelyn Perez

PAPE-DAWSON

1875 INDEPENDENCE DR. STE 102 | NEW BRUNNELL, TX 76132 | 630.632.5633

TEXAS SURVEYING FIRM #10028800

GALM ROAD PHASE 3

SAN ANTONIO, TEXAS

OVERALL UTILITY PLAN

PLAT NO. N/A

JOB NO. 30004-41

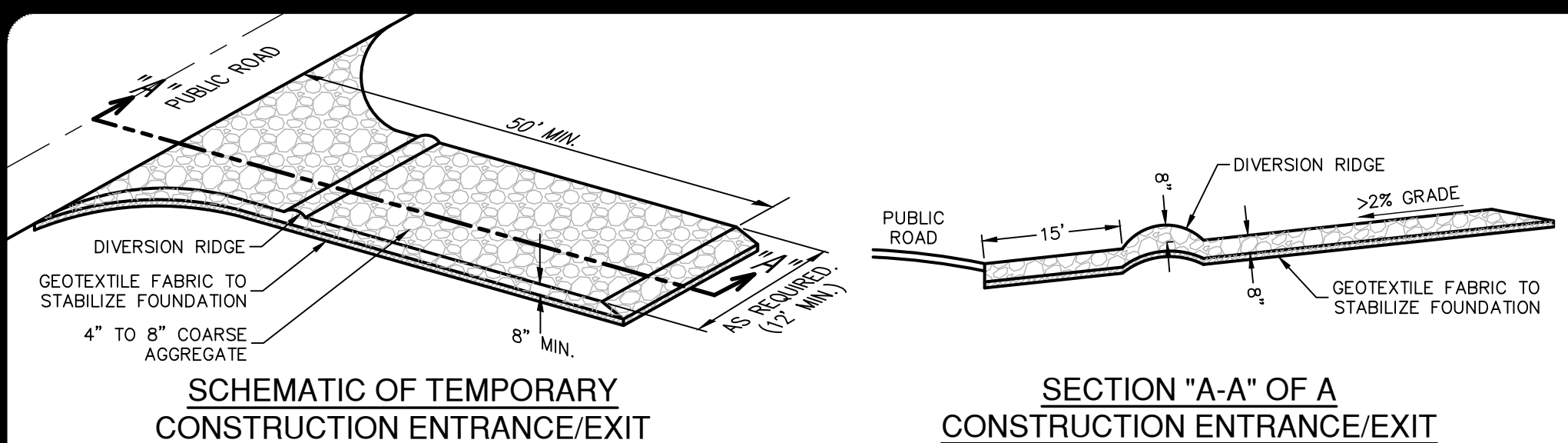
DATE: OCTOBER 2025

DESIGNER: GDL

CHECKED: DRAWN: CA

SHEET: C6.00

Date: Dec 18, 2025, 3:38pm, User ID: jperz, File: P:\300\04\1\Utility\CA\GALM-30004-41.dwg



MATERIALS

1. THE AGGREGATE SHOULD CONSIST OF 4-INCH TO 8-INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.
2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8-INCHES.
3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD², A MULLEN BURST RATING OF 140 LB/IN², AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
4. IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4-INCH DIAMETER WASHED STONE OR COMMERCIAL ROCK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.

INSTALLATION

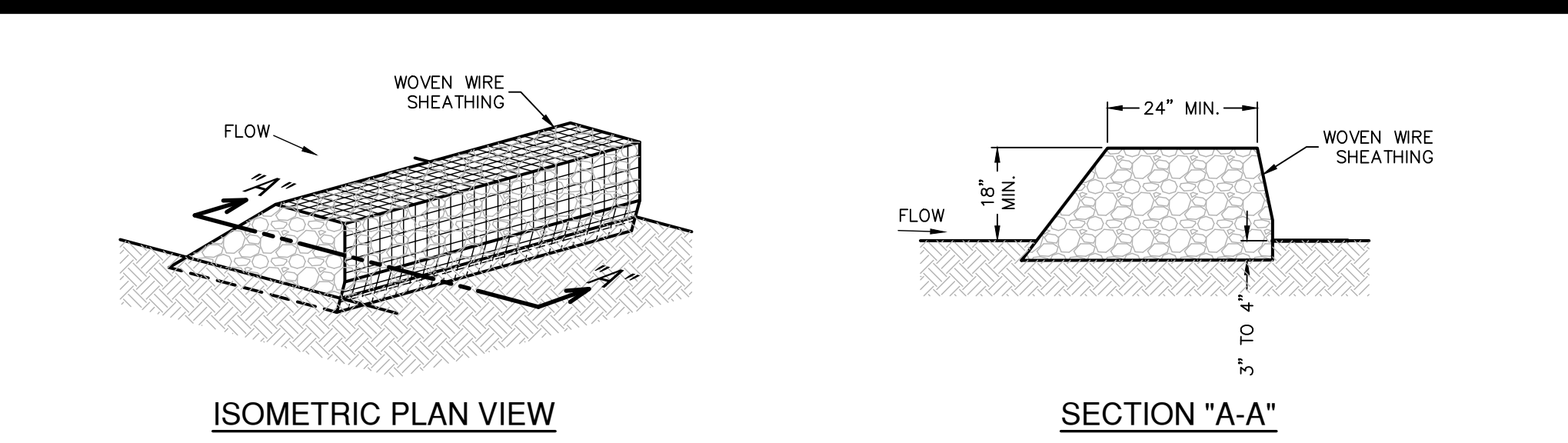
1. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.
2. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
3. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.
4. IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE, 6-INCHES TO 8-INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.
5. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.
7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.
8. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.

COMMON TROUBLE POINTS

1. INADEQUATE RUNOFF CONTROL—SEDIMENT WASHES ONTO PUBLIC ROAD.
2. STONE TOO SMALL OR GEOTEXTILE FABRIC ABSENT, RESULTS IN MUDDY CONDITION AS STONE IS PRESSED INTO SOIL.
3. PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC—EXTEND PAD BEYOND THE MINIMUM 50-FOOT LENGTH AS NECESSARY.
4. PAD NOT FLARED SUFFICIENTLY AT ROAD SURFACE, RESULTS IN MUD BEING TRACKED ON TO ROAD AND POSSIBLE DAMAGE TO ROAD.
5. UNSTABLE FOUNDATION—USE GEOTEXTILE FABRIC UNDER PAD AND/OR IMPROVE FOUNDATION DRAINAGE.

INSPECTION AND MAINTENANCE GUIDELINES

1. THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
3. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
4. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
5. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.



ROCK BERMS

THE PURPOSE OF A ROCK BERM IS TO SERVE AS A CHECK DAM IN AREAS OF CONCENTRATED FLOW, TO INTERCEPT SEDIMENT-LADEN RUNOFF, DETAIN THE SEDIMENT AND RELEASE THE WATER IN SHEET FLOW. THE ROCK BERM SHOULD BE USED WHEN THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 5 ACRES. ROCK BERMS ARE USED IN AREAS WHERE THE VOLUME OF RUNOFF IS TOO GREAT FOR A SILT FENCE TO CONTAIN. THEY ARE LESS EFFECTIVE FOR SEDIMENT REMOVAL THAN SILT FENCES, PARTICULARLY FOR FINE PARTICLES, BUT ARE ABLE TO WITHSTAND HIGHER FLOWS THAN A SILT FENCE AS SUCH. ROCK BERMS ARE OFTEN USED IN AREAS OF CHANNEL FLOWS (DITCHES, GULLIES, ETC.). ROCK BERMS ARE MOST EFFECTIVE AT REDUCING BERM LOAD IN CHANNELS AND SHOULD NOT BE SUBSTITUTED FOR OTHER EROSION AND SEDIMENT CONTROL MEASURES FURTHER UP THE WATERSHED.

INSTALLATION

1. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.
2. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
3. PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM TO A HEIGHT NOT LESS THAN 18".
4. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH THE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
5. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.
6. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

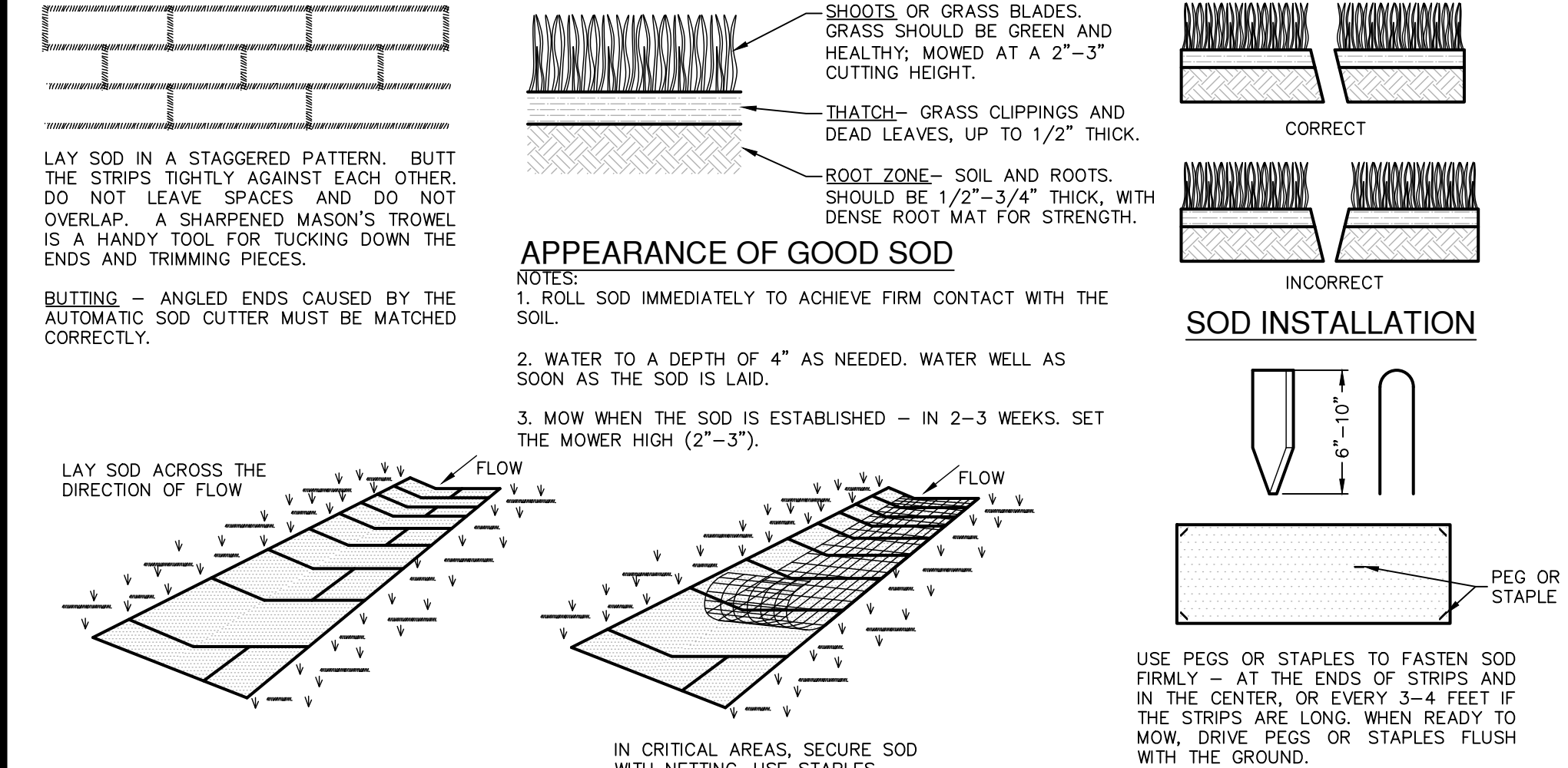
MATERIALS

1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOOT RINGS.
2. CLEAN, OPEN GRADED 3-INCH TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5-INCH TO 8-INCH DIAMETER ROCKS MAY BE USED.

COMMON TROUBLE POINTS

1. INSUFFICIENT BERM HEIGHT OR LENGTH (RUNOFF QUICKLY ESCAPES OVER THE TOP OR AROUND THE SIDES OF BERM).
2. BERM NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND ONE SIDE).

STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL



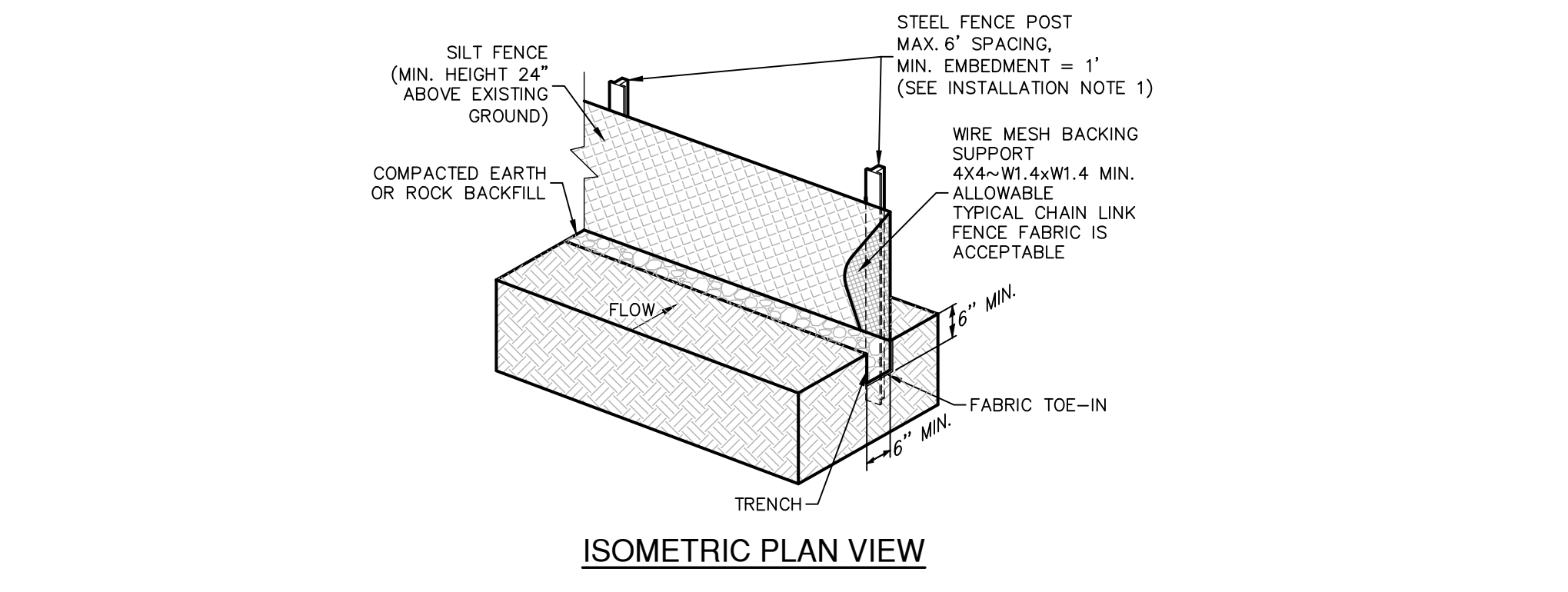
MATERIALS

1. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH (± 1/4" INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE SHOOT GROWTH AND THATCH.
2. PIECES OF SOD SHOULD BE CUT TO THE SUPPLIER'S STANDARD WIDTH AND LENGTH, WITH A MAXIMUM ALLOWABLE DEVIATION IN ANY DIMENSION OF 5%. TORN OR UNEVEN EDGES SHOULD NOT BE ACCEPTABLE.
3. STANDARD SIZE SECTIONS OF SOD SHOULD BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND MAINTAIN THEIR SIZE AND SHAPE WHEN SUSPENDED FROM A FIRM GRASP ON ONE END OF THE SECTION.
4. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

GENERAL INSTALLATION (VA. DEPT. OF CONSERVATION, 1992)

1. SOD SHOULD NOT BE CUT OR LAID IN EXCESSIVELY WET OR DRY WEATHER. SOD ALSO SHOULD NOT BE LAID ON SOIL SURFACES THAT ARE FROZEN.
2. DURING PERIODS OF HIGH TEMPERATURE, THE SOIL SHOULD BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD, TO COOL THE SOIL AND REDUCE ROOT BURNING AND DIEBACK.
3. THE FIRST ROW OF SOD SHOULD BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH OTHER. LATERAL JOINTS SHOULD BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. CARE SHOULD BE EXERCISED TO ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS (SEE FIGURE ABOVE).
4. ON SLOPES 3:1 OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM, SOD SHOULD BE LAID WITH STAGGERED JOINTS AND SECURED BY STAPLING OR OTHER APPROVED METHODS. SOD SHOULD BE INSTALLED WITH THE LENGTH PERPENDICULAR TO THE SLOPE (ON CONTOUR).
5. AS SODDING OF CLEARLY DEFINED AREAS IS COMPLETED, SOD SHOULD BE ROLLED OR TAMPED TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL.
6. AFTER ROLLING, SOD SHOULD BE IRRIGATED TO A DEPTH SUFFICIENT THAT THE UNDERSIDE OF THE SOD PAD AND THE SOIL 4 INCHES BELOW THE SOD IS THOROUGHLY WET.
7. UNTIL SUCH TIME A GOOD ROOT SYSTEM BECOMES DEVELOPED, IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHOULD BE PERFORMED AS OFTEN AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF AT LEAST 4 INCHES.
8. THE FIRST MOWING SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED, USUALLY 2-3 WEEKS. NOT MORE THAN ONE THIRD OF THE GRASS LEAF SHOULD BE REMOVED AT ANY ONE CUTTING.

ROCK BERM DETAIL



SILT FENCE

A SILT FENCE IS A BARRIER CONSISTING OF GEOTEXTILE FABRIC SUPPORTED BY METAL POSTS TO PREVENT SOIL AND SEDIMENT LOSS FROM A SITE. WHEN PROPERLY USED, SILT FENCES CAN BE HIGHLY EFFECTIVE AT CONTROLLING SEDIMENT FROM DISTURBED AREAS. THEY CAUSE RUNOFF TO POND, ALLOWING HEAVY SOLIDS TO SETTLE OUT. IF NOT PROPERLY INSTALLED, SILT FENCES ARE NOT LIKELY TO BE EFFECTIVE.

THE PURPOSE OF A SILT FENCE IS TO INTERCEPT AND DETAIN WATER-BORN SEDIMENT FROM UNPROTECTED AREAS OF A LIMITED EXTENT. SILT FENCE IS USED DURING THE PERIOD OF CONSTRUCTION NEAR THE PERIMETER OF A DISTURBED AREA TO INTERCEPT SEDIMENT WHILE ALLOWING WATER TO PERCOLATE THROUGH. THIS FENCE SHOULD REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. SILT FENCE SHOULD NOT BE USED WHERE THERE IS A CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY. IF CONCENTRATED FLOW OCCURS AFTER INSTALLATION, CORRECTIVE ACTION MUST BE TAKEN SUCH AS PLACING A ROCK BERM IN THE AREAS OF CONCENTRATED FLOW.

SILT FENCING WITHIN THE SITE MAY BE TEMPORARILY MOVED DURING THE DAY TO ALLOW CONSTRUCTION ACTIVITY PROVIDED IT IS REPLACED AND PROPERLY ANCHORED TO THE GROUND AT THE END OF THE DAY. SILT FENCES ON THE PERIMETER OF THE SITE OR AROUND DRAINAGE WAYS SHOULD NOT BE MOVED AT ANY TIME.

INSTALLATION

1. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS MUST BE EMBEDDED A MINIMUM OF 1-FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER, WHERE WATER CONCENTRATES. THE MAXIMUM SPACING SHOULD BE 6 FEET.
2. LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS 1/4 ACRE/100 FEET OF FENCE.

MATERIALS

1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN², ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NUMBER 30.
2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y-BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM WEIGHT 1.25 LB/FT, AND BRINDELL HARDNESS EXCEEDING 140.
3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

COMMON TROUBLE POINTS

1. FENCE NOT INSTALLED ALONG THE CONTOUR CAUSING WATER TO CONCENTRATE AND FLOW OVER THE FENCE.
2. FABRIC NOT SEALED SECURELY TO GROUND (RUNOFF PASSING UNDER FENCE).
3. FENCE NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND SIDES).
4. FENCE TREATING TOO LARGE AN AREA, OR EXCESSIVE CHANNEL FLOW (RUNOFF OVERTOPS OR COLLAPSES FENCE).

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECT ALL FENCING WEEKLY, AND AFTER RAINFALL.
2. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
3. REPLACE TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.
4. REPLACE OR REPAIR SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FENCE DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.
5. WHEN CONSTRUCTION IS COMPLETE, THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL.

SITE PREPARATION

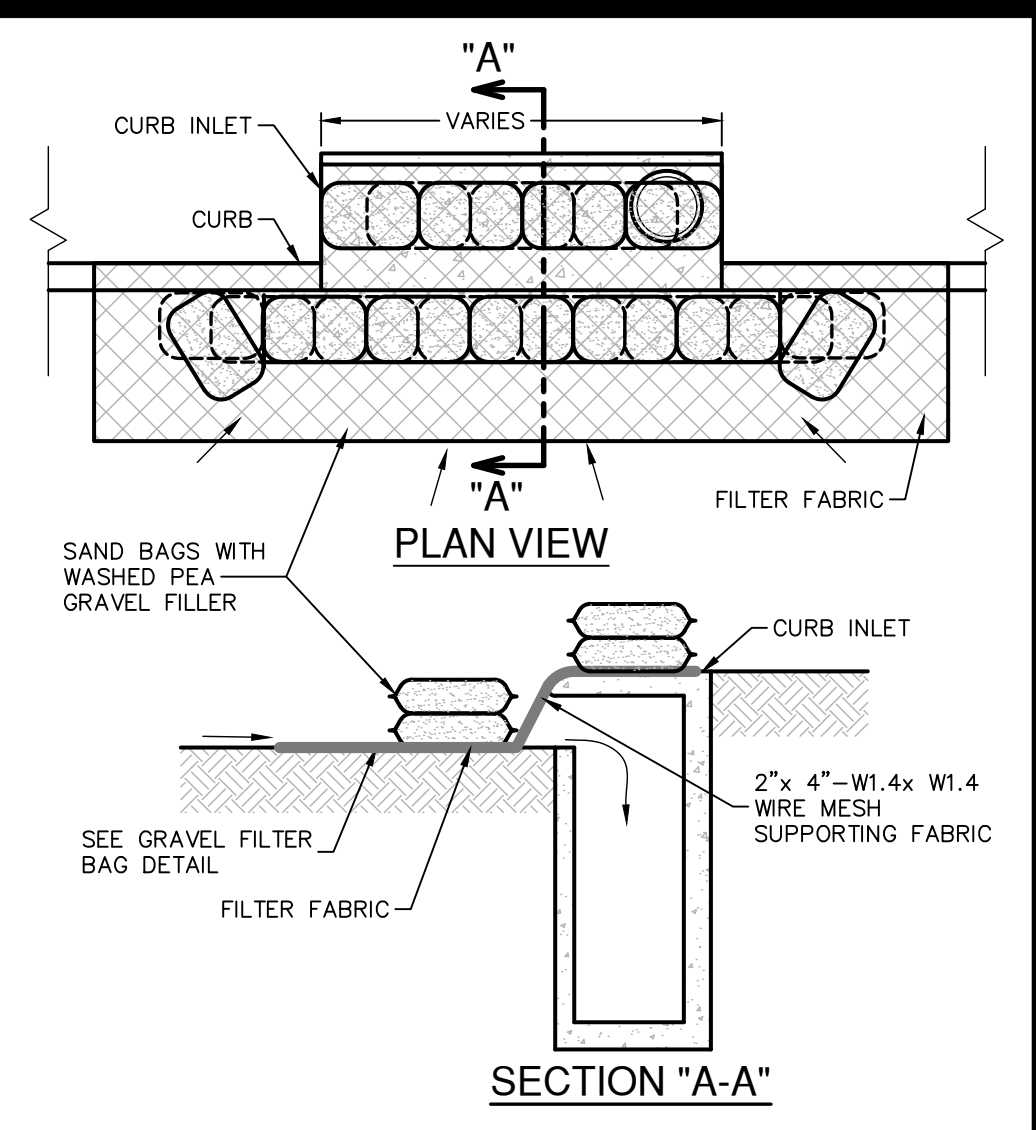
1. THE SURFACE SHOULD BE CLEARED OF ALL TRASH, DEBRIS AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.
3. FERTILIZER ACCORDING TO SOIL TESTS. FERTILIZER NEEDS CAN BE DETERMINED BY A SOIL TESTING LABORATORY OR REGIONAL RECOMMENDATIONS CAN BE MADE BY COUNTY AGRICULTURAL EXTENSION AGENTS. FERTILIZER SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 3 INCHES WITH A DISC, SPRINGTOOTH HARROW OR OTHER SUITABLE EQUIPMENT ON SLOPING LAND, THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE CONTOUR.

INSTALLATION IN CHANNELS

1. SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS TIGHTLY (SEE FIGURE ABOVE).
2. AFTER ROLLING OR TAMPING, SOD SHOULD BE PEGGED OR STAPLED TO RESIST WASHOUT DURING THE ESTABLISHMENT PERIOD. MESH OR OTHER NETTING MAY BE USED OVER THE SOD FOR EXTRA PROTECTION IN CRITICAL AREAS.

INSPECTION AND MAINTENANCE GUIDELINES

1. SOD SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE.
2. DAMAGE FROM STORMS OR NORMAL CONSTRUCTION ACTIVITIES SUCH AS TIRE RUTS OR DISTURBANCE OF SWALE STABILIZATION SHOULD BE REPAIRED AS SOON AS PRACTICAL.

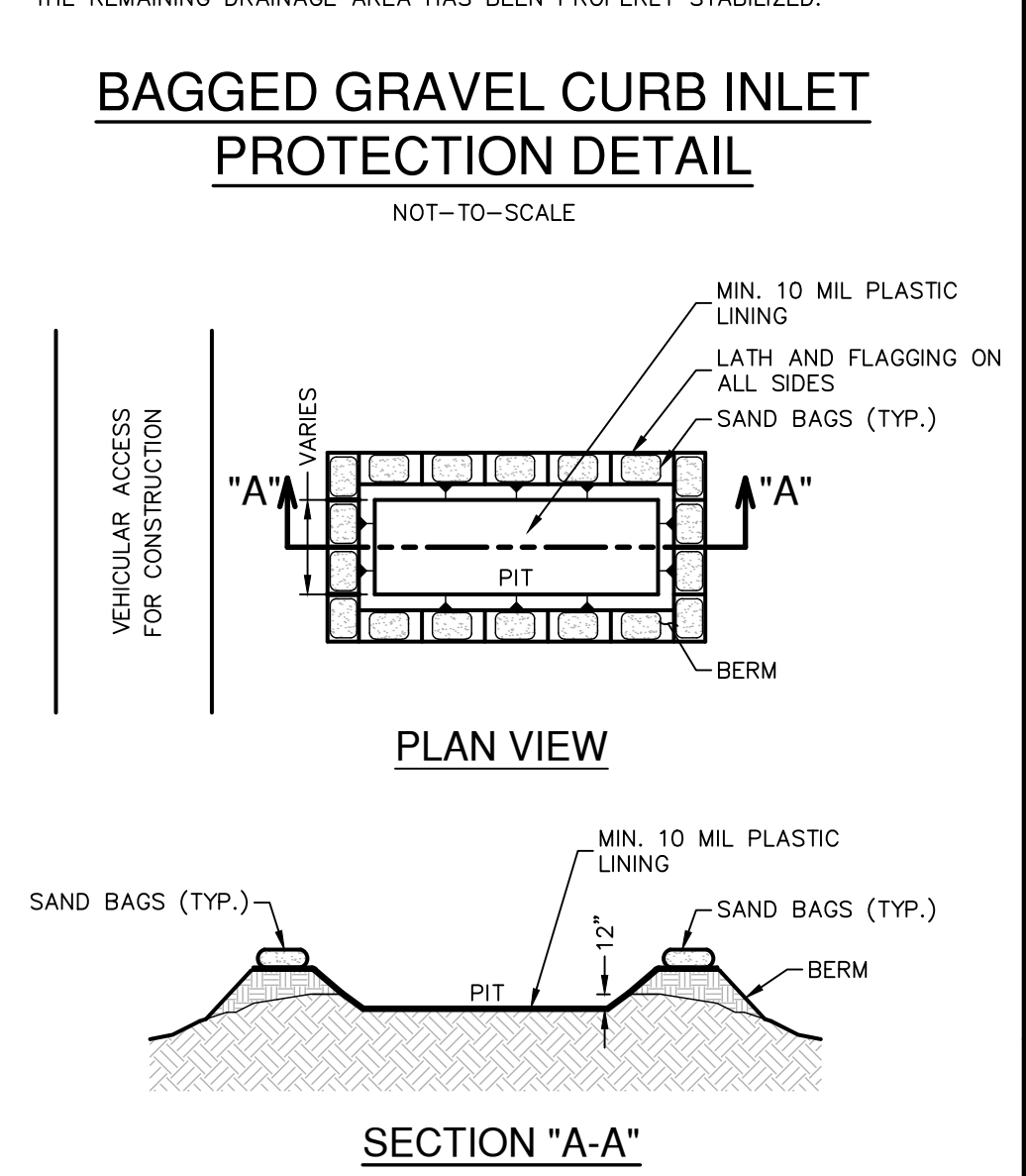


GENERAL NOTES

1. CONTRACTOR TO INSTALL 2"x4"-W1.4xW1.4 WIRE MESH SUPPORTING FILTER FABRIC OVER THE INLET OPENING. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR WIRE TIES AT THIS LOCATION. SAND BAGS FILLED WITH WASHED PEA GRAVEL SHOULD BE PLACED ALONG TOP OF WIRE MESH ON TOP OF THE INLET AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SANDBAGS FILLED WITH WASHED PEA GRAVEL SHOULD ALSO BE PLACED ALONG THE GUTTER AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SAND BAGS TO BE STACKED TO FORM A CONTINUOUS BARRIER AROUND INLETS.
2. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.
4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING.
5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.



GENERAL NOTES

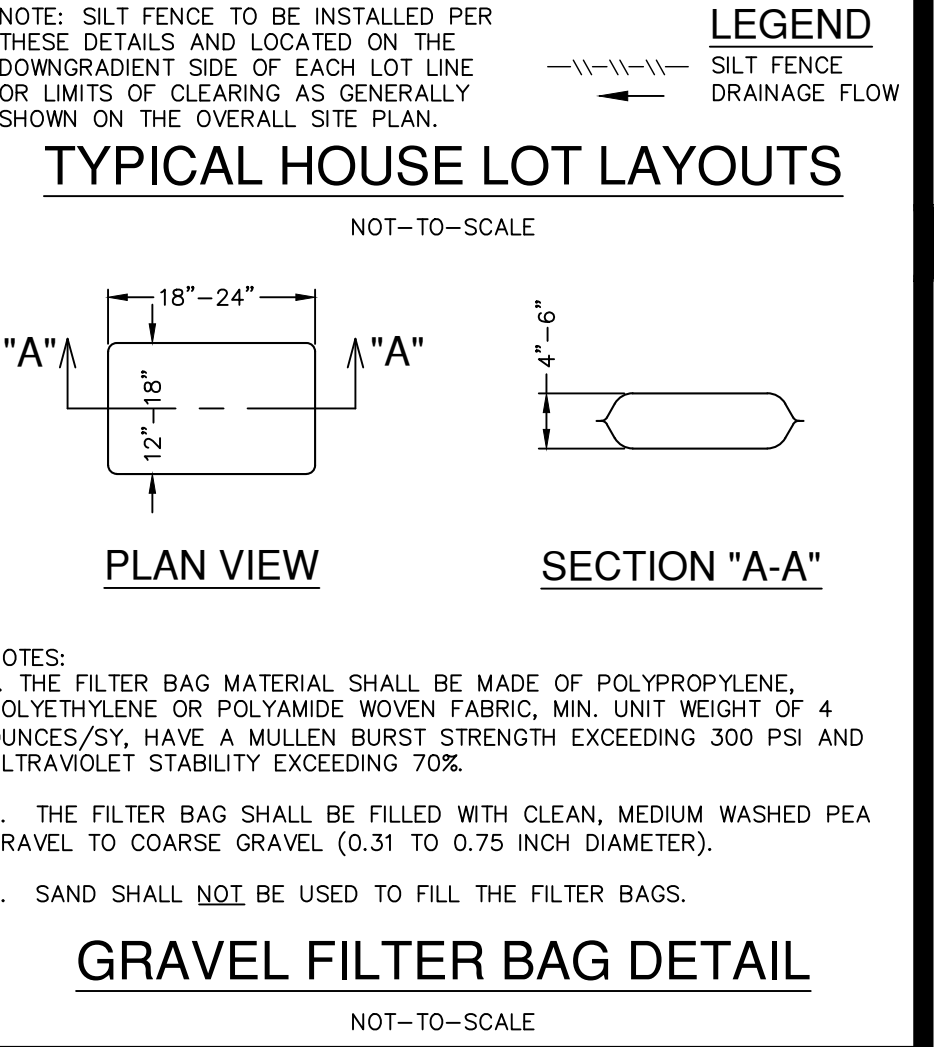
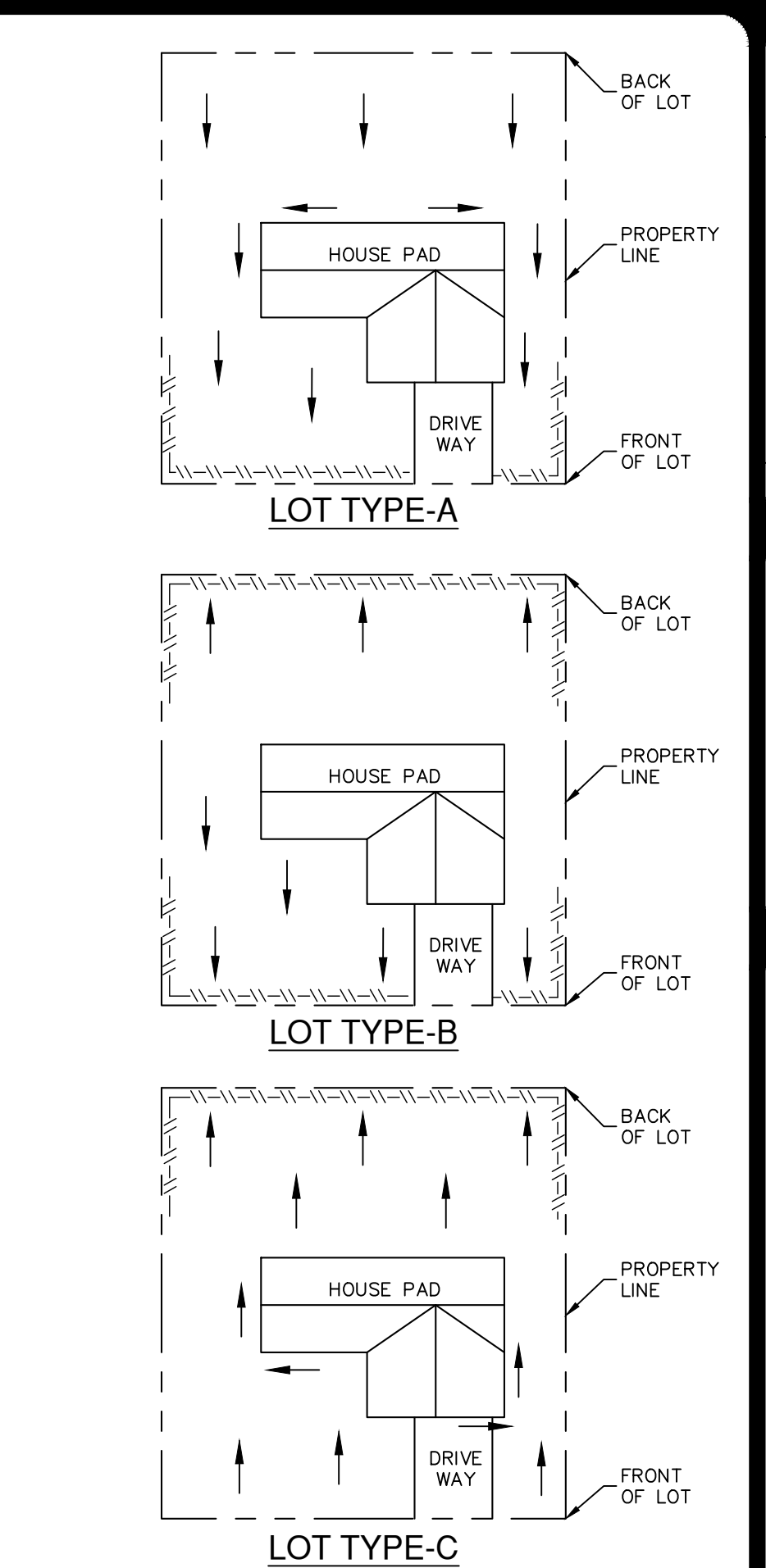
1. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.
4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES.
5. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

MATERIALS

PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

MAINTENANCE

1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF.
2. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.
3. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.



CONSTRUCTION STAGING AREA

Labels: CONSTRUCTION AND WASTE MATERIAL STORAGE AREA, ENTRANCE /EXIT, FIELD OFFICE, LEGEND, SILT FENCE, FLOW ARROWS.

GENERAL NOTES

1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF.
2. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.
3. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

DATE: _____

NO. REVISION: _____

10-29-2025

STATE OF TEXAS
 JOCELYN PEREZ
 98367
 PROFESSIONAL ENGINEER

PAPE-DAWSON
 1677 INDEPENDENCE DR. STE 102 | NEW BRUNNELS, TX 76132 | 832.632.5633
 TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM # 10028800

GALM ROAD PHASE 3
 SAN ANTONIO, TEXAS

STORM WATER POLLUTION PREVENTION DETAILS

PLAT NO. N/A
 JOB NO. 30004-41
 DATE OCTOBER 2025
 DESIGNER GDL
 CHECKED DRAWN CA
 SHEET C8.10

FOR PERMIT