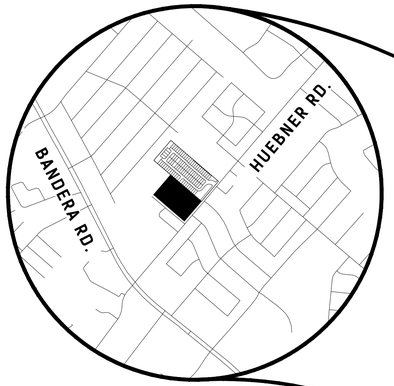
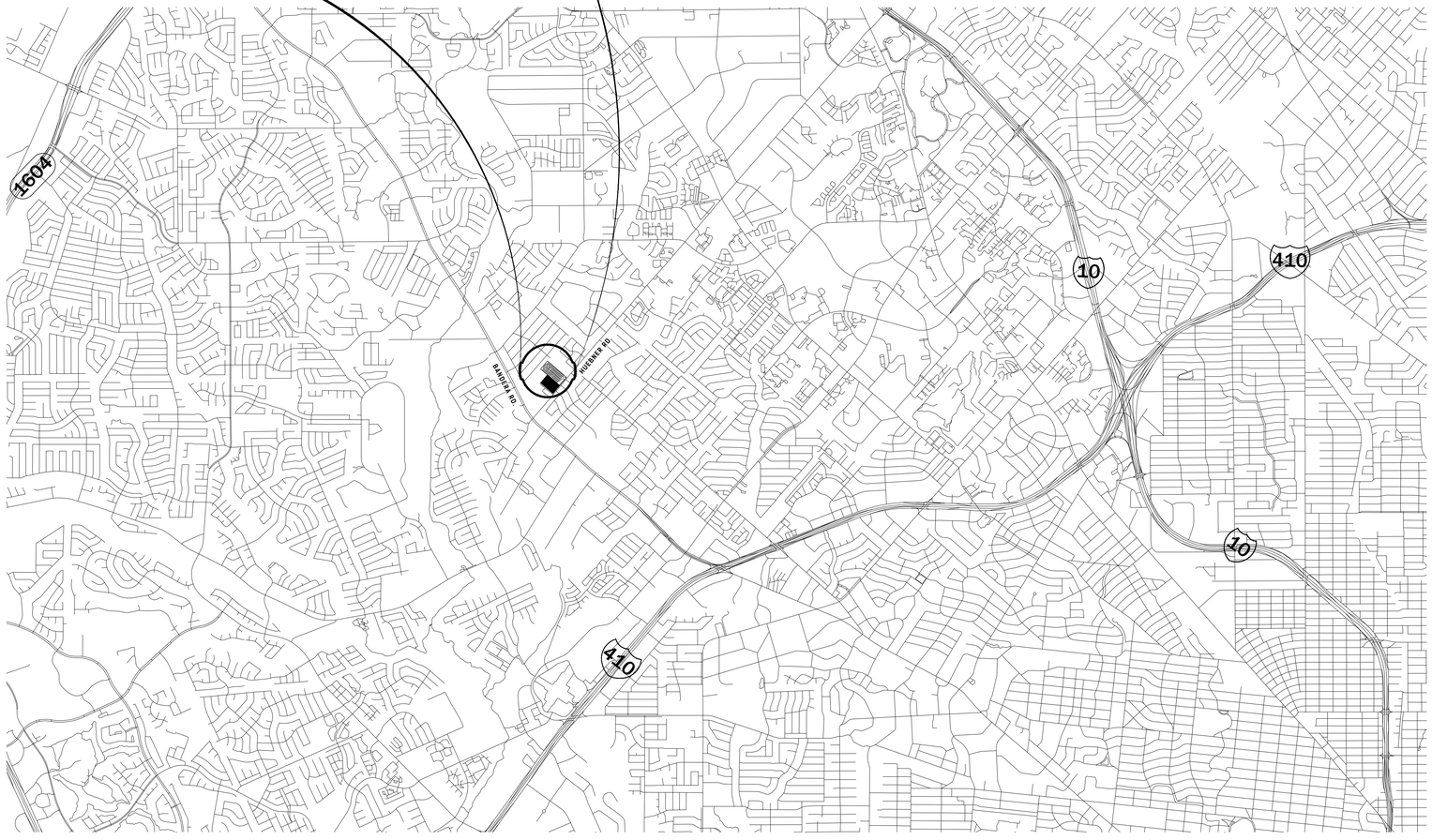
Sheet List Table	
Sheet Number	Sheet Title
C0.00	GENERAL NOTES*
C1.00	STORMWATER POLLUTION PREVENTION PLAN
C1.01	STORMWATER POLLUTION PREVENTION PLAN DETAILS*
C2.00	OVERALL GRADING PLAN
C3.00	UTILITY LAYOUT PLAN
C4.00	SANITARY SEWER GENERAL NOTES*
C4.01	SANITARY SEWER STADARD DETAILS*
C4.02	SANITARY SEWER MASTER PLAN
C4.03	SANITARY SEWER PLAN AND PROFILE - LINE ''2D''
C4.04	SANITARY SEWER PLAN AND PROFILE - LINE ''2E''
C4.05	SANITARY SEWER PLAN AND PROFILE - LINE ''2F''
C5.00	WATER DISTRIBUTION GENERAL NOTES*
C5.01	WATER DISTRIBUTION MASTER PLAN
C5.02	WATER DISTRIBUTION DETAILS*
C6.00	PROPOSED CONDITIONS
C6.01	DETENTION POND 2A
C6.02	DRAINAGE PLAN - DETAIL 2A & 2B
C6.03	DRAINAGE PLAN - DETAIL 2C
C6.04	DRAINAGE DETAILS*
C7.00	STANDARD STREET DETAILS*
C7.01	MONACO WAY STREET PLAN AND PROFILE
C7.02	REY OROZCO LANE STREET PLAN AND PROFIE
C7.03	REDHEAD RIDGE STREET PLAN AND PROFILE
C8.00	TRAFFIC SIGNAGE PLAN
C8.01	SECONDARY ACCESS PLAN
C8.02	TXDOT SIGN MOUNTING DETAILS*
C8.03	TXDOT SIGN MOUNTING DETAILS*

* DENOTES STANDARD DETAILS ADOPTED FOR USE ON THIS PROJECT



LOCATION MAP



VICINITY MAP

POSS LANDING
Subdivision Unit 2
CONSTRUCTION PLANS

4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

DRAWN BY
M.A.S.

DATE
2024-11-05

CHECKED BY
KYLE HUDEK, PE

PROJECT NO.
03653.004

STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

GENERAL NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH OSHA STANDARDS INCLUDING CONFINED SPACE ENTRY AND PROVIDE ALL DEVICES, MANPOWER AND CERTIFIED PERSONNEL.
2. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, ACCESS TO GAS VALVES MUST BE MAINTAINED AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
3. THE CONTRACTOR SHALL WARRANT ALL WORK FOR ONE (1) YEAR.
4. THE CONTRACTOR SHALL PROVIDE INSURANCE LISTING CITY AS AN ADDITIONAL INSURED BEFORE WORKING IN PUBLIC RIGHT-OF-WAY.
5. THE CONTRACTOR SHALL REMOVE AND RESTORE TRAFFIC SIGNS AS NEEDED (NO SEPARATE PAY ITEM).
6. TEN (10) DAYS PRIOR TO BEGINNING WORK, CONTRACTOR SHALL ARRANGE, WITH THE CITY, FOR A PRECONSTRUCTION CONFERENCE TO BE HELD AT THE CITY AND SHALL THEREAFTER SECURE A CITY PERMIT.
7. THE CONTRACTOR SHALL NOTIFY THE CITY OF LEON VALLEY PUBLIC WORKS DEPARTMENT AT 681-1231 PRIOR TO PLACING BACKFILL OR CONCRETE AND PRIOR TO ANY TESTING. THE CONTRACTOR SHALL REQUEST INSPECTION 24 HOURS IN ADVANCE. (NO INSPECTIONS ARE AVAILABLE BETWEEN 12:00 P.M. AND 1:00 P.M. OR AFTER 4:00 P.M. DAILY, WEEKENDS OR CITY HOLIDAYS.)
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THE CITY'S CONSTRUCTION INSPECTOR AND THE TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND STOPS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED.
9. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) 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 PROTECTIONS 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.
10. ALL GAS, ELECTRICAL, CABLE OR STREETLIGHT PIPING OR WIRING WHICH WILL BE LOCATED UNDER PAVED AREAS OR ABOVE DRAINAGE FACILITIES SHALL BE PLACED IN PROPERLY SIZED (MINIMUM 2" DIAMETER) SCHEDULE 80 PVC CONDUIT WITH PULL STRINGS.
11. PRIOR TO PRELIMINARY AND FINAL ACCEPTANCE OF THE PUBLIC IMPROVEMENTS BY THE CITY, CONTRACTOR SHALL ARRANGE FOR A FIELD INSPECTION TO BE CONDUCTED WITH CITY FORCES. THE CONTRACTOR SHALL PROVIDE EQUIPMENT AND MANPOWER SUFFICIENT TO OPEN ALL MANHOLES (WHICH SHALL PROMPTLY BE CLOSED), ROTATE ALL VALVES AND OPEN ALL FIRE HYDRANTS AND WATER SERVICES. THESE INSPECTIONS WILL BE ARRANGED BY GIVING SEVEN (7) DAYS' PRIOR NOTICE TO THE CITY OF THIS NEED.
12. THE CONTRACTOR SHALL FURNISH THE CITY WITH THREE (3) COPIES OF SUBMITTAL DATA ON ALL WATER OR SEWER MATERIALS TO BE INCORPORATED INTO THE WORK FOR THEIR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.
13. ALL REQUIREMENTS OF THE TEXAS DEPARTMENT OF TRANSPORTATION WILL BE ADHERED TO WHERE APPLICABLE.
14. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN ACCORDANCE WITH THE TEXAS ONE CALL SYSTEM (1-800-545-6005), PRIOR TO EXCAVATION (EXISTING UNDERGROUND FACILITIES ARE SHOWN AS REFLECTED IN VISIBLE SURFACE FEATURES AND RECORDS OF THE VARIOUS UTILITY COMPANIES). THE CONTRACTOR SHALL VERIFY THE LOCATION AND GRADE OF THE UTILITIES WELL AHEAD OF EXCAVATION OPERATION AND SHALL BE RESPONSIBLE FOR THE PROTECTION OF SAME DURING THE COURSE OF CONSTRUCTION.
15. THE CONTRACTOR SHALL CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48 HOURS PRIOR TO ANY EXCAVATION AT 650-8228 AND PROTECT AND SUPPORT TELEPHONE COMPANY PLANT DURING CONSTRUCTION.
16. THE CONTRACTOR SHALL CONTACT THE FOLLOWING UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION OPERATION:

LEON VALLEY PUBLIC WORKS	(210) 681-1232
LEON VALLEY PLANNING & ZONING	(210) 684-1391
CPS ENERGY	1(800) 773-3077
TEXAS STATE WIDE ONE CALL LOCATOR	1(800) 344-8377
AT&T	1(800) 344-8377
SPECTRUM	1(800) 344-8377

WATER SYSTEM NOTES:

1. THE MATERIALS AND CONSTRUCTION STANDARDS OF THE STANDARD SPECIFICATIONS FOR WATER WORKS CONSTRUCTION OF THE SAN ANTONIO WATER SYSTEM ARE ADOPTED FOR REFERENCE AND ALL WORK SHALL COMPLY WITH THESE STANDARDS, EXCEPT AS MODIFIED HEREIN.
2. ALL WORK AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN WATER WORKS ASSOCIATION AND THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY.
3. WHEN SEWER LINES ARE INSTALLED IN THE VICINITY OF WATER MAINS, SUCH INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY.
4. THE CONTRACTOR SHALL CONSTRUCT WATER MAINS SIX FEET (6') FROM THE PROPERTY LINE, UNLESS OTHERWISE NOTED.
5. CHLORINATION WILL BE BY THE CONTRACTOR UNLESS OTHERWISE STATED.
6. DUCTILE IRON WATER MAINS SHALL BE CLASS 50 WITH POLYETHYLENE SLEEVE; C-900 PVC CLASS 200 (6- OR 8-INCH DIAMETER) OR CLASS 150 (12-INCH DIAMETER) MAY BE USED. THE USE OF ASBESTOS CEMENT PIPE WATER MAINS IS NOT ALLOWED.
7. THE CONTRACTOR SHALL DISINFECT AND HYDROSTATICALLY TEST MAINS IN ACCORDANCE WITH SAN ANTONIO WATER SYSTEM STANDARDS AND CONDUCT ALL BACTERIOLOGICAL SAMPLING AND TESTING. FURNISH TEST RESULTS TO CITY BEFORE CONNECTING TO EXISTING MAIN. THE CITY IS TO BE PRESENT DURING TESTING AND INTERCONNECTION.
8. THE CONTRACTOR SHALL FURNISH THE PROJECT ENGINEER WITH FINAL MEASUREMENTS FOR ALL PIPE INSTALLATION, THE LOCATION AND SIZE OF ALL TAPS, AND LENGTH OF SERVICE CONNECTIONS.
9. ALL SINGLE AND DUAL SERVICES SHALL BE ONE-INCH COPPER.
10. EXCESS MATERIAL SHALL BE DISPOSED OF AS DIRECTED BY THE PROJECT ENGINEER.
11. THRUST BLOCKS ARE TO BE INSTALLED FOR EACH FITTING.
12. FIRE HYDRANTS SHALL BE MUELLER SUPER CENTURION 200 5-1/4 INCH NO. A-423 MECHANICAL JOINT, WITH 2-1/2 INCH NATIONAL STANDARD NOZZLE THREADS AND 4-1/2 INCH NATIONAL STANDARD PUMPER THREADS, OPEN LEFT, PAINTED RED, WITH GATE VALVE AND JOINT RESTRAINTS. (SET VALVES FLUSH WITH TOP OF CURBS WHEN IN PARKWAY.) FIRE HYDRANTS SHALL BE PLACED SO AS TO AVOID FUTURE DRIVEWAY LOCATIONS.
13. ALL GATE VALVES SHALL BE RESILIENT SEAT, LEFT HAND OPEN, MUELLER A-2370 VALVES.
14. EIGHT-MIL POLYETHYLENE WRAPPING WILL BE REQUIRED ON ALL FITTINGS AND VALVES.
15. ALL FITTINGS SHALL BE MECHANICAL JOINT WITH CONCRETE BLOCKING, UNLESS OTHERWISE NOTED. SHORT SHORT BODY (SSB) FITTINGS MAY BE USED.
16. THE CONTRACTOR SHALL PROVIDE 24-HOUR NOTICE TO HOMEOWNERS AND CITY PRIOR TO DISCONTINUING SERVICE TO MAKE CONNECTION. SERVICE OUTAGE SHALL BE LIMITED TO THE PERIOD OF 9:00 A.M. TO 4:00 P.M. AND THE DIRECTOR OF PUBLIC WORKS OR HIS AUTHORIZED REPRESENTATIVE SHALL BE PRESENT WHEN THE MAIN VALVES ARE CLOSED. NIGHTTIME CONNECTIONS MAY BE REQUIRED.
17. THE DIRECTOR OF PUBLIC WORKS OR HIS AUTHORIZED REPRESENTATIVE SHALL BE PRESENT DURING ALL SAMPLING, TESTING, OR TIE-INS BY THE CONTRACTOR (NO EXCEPTIONS).
18. ALL FITTINGS, PIPES AND SERVICES SHALL HAVE AN INITIAL BED OF GRAVEL FOUR (4) INCHES THICK AND TWELVE (12) INCHES OF GRAVEL BACKFILL ABOVE PIPE UNLESS OTHERWISE SHOWN OR AUTHORIZED IN WRITING BY THE CITY ENGINEER.
19. NO BLASTING IS ALLOWED.
20. BACKFILL IN AREAS UNDER OR WITHIN THREE (3) FEET OF CURBS OR PAVEMENTS SHALL BE MACHINE TAMPED GRAVEL TO A POINT WITHIN TWELVE (12) INCHES OF THE SURFACE. WATER JETTING WILL NOT BE ALLOWED IN THESE AREAS.
21. CAST IRON METER BOXES SUPPORTED BY BRICKS SHALL BE INSTALLED ON ALL SERVICES.
22. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY FLUSH VALVES AND JUMPER CONNECTIONS NEEDED.
23. METER BOXES SHALL BE LOCATED AT A POSITION OF ONE FOOT (1') FROM THE FRONT OF THE BOX TO THE BACK OF THE CURB AND SHALL BE COORDINATED BY THE CONTRACTOR TO AVOID BEING LOCATED IN WHEELCHAIR RAMPS AND SIDEWALKS. WHERE SIDEWALKS ARE TO BE LOCATED NEAR THE CURBLINE, THE METER BOX SHALL BE LOCATED SO AS TO BE BEHIND THE SIDEWALK. ALL SERVICE SADDLES SHALL BE BRASS AND ALL CORPORATION AND METER STOPS SHALL BE BALL VALVE TYPE.

STREET NOTES:

1. THE REQUIREMENTS OF THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ARE ADOPTED FOR REFERENCE, EXCEPT AS OTHERWISE MODIFIED HEREIN.
2. THE CONTRACTOR SHALL INSTALL LAY DOWN CURBS AT DRIVEWAY LOCATIONS.
3. HANDICAPPED WHEELCHAIR RAMPS ALONG WITH ALL SIDEWALKS OVER DRAINAGE FACILITIES AND WHERE OTHERWISE SHOWN SHALL BE INSTALLED WITH THE INITIAL STREET WORK.
4. ALL CONCRETE SHALL BE CLASS A (3,000 PSI AT 28 DAYS) AND MEET THE MATERIAL REQUIREMENTS OF “CONCRETE” (NATURAL AGGREGATE) OF THE SPECIFICATIONS.
5. ALL REINFORCING STEEL SHALL BE GRADE 40 AND MEET THE MATERIAL AND CONSTRUCTION REQUIREMENTS OF “REINFORCING STEEL” OF THE SPECIFICATIONS. THE USE OF WIRE MESH IN SIDEWALK, CONCRETE PAVEMENTS, RIPRAP OR DRIVEWAYS IS PROHIBITED.
6. CURING SHALL BE MADE BY THE IMPERVIOUS MEMBRANE METHOD AND SHALL MEET THE MATERIAL AND CONSTRUCTION REQUIREMENTS OF “MEMBRANE CURING” OF THE SPECIFICATIONS.
7. ALL CONCRETE CONSTRUCTION SHALL MEET THE REQUIREMENTS OF “CONCRETE WORK” OF THE SPECIFICATIONS.
8. MANHOLES SHALL BE BROKEN DOWN BELOW FINISH GRADE LEVEL UNTIL BASE IS COMPLETED AND THEN RESTORED.
9. THE ENGINEER WILL STAKE THE STREETS ONE (1) TIME ONLY AND FURNISH CUT SHEETS TO THE CONTRACTOR. ANY CONSTRUCTION STAKES REMOVED OR DESTROYED BY THE CONTRACTOR OR HIS EMPLOYEES WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
10. LABORATORY TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT TESTING LABORATORY. ALL COST OF TESTING AND RETEST SHALL BE PAID BY THE CONTRACTOR. THE FOLLOWING TEST SCHEDULE SHALL BE ADHERED TO:
    A. SUBGRADE MOISTURE DENSITY TEST AT THE RATE OF THREE (3) PER EACH BLOCK, NOT TO EXCEED 500-FOOT SPACING (ONE PROCTOR TEST);
    B. FLEXIBLE BASE - P.I., L.L., AND GRADUATION OF MATERIAL USED, MOISTURE DENSITY TEST ON SAME SPACING AS SUBGRADE, QUALITY CONTROL TEST ON MATERIALS TO BE USED;
    C. ASPHALT DENSITY - IN PLACE DENSITY TEST TO ENSURE THAT A DENSITY OF BETWEEN 95 PERCENT AND 100 PERCENT OF THE LABORATORY METHOD (THD) TEST METHOD TYPE 706-5) IS ACHIEVED (FURNISH THREE (3) TESTS AND REPEAT OF FAILURES, AND REPORT ON THICKNESS - LABORATORY CONTROL PERSONNEL SHALL BE PRESENT AT START OF ASPHALT LAY DOWN TO CONFIRM DENSITY, THICKNESS AND COMPACTION EFFORT);
    D. CONCRETE STRUCTURE - ONE (1) CONCRETE COMPRESSIVE STRENGTH TEST OF 4 CYLINDERS EACH SHALL BE PROVIDED PER EACH STRUCTURE AS SHOWN ON THE DRAWINGS;
    E. CONCRETE CURB - PROVIDE ONE (1) SET OF CYLINDERS PER EACH 500 LINEAR FEET OF CURB;
    F. CONCRETE SIDEWALK - PROVIDE ONE (1) SET OF CYLINDERS PER EACH 500 FEET OF SIDEWALK; AND
    G. ALL FILL IN STREET AREAS TO BE SELECT LOW P.I. MATERIAL (LESS THAN 15) COMPACTED IN 6-INCH LIFTS TO NINETY PERCENT (90%) DENSITY (FURNISH TEST ON COMPACTION IN 12-INCH LIFTS EACH 500 FEET);
11. PROOF-ROLLING - ALL SUBGRADE AND EACH LIFT OF BASE MATERIAL SHALL BE PROOF-ROLLED TO THE SATISFACTION OF THE CITY. THE CONTRACTOR SHALL PROVIDE THE NECESSARY EQUIPMENT AND OPERATORS FOR PROOF-ROLLING AND SOFT AND YIELDING AREAS DISCOVERED SHALL BE CORRECTED BY THE CONTRACTOR.
12. SURFACE STRUCTURES SUCH AS MAILBOXES, STREET SIGNS, FENCES, DRIVEWAYS, SIDEWALKS, LANDSCAPING, AND SO FORTH, ARE SHOWN ON THE PLANS AS VISIBLE AT THE TIME OF THE SURVEY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SAFEGUARD AND MAINTAIN ANY AND ALL SURFACE STRUCTURES DURING THE COURSE OF WORK AND TO REPLACE OR REPAIR THOSE ITEMS WHICH ARE DAMAGED BY THE CONTRACTOR WITH LIKE OR BETTER QUALITY.
13. THE CONTRACTOR IS REQUIRED TO ADJUST ALL EXISTING MANHOLES (SEE “ADJUSTING EXISTING MANHOLES” OF SPECIFICATIONS) AND WATER VALVES TO MATCH THE GRADE OF THE STREET SECTION OR TO THE ELEVATION SPECIFIED ON THE PLANS OR BY THE ENGINEER.
14. CONCRETE CURB SHALL BE MARKED AT TEN-FOOT INTERVALS WITH STEEL APPROVED MARKING TOOL. EXPANSION JOINTS SHALL BE PLACED AT BEGINNINGS OF ALL RADII AND AS DIRECTED BY THE ENGINEER.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION, ANY DAMAGES DONE TO EXISTING FENCES, CONCRETE ISLANDS, CURBS OR CONCRETE DRIVEWAYS (NO SEPARATE PAY ITEM).
16. CONCRETE SIDEWALKS SHALL HAVE TOOLED WEAKENED PLANE JOINTS EVERY FOUR (4) FEET AND DOWELED EXPANSION JOINT WITH 1/4-INCH BITUMASTIC MATERIAL 75 FEET O/C AND ABUTTING EXISTING STRUCTURES. (ONLY BAR-TYPE STEEL REINFORCEMENT MAY BE USED.)
17. THE CITY SHALL FURNISH AND INSTALL STREET NAME SIGNS AND DEVELOPER SHALL REIMBURSE CITY FOR MATERIAL COST. ALL OTHER TRAFFIC SIGNAGE (STOP AND YIELD SIGNS, AND SO FORTH) WILL BE FURNISHED AND INSTALLED BY CITY AT NO COST.
18. THE CONTRACTOR SHALL APPLY CURING COMPOUND AND INSTALL CONTRACTION/EXPANSION JOINTS ON ALL CONCRETE WORK.
19. SECONDARY BACKFILL UNDER AREAS TO BE PAVED AND WITHIN THREE (3) FEET THEREOF SHALL BE MACHINE TAMPED GRAVEL OR BASE AS SHOWN.
20. EXISTING ASPHALT TO BE JOINED TO NEW ASPHALT SHALL BE SAW CUT.
21. ANY CUTS TO EXISTING CURBS AND/OR STREETS REQUIRE A PERMIT FROM THE CITY, AND MUST COMPLY WITH ALL "WORK IN THE RIGHT-OF-WAY" REQUIREMENTS

SANITARY SEWER NOTES:

1. EXCEPT AS MODIFIED HEREIN, THE CURRENT SPECIFICATIONS OF THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR PUBLIC WORKS ARE ADOPTED FOR REFERENCE. ALL WORK SHALL ALSO COMPLY WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.5(c), THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY’S (TCEQ).
2. MANHOLE TOPS SHALL BE SET TO THE ELEVATION PROVIDED BY THE ENGINEER. MANHOLES SHALL HAVE NOT MORE THAN FIVE (5) THROAT RINGS FOR ADJUSTMENTS. ALL MANHOLE COVERS IN PAVED AREAS ARE TO BE FINISHED FLUSH WITH TOP OF FINISHED PAVEMENT. ALL MANHOLE COVERS OUTSIDE OF PAVED AREAS SHALL BE FINISHED FOUR (4) INCHES ABOVE NATURAL GROUND. BOLT-DOWN, WATERTIGHT MANHOLE COVERS ARE REQUIRED OUTSIDE OF PAVEMENT AREA AND IN ALL UNSUPERVISED PAVED AREAS SUCH AS ALLEYS/EASEMENTS AND IN ALL AREAS SUBJECT TO FLOODING.
3. THE CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, AND SO FORTH. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
4. THE MINIMUM RADIUS OF CURVATURE FOR ANY PIPE IS TO BE EITHER 200 FEET, OR THE MANUFACTURER'S RECOMMENDATION, WHICHEVER IS GREATER. (THIS REQUIREMENT IS IN NO WAY INTENDED TO RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO SUCCESSFULLY PASS THE AIR TESTING REQUIREMENTS.)
5. WHEN SEWER LINES ARE INSTALLED IN THE VICINITY OF WATER MAINS, SUCH INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY’S (TCEQ) 30 TAC §217.53(d) (PIPE DESIGN) AND 30 TAC §290.44(e) (WATER DISTRIBUTION).
6. ALL SEWER PIPES SHALL BE COMPRESSION JOINT PVC SDR 26 PIPE.
7. Y'S OR T'S SHALL BE MANUFACTURED Y'S AND T'S.
8. NO BLASTING IS ALLOWED.
9. MANHOLES SHALL BE EITHER MONOLITHIC, CAST-IN-PLACE OR PRECAST.
10. MANHOLES, INCLUDING RINGS AND COVERS, SHALL BE CONSTRUCTED SO THAT THEY ARE WATERTIGHT.
11. THE CONTRACTOR MAY USE PRECAST MANHOLES (PROVIDE CITY WITH SUBMITTAL ON PRODUCT). CONTRACTOR SHALL GROUT ALL CONNECTION BOOT CAVITIES INSIDE MANHOLE TO PREVENT EXPOSED GASKETS BY USING SILICONE OR OTHER FLEXIBLE SEALANT.
12. ANY CAVERNS OR SOLUTION CHANNELS ENCOUNTERED DURING CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER AND TO THE CITY.
13. THE CONTRACTOR SHALL CONTACT THE FOLLOWING UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION/EXCAVATION OPERATION:

LEON VALLEY PUBLIC WORKS	(210) 681-1232
LEON VALLEY PLANNING & ZONING	(210) 684-1391
CPS ENERGY	1(800) 773-3077
TEXAS STATE WIDE ONE CALL LOCATOR	1(800) 344-8377
AT&T	1(800) 344-8377
SPECTRUM	1(800) 344-8377

AND SHALL NOTIFY THE TEXAS STATE ONE CALL SYSTEM (1-800-545-6005) IN ACCORDANCE WITH THESE RULES.

14. THE CONTRACTOR SHALL PAY FOR FIRE HYDRANT METER DEPOSIT WHICH WILL BE REFUNDABLE UPON RETURN.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT NO ILLEGAL SEWAGE DISCHARGES OCCUR DURING CONSTRUCTION, TO INCLUDE RAW SEWAGE IN TRENCHES. THE CONTRACTOR SHALL SUBMIT A PLAN AT THE PRECONSTRUCTION CONFERENCE DETAILING HIS METHOD OF ENSURING NO ILLEGAL DISCHARGES DURING THE CONSTRUCTION OF THE SANITARY SEWER MAINS (ACCEPTABLE MEANS ARE TO PUMP AROUND SECTIONS BEING CONSTRUCTED OR TO USE TANKER TRUCKS).
16. CONFINED SPACE ENTRY - OSHA REGULATIONS REQUIRE THAT ANY PERSON ENTERING A CONFINED SPACE OBTAIN A PERMIT DAILY FOR ENTRY INTO ANY CONFINED SPACE AS DEFINED BY OSHA REGULATIONS. BASIC REQUIREMENTS INCLUDE COMPETENT PERSON TRAINING, RESCUE EQUIPMENT, ATMOSPHERE MONITORING AND TESTING. CONTRACTOR MUST PRESENT CITY DOCUMENTS CERTIFYING THE ABOVE.
17. EXISTING UNDERGROUND FACILITIES ARE SHOWN AS REFLECTED IN VISIBLE SURFACE FEATURES AND RECORDS OF THE VARIOUS UTILITY COMPANIES. THE CONTRACTOR SHALL VERIFY THE LOCATION AND GRADE OF THE UTILITIES WELL AHEAD OF EXCAVATION OPERATION AND SHALL BE RESPONSIBLE FOR THE PROTECTION OF SAME DURING THE COURSE OF CONSTRUCTION.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING GRASS AREAS, CURBS, SIDEWALKS OR CONCRETE DRIVEWAYS AND TRENCHES IN GRASS AREAS SHALL BE SODDED.
19. WHENEVER POWER POLES ARE ADJACENT TO THE PROPOSED TRENCH, THE CONTRACTOR SHALL PROVIDE PROPER SHORING OR OTHER SUITABLE SUPPORT DURING CONSTRUCTION OF THE UTILITY WHICH METHODS MUST BE APPROVED BY THE UTILITY COMPANY.
20. EXISTING STREET PAVEMENTS AND BASE SHALL BE REPLACED IN KIND, BUT NOT LESS THAN WITH 8 INCHES OF FLEXIBLE BASE AND 1-1/2 INCHES OF HOT MIX ASPHALTIC CONCRETE (TYPE “D”) PAVEMENT.
21. SECONDARY BACKFILL UNDER AREAS TO BE PAVED AND WITHIN THREE (3) FEET THEREOF SHALL BE MACHINE TAMPED GRAVEL OR BASE AS SHOWN.
22. THE CONTRACTOR HAS THE OPTION TO TUNNEL UNDER EXISTING CURBS AND/OR REMOVE AND REPLACE CURBS DAMAGED DURING CONSTRUCTION.
23. ALL TESTING WILL BE PROVIDED BY THE CONTRACTOR AT HIS COST.
24. MAINS MUST PASS AIR TEST PER ITEM 518, CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND TEXAS COMMISSION ON ENVIRONMENTAL QUALITY’S (TCEQ), PRIOR TO ACCEPTANCE BY LEON VALLEY.
25. PASSAGE OF AN APPROVED GO-NO-GO DEFLECTION TESTING MANDREL SHALL BE REQUIRED FOR FINAL ACCEPTANCE OF FLEXIBLE CONDUIT. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS AND NO PIPE SHALL EXCEED A DEFLECTION OF FIVE PERCENT (5%). IF THE DEFLECTION TEST IS TO BE RUN USING A RIGID BALL OR MANDREL, IT SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES AND THE CITY AND THE DESIGN ENGINEER'S INSPECTOR SHALL BE PRESENT DURING ALL REQUIRED INSPECTIONS. THE CONTRACTOR SHALL PROVIDE PRIOR NOTICE OF THIS NEED.
26. MANHOLES SHALL BE TESTED FOR LEAKAGE SEPARATELY AND INDEPENDENTLY OF THE WASTEWATER LINES BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING, OR OTHER METHODS ACCEPTABLE TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY’S (TCEQ).
27. ALL SEWER MAINS SHALL BE LAID TO GRADE AND SHALL NOT SAG OR OTHERWISE STAND WATER IN THE MAIN OR IN THE MANHOLE INVERT SECTION.
28. THE SEWER SYSTEM, INCLUDING STUB-OUTS, SHALL BE TESTED UNDER THE SUPERVISION OF THE CITY OF LEON VALLEY AT THE TIME OF INSTALLATION AND SHALL BE CERTIFIED TO THE CITY TO MEET OR EXCEED THE REQUIREMENTS OF THE LATEST REVISION OF THE CITY OF SAN ANTONIO “STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION,” ITEM 518, OR ITS EQUIVALENT, RELATIVE TO ESTABLISHING A MINIMUM INFILTRATION/EXFILTRATION RATE.
29. UTILITY TRENCH COMPACTION SHALL ACHIEVE 90% PROCTOR DENSITY AND SHALL BE PROOF-ROLLED PRIOR TO APPROVAL OF THE UTILITY.
30. THIRTY (30) DAYS AFTER INSTALLATION OF THE SEWER MAINS AND PRIOR TO PRELIMINARY ACCEPTANCE OF PUBLIC IMPROVEMENTS, THE CONTRACTOR SHALL CAUSE THE MAINS TO BE VIDEOTAPED IN COLOR AND SHALL FURNISH THE CITY WITH A COPY. THIS ACTIVITY SHALL BE CONDUCTED IN THE PRESENCE OF THE CITY INSPECTOR.
31. SEWER SERVICE LATERALS SHALL BE SIX-INCH PVC, SDR 26, AND BE INSTALLED PER EXISTING GUIDELINES. CONTRACTOR TO FURNISH ENGINEER WITH AN AS-BUILT PLAN INDICATING THE LOCATION AND LENGTH OF EACH SEWER LATERAL. ALL SEWER SERVICE LINES SHALL EXTEND TO THE PROPERTY LINE.
32. SEWER SERVICE LATERALS AND UTILITY CONDUITS SHALL BE MARKED AND LOCATED AS FOLLOWS:

A. UPON BACKFILLING, A 2" X 4" STAKE SHALL BE DRIVEN A MAXIMUM OF TWO (2) FEET FROM THE PIPE END(S) (STAKES SHALL EXTEND ABOVE THE GROUND SURFACE BY AT LEAST FOUR (4) FEET AND SHALL BE PAINTED BLUE FOR UTILITY CONDUIT AND GREEN FOR SEWER LATERALS);

B. MARKING RIBBONS WITH THE WORD “SEWER” SHALL BE TIED SECURELY AROUND THE PIPE END(S) AND SHALL EXTEND ABOVE THE GROUND LEVEL AND SHALL CONTINUE ALONG THE 2" X 4" STAKE FROM THE BASE, OVER THE TOP, DOWN THE BACK OF THE STAKE, AND ATTACHED WITH WEATHERPROOF TAPE WRAPPED AROUND THE STAKE NEAR THE TOP AND THE BOTTOM (NAILS, TACKS OR STAPLES ARE NOT ACCEPTABLE).

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EST. 1980 CUDE ENGINEERS

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P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

GENERAL NOTES

DATE
10/30/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
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6.
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8.

STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
PZ-2024-16

C0.00

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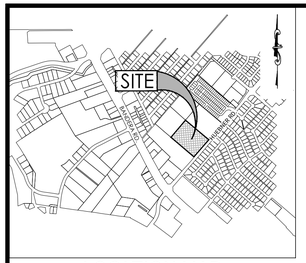


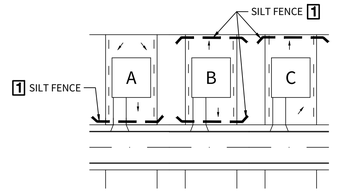
LOCATION MAP
N.T.S.

DEVELOPER
CENTURY COMMUNITIES
ATTN: VICTOR BERNAL
2330 N LOOP 1604 W ACCESS ROAD, STE 112
SAN ANTONIO, TX. 78248
TEL: (210) 469-3442

NOTE:

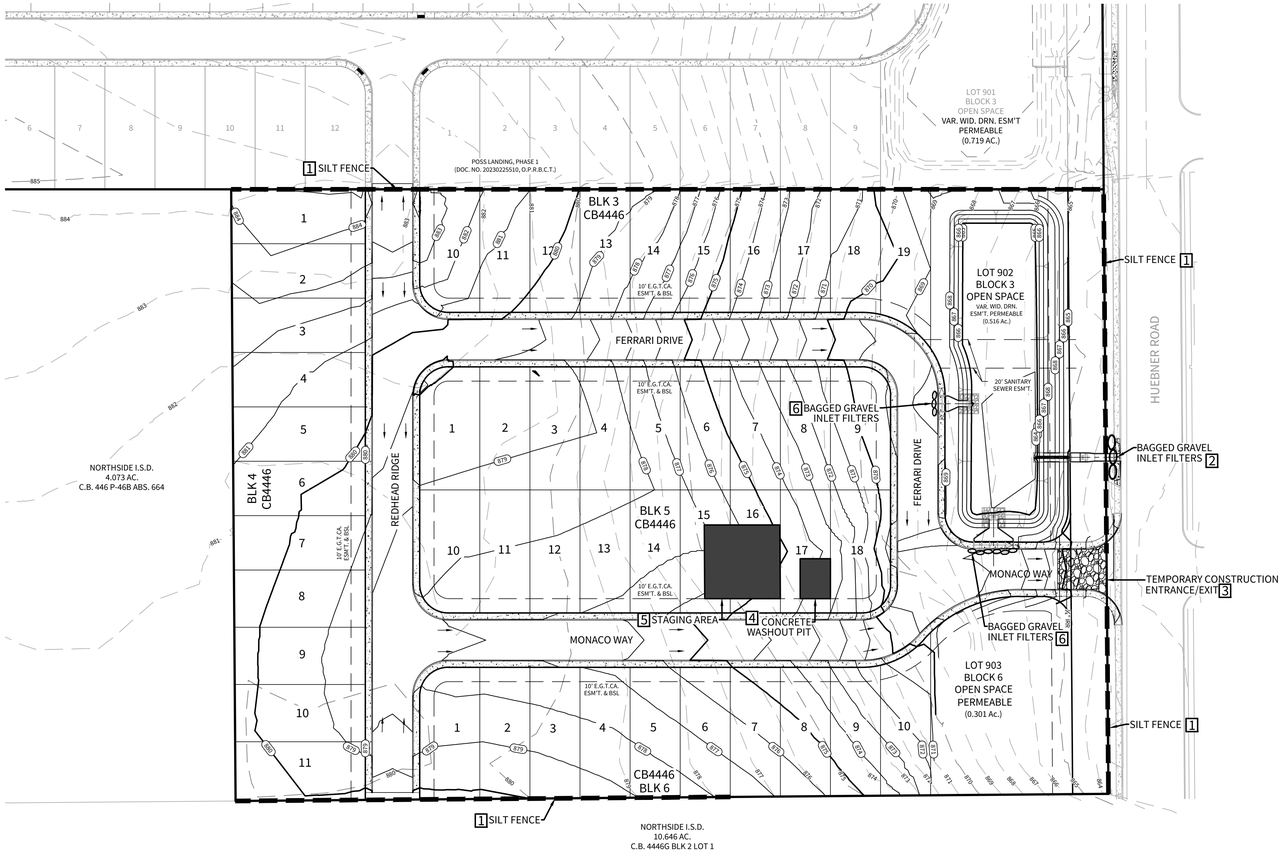
1. ALL SILT FENCES AND/OR ROCK BERMS AND TEMPORARY CONSTRUCTION ENTRANCES/EXITS SHALL BE PLACED AT THE MOST DOWN-GRADIENT POINT OF CONSTRUCTION AS SHOWN ON THIS SITE PLAN. CONTRACTOR SHALL TAKE INTO CONSIDERATION ANY PROPOSED CONSTRUCTION THAT MAY TAKE PLACE AT THESE LOCATIONS. ANY RELOCATION OF SILT FENCE, ROCK BERMS AND/OR TEMPORARY CONSTRUCTION ENTRANCES/EXITS SHALL BE AT THE CONTRACTOR'S EXPENSE.
2. AREA OF SOIL DISTURBANCES INCLUDE STREET RIGHT-OF-WAYS, UTILITY EASEMENTS & LOTS.
3. THERE WILL NOT BE STORMWATER DISCHARGES INTO THE FEMA FLOOD PLAIN.
4. THE CONTRACTOR IS REQUIRED TO MAINTAIN EROSION CONTROLS THROUGHOUT THE DURATION OF THE PROJECT.
5. THE CITY INSPECTOR HAS THE AUTHORITY TO HAVE THE CONTRACTOR MODIFY THE EROSION CONTROLS AT THE DEVELOPER'S EXPENSE. THE DEVELOPER SHALL BE NOTIFIED OF THESE MODIFICATIONS PRIOR TO COMMENCEMENT OF MODIFICATIONS.

LEGEND
- PROPERTY LINE
- EXISTING CONTOURS — 930 —
- BMP ITEM NUMBER [1]
- TEMPORARY CONSTRUCTION ENTRANCE/EXIT
- SILT FENCE
- FLOW ARROW
- STAGING AREA
- CONCRETE WASHOUT PIT
- ROCK BERM
- BAGGED GRAVEL INLET FILLER



TYPICAL LOT SITE PLAN
N.T.S.

SCALE: 1"=50'
50 25 0 50



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POSS LANDING SUBDIVISION PHASE 2

STORMWATER POLLUTION PREVENTION PLAN

DATE
8/28/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
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8.

STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED PROFESSIONAL ENGINEER
09/18/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
03653-05

C1.00

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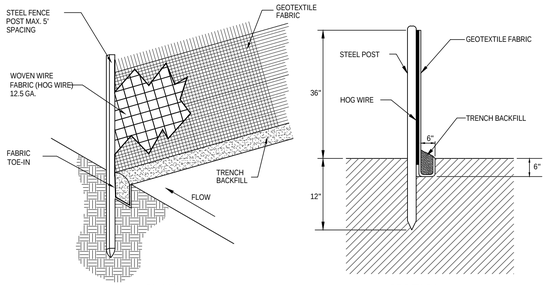


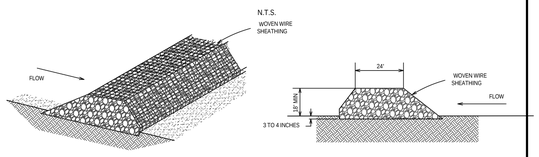
PLAN SECTION

NOTES:

1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NON WOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN 2 , ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 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 NOMINAL WEIGHT 1.25 LB/FT 2 , AND BRINDELL HARDNESS EXCEEDING 140.
3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12.5 GAUGE MINIMUM.
4. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 1 FOOT DEEP AND SPACED NOT MORE THAN 5 FEET ON CENTER.
5. 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 ¼ ACRE/100 FEET OF FENCE.
6. THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
7. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
8. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
9. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
10. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES, OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE OLD FENCE.
11. REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.
12. REPLACE OR REPAIR ANY 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 FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.

1 SILT FENCE DETAIL

SCALE: NONE



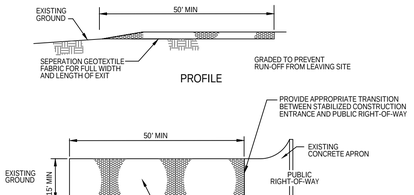
ISOMETRIC PLAN SECTION

NOTES:

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 SHOAT RINGS.
2. CLEAN, OPEN GRADED 3 TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5-TO 8-INCH DIAMETER ROCKS MAY BE USED.
3. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE.
4. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
5. PLACE THE ROCK ALONG THE SHEATHING TO A HEIGHT NOT LESS THAN 18".
6. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
7. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.
8. 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.
9. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
10. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT OF IN AN APPROVED MANNER AND REPAIR ANY LOOSE WIRE SHEATHING.
11. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
12. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

2 ROCK BERM DETAIL

SCALE: NONE



GENERAL NOTES

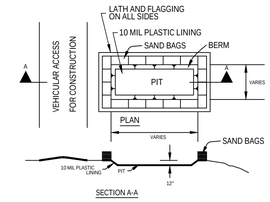
1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS BUT NOT LESS THAN 50 FEET.
2. THICKNESS SHALL BE NOT LESS THAN 8 INCHES.
3. WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
4. STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMODATE A TRUCK WASHING AREA WHEN SHOWN ON THE CONSTRUCTION DRAWING. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE TRUCK WASHING AREA.
5. STONE MATERIAL SHALL CONSIST OF 3 TO 5 INCH OPEN GRADED ROCK AND SHALL BE PLACED IN A LAYER OF AT LEAST 8 INCHES THICKNESS.

NOTES:

1. THE AGGREGATE SHOULD CONSIST OF 4 TO 8 INCH WASHED STONE OVER A STABLE FOUNDATION.
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/YD 2 , A MULLEN BURST RATING OF 140 LB/IN 2, AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
4. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.
5. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
6. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.
7. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
8. PLACE STONE TO DIMENSIONS AND GRADE SHOWN. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.
9. 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.
10. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
11. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
12. 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.
13. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE.

3 TEMPORARY CONSTRUCTION ENTRANCE / EXIT

SCALE: NONE

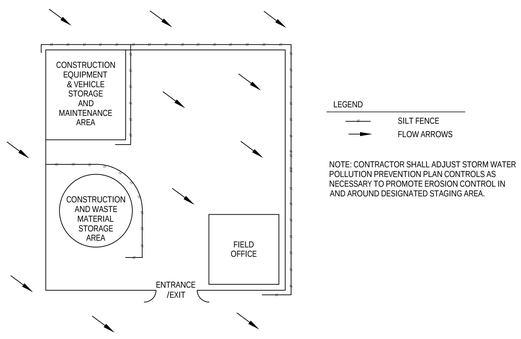


NOTES:

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 CONCRETE TRUCK WASHOUT PIT

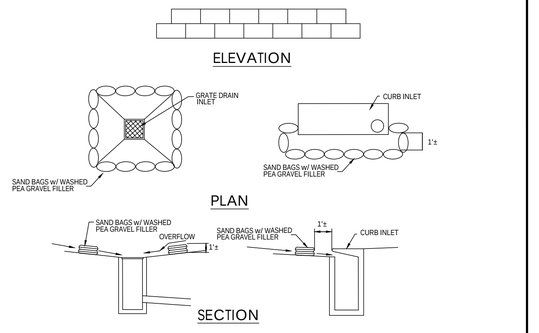
SCALE: NONE



NOTE: CONTRACTOR SHALL ADJUST STORM WATER POLLUTION PREVENTION PLAN CONTROLS AS NECESSARY TO PROMOTE EROSION CONTROL IN AND AROUND DESIGNATED STAGING AREA.

5 TYP. CONSTRUCTION STAGING AREA

SCALE: NONE



BAGGED GRAVEL INLET FILTER NOTES

1. THE GRAVEL BAG MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, POLYAMIDE OR COTTON BURLAP WOVEN FABRIC, MINIMUM UNIT WEIGHT 4 OZ/YD 2 , MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70 PERCENT.
2. THE BAG LENGTH SHOULD BE 24 INCHES, WIDTH SHOULD BE 18 INCHES AND THICKNESS SHOULD BE 6 INCHES.
3. THE GRAVEL BAGS SHOULD BE FILLED WITH ½" GRAVEL .
4. WHEN A GRAVEL BAG IS FILLED WITH GRAVEL, THE OPEN END OF THE GRAVEL BAG SHOULD BE STAPLED OR TIED WITH NYLON OR POLY CORD.
5. THE GRAVEL BAGS SHOULD BE PLACED AS SHOWN ON THE DETAIL. THE GRAVEL BAGS SHALL BE STACKED TO FORM A CONTINUOUS BARRIER AROUND THE INLETS. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.
6. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
7. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.
8. 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.
9. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

6 BAGGED GRAVEL INLET FILTER

SCALE: NONE

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4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

STORMWATER POLLUTION PREVENTION PLAN DETAILS

DATE
8/28/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
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STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
09/18/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
03653-05

C1.01

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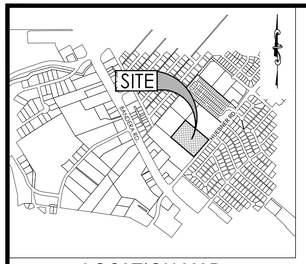


LOCATION MAP

N.T.S.

LEGEND

- PROPOSED CONTOUR — 1000
- EXISTING CONTOUR — 1000
- PROPOSED ELEVATION — 1237.58
- EXISTING ELEVATION — 672.00E
- GRADE BREAK — GRADE BREAK
- BUILDING SETBACK
- SWALE

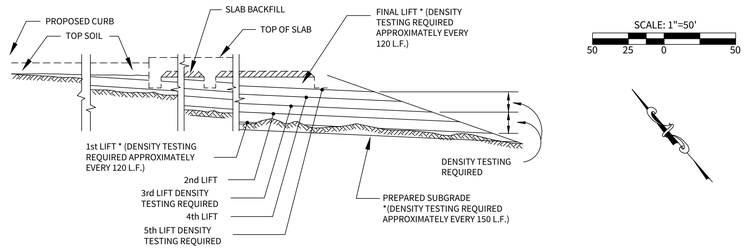
NOTE:

LOT GRADING BASED ON SLABS BEING 16' BEHIND FRONT PROPERTY LINE.

MINIMUM SLAB EXPOSURE IS 1.0'.

ALL ELEVATIONS AT FRONT PROPERTY LINE ARE 0.10' ABOVE CURB ELEVATION ON LOCAL TYPE "A" STREETS.

CONTOURS SHOWN ON STREET ARE TOP OF STREET.

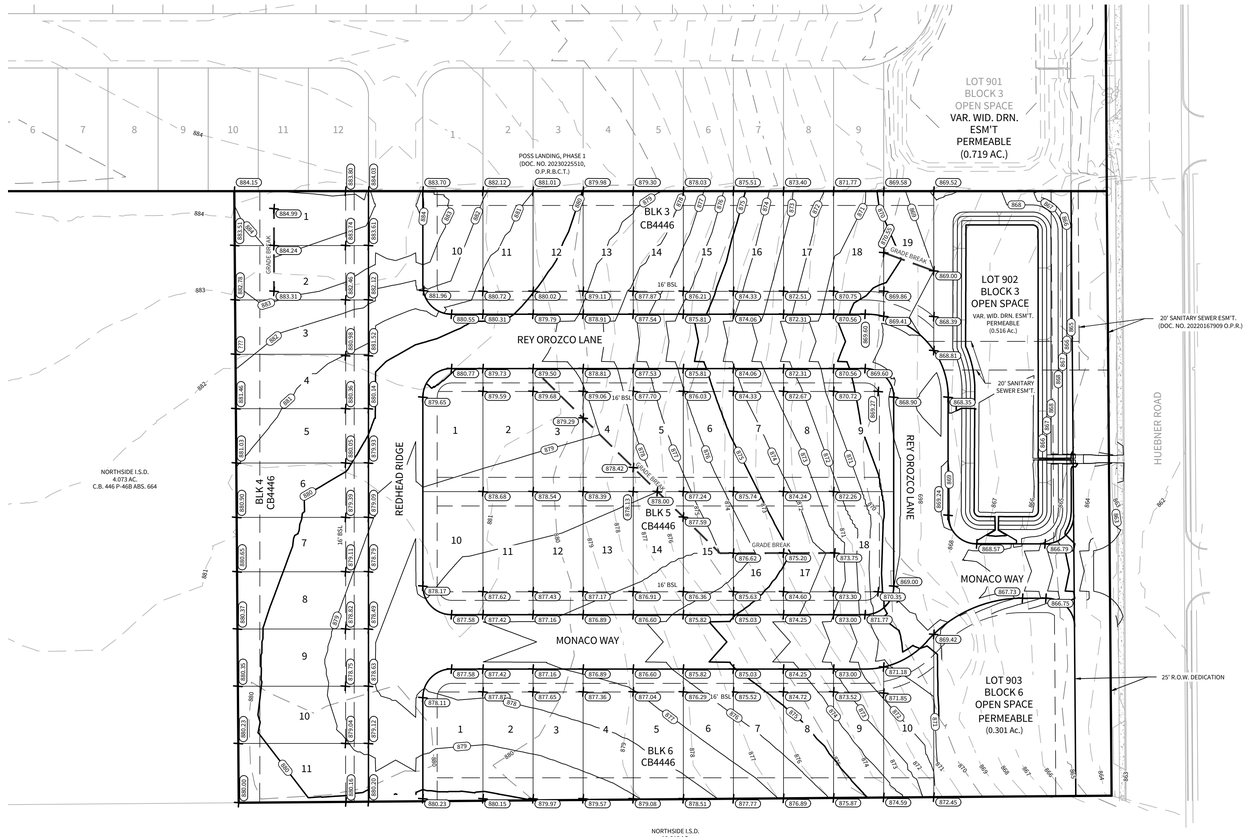


DENSITY TEST FREQUENCY

NOT TO SCALE

SCALE: 1"=50'

50 25 0 50



GENERAL SPECIFICATIONS FOR SITE PREPARATION

1. GENERAL DESCRIPTION

THIS ITEM SHALL CONSIST OF ALL CLEARING AND GRUBBING, DEMOLITION, PREPARATION OF LAND TO BE FILLED, FILLING OF THE LAND, SPREADING, COMPACTION TESTING AND INSPECTION OF THE FILL, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE LINES, GRADES AND SLOPES AS SHOWN ON THE APPROVED PLANS.

ALL LOT GRADING MUST MEET REQUIREMENTS OF FHA/HUD HANDBOOK 4140.3, SPECIFICATIONS FOR LAND DEVELOPMENTS ON CONTROLLED EARTHWORK, DATASHEET 79G. HUD 79G REQUIREMENTS FOR FILL MATERIAL OF 6 INCHES AND MORE WILL BE CONDUCTED. ALL CUT AREAS WILL ALSO MEET THE REQUIREMENTS FOR HUD 79G COMPACTION TESTING. IN ADDITION, ENGINEERS MUST PROVIDED VERIFICATION OF ALL AREAS WHICH DO NOT REQUIRE HUD 79G.

2. CLEARING THE AREA TO BE FILLED

ALL TIMBER, LOGS, TREES, BRUSH AND RUBBISH SHALL BE REMOVED FROM THE SITE.

3. SCARIFYING THE AREA TO BE FILLED

ALL ORGANIC MATTER SHALL BE REMOVED FROM THE SURFACE UPON WHICH THE FILL IS TO BE PLACED, AND THE SURFACE SHALL THEN BE DISKED OR SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES (6"), ALL SURFACE RUTS OR OTHER UNEVEN FEATURES WILL BE LEVELED PRIOR TO FIELD DENSITY TESTING.

4. COMPACTING THE AREA TO BE FILLED

FOLLOWING THE CLEARING AND DISKING OR SCARIFYING OF THE FILL AREA, IT SHALL BE BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS. THE AREA SHALL BE BROUGHT TO THE ADEQUATE MOISTURE CONTENT AND COMPACTED (TYPICALLY) TO NOT LESS THAN NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTION PROCEDURE, OR 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT THD--TEX--113--E COMPACTION PROCEDURE.

5. FILL MATERIALS

THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH.

6. DEPTH AND MIXING OF FILL LAYERS

THE SELECTED FILL MATERIAL SHALL BE PLACED IN LEVEL, UNIFORM LAYERS WHICH, WHEN COMPACTED, SHALL HAVE A DENSITY CONFORMING TO THAT STIPULATED ABOVE. EACH LAYER SHALL BE THOROUGHLY MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. COMPACTED LAYER THICKNESS MAY VARY DEPENDING ON THE COMPACTION EQUIPMENT OF DEMONSTRATED CAPABILITY. THE MAXIMUM LOOSE DEPTH FOR ANY MATERIAL SHALL NOT EXCEED TWELVE INCHES (12"). FOR TESTING REQUIREMENTS OF FILL MATERIAL, SEE DENSITY TESTING.

7. ROCK

WHEN FILL MATERIAL INCLUDES ROCK, THE MAXIMUM ROCK SIZE SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER. NO LARGE ROCKS SHALL BE ALLOWED TO NEST AND ALL VOIDS MUST BE FILLED WITH SMALL STONES OR SOIL AND ADEQUATELY COMPACTED. NO LARGE ROCKS WILL BE PERMITTED WITHIN EIGHTEEN INCHES (18") OF THE FINISHED GRADE.

8. COMPACTION OF FILL LAYER

COMPACTION EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE FILL TO THE SPECIFIED DENSITY. COMPACTION SHALL BE ACCOMPLISHED WHILE THE FILL MATERIAL IS AT OR NEAR THE APPROPRIATE MOISTURE CONTENT. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER THE ENTIRE STRUCTURAL AREA (BENEATH PROPOSED STRUCTURES).

9. COMPACTION OF SLOPES

THE FACES OF FILL SLOPES SHALL BE COMPACTED. COMPACTING OPERATIONS SHALL BE CONTINUED UNTIL THE SLOPE FACES ARE STABLE BUT NOT TOO DENSE FOR PLANTING ON THE SLOPES. COMPACTION OF THE SLOPE FACES MAY BE DONE PROGRESSIVELY IN INCREMENTS OF THREE TO FIVE FEET (3' TO 5') IN FILL HEIGHT AS THIS FILL PROGRESSES OR AFTER THE FILL HAS BEEN BROUGHT TO ITS TOTAL HEIGHT.

10. MOISTURE CONTENT

THE FILL MATERIAL SHALL BE COMPACTED AT THE APPROPRIATE MOISTURE CONTENT SPECIFIED FOR THE SOILS BEING USED. APPROPRIATE MOISTURE CONTENT IS DEFINED, TYPICALLY, AS OPTIMUM MOISTURE CONTENT; HOWEVER, FOR EXPANSIVE SOILS IT MAY BE GREATER THAN OPTIMUM MOISTURE CONTENT, AND OTHER MOISTURE CONTENTS MAY BE NECESSARY TO PRODUCE THE DESIRED RESULTS WITH CERTAIN SOILS.

11. DENSITY TESTS

FIELD DENSITY TESTS SHALL BE PERFORMED ON LAYERS OF FILL WHEN THE FILL IS BEING PLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE MAXIMUM FILL HEIGHT BETWEEN DENSITY TESTING SHALL BE EIGHTEEN INCHES (18"). ALL TESTING SHALL BE REQUESTED BY THE CONTRACTOR TO MEET THE CONTRACTOR'S CONSTRUCTION SCHEDULE. NOTIFICATION BY THE CONTRACTOR TO CONDUCT TESTS SHALL BE AT LEAST THE DAY BEFORE. THIS NOTIFICATION SHALL INCLUDE THE FILL AREA LOCATION (LOT AND BLOCK), THE LIFT OR HEIGHT OF FILL AND APPROXIMATE DESIRED TIME OF TESTING. WHEN THESE TESTS INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED AND RETESTED AT THE EXPENSE OF THE CONTRACTOR UNLESS THE CONTRACTOR CAN SHOW EVIDENCE THAT CIRCUMSTANCES BEYOND HIS CONTROL REQUIRED THE RETESTING. GENERALLY, THE SPECIFIC TESTING WILL BE AS FOLLOWS AND CONDUCTED BY GEOTECHNICAL ENGINEER.

1. THE LAND TO BE FILLED (PREPARED SUBGRADE) SHALL BE PREPARED AND TESTED AT A FREQUENCY AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
2. THE FIRST LIFT OF COMPACTED FILL (GENERALLY 8 TO 12-IN.) SHALL BE TESTED AS DETERMINED BY THE GEOTECHNICAL ENGINEER. ANY AREAS SUPPORTING THE PROPOSED STRUCTURES REQUIRING FILL SHALL BE TESTED FOR DENSITY COMPLIANCE.
3. FILLS SHALL BE TESTED A MAXIMUM OF EACH EIGHTEEN INCHES (18") OF FILL.
4. TEST RESULTS WILL BE PROVIDED BY THE FIELD TECHNICIAN TO THE CONTRACTOR WHEN POSSIBLE; HOWEVER, ALL TEST RESULTS ARE TO BE REVIEWED BY THE GEOTECHNICAL ENGINEER FOR COMPLIANCE. THE ENGINEER WILL NOTIFY THE CONTRACTOR OF ALL THE TEST RESULTS.

12. CUT/FILL LOTS

AREAS INVOLVING CUT ON ONE PORTION AND FILL ON ANOTHER PORTION OF A SPECIFIC LOT SHALL BE PREPARED TO A MINIMUM DEPTH OF 6-IN. AND WILL BE THE SAME MATERIAL CLASSIFICATION AT THE SAME COMPACTION AND MOISTURE CONTENT. A MINIMUM OF TWO (2) FIELD DENSITY TESTS SHALL BE REQUIRED ON EACH CUT/FILL LOT FOR THE PURPOSE OF DETERMINING UNIFORMITY OF THE AREA SUPPORTING THE PROPOSED STRUCTURES.

DEVELOPER

CENTURY COMMUNITIES
ATTN: VICTOR BERNAL
2330 N LOOP 1604 W ACCESS ROAD, STE 112
SAN ANTONIO, TX. 78248
TEL: (210) 469-3442

CUDEENGINEERS.COM

CUDE ENGINEERS

4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

OVERALL GRADING PLAN

DATE
8/30/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
1.
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3.
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5.
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7.
8.

STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER

11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
PZ-2024-16

C2.00

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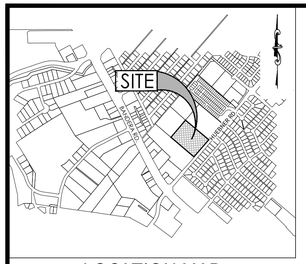
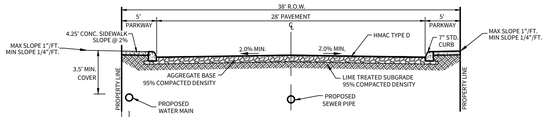


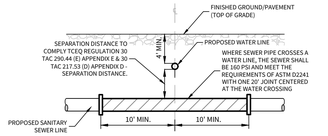
LOCATION MAP
N.T.S.

LEGEND

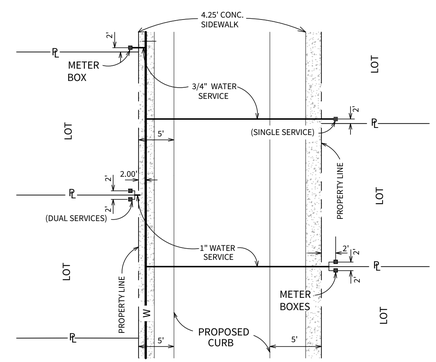
EXISTING SANITARY SEWER	EX.8"SS
EXISTING SANITARY SEWER MANHOLE	
EXISTING WATER MAIN	EX.6"W
EXISTING POWER POLE	
PROPOSED SANITARY SEWER	8"SS
PROPOSED SANITARY SEWER MANHOLE	
PROPOSED WATER MAIN	8"W
PROPOSED STANDARD FIRE HYDRANT	
PROPOSED STANDARD GATE VALVE	
PROPOSED PERMANENT BLOWOFF	
PROPOSED 100W LIGHT POLE	
PROPOSED UTILITY CONDUIT CROSSING	UTIL
ELECTRIC, GAS, TELEPHONE, & CABLE T.V. EASEMENT	E.G.T.CA. ESM'T



PRIVATE STREET CROSS-SECTION (TYP.)
N.T.S.



TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL
N.T.S.



WATER METER BOX LOCATION (38' R.O.W.)
N.T.S.

SCALE: 1"=50'
50 25 0 50

DEVELOPER
CENTURY COMMUNITIES
ATTN: VICTOR BERNAL
2330 N LOOP 1604 W ACCESS ROAD, STE 112
SAN ANTONIO, TX. 78248
TEL: (210) 469-3442

CAUTION!!!
THE CONTRACTOR SHALL BE AWARE THAT SANITARY SEWER AND GAS LINES EXIST WITHIN THE SITE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE THESE UTILITIES LOCATED PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN THIS AREA. ANY DAMAGE DONE TO THESE EXISTING FACILITIES WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR.

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 AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) 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.

RIGHT-OF-WAY PERMIT NOTE:
PERMIT REQUIRED FOR ANY WORK WITHIN CITY OF LEON VALLEY MAINTAINED (OR PROPOSED TO BE CITY OF LEON VALLEY MAINTAINED) RIGHT-OF-WAY. THIS INCLUDES DRIVEWAY APPROACHES, IRRIGATION, UTILITY WORK, TURN LANES AND OTHER ACTIVITIES LOCATED OUTSIDE THE PROPERTY AND ENCROACH INTO THE RIGHT-OF-WAY.

NOTE:
THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES, INCLUDING SERVICE LATERALS AND DRAINAGE STRUCTURES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT, AND TO PROTECT THE SAME DURING CONSTRUCTION.

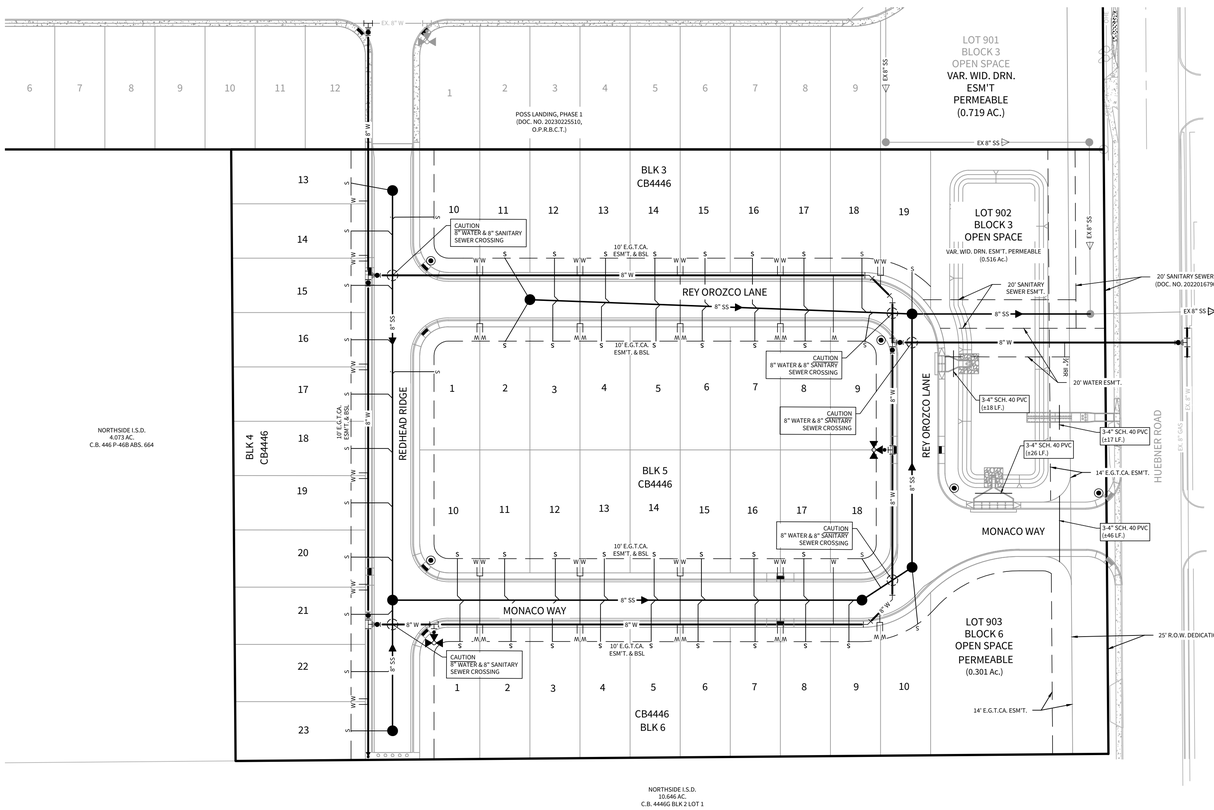
CITY OF LEON VALLEY PUBLIC WORKS 210-681-1232

AT&T AND SPECTRUM CABLE LINES TO GO INTO JOINT TRENCH WITH C.P.S. ENERGY
LOTS WITH CONFLICTING TRANSFORMER / SECONDARY ENCLOSURE ELECTRIC SERVICE AND WATER METER PLACED 5' FROM PROPERTY LINE WHERE THE CONFLICT OCCURS.

TYPICAL UTILITY CROSSINGS WILL HAVE
2 - 6" SCH 80 PVC CONDUIT WITH SWEEPS,
2 - 4" SCH 40 PVC CONDUIT WITH SWEEPS,
THE TOTAL AMOUNT OF CONDUIT TO BE USED WILL BE DETERMINED DURING CONSTRUCTION.

TYPICAL IRRIGATION CROSSING WILL HAVE
3 - 4" SCH 40 PVC CONDUIT WITH SWEEPS,

* CONDUIT ONLY TO BE INSTALLED IF:
1.) STREET BASE AND DRAINAGE COMPLETION PRECEDES CPS UTILITY LINE INSTALLATION.
2.) INSTALLATION IS AUTHORIZED BY THE DEVELOPER.



CUDEENGINEERS.COM
CUDE ENGINEERS
4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

UTILITY LAYOUT PLAN

DATE
11/7/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
1.
2.
3.
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STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
PZ-2024-16

C3.00

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GENERAL NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH OSHA STANDARDS INCLUDING CONFINED SPACE ENTRY AND PROVIDE ALL DEVICES, MANPOWER AND CERTIFIED PERSONNEL.
2. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, ACCESS TO GAS VALVES MUST BE MAINTAINED AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
3. THE CONTRACTOR SHALL WARRANT ALL WORK FOR ONE (1) YEAR.
4. THE CONTRACTOR SHALL PROVIDE INSURANCE LISTING CITY AS AN ADDITIONAL INSURED BEFORE WORKING IN PUBLIC RIGHT-OF-WAY.
5. THE CONTRACTOR SHALL REMOVE AND RESTORE TRAFFIC SIGNS AS NEEDED (NO SEPARATE PAY ITEM).
6. TEN (10) DAYS PRIOR TO BEGINNING WORK, CONTRACTOR SHALL ARRANGE, WITH THE CITY, FOR A PRECONSTRUCTION CONFERENCE TO BE HELD AT THE CITY AND SHALL THEREAFTER SECURE A CITY PERMIT.
7. THE CONTRACTOR SHALL NOTIFY THE CITY OF LEON VALLEY PUBLIC WORKS DEPARTMENT AT 681-1231 PRIOR TO PLACING BACKFILL OR CONCRETE AND PRIOR TO ANY TESTING. THE CONTRACTOR SHALL REQUEST INSPECTION 24 HOURS IN ADVANCE. (NO INSPECTIONS ARE AVAILABLE BETWEEN 12:00 P.M. AND 1:00 P.M. OR AFTER 4:00 P.M. DAILY, WEEKENDS OR CITY HOLIDAYS.)
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THE CITY'S CONSTRUCTION INSPECTOR AND THE TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND STOPS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED.
9. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) 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 PROTECTIONS 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.
10. ALL GAS, ELECTRICAL, CABLE OR STREETLIGHT PIPING OR WIRING WHICH WILL BE LOCATED UNDER PAVED AREAS OR ABOVE DRAINAGE FACILITIES SHALL BE PLACED IN PROPERLY SIZED (MINIMUM 2" DIAMETER) SCHEDULE 80 PVC CONDUIT WITH PULL STRINGS.
11. PRIOR TO PRELIMINARY AND FINAL ACCEPTANCE OF THE PUBLIC IMPROVEMENTS BY THE CITY, CONTRACTOR SHALL ARRANGE FOR A FIELD INSPECTION TO BE CONDUCTED WITH CITY FORCES. THE CONTRACTOR SHALL PROVIDE EQUIPMENT AND MANPOWER SUFFICIENT TO OPEN ALL MANHOLES (WHICH SHALL PROMPTLY BE CLOSED), ROTATE ALL VALVES AND OPEN ALL FIRE HYDRANTS AND WATER SERVICES. THESE INSPECTIONS WILL BE ARRANGED BY GIVING SEVEN (7) DAYS' PRIOR NOTICE TO THE CITY OF THIS NEED.
12. THE CONTRACTOR SHALL FURNISH THE CITY WITH THREE (3) COPIES OF SUBMITTAL DATA ON ALL WATER OR SEWER MATERIALS TO BE INCORPORATED INTO THE WORK FOR THEIR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.
13. ALL REQUIREMENTS OF THE TEXAS DEPARTMENT OF TRANSPORTATION WILL BE ADHERED TO WHERE APPLICABLE.
14. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN ACCORDANCE WITH THE TEXAS ONE CALL SYSTEM (1-800-545-6005), PRIOR TO EXCAVATION (EXISTING UNDERGROUND FACILITIES ARE SHOWN AS REFLECTED IN VISIBLE SURFACE FEATURES AND RECORDS OF THE VARIOUS UTILITY COMPANIES). THE CONTRACTOR SHALL VERIFY THE LOCATION AND GRADE OF THE UTILITIES WELL AHEAD OF EXCAVATION OPERATION AND SHALL BE RESPONSIBLE FOR THE PROTECTION OF SAME DURING THE COURSE OF CONSTRUCTION.
15. THE CONTRACTOR SHALL CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48 HOURS PRIOR TO ANY EXCAVATION AT 650-8228 AND PROTECT AND SUPPORT TELEPHONE COMPANY PLANT DURING CONSTRUCTION.
16. THE CONTRACTOR SHALL CONTACT THE FOLLOWING UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION OPERATION:

LEON VALLEY PUBLIC WORKS	(210) 681-1232
LEON VALLEY PLANNING & ZONING	(210) 684-1391
CPS ENERGY	1(800) 773-3077
TEXAS STATE WIDE ONE CALL LOCATOR	1(800) 344-8377
AT&T	1(800) 344-8377
SPECTRUM	1(800) 344-8377

NOTES:

1. **CONTRACTOR TO MAINTAIN A MINIMUM 1' VERTICAL SEPARATION DISTANCE BETWEEN OF THE BOTTOM PROPOSED WATER MAIN AND TOP OF PROPOSED SANITARY SEWER MAIN AT WATER AND SANITARY SEWER CROSSINGS.**
2. **ALL LATERALS SHALL BE INSTALLED AT A MINIMUM 2.0% SLOPE UNLESS OTHERWISE NOTED.**

TRENCH EXCAVATION PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) 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.

SANITARY SEWER NOTES:

1. EXCEPT AS MODIFIED HEREIN, THE CURRENT SPECIFICATIONS OF THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR PUBLIC WORKS ARE ADOPTED FOR REFERENCE. ALL WORK SHALL ALSO COMPLY WITH 30 TEXAS ADMINISTRATIVE CODE (TAC) §213.5(c), THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ).
2. MANHOLE TOPS SHALL BE SET TO THE ELEVATION PROVIDED BY THE ENGINEER. MANHOLES SHALL HAVE NOT MORE THAN FIVE (5) THROAT RINGS FOR ADJUSTMENTS. ALL MANHOLE COVERS IN PAVED AREAS ARE TO BE FINISHED FLUSH WITH TOP OF FINISHED PAVEMENT. ALL MANHOLE COVERS OUTSIDE OF PAVED AREAS SHALL BE FINISHED FOUR (4) INCHES ABOVE NATURAL GROUND. BOLT-DOWN, WATERTIGHT MANHOLE COVERS ARE REQUIRED OUTSIDE OF PAVEMENT AREA AND IN ALL UNSUPERVISED PAVED AREAS SUCH AS ALLEYS/EASEMENTS AND IN ALL AREAS SUBJECT TO FLOODING.
3. THE CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, AND SO FORTH. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
4. THE MINIMUM RADIUS OF CURVATURE FOR ANY PIPE IS TO BE EITHER 200 FEET, OR THE MANUFACTURER'S RECOMMENDATION, WHICHEVER IS GREATER. (THIS REQUIREMENT IS IN NO WAY INTENDED TO RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO SUCCESSFULLY PASS THE AIR TESTING REQUIREMENTS.)
5. WHEN SEWER LINES ARE INSTALLED IN THE VICINITY OF WATER MAINS, SUCH INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ) 30 TAC §217.53(d) (Pipe Design) and 30 TAC §290.44(e) (Water Distribution).
6. ALL SEWER PIPES SHALL BE COMPRESSION JOINT PVC SDR 26 PIPE.
7. Y'S OR T'S SHALL BE MANUFACTURED Y'S AND T'S.
8. NO BLASTING IS ALLOWED.
9. MANHOLES SHALL BE EITHER MONOLITHIC, CAST-IN-PLACE OR PRECAST.
10. MANHOLES, INCLUDING RINGS AND COVERS, SHALL BE CONSTRUCTED SO THAT THEY ARE WATERTIGHT.
11. THE CONTRACTOR MAY USE PRECAST MANHOLES (PROVIDE CITY WITH SUBMITTAL ON PRODUCT). CONTRACTOR SHALL GROUT ALL CONNECTION BOOT CAVITIES INSIDE MANHOLE TO PREVENT EXPOSED GASKETS BY USING SILICONE OR OTHER FLEXIBLE SEALANT.
12. ANY CAVERNS OR SOLUTION CHANNELS ENCOUNTERED DURING CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER AND TO THE CITY.
13. THE CONTRACTOR SHALL CONTACT THE FOLLOWING UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION/EXCAVATION OPERATION:

LEON VALLEY PUBLIC WORKS	(210) 681-1232
LEON VALLEY PLANNING & ZONING	(210) 684-1391
CPS ENERGY	1(800) 773-3077
TEXAS STATE WIDE ONE CALL LOCATOR	1(800) 344-8377
AT&T	1(800) 344-8377
SPECTRUM	1(800) 344-8377

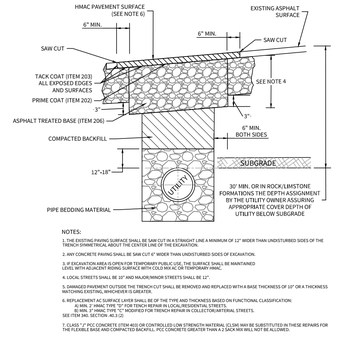
AND SHALL NOTIFY THE TEXAS STATE ONE CALL SYSTEM (1-800-545-6005) IN ACCORDANCE WITH THESE RULES.

14. THE CONTRACTOR SHALL PAY FOR FIRE HYDRANT METER DEPOSIT WHICH WILL BE REFUNDABLE UPON RETURN.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT NO ILLEGAL SEWAGE DISCHARGES OCCUR DURING CONSTRUCTION, TO INCLUDE RAW SEWAGE IN TRENCHES. THE CONTRACTOR SHALL SUBMIT A PLAN AT THE PRECONSTRUCTION CONFERENCE DETAILING HIS METHOD OF ENSURING NO ILLEGAL DISCHARGES DURING THE CONSTRUCTION OF THE SANITARY SEWER MAINS (ACCEPTABLE MEANS ARE TO PUMP AROUND SECTIONS BEING CONSTRUCTED OR TO USE TANKER TRUCKS).
16. CONFINED SPACE ENTRY - OSHA REGULATIONS REQUIRE THAT ANY PERSON ENTERING A CONFINED SPACE OBTAIN A PERMIT DAILY FOR ENTRY INTO ANY CONFINED SPACE AS DEFINED BY OSHA REGULATIONS. BASIC REQUIREMENTS INCLUDE COMPETENT PERSON TRAINING, RESCUE EQUIPMENT, ATMOSPHERE MONITORING AND TESTING. CONTRACTOR MUST PRESENT CITY DOCUMENTS CERTIFYING THE ABOVE.
17. EXISTING UNDERGROUND FACILITIES ARE SHOWN AS REFLECTED IN VISIBLE SURFACE FEATURES AND RECORDS OF THE VARIOUS UTILITY COMPANIES. THE CONTRACTOR SHALL VERIFY THE LOCATION AND GRADE OF THE UTILITIES WELL AHEAD OF EXCAVATION OPERATION AND SHALL BE RESPONSIBLE FOR THE PROTECTION OF SAME DURING THE COURSE OF CONSTRUCTION.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING GRASS AREAS, CURBS, SIDEWALKS OR CONCRETE DRIVEWAYS AND TRENCHES IN GRASS AREAS SHALL BE SODDED.
19. WHENEVER POWER POLES ARE ADJACENT TO THE PROPOSED TRENCH, THE CONTRACTOR SHALL PROVIDE PROPER SHORING OR OTHER SUITABLE SUPPORT DURING CONSTRUCTION OF THE UTILITY WHICH METHODS MUST BE APPROVED BY THE UTILITY COMPANY.
20. EXISTING STREET PAVEMENTS AND BASE SHALL BE REPLACED IN KIND, BUT NOT LESS THAN WITH 8 INCHES OF FLEXIBLE BASE AND 1-1/2 INCHES OF HOT MIX ASPHALTIC CONCRETE (TYPE "D") PAVEMENT.
21. SECONDARY BACKFILL UNDER AREAS TO BE PAVED AND WITHIN THREE (3) FEET THEREOF SHALL BE MACHINE TAMPED GRAVEL OR BASE AS SHOWN.
22. THE CONTRACTOR HAS THE OPTION TO TUNNEL UNDER EXISTING CURBS AND/OR REMOVE AND REPLACE CURBS DAMAGED DURING CONSTRUCTION.
23. ALL TESTING WILL BE PROVIDED BY THE CONTRACTOR AT HIS COST.
24. MAINS MUST PASS AIR TEST PER ITEM 518, CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ), PRIOR TO ACCEPTANCE BY LEON VALLEY.
25. PASSAGE OF AN APPROVED GO-NO-GO DEFLECTION TESTING MANDREL SHALL BE REQUIRED FOR FINAL ACCEPTANCE OF FLEXIBLE CONDUIT. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS AND NO PIPE SHALL EXCEED A DEFLECTION OF FIVE PERCENT (5%). IF THE DEFLECTION TEST IS TO BE RUN USING A RIGID BALL OR MANDREL, IT SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES AND THE CITY AND THE DESIGN ENGINEER'S INSPECTOR SHALL BE PRESENT DURING ALL REQUIRED INSPECTIONS. THE CONTRACTOR SHALL PROVIDE PRIOR NOTICE OF THIS NEED.
26. MANHOLES SHALL BE TESTED FOR LEAKAGE SEPARATELY AND INDEPENDENTLY OF THE WASTEWATER LINES BY HYDROSTATIC EXFILTRATION TESTING, VACUUM TESTING, OR OTHER METHODS ACCEPTABLE TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ).
27. ALL SEWER MAINS SHALL BE LAID TO GRADE AND SHALL NOT SAG OR OTHERWISE STAND WATER IN THE MAIN OR IN THE MANHOLE INVERT SECTION.
28. THE SEWER SYSTEM, INCLUDING STUB-OUTS, SHALL BE TESTED UNDER THE SUPERVISION OF THE CITY OF LEON VALLEY AT THE TIME OF INSTALLATION AND SHALL BE CERTIFIED TO THE CITY TO MEET OR EXCEED THE REQUIREMENTS OF THE LATEST REVISION OF THE CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION," ITEM 518, OR ITS EQUIVALENT, RELATIVE TO ESTABLISHING A MINIMUM INFILTRATION/EXFILTRATION RATE.
29. UTILITY TRENCH COMPACTION SHALL ACHIEVE 90% PROCTOR DENSITY AND SHALL BE PROOF-ROLLED PRIOR TO APPROVAL OF THE UTILITY.
30. THIRTY (30) DAYS AFTER INSTALLATION OF THE SEWER MAINS AND PRIOR TO PRELIMINARY ACCEPTANCE OF PUBLIC IMPROVEMENTS, THE CONTRACTOR SHALL CAUSE THE MAINS TO BE VIDEOTAPED IN COLOR AND SHALL FURNISH THE CITY WITH A COPY. THIS ACTIVITY SHALL BE CONDUCTED IN THE PRESENCE OF THE CITY INSPECTOR.
31. SEWER SERVICE LATERALS SHALL BE SIX-INCH PVC, SDR 26, AND BE INSTALLED PER EXISTING GUIDELINES. CONTRACTOR TO FURNISH ENGINEER WITH AN AS-BUILT PLAN INDICATING THE LOCATION AND LENGTH OF EACH SEWER LATERAL. ALL SEWER SERVICE LINES SHALL EXTEND TO THE PROPERTY LINE.
32. SEWER SERVICE LATERALS AND UTILITY CONDUITS SHALL BE MARKED AND LOCATED AS FOLLOWS:

A. UPON BACKFILLING, A 2" X 4" STAKE SHALL BE DRIVEN A MAXIMUM OF TWO (2) FEET FROM THE PIPE END(S) (STAKES SHALL EXTEND ABOVE THE GROUND SURFACE BY AT LEAST FOUR (4) FEET AND SHALL BE PAINTED BLUE FOR UTILITY CONDUIT AND GREEN FOR SEWER LATERALS);

B. MARKING RIBBONS WITH THE WORD "SEWER" SHALL BE TIED SECURELY AROUND THE PIPE END(S) AND SHALL EXTEND ABOVE THE GROUND LEVEL AND SHALL CONTINUE ALONG THE 2" X 4" STAKE FROM THE BASE, OVER THE TOP, DOWN THE BACK OF THE STAKE, AND ATTACHED WITH WEATHERPROOF TAPE WRAPPED AROUND THE STAKE NEAR THE TOP AND THE BOTTOM (NAILS, TACKS OR STAPLES ARE NOT ACCEPTABLE).

TRENCH REPAIRS IN EXISTING FLEXIBLE PAVEMENTS N.T.S.
STANDARD DRAWING NO. 6.4



NOTES:

1. THE EXISTING PAVING SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE A MINIMUM OF 12" WIDER THAN UNDISTURBED SIDES OF THE TRENCH SYMMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.
2. ANY CONCRETE PAVING SHALL BE SAW CUT 6" WIDER THAN UNDISTURBED SIDES OF EXCAVATION.
3. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH COLD MIX AC OR TEMPORARY HMAC.
4. LOCAL STREETS SHALL BE 10' AND MAJOR/MINOR STREETS SHALL BE 12'.
5. DAMAGED PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED WITH A BASE THICKNESS OF 10" OR A THICKNESS MATCHING EXISTING, WHICHEVER IS GREATER.
6. REPLACEMENT AC SURFACE LAYER SHALL BE OF THE TYPE AND THICKNESS BASED ON FUNCTIONAL CLASSIFICATION:
   a) MIN. 2" HMAC TYPE "D" ITEM TRENCH REPAIR IN LOCAL/RESIDENTIAL STREETS.
   b) MIN. 3" HMAC TYPE "C" MODIFIED FOR TRENCH REPAIR IN COLLECTOR/ARTERIAL STREETS.
   SEE ITEM 340, SECTION 4(C) & (D)
7. CLASS "J" PCC CONCRETE (ITEM 403 OR CONTROLLED LOW STRENGTH MATERIAL (CLSM) MAY BE SUBSTITUTED IN THESE REPAIRS FOR THE FLEXIBLE BASE AND COMPACTED BACKFILL. PCC CONCRETE GREATER THAN A 2 SACK MIX WILL NOT BE ALLOWED.

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4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

SANITARY SEWER GENERAL NOTES

DATE
11/6/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
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STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
PZ-2024-16

C4.00

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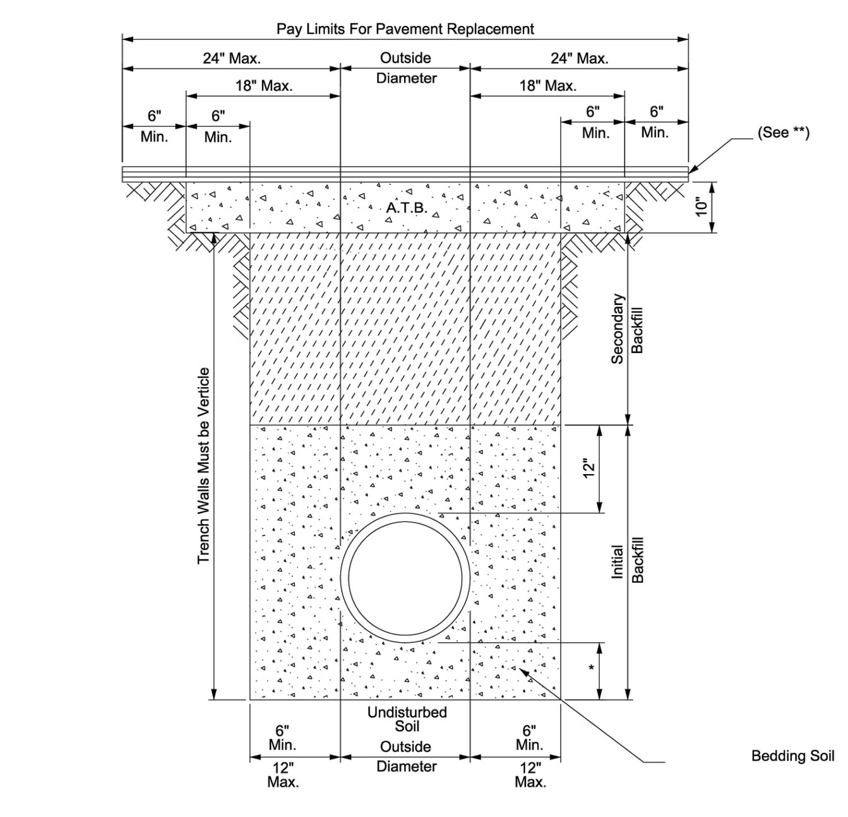
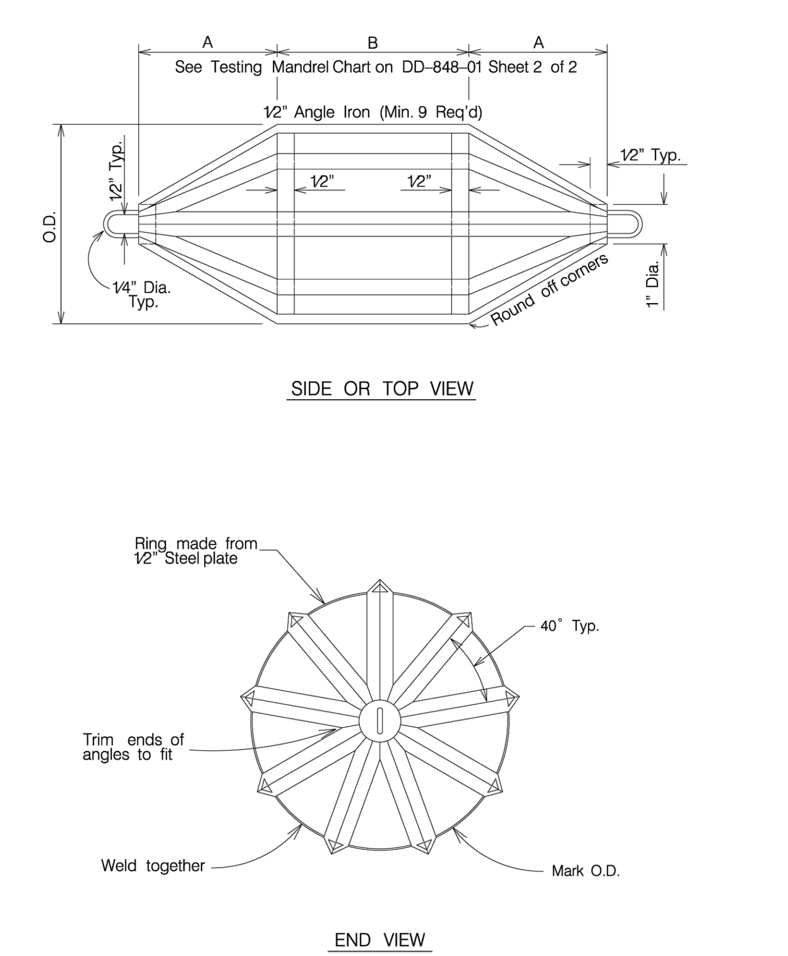


The Existing Materialat the Bearing Level shall be Removed and Replaced to a Minimum Depth of 6-Inches or ⅙ of the Outside Diameter of the Pipe, whichever is Greater, with Bedding Material.

In Areas of over Excavation, Encasement shall extend from Trench Wall. Pay Limits shall not Exceed 12" Max. as shown on Detail. Additional Encasement shall be Incidental.

* Sewer Gravel 6" Min.or ⅙ O.D. of the Pipe, whichever is Greater.
** Minimum 2" HMAC Type "D" for Trench Repair in Local / Residential Streets.
** Minimum 3" HMAC Type "C" for Trench Repair in Collector / Arterial Streets.

SANITARY SEWER PIPE LAID IN TRENCH	APPROVED MARCH 2008	REVISED DEC 2018	
	DD-804-01		SHEET 1 OF 1



GO, NO GO DEFLECTION TESTING MANDREL	APPROVED March 2008	REVISED	
	DD–848–01		SHEET 1 OF 2

SIZE	A	B*	MANDREL O.D. PVC (SDR-26)	RING O.D. PVC (SDR-26)
6"	4.0"	4.5"	5.50	4.79
8"	5.5"	6"	7.37	6.66
10"	7.0"	7.5"	9.21	8.50
12"	8.0"	9"	10.96	10.25
15"	10.0"	11"	13.42	12.71
18"	12.0"	13.5"	—	—
21"	14.0"	16"	—	—
24"	16.0"	18"	—	—
27"	18.0"	20"	—	—

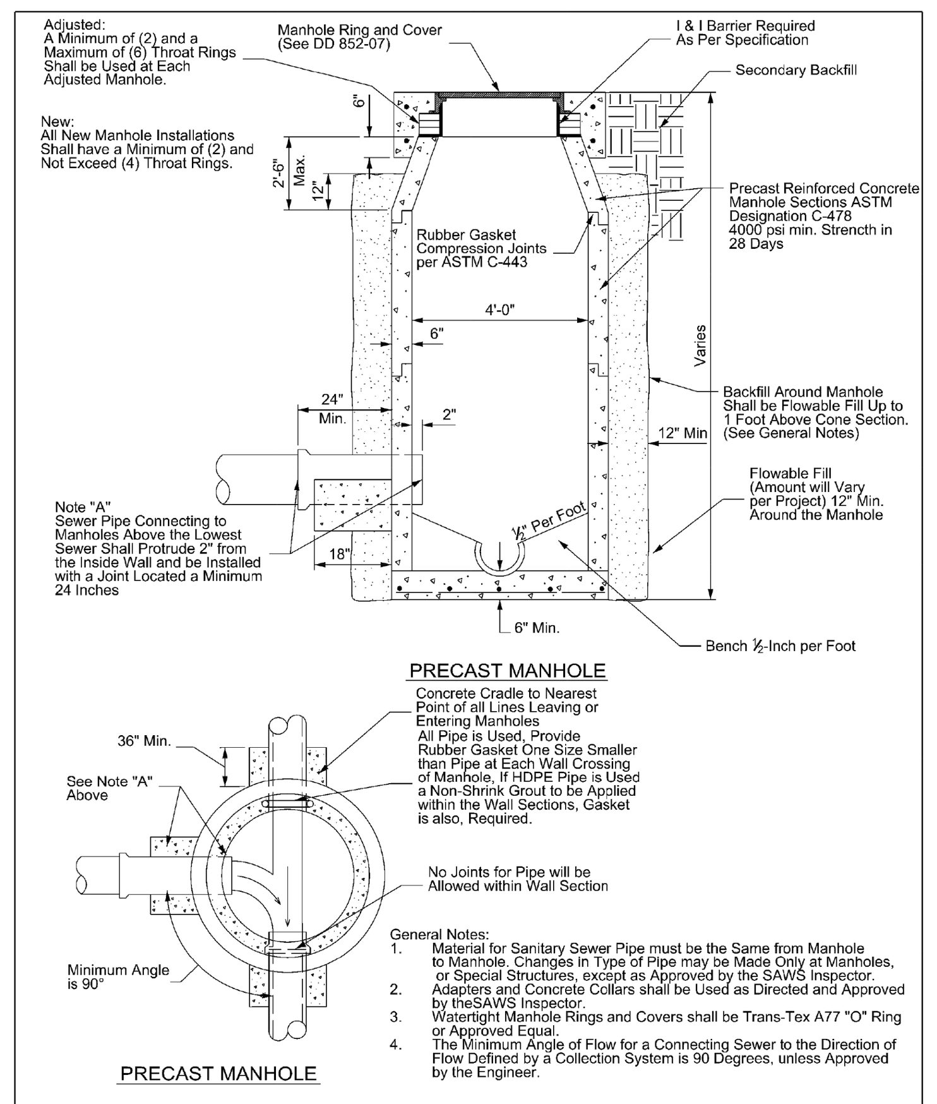
* Minimum Length

CHART

Notes:
PVC pipes and fittings 6" to 15" in diameter shall conform to ASTM D-3034-08.
PVC pipes and fittings 18" to 27" in diameter shall conform to ASTM F-679-08.

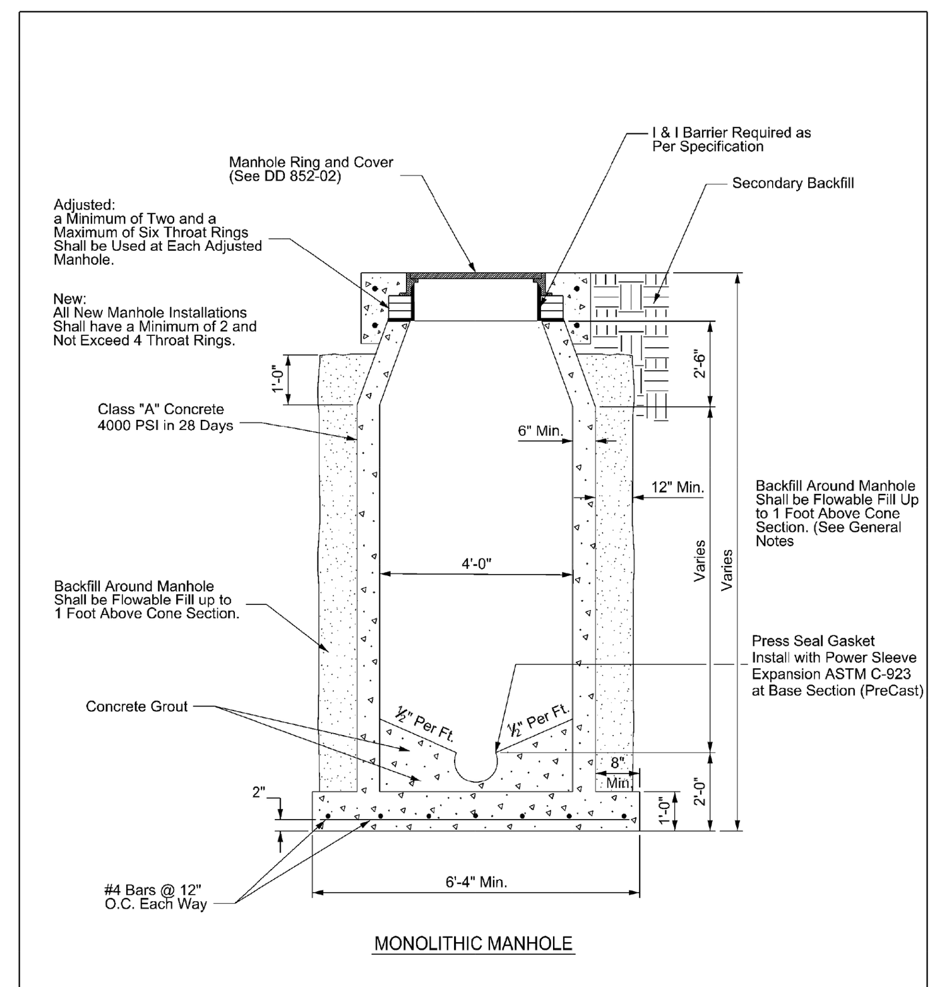
This information is provided as a reference. All deflection testing shall be done in accordance with TCEQ Chapter 217.

CONTRACTOR TO INSTALL CITY OF LEON VALLEY APPROVED MANHOLE COVER	GO, NO GO DEFLECTION TESTING MANDREL CHART	APPROVED MARCH 2008	REVISED APRIL 2014
		DD-848-01	SHEET 2 OF 2



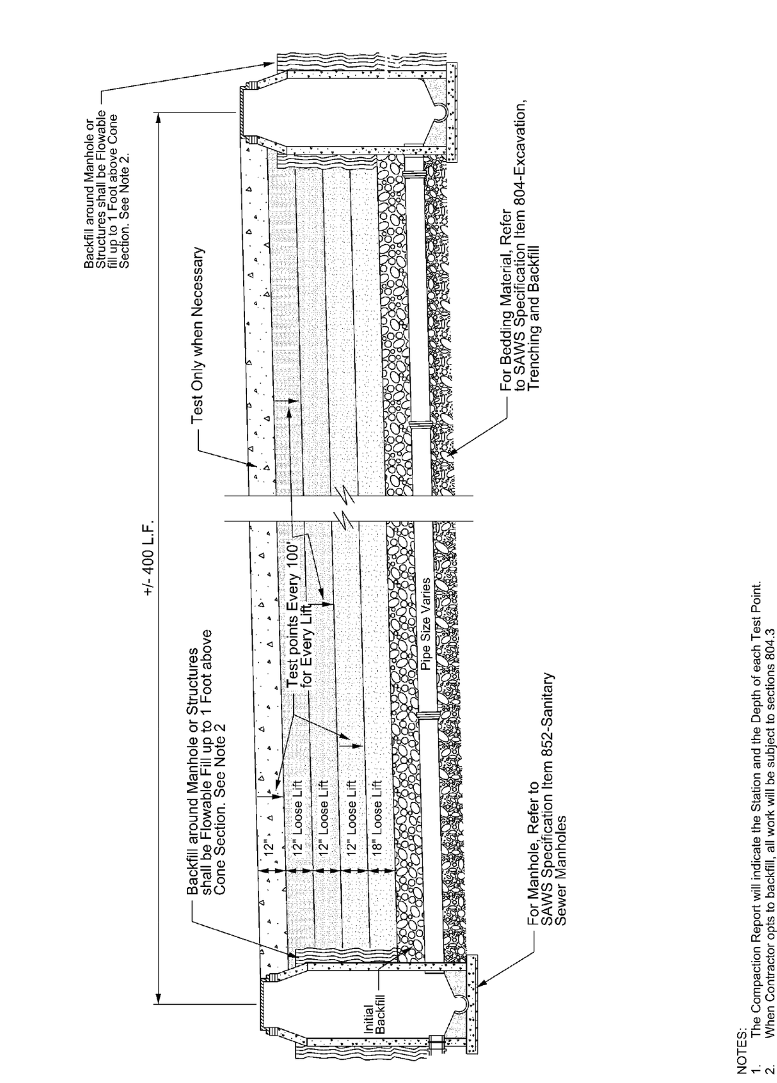
General Notes:
1. Material for Sanitary Sewer Pipe must be the Same from Manhole to Manhole. Changes in Type of Pipe may be Made Only at Manholes, or Special Structures, except as Approved by the SAWS Inspector.
2. Adapters and Concrete Collars shall be Used as Directed and Approved by theSAWS Inspector.
3. Watertight Manhole Rings and Covers shall be Trans-Tex A77 "O" Ring or Approved Equal.
4. The Minimum Angle of Flow for a Connecting Sewer to the Direction of Flow Defined by a Collection System is 90 Degrees, unless Approved by the Engineer.

CONTRACTOR TO INSTALL CITY OF LEON VALLEY APPROVED MANHOLE COVER	STANDARD PRECAST MANHOLE	APPROVED MAY 2013	REVISED AUG 2019
		DD-852-01	SHEET 1 OF 2



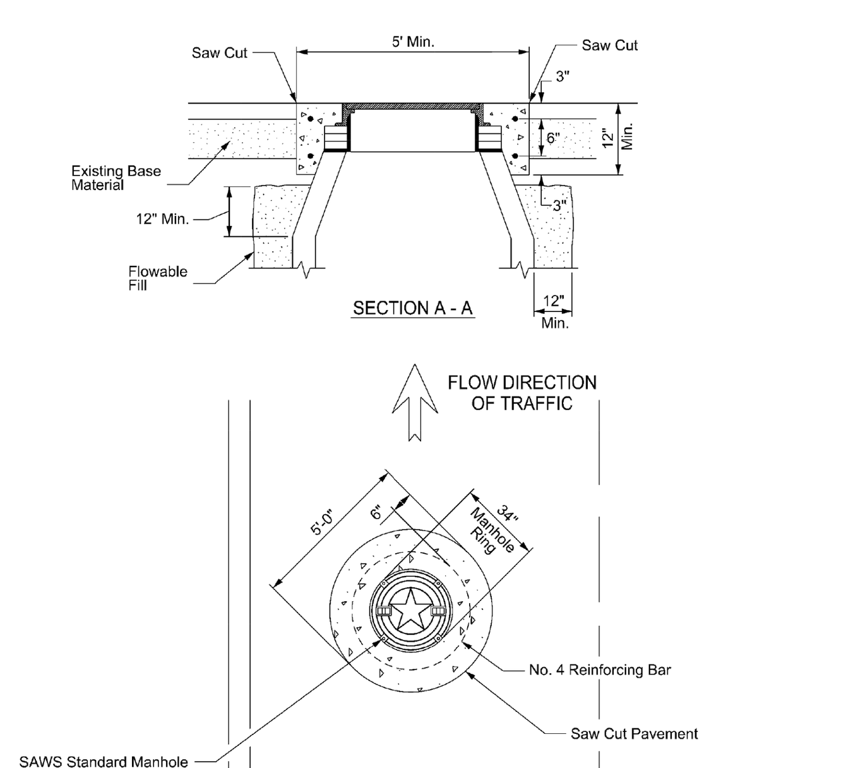
General Notes:
1. Material for Sanitary Sewer Pipe Must be the Same from Manhole to Manhole. Changes in Type of Pipe May be Made only at Manholes, or Special Structures, Except as Approved by the Project Engineer.
2. Adaptors and Concrete Collars shall be used as approved by the SAWS Project Engineer.
3. Watertight Manhole Rings and Covers shall be Trans-Tex A77 "O" Ring or Approved Equal.

CONTRACTOR TO INSTALL CITY OF LEON VALLEY APPROVED MANHOLE COVER	STANDARD MONOLITHIC MANHOLE	APPROVED March 2008	REVISED AUG 2019
		DD 852-01	SHEET 2 OF 2



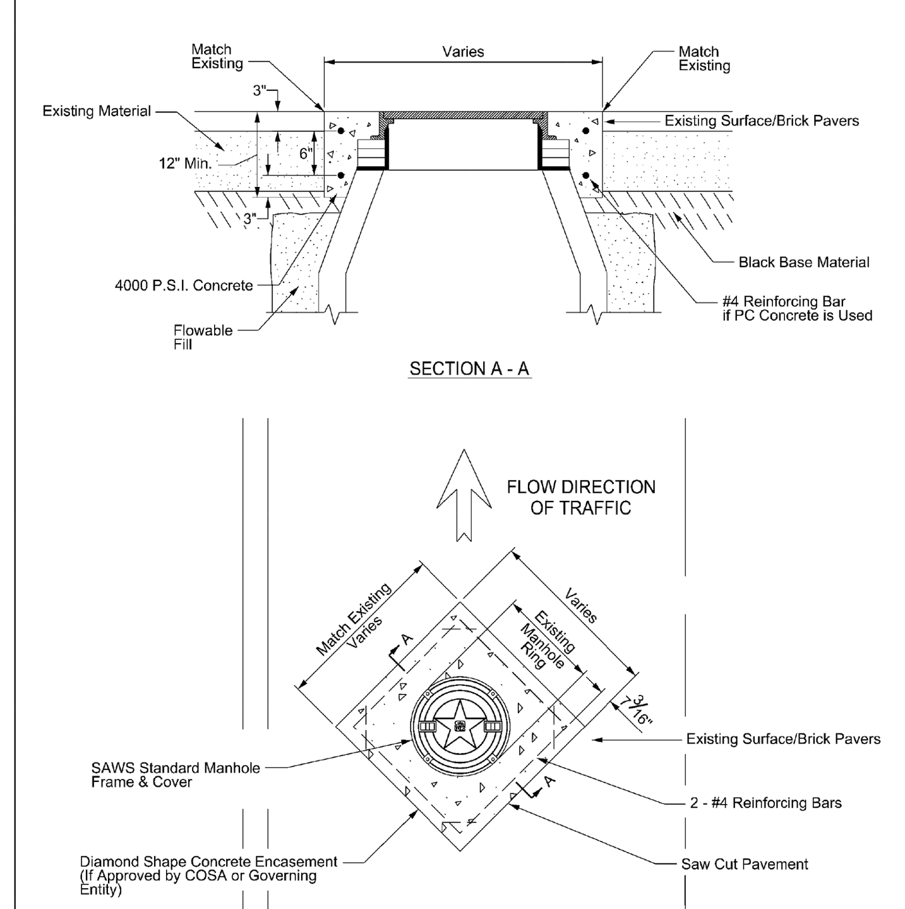
NOTES:
1. The Compaction Report will indicate the Station and the Depth of each Test Point.
2. When Contractor opts to backfill, all work will be subject to sections 804.3 and 804.4 of this specification
3. Insure Compaction Probe Penetrates to same Depth as Lift.

CONTRACTOR TO INSTALL CITY OF LEON VALLEY APPROVED MANHOLE COVER	TRENCH COMPACTION DETAIL	APPROVED MARCH 2018	REVISED AUG 2019
		DD 804-02	SHEET 1 OF 1



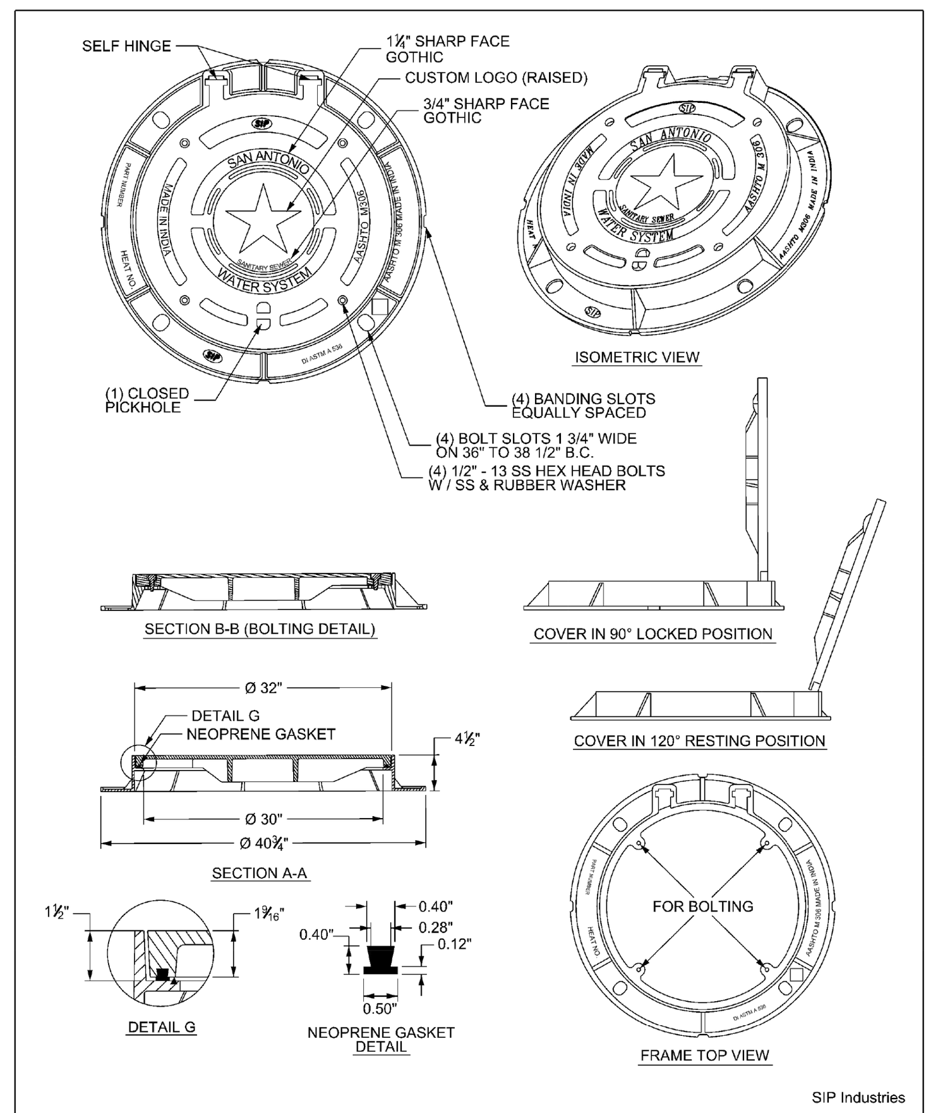
NOTE:
1. The Concrete Shall be 4000 PSI Minimum and Reinforced with No. 4 Bars as Shown.
2. The Concrete Shall Extend to Edge of Saw Cut Pavement.
3. Manhole Ring Encasement is Required on all Manholes.
4. Manhole Lid shall Open in the Direction of Traffic or Downstream in Parkway

CONTRACTOR TO INSTALL CITY OF LEON VALLEY APPROVED MANHOLE COVER	MANHOLE RING ENCASEMENT DETAIL	APPROVED AUGUST 2009	REVISED AUG 2019
		DD 852-03	SHEET 1 OF 2

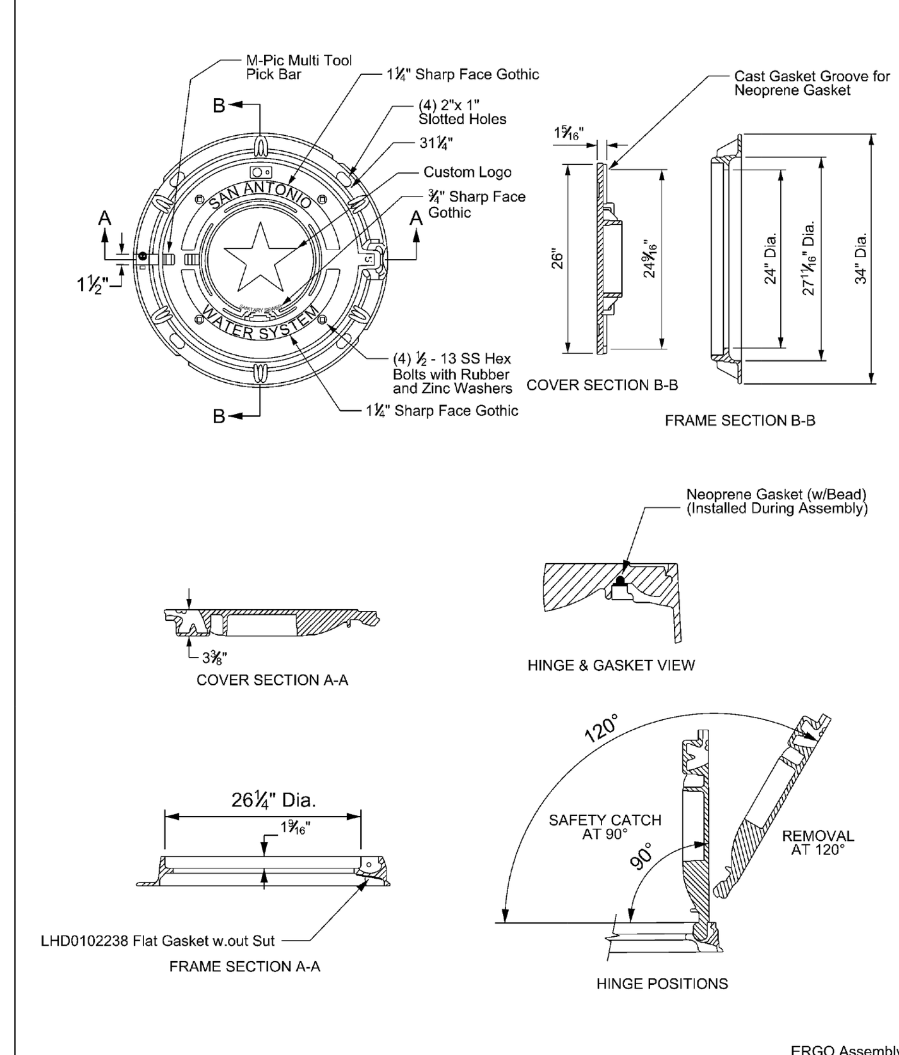


NOTE:
1. The Concrete Shall be 4000 PSI, Minimum and Reinforced with 2 - #4 Bars as Shown.
2. The Concrete Shall Extend to Edge of Saw Cut Pavement.
3. Manhole Ring Encasement is Required on all Manholes.
4. Manhole Lid Shall Open in the Direction of Traffic or Downstream in Parkway.

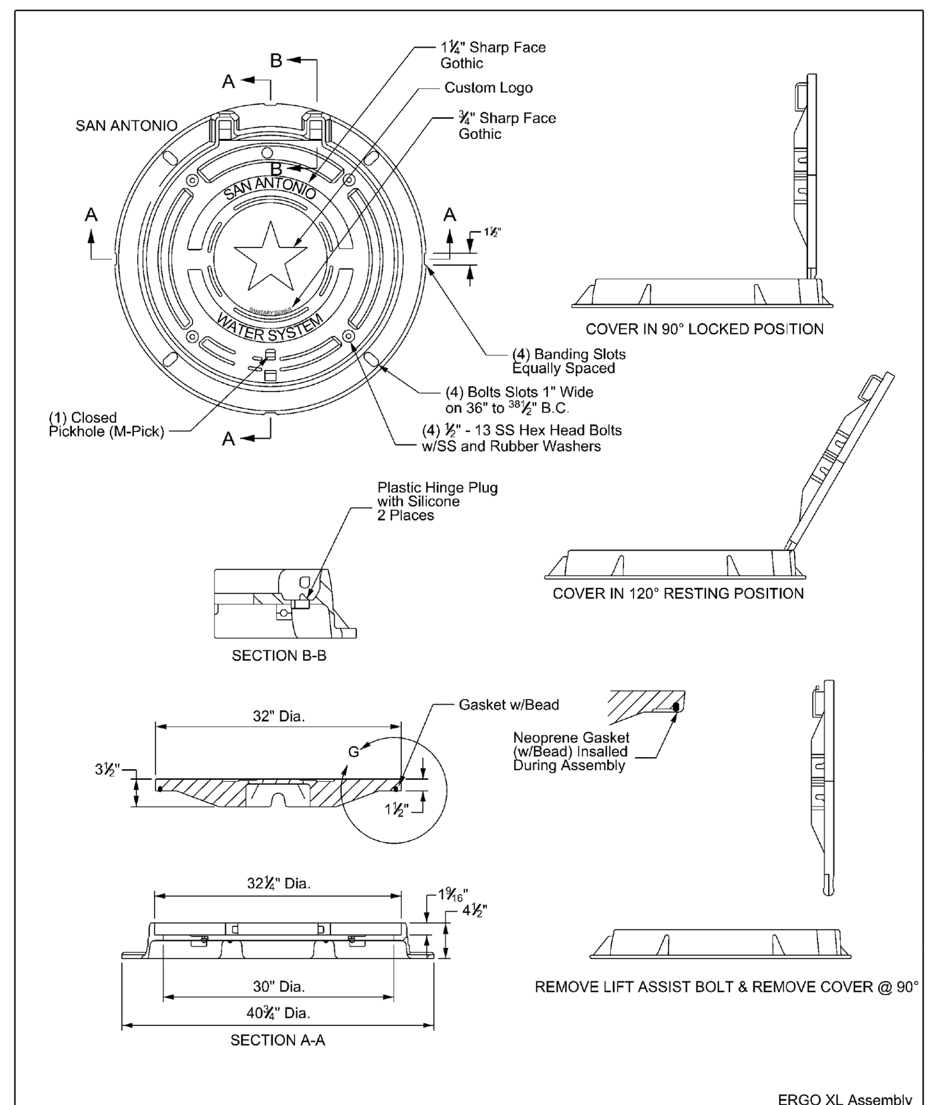
CONTRACTOR TO INSTALL CITY OF LEON VALLEY APPROVED MANHOLE COVER	MANHOLE RING ENCASEMENT DETAIL	APPROVED MARCH 2008	REVISED AUG 2019
		DD 852-03	SHEET 2 OF 2



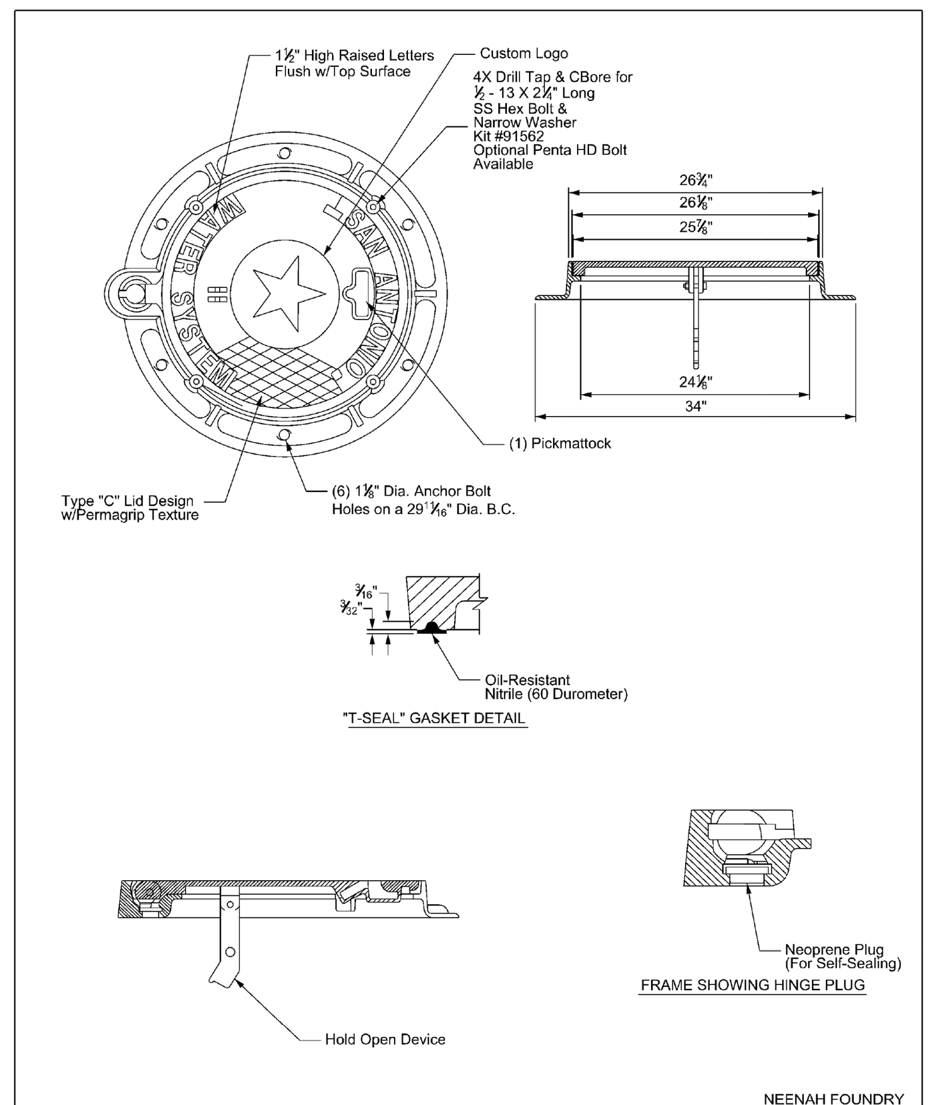
CONTRACTOR TO INSTALL CITY OF LEON VALLEY APPROVED MANHOLE COVER	30" MANHOLE RING AND COVER DETAIL	APPROVED	REVISED AUG 2019
		DD 852-07	SHEET 1 OF 5



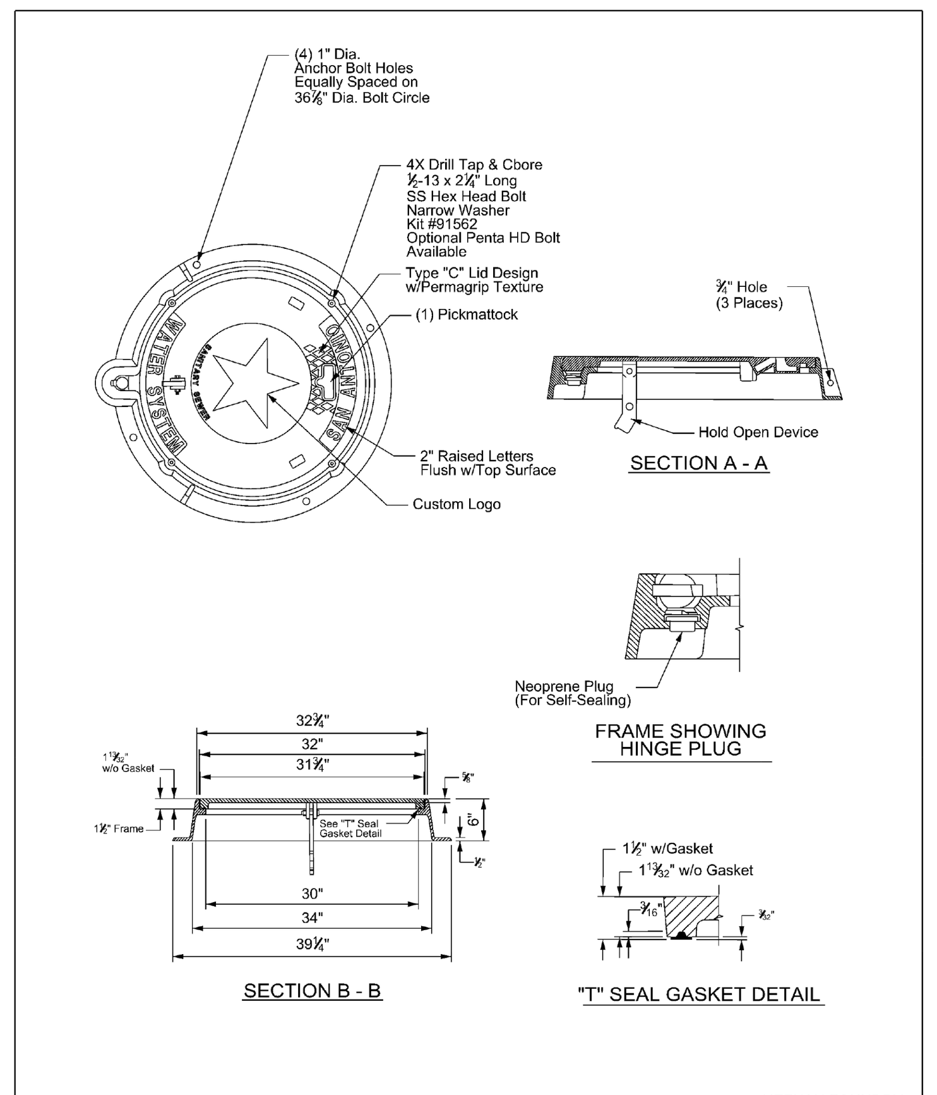
CONTRACTOR TO INSTALL CITY OF LEON VALLEY APPROVED MANHOLE COVER	MANHOLE RING AND COVER DETAIL	APPROVED MARCH 2008	REVISED AUG 2019
		DD 852-07	SHEET 2 OF 5



CONTRACTOR TO INSTALL CITY OF LEON VALLEY APPROVED MANHOLE COVER	MANHOLE RING AND COVER DETAIL	APPROVED MARCH 2008	REVISED AUG 2019
		DD 852-07	SHEET 3 OF 5

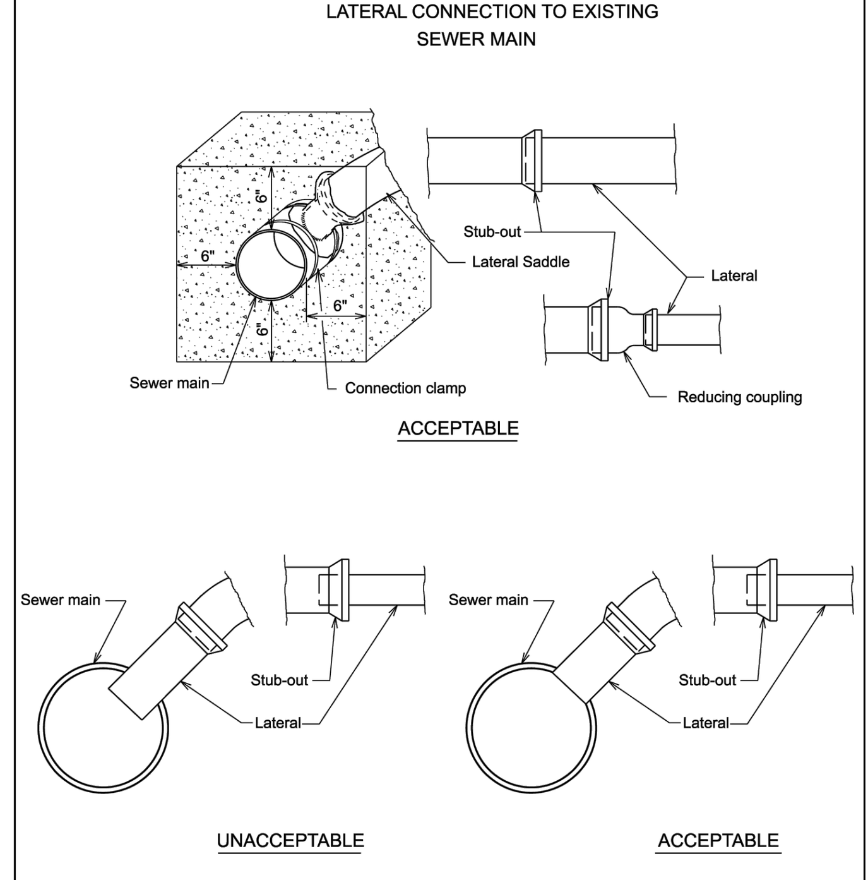


CONTRACTOR TO INSTALL CITY OF LEON VALLEY APPROVED MANHOLE COVER	MANHOLE RING AND COVER DETAIL	APPROVED MARCH 2008	REVISED AUG 2019
		DD 852-07	SHEET 4 OF 5



CONTRACTOR TO INSTALL CITY OF LEON VALLEY APPROVED MANHOLE COVER	MANHOLE RING AND COVER DETAIL	APPROVED MARCH 2008	REVISED AUG 2019
		DD 852-07	SHEET 5 OF 5

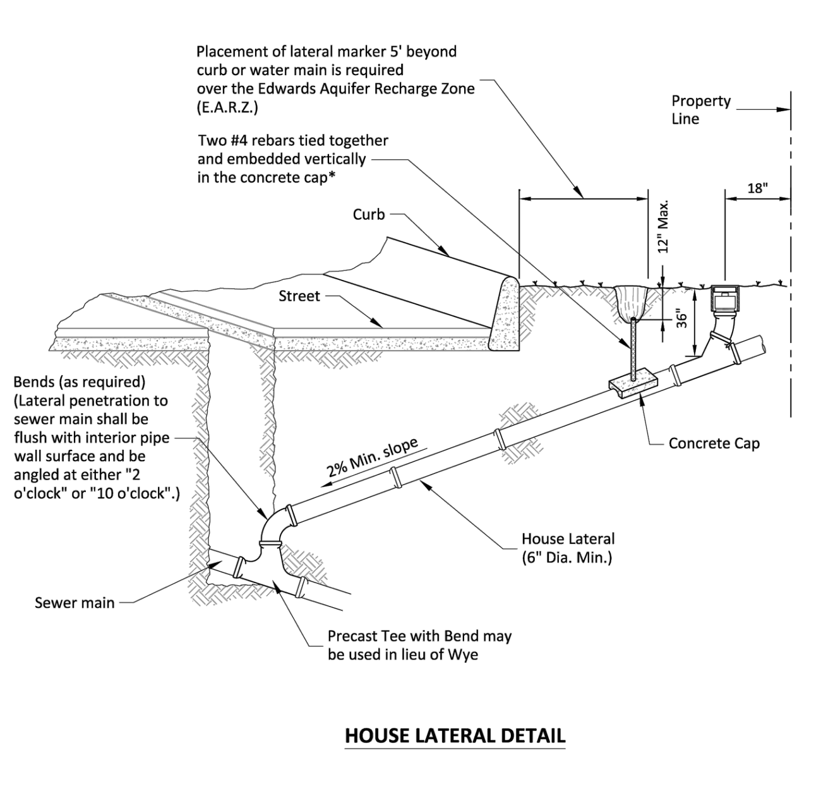
LATERAL CONNECTION TO EXISTING SEWER MAIN



Note:
The saddle shall be permanently bonded to the existing main by the use of compounds or or clamps as recommended by the manufacturer.

LATERAL CONNECTION	APPROVED MARCH 2008	REVISED APRIL 2014	
	DD-854-03		SHEET 1 OF 1

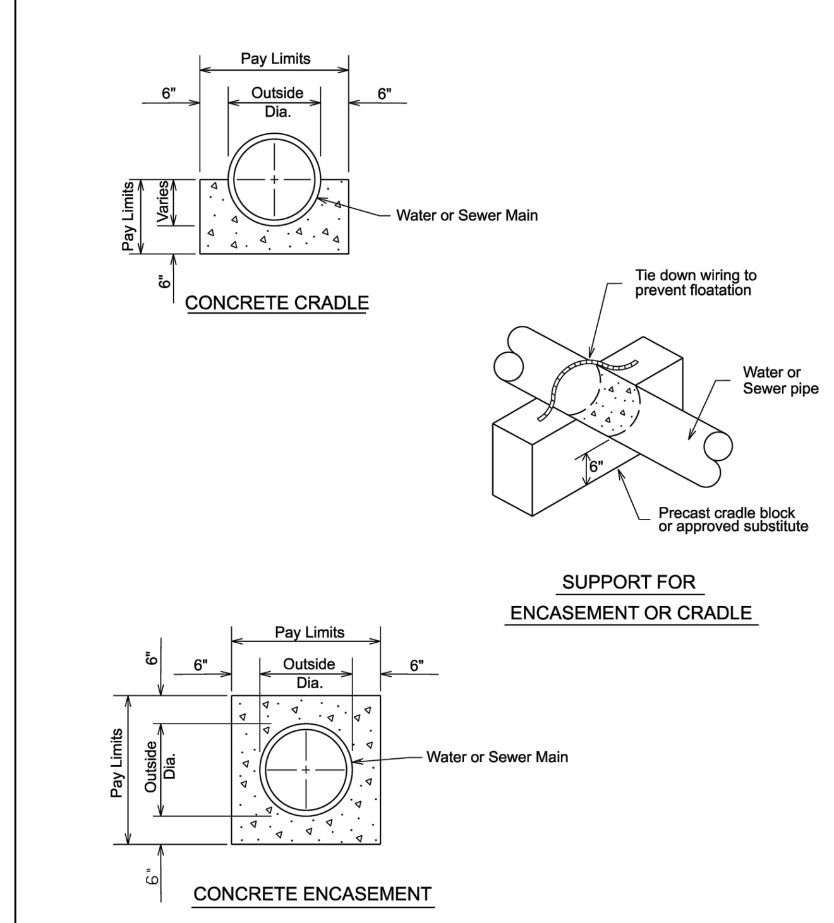
Depth and grade of service laterals as shown, are typical only. Actual depth, alignment and grade of service laterals shall be determined by the Engineer based on the elevations of the sewer main, street, natural ground and building to be serviced.



HOUSE LATERAL DETAIL

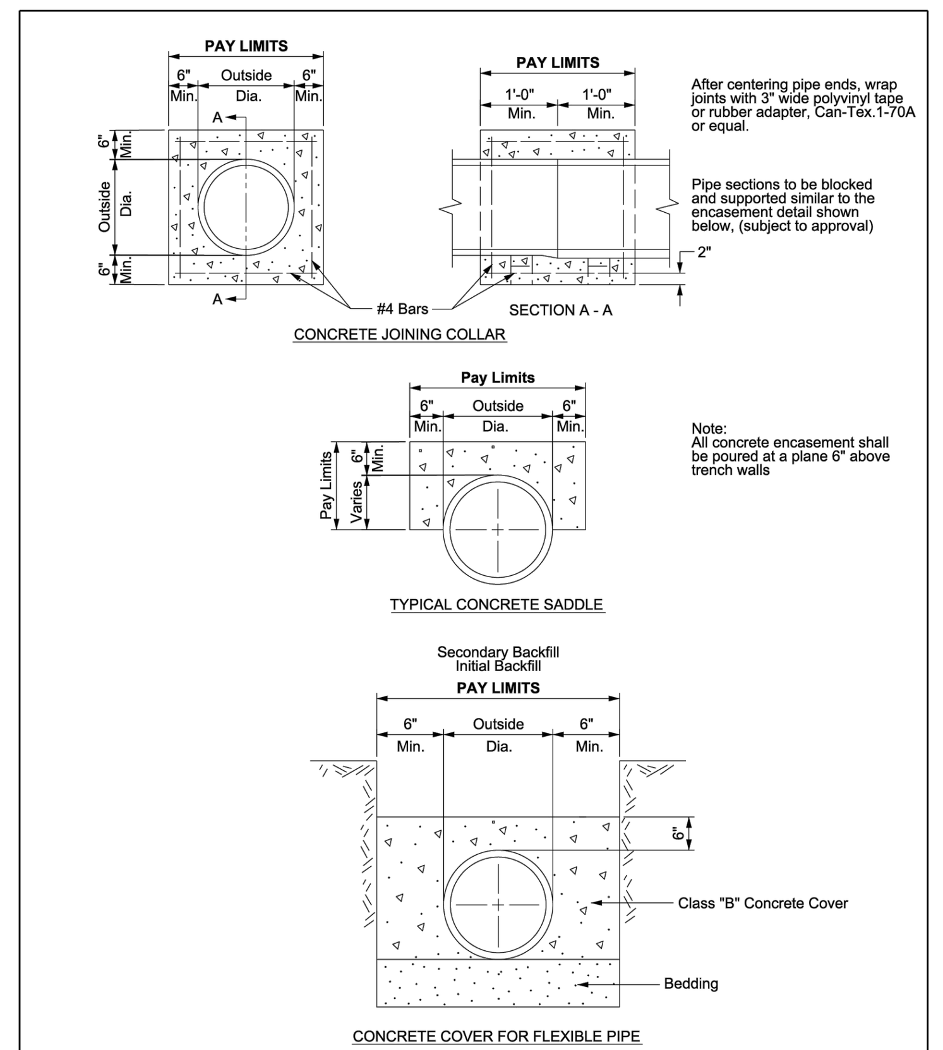
Note:
A minimum of 3' of cover to subgrade is necessary, otherwise concrete encasement will be required.

HOUSE LATERAL DETAIL (IN THE E.A.R.Z.)	APPROVED March 2008	REVISED December 2018	
	DD-854-EARZ		SHEET 1 OF 1

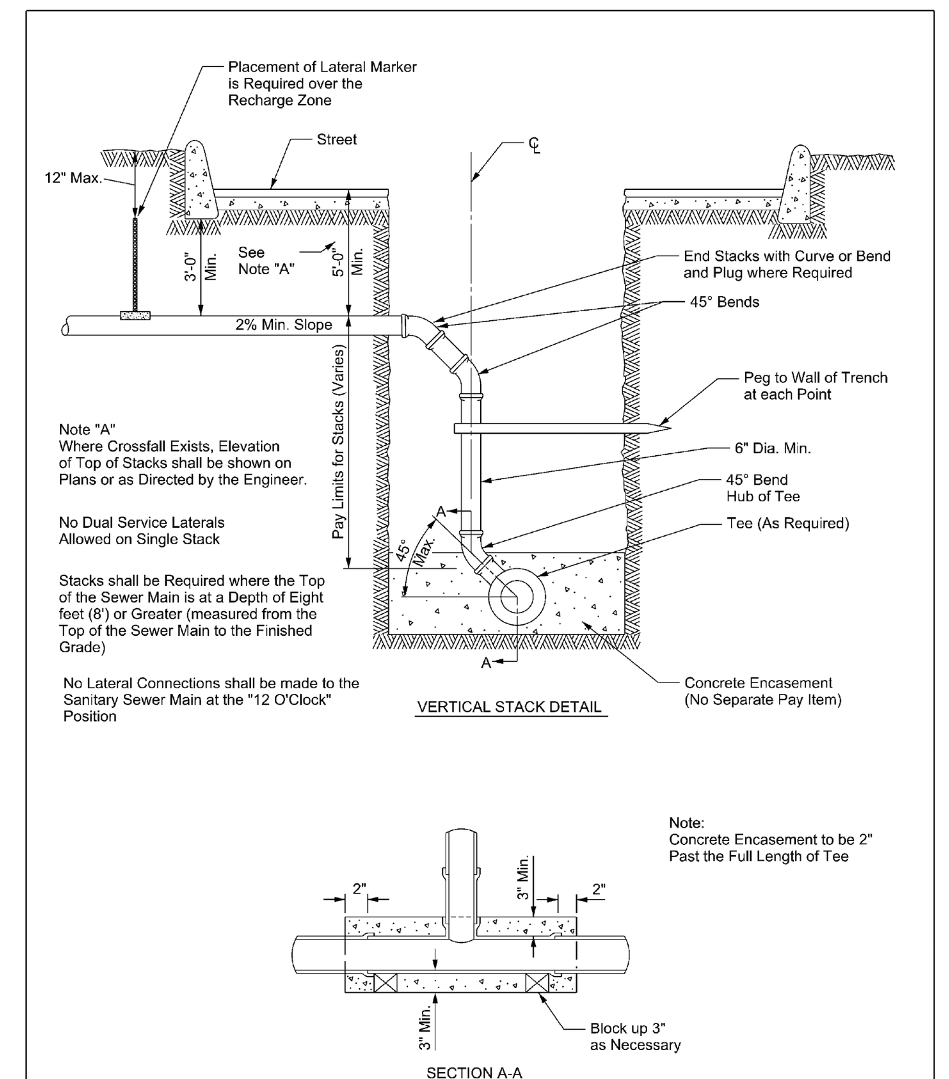


Notes:
1) All concrete encasement shall be poured at a plane 6" above the pipe between excavated trench walls.
2) All pipe with less than 3' of cover to subgrade shall be concrete-encased.
3) All Force mains shall be provided with thrust blocks, where changes in direction occur, at Tees, Bends, Crosses, changes in size, stops, or as directed by SAWS.

TYPICAL CONCRETE ENCASEMENT DETAILS	APPROVED MARCH 2008	REVISED APRIL 2014	
	DD-858-01		SHEET 1 OF 1



TYPICAL CONCRETE DETAILS	APPROVED MARCH 2008	REVISED DEC 2018	
	DD 858-02		SHEET 1 OF 1



Note "A"
Where Crossfall Exists, Elevation of Top of Stacks shall be shown on Plans or as Directed by the Engineer.

No Dual Service Laterals Allowed on Single Stack

Stacks shall be Required where the Top of the Sewer Main is at a Depth of Eight feet (8') or Greater (measured from the Top of the Sewer Main to the Finished Grade)

No Lateral Connections shall be made to the Sanitary Sewer Main at the "12 O'Clock" Position

Note:
Concrete Encasement to be 2" Past the Full Length of Tee

TYPICAL VERTICAL STACK DETAIL	APPROVED MARCH 2008	REVISED AUG 2019	
	DD 860-01		SHEET 1 OF 1

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4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

SANITARY SEWER STADARD DETAILS

DATE 8/28/2024

PROJECT NO. 03653.005

DRAWN BY MAS

CHECKED BY KMH

REVISIONS
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STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED PROFESSIONAL ENGINEER
09/18/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO. 03653-05

C4.01

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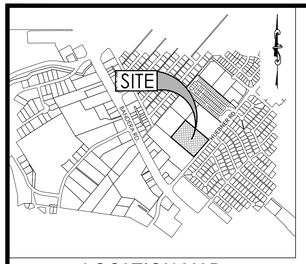
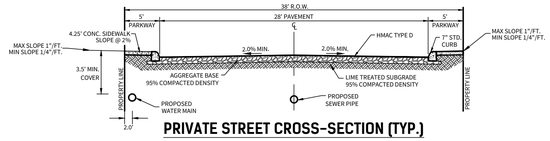


LOCATION MAP
N.T.S.

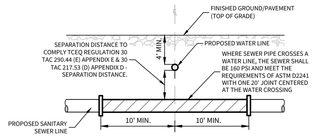
DEVELOPER
CENTURY COMMUNITIES
ATTN: VICTOR BERNAL
2330 N LOOP 1604 W ACCESS ROAD, STE 112
SAN ANTONIO, TX. 78248
TEL: (210) 469-3442

LEGEND

EXISTING SANITARY SEWER	EX.8"SS
EXISTING SANITARY SEWER MANHOLE	
EXISTING WATER MAIN	EX.8"W
EXISTING POWER POLE	
PROPOSED SANITARY SEWER	8"SS
PROPOSED SANITARY SEWER MANHOLE	
PROPOSED WATER MAIN	8"W
PROPOSED STANDARD FIRE HYDRANT	
PROPOSED STANDARD GATE VALVE	
PROPOSED PERMANENT BLOWOFF	
PROPOSED UTILITY CONDUIT CROSSING	UTIL
ELECTRIC, GAS, TELEPHONE, & CABLE T.V. EASEMENT	E.G.T.C.A. ESM'T



PRIVATE STREET CROSS-SECTION (TYP.)
N.T.S.



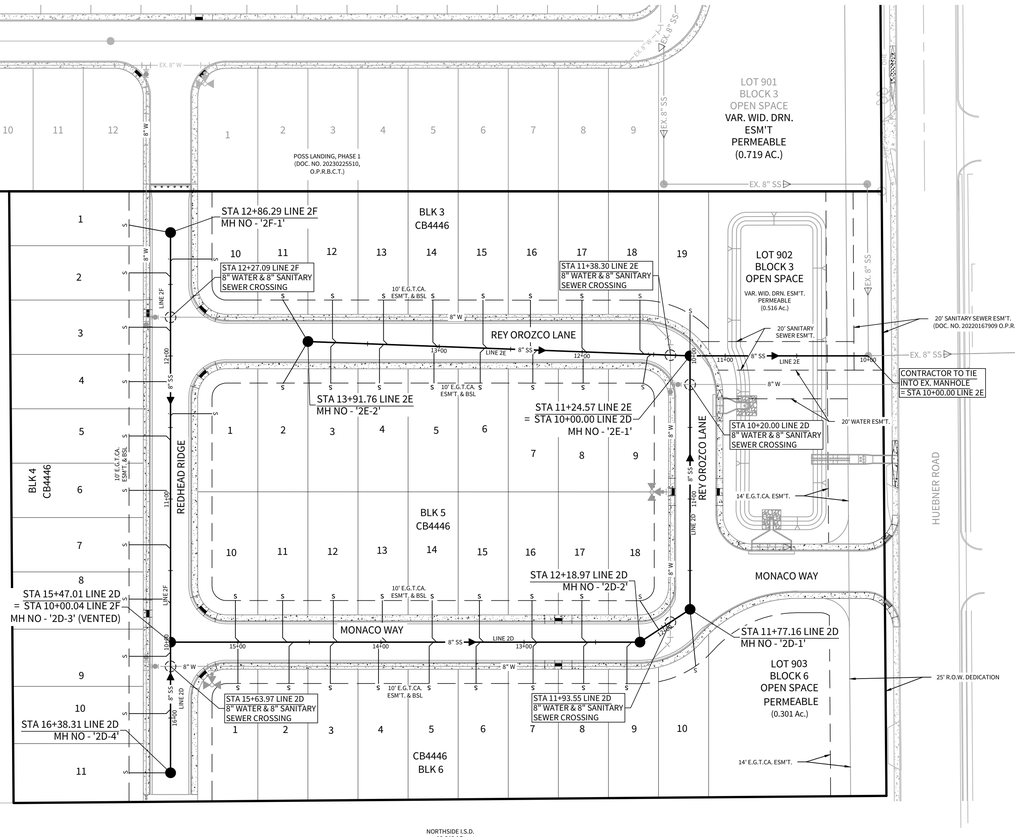
TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL
N.T.S.

SCALE: 1"=50'
50 25 0 50

NOTES:

1. ALL EXCAVATED MATERIAL SHALL BE PLACED ON THE UPGRADIENT SIDE OF THE SEWER TRENCH THUS ALLOWING THE TRENCH TO INTERCEPT ANY SILT CONTAMINATED RUNOFF.
2. ALL LATERALS TO BE BUILT TO FRONT UTILITY EASEMENT LINE.
3. ALL LATERAL SHALL BE INSTALLED @ MIN. 2.0% SLOPE, UNLESS OTHERWISE NOTED.
4. ALL SANITARY SEWER PIPE SHALL BE PVC THAT MEETS ASTM SPECIFICATION, SDR-26, UNLESS OTHERWISE NOTED ON THE PLANS.
5. THE LOCATIONS AND DEPTHS OF ALL EXISTING UTILITIES, INCLUDING SERVICE LATERALS AND DRAINAGE STRUCTURES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT, AND TO PROTECT THE SAME DURING CONSTRUCTION.

CITY OF LEON VALLEY PUBLIC WORKS 210-681-1232



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San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

SANITARY SEWER MASTER PLAN

DATE 11/6/2024

PROJECT NO. 03653.005

DRAWN BY MAS

CHECKED BY KMH

REVISIONS
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STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO. PZ-2024-16

C4.02

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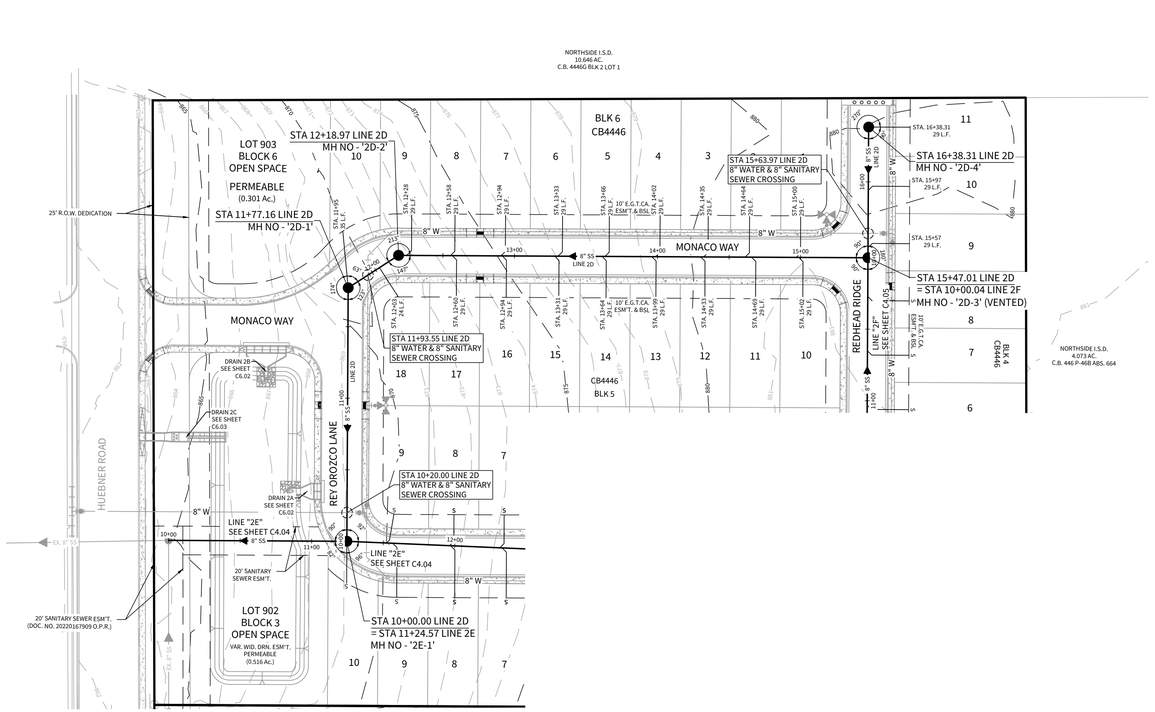
LEGEND

- EXISTING SANITARY SEWER — EX.8"SS
- EXISTING SANITARY SEWER MANHOLE
- EXISTING WATER MAIN — EX.8"W
- EXISTING POWER POLE
- PROPOSED SANITARY SEWER — 8"SS
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED WATER MAIN — 8"W
- PROPOSED STANDARD FIRE HYDRANT
- PROPOSED STANDARD GATE VALVE
- PROPOSED PERMANENT BLOWOFF
- PROPOSED UTILITY CONDUIT CROSSING — UTIL
- ELECTRIC, GAS, TELEPHONE, & CABLE T.V. EASEMENT — E.G.T.C.A. ESM'T



SCALE: 1"=50'
50 25 0 50

NOTE: ALL LATERALS TO BE INSTALLED @ 2.0% SLOPE UNLESS OTHERWISE NOTED. ALL SANITARY SEWER PIPE SHALL BE P.V.C. THAT MEETS ASTM SPECIFICATION D-3034, SDR-35.

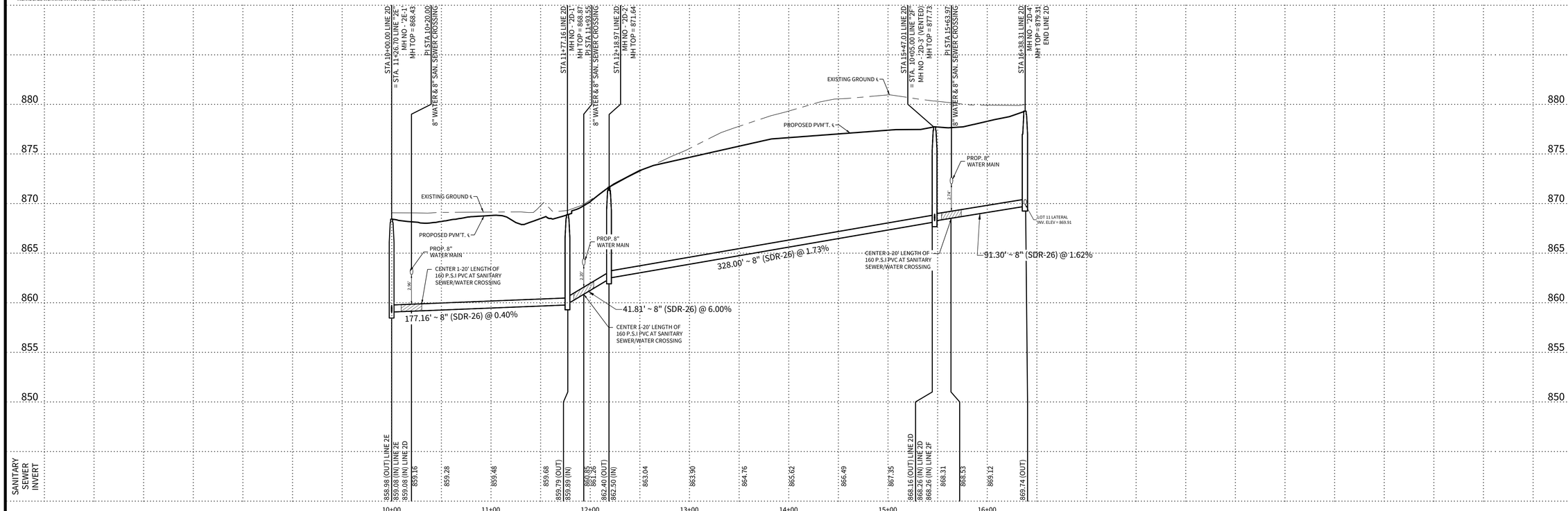
TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) 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.

LINE "2D"

STA. 10+00.00 TO 16+38.31

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



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4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION
PHASE 2

SANITARY SEWER PLAN AND PROFILE - LINE "2D"

DATE
11/7/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
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STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
PZ-2024-16

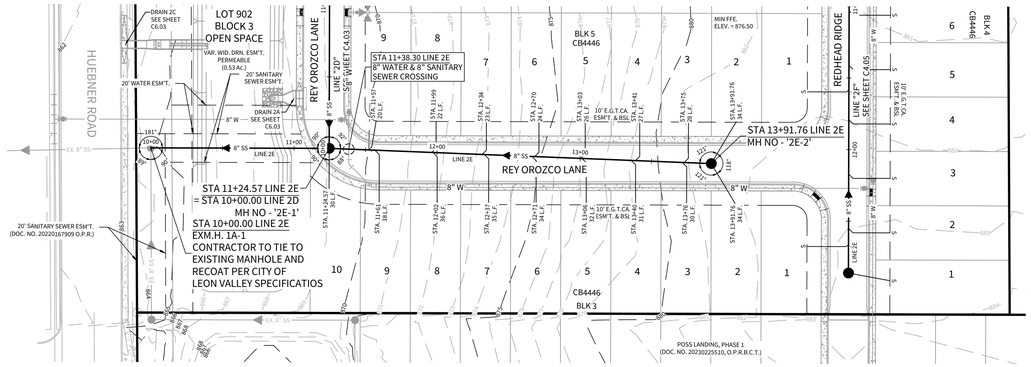
C4.03

P:\03653\005\Civil\Plan\C4.03_SSA1.dwg, 11/7/2024 11:55:16 AM, mhudek

LEGEND

EXISTING SANITARY SEWER	EX.8"SS
EXISTING SANITARY SEWER MANHOLE	
EXISTING WATER MAIN	EX.8"W
EXISTING POWER POLE	
PROPOSED SANITARY SEWER	8"SS
PROPOSED SANITARY SEWER MANHOLE	
PROPOSED WATER MAIN	8"W
PROPOSED STANDARD FIRE HYDRANT	
PROPOSED STANDARD GATE VALVE	
PROPOSED PERMANENT BLOWOFF	
PROPOSED UTILITY CONDUIT CROSSING	UTIL
ELECTRIC, GAS, TELEPHONE, & CABLE T.V. EASEMENT	E.G.T.C.A. ESM'T

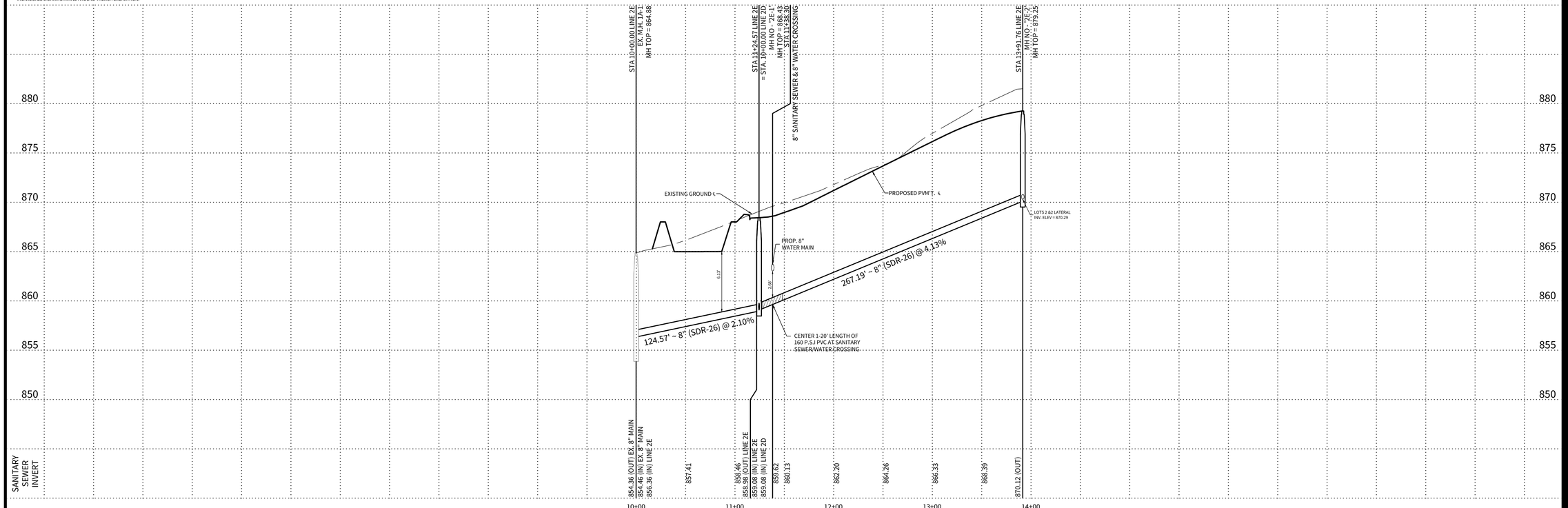
SCALE: 1"=50'
50 25 0 50



LINE "2E"

STA. 10+00.00 TO 13+91.76

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



NOTE: ALL LATERALS TO BE INSTALLED @ 2.0% SLOPE UNLESS OTHERWISE NOTED. ALL SANITARY SEWER PIPE SHALL BE P.V.C. THAT MEETS ASTM SPECIFICATION D-3034, SDR-35.

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 AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) 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.

CUDEENGINEERS.COM

4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

SANITARY SEWER PLAN AND PROFILE - LINE "2E"

DATE
11/6/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
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8.

STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
PZ-2024-16

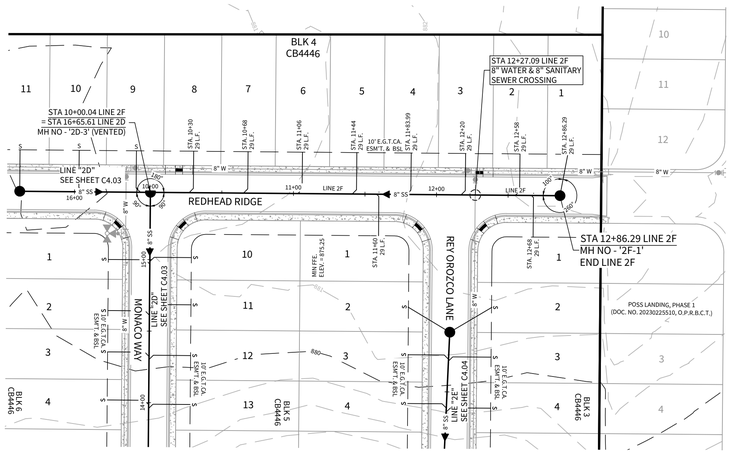
C4.04

P:\03653\005\3-DWG\6 Plan\C4.04_SSD.dwg 2024/11/07 11:56am mhamilton

LEGEND

- EXISTING SANITARY SEWER — EX.8"SS
- EXISTING SANITARY SEWER MANHOLE
- EXISTING WATER MAIN — EX.8"W
- EXISTING POWER POLE
- PROPOSED SANITARY SEWER — 8"SS
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED WATER MAIN — 8"W
- PROPOSED STANDARD FIRE HYDRANT
- PROPOSED STANDARD GATE VALVE
- PROPOSED PERMANENT BLOWOFF
- PROPOSED UTILITY CONDUIT CROSSING — UTIL
- ELECTRIC, GAS, TELEPHONE, & CABLE T.V. EASEMENT — E.G.T.C.A. ESM'T

SCALE: 1"=50'
50 25 0 50



LINE "2F"

STA. 10+00.04 TO 12+86.29

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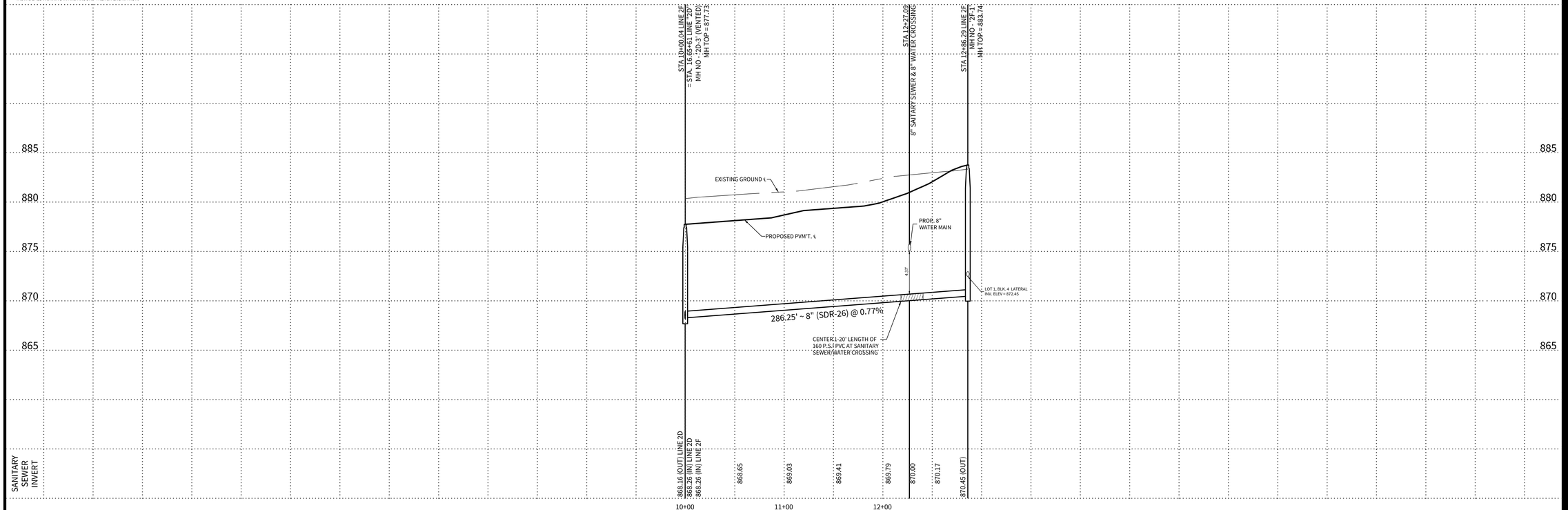
VERTICAL SCALE: 1" = 5'



NOTE: ALL LATERALS TO BE INSTALLED @ 2.0% SLOPE UNLESS OTHERWISE NOTED. ALL SANITARY SEWER PIPE SHALL BE P.V.C. THAT MEETS ASTM SPECIFICATION D-3034, SDR-35.

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POSS LANDING SUBDIVISION PHASE 2

SANITARY SEWER PLAN AND PROFILE - LINE "2F"

DATE
11/6/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
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STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
PZ-2024-16

C4.05

P:\03653\005\3 SWGS & Plans\C4.05_SSAT.dwg 11/04/11/06 10:06am masalbrecht

GENERAL NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH OSHA STANDARDS INCLUDING CONFINED SPACE ENTRY AND PROVIDE ALL DEVICES, MANPOWER AND CERTIFIED PERSONNEL.
2. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, ACCESS TO GAS VALVES MUST BE MAINTAINED AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
3. THE CONTRACTOR SHALL WARRANT ALL WORK FOR ONE (1) YEAR.
4. THE CONTRACTOR SHALL PROVIDE INSURANCE LISTING CITY AS AN ADDITIONAL INSURED BEFORE WORKING IN PUBLIC RIGHT-OF-WAY.
5. THE CONTRACTOR SHALL REMOVE AND RESTORE TRAFFIC SIGNS AS NEEDED (NO SEPARATE PAY ITEM).
6. TEN (10) DAYS PRIOR TO BEGINNING WORK, CONTRACTOR SHALL ARRANGE, WITH THE CITY, FOR A PRECONSTRUCTION CONFERENCE TO BE HELD AT THE CITY AND SHALL THEREAFTER SECURE A CITY PERMIT.
7. THE CONTRACTOR SHALL NOTIFY THE CITY OF LEON VALLEY PUBLIC WORKS DEPARTMENT AT 681-1231 PRIOR TO PLACING BACKFILL OR CONCRETE AND PRIOR TO ANY TESTING. THE CONTRACTOR SHALL REQUEST INSPECTION 24 HOURS IN ADVANCE. (NO INSPECTIONS ARE AVAILABLE BETWEEN 12:00 P.M. AND 1:00 P.M. OR AFTER 4:00 P.M. DAILY, WEEKENDS OR CITY HOLIDAYS.)
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THE CITY'S CONSTRUCTION INSPECTOR AND THE TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND STOPS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED.
9. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) 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 PROTECTIONS 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.
10. ALL GAS, ELECTRICAL, CABLE OR STREETLIGHT PIPING OR WIRING WHICH WILL BE LOCATED UNDER PAVED AREAS OR ABOVE DRAINAGE FACILITIES SHALL BE PLACED IN PROPERLY SIZED (MINIMUM 2" DIAMETER) SCHEDULE 80 PVC CONDUIT WITH PULL STRINGS.
11. PRIOR TO PRELIMINARY AND FINAL ACCEPTANCE OF THE PUBLIC IMPROVEMENTS BY THE CITY, CONTRACTOR SHALL ARRANGE FOR A FIELD INSPECTION TO BE CONDUCTED WITH CITY FORCES. THE CONTRACTOR SHALL PROVIDE EQUIPMENT AND MANPOWER SUFFICIENT TO OPEN ALL MANHOLES (WHICH SHALL PROMPTLY BE CLOSED), ROTATE ALL VALVES AND OPEN ALL FIRE HYDRANTS AND WATER SERVICES. THESE INSPECTIONS WILL BE ARRANGED BY GIVING SEVEN (7) DAYS' PRIOR NOTICE TO THE CITY OF THIS NEED.
12. THE CONTRACTOR SHALL FURNISH THE CITY WITH THREE (3) COPIES OF SUBMITTAL DATA ON ALL WATER OR SEWER MATERIALS TO BE INCORPORATED INTO THE WORK FOR THEIR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.
13. ALL REQUIREMENTS OF THE TEXAS DEPARTMENT OF TRANSPORTATION WILL BE ADHERED TO WHERE APPLICABLE.
14. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN ACCORDANCE WITH THE TEXAS ONE CALL SYSTEM (1-800-545-6005), PRIOR TO EXCAVATION (EXISTING UNDERGROUND FACILITIES ARE SHOWN AS REFLECTED IN VISIBLE SURFACE FEATURES AND RECORDS OF THE VARIOUS UTILITY COMPANIES). THE CONTRACTOR SHALL VERIFY THE LOCATION AND GRADE OF THE UTILITIES WELL AHEAD OF EXCAVATION OPERATION AND SHALL BE RESPONSIBLE FOR THE PROTECTION OF SAME DURING THE COURSE OF CONSTRUCTION.
15. THE CONTRACTOR SHALL CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48 HOURS PRIOR TO ANY EXCAVATION AT 650-8228 AND PROTECT AND SUPPORT TELEPHONE COMPANY PLANT DURING CONSTRUCTION.
16. THE CONTRACTOR SHALL CONTACT THE FOLLOWING UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION OPERATION:

LEON VALLEY PUBLIC WORKS	(210) 681-1232
LEON VALLEY PLANNING & ZONING	(210) 684-1391
CPS ENERGY	1(800) 773-3077
TEXAS STATE WIDE ONE CALL LOCATOR	1(800) 344-8377
AT&T	1(800) 344-8377
SPECTRUM	1(800) 344-8377

WATER SYSTEM NOTES:

1. THE MATERIALS AND CONSTRUCTION STANDARDS OF THE STANDARD SPECIFICATIONS FOR WATER WORKS CONSTRUCTION OF THE SAN ANTONIO WATER SYSTEM ARE ADOPTED FOR REFERENCE AND ALL WORK SHALL COMPLY WITH THESE STANDARDS, EXCEPT AS MODIFIED HEREIN.
2. ALL WORK AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN WATER WORKS ASSOCIATION AND THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION.
3. WHEN SEWER LINES ARE INSTALLED IN THE VICINITY OF WATER MAINS, SUCH INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY'S (TCEQ).
4. THE CONTRACTOR SHALL CONSTRUCT WATER MAINS SIX FEET (6') FROM THE PROPERTY LINE, UNLESS OTHERWISE NOTED.
5. CHLORINATION WILL BE BY THE CONTRACTOR UNLESS OTHERWISE STATED.
6. DUCTILE IRON WATER MAINS SHALL BE CLASS 50 WITH POLYETHYLENE SLEEVE; C-900 PVC CLASS 200 (6- OR 8-INCH DIAMETER) OR CLASS 150 (12-INCH DIAMETER) MAY BE USED. THE USE OF ASBESTOS CEMENT PIPE WATER MAINS IS NOT ALLOWED.
7. THE CONTRACTOR SHALL DISINFECT AND HYDROSTATICALLY TEST MAINS IN ACCORDANCE WITH SAN ANTONIO WATER SYSTEM STANDARDS AND CONDUCT ALL BACTERIOLOGICAL SAMPLING AND TESTING. FURNISH TEST RESULTS TO CITY BEFORE CONNECTING TO EXISTING MAIN. THE CITY IS TO BE PRESENT DURING TESTING AND INTERCONNECTION.
8. THE CONTRACTOR SHALL FURNISH THE PROJECT ENGINEER WITH FINAL MEASUREMENTS FOR ALL PIPE INSTALLATION, THE LOCATION AND SIZE OF ALL TAPS, AND LENGTH OF SERVICE CONNECTIONS.
9. ALL SINGLE AND DUAL SERVICES SHALL BE ONE-INCH COPPER.
10. EXCESS MATERIAL SHALL BE DISPOSED OF AS DIRECTED BY THE PROJECT ENGINEER.
11. THRUST BLOCKS ARE TO BE INSTALLED FOR EACH FITTING.
12. FIRE HYDRANTS SHALL BE MUELLER SUPER CENTURION 200 5-1/4 INCH NO. A-423 MECHANICAL JOINT, WITH 2-1/2 INCH NATIONAL STANDARD NOZZLE THREADS AND 4-1/2 INCH NATIONAL STANDARD PUMPER THREADS, OPEN LEFT, PAINTED RED, WITH GATE VALVE AND JOINT RESTRAINTS. (SET VALVES FLUSH WITH TOP OF CURBS WHEN IN PARKWAY.) FIRE HYDRANTS SHALL BE PLACED SO AS TO AVOID FUTURE DRIVEWAY LOCATIONS.
13. ALL GATE VALVES SHALL BE RESILIENT SEAT, LEFT HAND OPEN, MUELLER A-2370 VALVES.
14. EIGHT-MIL POLYETHYLENE WRAPPING WILL BE REQUIRED ON ALL FITTINGS AND VALVES.
15. ALL FITTINGS SHALL BE MECHANICAL JOINT WITH CONCRETE BLOCKING, UNLESS OTHERWISE NOTED. SHORT SHORT BODY (SSB) FITTINGS MAY BE USED.
16. THE CONTRACTOR SHALL PROVIDE 24-HOUR NOTICE TO HOMEOWNERS AND CITY PRIOR TO DISCONTINUING SERVICE TO MAKE CONNECTION. SERVICE OUTAGE SHALL BE LIMITED TO THE PERIOD OF 9:00 A.M. TO 4:00 P.M. AND THE DIRECTOR OF PUBLIC WORKS OR HIS AUTHORIZED REPRESENTATIVE SHALL BE PRESENT WHEN THE MAIN VALVES ARE CLOSED. NIGHTTIME CONNECTIONS MAY BE REQUIRED.
17. THE DIRECTOR OF PUBLIC WORKS OR HIS AUTHORIZED REPRESENTATIVE SHALL BE PRESENT DURING ALL SAMPLING, TESTING, OR TIE-INS BY THE CONTRACTOR (NO EXCEPTIONS).
18. ALL FITTINGS, PIPES AND SERVICES SHALL HAVE AN INITIAL BED OF GRAVEL FOUR (4) INCHES THICK AND TWELVE (12) INCHES OF GRAVEL BACKFILL ABOVE PIPE UNLESS OTHERWISE SHOWN OR AUTHORIZED IN WRITING BY THE CITY ENGINEER.
19. NO BLASTING IS ALLOWED.
20. BACKFILL IN AREAS UNDER OR WITHIN THREE (3) FEET OF CURBS OR PAVEMENTS SHALL BE MACHINE TAMPED GRAVEL TO A POINT WITHIN TWELVE (12) INCHES OF THE SURFACE. WATER JETTING WILL NOT BE ALLOWED IN THESE AREAS.
21. CAST IRON METER BOXES SUPPORTED BY BRICKS SHALL BE INSTALLED ON ALL SERVICES.
22. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY FLUSH VALVES AND JUMPER CONNECTIONS NEEDED.
23. METER BOXES SHALL BE LOCATED AT A POSITION OF ONE FOOT (1') FROM THE FRONT OF THE BOX TO THE BACK OF THE CURB AND SHALL BE COORDINATED BY THE CONTRACTOR TO AVOID BEING LOCATED IN WHEELCHAIR RAMPS AND SIDEWALKS. WHERE SIDEWALKS ARE TO BE LOCATED NEAR THE CURBLINE, THE METER BOX SHALL BE LOCATED SO AS TO BE BEHIND THE SIDEWALK. ALL SERVICE SADDLES SHALL BE BRASS AND ALL CORPORATION AND METER STOPS SHALL BE BALL VALVE TYPE.

NOTES:

1. CONTRACTOR TO MAINTAIN A MINIMUM 1' VERTICAL SEPARATION DISTANCE BETWEEN OF THE BOTTOM PROPOSED WATER MAIN AND TOP OF PROPOSED SANITARY SEWER MAIN AT WATER AND SANITARY SEWER CROSSINGS.
2. ALL LATERALS SHALL BE INSTALLED AT A MINIMUM 2.0% SLOPE UNLESS OTHERWISE NOTED.

TRENCH EXCAVATION PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) 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.

CUDEENGINEERS.COM

4122 Pond Hill Road, Suite 101
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POSS LANDING SUBDIVISION PHASE 2

WATER DISTRIBUTION GENERAL NOTES

DATE
11/6/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
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STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
PZ-2024-16

C5.00

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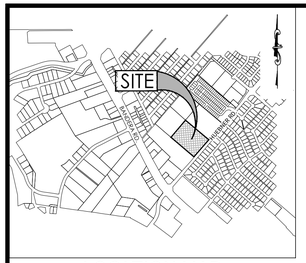
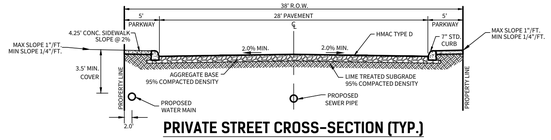


LOCATION MAP
N.T.S.

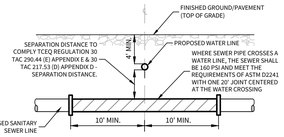
LEGEND

- EXISTING SANITARY SEWER — EX.8"SS
- EXISTING SANITARY SEWER MANHOLE
- EXISTING WATER MAIN — EX.8"W
- EXISTING POWER POLE
- PROPOSED SANITARY SEWER — 8"SS
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED WATER MAIN — 8"W
- PROPOSED STANDARD FIRE HYDRANT
- PROPOSED STANDARD GATE VALVE
- PROPOSED PERMANENT BLOWOFF
- PROPOSED UTILITY CONDUIT CROSSING — UTIL
- ELECTRIC, GAS, TELEPHONE, & CABLE T.V. EASEMENT — E.G.T.CA. ESM'T

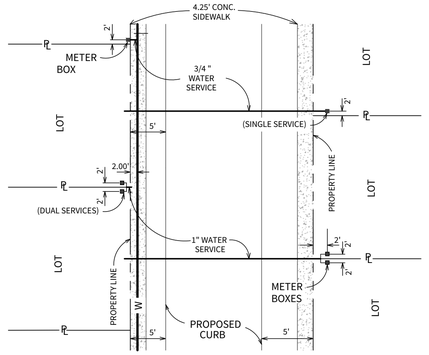
DEVELOPER
CENTURY COMMUNITIES
ATTN: VICTOR BERNAL
2330 N LOOP 1604 W ACCESS ROAD, STE 112
SAN ANTONIO, TX. 78248
TEL: (210) 469-3442



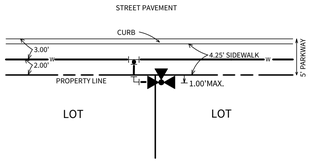
PRIVATE STREET CROSS-SECTION (TYP.)
N.T.S.



TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL
N.T.S.

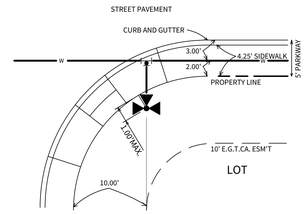


WATER METER BOX LOCATION (38' R.O.W.)
N.T.S.



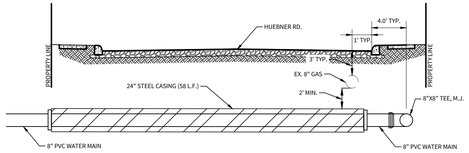
NOTE:
1. EXCLUSIVE OF THE TEE, PAYMENT FOR THE FIRE HYDRANT SHALL INCLUDE ALL FITTINGS, 6" D.I. PIPE AND 6" GATE VALVE & BOX.
2. FIRE HYDRANT TO BE INSTALLED 1-FT OUTSIDE OF THE LIMITS OF ALL PROPOSED SIDEWALKS.

LOCAL RESIDENTIAL FIRE HYDRANT DETAIL (4.25' SIDEWALK)
N.T.S.

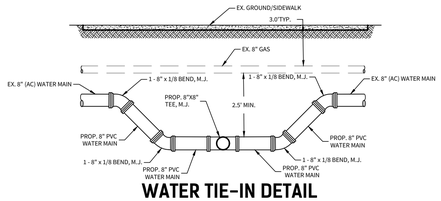


NOTE:
1. EXCLUSIVE OF THE TEE, PAYMENT FOR THE FIRE HYDRANT SHALL INCLUDE ALL FITTINGS, 6" D.I. PIPE AND 6" GATE VALVE & BOX.
2. FIRE HYDRANT TO BE INSTALLED 1-FT OUTSIDE OF THE LIMITS OF ALL PROPOSED SIDEWALKS.

LOCAL RESIDENTIAL FIRE HYDRANT ON RETURN DETAIL (4.25' SIDEWALK)
N.T.S.

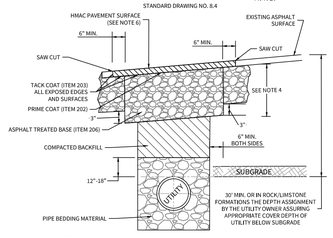


HUEBNER RD. CROSSING DETAIL
N.T.S.



WATER TIE-IN DETAIL
N.T.S.

TRENCH REPAIRS IN EXISTING
FLEXIBLE PAVEMENTS N.T.S.
STANDARD DRAWING NO. 8.4



NOTES:
1. THE EXISTING PAVING SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE A MINIMUM OF 12" WIDER THAN UNDISTURBED SIDES OF THE TRENCH SYMMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.
2. ANY CONCRETE PAVING SHALL BE SAW CUT 6" WIDER THAN UNDISTURBED SIDES OF EXCAVATION.
3. IF EXCAVATION AREA IS OPEN FOR TOWNSHIN PUBLIC USE, THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH COLD MIX AC OR TEMPORARY HMAC.
4. LOCAL STREETS SHALL BE 10" AND MAJOR/MINOR STREETS SHALL BE 12".
5. DAMAGED PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED WITH A BASE THICKNESS OF 10" OR A THICKNESS MATCHING EXISTING, WHICHEVER IS GREATER.
6. REPLACEMENT AC SURFACE LAYER SHALL BE OF THE TYPE AND THICKNESS BASED ON FUNCTIONAL CLASSIFICATION:
   A) MIN. 2" HMAC TYPE "D" FOR STACH REPAIR IN LOCAL/RESIDENTIAL STREETS.
   B) MIN. 3" HMAC TYPE "C" MODIFIED FOR TRENCH REPAIR IN COLLECTOR/MTERIAL STREETS.
   SEE ITEM 340, SECTION .40.3 (2)
7. CLASS "J" PCC CONCRETE (ITEM 403) OR CONTROLLED LOW STRENGTH MATERIAL (CLSM) MAY BE SUBSTITUTED IN THESE REPAIRS FOR THE FLEXIBLE BASE AND COMPACTED BACKFILL. PCC CONCRETE GREATER THAN A 2 SACK MIX WILL NOT BE ALLOWED.

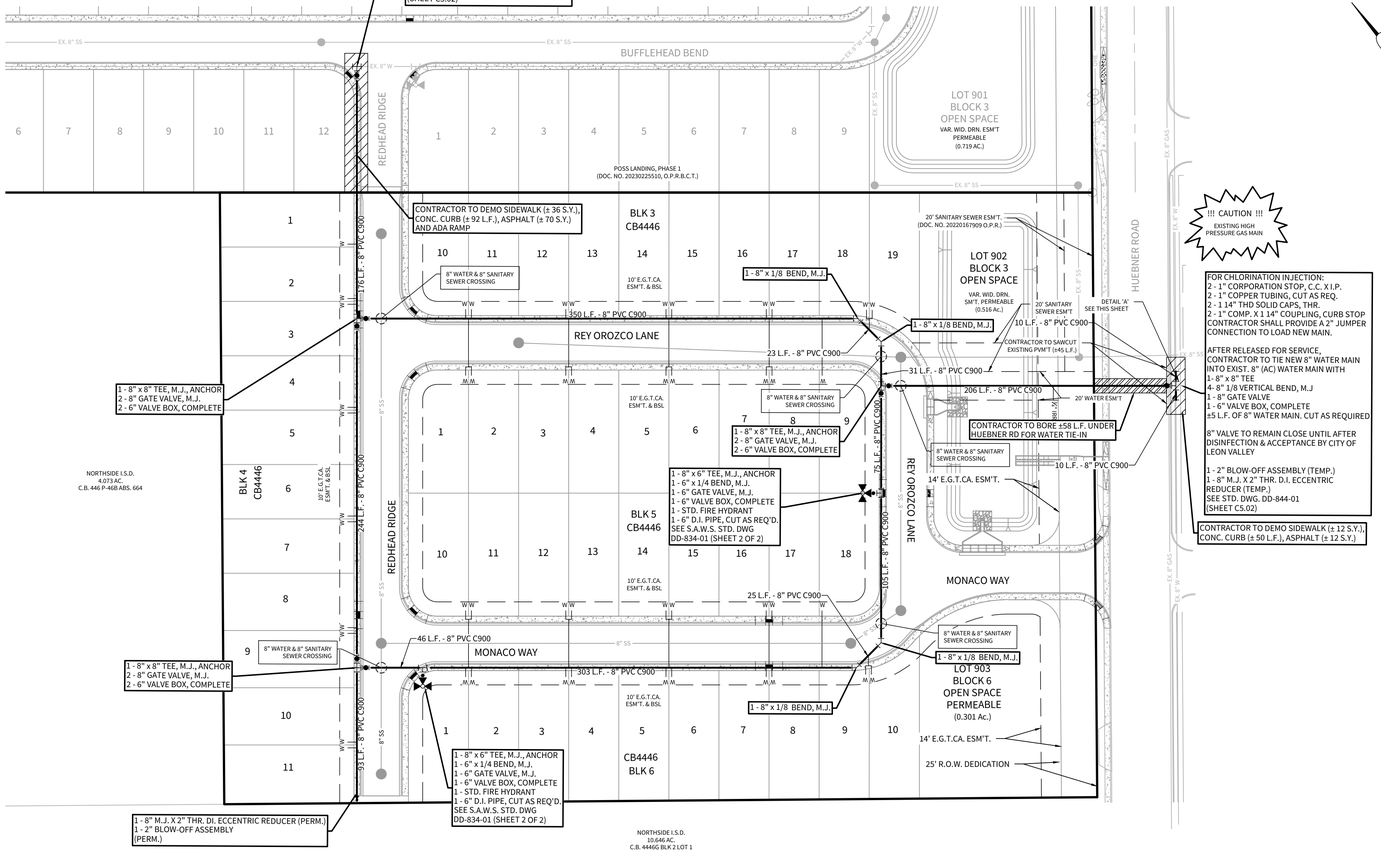
CAUTION!!!
THE CONTRACTOR SHALL BE AWARE THAT EXISTING UTILITIES ARE WITHIN THIS SITE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE THESE UTILITIES LOCATED PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN THIS AREA. ANY DAMAGE DONE TO THESE EXISTING FACILITIES WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR.

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 AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) 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.

NOTE:

LOTS WITH CONFLICTING TRANSFORMER / SECONDARY ENCLOSURE ELECTRIC SERVICE AND WATER METER LOCATION SHALL HAVE WATER METER PLACED 5' FROM PROPERTY LINE WHERE THE CONFLICT OCCURS.



SCALE: 1"=50'
50 25 0 50

CUDEENGINEERS.COM
CUDE ENGINEERS
4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

WATER DISTRIBUTION MASTER PLAN

DATE
11/8/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
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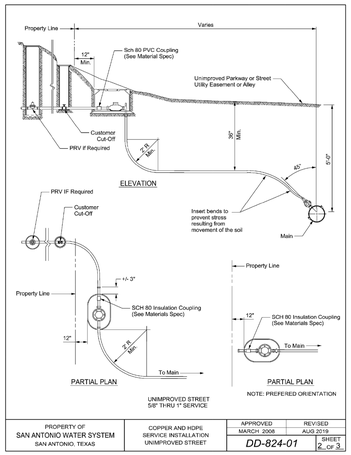
8.

STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

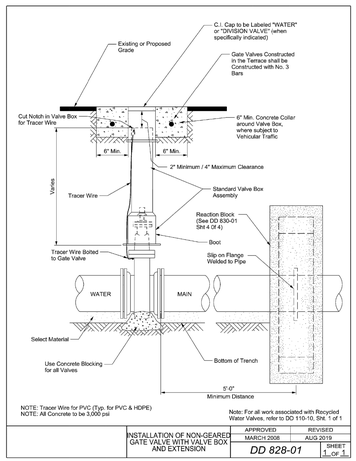
PLAT NO.
PZ-2024-16

C5.01



NOTE: PREFERED ORIENTATION

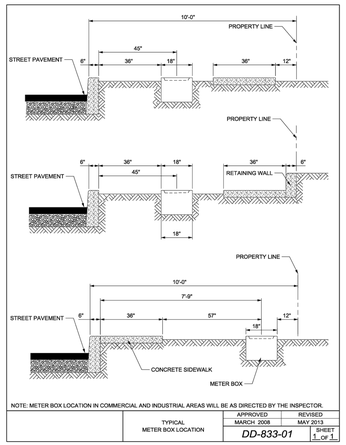
PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	COPPER AND HDPE SERVICE INSTALLATION UNIMPROVED STREET	APPROVED MARCH 2008	REVISED AUG 2019
		DD-824-01	SHEET 2 of 3



NOTE: Tracer Wire for PVC (Typ. for PVC & HDPE)
NOTE: All Concrete to be 3,000 psi

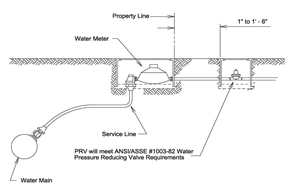
Note: For all work associated with Recycled Water Valves, refer to DO 110-10, Std. 1 of 1

	INSTALLATION of NON-GEARED GATE VALVE WITH VALVE BOX AND EXTENSION	APPROVED MARCH 2008	REVISED AUG 2019
		DD 828-01	SHEET 1 of 1



NOTE: METER BOX LOCATION IN COMMERCIAL AND INDUSTRIAL AREAS WILL BE AS DIRECTED BY THE INSPECTOR.

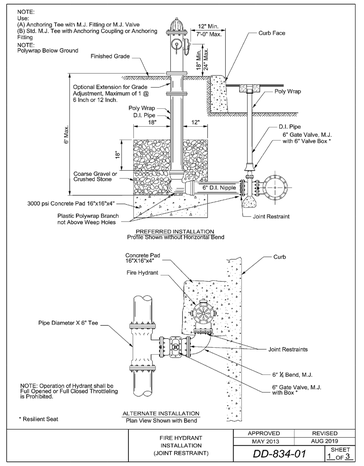
	TYPICAL METER BOX LOCATION	APPROVED MARCH 2008	REVISED MAY 2013
		DD-833-01	SHEET 1 of 1



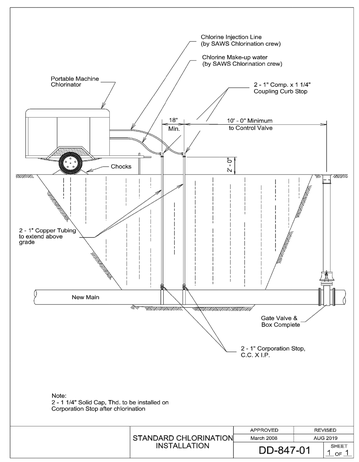
3/4" THRU 2" SERVICE
PRESSURE REDUCING VALVE

Note:
For Tapping Schedule, See DD-824-01 Sheet 3 of 3.

	SERVICE INSTALLATION WITH PRESSURE REDUCING VALVE	APPROVED MARCH 2008	REVISED MAY 2013
		DD-833-03	SHEET 1 of 1



	FIRE HYDRANT INSTALLATION (JOINT RESTRAINT)	APPROVED MAY 2013	REVISED AUG 2019
		DD-834-01	SHEET 1 of 3



Note:
2 - 1 1/4" Solid Cap, Thd. to be installed on Corporation Stop after chlorination

	STANDARD CHLORINATION INSTALLATION	APPROVED March 2008	REVISED AUG 2019
		DD-847-01	SHEET 1 of 1

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	THRUST BLOCKS FOR FITTINGS (WATER ONLY)	APPROVED MARCH 2008	REVISED AUG 2019
		DD-839-01	SHEET 1 of 2

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	THRUST BLOCKS FOR FITTINGS (WATER ONLY)	APPROVED March 2008	REVISED AUG 2019
		DD-839-01	SHEET 1 of 2

RESTRAINED LENGTH FOR TEES

PIPE SIZE (inch)	BRANCH SIZE (inch)	LENGTH OF RUN (ft.)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 150 psi
6	4	0	42	31
6	4	5	7	1
6	4	10	1	1
6	6	0	59	44
6	6	5	35	20
6	6	10	11	1
8	4	0	42	31
8	4	5	1	1
8	6	0	59	44
8	6	5	28	13
8	6	10	1	1
8	8	0	77	58
8	8	5	53	34
8	8	10	30	11
8	8	15	6	1

RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C pipe bedded in compacted granular material extending to the top of the pipe.The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provided for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

	RESTRAINED LENGTHS FOR TEES	APPROVED March 2008	REVISED AUG 2019
		DD-839-04	SHEET 1 of 2

RESTRAINED LENGTH FOR TEES (Cont'd)

PIPE SIZE (inch)	BRANCH SIZE (inch)	LENGTH OF RUN (ft.)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 150 psi
12	4	0	42	31
12	4	5	7	1
12	6	0	59	44
12	6	5	13	1
12	6	10	1	1
12	8	0	77	58
12	8	5	42	23
12	8	10	7	1
12	8	15	1	1
12	12	0	109	82
12	12	5	86	59
12	12	10	63	35
12	12	15	39	12

RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C. pipe bedded in compacted granular material extending to the top of the pipe.The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provided for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

	RESTRAINED LENGTHS FOR TEES	APPROVED MARCH 2008	REVISED AUG 2019
		DD-839-04	SHEET 2 of 2

L=LENGTH TO BE RESTRAINED

PIPE SIZE (inch)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 150 psi
6	77	44
8	77	58
10	93	69
12	109	82

RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C. pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provide for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

	RESTRAINED LENGTHS FOR DEAD ENDS / INLINE VALVES	APPROVED MARCH 2008	REVISED AUG 2019
		DD-839-05	SHEET 1 of 1

PIPE SIZE (inch)	BEND ANGLE (deg.)	LOW SIDE DEPTH	UPPER BEND RESTRAINED LENGTH IN FEET TEST PRESSURE = 200 psi	LOWER BEND RESTRAINED LENGTH IN FEET TEST PRESSURE = 200psi	UPPER BEND RESTRAINED LENGTH IN FEET TEST PRESSURE = 150 psi	LOWER BEND RESTRAINED LENGTH IN FEET TEST PRESSURE = 150 psi
6	45	5	24	8	18	6
6	22.5	5	12	4	9	3
6	11.25	5	6	2	4	1
6	45	10	24	5	18	4
6	22.5	10	12	2	9	2
6	11.25	10	6	1	4	1
8	45	5	32	11	24	8
8	22.5	5	16	5	11	4
8	11.25	5	8	3	6	2
8	45	10	32	7	24	5
8	22.5	10	16	3	11	2
8	11.25	10	8	2	6	1
12	45	5	45	16	34	12
12	22.5	5	22	7	16	6
12	11.25	5	11	4	9	3
12	45	10	45	10	34	7
12	22.5	10	22	5	16	3
12	11.25	10	11	2	8	2

RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C. pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provided for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

	RESTRAINED LENGTHS VERTICAL OFFSETS	APPROVED March 2008	REVISED AUG 2019
		DD-839-06	SHEET 1 of 1

PIPE SIZE (inch)	SMALL SIZE (inch)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 150 psi
6	4	55	23
8	4	95	54
8	6	32	21
12	4	95	71
12	6	80	60
12	8	58	43

RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C. pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provided for reference. Th restrained length shall be designed based upon the conditions encountered during the installation.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	RESTRAINED LENGTHS FOR REDUCERS	APPROVED MARCH 2008	REVISED AUG 2019
		DD-839-07	SHEET 1 of 1

PIPE SIZE (inch)	BEND ANGLE (deg)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 150 psi
6	90	23	17
6	45	9	7
6	22.5	5	3
6	11.25	2	2
8	90	30	22
8	45	12	9
8	22.5	6	4
8	11.25	3	2
12	90	43	32
12	45	18	13
12	22.5	8	6
12	11.25	4	3

RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C pipe bedded in compacted granular material extending to the top of the pipe.The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provided for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	RESTRAINED LENGTHS FOR HORIZONTAL BENDS	APPROVED MARCH 2008	REVISED AUG 2019
		DD-839-08	SHEET 1 of 1

* Cut as required to extend beyond excavation

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	2" TEMPORARY BLOW-OFF ASSEMBLY ON 6" & 8" MAINS	APPROVED MARCH 2008	REVISED AUG 2019
		DD-844-01	SHEET 1 of 4

* Cut to fit in meter box.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	2" PERMANENT BLOW-OFF ASSEMBLY ON 6" & 8" MAINS	APPROVED MARCH 2008	REVISED AUG 2019
		DD-844-02	SHEET 3 of 5

All requirements in the tables below are minimum requirements that apply unless otherwise specified in the contract documents. The engineer of record for each project is responsible for determining the appropriate requirements suitable to each instance and, if more stringent than the minimums stated herein or involving larger diameter pipe and/or casing, shall present such requirements in the contract documents.

Casing Minimum Requirements - General

Water Main Diameter (Inches)	Nominal Steel Casing Diameter (Inches)	Steel Casing Thickness (Inches)	Steel Casing Weight (Pounds per Foot)
6	18	0.375	70.59
8	24	0.375	94.62
12	24	0.375	94.62
16	30	0.375	118.65
20	36	0.438	166.19
24	42	0.438	194.02
30	48	0.500	259.02
36	54	0.500	291.07

Casing Minimum Requirements - Under Railroad

Nominal Steel Casing Diameter (Inches)	Steel Casing Thickness (Inches)	Steel Casing Weight (Pounds per Foot)
18	0.375	70.59
24	0.438	110.22
30	0.500	157.53
36	0.562	212.70
42	0.625	276.18
48	0.625	316.53

Railroad notes:
1. Steel casing shall have a minimum yield strength of 35,000 pounds per square inch.
2. Casing pipes larger than 48" diameter or with any portion deeper than 20' shall be submitted to chief engineer of the railroad for approval.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	INSTALLATION OF PIPE IN CASING	APPROVED March 2008	REVISED November 2019
		DD-856-01	SHEET 1 of 1

Notes:
1. Casing insulators shall be in accordance with SAWS Standard Material Specification 05-31
2. The number of runners, configurations, and spacing of casing insulators shall comply with manufacturer's recommendations for casing size/material.
3. Fittings shall be paid for by separate payment item.
4. Joint restraints shall be approved, as specified in SAWS Standard Material Specification 05-10
5. All joints within casing shall be restrained unless otherwise specified in the contract documents.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	INSTALLATION OF WATER PIPE IN CASING WITH JOINT RESTRAINTS	APPROVED March 2008	REVISED November 2019
		DD-856-02	SHEET 1 of 1

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4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

WATER DISTRIBUTION DETAILS

DATE
11/7/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
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STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
PZ-2024-16

C5.02

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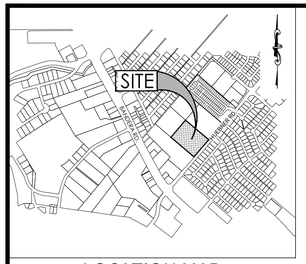


LOCATION MAP
N.T.S.

LEGEND

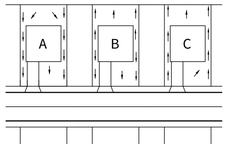
- = UNIT BOUNDARY
- = DRAINAGE BOUNDARY
- = SHEET FLOW Tc LINE
- = SHALLOW CONCENTRATED Tc LINE
- = CONCENTRATED Tc LINE
- = ACCUMULATION POINT

DEVELOPER
CENTURY COMMUNITIES
ATTN: VICTOR BERNAL
2330 N LOOP 1604 W ACCESS ROAD, STE 112
SAN ANTONIO, TX. 78248
TEL: (210) 469-3442

NOTES:

1. TIME OF CONCENTRATIONS USED FOR FLOW RATE CALCULATIONS WERE SET TO 20 MINUTES FOR ALL DRAINAGE AREAS. A DETAILED ANALYSIS OF TIME OF CONCENTRATIONS WILL BE PROVIDED DURING THE DRAINAGE DESIGN PHASE OF THE SUBDIVISION.

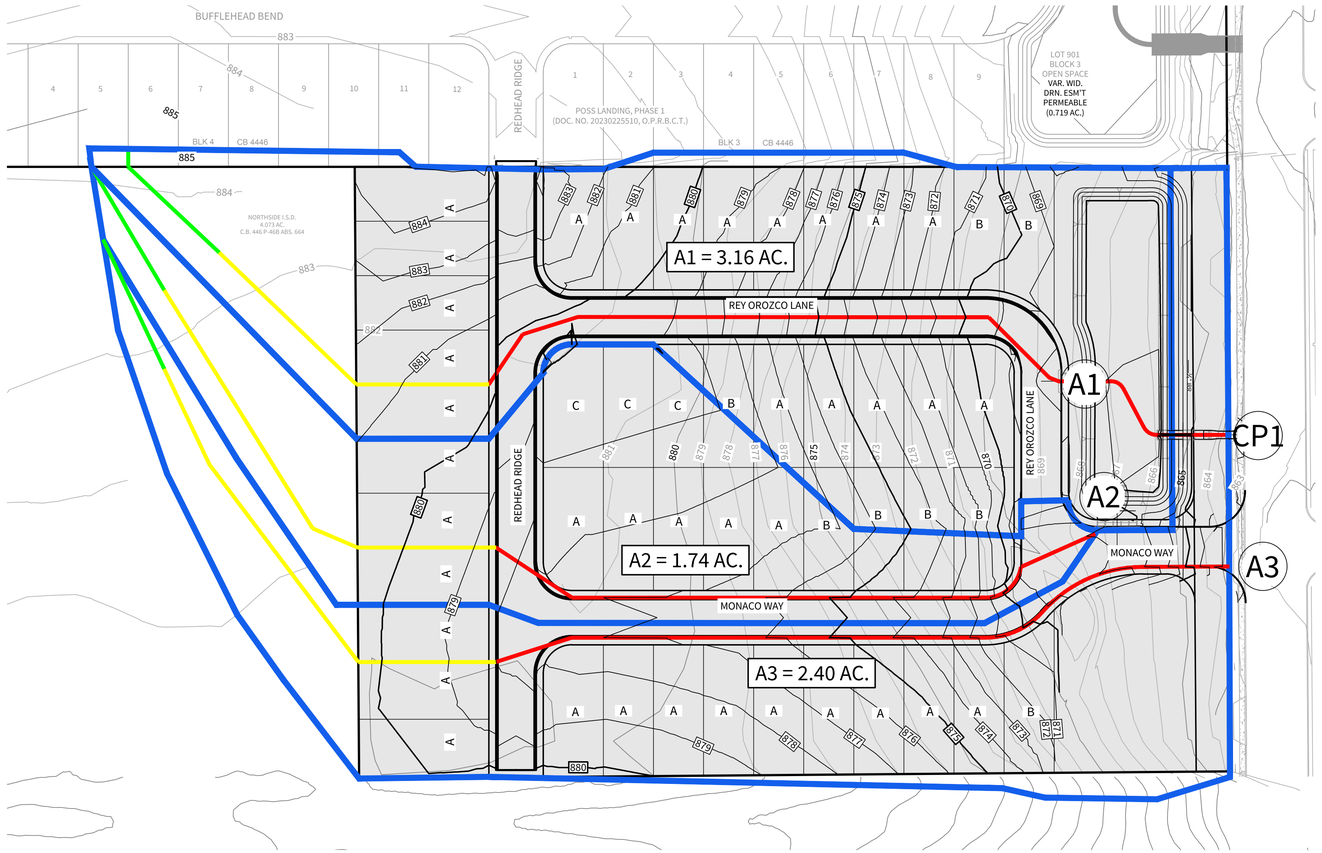
2. RUN-OFF COEFFICIENTS DERIVED FROM THE CITY OF SAN ANTONIO UDC APPENDIX H.



TYPICAL LOT SITE PLAN
N.T.S.

Poss Landing Phase 2 Subdivision
Weighted "C" values table - Ultimate Conditions

Area Number	Residential Ac.	Residential Ac. * $C_{residential}$	Undeveloped Ac.	Undeveloped Ac. * $C_{undeveloped}$	Total Ac.	Weighted C value
1	2.76	2.21	0.40	0.19	3.16	0.76
2	1.36	1.09	0.38	0.18	1.74	0.73
4	0.00	0.00	0.01	0.00	0.01	0.47
CP1	4.12	3.30	0.78	0.37	4.90	0.75
$C_{residential}$ =	0.80	$C_{undeveloped}$ =	0.47			



SCALE: 1"=50'
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Project Name: Poss Landing Subdivision Phase 2 — Precipitation: **PA3**
Calculation Summary for Time of Concentrations & Ultimate Flow

HYDROLOGY				Sheet Flow Tc Compuations						Shallow Conc. Tc Compuations					Concentrated Tc Computations					Overall	INTENSITY			Q FLOW			
Drainage Shed (Computation Point)	Shed Area (Ac.)	AREA OF ACCUMULATION (Ac.)	C	*Length ‹ 100'*	Paved (Y or N)	Upstream Elev.	Downstream Elev	Slope	Time of Concentration	*Length ‹ 650'*	Paved (Y or N)	Downstream Elev	Slope	Time of Concentration	*Length*	Paved (Y or N)	Downstream Elev	Slope	Time of Concentration	Time of Concentration (min)	I5	I25	I100	Q5	Q25	Q100	Drainage Shed (Computation Point)
A1	3.16	= A1	0.76	*100.00*	N	885.67	883.47	2.20%	12.60	*225.49*	N	881.58	0.84%	2.58	*575.90*	Y	863.60	3.12%	2.67	18.00	4.80	6.63	8.24	11.53	15.92	19.79	A1
A2	1.74	= A2	0.73	*100.00*	N	884.10	883.36	0.74%	16.00	*326.87*	N	880.68	0.82%	3.78	*444.91*	Y	867.23	3.02%	2.11	22.00	4.33	5.98	7.41	5.50	7.60	9.41	A2
A3	1.99	= A3	0.74	*100.00*	N	883.63	882.82	0.81%	15.90	*342.82*	N	880.04	0.81%	3.99	*529.29*	Y	863.17	3.19%	2.42	22.00	4.33	5.98	7.41	6.38	8.81	10.91	A3
CP1	4.90	= A1+A2	0.75	*100.00*	N	884.10	883.36	0.74%	16.00	*326.87*	N	880.68	0.82%	3.78	*580.63*	Y	863.60	2.94%	2.79	23.00	4.23	5.84	7.24	15.55	21.46	26.61	CP1

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4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2
PROPOSED CONDITIONS

DATE
11/5/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
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STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
PZ-2024-16

C6.00

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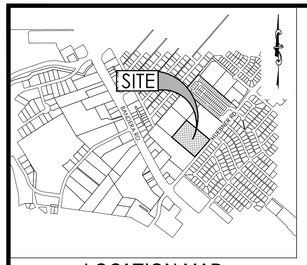
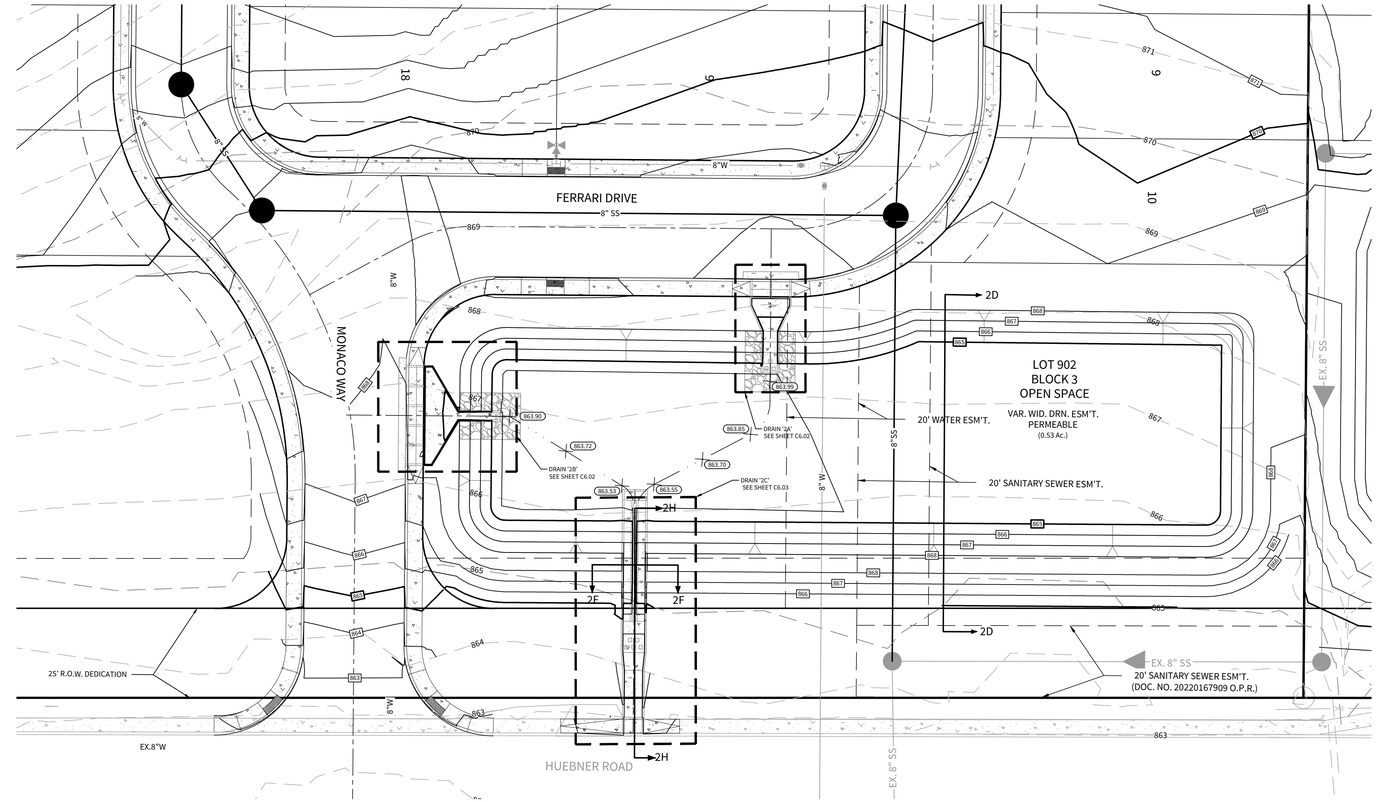


LOCATION MAP
N.T.S.

DEVELOPER
CENTURY COMMUNITIES
ATTN: VICTOR BERNAL
2330 N LOOP 1604 W ACCESS ROAD, STE 112
SAN ANTONIO, TX. 78248
TEL: (210) 469-3442

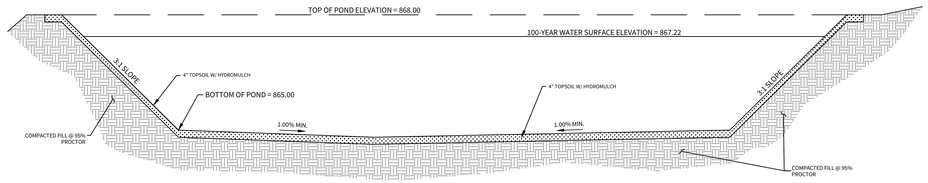
LEGEND:

= CONCRETE
= 8" X 12" ROCK RUBBLE
= COMPACT SUBGRADE
1290 = EXISTING CONTOUR
1290 = PROPOSED CONTOUR
0.67% = PROPOSED FLOW ARROW



NOTES:

1. ALL CONCRETE LINING SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.
2. 85% OF CHANNEL & DETENTION POND SURFACE MUST HAVE ESTABLISHED VEGETATION PRIOR TO ACCEPTANCE OF THE CHANNEL BY THE CITY OF LEON VALLEY AND DEVELOPER. HYDROMULCH PAY ITEM TO INCLUDE SOIL, SEEDING, OR SODDING & WATERING FOR THE TIME PERIOD NEEDED TO ACHIEVE 85% VEGETATION.
3. REFERENCE TYPICAL CONCRETE CHANNEL RIP-RAP STANDARDS FOUND ON SHEET C6.04.



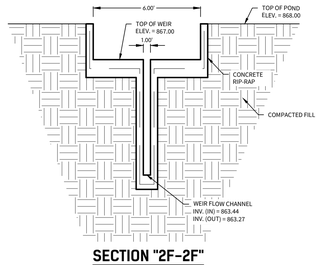
SECTION "2D-2D"
N.T.S.

DETENTION POND SUMMARY

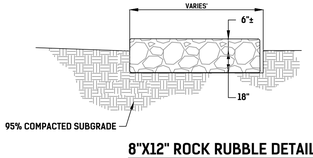
STORM EVENT	POND OUTLET FLOW (CFS)	WATER SURFACE ELEV.
5 YR	5.53	866.47
25 YR	8.22	866.92
100 YR	12.17	867.22

DETENTION POND VOLUME:

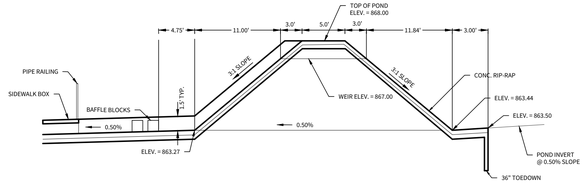
CONTOUR	AREA (SQ. FT.)	VOL. (CU. FT.)	CUM. VOL. (CU. FT.)
865	8,915	---	---
866	10,355	9,625	9,625
867	11,853	11,095	20,720
868	13,408	12,622	33,342



SECTION "2F-2F"
N.T.S.



8"X12" ROCK RUBBLE DETAIL
N.T.S.



SECTION "2H-2H"
N.T.S.

CUDEENGINEERS.COM
4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2
DETENTION POND 2A

DATE
11/7/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
1.
2.
3.
4.
5.
6.
7.
8.

STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024
CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
PZ-2024-16

C6.01

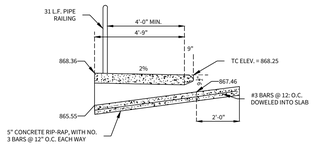
NOTES:

1. ALL CONCRETE LINING SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.
2. 85% OF CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION PRIOR TO ACCEPTANCE OF THE CHANNEL BY THE CITY OF LEON VALLEY AND DEVELOPER. HYDROMULCH PAY ITEM TO INCLUDE SOIL, SEEDING, OR SODDING & WATERING FOR THE TIME PERIOD NEEDED TO ACHIEVE 85% VEGETATION.
3. REFERENCE TYPICAL CONCRETE CHANNEL RIP-RAP STANDARDS FOUND ON SHEET C6.04.

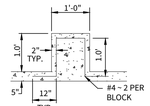
CURB INLET OPENING

$Q_{25\ ULTIMATE}$ = 15.92 c.f.s. / 2.06 = 7.73' REQ.

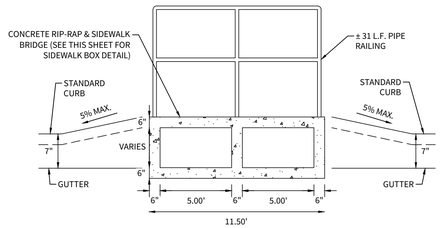
USED - 10' INLET OPENING



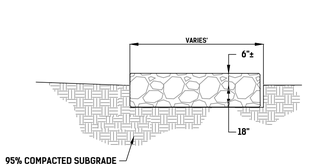
SECTION "A–A"
SIDEWALK BOX DETAIL SECTION
(N.T.S.)



1' x 1' x 1'
BAFFLE BLOCK REINFORCEMENT
(N.T.S.)



SECTION "B–B"
(N.T.S.)

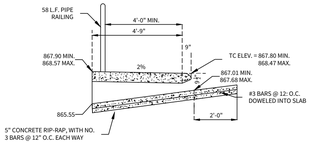


8"X12" ROCK RUBBLE DETAIL
N.T.S.

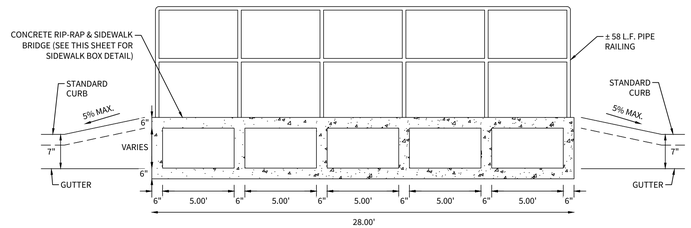
Q =	**9.41 Total Discharge (cfs)**
n =	**0.018 Manning's Roughness Coefficient**
S_x =	**0.02 Pavement Cross Slope (ft/ft)**
S =	**0.04 Pavement Longitudinal Slope (ft/ft)**
y =	**0.5 Curb Height (ft)**
a =	**2.5 Local Depression (in)**
C_W =	**3.087 Weir Coefficient ($ft^{1/2}$/s)**
C_O =	**0.67 Orifice Coefficient**
h =	**0.5 Depth of Opening (ft)**

d =	0.27 Depth of Water at the Curb Opening (ft)
T =	13.5 Ponded Width (ft)
d_o =	0.02 Effective Head at the Centroid of the Orifice (ft)
L_w =	21.73 Length of Curb Inlet Required, Weir (ft)
L_o =	24.75 Length of Curb Inlet Required, Orifice (ft)

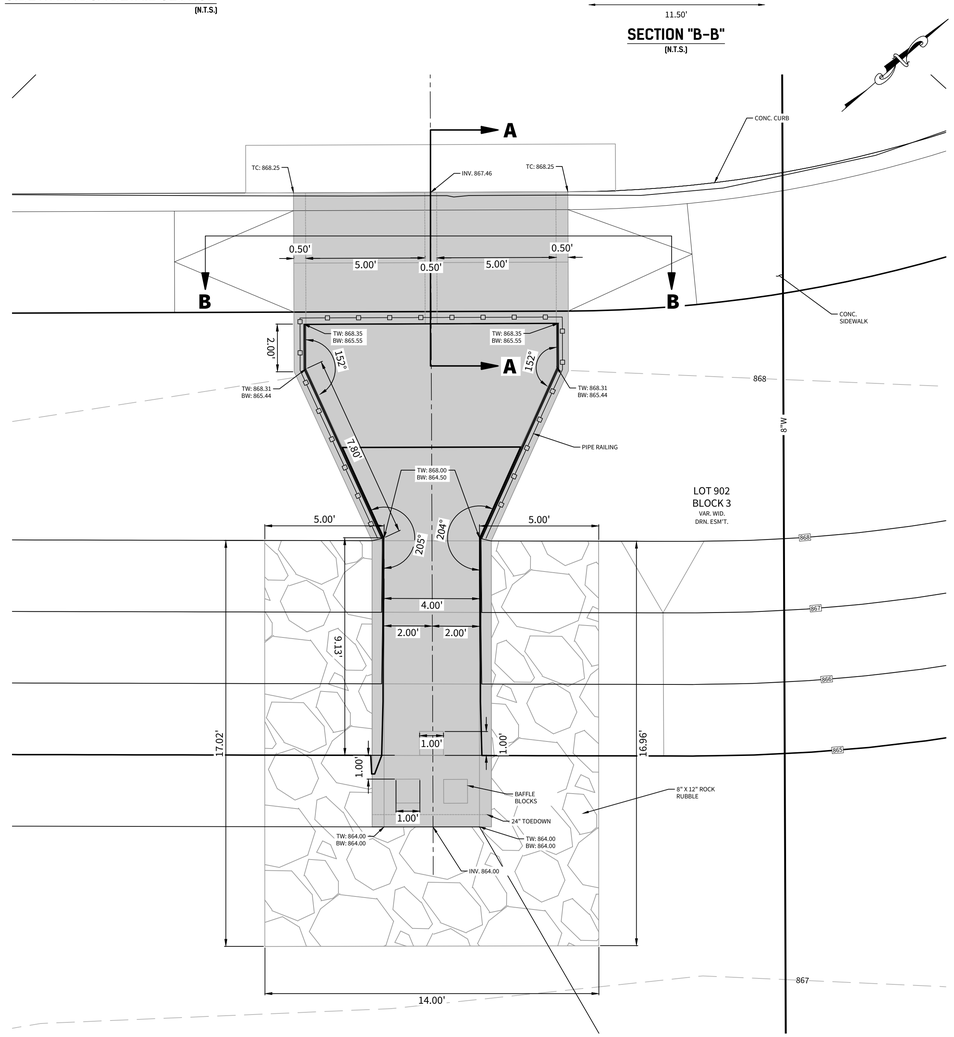
L_r =	**21.73 Length of Curb Inlet Required (ft)**



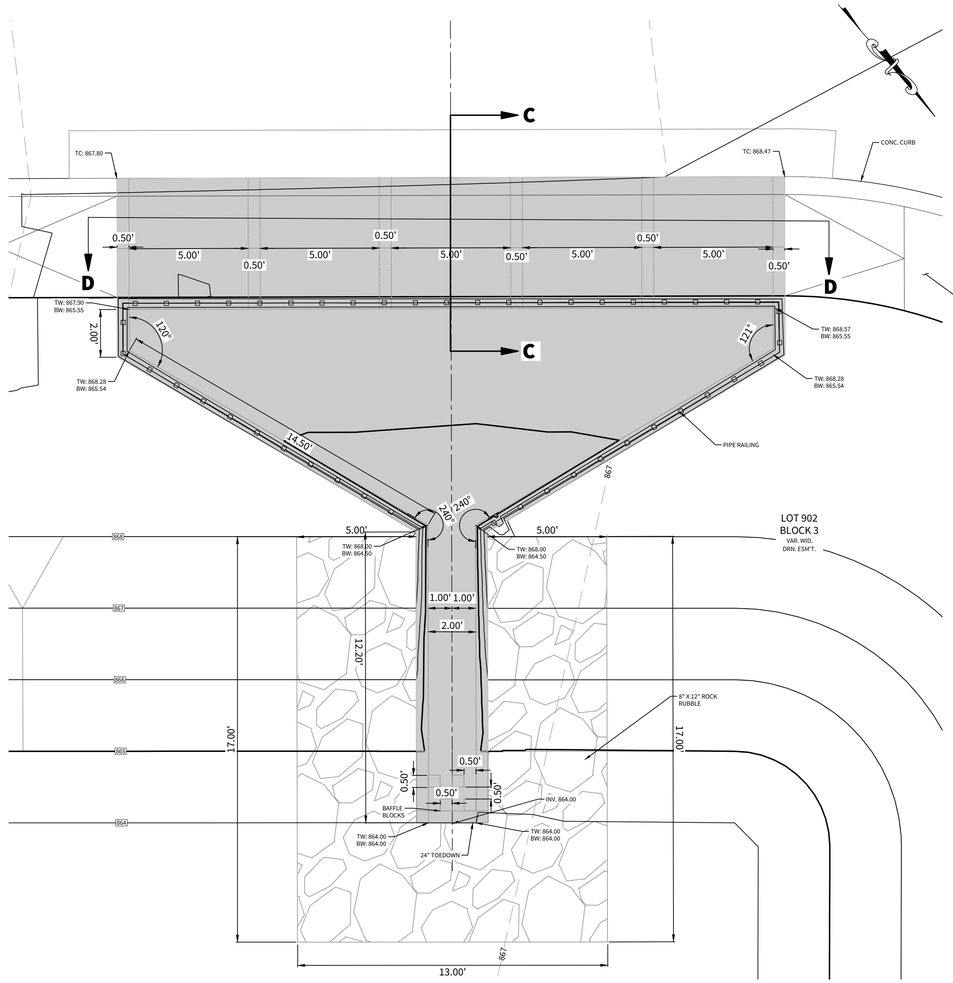
SECTION "C–C"
SIDEWALK BOX DETAIL SECTION
(N.T.S.)



SECTION "D–D"
(N.T.S.)



DRAIN '2A'



DRAIN '2B'

CUDEENGINEERS.COM

CUDE ENGINEERS

4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

DRAINAGE PLAN - DETAIL 2A & 2B

DATE
11/8/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
1.
2.
3.
4.
5.
6.
7.
8.

STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

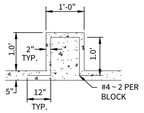
PLAT NO.
PZ-2024-16

C6.02

P:\03653\005\3 Civil\4 Plans\C6.02_DRNP Plan 20241103 12:39pm kmhudek

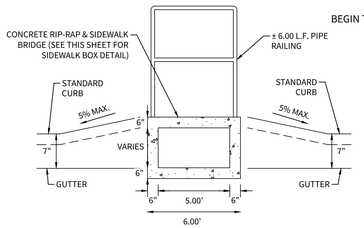
NOTES:

1. ALL CONCRETE LINING SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI IN 28 DAYS.
2. 85% OF CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION PRIOR TO ACCEPTANCE OF THE CHANNEL BY THE CITY OF LEON VALLEY AND DEVELOPER. HYDROMULCH PAY ITEM TO INCLUDE SOIL, SEEDING, OR SODDING & WATERING FOR THE TIME PERIOD NEEDED TO ACHIEVE 85% VEGETATION.
3. REFERENCE TYPICAL CONCRETE CHANNEL RIP-RAP STANDARDS FOUND ON SHEET C6.04.



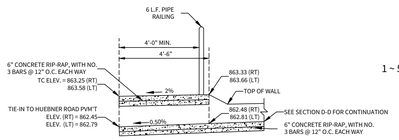
1' x 1' x 1' BAFFLE BLOCK REINFORCEMENT

(N.T.S.)



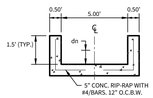
SECTION "B-B"

(N.T.S.)



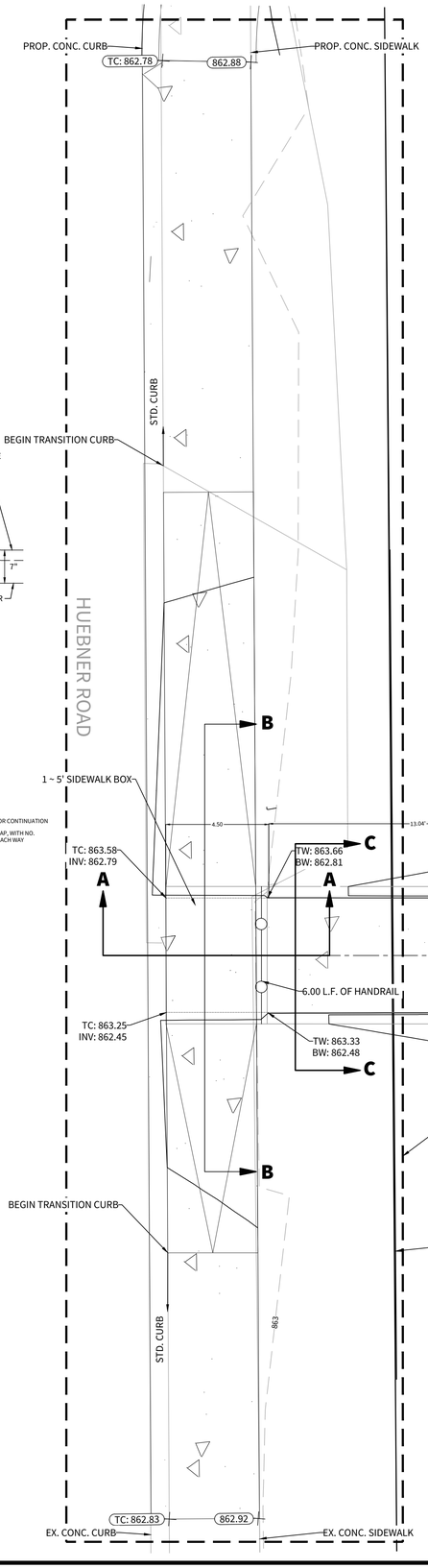
SECTION "A-A"
SIDEWALK BOX DETAIL SECTION

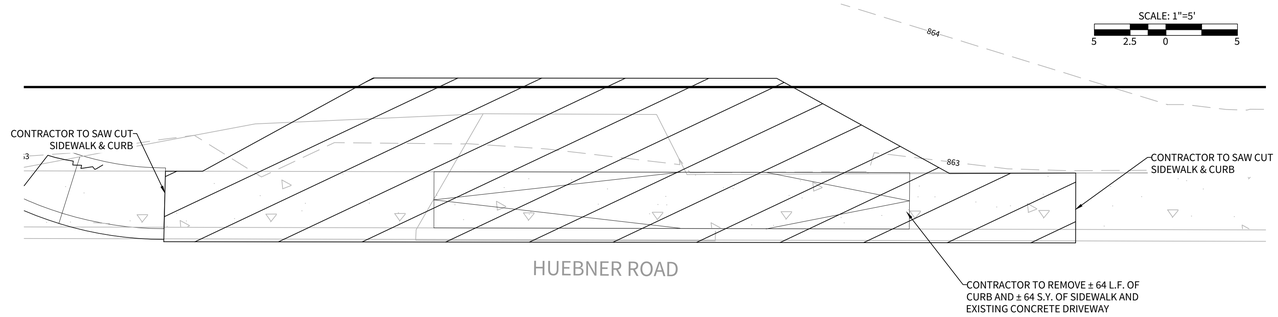
(N.T.S.)



SECTION "C-C"
CHANNEL DETAIL SECTION

DRAIN '2C' HYDRAULIC SUMMARY	
SECTION	'C-C'
Q_{100} (cfs)	12.17
n	0.015
S (%)	0.80
D (ft)	1.50
d_n (ft)	0.50
V (fps)	4.87
Bw (ft)	5.00





DETAIL 'A'

DRAIN '2C'

CUDEENGINEERS.COM

4122 Pond Hill Road, Suite 101
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P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

DRAINAGE PLAN - DETAIL 2C

DATE
11/8/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
1.
2.
3.
4.
5.
6.
7.
8.

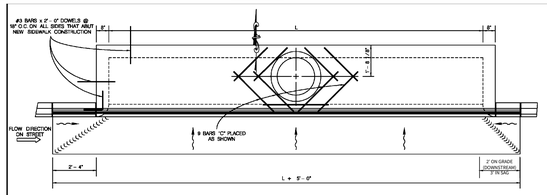
STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

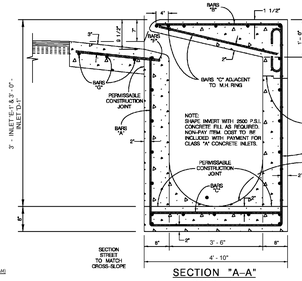
PLAT NO.
PZ-2024-16

C6.03

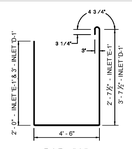
P:\03653\005\2-DWG\4-Plans\C6.03_DRP2-Plan-20241108 12:40pm MKudek



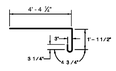
PLAN VIEW
SCALE: 1" = 3'



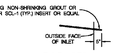
SECTION "A–A"
SCALE: 1" = 1'



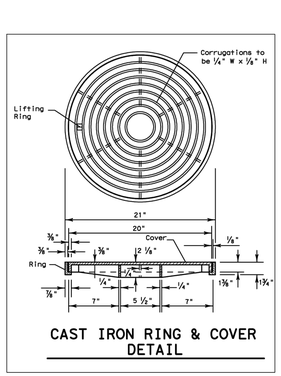
BAR "A"



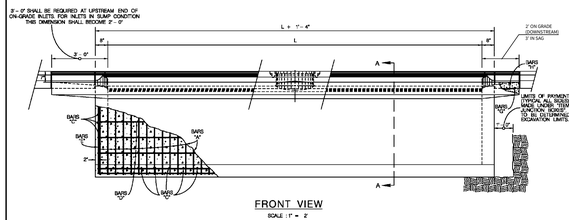
BAR "B"



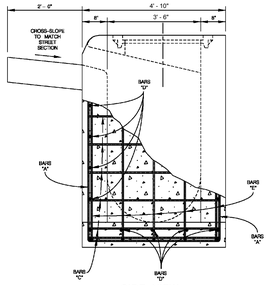
BAR "F"



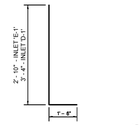
CAST IRON RING & COVER DETAIL



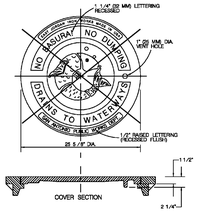
FRONT VIEW
SCALE: 1" = 2'



SIDE VIEW
SCALE: 1" = 1'



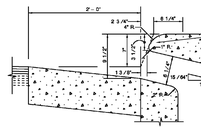
BAR "E"



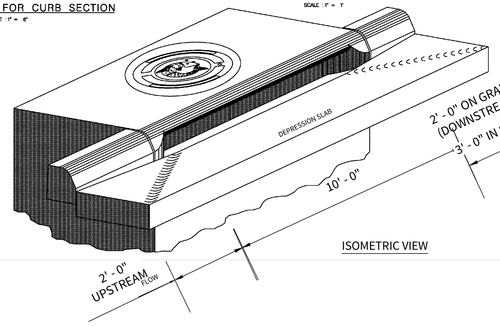
MANHOLE LID & RING DETAIL (ITEM 409)
SCALE: 1" = 6"

NOTES FOR MANHOLE LID AND RING

1. FOR LID DESIGN OUTSIDE OF CITY OF SAN ANTONIO, DELETE "SAN ANTONIO PUBLIC WORKS DEPT.".
2. CASTING NUMBER AND MANUFACTURER'S I.D. ON LID AND RING.
3. LOAD BEARING CAPABILITY OF HS-20 MINIMUM.
4. THE LOAD BEARING SURFACES SHALL BE MACHINE GROUND.
5. THE COMBINED WEIGHT OF THE MANHOLE RING AND COVER MUST BE AT LEAST 260 LBS.



OPENING DETAIL FOR CURB SECTION
SCALE: 1" = 6"



ISOMETRIC VIEW

* THESE FIGURES DO NOT INCLUDE CONCRETE & STEEL INTERCEPTED BY MANHOLE AND REINFORCED CONC. PIPE.
* INCLUDES CONCRETE GUTTER FOR ON GRADE INLET. REDUCE BY 3% C.Y. FOR INLETS IN SUMP.

GENERAL NOTES

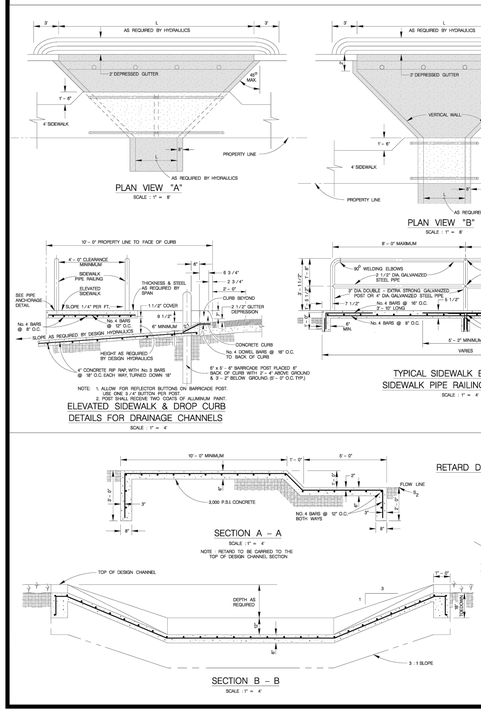
1. ALL BARS INTERCEPTING MANHOLE RING & REINFORCING CONCRETE PIPE SHALL BE FIELD CUT.
2. CONCRETE FOR STRUCTURES SHALL BE CLASS "A", 3000 PSI IN 28 DAYS.
3. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER BARS.
4. ALL EXPOSED CORNERS SHALL BE CHAMFERED TO 3/4".
5. CONSTRUCTION JOINT SHOWN AT CURVATURE MAY BE SHIFTED A MAXIMUM OF 6" AT THE CONTRACTOR'S DISCRETION ADJUST LENGTH OF VERTICAL STEEL AS REQUIRED.
6. ALL REINFORCING STEEL SHALL CONFORM TO A.S.T.M. A-615, GRADE 60 REQUIREMENTS.
7. INVERT OF GRATE INLET TO BE SHAPED WITH CONCRETE FILL TO AFFECT DRAINAGE TO OUTLET PIPE.
8. DEDUCT 4 "A" BARS FROM SCHEDULE QUANTITIES IF MANHOLE RING AND COVER ARE PLACED AT "SAG" OF INLET.
9. CAST IRON MANHOLE RING AND COVER TO BE PLACED NEXT TO OUTLET PIPE, EXCEPT FOR VERTICAL OUTLET PIPE IN WING-TIED MANHOLE RING AND COVER WILL BE OFFSET.
10. PAYMENT FOR ALL EXCAVATION, BACK FILLING, CONCRETE, REINFORCING STEEL, RING AND COVER SHALL BE INCLUDED IN THE UNIT COST OF ITEM 400 "CURB INLETS, JUNCTION BOXES AND INLETS".

JANUARY 2005

STANDARD PLANS
CITY OF SAN ANTONIO, TEXAS
DEPARTMENT OF PUBLIC WORKS

TYPE "C" INLET DETAILS

DRAWN BY: V. VASQUEZ	DATE	REVISIONS	SCALE: SEE ABOVE
CHECKED BY: NAT HARDY, P.E.			DATE:
			SHEET: OF

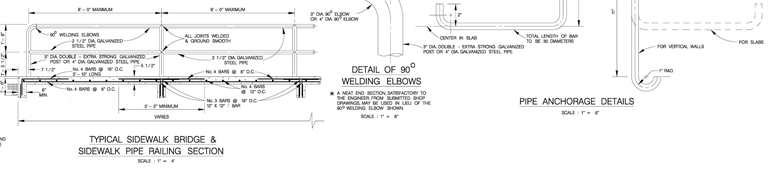


PLAN VIEW "A"
SCALE: 1" = 6'

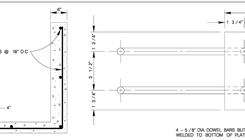
PLAN VIEW "B"
SCALE: 1" = 6'

NOTE: 1. ALLOW FOR REFLECTOR BUTTONS ON BARRICADE POST. USE ONE 2 1/4" BUTTON PER POST.
2. POST SHALL RECEIVE TWO COATS OF ALUMINUM PAINT.

ELEVATED SIDEWALK & DROP CURB DETAILS FOR DRAINAGE CHANNELS
SCALE: 1" = 4'



TYPICAL SIDEWALK BRIDGE & SIDEWALK PIPE RAILING SECTION
SCALE: 1" = 4'



SECTION A–A
SCALE: 1" = 2"

PIPE ANCHORAGE DETAILS
SCALE: 1" = 6"

DETAIL OF 90° WELDING ELBOWS

★ A NEXT END SECTION SATISFACTORY TO THE CITY ENGINEER MAY BE USED ON THIS DRAWINGS, MAY BE USED IN LIEU OF THE 90° WELDING ELBOW SHOWN.

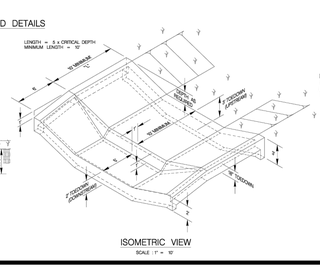
SCALE: 1" = 6"

SECTION A – A
SCALE: 1" = 4'

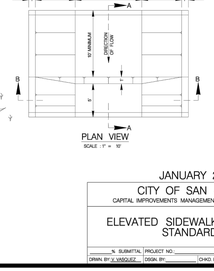
SECTION B – B
SCALE: 1" = 4'

NOTE: RETARD TO BE CARRIED TO THE TOP OF DESIGN CHANNEL SECTION

RETARD DETAILS



ISOMETRIC VIEW
SCALE: 1" = 10'



PLAN VIEW
SCALE: 1" = 10'

JANUARY 2005

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

ELEVATED SIDEWALK & RETARD STANDARDS

N SUBMITTAL	PROJECT NO.:	DATE:
DRAWN BY: V. VASQUEZ	DSGN. BY:	CHKD. BY: SHEET NO.: OF

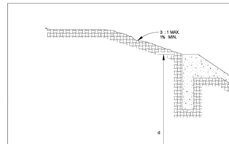
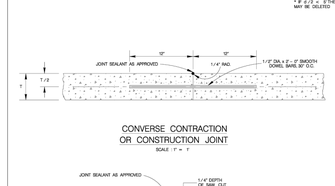


TABLE OF REINFORCEMENT

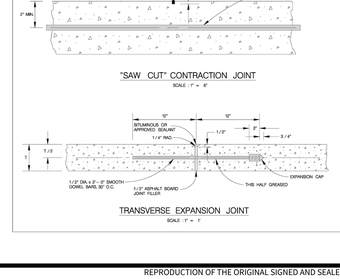
THICKNESS OF RIP-RAP	STEEL REINFORCING BARS	OR WELDED WIRE FABRIC
5"	#4 @ 18" O.C.E.W.	3" x 6" - W 7.06 x W 7.06

GRADE 40 STEEL REINFORCEMENT IN STEEL MAY BE ALLOWED FOR HIGHER STRENGTH STEEL

TYPICAL CHANNEL SECTION LOOKING DOWNSTREAM
SCALE: 1" = 4'

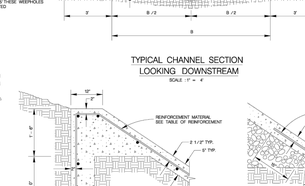


CONVERSE CONTRACTION OR CONSTRUCTION JOINT
SCALE: 1" = 1'

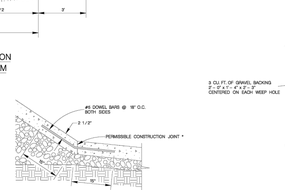


"SAW CUT" CONTRACTION JOINT
SCALE: 1" = 6"

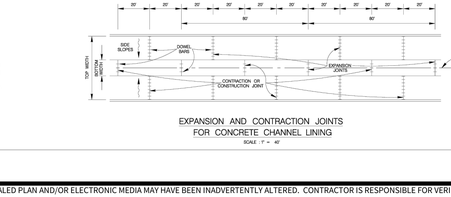
TRANSVERSE EXPANSION JOINT
SCALE: 1" = 1'



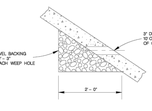
REINFORCEMENT DETAIL TOE–DOWN
SCALE: 1" = 2'



ALL SECTIONS
SCALE: 1" = 2'



EXPANSION AND CONTRACTION JOINTS FOR CONCRETE CHANNEL LINING
SCALE: 1" = 40'



WEEP HOLES DETAILS FOR SIDE SLOPES
SCALE: 1" = 2'

GENERAL NOTES

1. CONCRETE FOR CHANNEL RIP-RAP SHALL BE CLASS "A" 3000 P.S.I.
2. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS UNLESS OTHERWISE SHOWN.
3. ALL REINFORCEMENT STEEL SHALL MEET ASTM DESIGNATIONS AS CALLED FOR IN THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".
4. NEW RIP-RAP SHOULD BE ATTACHED TO EXISTING RIP-RAP BY NO. 4 BARS DOWELED 6" INTO EXISTING RIP-RAP. THESE BARS ARE TO BE SPACED 18" O.C. AND HAVE A LENGTH OF 18".

MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TYPICAL CONCRETE CHANNEL RIP–RAP STANDARDS

N SUBMITTAL	PROJECT NO.:	DATE:
DRAWN BY: V. VASQUEZ	DSGN. BY:	CHKD. BY: SHEET NO.: OF

CUDEENGINEERS.COM

4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

DRAINAGE DETAILS

DATE
8/30/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

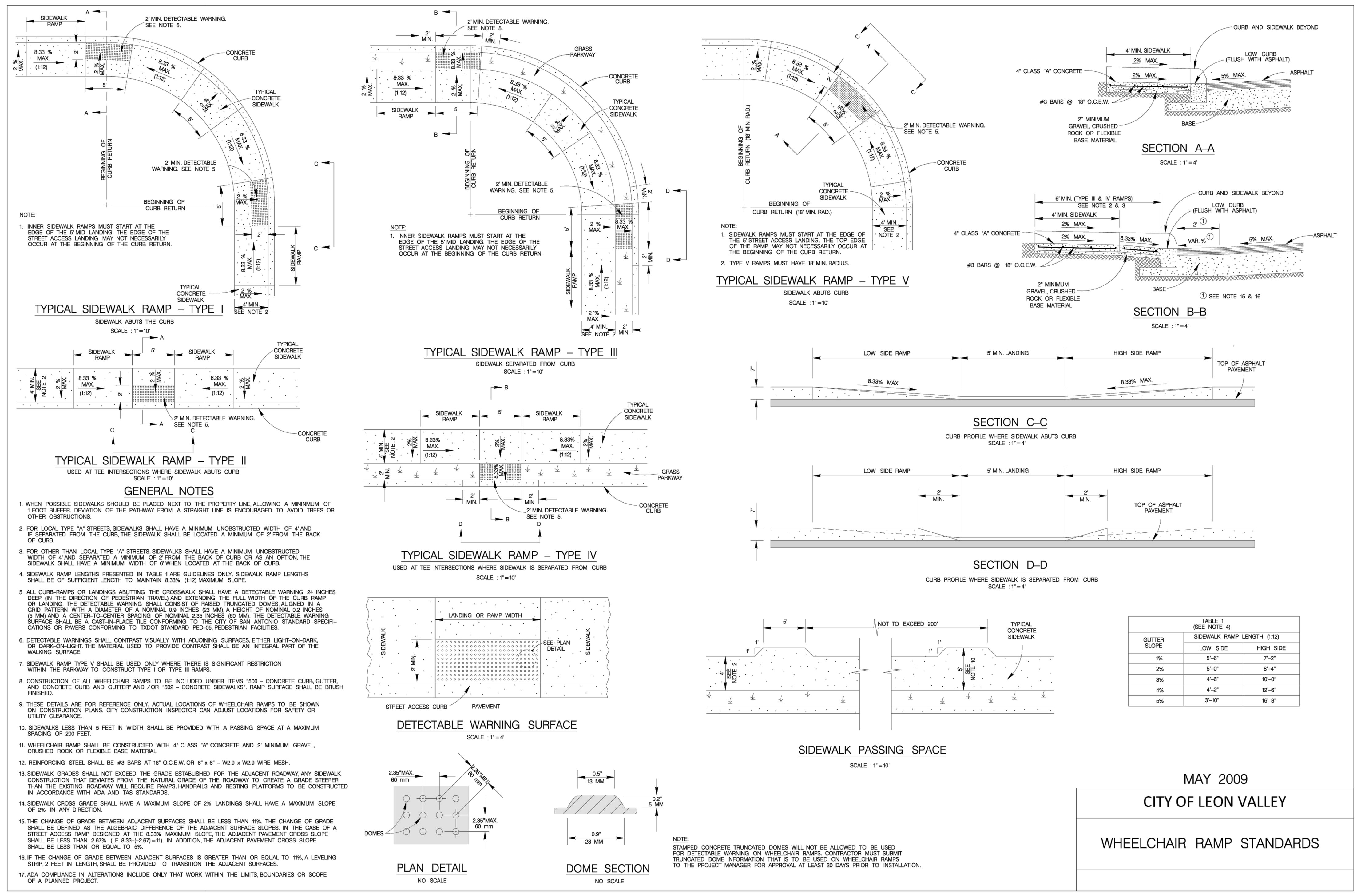
REVISIONS
1.
2.
3.
4.
5.
6.
7.
8.

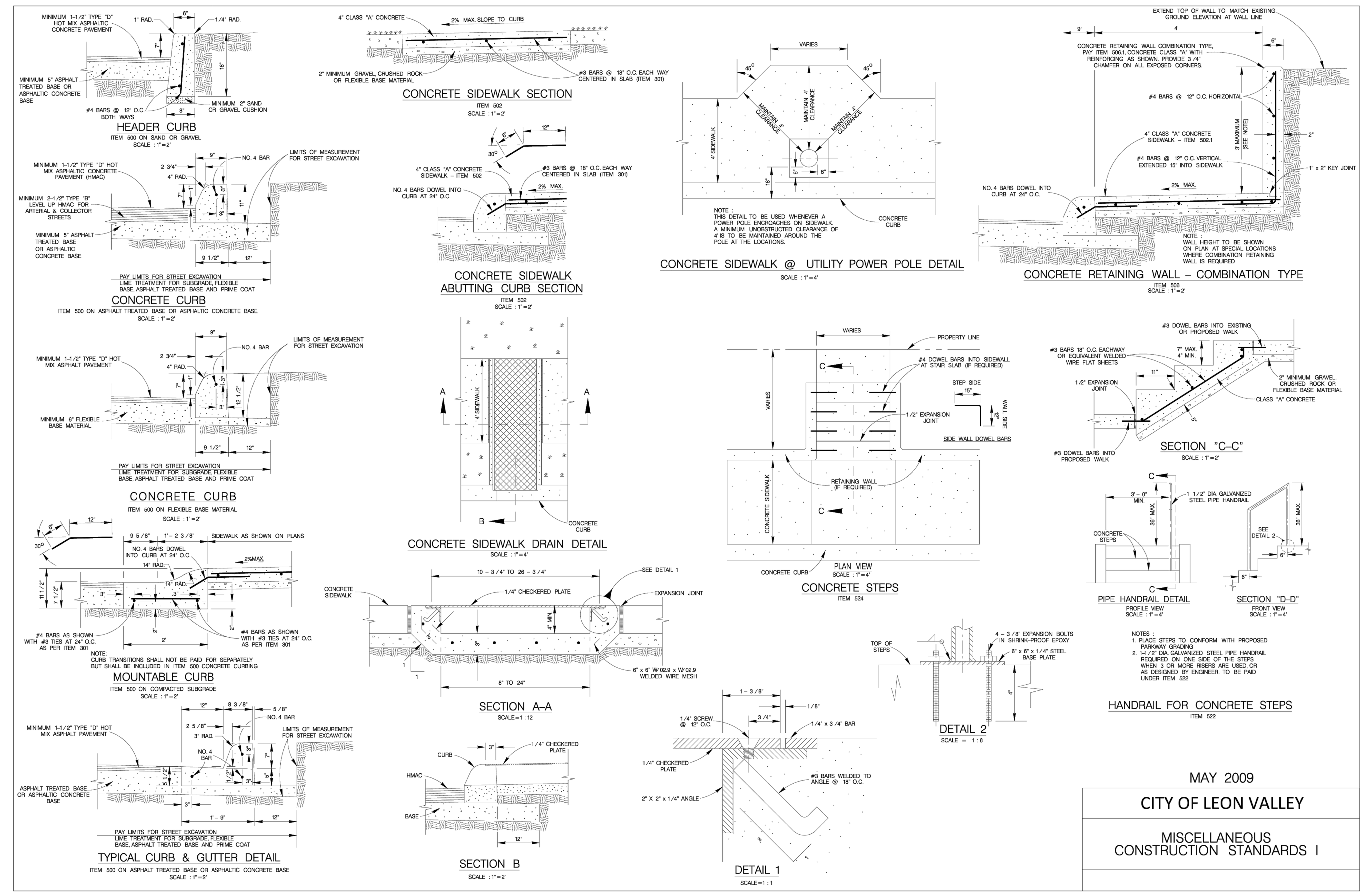
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS
09/18/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
XXXX-XX

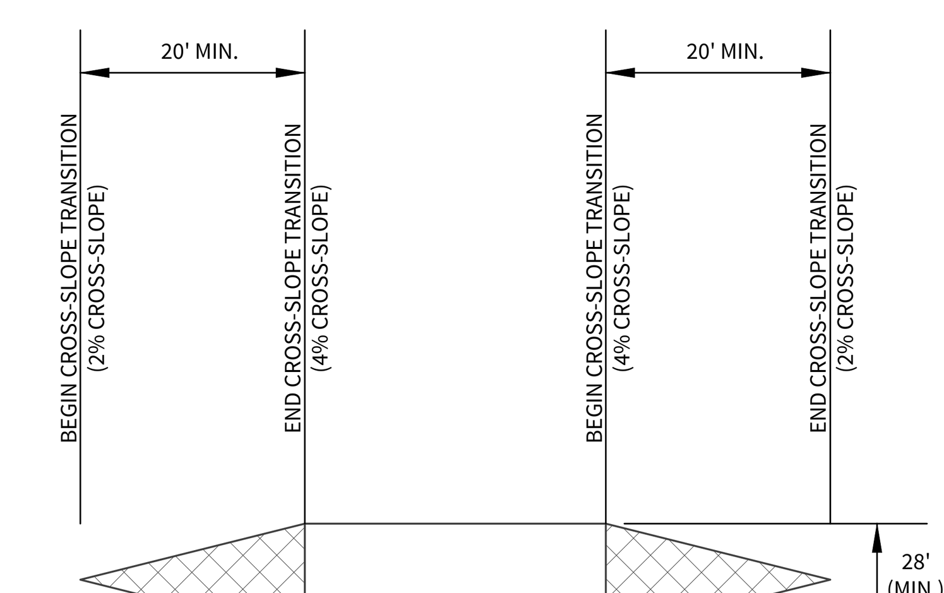
C6.04



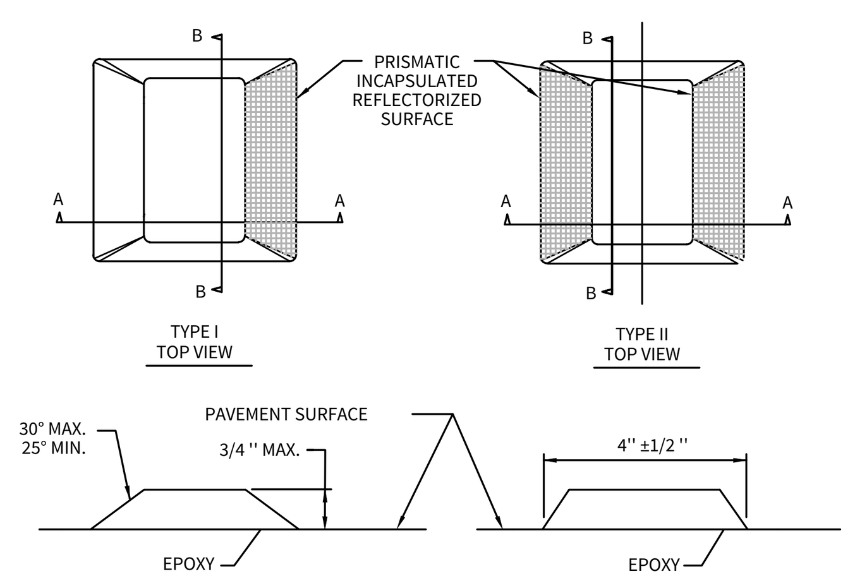


LEGEND

4% CROSS-SLOPE SECTION (SEE DETAIL BELOW FOR TRANSITION DISTANCE)



CROSS-SLOPE TRANSITION DETAIL



1) REFLECTORIZED BLUE - FIRE HYDRANT

2) ADHENSIVE SHALL BE APPLIED IN SUFFICIENT TO ENSURE THE FOLLOWING:
   a) 100 PERCENT OF THE BONDING AREA OF RAISED PAVEMENT MARKERS SHALL BE IN CONTACT WITH THE ADHESIVE.
   b) RAISED PAVEMENT MARKERS SHALL NOT BE IN CONTACT WITH THE PAVEMENT SURFACE, BUT SHALL BE SEATED ON A CONTINUOUS LAYER OF ADHESIVE.
   c) BITUMINOUS ADHESIVE FOR MARKERS ON BITUMIOUS PAVEMENTS. EPOXY ADHENSIVE FOR MARKERS ON PORTLAND CEMENT CONCRETE PAVEMENTS. EPOXY ADHESIVE SHALL BE MACHINE MIXED.

3) RAISED PAVEMENT MARKERS SHALL BE FREE OF RUST, SCALE, DIRT, OIL, GREASE, MOISTURE, OR CONTAMINATES WHICH MIGHT ADVERSELY AFFECT THE ADHESIVE BOND. ADHESIVE OR ANY OTHER MATERIAL THAT IMPAIRS THE FUNCTIONAL REFLECTIVITY WILL NOT BE ACCEPTABLE.

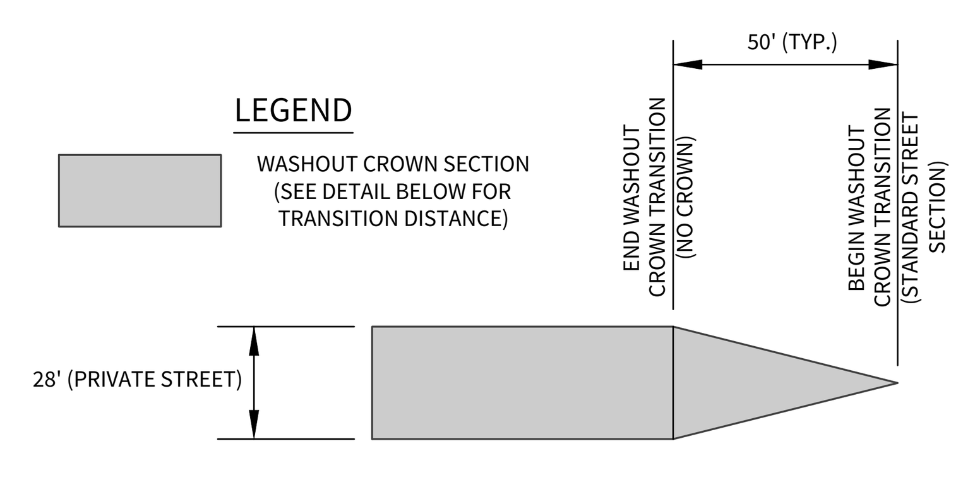
4) PLACEMENT OF RAISED PAVEMENT MARKERS SHALL BE 4 FEET OFF STREET CENTELINE TOWARD ITEM MARKED.

PAVEMENT REFLECTORS DETAIL

N.T.S.

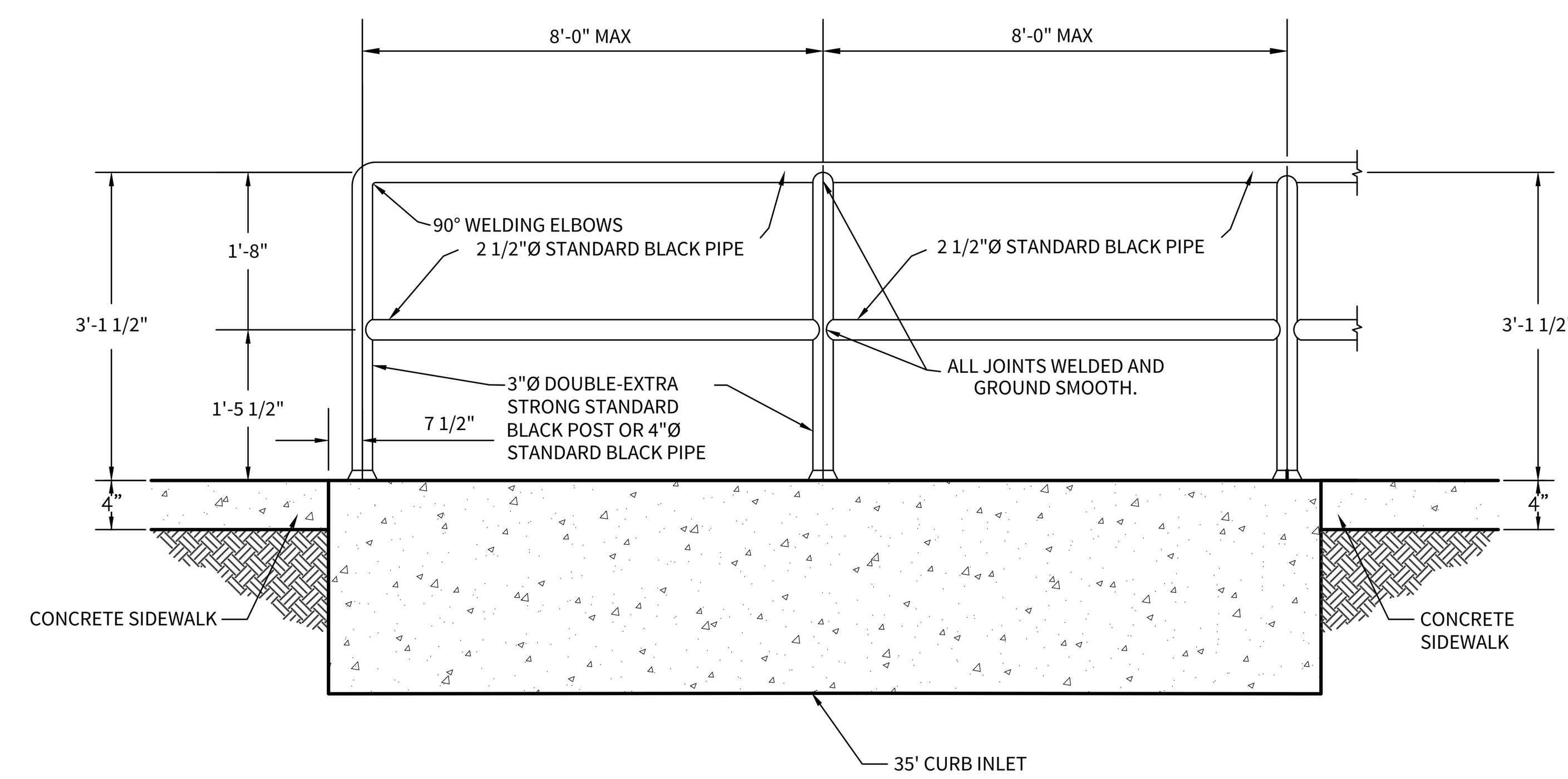
LEGEND

WASHOUT CROWN SECTION (SEE DETAIL BELOW FOR TRANSITION DISTANCE)



WASHOUT CROWN TRANSITION DETAIL

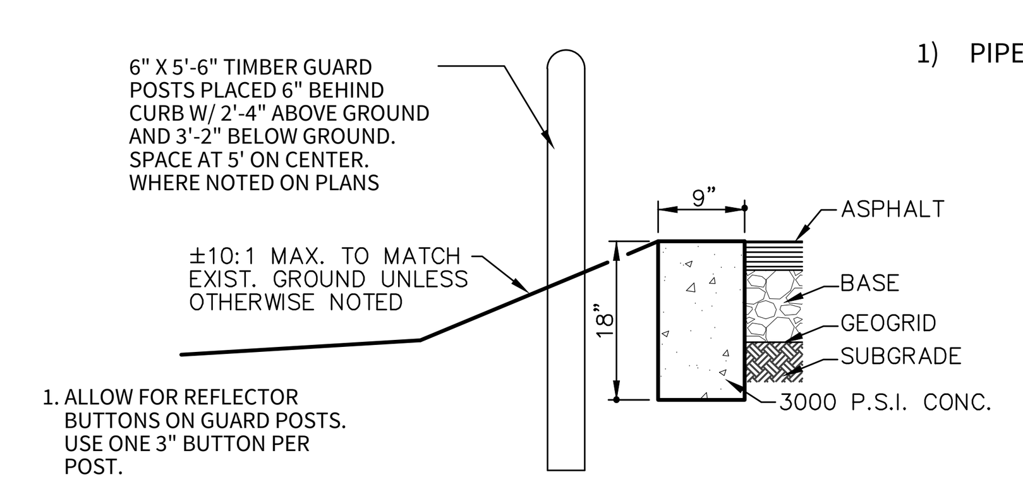
N.T.S.



TYPICAL DRAIN HANDRAIL

NOTES:

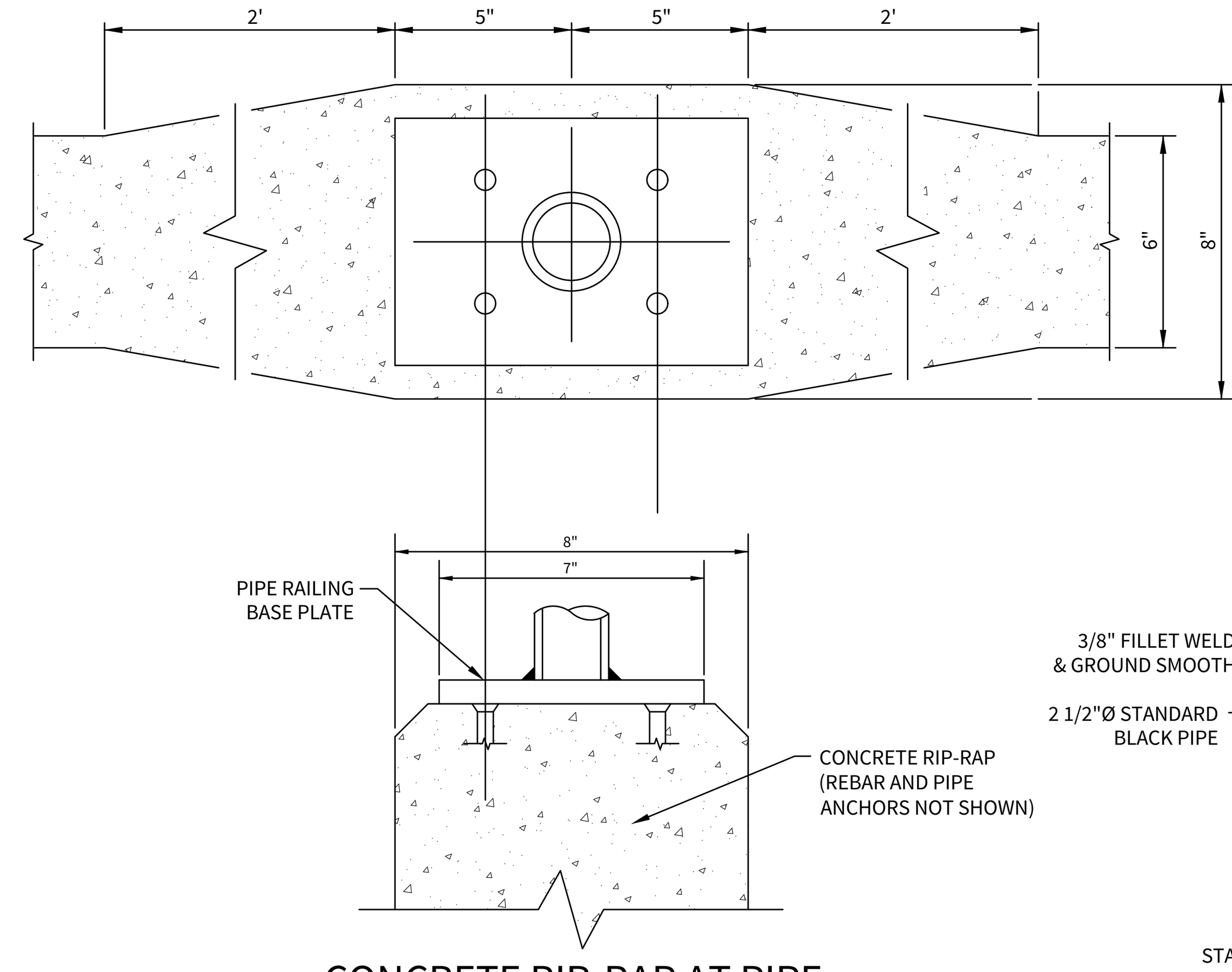
1) PIPE RAILING SHALL BE PAINTED WITH ALUMINUM PAINT.



1. ALLOW FOR REFLECTOR BUTTONS ON GUARD POSTS. USE ONE 3" BUTTON PER POST.
2. POSTS WILL RECEIVE TWO COATS OF ALUMINUM PAINT.

DEAD-END STREET HEADER CURB DETAIL

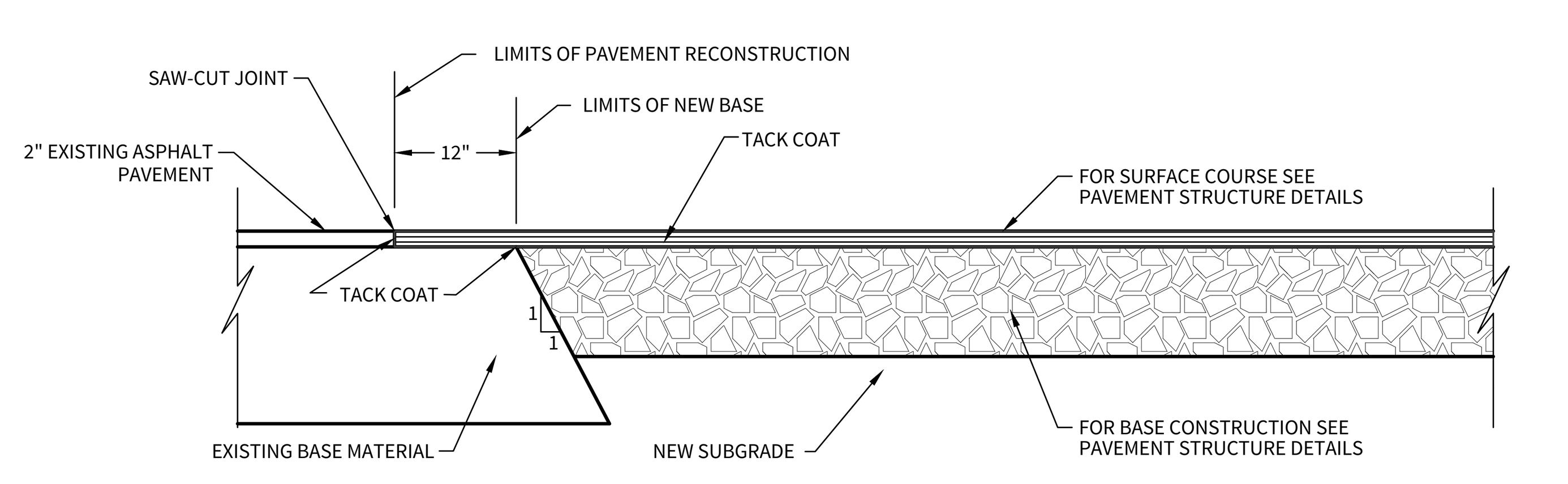
N.T.S.



CONCRETE RIP-RAP AT PIPE RAILING BASE PLATE DETAIL

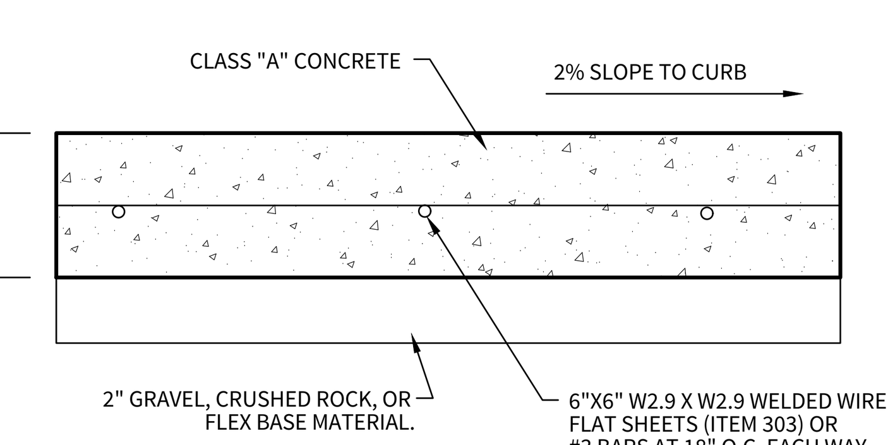
NOTES:

1) CONTRACTOR TO FLARE CONCRETE RIP-RAP TO 8" AT PROPOSED PIPE RAILING BASE PLATE LOCATIONS.



PAVEMENT JUNCTION DETAILS

N.T.S.



CONCRETE SIDEWALK

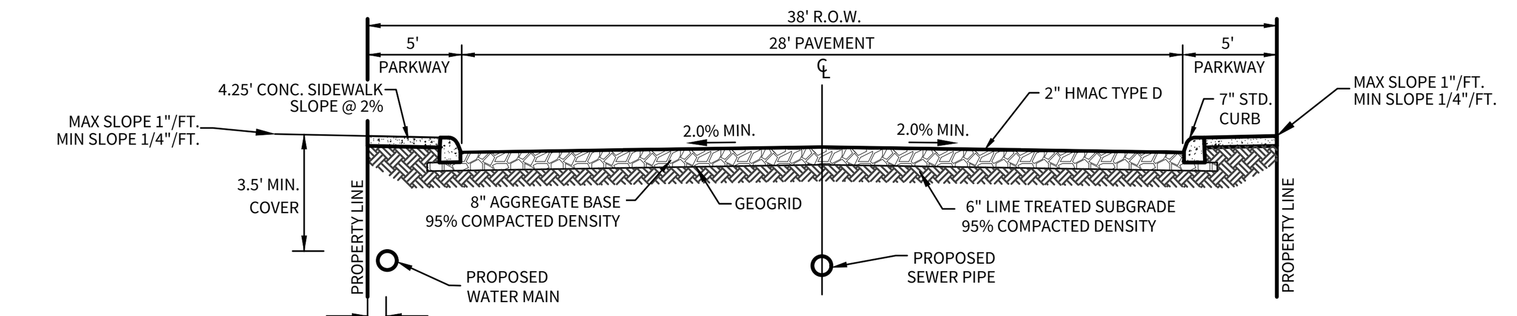
STREET TYPE	HMAC TYPE "D"	AGGREGATE BASE	GEOGRID	SUBGRADE	STRUCTURAL NUMBER
PRIVATE STREET	2"	8.50"	NO	6"	2.07

STREET PAVEMENT DESIGN

	REFERENCE INTEC REPORT PROJECT No. S241163
LIME TREATMENT APPLICATION	APPROX. 6% (BY WEIGHT) HYDRATED LIME OR 32 LBS/SY OF HYDRATED LIME FOR 6" DEPTH

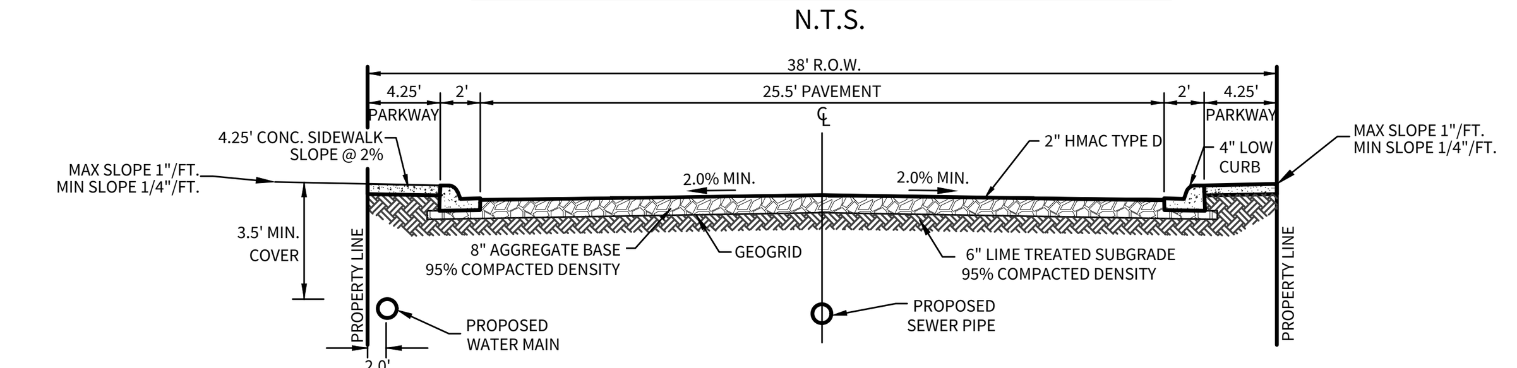
NOTE:

1. SOIL SULFATE CONTENT SHOULD BE TESTED PRIOR TO TREATING THE SUBGRADE.
2. IF THE FINAL PAVEMENT SUBGRADE CONSISTS OF CLAYS WITH PI VALUE GREATER THAN 20, THEN CEMENT OR LIME TREATMENT TO A DEPTH OF 6 INCHES IS RECOMMENDED.
3. FINAL PAVEMENT SUBGRADE SHOULD BE VERIFIED BY INTEC AT THE TIME OF CONSTRUCTION.



PRIVATE STREET CROSS-SECTION (TYP.)

N.T.S.



PRIVATE STREET MOUNTABLE CURB CROSS-SECTION (TYP.)

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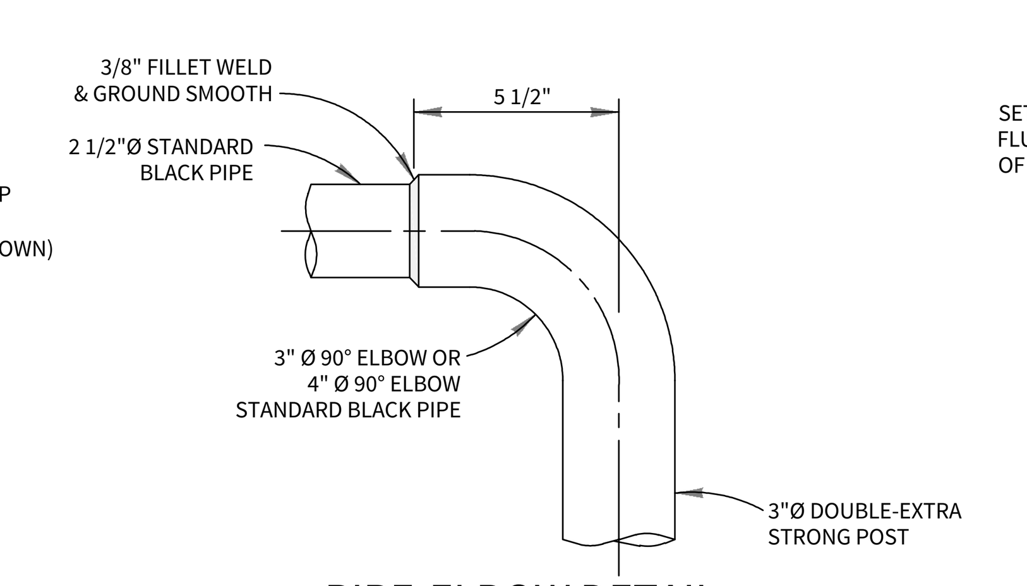
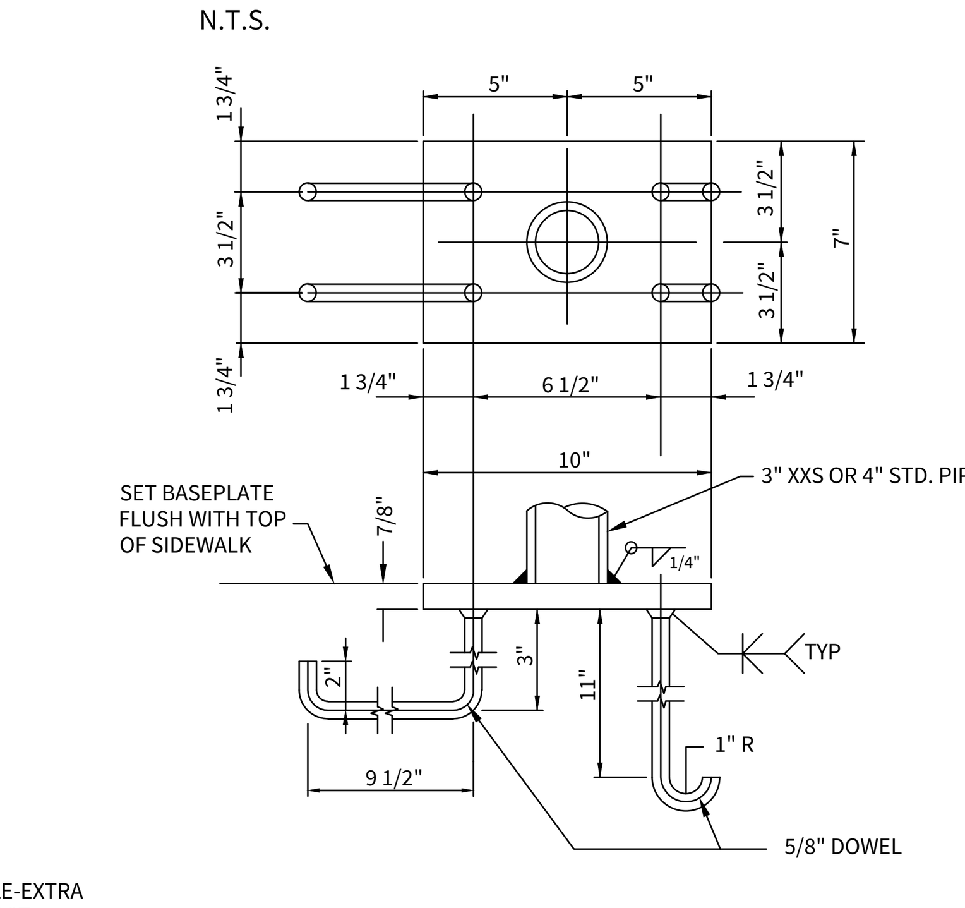


PIPE-ELBOW DETAIL



PIPE ANCHORAGE DETAILS

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CUDE EST. 1980 ENGINEERS

4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

STANDARD STREET DETAILS

DATE
11/6/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
1.
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3.
4.
5.
6.
7.
8.

STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
PZ-2024-16

C7.00

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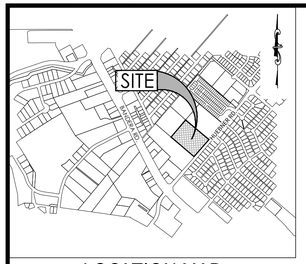


LOCATION MAP

N.T.S.

DEVELOPER

CENTURY COMMUNITIES
ATTN: VICTOR BERNAL
2330 N LOOP 1604 W ACCESS ROAD, STE 112
SAN ANTONIO, TX. 78248
TEL: (210) 469-3442

NOTE:
*** - REFERENCE DRIVEWAY LOCATIONS EXHIBIT REGARDING PROPOSED DRIVEWAY LOCATION (AVAILABLE THROUGH M/I HOMES OF SAN ANTONIO, TEXAS, L.P.)

LEGEND

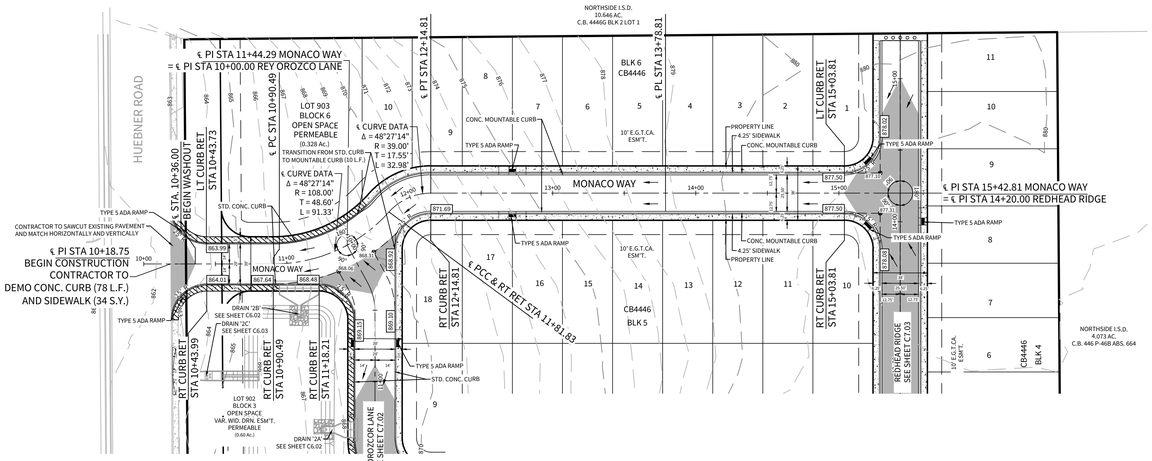
- STREET WASHOUT (SEE SHEET C7.00)
- SIDEWALK TO BE CONSTRUCTED WITH INFRASTRUCTURE.
- SIDEWALK TO BE CONSTRUCTED WITH HOUSE CONSTRUCTION.
- DIRECTION OF FLOW
- H.P. - HIGH POINT

GENERAL NOTES

1. A LEON VALLEY R.O.W. PERMIT MUST BE OBTAINED PRIOR TO WORKING IN EXISTING LEON VALLEY R.O.W.

WHEEL CHAIR RAMPS ARE INDICATED THUS "□■□" UNLESS OTHERWISE NOTED. (SEE SHEET C7.00 FOR ADA RAMPS AT SIDEWALK INTERSECTIONS).

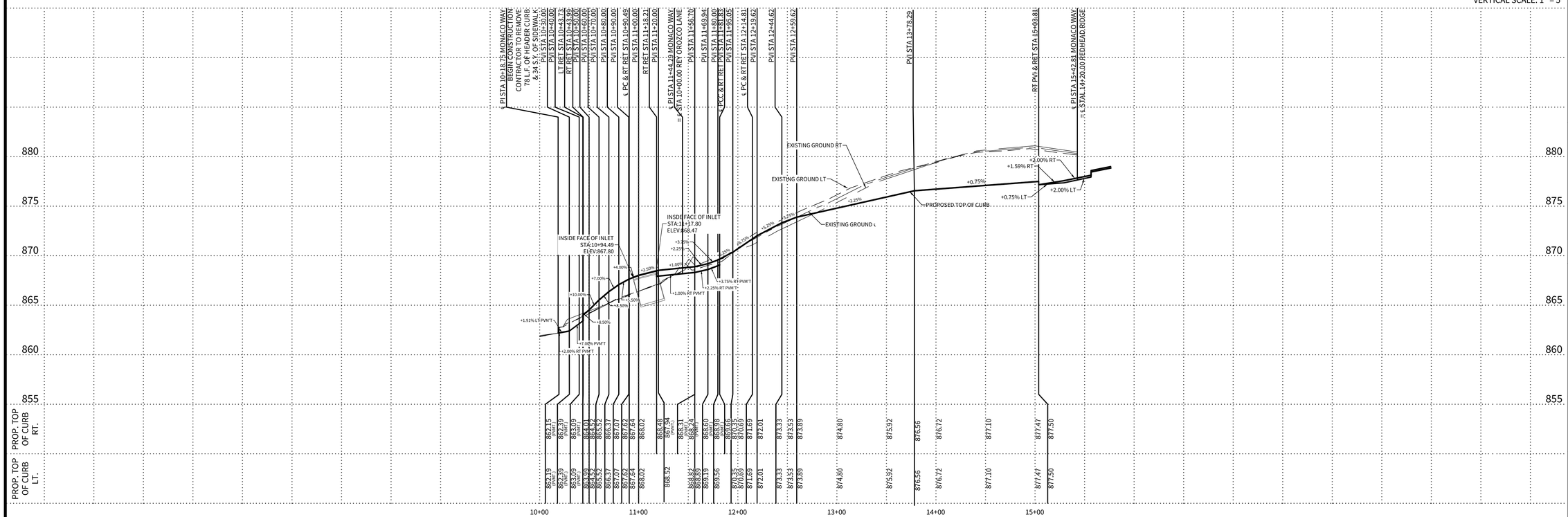
SCALE: 1"=50'
50 25 0 50



MONACO WAY

STA. 10+00.00 TO 15+39.95

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



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San Antonio, Texas 78231
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POSS LANDING SUBDIVISION PHASE 2

MONACO WAY STREET PLAN AND PROFILE

DATE
11/6/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
1.
2.
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4.
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6.
7.
8.

STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
PZ-2024-16

C7.01

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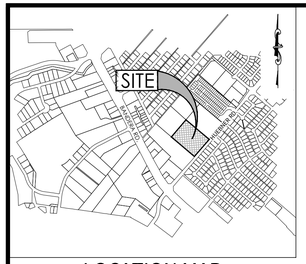


LOCATION MAP

N.T.S.

DEVELOPER

CENTURY COMMUNITIES
ATTN: VICTOR BERNAL
2330 N LOOP 1604 W ACCESS ROAD, STE 112
SAN ANTONIO, TX. 78248
TEL: (210) 469-3442

NOTE:
*** - REFERENCE DRIVEWAY LOCATIONS EXHIBIT REGARDING PROPOSED DRIVEWAY LOCATION (AVAILABLE THROUGH M/I HOMES OF SAN ANTONIO, TEXAS, L.P.)

LEGEND

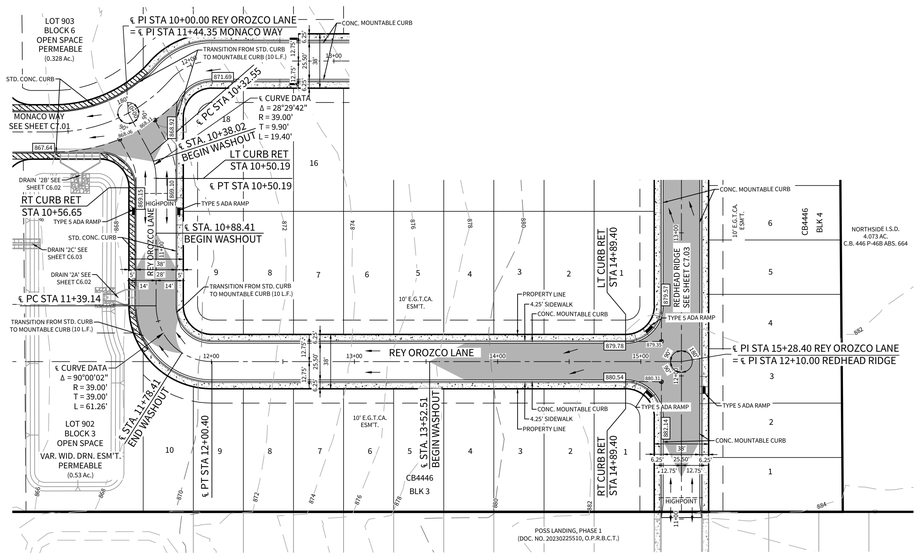
- STREET WASHOUT (SEE SHEET C7.00)
- SIDEWALK TO BE CONSTRUCTED WITH INFRASTRUCTURE.
- SIDEWALK TO BE CONSTRUCTED WITH HOUSE CONSTRUCTION.
- H.P. - DIRECTION OF FLOW
- HIGH POINT

GENERAL NOTES

1. A LEON VALLEY R.O.W. PERMIT MUST BE OBTAINED PRIOR TO WORKING IN EXISTING LEON VALLEY R.O.W.

WHEEL CHAIR RAMPS ARE INDICATED THUS "□■□" UNLESS OTHERWISE NOTED. (SEE SHEET C7.00 FOR ADA RAMPS AT SIDEWALK INTERSECTIONS).

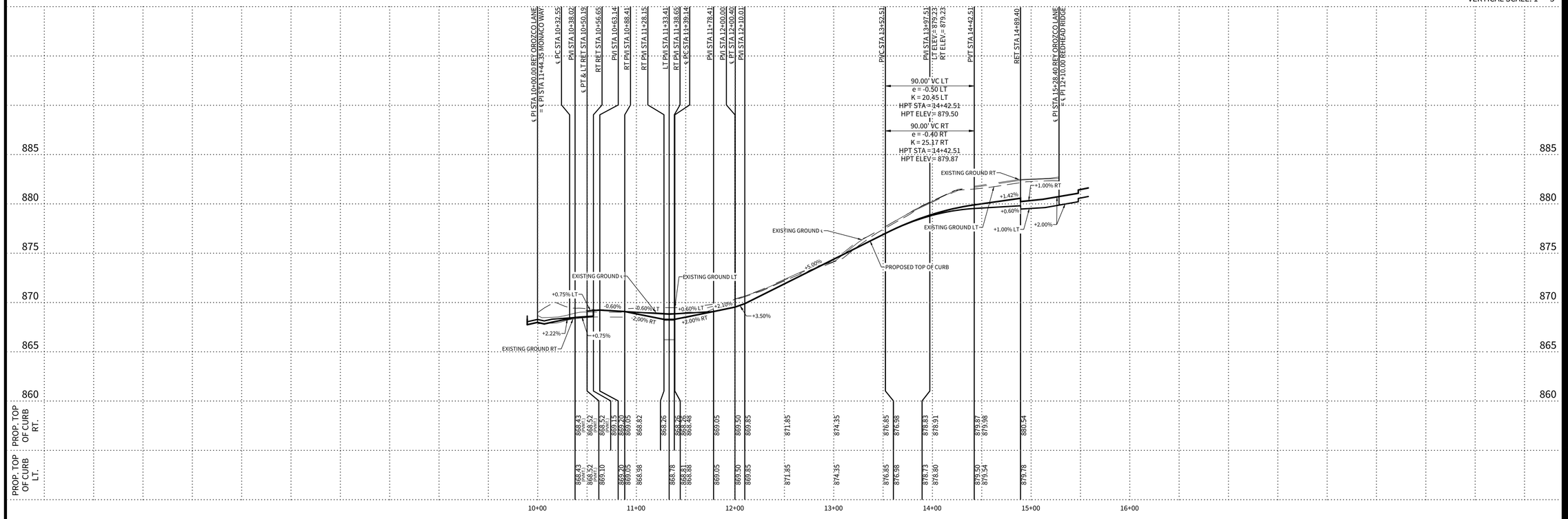
SCALE: 1"=50'
50 25 0 50



REY OROZCO LANE

STA. 10+00.00 TO 15+28.40

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



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CUDE ENGINEERS
EST. 1980
4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

REY OROZCO LANE STREET PLAN AND PROFIE

DATE
11/7/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
1.
2.
3.
4.
5.
6.
7.
8.

STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024
CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
PZ-2024-16

C7.02

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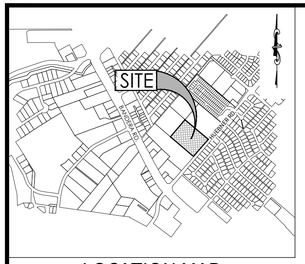


LOCATION MAP

N.T.S.

DEVELOPER

CENTURY COMMUNITIES
ATTN: VICTOR BERNAL
2330 N LOOP 1604 W ACCESS ROAD, STE 112
SAN ANTONIO, TX. 78248
TEL: (210) 469-3442

NOTE:
*** - REFERENCE DRIVEWAY LOCATIONS EXHIBIT REGARDING PROPOSED DRIVEWAY LOCATION (AVAILABLE THROUGH M/I HOMES OF SAN ANTONIO, TEXAS, L.P.)

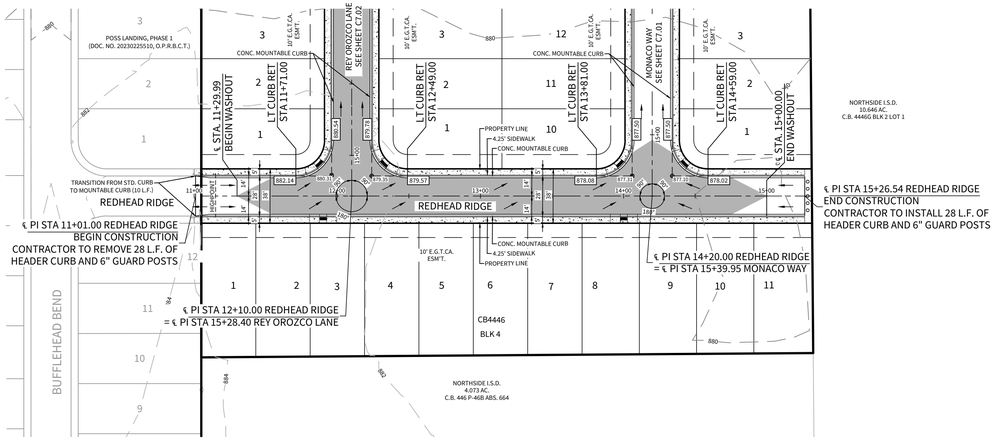
LEGEND

- STREET WASHOUT (SEE SHEET C7.00)
- SIDEWALK TO BE CONSTRUCTED WITH INFRASTRUCTURE.
- SIDEWALK TO BE CONSTRUCTED WITH HOUSE CONSTRUCTION.
- DIRECTION OF FLOW
- H.P. - HIGH POINT

GENERAL NOTES

1. A LEON VALLEY R.O.W. PERMIT MUST BE OBTAINED PRIOR TO WORKING IN EXISTING LEON VALLEY R.O.W.

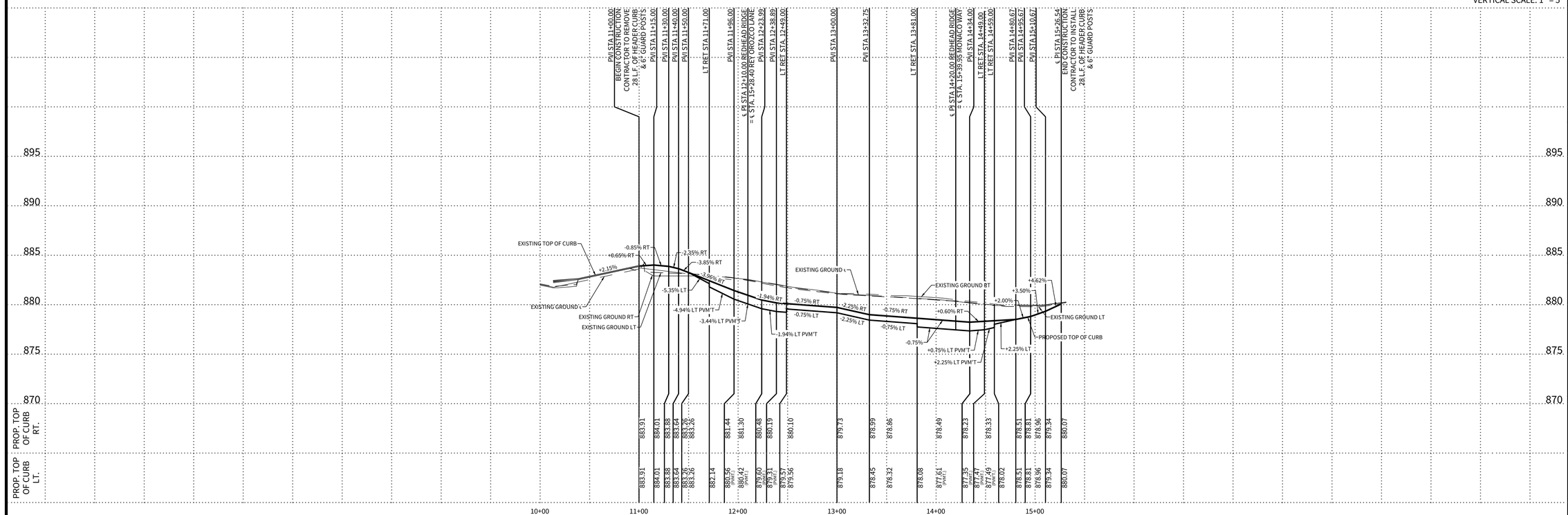
WHEEL CHAIR RAMPS ARE INDICATED THUS "□■□" UNLESS OTHERWISE NOTED. (SEE SHEET C7.00 FOR ADA RAMPS AT SIDEWALK INTERSECTIONS).



REDHEAD RIDGE

STA. 11+00.00 TO 15+26.54

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



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CUDE ENGINEERS EST. 1980

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San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

REDHEAD RIDGE STREET PLAN AND PROFILE

DATE
11/6/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
1.
2.
3.
4.
5.
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8.

STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
PZ-2024-16

C7.03

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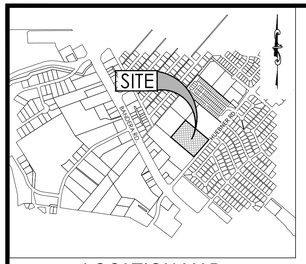


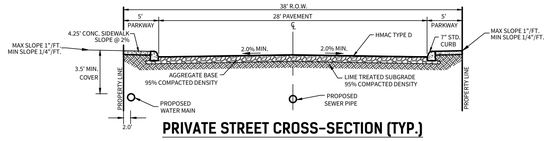
LOCATION MAP
N.T.S.

DEVELOPER
CENTURY COMMUNITIES
ATTN: VICTOR BERNAL
2330 N LOOP 1604 W ACCESS ROAD, STE 112
SAN ANTONIO, TX. 78248
TEL: (210) 469-3442

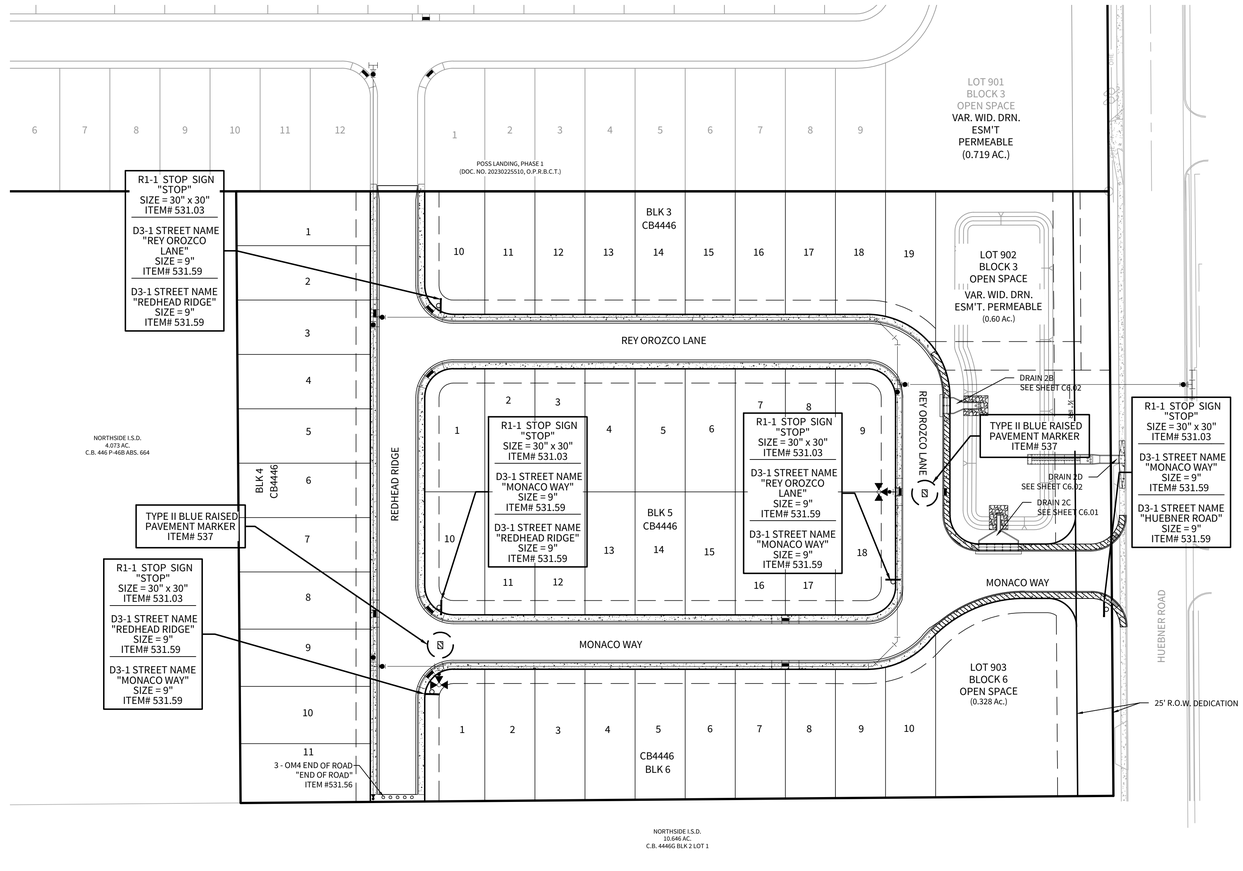
NOTE:
CONTRACTOR TO COORDINATE SIGN PLACEMENT WITH SIDEWALK/ADA RAMP CONSTRUCTION TO AVOID ANY POSSIBLE CONFLICTS.

GENERAL NOTES
1. A CITY OF LEON VALLEY R.O.W. PERMIT MUST BE OBTAINED PRIOR TO WORKING IN EXISTING CITY OF LEON VALLEY R.O.W.
2. ALL MARKINGS SHALL BE THERMOPLASTIC.

LEGEND
EXISTING WATER MAIN	EX.8"W
PROPOSED WATER MAIN	8"W
PROPOSED STANDARD FIRE HYDRANT	
SIDEWALK TO BE CONSTRUCTED WITH INFRASTRUCTURE.	
SIDEWALK TO BE CONSTRUCTED WITH HOUSE CONSTRUCTION.	



PRIVATE STREET CROSS-SECTION (TYP.)
N.T.S.



SCALE: 1"=50'
50 25 0 50

CUDEENGINEERS.COM
EST. 1980 CUDE ENGINEERS
4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

TRAFFIC SIGNAGE PLAN

DATE 9/3/2024
PROJECT NO. 03653.005
DRAWN BY MAS
CHECKED BY KMH

REVISIONS
1.
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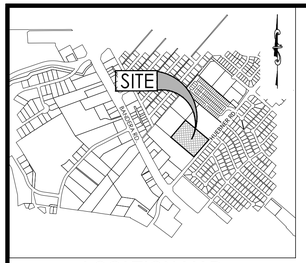
STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024
CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO. PZ-2024-16

C8.00



LOCATION MAP
N.T.S.

DEVELOPER
CENTURY COMMUNITIES
ATTN: VICTOR BERNAL
2330 N LOOP 1604 W ACCESS ROAD, STE 112
SAN ANTONIO, TX. 78248
TEL: (210) 469-3442

CAUTION!!!
THE CONTRACTOR SHALL BE AWARE THAT SANITARY SEWER AND GAS LINES EXIST WITHIN THE SITE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE THESE UTILITIES LOCATED PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN THIS AREA. ANY DAMAGE DONE TO THESE EXISTING FACILITIES WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR.

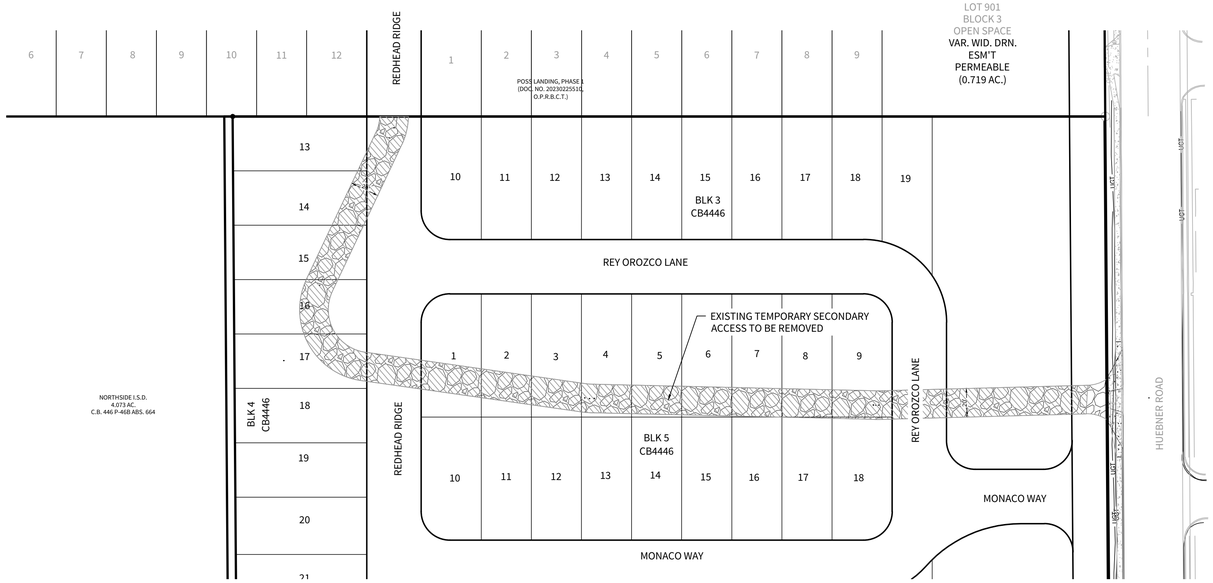
TRENCH EXCAVATION SAFETY PROTECTION
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA 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.

RIGHT-OF-WAY PERMIT NOTE:
PERMIT REQUIRED FOR ANY WORK WITHIN CITY OF LEON VALLEY MAINTAINED (OR PROPOSED TO BE CITY OF LEON VALLEY MAINTAINED) RIGHT-OF-WAY. THIS INCLUDES DRIVEWAY APPROACHES, IRRIGATION, UTILITY WORK, TURN LANES AND OTHER ACTIVITIES LOCATED OUTSIDE THE PROPERTY AND ENCROACH INTO THE RIGHT-OF-WAY.

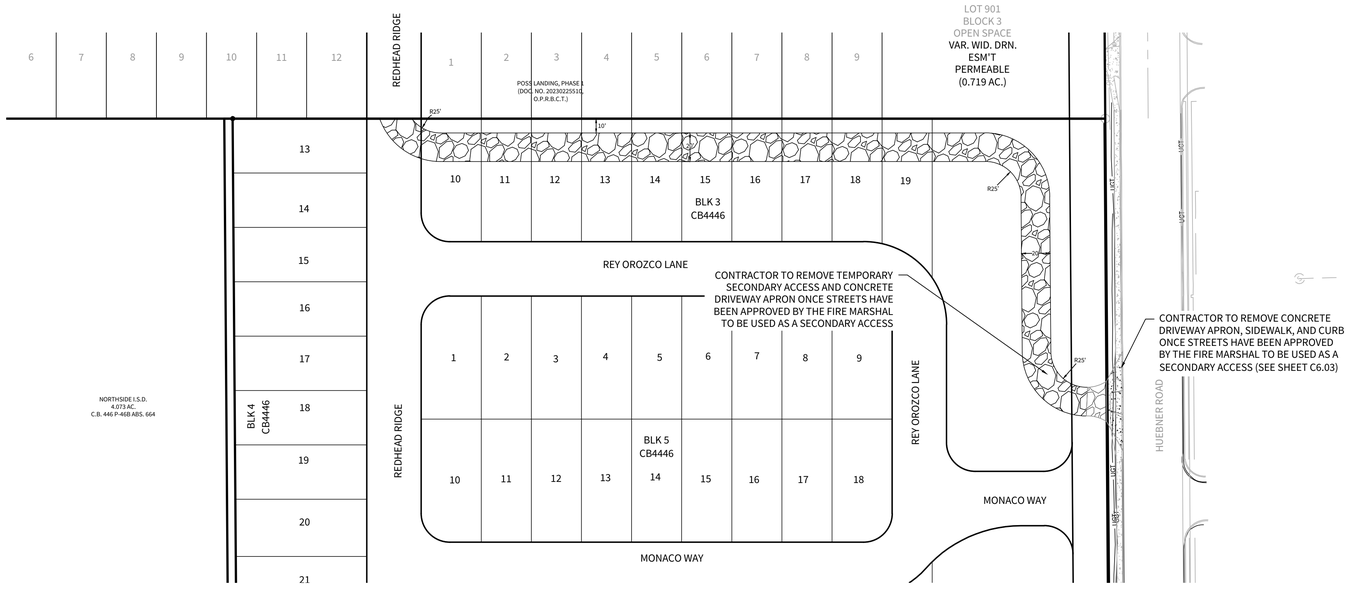
NOTES:
1. **CONTACT CITY OF LEON VALLEY BEFORE STARTING WORK WITHIN HUEBNER ROAD RIGHT-OF-WAY.**
2. **CONTRACTOR TO COORDINATE WITH GEOTECHNICAL ENGINEER FOR ALL COMPACTION AND MATERIALS TESTING.**
3. **REFERENCE CONCRETE CURB AND SIDEWALK STANDARDS FOUND ON SHEET C7.00.**

LEGEND:
= EXISTING TEMPORARY FIRE ACCESS ROAD BE REMOVED

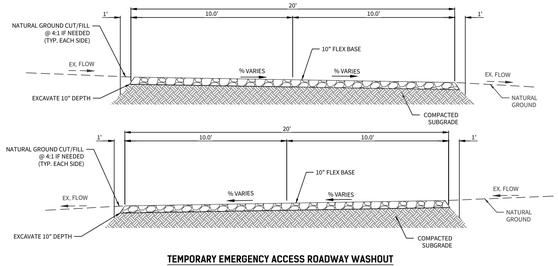
= 20' WIDTH TEMPORARY FIRE ACCES ROAD TO BE MAINTAINED DURING CONSTRUCTION



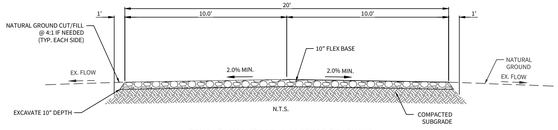
EXISTING SECONDARY ACCESS RD.



PROPOSED SECONDARY ACCESS RD.



TEMPORARY EMERGENCY ACCESS ROADWAY WASHOUT
N.T.S.
NOTE: CONTRACTOR TO GRADE TEMPORARY EMERGENCY ACCESS ROADWAY TO ENSURE POSITIVE DRAINAGE UPHILL AND DOWNHILL OF TEMPORARY EMERGENCY ACCESS ROADWAY (I.E. NO PONDING) TO MATCH EXISTING FLOW DIRECTION. REFERENCE GEOTECHNICAL REPORT (INTEC PROJECT NO. S241163-A1)



TEMPORARY EMERGENCY ACCESS ROADWAY
N.T.S.
NOTE: CONTRACTOR TO GRADE OUTSIDE OF THE LIMITS OF TEMPORARY EMERGENCY ACCESS ROADWAY TO ENSURE POSITIVE DRAINAGE UPHILL AND DOWNHILL OF TEMPORARY EMERGENCY ACCESS ROADWAY (I.E. NO PONDING). REFERENCE GEOTECHNICAL REPORT (INTEC PROJECT NO. S241163-A1)

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4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

SECONDARY ACCESS PLAN

DATE 11/6/2024

PROJECT NO. 03653.005

DRAWN BY MAS

CHECKED BY KMH

REVISIONS
1.
2.
3.
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8.

STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO. PZ-2024-16

C8.01

DATE:
FILE:

SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive Codes correspond to project estimate and quantities sheets)

SM RD SGN ASSM TY XXXXX(X)XX(X-XXXX)

Post Type
- FRP = Fiberglass Reinforced Plastic Pipe (see SMD(FRP))
- TWT = Thin-Walled Tubing (see SMD(TWT))
- 10BWG = 10 BWG Tubing (see SMD(SLIP-1) to (SLIP-3))
- SCH = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

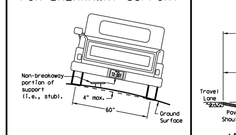
Number of Posts (1 or 2)

Anchor Type
- U = Universal Anchor - Concreted (see SMD(FRP) and (TWT))
- UB = Universal Anchor - Bolted down (see SMD(FRP) and (TWT))
- WS = Wedge Anchor Steel - (see SMD(TWT))
- WP = Wedge Anchor Plastic (see SMD(TWT))
- SA = Slipbase - Concreted (see SMD(SLIP-1) to (SLIP-3))
- SB = Slipbase - Bolted Down (see SMD(SLIP-1) to (SLIP-3))

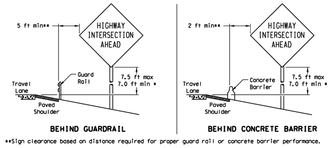
Sign Mounting Designation
- P = Perfo. "Path" (see SMD(SLIP-1) to (SLIP-3), (TWT), (FRP))
- T = Perfo. "T" (see SMD(SLIP-1) to (SLIP-3), (TWT))
- U = Perfo. "U" (see SMD(SLIP-1) to (SLIP-3))

IF REQUIRED
- TEXT or ZEXT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))
- BM = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))
- TS = 1 1/2 Kite Channel (see SMD(SLIP-1) to (SLIP-3))
- EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-3))

REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT

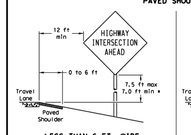


To avoid vehicle undercarriage snagging, any substantial resizing of a breakaway support, when it is broken away, should not project more than 4 inches above a 60-inch chord (i.e., typical space between wheel paths).



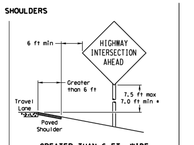
SIGN LOCATION

PAVED SHOULDERS



LESS THAN 6 FT. WIDE

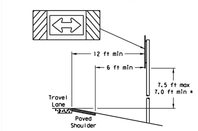
When the shoulder is 6 ft. or less in width, the sign must be placed at least 12 ft. from the edge of the travel lane.



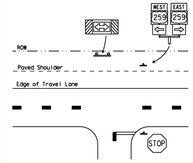
GREATER THAN 6 FT. WIDE

When the shoulder is greater than 6 ft in width, the sign must be placed at least 6 ft. from the edge of the shoulder.

T-INTERSECTION



When this sign is needed at the end of a two-lane, two way roadway, the right edge of the sign should be in line with the centerline of the roadway. Place as close to ROW as practical.



BEHIND BARRIER

BEHIND GUARDRAIL

BEHIND CONCRETE BARRIER

**Sign clearance based on distance required for proper guard rail or concrete barrier performance.

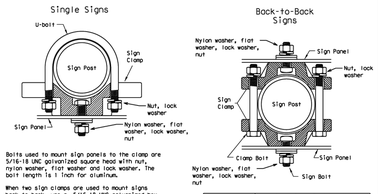
- Signs shall be mounted using the following condition that results in the greatest sign elevations:
  - (1) a minimum of 7 to a maximum of 7.5 feet above the edge of the travel lane or
  - (2) a minimum of 7 to a maximum of 7.5 feet above the grade at the base of the support when sign is installed on the backslope.

The maximum values may be increased when directed by the Engineer.

See the Traffic Operations Division website for detailed drawings of sign clamps, Triangular Slipbase System components and Wedge Anchor System components.

The website address is:
https://www.txdot.gov/publications/trraffic.htm

TYPICAL SIGN ATTACHMENT DETAIL



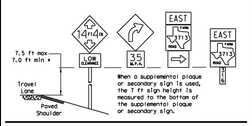
Bolts used to mount sign panels to the clamp are 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

When two sign clamps are used to mount signs back-to-back, use a 5/16-18 UNC galvanized hex head per ASTM A307 with nut and helical-spring lock washer. The approximate bolt lengths for various post sizes and sign clamp types are given in the table at right. The bolt length may need to be adjusted depending upon field conditions.

Sign clamps may be either the specific size clamp or the universal clamp.

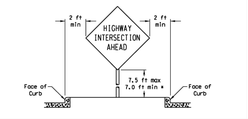
Pipe Diameter	Approximate Bolt Length	
	Specific Clamp	Universal Clamp
2" nominal	3"	3 or 3 1/2"
2 1/2" nominal	3 or 3 1/2"	3 1/2 or 4"
3" nominal	3 1/2 or 4"	4 1/2"

SIGNS WITH PLAQUES

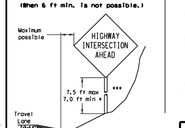


When a supplemental plaque or secondary sign is used, the 7 ft sign height is measured to the bottom of the supplemental plaque or secondary sign.

CURB & GUTTER OR RAISED ISLAND



RESTRICTED RIGHT-OF-WAY (When 6 ft min. is not possible.)



Right-of-way restrictions may be created by rocks, water, vegetation, forest, buildings, a narrow island, or other factors.

In situations where a lateral restriction prevents the minimum horizontal clearance from the edge of the travel lane, signs should be placed as far from the travel lane as practical.

*** Pole may be shorter if protected by guardrail or if Engineer determines the post could not be hit due to extreme slope.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS GENERAL NOTES & DETAILS

SMD(GEN)-08

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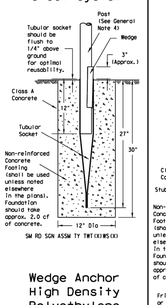
26A

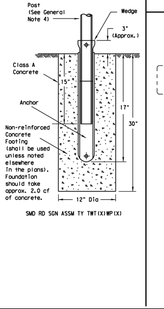
DATE:
FILE:

Wedge Anchor Steel System



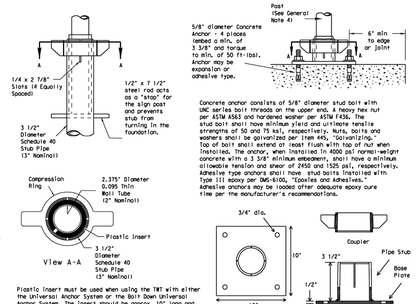
SM RD SGN ASSM TY TWT(X)WS(X)

Wedge Anchor High Density Polyethylene (HDPE) System

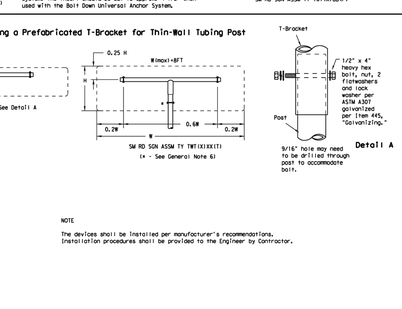


SMD RD SGN ASSM TY TWT(X)WP(X)

Universal Anchor System with Thin-Walled Tubing Post

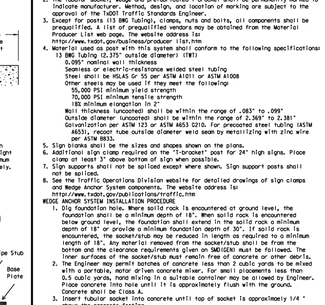


SM RD SGN ASSM TY TWT(X)UA(P)



SM RD SGN ASSM TY TWT(X)UB(P)

Plastic insert must be used when using the TWT with either the Universal Anchor System or the Bolt Down Universal Anchor System. The insert should be approx. 10" long and cover the tubing from just above the top of the stub pipe to the bottom of the sign post when using the Universal Anchor System. The insert should be cut to approx. 4 1/2" when used with the Bolt Down Universal Anchor System.



SM RD SGN ASSM TY TWT(X)UB(P)

Sign Installation Using a Prefabricated T-Bracket for Thin-Wall Tubing Post

NOTE

The devices shall be installed per manufacturer's recommendations. Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:
1. The Wedge Anchor System and the Universal Anchor System with thin wall tubing post may be used to support up to 10 square feet of sign area.
2. The tubular socket, wedge and prefabricated T-bracket shall be permanently marked to indicate manufacturer, Method, design, and location of marking are subject to the approval of the TxDOT Traffic Standards Engineer.
3. Except for posts 13 BWG tubing), clamps, nuts and bolts, all components shall be prequalified. A list of prequalified vendors may be obtained from the Material Producer List web page. The website address is: http://www.txdot.gov/business/producer list.htm
4. Steel used as listed in this shall conform to the following specifications:
   - 13 BWG Tubing (2.375" outside diameter) (TWT)
     - 0.095" nominal wall thickness
     - Seamless or electric-resistance welded steel tubing
     - Steel shall be 55 ksi per ASTM A1011 or ASTM A1008
     - Other grades may be used if they meet the following:
       - 55,000 PSI minimum yield strength
       - 70,000 PSI minimum tensile strength
       - 18% minimum elongation in 2"
     - Wall thickness (nominal) shall be within the range of .083" to .099"
     - Outside diameter (uncoated) shall be within the range of 2.369" to 2.381"
     - Galvanized per ASTM 123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
5. Sign blanks shall be the sizes and shapes shown on the plans.
6. Additional sign clamps required on the "T-bracket" post for 24" high signs. Place clamp at least 3" above bottom of sign when possible.
7. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
8. See the Traffic Operations Division website for detailed drawings of sign clamps and Wedge Anchor System components. The website address is: http://www.txdot.gov/publications/trraffic.htm

WEDGE ANCHOR SYSTEM INSTALLATION PROCEDURE
1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid 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 solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Place concrete into hole until it is approximately flush with the ground. Concrete shall be Class A.
3. Insert tubular socket into concrete until top of socket is approximately 1/4 " above the concrete footing.
4. Plumb the socket. Allow a minimum 4 days for concrete to set, unless otherwise directed by Engineer.
5. Attach the sign to the sign post.
6. Insert the sign post into socket and align sign face with roadway.
7. Drive the wedge into the socket to secure post. This will leave approximately 3 inches of the wedge exposed.

UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURE
1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid 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 solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. Insert base post in hole to depths shown and backfill hole with concrete.
3. Level and plumb the base post using a torpedo level and allow concrete adequate time to set. The bottom of the slots provided in the stub pipe shall remain above the top of the concrete foundation.
4. Attach the sign to the sign post.
5. Install plastic insert around bottom of post.
6. Insert sign post into base post. Lower until the post comes to rest on steel rod.
7. Seat compression ring using a hammer. Typically, the top of compression ring will be approximately level with top of sta post when optimally installed.
8. Check sign post by hand 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

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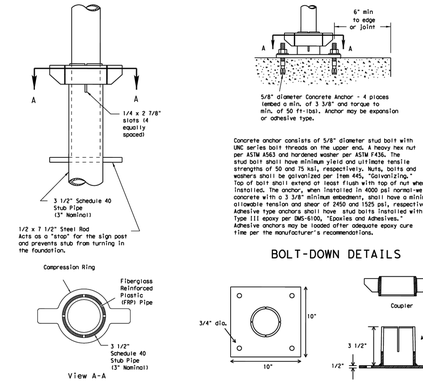
9-08 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.

26E

DATE:
FILE:

Universal Anchor System with Fiberglass Reinforced Plastic (FRP) Post



Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. A heavy hex nut per ASTM A563 and hardened washer per ASTM F436. The stud bolt shall have minimum yield and ultimate tensile strengths of 50 and 75 ksi, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Top of bolt shall extend at least flush with top of nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 3 3/8" minimum embedment, shall have a minimum allowable tension and shear of 2450 and 1525 psi, respectively. Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations.

BOLT-DOWN DETAILS

SM RD SGN ASSM TY FRP(X)UB(P)

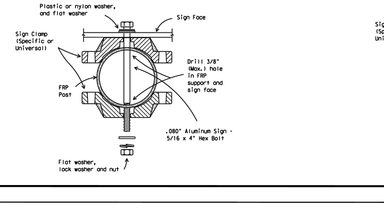
GENERAL NOTES:
1. FRP sign supports for a single type sign support may be used for signs up to and including 16 square feet. Dual post installation may be used for signs up to and including 32 square feet.
2. All nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing."
3. See the Traffic Operations Division website for detailed drawings of sign clamps. The website address is: http://www.txdot.gov/publications/trraffic.htm

FRP POST REQUIREMENTS
1. Materials shall conform to the requirements of Departmental Material Specification DMS-4410 and will be furnished in a yellow or gray color as specified elsewhere in the plans.
2. Thickness of FRP sign support is 0.125" + 0.031", - 0.0".
3. FRP sign supports are prequalified by the Traffic Operations Division. Prequalification procedures are obtained by writing:
   Texas Department of Transportation
   Traffic Operations Division
   125 East 11th Street
   Austin, Texas 78701-2483

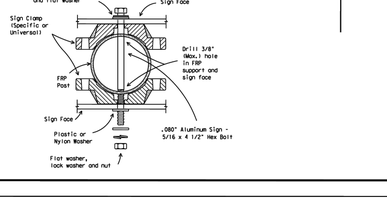
UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURES
1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Insert base post in foundation hole to depths shown and fill hole with concrete. Cut base post from bottom and ensure a minimum of 18" embedment if installed in solid rock.
4. Level and plumb the base post with coupler using a torpedo level and let concrete set a minimum of 4 days, unless otherwise directed by Engineer. Bottom of base post slots shall be above the concrete footing.
5. Attach sign to FRP post.
6. Insert sign post into base post. Lower until the post comes to rest on the steel rod.
7. Use hammer to ensure the coupler is firmly seated. Top of coupler should be level with top of base post in most instances.
8. Check sign to ensure there is no twist. If loose, increase the tightening of coupler.

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

Typical Sign Mounting Detail for FRP Support with Single Sign



Typical Sign Mounting Detail for FRP Support with Back-to-Back Signs



Texas Department of Transportation
Traffic Operations Division

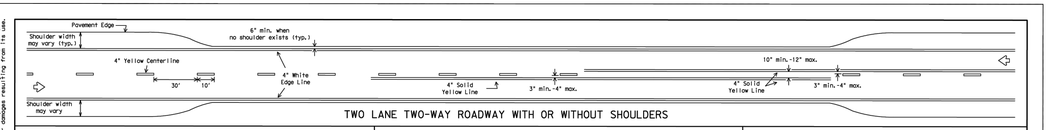
SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS UNIVERSAL ANCHOR SYSTEM WITH FRP POST

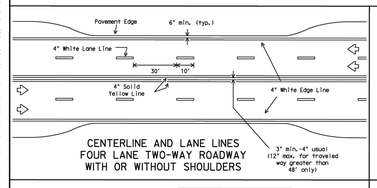
SMD(FRP)-08

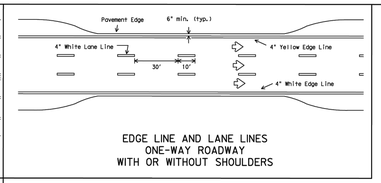
©TxDOT July 2002	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
9-08 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.

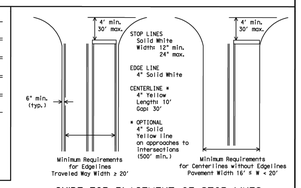
26F

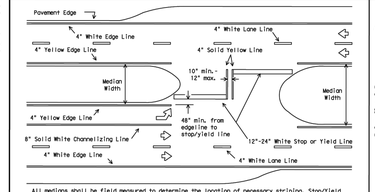
DATE:
FILE:











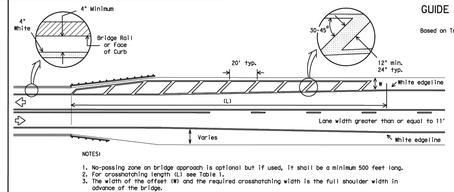


TABLE 1 - TYPICAL LENGTH (L)

Posted Speed*	Formula
≤ 40	$L = \frac{WS^2}{60}$
≥ 45	L=WS

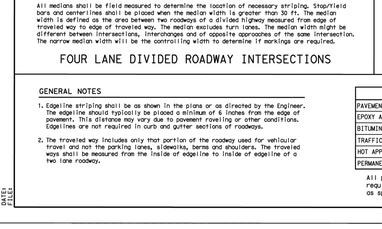
* 85th Percentile Speed may be used on roads where posted speed limit is not consistent with 85th percentile speed. Crosshatching length should be rounded up to nearest 5 feet increments.

L=Length of Crosshatching (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

EXAMPLES:

An 8 foot shoulder in advance of a bridge reduces to 4 feet on a 70 MPH roadway. The length of the crosshatching should be:
L = 8 x 70 = 560 ft.

A 4 foot shoulder in advance of a bridge reduces to 2 feet on a 40 MPH roadway. The length of the crosshatching should be:
L = 4(40)^2 / 60 = 106.67 ft, rounded to 110 ft.

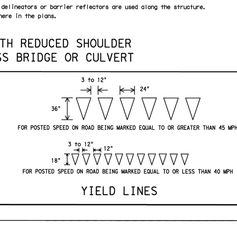


GENERAL NOTES

1. Edgeline striping shall be as shown in the plans or as directed by the Engineer. The edgeline should typically be placed a minimum of 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edgelines are not required in curb and gutter sections of roadways.
2. The traveled way includes only that portion of the roadway used for vehicular travel and not the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the inside of edgeline to inside of edgeline of a two lane roadway.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

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



Texas Department of Transportation
Traffic Operations Division

TYPICAL STANDARD PAVEMENT MARKINGS

PM(1)-12

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8-85 2-12 REVISIONS	CONT	SECT	JOB	HIGHWAY
5-90	DIST	COUNTY		SHEET NO.
8-00				
3-03				

22A

CUDEENGINEERS.COM

CUDE ENGINEERS
4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION
PHASE 2

TXDOT SIGN MOUNTING DETAILS

DATE
11/7/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
1.
2.
3.
4.
5.
6.
7.
8.

STATE OF TEXAS
KYLE M. HUDEK
138753
LICENSED
PROFESSIONAL ENGINEER
11/08/2024

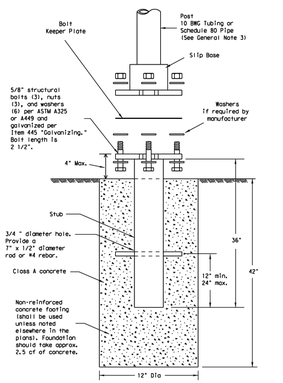
CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
PZ-2024-16

C8.02

P:\03653\005\DWG\Sheets\03653_Shts.dwg 2024/11/07 7:43pm mashadowd

TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



SM RD SGN ASSM TY XXXXX(1)SA(X-XXXX)

NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. http://www.txdot.gov/business/producer_list.htm The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:

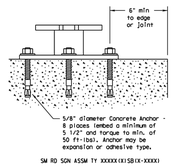
1. Slip base shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
2. Material used as post with this system shall conform to the following specifications:
   10 BWG Tubing (2.875" outside diameter)
   0.134" nominal wall thickness
   Seamless or electric-resistance welded steel tubing or pipe
   Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   Other steels may be used if they meet the following:
   55,000 PSI minimum yield strength
   70,000 PSI minimum tensile strength
   20% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
   Outside diameter (uncoated) shall be within the range of 2.867" to 2.883"
   Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
   Schedule 80 Pipe (2.875" outside diameter)
   0.276" nominal wall thickness
   Steel tubing per ASTM A500 Gr C
   Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the following:
   46,000 PSI minimum yield strength
   60,000 PSI minimum tensile strength
   21% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.248" to 0.304"
   Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
   Galvanization per ASTM A123
3. See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is: http://www.txdot.gov/publications/traffic.htm
4. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

ASSEMBLY PROCEDURE

Foundation
1. Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
2. Foundation may generally consist of concrete less than 2 cubic yards to be mixed with a portable, motor-driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Push the pipe end of the slip base stub into the center of the concrete. Rotate the stub back and forth while pushing it down into the concrete to assure good contact between the concrete and stub. Continue to work the stub into the concrete until it is between 2 to 4 inches above the ground.
4. Plumb the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
5. The triangular slipbase system is multifractional and is designed to release when struck from any direction.

Support
1. Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the travelway (i.e., edge of the closest lane) when slip plate is below the edge of pavement or 7 to 7.5 feet above slip plate when the slip plate is above the edge of the travelway. The cut shall be plumb and straight.
2. Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2) for clearances based on sign types.

CONCRETE ANCHOR



SM RD SGN ASSM TY XXXXX(X)SB(CX-XXXX)

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy hex nut per ASTM A563, and hardened washer per ASTM F436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 KSI, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations. Top of bolt shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 5 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 3100 psi, respectively.

DATE:
FILE:

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-1)-08

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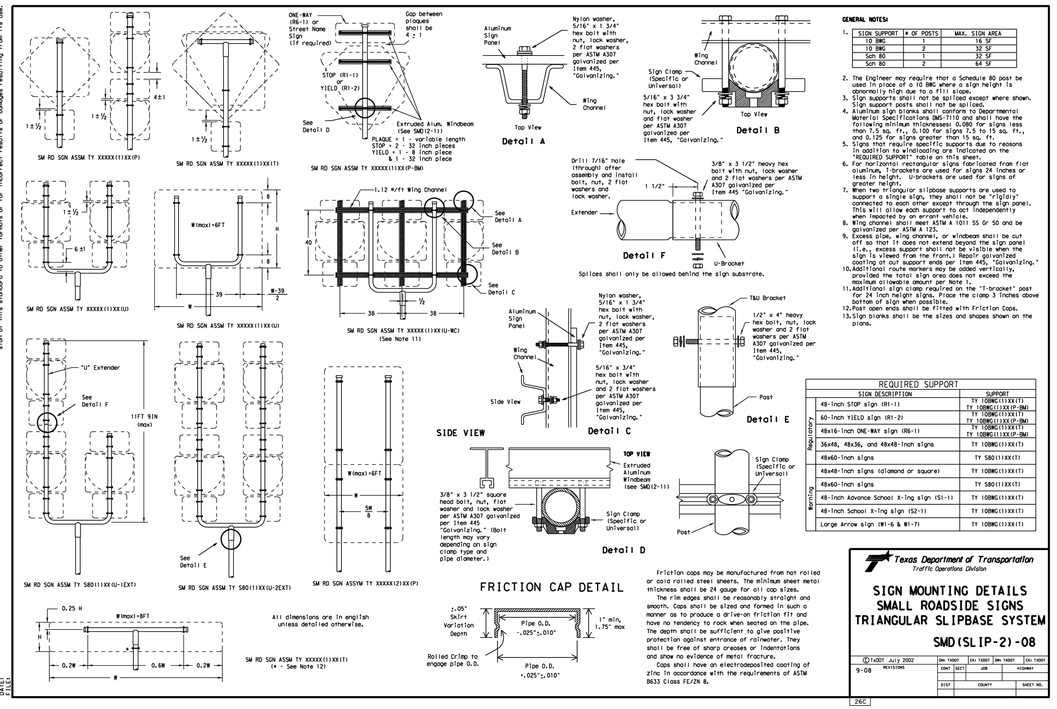
9-08 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.

268



FRICTION CAP DETAIL

Friction caps may be manufactured from hot rolled or cold rolled steel sheets. The minimum sheet metal thickness shall be 24 gauge for all cap sizes.

The rim edges shall be reasonably straight and smooth. Caps shall be sliped and formed in such a manner as to produce a drive-on friction fit and have no tendency to rock when seated on the pipe. The depth shall be sufficient to give positive protection against entrance of rainwater. They shall be free of sharp grooves or indentations and show no evidence of metal fracture.

Caps shall have an electrodeposited coating of zinc in accordance with the requirements of ASTM B633 Class FE/ZN 8.

GENERAL NOTES:

1. | SIGN SUPPORT | # OF POSTS | MAX. SIGN AREA |
   |---|---|---|
   | 10 BWG | 1 | 16 SF |
   | 10 BWG | 2 | 32 SF |
   | Sch 80 | 1 | 32 SF |
   | Sch 80 | 2 | 64 SF |
2. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
10. Sign blanks shall be the sizes and shapes shown on the plans.
11. Additional sign clamp required on the "T-bracket" post for 24 inch high signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with friction Caps.
13. Sign blanks shall be the sizes and shapes shown on the plans.

REQUIRED SUPPORT		
	SIGN DESCRIPTION	SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) / TY 10SWG(1)XX(F-DW)
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) / TY 10SWG(1)XX(F-DW)
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) / TY 10SWG(1)XX(F-DW)
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
Warning	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-2)-08

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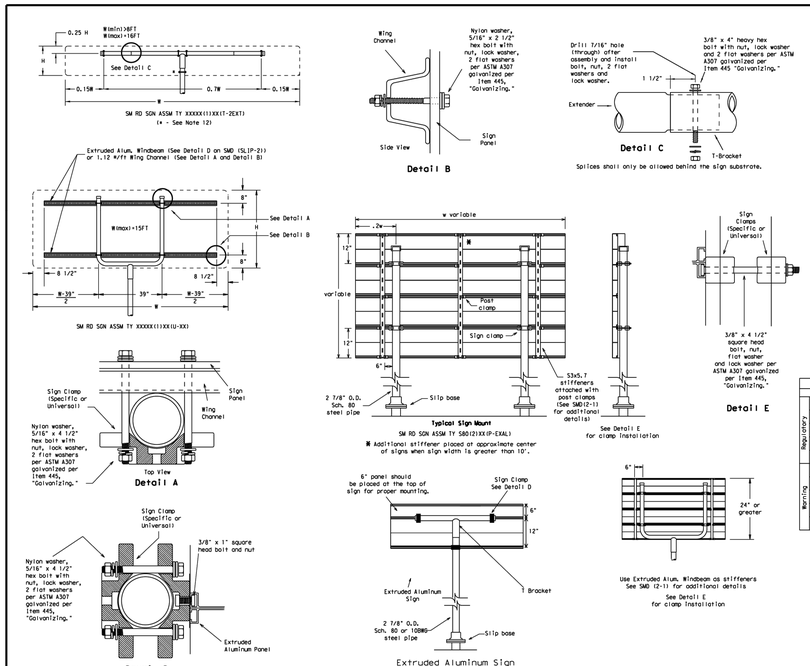
9-08 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.

26C



GENERAL NOTES:

1. | SIGN SUPPORT | # OF POSTS | MAX. SIGN AREA |
   |---|---|---|
   | 10 BWG | 1 | 16 SF |
   | 10 BWG | 2 | 32 SF |
   | Sch 80 | 1 | 32 SF |
   | Sch 80 | 2 | 64 SF |
2. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
10. Sign blanks shall be the sizes and shapes shown on the plans.
11. Additional sign clamp required on the "T-bracket" post for 24 inch high signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with friction Caps.

REQUIRED SUPPORT		
	SIGN DESCRIPTION	SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) / TY 10SWG(1)XX(F-DW)
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) / TY 10SWG(1)XX(F-DW)
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) / TY 10SWG(1)XX(F-DW)
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
Warning	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-3)-08

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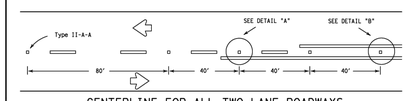
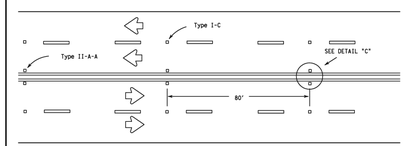
9-08 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.

260

REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE

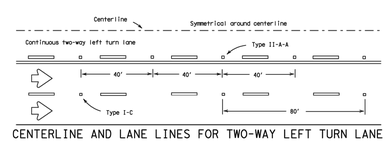


CENTERLINE FOR ALL TWO LANE ROADWAYS

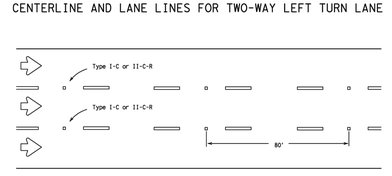


CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY HIGHWAYS

Raised pavement marker Type I-C, clear face toward normal traffic, shall be placed on 80-foot centers.

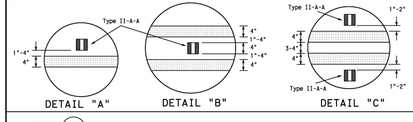


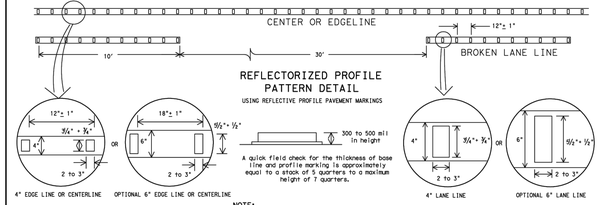
CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.





NOTE:
Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

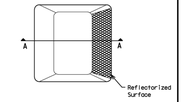
GENERAL NOTES

1. All raised pavement markers placed in broken lines shall be placed in line with and midway between the stripes.
2. On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

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

Type I (Top View)



Type II (Top View)

SECTION A

RAISED PAVEMENT MARKERS

Texas Department of Transportation
Traffic Operations Division

POSITION GUIDANCE USING RAISED MARKERS REFLECTORIZED PROFILE MARKINGS

PM(2)-12

©TxDOT April 1977	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
4-92 2-10 REVISIONS	CONT	SECT	JOB	HIGHWAY
5-00 2-12				
8-00	DIST	COUNTY		SHEET NO.
7-08				

220

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4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P:(210) 681.2951 F: (210) 523.7112

POSS LANDING SUBDIVISION PHASE 2

TXDOT SIGN MOUNTING DETAILS

DATE
11/7/2024

PROJECT NO.
03653.005

DRAWN BY
MAS

CHECKED BY
KMH

REVISIONS
1.
2.
3.
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STATE OF TEXAS — KYLE M. HUDEK — 138753 — LICENSED PROFESSIONAL ENGINEER — 11/08/2024

CUDE ENGINEERS
TBPE No. 455
TBPLS No. 10048500

PLAT NO.
PZ-2024-16

C8.03

P:\03653\CAD\C3-SIGN\Plan\C8.03_TXDOT Sign Mounting Details.dwg, 11/7/2024 11:53:47 AM, gwarmbrod