NEILL TRACT SUBDIVISION UNIT 1

PAVING, DRAINAGE, WATER, AND WASTEWATER IMPROVEMENTS

GUADALUPE COUNTY

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

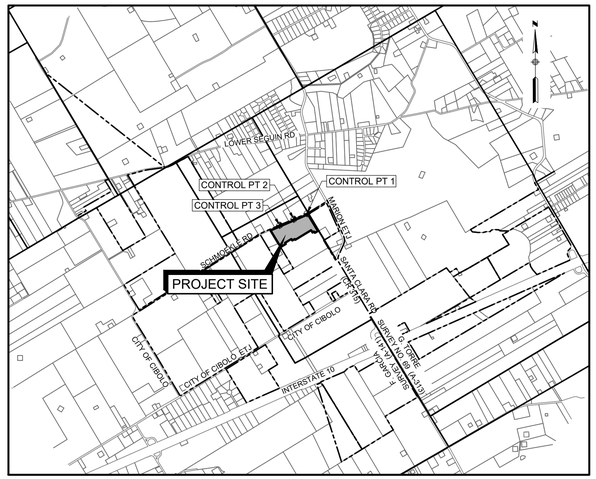
811 Know what's **below.** **Call** before you dig.

ACCESSIBILITY REQUIREMENTS

1. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN VEHICULAR AND PEDESTRIAN ACCESS AT ALL TIMES TO LOCAL RESIDENCES AND BUSINESSES.
2. WHEN THE WORK REQUIRES THE EXCAVATION OF THE STREET AND THE REMOVAL OF THE EXISTING DRIVEWAY APPROACHES AND SIDEWALKS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY ALL-WEATHER ACCESS TO THE BUSINESSES AND RESIDENCES. THE TEMPORARY DRIVEWAY APPROACHES SHALL BE CONSTRUCTED WITH FLEXIBLE BASE OR GRAVEL MATERIAL AT NO SEPARATE COST TO THE CITY.
3. PRIOR TO INITIATING THE CONSTRUCTION OF NEW DRIVEWAY APPROACHES, THE CONTRACTOR SHALL GIVE ADVANCE WARNING IN PERSON, OR IN WRITING, OF AT LEAST 48 HOURS TO EACH RESIDENCE THAT WILL BE IMMEDIATELY AFFECTED, SO THAT ALTERNATE PLANS MAY BE MADE BY THE RESIDENTS.
4. FOR BUSINESSES WITH MORE THAN ONE DRIVEWAY, AT LEAST ONE DRIVEWAY SHALL REMAIN OPEN WHILE THE OTHER NEW DRIVEWAY APPROACHES ARE CONSTRUCTED. FOR BUSINESSES WITH ONLY ONE DRIVEWAY, THE NEW DRIVEWAY APPROACH SHALL BE CONSTRUCTED IN HALF WIDTHS, UNLESS A TEMPORARY ASPHALT DRIVEWAY IS FIRST INSTALLED AT NO SEPARATE COST TO THE CITY.

PROPERTY DESCRIPTION

BEING 28.68 ACRES OF LAND, OUT OF THE CALLED 104 ACRE TRACT CONVEYED TO LARRY ROBERT NEILL, DESCRIBED IN VOLUME 1054, PAGE 449, OF THE OFFICIAL PUBLIC RECORD OF GUADALUPE COUNTY, TEXAS, OUT OF THE FRANCISCO GARCIA SURVEY, ABSTRACT 141, GUADALUPE COUNTY, TEXAS



LOCATION MAP
(N.T.S.)

SUBMITTAL DATE: OCTOBER 2025

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9.0	STORM WATER PROTECTION PLAN
9.1	STORM WATER PROTECTION PLAN DETAILS

BENCHMARK INFORMATION:

DA MAWYER CONTROL POINT 1 (CHK CP1)
NORTHING: 13745038.62'
EASTING: 2239692.78'
ELEVATION = 614.02'

DA MAWYER CONTROL POINT 2 (CHK 2)
NORTHING: 13744799.08'
EASTING: 2239142.02'
ELEVATION = 619.28'

DA MAWYER CONTROL POINT 3 (CHK 3)
NORTHING: 13744544.30'
EASTING: 2238544.96'
ELEVATION = 621.95'

VERTICAL DATUM: NAVD-88 / NAD-83 SPC-TEXAS SOUTH CENTRAL ZONE (4204)

THIS INFORMATION PROVIDED BY: DA MAWYER LAND SURVEYING, INC.

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

REVISIONS			
NO.	DESCRIPTION	BY	DATE

NOTES:

- ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, GUADALUPE COUNTY MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
- IF CONSTRUCTION HAS NOT COMMENCED WITHIN TWO-YEARS OF COUNTY APPROVAL FOR CONSTRUCTION, THAT APPROVAL IS NO LONGER VALID.
- GAS UTILITIES ARE NOT INCLUDED IN THE CIVIL CONSTRUCTION PLANS. FINAL GAS UTILITY DESIGN SHALL BE APPROVED BY THE COUNTY FOR ANY WORK WITHIN PUBLIC RIGHT-OF-WAY.

DEVELOPER: KB HOME
4800 FREDERICKSBURG ROAD, SUITE 100
SAN ANTONIO, TX 78229
CONTACT PERSON: JASON TOWNSLEY
PHONE # (210) 301-2815

ENGINEER : LJA ENGINEERING, INC.
9830 COLONNADE BOULEVARD, SUITE 300
SAN ANTONIO, TEXAS 78230
CONTACT PERSON: PRISCILLA G. FLORES, P.E.
PHONE # (210) 503-2700

SURVEYOR : D.A. MAWYER LAND SURVEYING, INC.
5151 W. SH 46
NEW BRAUNFELS, TEXAS 78132
CONTACT PERSON: DREW A. MEWYERS, R.P.L.S.
PHONE # (830) 730-4449

CONTOUR DATA : FIELD SURVEY BY LJA SURVEYING

LJA JOB NO. SA164-2402

LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
FRN-F-1386

GVSUD GENERAL NOTES

1. ALL WORKMANSHIP AND MATERIALS FOR THE WATER SYSTEM SHALL CONFORM TO THE WATER STANDARDS AND DESIGN CRITERIA OF GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD).

2. PVC MAINS 12-INCHES AND BELOW SHALL CONFORM TO AWWA C-909 PRESSURE CLASS 235 OR ABOVE DEPENDING ON SYSTEM PRESSURES. PVC MAIN GREATER THAN 12 INCHES SHALL CONFORM TO AWWA C-900 DR 18 OR ABOVE DEPENDING ON SYSTEM PRESSURES. WATER MAINS SHALL HAVE AN ABSOLUTE MINIMUM DEPTH OF 5-FEET BELOW ROADWAY LEVEL AND 42-INCHES IN ALL OTHER AREAS.

3. ALL WATER MAIN DUCTILE IRON FITTINGS SHALL BE MECHANICAL JOINT AND CONFORM TO ANSI/AWWA C-153 OR C-110. ALL BOLTS SHALL HAVE KOPR KOTE OR APPROVED EQUAL ANTISEIZE CORROSION RESISTANT COATING. VALVES SHALL BE ATTACHED TO TEES BY FOSTER ADAPTOR OR ANCHOR NIPPLE. FOSTER ADAPTER, ANCHOR NIPPLE, OR FORD UNI-FLANGE RETAINER GLANDS AND THRUST BLOCKS SHALL BE USED ON ALL FITTINGS AND VALVES

4. TRACER WIRE SHALL BE INSTALLED ON ALL PIPELINES INCLUDING SERVICE LINES AND BROUGHT INTO VALVE AND METER BOXES FOR LOCATING PURPOSES. INSULATED WATER PROOF CONNECTORS SHALL BE USED TO SPLICE WIRES TOGETHER. A 12-INCH-WIDE DETECTABLE METAL TAPE SHALL BE PLACED ABOVE BEDDING INITIAL BACKFILL.

5. EXCEEDING MAXIMUM DEFLECTION IS PROHIBITED. THE ANGULAR DEFLECTION AT BELLSPIGOT JOINTS SHOULD NOT EXCEED ONE (1) DEGREE. THIS WILL PRODUCE A 4-INCH OFFSET FOR EVERY 20-FOOT SECTION OF PIPE. JOINT DEFLECTION IS ACHIEVED AFTER THE JOINT IS ASSEMBLED IN STRAIGHT ALIGNMENT AND DEFLECTED TO THE REFERENCE MARK. THE BELLSHOULD BE BRACED TO ALLOW THE FREE END TO MOVE LATERALLY UNDER STEADY PRESSURE USING A PRY BAR OR OTHER SUITABLE MEANS. CARE SHOULD BE TAKEN NOT TO EXCEED THE MAXIMUM DEFLECTION ALLOWED OR TO DAMAGE THE PIPE WITH MACHINERY. ABRUPT CHANGES IN DIRECTION SHALL BE ACCOMPLISHED WITH FITTINGS.

6. OVER STRESSING THE BELL BY OVER INSERTING THE JOINTS, OVERBELLING, AND PASSING THE INSERTION REFERENCE MARK IS PROHIBITED AND WILL REQUIRE REMOVAL AND REINSTALLATION.

7. STANDARD FIRE HYDRANT SHALL INCLUDE HYDRANT, 6-INCH RESILIENT GATE VALVE AND BOX, ANCHOR FITTINGS, DUCTILE IRON PIPE, AND ALL APPURTENANCES. HYDRANTS SHALL BE LIMITED TO THOSE MANUFACTURED BY MUELLER, AVK, AMERICAN FLOW, CLOW, OR EAST JORDAN. ONLY MUELLER HYDRANTS AND EJ SHALL BE USED IN CITY OF CIBOLO'S JURISDICTION. HYDRANT UPPER BARREL SHALL BE FACTORY PAINTED RED. HYDRANTS SHALL HAVE A STORTZ CONNECTION ON STEAMER NOZZLE. FITTINGS FOR PLUG SHALL BE FULLY RESTRAINED AND TIED TO VALVE.

8. VALVES SHALL BE AWWA APPROVED RESILIENT WEDGE SEATED GATE VALVE, OPEN LEFT, AND LIMITED TO THOSE MANUFACTURED BY MUELLER, AVK, AMERICAN FLOW, CLOW, OR EAST JORDAN.

9. VALVES ARE PROHIBITED IN ADA RAMPS, CURBS, AND ROADWAYS. VALVES ARE PROHIBITED IN SIDEWALKS IN CITY OF NEW BRAUNFELS.

10. METER BOXES ARE PROHIBITED IN ANY SIDEWALKS, DRIVEWAYS, OR ROADWAYS.

11. SMALL SERVICE TAPS SHALL BE EITHER 1-INCH OR 2 INCH AND SHALL BE REHAU MUNICIPEX WITH CTS 200 PSI PLASTIC INSERT. SMALL SERVICE TAPS TO BE MADE WITH SINGLE BRASS STRAP TAPPING SADDLE WITH IRON PIPE THREADS. EXCEPTION: IF LOCATED WITHIN CITY OF CIBOLO- SERVICE TAPS TO BE MADE WITH DOUBLE STAINLESS STRAP EPOXY COATING SADDLES WITH IRON PIPE THREADS.

12. CASING REQUIRED FOR ALL LONG SMALL SERVICES. 1 INCH SERVICE REQUIRES 3 INCH CASING AND 2 INCH SERVICE REQUIRES 4 INCH CASING. CASING SHALL BE PVC SCHEDULE 40 OR APPROVED EQUAL.

13. SINGLE 5/8" & ¾" METER BOXES SHALL BE DFW36C 16" X 11". DUAL 5/8" & ¾" METER BOXES SHALL BE DFW38C 17" X 15". 1-INCH METER BOXES SHALL BE DFW65C-14-1A 15 1/4" X 30 3/8". ALL METER BOXES SHALL BE PLASTIC WITH LIDS HAVING REBAR, ARM, AND KNOCKOUT.

14. THE FORD U BRANCH IS TO BE USED ON ALL DUAL SERVICES (U48-43Q) WITH THE 5/8" X 3/4"FEMALE THREAD ANGLE HEAD. ALL OTHER ANGLE HEADS WILL BE THE FORD Q NUT. ALL CORPORATION STOPS WILL BE IPS X Q NUT. ALL BRASS VALVES TO BE 'BALL' TYPE MINIMUM 200PSI PRESSURE RATING. "CC" THREADED CORPORATION STOPS PROHIBITED.

15. TAPPING MACHINES UTILIZED FOR INSTALLING ANY TYPE OF TAP 1-INCH TO 2-INCHES WILL BE OF THE PURGE TYPE, WHICH AT THE TIME OF TAPPING SHALL EXPEL ALL CHIPS AND RESIDUE TO ATMOSPHERE THROUGH AN APPROPRIATE OUTLET AND/OR BE ABLE TO RETAIN THE COUPON.

16. ALL WATER MAIN, PIPE, CASINGS, FITTINGS, AND VALVES SHALL BE LAID IN MANUFACTURED SAND EMBEDMENT PER DETAILS. THE SAND SHALL FULLY ENCASE ALL PIPES, INCLUDING FITTINGS AND VALVES, BY A MINIMUM OF 12-INCHES. ALL FITTINGS AND VALVES ARE TO RECEIVE THRUST BLOCKING, FOSTER ADAPTER, ANCHOR NIPPLE, FORD UNI-FLANGE RETAINER GLAND JOINT RESTRAINTS, AND BELL JOINT RESTRAINTS WHEN SPECIFIED BY GVSUD OR THE DISTRICT'S ENGINEER.

17. CONTRACTOR TO CURB CUT V'S FOR VALVES AND X'S FOR METERS.

18. PRIOR TO CONSTRUCTION OF THE SEWER AND WATER MAINS, ALL R.O.W. ROADWAYS AND PARKWAY SHALL HAVE REFERENCE SURVEY STAKING AND BE EXCAVATED OR PROPERLY FILLED TO SUB-GRADE ELEVATION.

19. SURVEY STAKING OFFSETS ARE REQUIRED FOR ALL WATER MAIN AND APPURTENANCES.

20. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED. CONTRACTOR SHALL INVESTIGATE AND FIELD VERIFY UTILITY LOCATIONS A MINIMUM OF 300 LF AHEAD OF CROSSING AND TIE-IN LOCATIONS. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR MAINTENANCE PROTECTION OF THE EXISTING UTILITIES, WHETHER THEY ARE SHOWN ON THE PLANS OR NOT.

21. ALL WASTEWATER PIPES CROSSING THE POTABLE WATER DISTRIBUTION SYSTEM WILL BE HELD IN STRICT ACCORDANCE WITH TCEQ RULES AND REGULATIONS. PROPOSED SUB-GRADE LIMITS AND DIMENSIONS MUST BE SHOWN ON THE PLANS, AND CONSTRUCTION PROCEDURES WILL BE INSPECTED TO VERIFY COMPLIANCE WITH TCEQ 290.44(E).

22. OTHER UTILITIES SHALL NOT BE LOCATED CLOSER THAN 3-FEET TO WATER MAINS.

23. THE GREEN VALLEY INSPECTOR SHALL BE NOTIFIED AT LEAST FORTY-EIGHT HOURS PRIOR TO BACK FILLING OR TESTING.

24. A FIELD PRE-CONSTRUCTION MEETING SHALL BE HELD BEFORE CONSTRUCTION BEGINS AND MATERIAL SHALL BE AVAILABLE ON-SITE FOR INSPECTION.

25. CONTRACTOR SHALL CHLORINATE NEW MAINS PER TCEQ AND ANSI/AWWA C651 AND DECHLORINATE DURING FLUSHING PER ANSI/AWWA C655. THE CONTRACTOR SHALL COORDINATE WITH THE GVSUD INSPECTOR TO WITNESS CHLORINATING AND PRESSURE TESTING OF NEW MAINS. ALL TEST RESULTS MUST BE PROVIDED TO GVSUD.

26. OPERATION OF EXISITNG VALVES IN THE GVSUD WATER DISTRIBUTION SYSTEM SHALL ONLY BE AS APPROVED BY GVSUD AND IN THE PRESENCE OF GVSUD PERSONNEL. THE CONTRACTOR SHALL NOTIFY GVSUD WHEN A VALVE NEEDS TO BE OPERATED AND MAY ONLY OPERATE A VALVE IN THE PRESENCE OF THE GVSUD INSPECTOR.

27. NEW WATER MAINS AND APPURTENANCES SHALL PASS PRESSURE TESTING AND PASS THE MINIMUM PUBLIC HEALTH STANDARDS FOR BACTERIOLOGICAL QUALITY TESTING PRIOR TO ANY TIE IN TO THE EXISTING GVSUD WATER SYSTEM AS REQUIRED BY TCEQ AND ANSI/AWWA.

28. HYDROSTATIC PRESSURE TESTING SHALL BE EVERY 200 LF (MAX) OF LINE OR AS APPROVED BY THE ENGINEER. ALL ERRORS OF WORKMANSHIP SHALL BE CORRECTED IMMEDIATELY. ALL PARTS OF THE PIPELINE SHALL BE BACKFILLED AND BRACED SUFFICIENTLY TO PREVENT MOVEMENT UNDER PRESSURE.

29. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH AND CONFINED SPACE ENTRY SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION AND ALL RELATED WORK. ANY GVSUD CONSTRUCTION PLAN GENERAL NOTES TRENCH PROTECTION SAFETY VIOLATION WILL BE DOCUMENTED AND WILL RESULT IN AN IMMEDIATE WORK STOPPAGE BY THE GVSUD INSPECTOR AT MINUMUM UNTIL THE NEXT WORKDAY.

30. CONTRACTOR MUST PROTECT ALL UNATTENDED TRENCHES AND EXCAVATIONS WITH TEMPORARY FENCING.

31. NO TREES MAY BE PLANTED IN THE AREAS DESIGNATED AS WATER OR UTILITY EASEMENTS, OR AREAS WHERE WATER MAINS AND WATER SERVICE CROSSINGS EXIST OR ARE PLANNED TO BE CONSTRUCTED.

32. ALL GARBAGE OR SPOIL MATERIAL FROM THE WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.

33. CONTRACTOR SHALL PROVIDE "AS-BUILT" WATER LINE PLANS AT THE PRELIMINARY WALK THRU FOR THE GVSUD INSPECTOR AND ENGINEER. THE PLANS SHALL LIST MATERIAL MANUFACTURERS, LINE LENGTH FROM FITTING TO FITTING, AND TAP LOCATIONS.

34. GPS FILES SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER AND GVSUD INSPECTOR FOR THE PLAN OF RECORD. CONTRACTOR SHALL PROVIDE AN ASCII COMMA DELIMITED OR EXCEL FILE CONTAINING THREE-DIMENSIONAL GPS SURVEY POINTS WITH FOUR (4) DECIMAL PLACES OF PRECISION, LESS THAN FOUR (4) INCHES OF HORIZONTAL POSITION ACCURACY, AND LESS THAN EIGHT (8) INCHES OF VERTICAL POSITION ACCURACY. POINTS SHALL BE PROVIDED FOR A MINIMUM OF THREE (3) CONTROL POINTS AND ALL FITTINGS, APPURTENANCES, ENCASEMENTS, VAULTS, AND TANKS. THE ENGINEER SHALL FURNISH PLAN OF RECORD DRAWINGS TO GVSUD FOR APPROVAL HAVING FINAL MEASUREMENTS AND THAT MATCH THE GPS 'X', 'Y', AND 'Z' COORDINATES.

35. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL THE INFORMATION AS REQUIRED SO THAT THE ENGINEER CAN SUPPLY GVSUD THE GIS PACKAGE FOR APPROVAL.

36. A FINAL WALK THRU FOR FINAL FIELD ACCPETANCE WILL BE SCHEDULED WITH THE CONTRACTOR AFTER THE PRELIMINARY WALK THRU PUNCH LIST ITEMS HAVE BEEN COMPLETED AND AFTER THE GIS PACKAGE IS APPROVED AND ACCEPTED BY GVSUD.

37. GVSUD CONTACT NUMBER: 830-914-2330

GENERAL NOTES:

1. DESIGN AND INSTALLATION SHALL BE IN ACCORDANCE WITH TCEQ RULES AND AWWA STANDARDS, AND
IN ACCORDANCE WITH GVSUD STANDARDS AS FURTHER DESCRIBED IN THIS DOCUMENT.

2. CONTRACTOR TO WARRANTY ALL MATERIALS AND WORKMANSHIP AFTER FINAL ACCEPTANCE BY GREEN VALLEY SPECIAL UTILITY DISTRICT (MINIMUM 1 YEAR).

3. NO BLASTING IS ALLOWED ON THE PROJECT.

4. THE CONTRACTOR WILL REIMBURSE GVSUD FOR ALL COST INCURRED AS A RESULT OF ANY DAMAGE TO ANY GVSUD UTILITY BY THE CONTRACTOR, REGARDLESS OF THESE PLANS.

5. THE CONTRACTOR SHALL KEEP THE SITE CLEAN AND MAINTAINED AT ALL TIMES, TO THE SATISFACTION OF GVSUD.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO PRIVATE PROPERTY.
7. PRIOR TO GVSUD ACCEPTANCE OF ALL IMPROVEMENTS, ALL GRADED AND DISTURBED AREAS ARE TO BE RE-VEGETATED IN ACCORDANCE WITH THE GVSUD SPECIFICATION UNLESS ANOTHER RE-VEGETATION SPECIFICATION IS SPECIFICALLY IDENTIFIED IN THE PLANS AND/OR BID FORM.

8. THE CONTRACTOR SHALL PROVIDE COMBINATION LOCKS FOR ALL GATES, HATCHES, VAULTS, AND MCC EACH LOCK SHALL BE PRE-APPROVED AND SET TO GVSUD'S REQUIREMENTS. (NO SEPARATE PAY)

9. THE CONTRACTOR SHALL UNCOVER ALL UTILITIES WITHIN THE LIMITS OF CONSTRUCTION AND VERIFY THEIR HORIZONTAL AND VERTICAL LOCATION PRIOR TO ANY CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, IN WRITING, OF ANY CONFLICTS PRIOR TO ANY CONSTRUCTION INCLUDING BUT NOTLIMITED TO EXACT LOCATIONS OF CONFLICTS WITH PROPOSED OR EXISTING UTILITIES.

MATERIALS:

1. PVC MAINS 12 INCHES AND BELOW SHALL CONFORM TO AWWA C-909 PRESSURE CLASS 235 OR above. PVC MAIN GREATER THAN 12 INCHES SHALL CONFORM TO AWWA C-900 DR 18 OR above. WATER MAINS SHALL HAVE AN ABSOLUTE MINIMUM DEPTH OF 48 INCHES IN ALL AREAS.

2. 2-INCH SERVICE CROSSINGS SHALL BE YELOMINE ASTM D2241 OR APPROVED EQUIVALENT.

3. TAPPING SADDLES SHALL BE SINGLE BRASS STRAP OR DUAL BANDED STAINLESS-STEEL FLAT-STRAP EPOXY SADDLE WITH IRON PIPE THREADS.

4. ALL FASTENERS SHALL BE 304 STAINLESS-STEEL (E.G. HARDWARE, SCREWS, ANCHOR BOLTS, RODS, FLANGE BOLTS AND NUTS, ETC.). ALL BOLTS AND NUTS SHALL BE HEAVY HEX. FIELD-APPLY NICKEL ANTI-SEIZE COMPOUND PRIOR TO ASSEMBLY. BOLTS AND NUTS SHALL NOT BE PAINTED.

5. ALL BURIED METAL PIPE, FITTINGS, AND VALVES SHALL BE WRAPPED WITH 8MIL POLY.

6. PAINT SHALL BE HIGH-BUILD EPOXY WITH TOPCOAT OF POLYURETHANE.

7. ALL FIRE HYDRANT LEADS SHALL BE DUCTILE IRON C151 OR APPROVED EQUIVALENT.

TESTING:

1. ALL TESTING SHALL BE ARRANGED AND PAID FOR BY THE CONTRACTOR AND WITNESSED BY GVSUD.

2. ALL TESTING MUST BE COMPLETE PRIOR TO PAVING STREETS.

3. THE CONTRACTOR SHALL PROVIDE GVSUD COPIES OF ALL TEST RESULTS PRIOR TO ACCEPTANCE OF THE PROJECT.

4. ALL TESTING MUST BE COMPLETE PRIOR TO PERFORMING TIE-INS TO EXISTING WATER SYSTEMS.

5. ALL OTHER UTILITIES MUST BE COMPLETE AND OFFSITE PRIOR TO PERFORMING HYDROSTATIC PRESSURE TESTING.
6.
7. CONTRACTOR SHALL PERFORM SPIKE TEST AT 200 PSI FOR 15 MINUTES THEN REDUCE PRESSURE TO 150 PSI FOR 2 HOURS.

8. CONTRACTOR SHALL PERFORM PRE-TESTING TO VERIFY PASSING RESULTS PRIOR TO REQUESTING GVSUD INSPECTION. PROVIDE CONNECTION POINT FOR GVSUD DIGITAL TEST GAUGE (QUICK CONNECT).

9. PERFORM TRENCH BACKFILL DENSITY TESTING AT INTERVALS SPECIFIED BY THE DESIGN ENGINEER, EXACT LOCATIONS TO BE DESIGNATED BY INSPECTOR. SCHEDULE WITH GVSUD TO WITNESS 48 HOURS PRIOR TO TEST. PROVIDE COPIES OF REPORTS TO GVSUD.

10. HYDROSTATIC PRESSURE TESTING SHALL BE EVERY 1200 LF (MAX) OF WATER LINE OR AS APPROVED BY THE ENGINEER. ALL ERRORS OF WORKMANSHIP SHALL BE CORRECTED IMMEDIATELY. ALL PARTS OF THE PIPELINE SHALL BE BACKFILLED AND BRACED SUFFICIENTLY TO PREVENT MOVEMENT UNDER PRESSURE.

CONSTRUCTION NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH GVSUD STANDARDS AS PUBLISHED AT THE FOLLOWING WEBSITE: HTTP://WWW.GVSUD.ORG/

2. MATERIAL SUBMITTALS SHALL BE PROVIDED FOR GVSUD REVIEW AND APPROVAL. ALLOW 21 CALENDAR DAYS FOR REVIEW.

3. ALL WATER INSTALLATIONS MUST BE INSPECTED AND APPROVED BY GVSUD PRIOR TO BACKFILLING OR OTHERWISE COVERING THE WORK. GVSUD WILL REJECT ANYTHING BACKFILLED PRIOR TO GVSUD APPROVAL. THIS INCLUDES CROSSINGS OF WATER AND WASTEWATER BY OTHER UTILITIES. GVSUD WILL PERFORM A MAXIMUM OF ONE (1) INSPECTION DAILY FOR ONE (1) HOUR DURATION BETWEEN 7:30AM AND 4:00PM EXCLUDING WEEKENDS AND HOLIDAYS. CALL TO SCHEDULE INSPECTIONS (48-HOURS ADVANCE NOTICE IS REQUIRED FOR ALL INSPECTIONS).

4. TRENCH EXCAVATION AND PIPE INSTALLATION WILL NOT BE PERMITTED UNTIL SUBGRADE HAS BEEN ESTABLISHED. SURVEY STAKING MUST BE INSTALLED PRIOR TO AND MAINTAINED DURING TRENCH EXCAVATION AND PIPE INSTALLATION. SURVEY STAKING SHALL INCLUDE HORIZONTAL AND VERTICAL CONTROL AT A MINIMUM OF 50-FOOT STATION INTERVALS. SURVEY STAKING SHALL BE PERFORMED BY THE CONTRACTOR.

5. PROPER SHORING AND/OR BENCHING MUST BE PRESENT AT ALL TIMES FOR ANYTHING 4-FEET IN DEPTH OR DEEPER. GVSUD WILL STOP WORK UNTIL PROPER SAFETY PROTOCOLS HAVE BEEN ESTABLISHED.

6. BACKFLOW PREVENTION IN THE FORM OF A REDUCED PRESSURE ZONE BACKFLOW PREVENTION ASSEMBLY MUST BE PROVIDED FOR TEMPORARY CONNECTIONS TO EXISTING WATER LINES. BACKFLOW PREVENTION ASSEMBLIES SHALL BE TESTED BY A LICENSED BACKFLOW PREVENTION ASSEMBLY TESTER.

7. ALL PIPING SHALL BE INSTALLED IN STRAIGHT ALIGNMENT. PIPE DEFLECTION IS NOT ALLOWED.

8. INSTALL CONCRETE THRUST BLOCKING AND MECHANICAL RESTRAINTS FOR PRESSURIZED PIPING SYSTEMS.

9. WATER PIPE SHALL BE INSTALLED ABOVE WASTEWATER AND ALL PIPE JOINTS SHALL BE CENTERED AT CROSSINGS WITH ALL OTHER UTILITIES. BOTH PIPE JOINTS SHALL BE CENTERED WHERE WATER CROSSES WASTEWATER MAINS AND LATERALS 10-FEET IN EITHER DIRECTION.

10. MAINTAIN A MINIMUM OF 10-FEET HORIZONTAL AND 24-INCH VERTICAL CLEARANCE BETWEEN WATER AND WASTEWATER AND OTHER UTILITIES. SHARED TRENCHES ARE NOT ALLOWED.

11. WATER PIPING SHALL BE SLEEVED IF LOCATED UNDER BOX CULVERTS, SINGLE BARREL, OR MULTIPLE BARREL STORM SEWER CROSSINGS REGARDLESS OF SIZE.

12. VALVE BOXES AND APPURTENANCES SHALL BE PAINTED. PROVIDE PAINTED CURB CUT MARKINGS AT VALVES AND SERVICES.

13. ALL EXPOSED VERTICAL AND HORIZONTAL CONCRETE EDGES SHALL BE FORMED WITH ½" CHAMFER CONCRETE IN UNPAVED AREAS SHALL BE 2" ABOVE FINISH GRADE.

14. THE CONTRACTOR SHALL PROVIDE A COMPETENT AND QUALIFIED SUPERINTENDENT TO SUPERVISE ALL THE SUPERINTENDENT SHALL BE PRESENT DURING ALL CONSTRUCTION ACTIVITIES, INCLUDING INSPECTIONS.

15. NO SEPARATE PAY WILL BE GIVEN TO DE-WATER TRENCHES OR OTHER EXCAVATED AREAS

WATER DESIGN REQUIREMENTS:

1. PVC MAINS 12-INCHES AND BELOW SHALL CONFORM TO AWWA C-909 PRESSURE CLASS 235 OR above. PVC MAIN GREATER THAN 12-INCHES SHALL CONFORM TO AWWA C-900 DR 18 OR above. WATER MAINS SHALL HAVE AN ABSOLUTE MINIMUM DEPTH OF 48-INCHES IN ALL AREAS.

2. ALL WATER PIPE SHALL BE INSTALLED MINIMUM 4-FEET BEYOND BACK OF CURB.

3. ALL WATER MAINS TO BE INSTALLED 4-FEET MINIMUM BEHIND BACK OF CURB.

4. NO PRESSURIZED FITTINGS UNDER ROADWAYS, PAVEMENT, OR SIDEWALKS.

5. ALL WATER MAIN DUCTILE IRON FITTINGS SHALL BE MECHANICAL JOINT AND CONFORM TO ANSI/AWWA C-153 OR C-110. ALL BOLTS SHALL HAVE COPPER ANTI-SEIZE CORROSION RESISTANT COATING. VALVES SHALL BE ATTACHED TO TEES BY FOSTER ADAPTOR OR ANCHOR NIPPLE. FOSTER ADAPTER, ANCHOR NIPPLE, OR FORD UNI-FLANGE RETAINER GLANDS AND THRUST BLOCKS SHALL BE USED ON ALL FITTINGS AND VALVES.

6. TRACER WIRE SHALL BE INSTALLED ON ALL PIPELINES INCLUDING SERVICE LINES AND BROUGHT INTO VALVE AND METER BOXES FOR LOCATING PURPOSES. INSULATED WATER PROOF CONNECTORS SHALL BE USED TO SPLICE WIRES TOGETHER. A 6-INCH OR 12-INCH-WIDE DETECTABLE METAL TAPE SHALL BE PLACED ABOVE BEDDING INITIAL BACKFILL.

7. OVER INSERTING BELL JOINTS AND PASSING THE INSERTION REFERENCE MARK IS PROHIBITED AND WILL REQUIRE REMOVAL AND REINSTALLATION.

8. STANDARD FIRE HYDRANT SHALL INCLUDE HYDRANT, 6-INCH RESILIENT WEDGE GATE VALVE AND BOX, ANCHOR FITTINGS, DUCTILE IRON PIPE, AND ALL APPURTENANCES. HYDRANTS SHALL BE LIMITED TO THOSE MANUFACTURED BY MUELLER, AVK, AMERICAN FLOW, CLOW, OR EAST JORDAN. ONLY MUELLER HYDRANTS AND EJ SHALL BE USED IN CITY OF CIBOLO'S JURISDICTION. HYDRANT UPPER BARREL SHALL BE FACTORY PAINTED RED. HYDRANTS SHALL HAVE A STORTZ CONNECTION ON STEAMER nozzle. FITTINGS FOR PLUG SHALL BE FULLY RESTRAINED AND TIED TO VALVE.

9. ALL FIRE HYDRANT ASSEMBLIES SHALL HAVE AN IN-LINE UPSTREAM AND DOWNSTREAM VALVE.

10. ALL TEES SHALL INCLUDE THREE (3) VALVES.

11. VALVES SHALL BE AWWA APPROVED RESILIENT WEDGE SEATED GATE VALVE, OPEN LEFT, AND LIMITED TO THOSE MANUFACTURED BY MUELLER, AVK, AMERICAN FLOW, CLOW, OR EAST JORDAN.

12. VALVES ARE PROHIBITED IN ADA RAMPS, CURBS, AND ROADWAYS. VALVES ARE PROHIBITED IN SIDEWALKS IN CITY OF NEW BRAUNFELS

13. METER BOXES ARE PROHIBITED IN ANY SIDEWALKS, DRIVEWAYS, OR ROADWAYS.

14. SMALL SERVICE TAPS SHALL BE 1-INCH REHAU MUNICIPEX WITH CTS 200 PSI PLASTIC INSERT OR 2-INCH YELOMINE PVC ASTM D1784 WITH HARCO FITTINGS OR APPROVED EQUIVALENT. SMALL SERVICE TAPS TO BE MADE WITH SINGLE BRASS STRAP TAPPING SADDLE OR DUAL BANDED STAINLESSSTEEL FLAT-STRAP EPOXY SADDLE WITH IRON PIPE THREADS.

15. CASING REQUIRED FOR ALL LONG SMALL SERVICES. 1-INCH SERVICE REQUIRES 3-INCH CASING AND 2-INCH SERVICE REQUIRES 4-INCH CASING. CASING SHALL BE WHITE COLOR PVC SCHEDULE 40 OR APPROVED EQUAL.

16. 5/8" & ¾" METER BOXES SHALL BE DFW36C 16" X 11". ALL METER BOXES SHALL BE PLASTIC WITH LIDS AND KNOCKOUT.

17. DUAL SERVICES ARE NOT PERMITTED.

18. TAPPING MACHINES MUST RETAIN COUPON.

19. CONTRACTOR TO CURB CUT V'S FOR VALVES AND X'S FOR METERS AND PAINT BLUE.

20. WATER LINES CROSSING CUL-DE-SACS SHALL BE FULLY RESTRAINED UNDER PAVEMENT AND CASED.

21. ALL STREET CROSSINGS ARE TO BE CASED FROM EDGE OF IMPERMEABLE COVER TO EDGE OF IMPERMEABLE COVER.

22. ALL BENDS, FITTINGS, AND VALVES SHALL HAVE ONE (1) RESTRAINT UPSTREAM AND DOWNSTREAM REGARDLESS OF LENGTH.

23. CONTRACTOR SHALL CHLORINATE NEW MAINS PER TCEQ AND ANSI/AWWA C651 AND DECHLORINATE DURING FLUSHING PER ANSI/AWWA C655; THE CONTRACTOR SHALL COORDINATE WITH THE GVSUD INSPECTOR TO WITNESS CHLORINATING AND PRESSURE TESTING OF NEW MAINS. ALL TEST RESULTS MUST BE PROVIDED TO GVSUD.

24. OPERATION OF EXISTING VALVES IN THE GVSUD WATER DISTRIBUTION SYSTEM SHALL BE OPERATED BY GVSUD PERSONNEL ONLY, UNLESS APPROVED BY GVSUD INSPECTOR.

25. NEW WATER MAINS AND APPURTENANCES SHALL PASS PRESSURE TESTING AND PASS THE MINIMUM PUBLIC HEALTH STANDARDS FOR BACTERIOLOGICAL QUALITY TESTING PRIOR TO ANY TIE IN TO THE EXISTING GVSUD WATER SYSTEM AS REQUIRED BY TCEQ AND ANSI/AWWA.

26. HYDROSTATIC PRESSURE TESTING SHALL BE EVERY 1200 LF (MAX) OF WATER LINE OR AS APPROVED BY THE ENGINEER. ALL ERRORS OF WORKMANSHIP SHALL BE CORRECTED IMMEDIATELY. ALL PARTS OF THE PIPELINE SHALL BE BACKFILLED AND BRACED SUFFICIENTLY TO PREVENT MOVEMENT UNDER PRESSURE.

27. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL THE INFORMATION AS REQUIRED SO THAT THE ENGINEER CAN SUPPLY GVSUD THE GIS PACKAGE FOR APPROVAL.

28. A FINAL WALK THROUGH FOR FIELD ACCEPTANCE WILL BE SCHEDULED WITH THE CONTRACTOR AFTER THE PRELIMINARY WALK-THROUGH PUNCH LIST ITEMS HAVE BEEN COMPLETED.

29. PROVIDE RESTRAINT LENGTHS AT ALL BENDS, VALVES, TEES, AND ALL OTHER FITTINGS.

30. ALL MASTER METERED DISTRIBUTION LINES SHALL BE PROTECTED BY AN RPZ BACKFLOW PREVENTER.

31. ALL NON-CHEMICAL FIRE LINES SHALL BE PROTECTED BY A DCDA BACKFLOW PREVENTER.

32. ALL CHEMICALLY INJECTED FIRE LINES SHALL BE PROTECTED BY AN RPZ BACKFLOW PREVENTER.

SANITARY SEWER DESIGN REQUIREMENTS:

1. NOISE AND ODOR IMPACTS SHALL BE CONSIDERED IN DESIGN.

2. PIPING FRICTION LOSSES SHALL BE CALCULATED WITH A HAZEN-WILLIAMS COEFFICIENT NO GREATER THAN 130.

3. SANITARY TAPPING SADDLES ARE NOT ALLOWED.

4. LOW PRESSURE SANITARY SEWER COLLECTION SYSTEMS ARE NOT ALLOWED.

5. FORCE MAINS, AND VALVES SHALL BE LOCATED OUTSIDE OF ROADWAYS, PAVEMENT, CURBS, ETC., UNLESS SPECIFICALLY APPROVED OTHERWISE.

6. ALL FORCE MAINS TO BE INSTALLED 4-FEET MINIMUM BEHIND BACK OF CURB.

7. FORCE MAINS SHALL BE INSTALLED IN A 20-FOOT DEDICATED GVSUD SANITARY SEWER EASEMENT. INSTALLATION IN ROW WILL NOT BE ALLOWED.

8. GRAVITY WASTEWATER MAINS MAY BE INSTALLED WITHIN ROADWAYS.

9. ALL PIPING SHALL BE DESIGNED IN STRAIGHT ALIGNMENT. PIPE DEFLECTION IS NOT ALLOWED. GRAVITY MAINS SHALL NOT BE MORE THAN 20-FEET BELOW FINISHED GRADE AS MEASURED FROM PIPE INVERT TO FINISHED GRADE.

10. ALL SANITARY SEWER MAINS AND LATERALS ENTERING MANHOLES AT A DISTANCE OF 24-INCHES OR GREATER FROM PENETRATION TO INVERT SHALL BE EXTERNAL DROP MANHOLES.

11. WASTEWATER PIPE JOINTS SHALL BE CENTERED AT CROSSINGS WITH ALL OTHER UTILITIES. BOTH PIPE JOINTS SHALL BE CENTERED WHERE WATER CROSSES WASTEWATER 10-FEET IN EITHER DIRECTION, INCLUDING WASTEWATER LATERALS.

12. MAINTAIN A MINIMUM OF 10-FEET HORIZONTAL AND 24-INCH VERTICAL CLEARANCE BETWEEN WATER/WASTEWATER AND OTHER UTILITIES. SHARED TRENCHES ARE NOT ALLOWED.

13. WASTEWATER PIPING (INCLUDING MAINS, SERVICES, AND LATERALS) SHALL BE SLEEVED IF LOCATED UNDER BOX CULVERTS, SINGLE BARREL, OR MULTIPLE BARREL STORM SEWER CROSSINGS REGARDLESS OF SIZE.

14. PROFILE ALL WATER, WASTEWATER, AND STORM PIPING REGARDLESS OF SIZE. SHOW ALL UTILITY CROSSINGS ON ALL PROFILES. SHOW WASTEWATER SERVICE LATERALS ON STORM. SHOW/OVERLAY WATER AND STORM PROFILES ONTO WASTEWATER PIPING PROFILES.

15. AIR RELEASE VALVES SHALL BE PROVIDED FOR ALL FORCE MAINS REGARDLESS OF MAIN SIZE.

16. FORCE MAIN DEFLECTION IS NOT ALLOWED. ALL BENDS SHALL BE MJ RESTRAINED AND COATED PER TAC GUIDELINES.

17. FORCE MAIN PLUG VALVES SHALL BE INSTALLED EVERY 2,000-FEET MINIMUM.

18. FORCE MAINS SHALL BE 4-INCH MINIMUM DIAMETER.

19. SERVICE LATERALS SHALL BE 6-INCH MINIMUM DIAMETER.

20. SERVICE LATERAL STUBOUTS FOR HOME SHALL BE 2-FEET AND CAPPED.

21. CLEANOUTS ARE TO BE CENTERED IN LOT AND ON PROPERTY LINE.

22. CLEANOUTS TO BE PROTECTED BY UTILITY DEFENDER SHROUD OR APPROVED EQUIVALENT.

23. ALL MANHOLES ARE TO BE FLOW FILLED 6-INCHES MINIMUM.

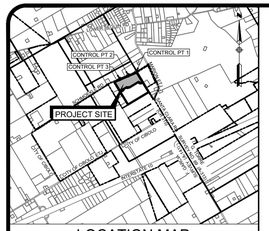
24. PROVIDE RESTRAINT LENGTHS AT ALL BENDS.

MATERIALS:

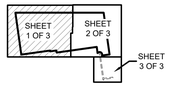
1. GRAVITY WASTEWATER PIPE AND FITTINGS SHALL BE GREEN COLOR GASKETED ASTM D3034 SDR26. ALL SANITARY SEWER AND WATER CROSSINGS SHALL BE SDR26 OF AT LEAST 150 PSI PRESSURE CLASS.

2. SANITARY TAPPING SADDLES ARE NOT ALLOWED.

3. FORCE MAIN PIPING SHALL BE GREEN COLOR C900 DR18 MINIMUM. FITTINGS SHALL BE AWWA C153 COMPACT MECHANICAL JOINT DUCTILE IRON WITH FORD UNI-FLANGE SERIES 1500 RESTRAINTS OR APPROVED EQUIVALENT. PIPE BELL JOINT RESTRAINTS SHALL BE FORD UNI-FLANGE SERIES 1300 OR



LOCATION MAP
NOT TO SCALE



INDEX MAP
NOT TO SCALE

LEGEND

●	FOUND 3/8" IRON ROD (UNLESS NOTED)
○	SET 5/8" IRON ROD WITH YELLOW CAP
AC	ACRES
DOC NO.	DOCUMENT NUMBER
OPR	OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS
MPR	MAP AND PLAT RECORDS OF GUADALUPE COUNTY, TEXAS
R.O.W.	RIGHT-OF-WAY
VOL.	VOLUME
PG.	PAGE(S)
V.N.A.E.	VEHICULAR NON-ACCESS EASEMENT (NTS)
ESM'T	EASEMENT
ETJ	EXTRATERRITORIAL JURISDICTION
NCB	NEW CITY BLOCK
BLK	BLOCK

(A) 20' WATER LINE ESM'T
DOC NO. _____ OPR

(B) 20' WATER LINE ESM'T
DOC NO. _____ OPR

(C) 30' ACCESS ESM'T
VOL. 1030 / PG. 0362 OPR

(D) 20' SANITARY SEWER ESM'T
DOC NO. _____ OPR

(E) 15' RIGHT-OF-WAY ESM'T
DOC NO. 20189902856 1 OPR

(A) 15' G.E.T.CA. ESM'T

(B) 20' WATERLINE ESM'T

(C) 15' ELECTRIC ESM'T

(D) 30' DRAINAGE ESM'T

(E) 20' R.O.W. DEDICATION ESM'T (TO EXPIRE UPON INCORPORATION INTO PUBLIC R.O.W.)

(F) 20' OFF-SITE SANITARY SEWER ESM'T

(G) 70' OFF-SITE TEMPORARY TURNAROUND ESM'T

GVEC
THIS SUBDIVISION PLAT OF NEILL TRACT SUBDIVISION UNIT 1 HAS BEEN SUBMITTED TO AND APPROVED BY GUADALUPE VALLEY ELECTRIC COOPERATIVE, INC. FOR EASEMENTS.

_____
AGENT FOR GUADALUPE VALLEY ELECTRIC COOP., INC.

STATE OF TEXAS
COUNTY OF BEXAR

I HEREBY CERTIFY THAT THE ABOVE PLAT CONFORMS TO THE MINIMUM STANDARDS SET FORTH BY THE TEXAS BOARD OF PROFESSIONAL LAND SURVEYING ACCORDING TO AN ACTUAL SURVEY OF MADE ON THE GROUND BY:

_____
DREW MAWYER, R.P.L.S. #5348
TBPLS FIRM NO.10191500

STATE OF TEXAS
COUNTY OF GUADALUPE

I HEREBY CERTIFY THAT PROPER ENGINEERING CONSIDERATION HAS BEEN GIVEN THIS PLAT TO THE MATTERS OF STREETS, LOTS AND DRAINAGE LAYOUT. TO THE BEST OF MY KNOWLEDGE THIS PLAT CONFORMS TO ALL REQUIREMENTS OF THE UNIFIED DEVELOPMENT CODE, EXCEPT FOR THOSE VARIANCES GRANTED BY THE GUADALUPE COUNTY PLANNING COMMISSION.

_____
PRISCILLA G. FLORES, P.E.
LICENSED PROFESSIONAL ENGINEER
TEXAS REGISTRATION NO. 109874

GENERAL NOTES:

1. WATER IS SUPPLIED BY CITY OF GVSUD.
2. SANITARY SEWER IS TO BE SUPPLIED BY THE CITY OF GVSUD
3. ELECTRICITY IS TO BE SUPPLIED BY GVEC.
4. ALL UTILITY AND DRAINAGE EASEMENTS ARE FOR CONSTRUCTION, MAINTENANCE (INCLUDING, BUT NOT LIMITED TO, THE REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING OF METERS AND THE REPAIR OF ALL OVERHEAD AND UNDERGROUND UTILITIES.
5. BLOCK 1 LOT 900, UNIT 1 (0.49 AC), BLOCK 2 LOT 900, UNIT 1 (6.32 AC), BLOCK 2 LOT 901, UNIT 1 (1.59 AC) SHALL BE UTILIZED FOR DRAINAGE AND OPEN SPACES PURPOSES ONLY AND MAINTAINED BY THE HOME OWNERS ASSOCIATION.
6. DEVELOPER: KB HOME
   ADDRESS: 4800 FREDERICKSBURG ROAD, SUITE 100
   SAN ANTONIO, TEXAS 78229
7. STORM WATER MANAGEMENTS AND RUNOFF IS THE RESPONSIBILITY OF THE PROPERTY OWNER(S) INCLUDING, BUT NOT LIMITED TO: CONSTRUCTION MAINTENANCE AND OPERATION OF ALL ONSITE FACILITIES WHETHER TEMPORARY (ERISON/SEDIMENTATION CONTROL) OR PERMANENT INCLUDING CONVEYANCE, STORAGE, DETENTION, DISCHARGE AND REGULATORY COMPLIANCE WITH APPLICABLE CITY CODES, ORDINANCES, STATE AND FEDERAL LAW.
8. 5' SIDEWALKS ARE REQUIRED ALONG ALL STREETS WITH A 50' ROW AND 5' SIDEWALKS ARE REQUIRED ALONG ALL STREETS WITH 60' ROW.
9. DEVELOPMENT IS SUBJECT TO REQUIREMENTS OF THE GUADALUPE COUNTY PARKLAND DEDICATION ORDINANCE. ANY LAND DEDICATED AS PARK LAND FACILITIES CONSTRUCTED ON SAID LAND SHALL COUNT AS CREDIT TOWARDS ALL PHASES OF THE NEILL TRACT SUBDIVISION.
10. STREET LIGHTS WILL BE PROVIDED AS REQUIRED BY CITY CODE.
11. BEARINGS AND COORDINATES SHOWN HERE ARE IN GRID, BASED UPON TEXAS STATE PLAN COORDINATE SYSTEM, TEXAS SOUTH CENTRAL ZONE (4204), NORTH AMERICAN DATUM OF 1983. DISTANCES HERON ARE SURFACE USING A SCALE FACTOR OF 1.00015.

GVEC:

1. WHERE UNDERGROUND SERVICES ARE UTILIZED GVEC WILL POSSESS A 5-FOOT-WIDE EASEMENT TO THE SERVICE METER LOCATION. EASEMENT TO FOLLOW SERVICE LINE AND WILL VARY DEPENDING ON LOCATION OF BUILDING OR STRUCTURE.
2. GVEC SHALL HAVE ACCESS TO METER LOCATIONS FROM THE FRONT YARD WITH THE LOCATION NOT BEING WITHIN A FENCED AREA.
3. ANY EASEMENT DESIGNATED AS A GVEC 20' X 20' UTILITY EASEMENT SHALL REMAIN OPEN FOR ACCESS AT ALL TIMES AND SHALL NOT BE WITHIN A FENCED AREA.
4. ALL UTILITY EASEMENTS ARE FOR THE CONSTRUCTION, UPGRADE, MAINTENANCE (INCLUDING BUT NOT LIMITED TO REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING OF METERS, AND REPAIR OF ALL OVERHEAD AND UNDERGROUND UTILITIES AND SHALL REMAIN AT FINAL GRADE.
5. ALL LOTS ADJOINING UTILITY LOT OR PRIVATE, CITY, COUNTY, OR STATE RIGHT OF WAY ARE SUBJECT TO A 5'X30' GUY WIRE EASEMENT ALONG SIDE AND REAR LOT LINES.
6. ALL ELECTRIC EASEMENTS, FOR BOTH PRIMARY AND SECONDARY ELECTRIC SERVICE, INCLUDE RIGHTS OF INGRESS AND EGRESS ACROSS THE SUBDIVISION FOR THE PURPOSE OF INSTALLING, SERVICING, UPGRADING AND MAINTAINING THE ELECTRICAL FACILITIES AND SHALL REMAIN AT FINAL GRADE.
7. ANY REQUEST TO SUBSEQUENTLY RELOCATE ANY PORTION OF THE ELECTRIC FACILITIES INSTALLED SHALL BE SUBJECT TO THE COOPERATIVE'S REASONABLE DISCRETION AND THE REQUESTING PARTY SHALL BEAR ALL COSTS ASSOCIATED WITH SUCH RELOCATION.
8. THE COOPERATIVE SHALL ONLY BE REQUIRED TO FILL, GRADE, AND RESTORE GROUND COVER BACK TO ORIGINAL GRADE AS A RESULT OF ANY EXCAVATION BY OR ON BEHALF OF THE COOPERATIVE.

MULTIPLE PAGE PLAT NOTE:

PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTIPLE PAGE PLAT.



SUBDIVISION PLAT ESTABLISHING

NEILL TRACT SUBDIVISION UNIT 1

BEING 28.68 ACRES OF LAND, OUT OF THE CALLED 104 ACRE TRACT CONVEYED TO LARRY ROBERT NEILL, DESCRIBED IN VOLUME 1054, PAGE 449, OF THE OFFICIAL PUBLIC RECORD OF GUADALUPE COUNTY, TEXAS, OUT OF THE FRANCISCO GARCIA SURVEY, ABSTRACT 141, GUADALUPE COUNTY, TEXAS

LJA Engineering & Surveying, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
TBPELS Firm No.10194382
Phone 210.503.2700
LJA.COM
FRN - F-1386

DATE OF PREPARATION: 10/9/2025

100 50 0 100 200
SCALE: 1" = 100'

STATE OF TEXAS
COUNTY OF GUADALUPE

THE OWNER OF LAND SHOWN ON THIS PLAT, IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, DEDICATES TO THE USE OF THE PUBLIC, EXCEPT AREAS IDENTIFIED AS PRIVATE OR PART OF AN ENCLAVE OR PLANNED UNIT DEVELOPMENT, FOREVER ALL STREETS, ALLEYS, PARKS, WATERCOURSES, DRAINS, EASEMENTS AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

_____
OWNER:
KB HOME
4800 FREDERICKSBURG ROAD, SUITE 100
SAN ANTONIO, TEXAS 78230301
CONTACT PERSON: JASON TOWNSLEY
PHONE NO. (210) 301-2815

STATE OF TEXAS
COUNTY OF GUADALUPE

BEFORE ME, THE UNDERSIGNED AUTHORITY ON THIS DAY PERSONALLY APPEARED _____ KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT THE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS ___ DAY OF _____, 2025.

_____
NOTARY PUBLIC,
GUADALUPE COUNTY, TEXAS

THIS PLAT OF NEILL TRACT SUBDIVISION UNIT 1 HAS BEEN SUBMITTED TO AND CONSIDERED BY THE PLANNING COMMISSION OF THE CITY OF CIBOLO, TEXAS, AND IS HEREBY APPROVED BY SUCH COMMISSION IN ACCORDANCE WITH STATE OR LOCAL LAWS AND REGULATIONS; AND/OR WHERE ADMINISTRATIVE EXCEPTION(S) AND/OR VARIANCE(S) HAVE BEEN GRANTED.

DATED THIS _____ DAY OF _____ A.D. , 2025.

BY:_____
CHAIRMAN

BY:_____
CITY ENGINEER, MELISSA REYNOLDS,P.E., M.P.A., C.F.M.

PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTIPLE PAGE PLAT

SEE SHEET 3 OF 3 FOR LINE & CURVE TABLES

SHEET 1 OF 3

NEILL TRACT UNIT 1

PLAT (SHEET 1 OF 3)

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE: 10/9/2025
DESIGNED BY: VS
DRAWN BY: HW
CHECKED BY: PF
DRAWING NAME: sh_Plat.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

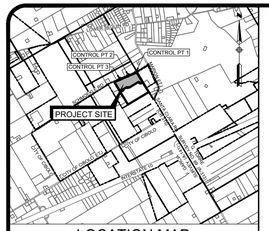
LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

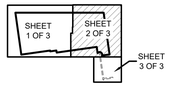
SHEET NO.
3.0

K:\SA164.KB Home\2402 Neill Tract\426 Site Development Plans\DWG-Sheets\sh_Plat.dwg
User: Hannah Wilson
Last Modified: Oct. 09, 25 - 13:45
Last Plotted: Oct. 09, 25 - 14:03

FOR PERMIT



LOCATION MAP
NOT TO SCALE



INDEX MAP
NOT TO SCALE

LEGEND

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R.O.W.	RIGHT-OF-WAY
VOL.	VOLUME
PG.	PAGE(S)
V.N.A.E.	VEHICULAR NON-ACCESS EASEMENT (NTS)
ESM'T	EASEMENT
ETJ	EXTRATERRITORIAL JURISDICTION
NCB	NEW CITY BLOCK
BLK	BLOCK

(A)	20' WATER LINE ESM'T DOC NO. _____ OPR
(B)	20' WATER LINE ESM'T DOC NO. _____ OPR
(C)	30' ACCESS ESM'T VOL. 1030 / PG. 0362 OPR
(D)	20' SANITARY SEWER ESM'T DOC NO. _____ OPR
(E)	15' RIGHT-OF-WAY ESM'T DOC NO. 201899028561 OPR
(A)	15' G.E.T.CA. ESM'T
(B)	20' WATERLINE ESM'T
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AGENT FOR GUADALUPE VALLEY ELECTRIC COOP., INC.

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COUNTY OF BEXAR

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DREW MAWYER, R.P.L.S. #5348
TBPLS FIRM NO.10191500

STATE OF TEXAS
COUNTY OF GUADALUPE

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PRISCILLA G. FLORES, P.E.
LICENSED PROFESSIONAL ENGINEER
TEXAS REGISTRATION NO. 109874

GENERAL NOTES:

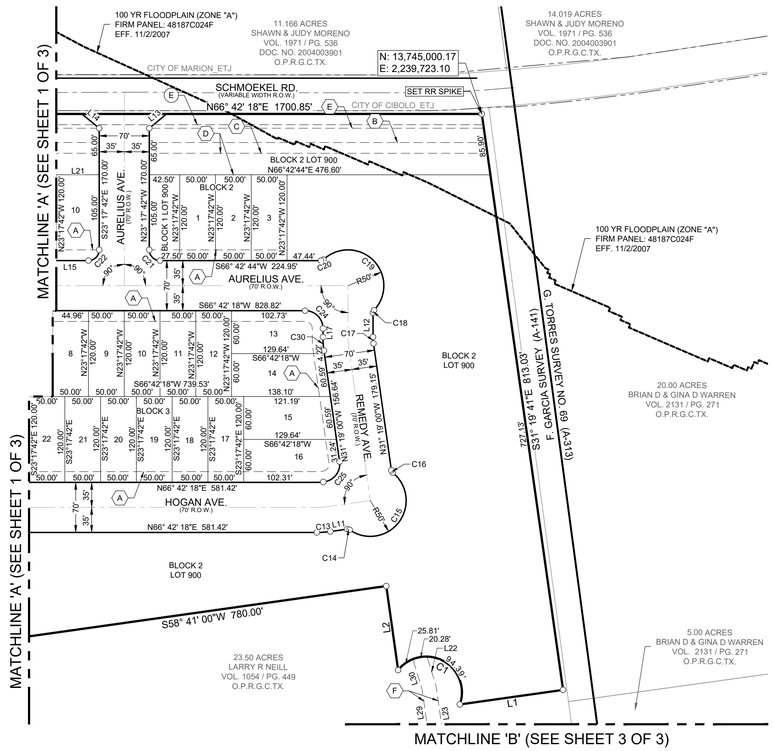
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6. DEVELOPER: KB HOME
   ADDRESS: 4800 FREDERICKSBURG ROAD, SUITE 100
   SAN ANTONIO, TEXAS 78229
7. STORM WATER MANAGEMENTS AND RUNOFF IS THE RESPONSIBILITY OF THE PROPERTY OWNER(S) INCLUDING, BUT NOT LIMITED TO: CONSTRUCTION MAINTENANCE AND OPERATION OF ALL ONSITE FACILITIES WHETHER TEMPORARY (ERISON/SEDIMENTATION CONTROL) OR PERMANENT INCLUDING CONVEYANCE, STORAGE, DETENTION, DISCHARGE AND REGULATORY COMPLIANCE WITH APPLICABLE CITY CODES, ORDINANCES, STATE AND FEDERAL LAW.
8. 5' SIDEWALKS ARE REQUIRED ALONG ALL STREETS WITH A 50' ROW AND 5' SIDEWALKS ARE REQUIRED ALONG ALL STREETS WITH 60' ROW.
9. DEVELOPMENT IS SUBJECT TO REQUIREMENTS OF THE GUADALUPE COUNTY PARKLAND DEDICATION ORDINANCE. ANY LAND DEDICATED AS PARK LAND FACILITIES CONSTRUCTED ON SAID LAND SHALL COUNT AS CREDIT TOWARDS ALL PHASES OF THE NEILL TRACT SUBDIVISION.
10. STREET LIGHTS WILL BE PROVIDED AS REQUIRED BY CITY CODE.
11. BEARINGS AND COORDINATES SHOWN HERE ARE IN GRID, BASED UPON TEXAS STATE PLAN COORDINATE SYSTEM, TEXAS SOUTH CENTRAL ZONE (4204), NORTH AMERICAN DATUM OF 1983. DISTANCES HERON ARE SURFACE USING A SCALE FACTOR OF 1.00015.

GVEC:

1. WHERE UNDERGROUND SERVICES ARE UTILIZED GVEC WILL POSSESS A 5-FOOT-WIDE EASEMENT TO THE SERVICE METER LOCATION. EASEMENT TO FOLLOW SERVICE LINE AND WILL VARY DEPENDING ON LOCATION OF BUILDING OR STRUCTURE.
2. GVEC SHALL HAVE ACCESS TO METER LOCATIONS FROM THE FRONT YARD WITH THE LOCATION NOT BEING WITHIN A FENCED AREA.
3. ANY EASEMENT DESIGNATED AS A GVEC 20' X 20' UTILITY EASEMENT SHALL REMAIN OPEN FOR ACCESS AT ALL TIMES AND SHALL NOT BE WITHIN A FENCED AREA.
4. ALL UTILITY EASEMENTS ARE FOR THE CONSTRUCTION, UPGRADE, MAINTENANCE (INCLUDING BUT NOT LIMITED TO REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING OF METERS, AND REPAIR OF ALL OVERHEAD AND UNDERGROUND UTILITIES AND SHALL REMAIN AT FINAL GRADE.
5. ALL LOTS ADJOINING UTILITY LOT OR PRIVATE, CITY, COUNTY, OR STATE RIGHT OF WAY ARE SUBJECT TO A 5'X30' GUY WIRE EASEMENT ALONG SIDE AND REAR LOT LINES.
6. ALL ELECTRIC EASEMENTS, FOR BOTH PRIMARY AND SECONDARY ELECTRIC SERVICE, INCLUDE RIGHTS OF INGRESS AND EGRESS ACROSS THE SUBDIVISION FOR THE PURPOSE OF INSTALLING, SERVICING, UPGRADING AND MAINTAINING THE ELECTRICAL FACILITIES AND SHALL REMAIN AT FINAL GRADE.
7. ANY REQUEST TO SUBSEQUENTLY RELOCATE ANY PORTION OF THE ELECTRIC FACILITIES INSTALLED SHALL BE SUBJECT TO THE COOPERATIVE'S REASONABLE DISCRETION AND THE REQUESTING PARTY SHALL BEAR ALL COSTS ASSOCIATED WITH SUCH RELOCATION.
8. THE COOPERATIVE SHALL ONLY BE REQUIRED TO FILL, GRADE, AND RESTORE GROUND COVER BACK TO ORIGINAL GRADE AS A RESULT OF ANY EXCAVATION BY OR ON BEHALF OF THE COOPERATIVE.

MULTIPLE PAGE PLAT NOTE:

PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTIPLE PAGE PLAT.



SUBDIVISION PLAT ESTABLISHING

NEILL TRACT SUBDIVISION UNIT 1

BEING 28.68 ACRES OF LAND, OUT OF THE CALLED 104 ACRE TRACT CONVEYED TO LARRY ROBERT NEILL, DESCRIBED IN VOLUME 1054, PAGE 449, OF THE OFFICIAL PUBLIC RECORD OF GUADALUPE COUNTY, TEXAS, OUT OF THE FRANCISCO GARCIA SURVEY, ABSTRACT 141, GUADALUPE COUNTY, TEXAS

LJA Engineering & Surveying, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
TBPELS Firm No.10194382
Phone 210.503.2700
LJA.COM
FRN - F-1386

DATE OF PREPARATION: 10/9/2025

100 50 0 100 200
SCALE: 1" = 100'

STATE OF TEXAS
COUNTY OF GUADALUPE

THE OWNER OF LAND SHOWN ON THIS PLAT, IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, DEDICATES TO THE USE OF THE PUBLIC, EXCEPT AREAS IDENTIFIED AS PRIVATE OR PART OF AN ENCLAVE OR PLANNED UNIT DEVELOPMENT, FOREVER ALL STREETS, ALLEYS, PARKS, WATERCOURSES, DRAINS, EASEMENTS AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

_____
OWNER:
KB HOME
4800 FREDERICKSBURG ROAD, SUITE 100
SAN ANTONIO, TEXAS 78230301
CONTACT PERSON: JASON TOWNSLEY
PHONE NO: (210) 301-2815

STATE OF TEXAS
COUNTY OF GUADALUPE

BEFORE ME, THE UNDERSIGNED AUTHORITY ON THIS DAY PERSONALLY APPEARED _____ KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT THE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS ___ DAY OF _____, 2025.

_____
NOTARY PUBLIC,
GUADALUPE COUNTY, TEXAS

THIS PLAT OF NEILL TRACT SUBDIVISION UNIT 1 HAS BEEN SUBMITTED TO AND CONSIDERED BY THE PLANNING COMMISSION OF THE CITY OF CIBOLO, TEXAS, AND IS HEREBY APPROVED BY SUCH COMMISSION IN ACCORDANCE WITH STATE OR LOCAL LAWS AND REGULATIONS; AND/OR WHERE ADMINISTRATIVE EXCEPTION(S) AND/OR VARIANCE(S) HAVE BEEN GRANTED.

DATED THIS _____ DAY OF _____ A.D. , 2025.

BY:_____
CHAIRMAN

BY:_____
CITY ENGINEER, MELISSA REYNOLDS,P.E., M.P.A., C.F.M.

PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTIPLE PAGE PLAT

SEE SHEET 2 OF 3 FOR LINE & CURVE TABLES

SHEET 2 OF 3

NEILL TRACT UNIT 1

PLAT (SHEET 2 OF 3)

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 10/9/2025
DESIGNED BY: VS
DRAWN BY: HW
CHECKED BY: PF
DRAWING NAME: st_Plat.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

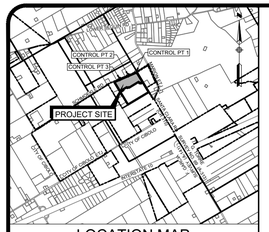
LJA Engineering, Inc.
9830 Colonnade Blvd
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San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER:
SA164.2402

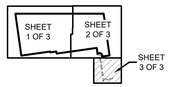
SHEET NO.
3.1

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User: mmaldonado
Last Modified: Oct. 09, 25 - 13:45
Last Plotted: Oct. 21, 25 - 14:06:01

FOR PERMIT



LOCATION MAP
NOT TO SCALE



INDEX MAP
NOT TO SCALE

LEGEND

●	FOUND 3/8" IRON ROD (UNLESS NOTED)	
○	SET 5/8" IRON ROD WITH YELLOW CAP	
AC	ACRES	
DOC NO.	DOCUMENT NUMBER	
OPR	OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS	
MPR	MAP AND PLAT RECORDS OF GUADALUPE COUNTY, TEXAS	
R.O.W.	RIGHT-OF-WAY	
VOL.	VOLUME	
PG.	PAGE(S)	
V.N.A.E.	VEHICULAR NON-ACCESS EASEMENT (NTS)	
ESM'T	EASEMENT	
ETJ	EXTRATERRITORIAL JURISDICTION	
NCB	NEW CITY BLOCK	
BLK	BLOCK	

(A)	20' WATER LINE ESM'T DOC NO. _____ OPR
(B)	20' WATER LINE ESM'T DOC NO. _____ OPR
(C)	30' ACCESS ESM'T VOL. 1030 / PG. 0362 OPR
(D)	20' SANITARY SEWER ESM'T DOC NO. _____ OPR
(E)	15' RIGHT-OF-WAY ESM'T DOC NO. 201899028561 OPR
(A)	15' G.E.T.CA. ESM'T
(B)	20' WATERLINE ESM'T
(C)	15' ELECTRIC ESM'T
(D)	30' DRAINAGE ESM'T
(E)	20' R.O.W. DEDICATION ESM'T (TO EXPIRE UPON INCORPORATION INTO PUBLIC R.O.W.)
(F)	20' OFF-SITE SANITARY SEWER ESM'T
(G)	70' OFF-SITE TEMPORARY TURNAROUND ESM'T

GVEC
THIS SUBDIVISION PLAT OF NEILL TRACT SUBDIVISION UNIT 1, HAS BEEN SUBMITTED TO AND APPROVED BY GUADALUPE VALLEY ELECTRIC COOPERATIVE, INC. FOR EASEMENTS.

_____
AGENT FOR GUADALUPE VALLEY ELECTRIC COOP., INC.

STATE OF TEXAS
COUNTY OF BEXAR

I HEREBY CERTIFY THAT THE ABOVE PLAT CONFORMS TO THE MINIMUM STANDARDS SET FORTH BY THE TEXAS BOARD OF PROFESSIONAL LAND SURVEYING ACCORDING TO AN ACTUAL SURVEY OF MADE ON THE GROUND BY:

_____
DREW MAWYER, R.P.L.S. #5348
TBPLS FIRM NO.10191500

STATE OF TEXAS
COUNTY OF GUADALUPE

I HEREBY CERTIFY THAT PROPER ENGINEERING CONSIDERATION HAS BEEN GIVEN THIS PLAT TO THE MATTERS OF STREETS, LOTS AND DRAINAGE LAYOUT. TO THE BEST OF MY KNOWLEDGE THIS PLAT CONFORMS TO ALL REQUIREMENTS OF THE UNIFIED DEVELOPMENT CODE, EXCEPT FOR THOSE VARIANCES GRANTED BY THE GUADALUPE COUNTY PLANNING COMMISSION.

_____
PRISCILLA G. FLORES, P.E.
LICENSED PROFESSIONAL ENGINEER
TEXAS REGISTRATION NO. 109974

GENERAL NOTES:

1. WATER IS SUPPLIED BY CITY OF GVSUD.
2. SANITARY SEWER IS TO BE SUPPLIED BY THE CITY OF GVSUD
3. ELECTRICITY IS TO BE SUPPLIED BY GVEC.
4. ALL UTILITY AND DRAINAGE EASEMENTS ARE FOR CONSTRUCTION, MAINTENANCE (INCLUDING, BUT NOT LIMITED TO, THE REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING OF METERS AND THE REPAIR OF ALL OVERHEAD AND UNDERGROUND UTILITIES.
5. BLOCK 1 LOT 900, UNIT 1 (0.49 AC), BLOCK 2 LOT 900, UNIT 1 (6.32 AC), BLOCK 2 LOT 901, UNIT 1 (1.59 AC) SHALL BE UTILIZED FOR DRAINAGE AND OPEN SPACES PURPOSES ONLY AND MAINTAINED BY THE HOME OWNERS ASSOCIATION.
6. DEVELOPER: KB HOME
   ADDRESS: 4800 FREDERICKSBURG ROAD, SUITE 100
   SAN ANTONIO, TEXAS 78229
7. STORM WATER MANAGEMENTS AND RUNOFF IS THE RESPONSIBILITY OF THE PROPERTY OWNER(S) INCLUDING, BUT NOT LIMITED TO: CONSTRUCTION MAINTENANCE AND OPERATION OF ALL ONSITE FACILITIES WHETHER TEMPORARY (ERISON/SEDIMENTATION CONTROL) OR PERMANENT INCLUDING CONVEYANCE, STORAGE, DETENTION, DISCHARGE AND REGULATORY COMPLIANCE WITH APPLICABLE CITY CODES, ORDINANCES, STATE AND FEDERAL LAW.
8. 5' SIDEWALKS ARE REQUIRED ALONG ALL STREETS WITH A 50' ROW AND 5' SIDEWALKS ARE REQUIRED ALONG ALL STREETS WITH 60' ROW.
9. DEVELOPMENT IS SUBJECT TO REQUIREMENTS OF THE GUADALUPE COUNTY PARKLAND DEDICATION ORDINANCE. ANY LAND DEDICATED AS PARK LAND FACILITIES CONSTRUCTED ON SAID LAND SHALL COUNT AS CREDIT TOWARDS ALL PHASES OF THE NEILL TRACT SUBDIVISION.
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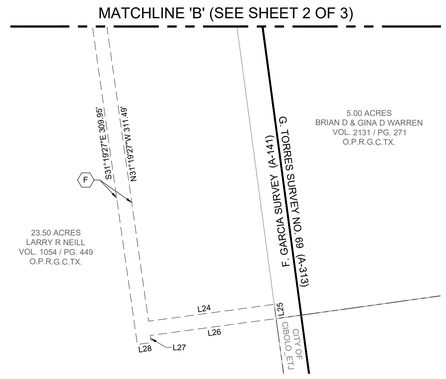
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MULTIPLE PAGE PLAT NOTE:

PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTIPLE PAGE PLAT.

MATCHLINE 'B' (SEE SHEET 2 OF 3)



LINE TABLE		
Line	Bearing	Distance
L1	S58° 40' 40"W	145.72'
L2	N31° 19' 00"W	118.71'
L3	N31° 19' 00"W	40.00'
L4	S58° 41' 00"W	120.00'
L5	N31° 19' 00"W	16.18'
L6	N73° 40' 16"W	31.36'
L7	N23° 17' 42"W	34.15'
L8	S23° 17' 42"E	11.90'
L9	N23° 17' 42"W	21.90'
L10	N31° 19' 00"W	97.70'
L11	N58° 41' 00"E	23.61'
L12	N23° 17' 42"W	33.91'
L13	N27° 04' 51"E	31.36'
L14	S73° 40' 16"E	31.36'
L15	S66° 42' 18"W	526.13'

LINE TABLE		
Line	Bearing	Distance
L16	N27° 04' 51"E	31.36'
L17	N23° 17' 42"W	11.98'
L18	S23° 17' 42"E	21.90'
L19	N23° 17' 42"W	105.99'
L20	N54° 44' 02"W	16.42'
L21	N66° 42' 18"E	261.13'
L22	N40° 10' 33"W	43.32'
L23	N31° 19' 27"W	311.49'
L24	S59° 04' 01"W	177.22'
L25	N30° 55' 46"W	20.00'
L26	N59° 04' 01"E	177.22'
L27	N31° 09' 16"W	10.00'
L28	N58° 40' 33"E	19.83'
L29	S31° 19' 27"E	309.95'
L30	S40° 10' 33"E	44.17'

CURVE TABLE						
CURVE #	ARC	RAD	DELTA	TAN	CHORD BEARING	CHORD
C1	140.68'	50.00'	161°12'14"	302.09	N84° 10' 21"W	98.66'
C2	23.56'	15.00'	90°00'00"	15.00	N21° 42' 18"E	21.21'
C3	3.78'	5.00'	43°20'30"	1.99	N88° 22' 33"E	3.69'
C4	154.19'	50.00'	176°41'01"	1727.12	N21° 42' 18"E	99.96'
C5	3.78'	5.00'	43°20'30"	1.99	N44° 57' 58"W	3.69'
C6	18.90'	135.00'	8°01'18"	9.47	N27° 18' 21"W	18.88'
C7	9.10'	65.00'	8°01'18"	4.56	S27° 18' 21"E	9.09'
C8	39.27'	25.00'	90°00'00"	25.00	S21° 42' 18"W	35.36'
C9	23.56'	15.00'	90°00'00"	15.00	N68° 17' 42"W	21.21'
C10	18.90'	135.00'	8°01'18"	9.47	N27° 18' 21"W	18.88'
C11	23.56'	15.00'	90°00'00"	15.00	N13° 41' 00"E	21.21'
C12	37.10'	265.00'	8°01'18"	18.58	N62° 41' 39"E	37.07'
C13	18.90'	135.00'	8°01'18"	9.47	N62° 41' 39"E	18.88'
C14	3.78'	5.00'	43°20'30"	1.99	N80° 21' 15"E	3.69'
C15	154.19'	50.00'	176°41'01"	1727.12	N13° 41' 00"E	99.96'

CURVE TABLE						
CURVE #	ARC	RAD	DELTA	TAN	CHORD BEARING	CHORD
C16	3.78'	5.00'	43°20'30"	1.99	N52° 59' 15"W	3.69'
C17	9.10'	65.00'	8°01'18"	4.56	N27° 18' 21"W	9.09'
C18	3.79'	5.00'	43°23'46"	1.99	N1° 35' 50"W	3.70'
C19	154.23'	50.00'	176°43'49"	1751.90	N68° 15' 51"W	99.96'
C20	3.78'	5.00'	43°20'30"	1.99	S45° 02' 29"W	3.69'
C21	23.56'	15.00'	89°59'33"	15.00	N68° 17' 29"W	21.21'
C22	23.56'	15.00'	90°00'00"	15.00	S21° 42' 18"W	21.21'
C23	23.56'	15.00'	90°00'00"	15.00	N68° 17' 42"W	21.21'
C24	39.27'	25.00'	90°00'00"	25.00	N68° 17' 42"W	35.36'
C25	39.27'	25.00'	90°00'00"	25.00	N13° 41' 00"E	35.36'
C26	46.90'	335.00'	8°01'18"	23.49	N62° 41' 39"E	46.86'
C27	23.56'	15.00'	90°00'00"	15.00	S76° 19' 00"E	21.21'
C28	9.10'	65.00'	8°01'18"	4.56	S27° 18' 21"E	9.09'
C29	23.56'	15.00'	90°00'00"	15.00	S21° 42' 18"W	21.21'
C30	18.90'	135.00'	8°01'18"	9.47	N27° 18' 21"W	18.88'

SUBDIVISION PLAT ESTABLISHING

NEILL TRACT SUBDIVISION UNIT 1

BEING 28.68 ACRES OF LAND, OUT OF THE CALLED 104 ACRE TRACT CONVEYED TO LARRY ROBERT NEILL, DESCRIBED IN VOLUME 1054, PAGE 449, OF THE OFFICIAL PUBLIC RECORD OF GUADALUPE COUNTY, TEXAS, OUT OF THE FRANCISCO GARCIA SURVEY, ABSTRACT 141, GUADALUPE COUNTY, TEXAS

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FRN - F-1386

DATE OF PREPARATION: 10/9/2025

100 50 0 100 200

SCALE: 1" = 100'



STATE OF TEXAS
COUNTY OF GUADALUPE

THE OWNER OF LAND SHOWN ON THIS PLAT, IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, DEDICATES TO THE USE OF THE PUBLIC, EXCEPT AREAS IDENTIFIED AS PRIVATE OR PART OF AN ENCLAVE OR PLANNED UNIT DEVELOPMENT, FOREVER ALL STREETS, ALLEYS, PARKS, WATERCOURSES, DRAINS, EASEMENTS AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

_____

OWNER:
KB HOME
4800 FREDERICKSBURG ROAD, SUITE 100
SAN ANTONIO, TEXAS 78230301
CONTACT PERSON: JASON TOWNSLEY
PHONE NO: (210) 301-2815

STATE OF TEXAS
COUNTY OF GUADALUPE

BEFORE. ME, THE UNDERSIGNED AUTHORITY ON THIS DAY PERSONALLY APPEARED _____ KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT THE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED AND IN THE CAPACITY THEREIN STATED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS ___ DAY OF _____, 2025.

_____
NOTARY PUBLIC,
GUADALUPE COUNTY, TEXAS

THIS PLAT OF NEILL TRACT SUBDIVISION UNIT 1 HAS BEEN SUBMITTED TO AND CONSIDERED BY THE PLANNING COMMISSION OF THE CITY OF CIBOLO, TEXAS, AND IS HEREBY APPROVED BY SUCH COMMISSION IN ACCORDANCE WITH STATE OR LOCAL LAWS AND REGULATIONS, AND/OR WHERE ADMINISTRATIVE EXCEPTION(S) AND/OR VARIANCE(S) HAVE BEEN GRANTED.

DATED THIS _____ DAY OF _____ A.D., 2025.

BY:_____
CHAIRMAN

BY:_____
CITY ENGINEER, MELISSA REYNOLDS,P.E., M.P.A., C.F.M.

PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTIPLE PAGE PLAT

SEE SHEET 3 OF 3 FOR LINE & CURVE TABLES

SHEET 3 OF 3

K:\SA164.KB Home\2402 Neill Tract\426 Site Development Plans\DWG\Sheets\Un_Plat.dwg
User: mwagenfuhr
Last Modified: Oct. 09, 25 - 13:45
Last Plotted: Oct. 09, 25 - 14:06:08

NEILL TRACT UNIT 1

PLAT (SHEET 3 OF 3)

REVISIONS			
NO.	DESCRIPTION	BY	DATE

DATE:	10/9/2025
DESIGNED BY:	VS
DRAWN BY:	HW
CHECKED BY:	PF
DRAWING NAME:	sh_Plat.dwg

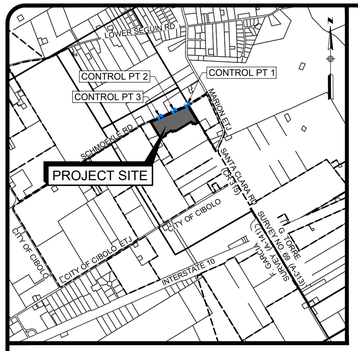
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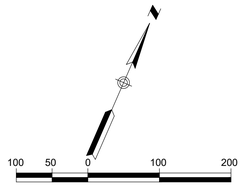
JOB NUMBER:
SA164.2402

SHEET NO.
3.2

FOR PERMIT



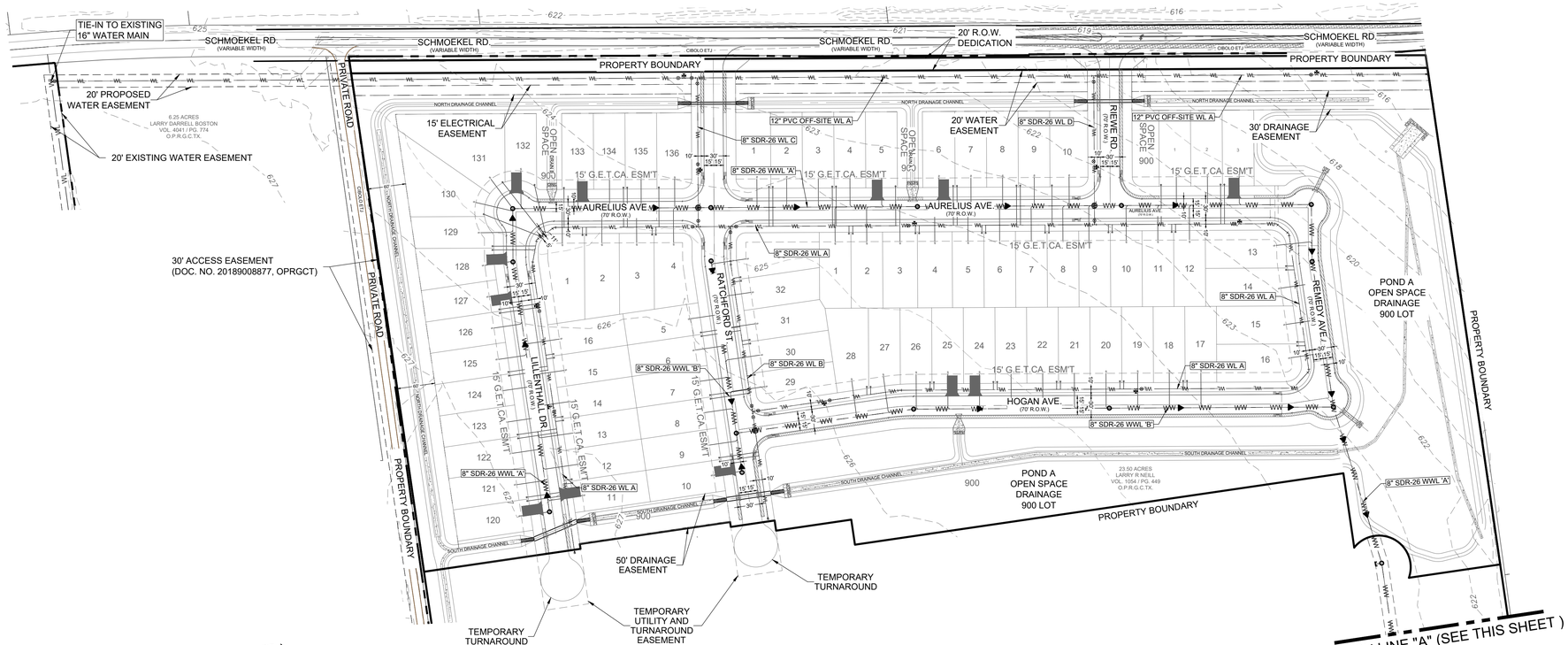
LOCATION MAP
N.T.S.

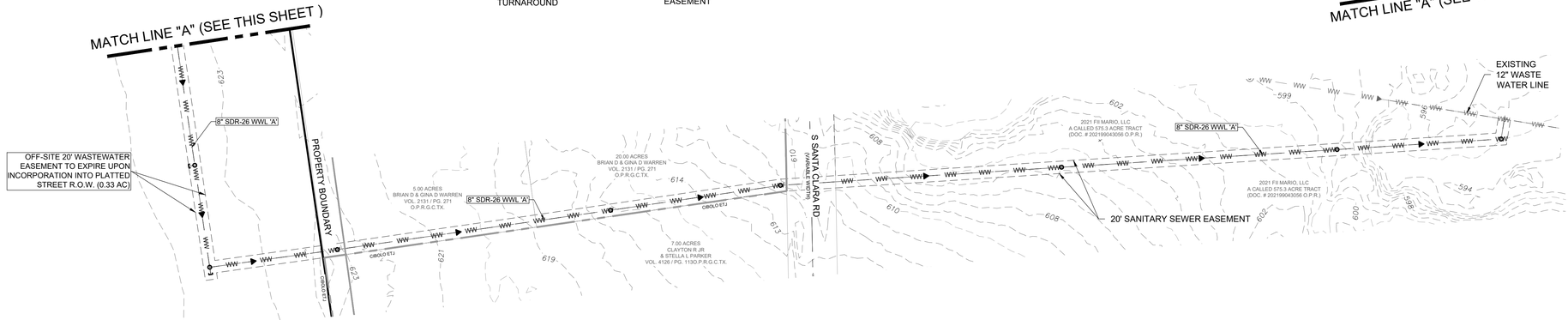


SCALE IN FEET
SCALE: 1"=100'

LEGEND

PROPOSED	EXISTING	
S	S	SANITARY SEWER MANHOLE
WW	WW	SANITARY SEWER LINE
WL	WL	WATER LINE
S		SANITARY SEWER LATERAL
C/O	C/O	CLEAN OUT
		WATER VALVE
		SINGLE WATER SERVICE
		FIRE HYDRANT
		WATER METER
	GV	GAS VALVE
G	G	GAS LINE
D	D	STORM SEWER MANHOLE
		CURB INLET
		POWER POLE
		STREET LIGHT (100 WATT LED)
		STREET LIGHT (250 WATT LED)
		GUY WIRE
	OU	OVERHEAD ELECTRIC
	TMH	BENCHMARK
	EX.	TOP OF MANHOLE
	G,E,T,CA	EXISTING
	ESM'T.	GAS, ELEC, TELE & CABLE TV ESM'T.
	VOL	EASEMENT
	PG	VOLUME
	DPR	PAGE
	OPR	DEED & PLAT RECORDS OF GUADALUPE COUNT,Y TEXAS
		OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS





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NEILL TRACT UNIT 1
OVERALL UTILITY PLAN

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 9/8/2025
DESIGNED BY: JDR
DRAWN BY: ML / TJ
CHECKED BY: NG
DRAWING NAME: SL_UtilLayout01.dwg

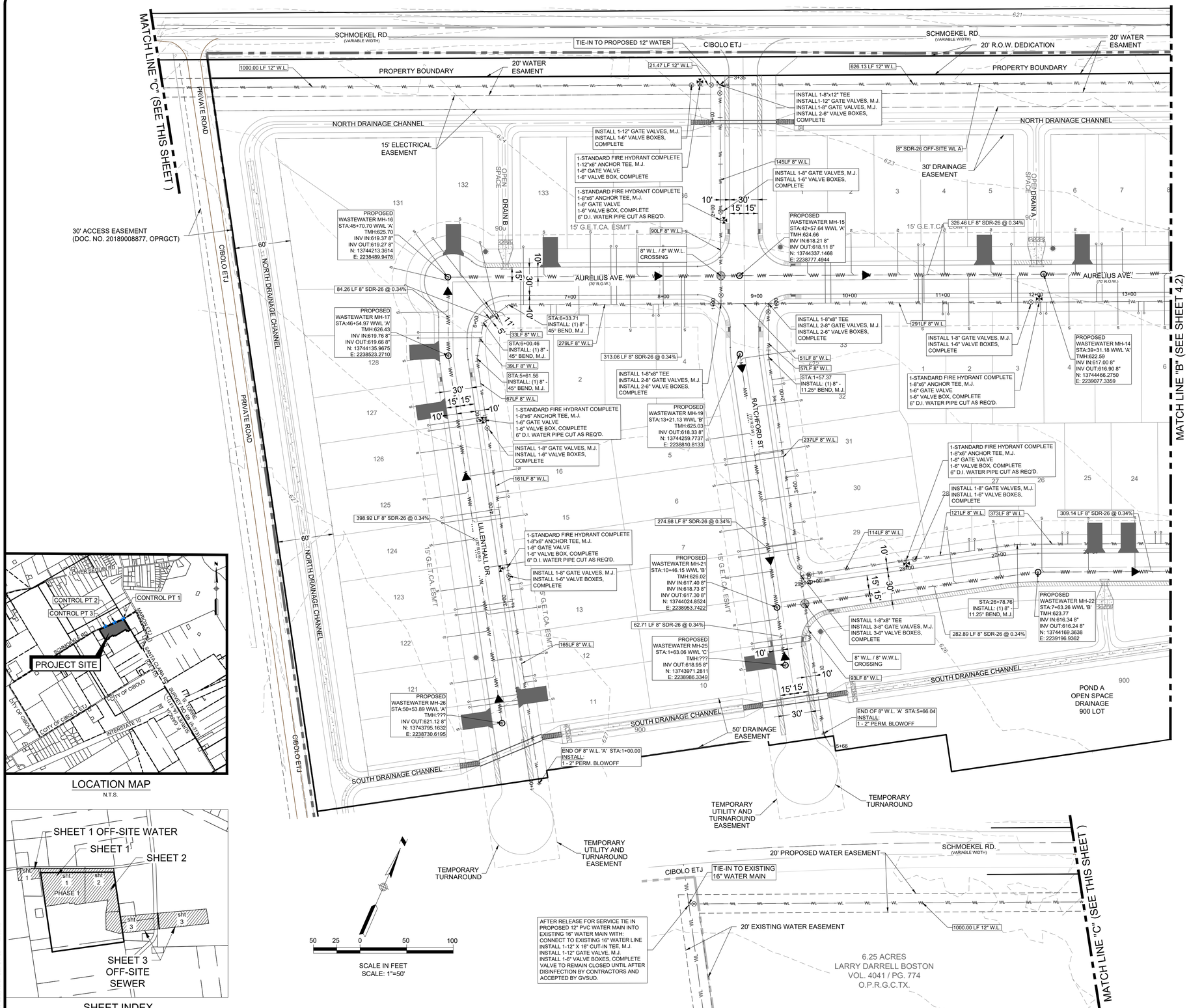
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LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. **4.0**

FOR PERMIT



LOCATION MAP
N.T.S.

SHEET INDEX
N.T.S.

LEGEND

PROPOSED	EXISTING	
S	S	SANITARY SEWER MANHOLE
WW	WW	SANITARY SEWER LINE
WL	WL	WATER LINE
S		SANITARY SEWER LATERAL
C/O	C/O	CLEAN OUT
		WATER VALVE
		SINGLE WATER SERVICE
		FIRE HYDRANT
		WATER METER
	W	GAS VALVE
G	G	GAS LINE
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		CURB INLET
		POWER POLE
		STREET LIGHT (100 WATT LED)
		STREET LIGHT (250 WATT LED)
		GUY WIRE
	OU	OVERHEAD ELECTRIC
		BENCHMARK
	TMH	TOP OF MANHOLE
	EX.	EXISTING
	G,E,T,CA	GAS, ELEC, TELE & CABLE TV ESM'T.
	ESM'T.	EASEMENT
	VOL	VOLUME
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FOR PERMIT

NEILL TRACT UNIT 1

UTILITY PLAN LAYOUT
(SHEET 1 OF 3)

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

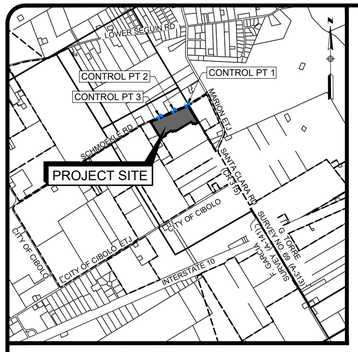
DATE: 9/4/2025
DESIGNED BY: PJR
DRAWN BY: PJR / MAP
CHECKED BY: NG
DRAWING NAME: _Util_Layout01.dwg

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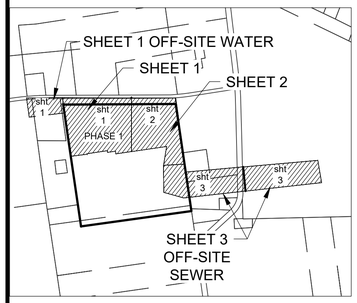
JOB NUMBER: SA164.2402

SHEET NO. 4.1



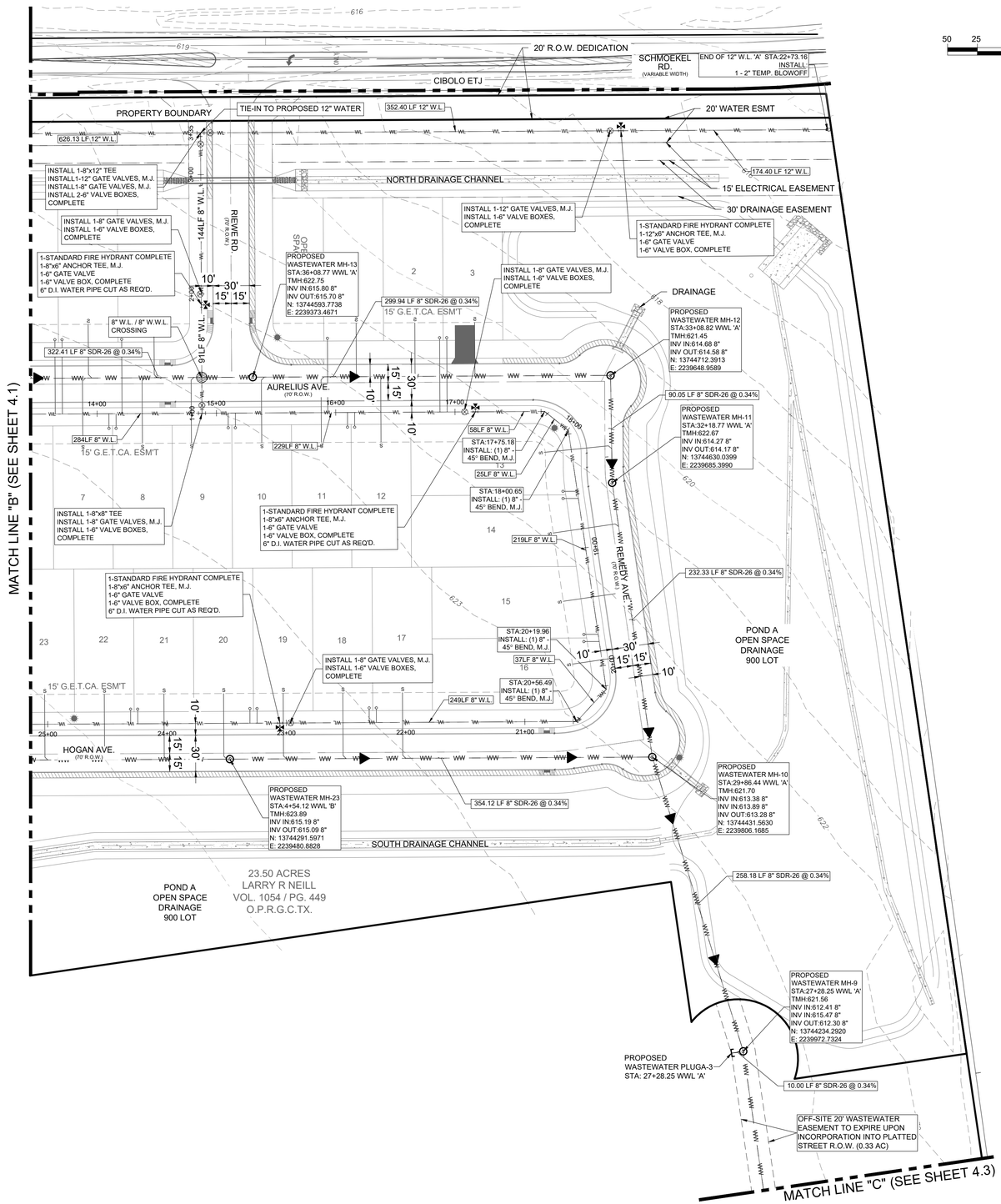
LOCATION MAP

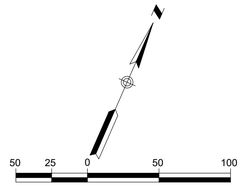
N.T.S.



SHEET INDEX

N.T.S.





SCALE IN FEET
SCALE: 1"=50'

LEGEND

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WW	WL	SANITARY SEWER LINE
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		FIRE HYDRANT
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NEILL TRACT UNIT 1

UTILITY PLAN LAYOUT (SHEET 2 OF 3)

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 09/04/2025
DESIGNED BY: PJR
DRAWN BY: PJR / MAP
CHECKED BY: NG
DRAWING NAME: 164_Layout01.dwg

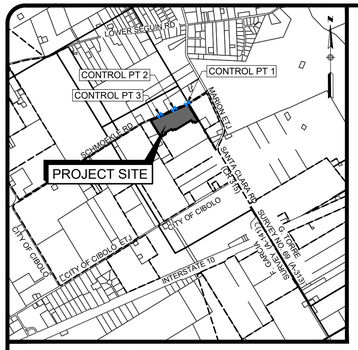
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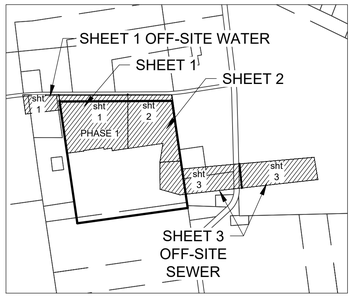
JOB NUMBER: SA164.2402

SHEET NO. 4.2

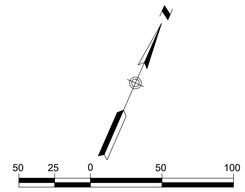
FOR PERMIT



LOCATION MAP
N.T.S.



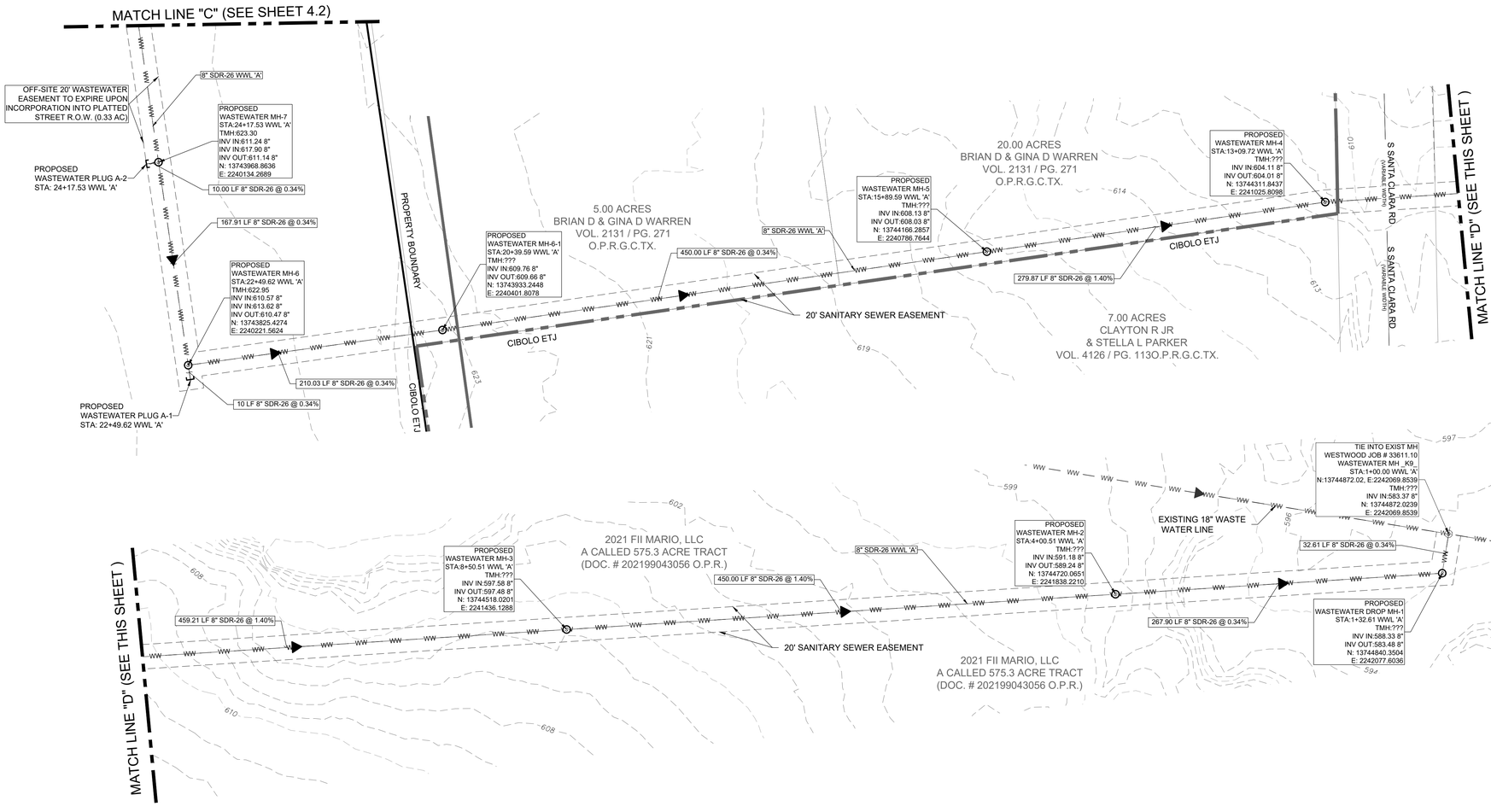
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SCALE IN FEET
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LEGEND

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WL	WL	WATER LINE
S		SANITARY SEWER LATERAL
C/O	C/O	CLEAN OUT
		WATER VALVE
		SINGLE WATER SERVICE
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	G,E,T,CA	GAS, ELEC, TELE & CABLE TV ESM'T.
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(SHEET 3 OF 3)

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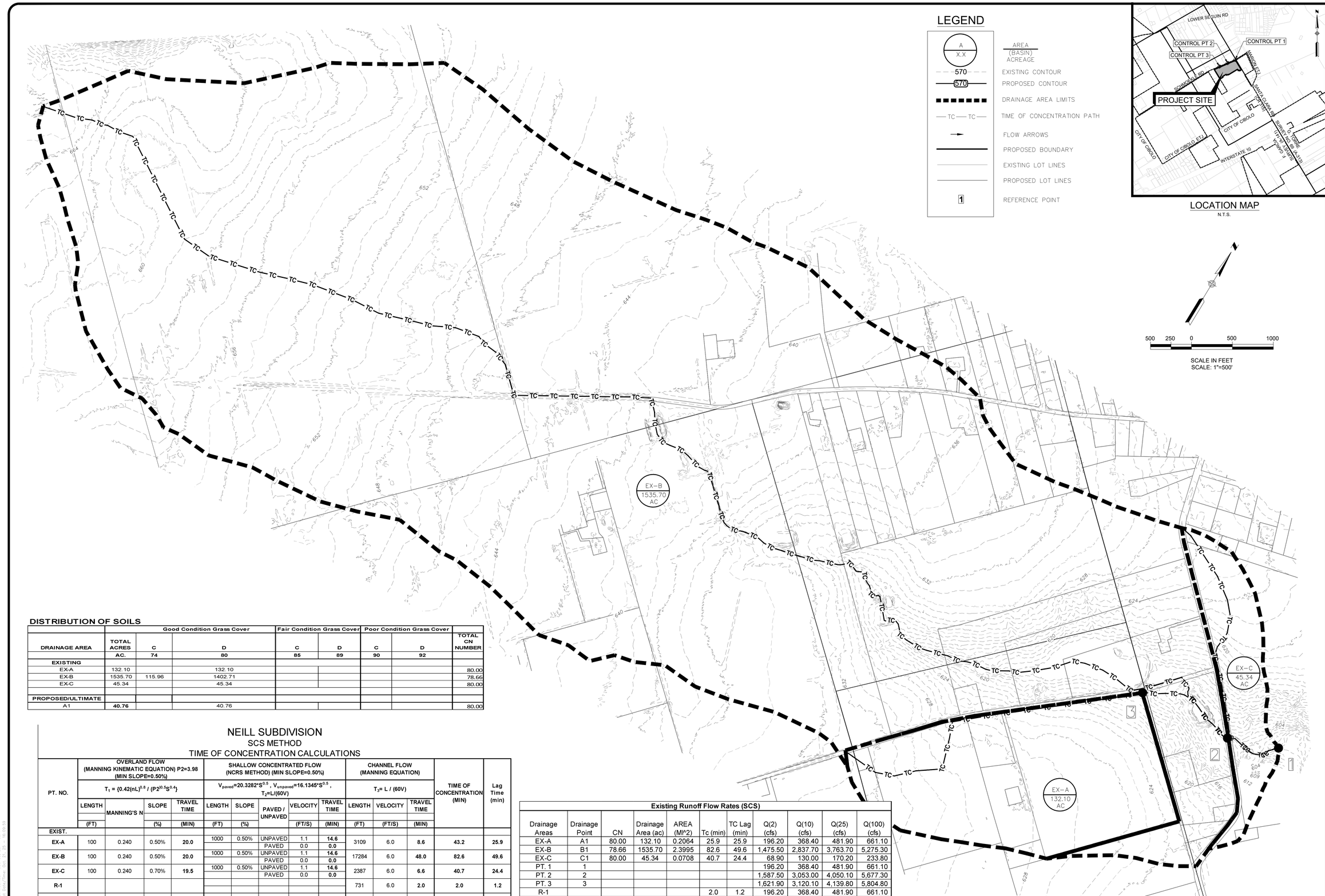
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JOB NUMBER: SA164.2402

SHEET NO. 4.3

FOR PERMIT



DISTRIBUTION OF SOILS

		Good Condition Grass Cover		Fair Condition Grass Cover		Poor Condition Grass Cover		
DRAINAGE AREA	TOTAL ACRES	C	D	C	D	C	D	TOTAL CN NUMBER
	AC.	74	80	85	89	90	92	
EXISTING								
EX-A	132.10		132.10					80.00
EX-B	1535.70	115.96	1402.71					78.66
EX-C	45.34		45.34					80.00
PROPOSED/ULTIMATE								
A1	**40.76**		40.76					80.00

NEILL SUBDIVISION
SCS METHOD
TIME OF CONCENTRATION CALCULATIONS

PT. NO.	OVERLAND FLOW (MANNING KINEMATIC EQUATION) P2=3.98 (MIN SLOPE=0.50%) $T_t = \{0.42(nL)^{0.8} / (P2)^{0.5}S^{0.4}\}$				SHALLOW CONCENTRATED FLOW (NCRS METHOD) (MIN SLOPE=0.50%) $V_{paved}=20.3282*S^{0.5}$, $V_{unpaved}=16.1345*S^{0.5}$, $T_2=L/(60V)$					CHANNEL FLOW (MANNING EQUATION) $T_3= L / (60V)$			TIME OF CONCENTRATION (MIN)	Lag Time (min)
	LENGTH	MANNING'S N	SLOPE	TRAVEL TIME	LENGTH	SLOPE	PAVED / UNPAVED	VELOCITY	TRAVEL TIME	LENGTH	VELOCITY	TRAVEL TIME		
	(FT)		(%)	(MIN)	(FT)	(%)		(FT/S)	(MIN)	(FT)	(FT/S)	(MIN)		
EXIST.														
EX-A	100	0.240	0.50%	**20.0**	1000	0.50%	UNPAVED	1.1	**14.6**	3109	6.0	**8.6**	**43.2**	**25.9**
							PAVED	0.0	**0.0**					
EX-B	100	0.240	0.50%	**20.0**	1000	0.50%	UNPAVED	1.1	**14.6**	17284	6.0	**48.0**	**82.6**	**49.6**
							PAVED	0.0	**0.0**					
EX-C	100	0.240	0.70%	**19.5**	1000	0.50%	UNPAVED	1.1	**14.6**	2387	6.0	**6.6**	**40.7**	**24.4**
							PAVED	0.0	**0.0**					
R-1										731	6.0	**2.0**	**2.0**	**1.2**
R-2										1270	6.0	**3.5**	**3.5**	**2.1**

Existing Runoff Flow Rates (SCS)

Drainage Areas	Drainage Point	CN	Drainage Area (ac)	AREA (MI^2)	Tc (min)	TC Lag (min)	Q(2) (cfs)	Q(10) (cfs)	Q(25) (cfs)	Q(100) (cfs)
EX-A	A1	80.00	132.10	0.2064	25.9	25.9	196.20	368.40	481.90	661.10
EX-B	B1	78.66	1535.70	2.3995	82.6	49.6	1,475.50	2,837.70	3,763.70	5,275.30
EX-C	C1	80.00	45.34	0.0708	40.7	24.4	68.90	130.00	170.20	233.80
PT. 1	1						196.20	368.40	481.90	661.10
PT. 2	2						1,587.50	3,053.00	4,050.10	5,677.30
PT. 3	3						1,621.90	3,120.10	4,139.80	5,804.80
R-1					2.0	1.2	196.20	368.40	481.90	661.10
R-2					3.53	2.12	1587.50	3,053.00	4,050.10	5,677.30

NEILL TRACT UNIT 1

EXISTING SCS DRAINAGE AREA MAP

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME: sh_SCS_DMAP.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
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TBPE No. F-1386

JOB NUMBER: SA164.2402

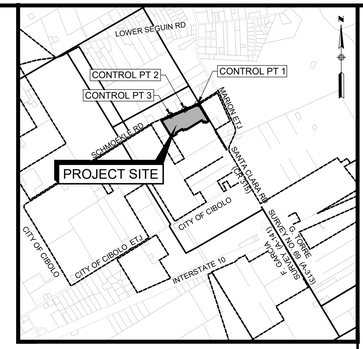
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FOR PERMIT

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User: Victoria Sanchez
Last Modified: Oct. 09, 25 - 08:44
Last Modified: Oct. 09, 25 - 08:45

NEILL TRACT UNIT 1

ULTIMATE SCS DRAINAGE AREA MAP



LOCATION MAP
N.T.S.

LEGEND

A / X.X	AREA (BASIN) ACREAGE
570	EXISTING CONTOUR
570	PROPOSED CONTOUR
	DRAINAGE AREA LIMITS
TC — TC	TIME OF CONCENTRATION PATH
	FLOW ARROWS
	PROPOSED BOUNDARY
	EXISTING LOT LINES
	PROPOSED LOT LINES
1	REFERENCE POINT

500 250 0 500 1000

SCALE IN FEET
SCALE: 1"=500'

DA–B
1535.70
AC

DA–A1
40.76
AC

DA–A2
36.99
AC

DA–A3
54.27
AC

DA–C
45.34
AC

REACH 1

REACH 2

DISTRIBUTION OF SOILS

DRAINAGE AREA	TOTAL ACRES	Good Condition Grass Cover C	Good Condition Grass Cover D	Fair Condition Grass Cover C	Fair Condition Grass Cover D	Poor Condition Grass Cover C	Poor Condition Grass Cover D	TOTAL CN NUMBER
	AC.	74	80	85	89	90	92	
PROPOSED/ULTIMATE								
A1	**40.76**		40.76					80.00
A2	**37.00**		37.00					80.00
A3	**54.27**		54.27					80.00
B	**1535.70**	115.96	1402.71					78.66
C	**45.34**		45.34					80.00

NEILL SUBDIVISION
SCS METHOD
TIME OF CONCENTRATION CALCULATIONS

PT. NO.	OVERLAND FLOW (MANNING KINEMATIC EQUATION) P2=3.98 (MIN SLOPE=0.50%) $T_t = \{0.42(nL)^{0.8} / (P2)^{0.5}S^{0.4}\}$				SHALLOW CONCENTRATED FLOW (NCRS METHOD) (MIN SLOPE=0.50%) $V_{paved}=20.3282*S^{0.5}$, $V_{unpaved}=16.1345*S^{0.5}$, $T_2=L/(60V)$					CHANNEL FLOW (MANNING EQUATION) $T_3= L / (60V)$			TIME OF CONCENTRATION (MIN)	Lag Time (min)
	LENGTH	MANNING'S N	SLOPE	TRAVEL TIME	LENGTH	SLOPE	PAVED / UNPAVED	VELOCITY	TRAVEL TIME	LENGTH	VELOCITY	TRAVEL TIME		
	(FT)		(%)	(MIN)	(FT)	(%)		(FT/S)	(MIN)	(FT)	(FT/S)	(MIN)		
ULT.														
A1	100	0.240	0.50%	**20.0**	1000	0.50%	UNPAVED	1.1	**14.6**	1407	6.0	**3.9**	**38.5**	**23.1**
							PAVED	0.0	**0.0**					
A2	100	0.240	2.00%	**12.8**	37	2.00%	UNPAVED	2.3	**0.3**	1125	6.0	**3.1**	**16.2**	**9.7**
							PAVED	0.0	**0.0**					
A3	100	0.240	2.00%	**12.8**	34	2.00%	UNPAVED	2.3	**0.2**	794	6.0	**2.2**	**27.5**	**16.5**
					1060	0.50%	PAVED	1.4	**12.3**					
B	100	0.240	0.50%	**20.0**	1000	0.50%	UNPAVED	1.1	**14.6**	17284	6.0	**48.0**	**82.6**	**49.6**
							PAVED	0.0	**0.0**					
C	100	0.240	0.70%	**19.5**	1000	0.50%	UNPAVED	1.1	**14.6**	2387	6.0	**6.6**	**40.7**	**24.4**
							PAVED	0.0	**0.0**					
Reach A										1761	6.0	**4.9**	**4.9**	**2.9**
R-1										731	6.0	**2.0**	**2.0**	**1.2**
R-2										1270	6.0	**3.5**	**3.5**	**2.1**

Proposed/Ultimate Runoff Flow Rates (SCS)

Drainage Areas	Drainage Point	CN	Drainage Area (ac)	AREA (MI^2)	Tc (min)	TC Lag (min)	Q(2) (cfs)	Q(10) (cfs)	Q(25) (cfs)	Q(100) (cfs)
A1	A1	80	40.76	0.0637	38.5	23.1	76.60	131.50	167.20	223.60
A2	A2	80	37.00	0.0578	16.2	9.7	89.70	167.40	218.10	297.20
A3	A3	80	54.27	0.0848	27.5	16.5	155.50	236.80	288.80	371.20
B	B1	79	1535.70	2.3995	82.6	49.6	1,475.50	2,837.70	3,763.70	5,275.30
C	C1	80	45.34	0.0708	40.7	24.4	68.90	130.00	170.20	233.80
Pond A							91.90	139.10	170.80	225.10
PT. 1	1						165.60	264.80	330.60	439.40
PT. 2	2						1,586.30	3,017.10	3,991.00	5,579.80
PT. 3	3						1,619.70	3,081.80	4,077.10	5,072.60
Reach A					4.9	2.9	89.70	167.40	218.10	297.20
R-1					2.0	1.2	165.6	264.8	330.6	439.4
R-2							1,586.30	3,017.10	3,991.00	5,579.80

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME: sh_SCS_DMA2.dwg

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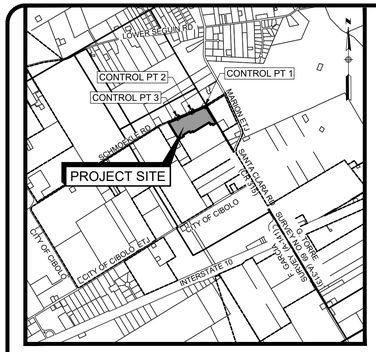
LJA Engineering, Inc.
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SHEET NO.
5.1

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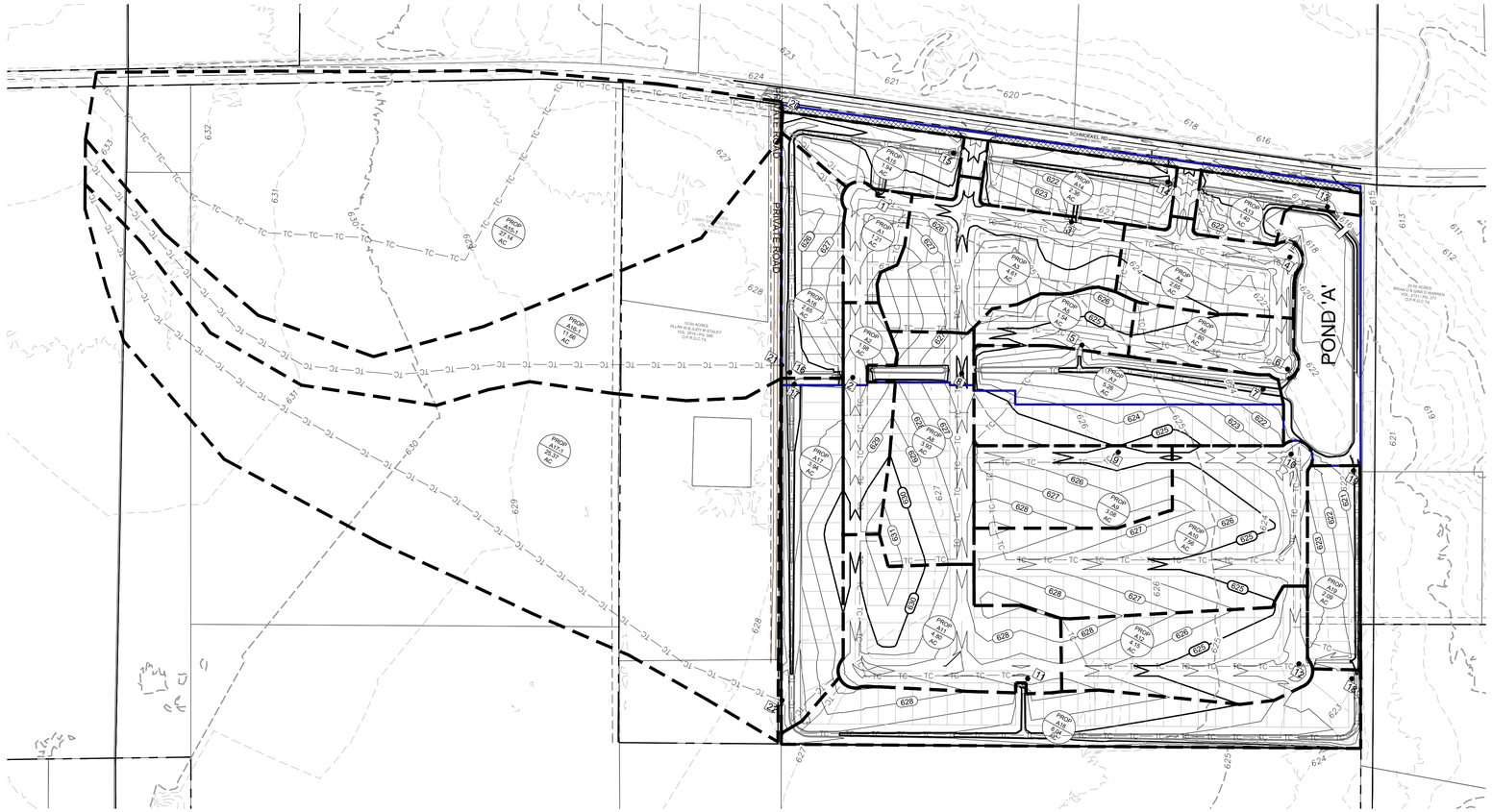
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User Name: victoria.sanchez
Last Modified: Oct. 09, 25 – 09:44
Plot Date/Time: Oct. 21, 25 – 14:51:01



LOCATION MAP
N.T.S.

LEGEND

A / X.X	AREA (BASIN) ACREAGE
740	EXISTING CONTOUR
740	PROPOSED CONTOUR
	DRAINAGE AREA LIMITS
TC TC TC	TIME OF CONCENTRATION PATH
	FLOW ARROWS
	PROPOSED BOUNDARY
	PROPOSED BOUNDARY UNIT 1
	EXISTING LOT LINES
	PROPOSED LOT LINES
A	REFERENCE POINT



NEILL SUBDIVISION UNIT 1 Atlas14 Proposed Time of Concentration Table Guadalupe

		Sheet Flow (max length = 150')					Shallow Concentrated Flow					Channel Flow			Total
Study Point	Drainage Basin(s)	n	L_t(ft)	P_2(in)	S_t%	T_t(min)	Paved/ Unpaved	L_{sc}(ft)	S_{sc}%	k	T_{sc}(min)	L(ft)	V(ft/sec)	T_{ch}(min)	T_c(min)
1	A1	0.24	100	3.98	1.5	14.4	Unpaved	59	1.5	16.13	0.5	0	6	0.0	15.5
							Paved	77	1.0	20.32	0.6				
2	A2	0.24	48	3.98	1.5	8.0	Paved	449	1.0	20.32	3.7	0	6	0.0	11.7
3	A3	0.24	100	3.98	1.5	14.4	Unpaved	93	1.5	16.13	0.8	0	6	0.0	21.8
							Paved	680	0.7	20.32	6.7				
4	A4	0.24	100	3.98	1.5	14.4	Unpaved	48	1.5	16.13	0.4	0	6	0.0	19.3
							Paved	482	0.8	20.32	4.6				
5	A5	0.24	54	3.98	1.5	8.8	Paved	283	1.0	20.32	2.3	0	6	0.0	11.1
6	A6	0.24	100	3.98	1.5	14.4	Paved	430	0.7	20.32	4.2	0	6	0.0	18.6
7	A7	0.24	100	3.98	1.5	14.4	Unpaved	155	3.6	16.13	0.9	712	6	2.0	17.2
8	A8	0.24	100	3.98	1.5	14.4	Unpaved	92	1.5	16.13	0.8	0	6	0.0	20.2
							Paved	540	0.8	20.32	5.1				
9	A9	0.24	100	3.98	1.5	14.4	Unpaved	86	1.5	16.13	0.7	0	6	0.0	19.6
							Paved	392	0.5	20.32	4.5				
10	A10	0.24	91	3.98	1.5	13.3	Paved	1141	0.5	20.32	13.2	0	6	0.0	26.5
11	A11	0.24	48	3.98	1.5	8.0	Paved	856	0.5	20.32	9.9	0	6	0.0	17.9
12	A12	0.24	100	3.98	1.5	14.4	Unpaved	47	1.5	16.13	0.4	0	6	0.0	21.1
							Paved	644	0.7	20.32	6.3				
13	A13	0.24	100	3.98	2.0	12.8	Unpaved	20	2.0	16.13	0.1	346	6	1.0	13.9
14	A14	0.24	100	3.98	2.0	12.8	Unpaved	30	2.0	16.13	0.2	498	6	1.4	14.4
20	A15-1	0.24	100	3.98	0.5	20.0	Unpaved	2407	0.5	16.13	35.2	0	6	0.0	55.2
15	A15	0.24	100	3.98	2.0	12.8	Unpaved	92	2.0	16.13	0.7	490	6	1.4	14.8
15	A1+A15+A15-1	CARRY OVER FROM A15-1									55.2	337	6	0.9	56.1
14	A1+A3+A14+A15+A15-1	CARRY OVER FROM A15-1									55.2	966	6	2.7	57.9
13	A1+A3+A13+A14+A15+A15-1	CARRY OVER FROM A15-1									55.2	1414	6	3.9	59.1
21	A16-1	0.24	100	3.98	0.5	20.0	Unpaved	2177	0.5	16.13	31.8	0	6	0.0	51.8
16	A16	0.24	100	3.98	2.0	12.8	Unpaved	65	2.0	16.13	0.5	645	6	1.8	15.1
16	A16+A16-1	CARRY OVER FROM A16-1													51.8
22	A17-1	0.24	100	3.98	0.5	20.0	Unpaved	2184	0.5	16.13	31.9	0	6	0.0	51.9
17	A17	0.24	100	3.98	2.0	12.8	Unpaved	75	2.0	16.13	0.5	992	6	2.8	16.1
17	A17+A17-1	CARRY OVER FROM A17-1													51.9
2	A2+A16+A17+A16-1+A17-1	CARRY OVER FROM A17-1													51.9
8	A2+A8+A16+A17+A16-1+A17-1	CARRY OVER FROM A17-1									51.9	450	6	1.3	53.2
7	A2+A5+A7+A8+A9+A16+A17+A16-1+A17-1	CARRY OVER FROM A17-1									51.9	1423	6	4.0	55.9
18	A18	0.24	100	3.98	2.0	12.8	Unpaved	75	2.0	16.13	0.5	1790	6	5.0	18.3
18	A11+A18	CARRY OVER FROM A11									17.9	1292	6	3.6	21.5
19	A19	0.24	100	3.98	1.5	14.4	Unpaved	41	1.5	16.13	0.3	540	6	1.5	16.2
19	A11+A12+18+A19	CARRY OVER FROM A11									17.9	1882	6	5.2	23.1
		$T_t = \frac{0.007(nL_t)^{0.8}}{(P_2)^{0.5} S_t^{0.4}}$					$T_{sc} = \frac{L_{sc}}{3600 K S_{sc}^{0.5}}$					$T_{ch} = \frac{L_{ch}}{3600 * V}$			$T_t + T_{sc} + T_{ch}$

NEILL SUBDIVISION UNIT 1 Atlas14 Proposed Q Flow Table Guadalupe

Drainage Area			Coefficient	Intensity				Q FLOW			
Study Point	Area(s)	A (ac.)	C	I_2(in/hr)	I_{10}(in/hr)	I_{25}(In/hr)	I_{100}(in/hr)	Q_2 (ft^3/s)	Q_{10} (ft^3/s)	Q_{25}(ft^3/s)	Q_{100}(ft^3/s)
1	A1	1.21	0.51	4.18	6.05	7.22	9.09	2.57	3.73	4.45	5.60
2	A2	1.98	0.52	4.71	6.93	8.30	10.46	4.86	7.15	8.56	10.79
3	A3	4.61	0.49	3.64	5.28	6.29	7.90	8.23	11.93	14.21	17.85
4	A4	2.65	0.49	3.86	5.58	6.65	8.36	5.01	7.23	8.63	10.85
5	A5	1.54	0.51	4.83	7.05	8.47	10.68	3.78	5.53	6.64	8.37
6	A6	1.80	0.50	3.92	5.67	6.76	8.51	3.56	5.15	6.14	7.72
7	A7	5.26	0.35	4.04	5.84	6.97	8.77	7.37	10.64	12.71	15.99
8	A8	3.93	0.48	3.79	5.46	6.52	8.20	7.10	10.24	12.23	15.36
9	A9	3.08	0.50	3.83	5.54	6.61	8.31	5.92	8.58	10.22	12.85
10	A10	7.56	0.51	3.25	4.69	5.59	7.00	12.57	18.16	21.62	27.09
11	A11	4.80	0.51	3.97	5.76	6.86	8.63	9.64	14.00	16.67	20.97
12	A12	4.15	0.51	3.72	5.36	6.40	8.04	7.83	11.28	13.46	16.91
13	A13	1.40	0.39	4.35	6.40	7.62	9.60	2.38	3.50	4.17	5.26
14	A14	2.36	0.43	4.30	6.26	7.47	9.41	4.32	6.29	7.50	9.45
20	A15-1	27.14	0.25	2.10	3.05	3.65	4.60	13.98	20.36	24.37	30.72
15	A15	1.94	0.41	4.21	6.17	7.34	9.25	3.37	4.93	5.86	7.38
15	A1+A15+A15-1	30.29	0.27	2.06	3.01	3.60	4.54	16.69	24.32	29.11	36.71
14	A1+A3+A14+A15+A15-1	37.26	0.30	2.00	2.93	3.50	4.42	22.68	33.23	39.74	50.15
13	A1+A3+A13+A14+A15+A15-1	38.66	0.31	1.96	2.86	3.43	4.33	23.32	34.07	40.82	51.54
21	A16-1	11.66	0.26	2.21	3.22	3.84	4.84	6.73	9.81	11.72	14.75
16	A16	2.65	0.43	4.22	6.09	7.28	9.17	4.85	6.99	8.35	10.52
16	A16+A16-1	14.31	0.29	2.21	3.22	3.84	4.84	9.27	13.50	16.13	20.30
22	A17-1	25.37	0.25	2.20	3.21	3.84	4.83	14.12	20.58	24.59	30.94
17	A17	3.94	0.43	4.14	5.97	7.13	8.97	6.98	10.08	12.04	15.15
17	A17+A17-1	29.31	0.28	2.20	3.21	3.84	4.83	17.84	26.01	31.07	39.10
2	A2+A16+A17+A16-1+A17-1	45.60	0.29	2.20	3.21	3.84	4.83	29.36	42.81	51.13	64.35
8	A2+A8+A16+A17+A16-1+A17-1	49.53	0.31	2.17	3.15	3.77	4.74	32.91	47.86	57.25	72.09
7	A2+A5+A7+A8+A9+A16+A17+A16-1+A17-1	59.41	0.33	2.07	3.02	3.61	4.56	40.00	58.51	69.94	88.18
18	A18	6.04	0.41	3.94	5.70	6.80	8.55	9.81	14.17	16.91	21.27
18	A11+A18	10.84	0.45	3.67	5.31	6.33	7.95	18.06	26.11	31.13	39.10
19	A19	2.09	0.51	4.12	5.96	7.11	8.95	4.39	6.33	7.56	9.52
19	A11+A12+18+A19	17.08	0.47	3.54	5.10	6.09	7.64	28.65	41.27	49.24	61.80
		Q= CIA									

NEILL TRACT UNIT 1

ULTIMATE RATIONAL
DRAINAGE AREA CALCULATIONS

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME: sh_PropDMAP_.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

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Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER:
SA164.2402

SHEET NO.
5.3

FOR PERMIT

K:\SA\164.402 Neill Tract\1406 Site Development Plans\GMD-Sheet\sh_PropDMAP.dwg
Xrefs Attached:
Last Modified: Oct 17, 25 - 10:13
Plotted By: Victoria Sanchez

NOTES:
1. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF ALL EXISTING UTILITIES HORIZONTALLY AND VERTICALLY PRIOR TO CONSTRUCTION.

2. CONTRACTOR TO FILL AND COMPACT TO 95% DENSITY IN FILL SECTIONS OVER STORM SEWER LINES. 2.0'(MIN) COVER OVER WATER PRIOR TO CONSTRUCTION.

3. ALL STORM SEWER PIPE SHALL BE CL III RCP AS SHOWN ON PROFILE SHEET.

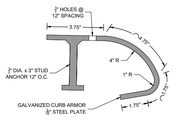
4. ALL BENDS AND FITTINGS SHALL BE PREFABRICATED BY MANUFACTURER. NO FIELD FABRICATION OF FITTINGS IS ALLOWED.

5. ALL CONCRETE LINING SHALL BE A MINIMUM OF FIVE (5) INCHES THICK AND REINFORCED WITH NO. 4 ROUND BARS @ 18 INCHES ON CENTER EACH WAY OR WELDED WIRE FABRIC OF 6" x 6"-WD6 x WD6. ALL CONCRETE LINING SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH STRENGTH OF NOT LESS THAN THREE THOUSAND (3,000) POUNDS PER SQUARE INCH IN TWENTY EIGHT (28) DAYS. THE DEPTH OF ALL TOEDOWNS SHALL BE 36 INCHES UPSTREAM, 24 INCHES DOWNSTREAM, AND 18 INCHES FOR SIDE SLOPES.

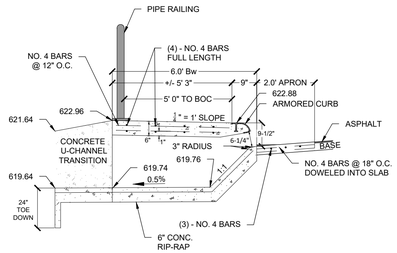
LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

811 Know what's below. Call before you dig.

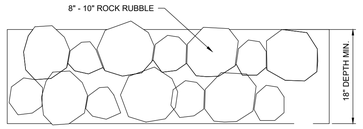
CAUTION: CONTRACTOR TO NOTIFY TEXAS ONE CALL AT 1-800-245-4545 48 HOURS PRIOR TO CONSTRUCTION FOR UTILITY LINE LOCATE. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED DESIGN CHANGES. EXISTING UTILITIES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.



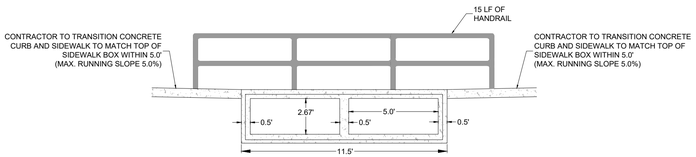
CURB ARMOR DETAIL
N.T.S.



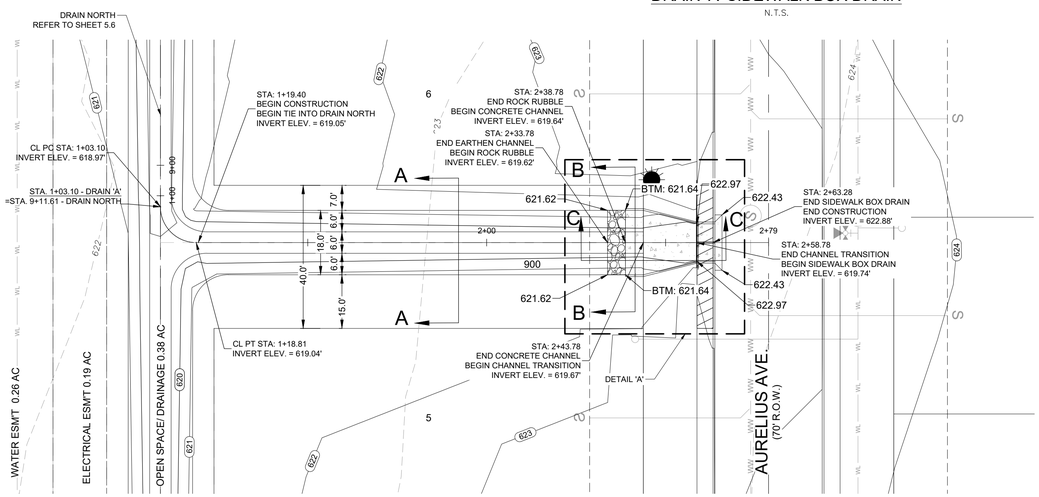
SIDEWALK BOX DRAIN SECTION C-C
N.T.S.



ROCK RUBBLE DETAIL
N.T.S.



DRAIN 'A' SIDEWALK BOX DRAIN
N.T.S.



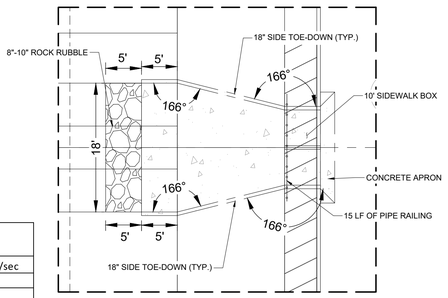
DRAIN 'A' STA. 1+00.00 TO END

DRAIN 'A' INLET			
$Q = CL(h)^{3/2}$ 8.3.2.a			
Amount of flow in CFS =	Q (cfs)	14.21	ft^3/sec
The Weir coefficient 3.087 =	C	3.087	
The length of drop curb opening required in feet =	L_R	6.56	ft
Length Provided =	L_P	10.00	ft
The head or depth of water at the opening in feet =	h	0.79	ft
	h^(3/2)	0.70	ft^2
	CHECK	14.21	ft^3/sec

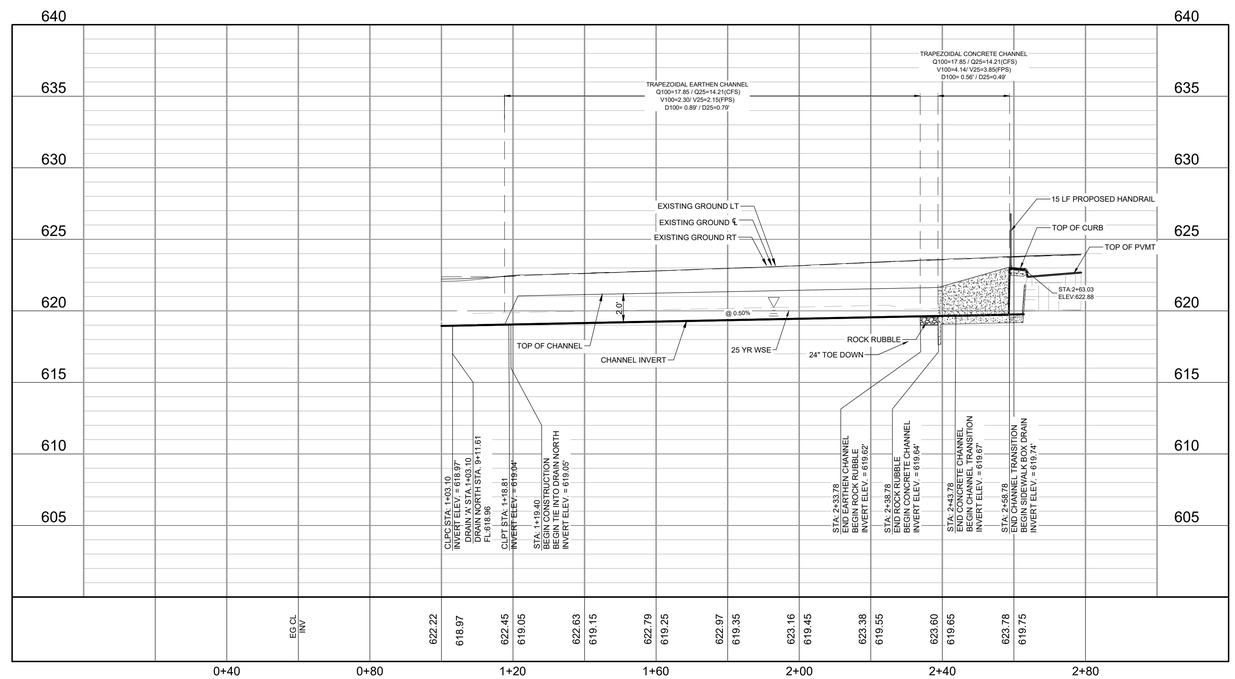
LEGEND

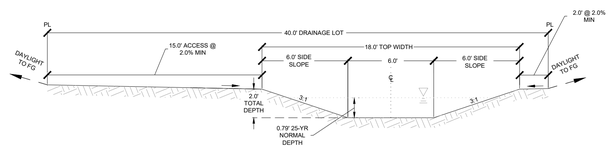
PROPOSED	EXISTING	
	ST	STORM SEWER LINE
WW	WW	WASTEWATER LINE
		WASTEWATER SERVICE
WL	WL	WATER LINE
		WATER SERVICE
		WATER VALVE
		FIRE HYDRANT
	WWMH	WASTEWATER MANHOLE
	SSMH	STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
		1/2" REBAR FOUND (OR AS NOTED)
		1/2" REBAR WITH CAP FOUND
		1/2" REBAR WITH CHAPARRAL CAP SET
		WATER METER
		UTILITY POLE
	OU	OVERHEAD UTILITIES
		ELEC. UTILITY
		ELEC. MANHOLE
		LIGHT POLE
		TELEPHONE UTILITY
		UNDERGROUND FIBER OPTIC MARKER
		TELEPHONE MANHOLE
		UNDERGROUND GAS MARKER
		CHAIN LINK FENCE
		UTILITY X-ING

20 10 0 20 40
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'

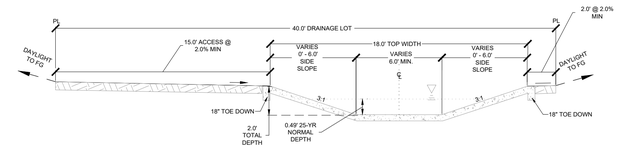


DETAIL 'A'
N.T.S.





DRAIN 'A' EARTHEN CHANNEL SECTION A-A
N.T.S. STA.: 1+19.40 - 2+33.78



DRAIN 'A' CONCRETE CHANNEL SECTION B-B
N.T.S. STA.: 2+38.78 - 2+58.78

NEILL TRACT UNIT 1

DRAIN 'A' P&P (STA 1+00 TO END)

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME: sh_Drain 'A'.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. 5.4

FOR PERMIT

K:\SA164.48 Hondo\2402 Neill Tract\026 Site Development Plan\DWG-Sheets\sh_Drain 'A'.dwg
User Name: victoria.sanchez
Last Modified: Oct. 10, 25 - 10:26
Layout Name: 24x36 - ARCH E

NOTES:
1. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF ALL EXISTING UTILITIES HORIZONTALLY AND VERTICALLY PRIOR TO CONSTRUCTION.

2. CONTRACTOR TO FILL AND COMPACT TO 95% DENSITY IN FILL SECTIONS OVER STORM SEWER LINES. 2.0'(MIN) COVER OVER WATER PRIOR TO CONSTRUCTION.

3. ALL STORM SEWER PIPE SHALL BE CL III RCP AS SHOWN ON PROFILE SHEET.

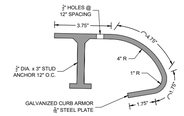
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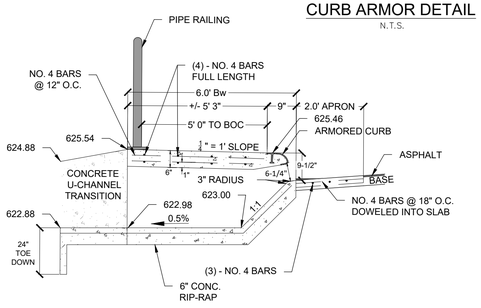
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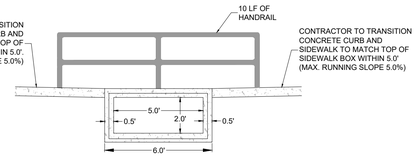


CURB ARMOR DETAIL
N.T.S.



SIDEWALK BOX DRAIN SECTION C-C
N.T.S.

ROCK RUBBLE DETAIL
N.T.S.



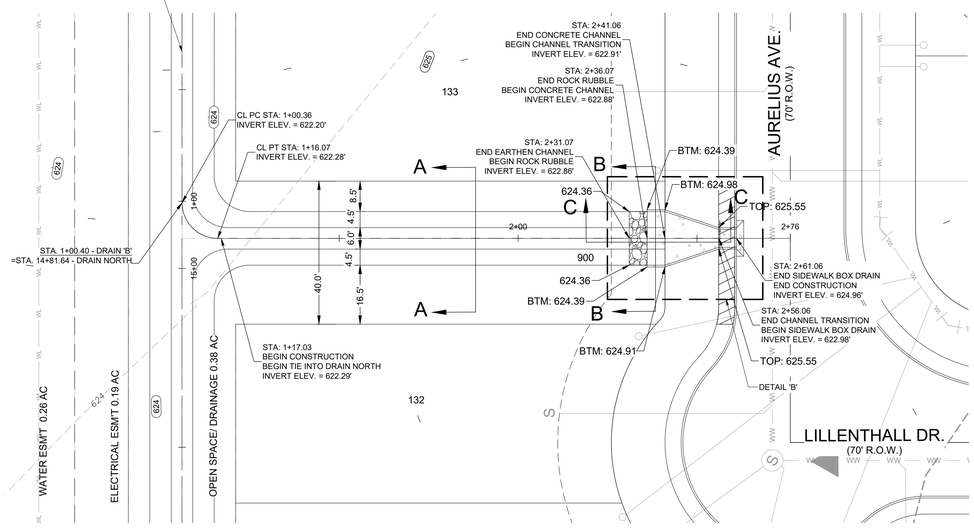
DRAIN 'B' SIDEWALK BOX DRAIN
N.T.S.



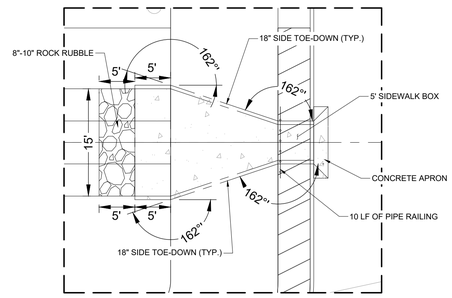


LEGEND

PROPOSED	EXISTING	
	ST	STORM SEWER LINE
WW	WW	WASTEWATER LINE
		WASTEWATER SERVICE
WL	WL	WATER LINE
		WATER SERVICE
		WATER VALVE
		FIRE HYDRANT
	WMMH	WASTEWATER MANHOLE
	SSMH	STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
		1/2" REBAR FOUND (OR AS NOTED)
		1/2" REBAR WITH CAP FOUND
		1/2" REBAR WITH CHAPARRAL CAP SET
		WATER METER
		UTILITY POLE
	OU	OVERHEAD UTILITIES
		ELEC. UTILITY
		ELEC. MANHOLE
		LIGHT POLE
		TELEPHONE UTILITY
		UNDERGROUND FIBER OPTIC MARKER
		TELEPHONE MANHOLE
		UNDERGROUND GAS MARKER
		CHAIN LINK FENCE
		UTILITY X-ING



DRAIN 'B' STA. 1+00.00 TO END

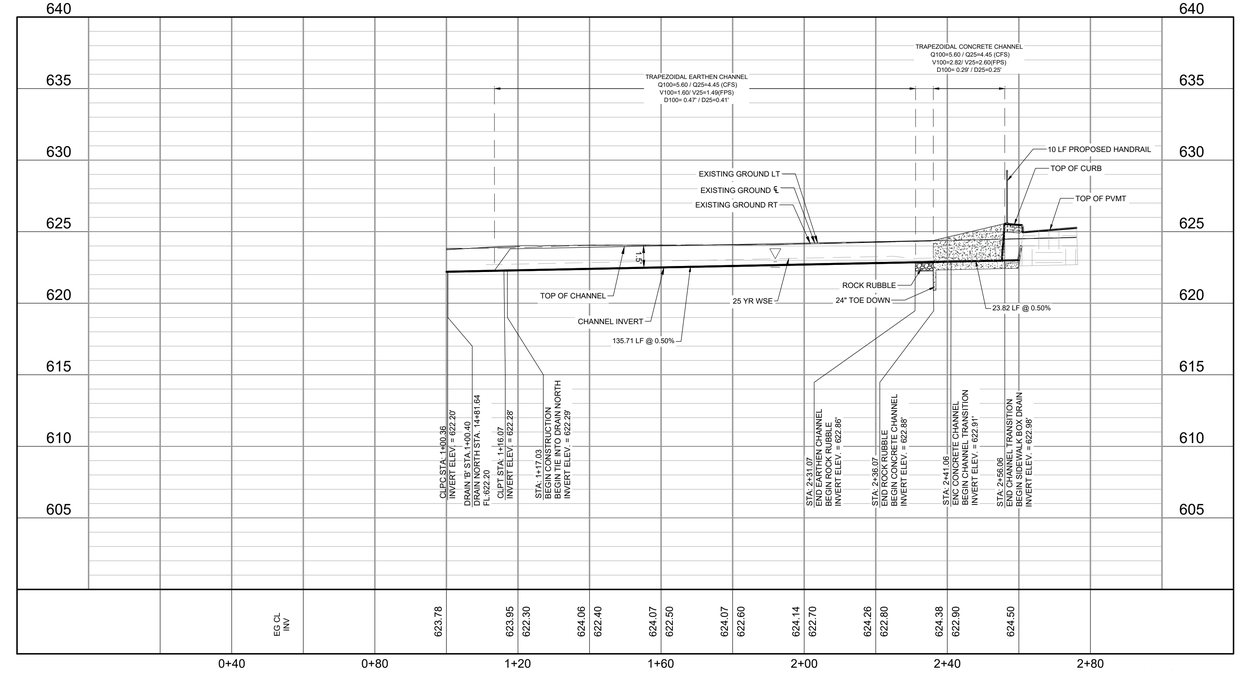


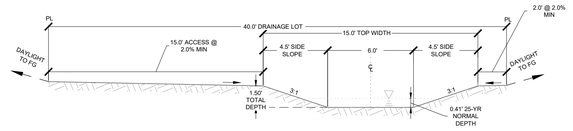
DETAIL 'B'
N.T.S.

DRAIN 'B' INLET

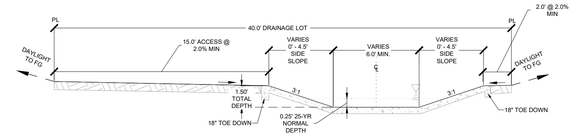
$Q = CL(h)^{3/2}$ 8.3.2.a

Amount of flow in CFS =	**Q (cfs)**	**4.45**	ft^3/sec
The Weir coefficient 3.087 =	C	3.087	
The length of drop curb opening required in feet =	L_R	2.05	ft
Length Provided =	L_P	5.00	ft
The head or depth of water at the opening in feet =	h	0.79	ft
	h^(3/2)	0.70	ft^2
	CHECK	4.45	ft^3/sec





DRAIN 'B' EARTHEN CHANNEL SECTION A-A
N.T.S. STA.: 1+17.03 - 2+31.07



DRAIN 'B' CONCRETE CHANNEL SECTION B-B
N.T.S. STA.: 2+36.07 - 2+56.06

NEILL TRACT UNIT 1

DRAIN 'B' P&P (STA 1+00 TO END)

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME: sh_Drain 'B' dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. **5.5**

FOR PERMIT

K:\SA\164.402 Neill Tract\2402 Neill Tract\2402 Site Development Plans\2402_Sheets\sh_Drain 'B' dwg
User Name: Victoria Sanchez
Last Modified: Oct 10, 25 - 10:42
Last Plotted: Oct 21, 25 - 14:16

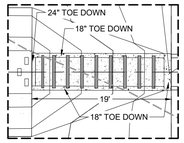
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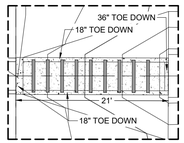
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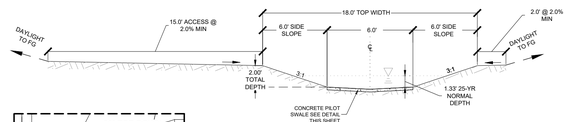
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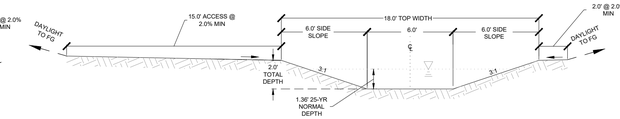
DETAIL 'A'
N.T.S.



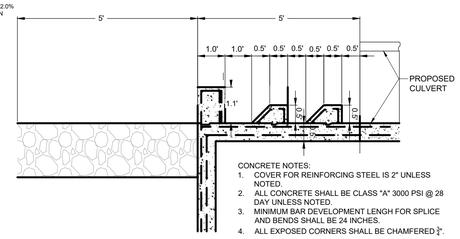
DETAIL 'B'
N.T.S.



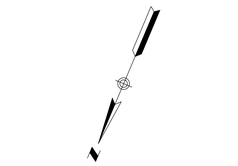
DRAIN 'NORTH' EARTHEN CHANNEL SECTION A-A
N.T.S. STA.: 2+00.00 - 5+45.00



DRAIN 'NORTH' EARTHEN CHANNEL SECTION B-B
N.T.S. STA.: 6+65.78 - 11+71.14
STA.: 12+91.90 - 17+92.47



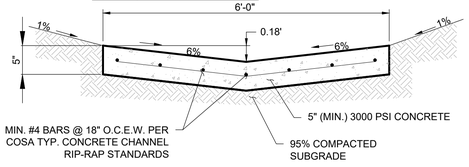
CONCRETE NOTES:
1. COVER FOR REINFORCING STEEL IS 2" UNLESS NOTED.
2. ALL CONCRETE SHALL BE CLASS "A" 3000 PSI @ 28 DAY UNLESS NOTED.
3. MINIMUM BAR DEVELOPMENT LENGH FOR SPLICE AND BENDS SHALL BE 24 INCHES.
4. ALL EXPOSED CORNERS SHALL BE CHAMFERED ¾".



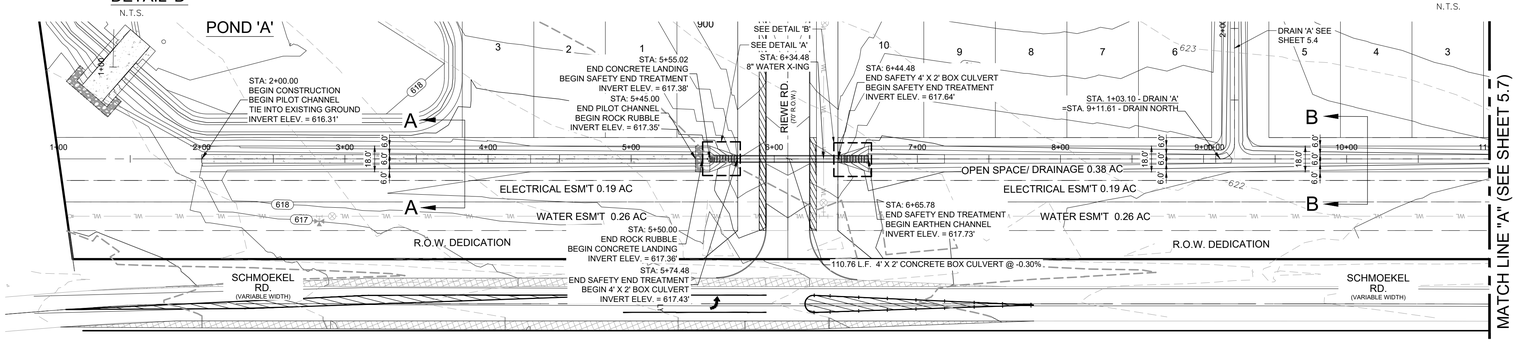
BAFFLE DETAIL
N.T.S.

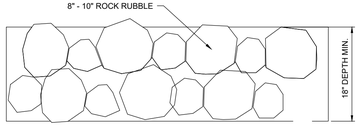
Baffle Calculations STA 5+60

V_1,	6.87 ft/sec
Y_1,	1.59 ft
Length of Basin =	5 ft
Width of Basin =	6 ft
First Baffle:	
Distance to First Block =	0.5 ft
Height =	0.5 ft
Top Width =	0.5 ft
Total Width =	1 ft
Second Baffle:	
Distance to Second Block =	0.5 ft
Height =	0.5 ft
Top Width =	0.5 ft
Total Width =	1 ft
End Sill:	
Distance to End Sill from Second Block =	1 ft
Height =	1.10 ft
Exist Depth =	2.30 ft
Exit Velocity =	2.08 ft/sec



CONCRETE PILOT CHANNEL
N.T.S.





ROCK RUBBLE DETAIL
N.T.S.

LEGEND

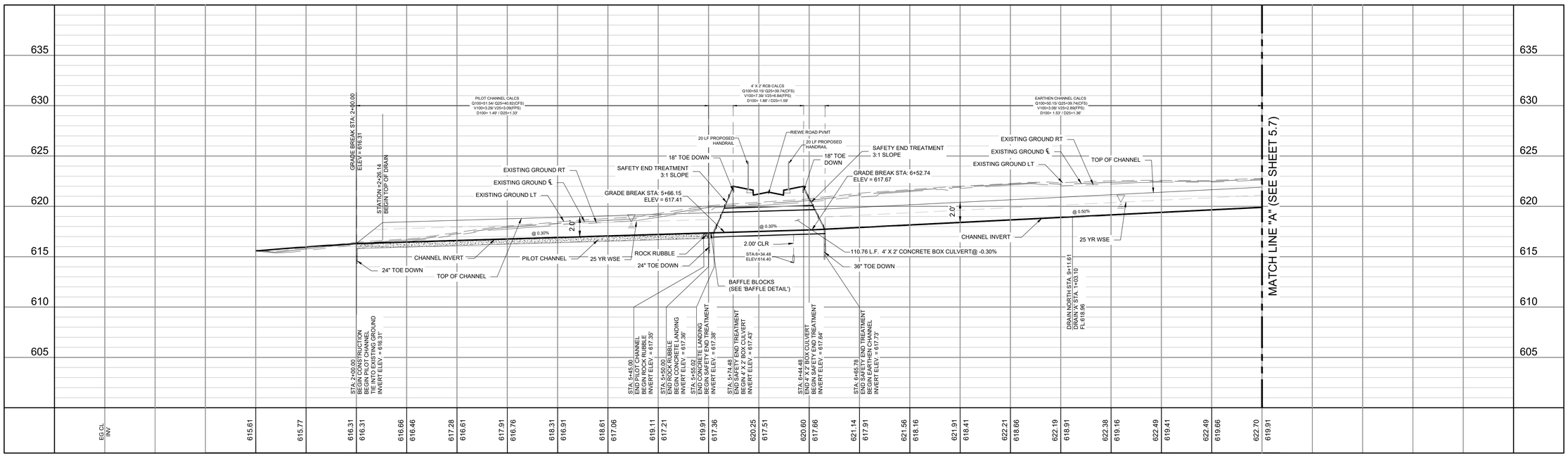
PROPOSED	EXISTING	
	ST	STORM SEWER LINE
WW	WW	WASTEWATER LINE
		WASTEWATER SERVICE
WL	WL	WATER LINE
		WATER SERVICE
		WATER VALVE
		FIRE HYDRANT
		WWMH
		SSMH
		CURB INLET
		GRATE INLET
		1/2" REBAR FOUND (OR AS NOTED)
		1/2" REBAR WITH CAP FOUND
		1/2" REBAR WITH CHAPARRAL CAP SET
		WATER METER
		UTILITY POLE
	OU	OVERHEAD UTILITIES
		ELEC. UTILITY
		ELEC. MANHOLE
		LIGHT POLE
		TELEPHONE UTILITY
		UNDERGROUND FIBER OPTIC MARKER
		TELEPHONE MANHOLE
		UNDERGROUND GAS MARKER
		CHAIN LINK FENCE
		UTILITY X-ING

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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DRAIN NORTH STA. 1+00.00 TO STA. 11+00.00



FOR PERMIT

LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. 5.6

NEILL TRACT UNIT 1

DRAIN 'NORTH' P&P (STA 1+00 - STA 11+00)

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME: 5th_Drain North.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

K:\SA164.KB Ironw\2402 Neill Tract\426 Site Development Plans\DWG-Sheets\5th_Drain North.dwg
Xref Name:
Last Modified: Oct. 14, 25 - 09:03
Last Modified: Oct. 14, 25 - 09:03

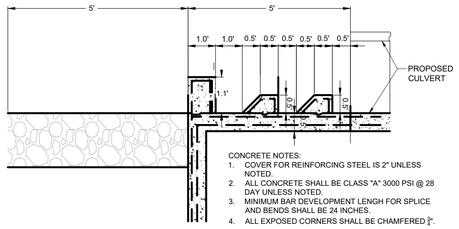
NOTES:
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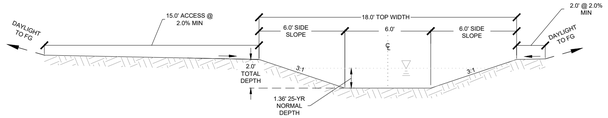
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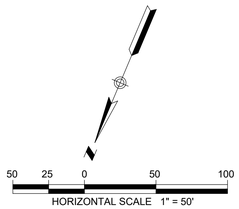
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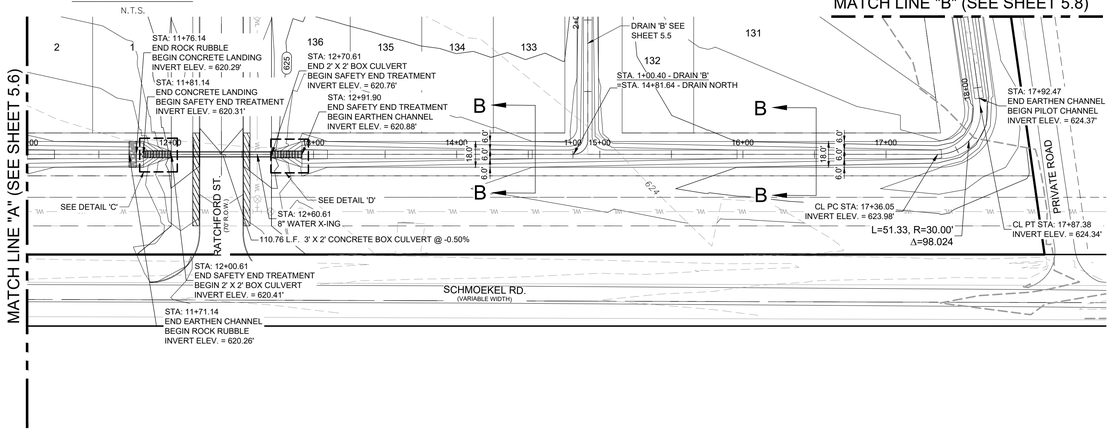
DRAIN 'NORTH' EARTHEN CHANNEL SECTION B-B
N.T.S. STA.: 6+65.78 - 11+71.14
STA.: 12+91.90 - 17+92.47

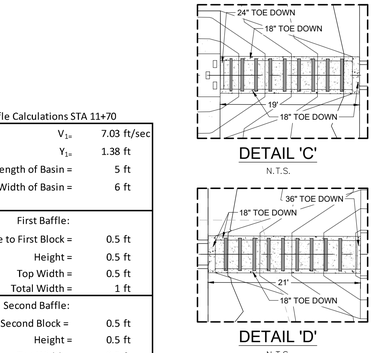


LEGEND

PROPOSED	EXISTING	
	ST	STORM SEWER LINE
WW	WW	WASTEWATER LINE
	WL	WASTEWATER SERVICE
WL		WATER LINE
		WATER SERVICE
		WATER VALVE
		FIRE HYDRANT
	WMH	WASTEWATER MANHOLE
	SSMH	STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
		1/2" REBAR FOUND (OR AS NOTED)
		1/2" REBAR WITH CAP FOUND
		1/2" REBAR WITH CHAPARRAL CAP SET
		WATER METER
		UTILITY POLE
	OU	OVERHEAD UTILITIES
		ELEC. UTILITY
		ELEC. MANHOLE
		LIGHT POLE
		TELEPHONE UTILITY
		UNDERGROUND FIBER OPTIC MARKER
		TELEPHONE MANHOLE
		UNDERGROUND GAS MARKER
		CHAIN LINK FENCE
		UTILITY X-ING

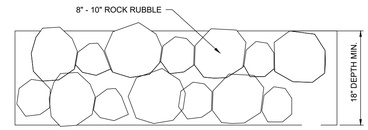
BAFFLE DETAIL
N.T.S.





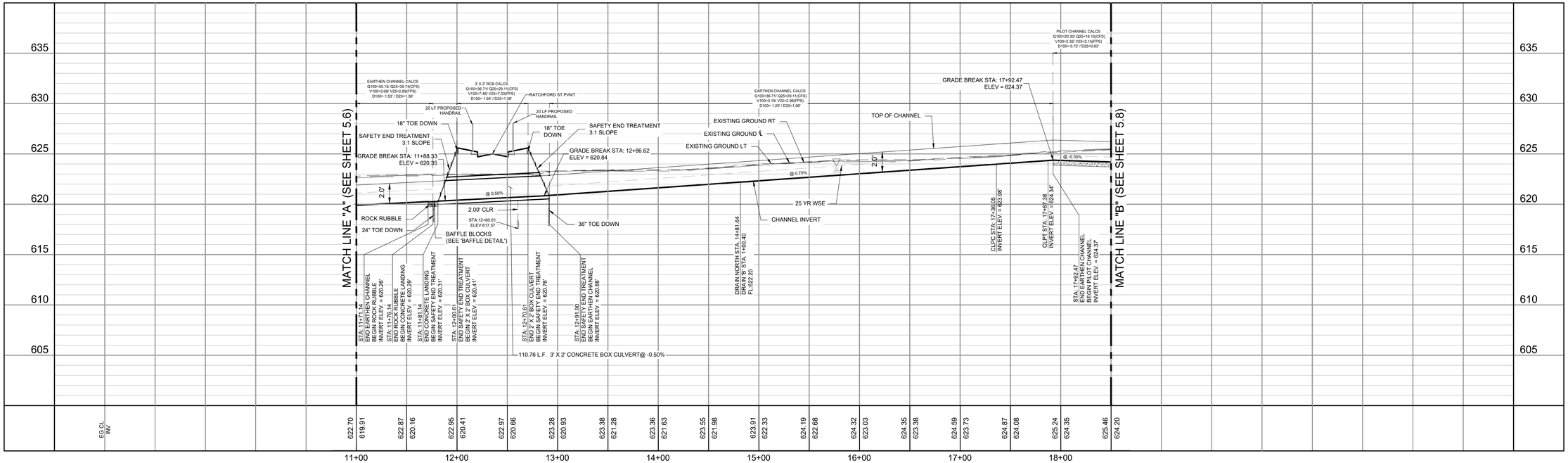
Baffle Calculations STA 11+70

V_{1c} =	7.03 ft/sec
Y_{1c} =	1.38 ft
Length of Basin =	5 ft
Width of Basin =	6 ft
First Baffle:	
Distance to First Block =	0.5 ft
Height =	0.5 ft
Top Width =	0.5 ft
Total Width =	1 ft
Second Baffle:	
Distance to Second Block =	0.5 ft
Height =	0.5 ft
Top Width =	0.5 ft
Total Width =	1 ft
End Sill:	
Distance to End Sill from Second Block =	1 ft
Height =	1.10 ft
Exist Depth =	2.30 ft
Exit Velocity =	1.52 ft/sec



ROCK RUBBLE DETAIL
N.T.S.

DRAIN NORTH STA. 11+00.00 TO STA. 18+50.00



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FOR PERMIT

NEILL TRACT UNIT 1

DRAIN 'NORTH' P&P (STA 11+00 - STA 18+50)

REVISIONS			
NO.	DESCRIPTION	BY	DATE

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME: sh_Drain 'North' dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. 5.7

K:\SA\SA164.402 Home\2402 Neill Tract\426 Site Development Plans\2Mid-Sheets\sh_Drain 'North'.dwg
Plotted: Oct. 14, 25 - 09:03
Last Modified: Oct. 14, 25 - 08:53
Data Workflow: Out-to-Mid-to-Mid-to-Sh

NOTES:
1. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF ALL EXISTING UTILITIES HORIZONTALLY AND VERTICALLY PRIOR TO CONSTRUCTION.

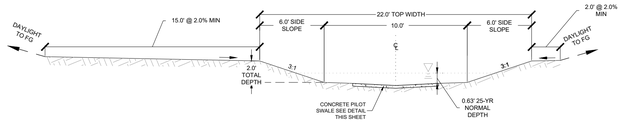
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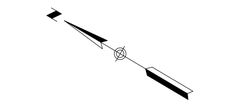
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5. CONTRACTOR TO INSTALL CONCRETE COLLARS AT ALL STORM DRAIN STRUCTURE AND PIPE JUNCTIONS.

6. ALL CONCRETE LINING SHALL BE A MINIMUM OF FIVE (5) INCHES THICK AND REINFORCED WITH NO. 4 ROUND BARS @ 18 INCHES ON CENTER EACH WAY OR WELDED WIRE FABRIC OF 6" x 6"-W/D6 x W/D6. ALL CONCRETE LINING SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH STRENGTH OF NOT LESS THAN THREE THOUSAND (3,000) POUNDS PER SQUARE INCH IN TWENTY EIGHT (28) DAYS. THE DEPTH OF ALL TOEDOWNS SHALL BE 36 INCHES UPSTREAM, 24 INCHES DOWNSTREAM, AND 18 INCHES FOR SIDE SLOPES.



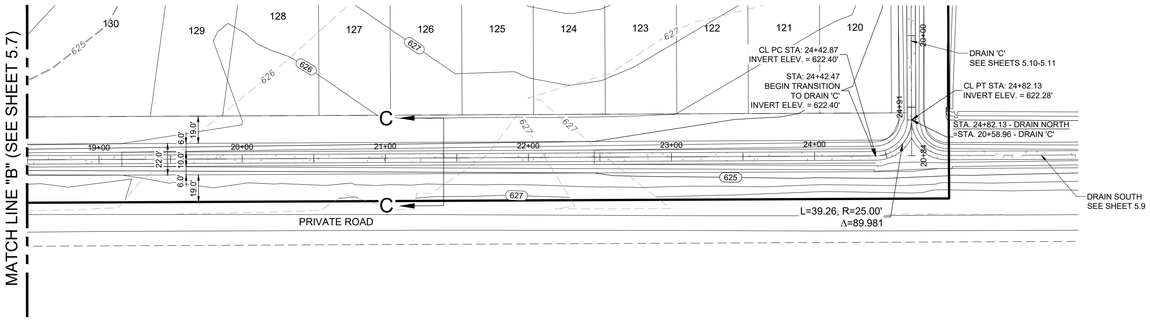
DRAIN 'NORTH' EARTHEN CHANNEL SECTION C-C
N.T.S. STA.: 17+92.47 - 24+82.13

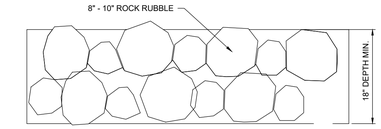


50 25 0 50 100
HORIZONTAL SCALE 1" = 50'
VERTICAL SCALE 1" = 5'

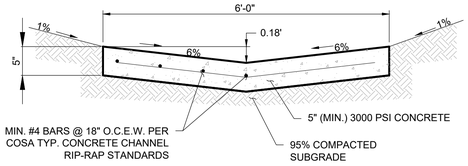
LEGEND

PROPOSED	EXISTING	
	ST	STORM SEWER LINE
WW	WW	WASTEWATER LINE
		WASTEWATER SERVICE
WL	WL	WATER LINE
		WATER SERVICE
		WATER VALVE
		FIRE HYDRANT
	WWMH	WASTEWATER MANHOLE
	SSMH	STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
		1/2" REBAR FOUND (OR AS NOTED)
		1/2" REBAR WITH CAP FOUND
		1/2" REBAR WITH CHAPARRAL CAP SET
		WATER METER
		UTILITY POLE
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		ELEC. UTILITY
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		LIGHT POLE
		TELEPHONE UTILITY
		UNDERGROUND FIBER OPTIC MARKER
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		UNDERGROUND GAS MARKER
	G	CHAIN LINK FENCE
		UTILITY X-ING



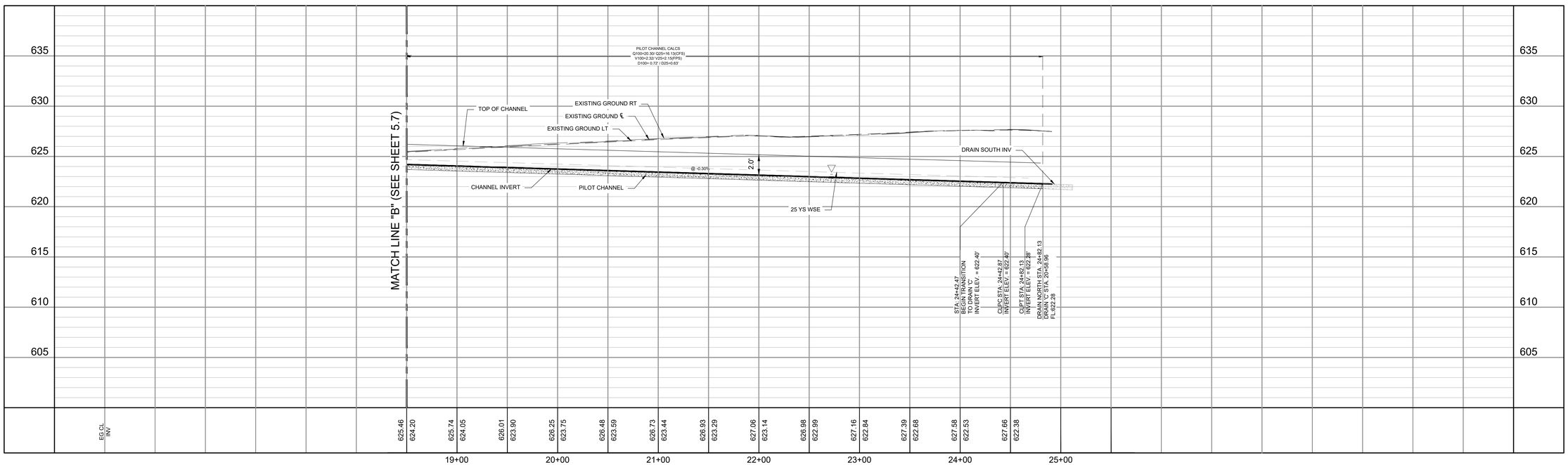


ROCK RUBBLE DETAIL
N.T.S.



CONCRETE PILOT CHANNEL
N.T.S.

DRAIN NORTH STA. 18+50.00 TO END



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NEILL TRACT UNIT 1

DRAIN 'NORTH' P&P (STA 18+50 - STA END)

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME: sh_Drain 'North' dwg

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LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER:
SA164.2402

SHEET NO.
5.8

FOR PERMIT

K:\SA\164.2402 Neill Tract\430 Site Development Plans\DWG-Sheets\sh_Drain 'North'.dwg
Plotted: Oct. 14, 25 - 09:03
Last Modified: Oct. 14, 25 - 09:03
Xref Path: ...\..\..\..

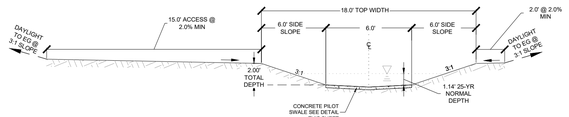
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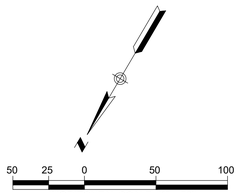
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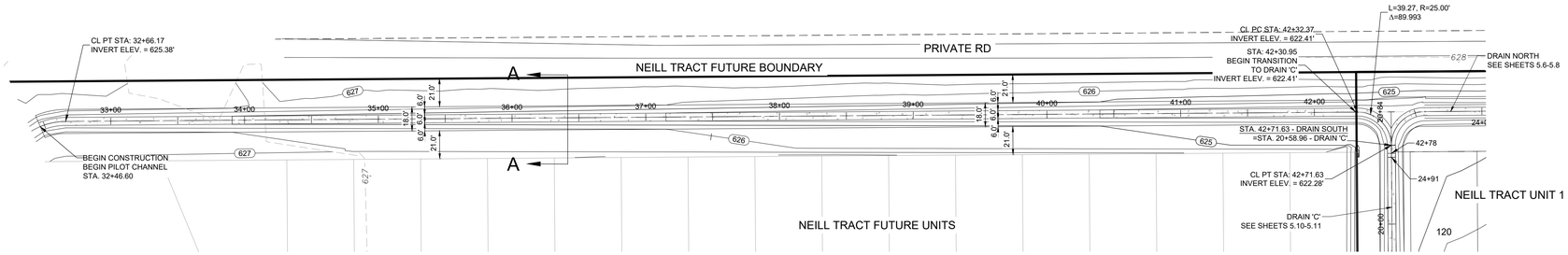
DRAIN 'SOUTH' EARTHEN CHANNEL SECTION A-A
N.T.S. STA.: 32+46.60 - 42+71.63

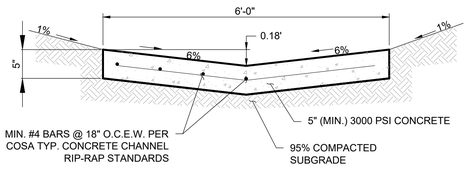


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VERTICAL SCALE 1" = 5'

LEGEND

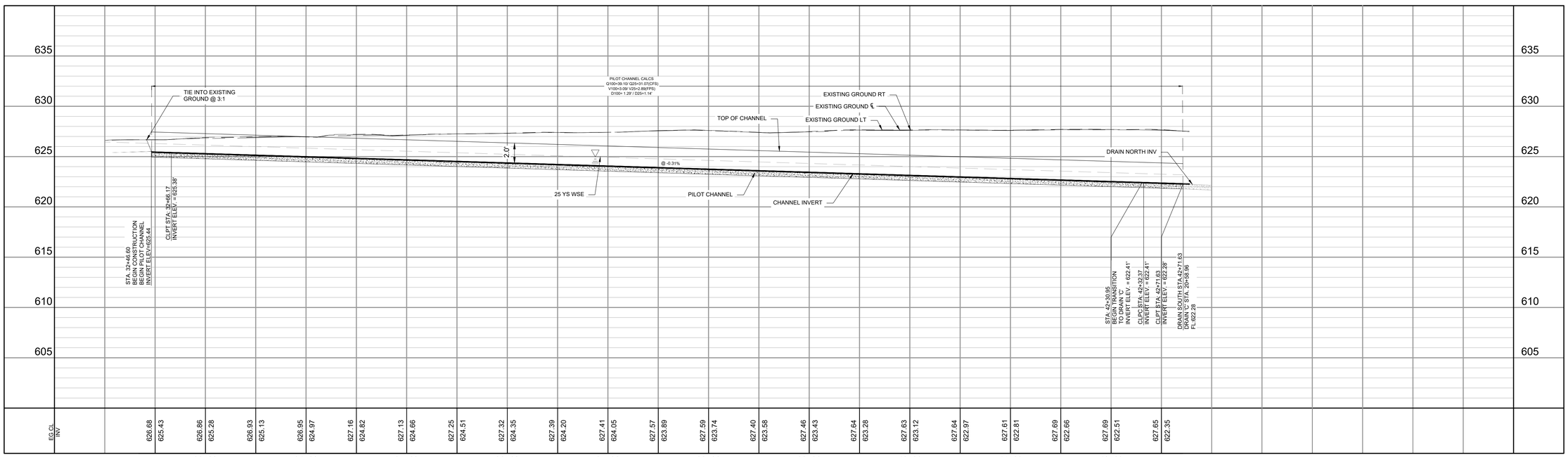
PROPOSED	EXISTING	
	ST	STORM SEWER LINE
WW	WW	WASTEWATER LINE
		WASTEWATER SERVICE
WL	WL	WATER LINE
		WATER SERVICE
		WATER VALVE
		FIRE HYDRANT
	WWMH	WASTEWATER MANHOLE
	SSMH	STORMSEWER MANHOLE
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		1/2" REBAR FOUND (OR AS NOTED)
		1/2" REBAR WITH CAP FOUND
		1/2" REBAR WITH CHAPARRAL CAP SET
		WATER METER
		UTILITY POLE
	OU	OVERHEAD UTILITIES
		ELEC. UTILITY
		ELEC. MANHOLE
		LIGHT POLE
		TELEPHONE UTILITY
		UNDERGROUND FIBER OPTIC MARKER
		TELEPHONE MANHOLE
		UNDERGROUND GAS MARKER
	G	CHAIN LINK FENCE
		UTILITY X-ING





CONCRETE PILOT CHANNEL
N.T.S.

DRAIN SOUTH STA. 32+46.60 TO STA. END



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NEILL TRACT UNIT 1

DRAIN 'SOUTH' P&P (STA 32+46.60 - STA END)

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME: sh_Drain 'South'.dwg

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LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER:
SA164.2402

SHEET NO.
5.9

FOR PERMIT

K:\SA164_Rome\2402 Neill Tract\436 Site Development Plans\DWG-Sheets\sh_Drain 'South'.dwg
Xrefs Attached:
Last Modified: Oct. 10, 25 - 09:17
Plot Scale: 1in = 1in Plot Offset: 0.0, 0.0

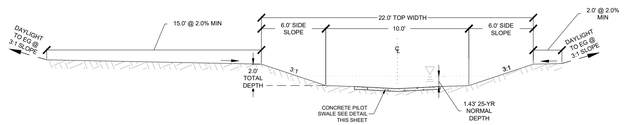
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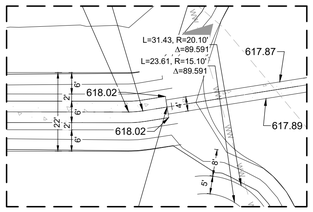
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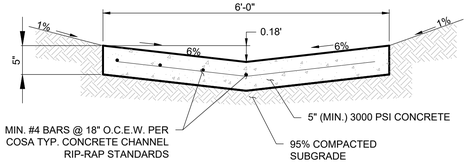
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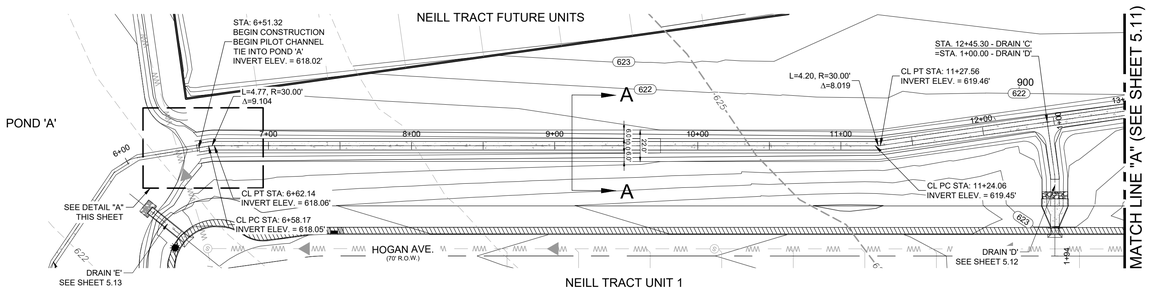
DRAIN 'C' EARTHEN CHANNEL SECTION A-A
N.T.S. STA.: 6+51.32 - 15+20.45



DETAIL 'A'
SCALE: 1" = 10'

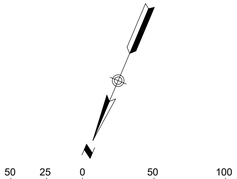


CONCRETE PILOT CHANNEL
N.T.S.



NEILL TRACT UNIT 1

DRAIN 'C' STA. 6+51.32 TO STA. 13+00



LEGEND

PROPOSED	EXISTING	
	ST	STORM SEWER LINE
WW	WW	WASTEWATER LINE
		WASTEWATER SERVICE
WL	WL	WATER LINE
		WATER SERVICE
		WATER VALVE
		FIRE HYDRANT
	WMH	WASTEWATER MANHOLE
	SSMH	STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
		1/2" REBAR FOUND (OR AS NOTED)
		1/2" REBAR WITH CAP FOUND
		1/2" REBAR WITH CHAPARRAL CAP SET
		WATER METER
		UTILITY POLE
	OU	OVERHEAD UTILITIES
		ELEC. UTILITY
		ELEC. MANHOLE
		LIGHT POLE
		TELEPHONE UTILITY
		UNDERGROUND FIBER OPTIC MARKER
		TELEPHONE MANHOLE
		UNDERGROUND GAS MARKER
		CHAIN LINK FENCE
		UTILITY X-ING

DRAIN 'C' INLET (LILLENTHAL DR X-ING)

$Q = CL(h)^{3/2}$ 8.3.2.a

Amount of flow in CFS =	Q (cfs)	4.28	ft^3/sec
The Weir coefficient 3.087 =	C	3.087	
The length of drop curb opening required in feet =	L_R	1.97	ft
Length Provided =	L_P	5.00	ft
The head or depth of water at the opening in feet =	h	0.79	ft
	h^(3/2)	0.70	ft^2
	CHECK	4.28	ft^3/sec

DRAIN 'C' INLET (RATCHFORD ST X-ING)

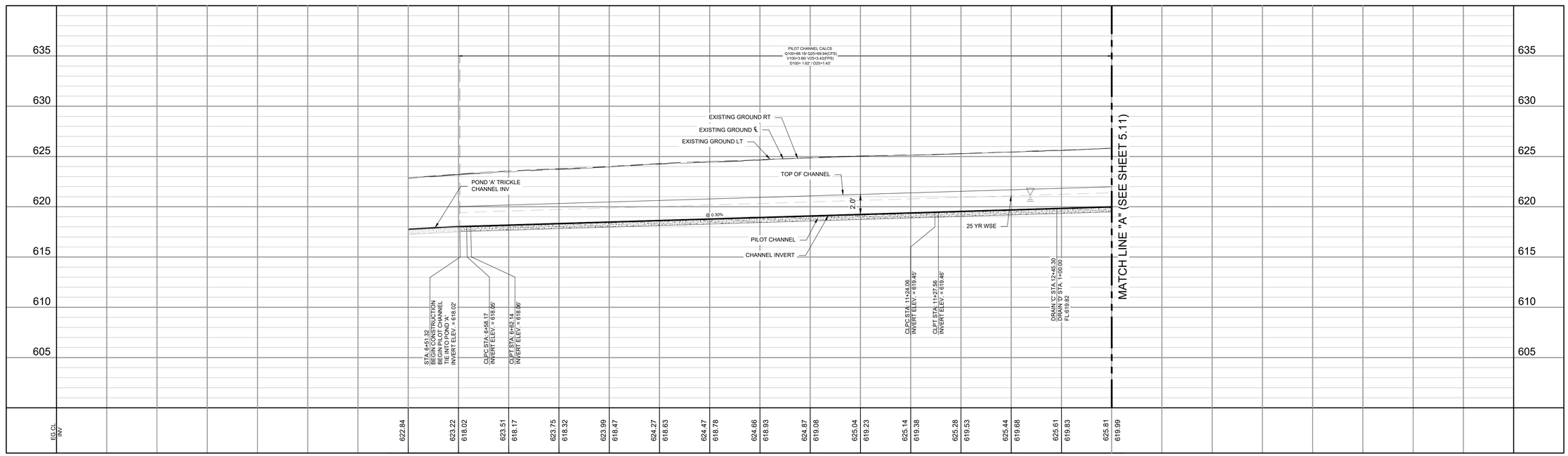
$Q = CL(h)^{3/2}$ 8.3.2.a

Amount of flow in CFS =	Q (cfs)	6.12	ft^3/sec
The Weir coefficient 3.087 =	C	3.087	
The length of drop curb opening required in feet =	L_R	2.82	ft
Length Provided =	L_P	5.00	ft
The head or depth of water at the opening in feet =	h	0.79	ft
	h^(3/2)	0.70	ft^2
	CHECK	6.12	ft^3/sec

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

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CAUTION: CONTRACTOR TO NOTIFY TEXAS ONE CALL AT 1-800-245-4545 48 HOURS PRIOR TO CONSTRUCTION FOR UTILITY LINE LOCATE. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED DESIGN CHANGES. EXISTING UTILITIES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.



FOR PERMIT

LJA Engineering, Inc.
9830 Colonade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. 5.10

NEILL TRACT UNIT 1

DRAIN 'C' P&P (STA 6+51.32 - STA 13+00)

NO.	DESCRIPTION	BY	DATE

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME: sh_Drain 'C' Prelim

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

K:\SA164.402 Home\SA402 Neill Tract\026 Site Development Plans\GMC-Sheets\sh_Drain 'C'.dwg
Xref Attached:
Last Modified: Oct. 14, 25 - 14:01
Last Modified By: Ana Ma. Ma. - AM-14:01

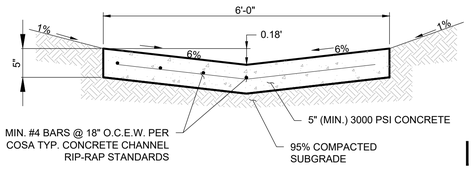
NOTES:
1. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF ALL EXISTING UTILITIES HORIZONTALLY AND VERTICALLY PRIOR TO CONSTRUCTION.

2. CONTRACTOR TO FILL AND COMPACT TO 95% DENSITY IN FILL SECTIONS OVER STORM SEWER LINES. 2.0'(MIN) COVER OVER WATER PRIOR TO CONSTRUCTION.

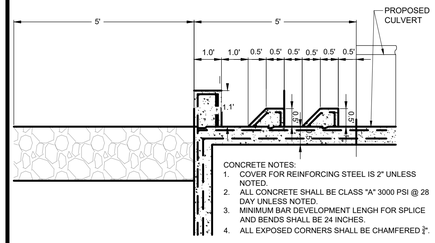
3. ALL STORM SEWER PIPE SHALL BE CL III RCP AS SHOWN ON PROFILE SHEET.

4. ALL BENDS AND FITTINGS SHALL BE PREFABRICATED BY MANUFACTURER. NO FIELD FABRICATION OF FITTINGS IS ALLOWED.

5. ALL CONCRETE LINING SHALL BE A MINIMUM OF FIVE (5) INCHES THICK AND REINFORCED WITH NO. 4 ROUND BARS @ 18 INCHES ON CENTER EACH WAY OR WELDED WIRE FABRIC OF 6" x 6"-WD6 x WD6. ALL CONCRETE LINING SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH STRENGTH OF NOT LESS THAN THREE THOUSAND (3,000) POUNDS PER SQUARE INCH IN TWENTY EIGHT (28) DAYS. THE DEPTH OF ALL TOEDOWNS SHALL BE 36 INCHES UPSTREAM, 24 INCHES DOWNSTREAM, AND 18 INCHES FOR SIDE SLOPES.

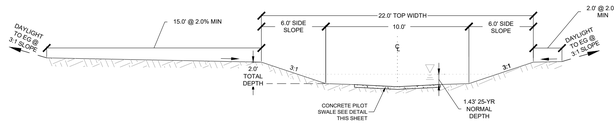


CONCRETE PILOT CHANNEL
N.T.S.

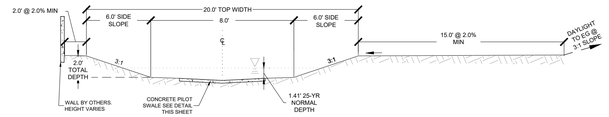


CONCRETE NOTES:
1. COVER FOR REINFORCING STEEL IS 2" UNLESS NOTED.
2. ALL CONCRETE SHALL BE CLASS "A" 3000 PSI @ 28 DAY UNLESS NOTED.
3. MINIMUM BAR DEVELOPMENT LENGH FOR SPLICE AND BENDS SHALL BE 24 INCHES.
4. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4".

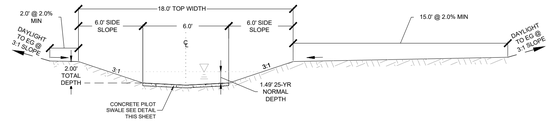
BAFFLE DETAIL
N.T.S.
STA. 15+25.46 - 15+30.43
STA. 18+35.46 - 18+40.43



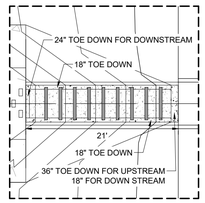
DRAIN 'C' EARTHEN CHANNEL SECTION A-A
N.T.S. STA.: 6+51.32 - 15+20.45



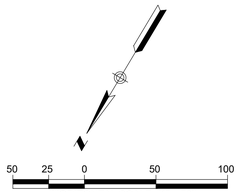
DRAIN 'C' EARTHEN CHANNEL SECTION B-B
N.T.S. STA.: 16+43.02 - 18+30.46



DRAIN 'C' EARTHEN CHANNEL SECTION C-C
N.T.S. STA.: 19+55.25 - 20+58.96

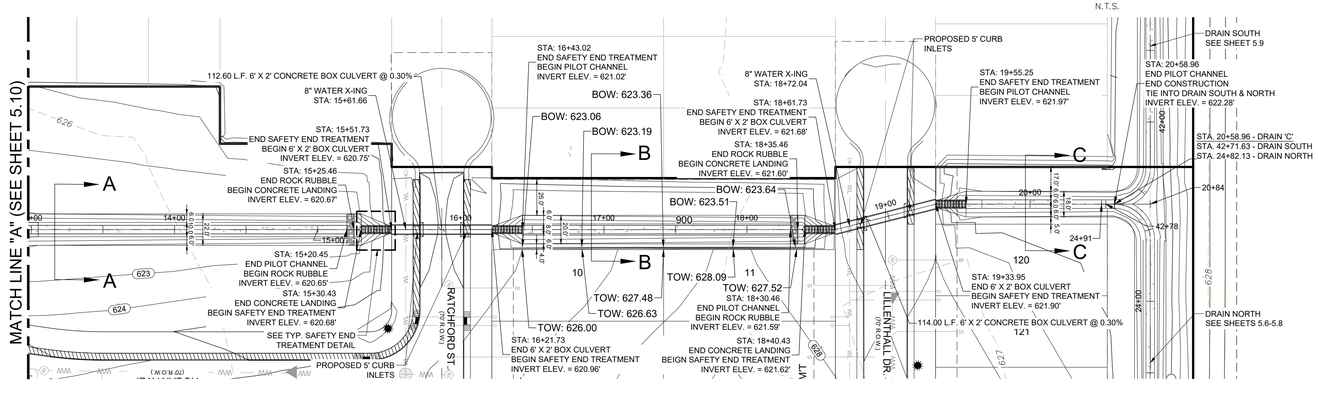


TYPICAL SAFETY END TREATMENT DETAIL
N.T.S.



LEGEND

PROPOSED	EXISTING	
	ST	STORM SEWER LINE
WW	WW	WASTEWATER LINE
		WASTEWATER SERVICE
WL	WL	WATER LINE
		WATER SERVICE
		WATER VALVE
		FIRE HYDRANT
	WWMH	WASTEWATER MANHOLE
	SSMH	STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
		1/2" REBAR FOUND (OR AS NOTED)
		1/2" REBAR WITH CAP FOUND
		1/2" REBAR WITH CHAPARRAL CAP SET
		WATER METER
		UTILITY POLE
	OU	OVERHEAD UTILITIES
		ELEC. UTILITY
		ELEC. MANHOLE
		LIGHT POLE
		TELEPHONE UTILITY
		UNDERGROUND FIBER OPTIC MARKER
		TELEPHONE MANHOLE
		UNDERGROUND GAS MARKER
		CHAIN LINK FENCE
		UTILITY X-ING



DRAIN 'C' STA. 13+00.00 TO STA. END

DRAIN 'C' INLET (LILLENTHAL DR X-ING)

$Q = CL(h)^{3/2}$ 8.3.2.a		
Amount of flow in CFS =	**Q (cfs)**	**4.28** ft^3/sec
The Weir coefficient 3.087 =	C	3.087
The length of drop curb opening required in feet =	L_R	1.97 ft
Length Provided =	L_P	5.00 ft
The head or depth of water at the opening in feet =	h	0.79 ft
	h^(3/2)	0.70 ft^2
	CHECK	4.28 ft^3/sec

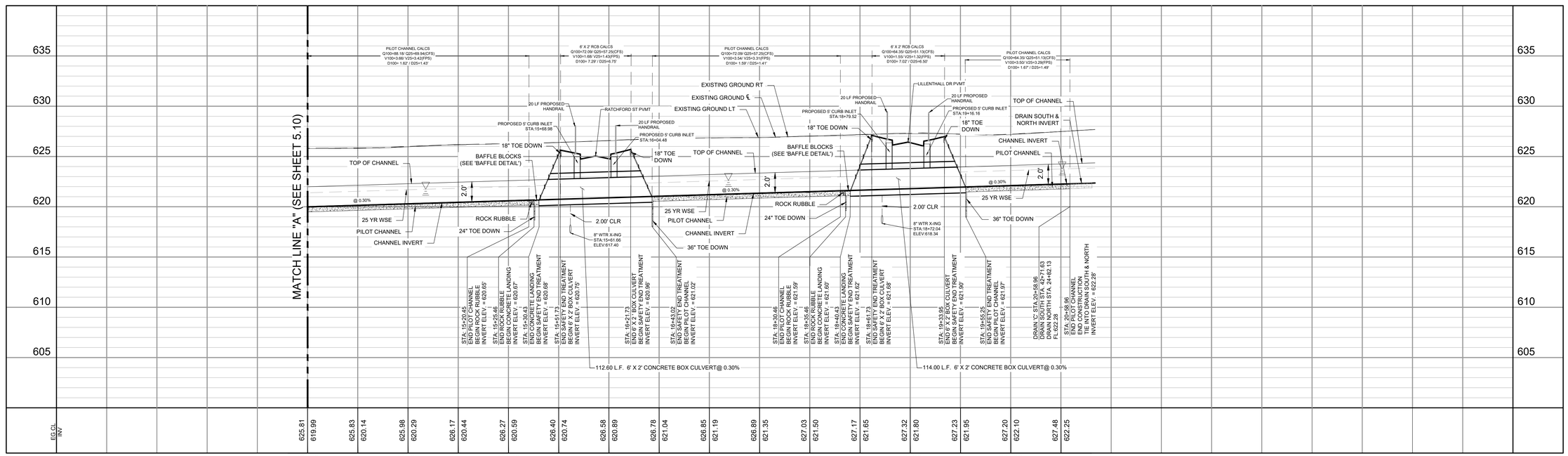
DRAIN 'C' INLET (RATCHFORD ST X-ING)

$Q = CL(h)^{3/2}$ 8.3.2.a		
Amount of flow in CFS =	**Q (cfs)**	**6.12** ft^3/sec
The Weir coefficient 3.087 =	C	3.087
The length of drop curb opening required in feet =	L_R	2.82 ft
Length Provided =	L_P	5.00 ft
The head or depth of water at the opening in feet =	h	0.79 ft
	h^(3/2)	0.70 ft^2
	CHECK	6.12 ft^3/sec

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TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. **5.11**

NEILL TRACT UNIT 1

DRAIN 'C' P&P (STA 13+00 - STA END)

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME: sh_Drain 'C' Grading

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

K:\SA164.#2 Proj\Civil\2402 Neill Tract\426 Site Development Plans\Drain-Sheets\sh_Drain 'C'.dwg
User: Victoria Sanchez
Last Modified: Oct. 14, 25 - 14:01
Xref Attached: Oct. 10, 25 - 14:49

NOTES:
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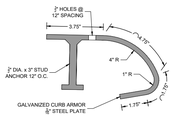
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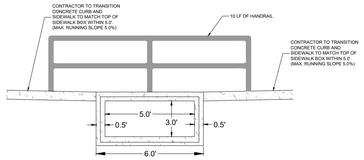
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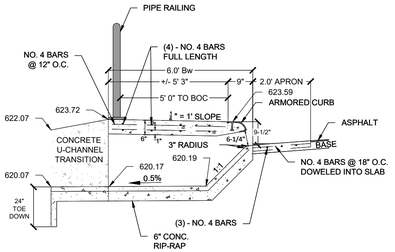
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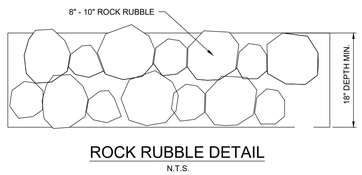
CURB ARMOR DETAIL
N.T.S.



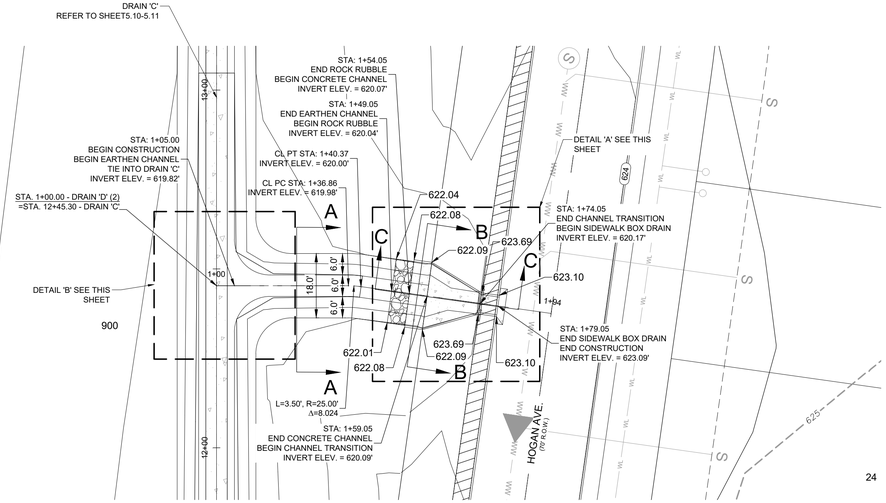
DRAIN 'D' SIDEWALK BOX DRAIN
N.T.S.



SIDEWALK BOX DRAIN SECTION C-C
N.T.S.



ROCK RUBBLE DETAIL
N.T.S.



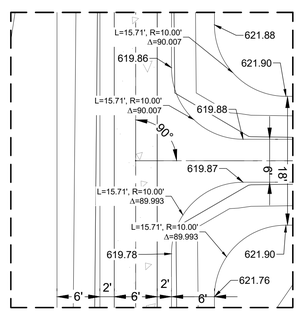
DRAIN 'D' STA. 1+00.00 TO END

DRAIN 'D' INLET		
$Q = CL(h)^{3/2}$ 8.3.2.a		
Amount of flow in CFS =	Q (cfs)	6.64 ft^3/sec
The Weir coefficient 3.087 =	C	3.087
The length of drop curb opening required in feet =	L_R	3.06 ft
Length Provided =	L_P	5.00 ft
The head or depth of water at the opening in feet =	h	0.79 ft
	h^(3/2)	0.70 ft^2
	CHECK	6.64 ft^3/sec

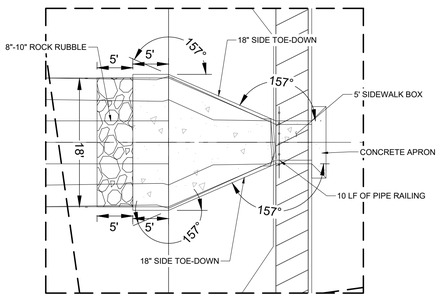
LEGEND

PROPOSED	EXISTING	
	ST	STORM SEWER LINE
WW	WW	WASTEWATER LINE
		WASTEWATER SERVICE
WL	WL	WATER LINE
		WATER SERVICE
		WATER VALVE
		FIRE HYDRANT
	WWMH	WASTEWATER MANHOLE
	SSMH	STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
		1/2" REBAR FOUND (OR AS NOTED)
		1/2" REBAR WITH CAP FOUND
		1/2" REBAR WITH CHAPARRAL CAP SET
		WATER METER
		UTILITY POLE
	OU	OVERHEAD UTILITIES
		ELEC. UTILITY
		ELEC. MANHOLE
		LIGHT POLE
		TELEPHONE UTILITY
		UNDERGROUND FIBER OPTIC MARKER
		TELEPHONE MANHOLE
		UNDERGROUND GAS MARKER
		CHAIN LINK FENCE
		UTILITY X-ING

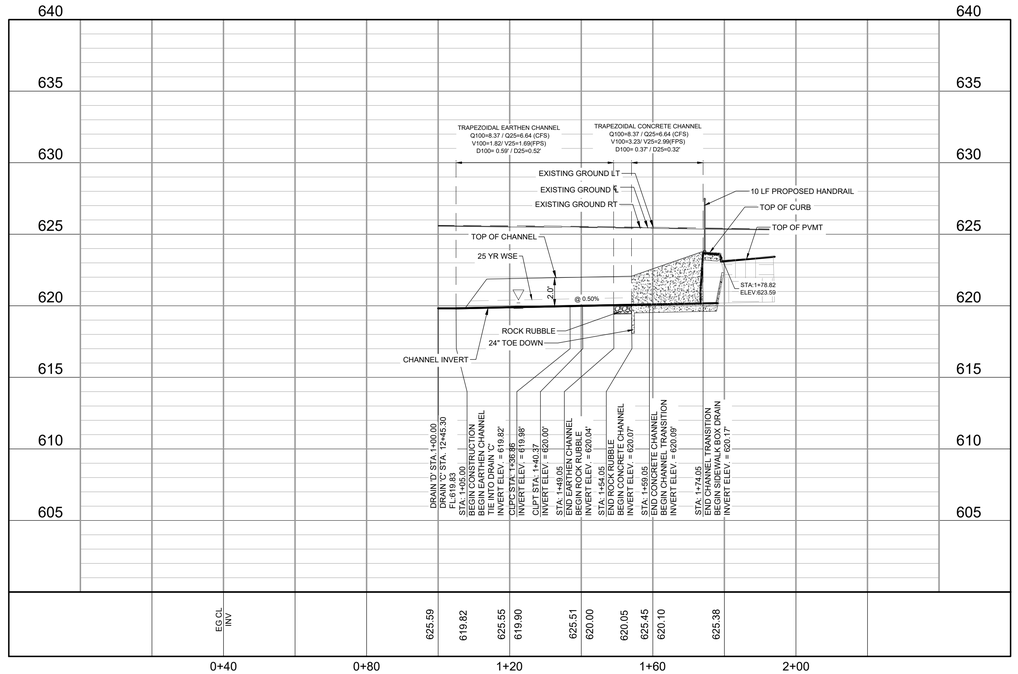
20 10 0 20 40
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'

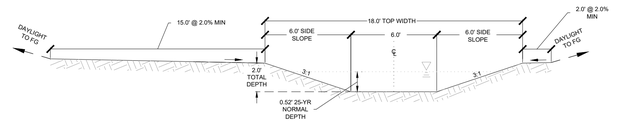


DETAIL 'B'
N.T.S.

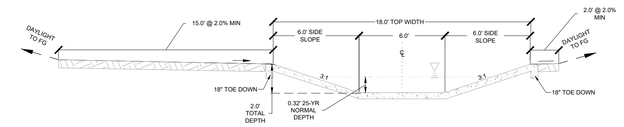


DETAIL 'A'
N.T.S.





DRAIN 'D' EARTHEN CHANNEL SECTION A-A
N.T.S. STA.: 1+05.00 - 1+49.05



DRAIN 'D' CONCRETE CHANNEL SECTION B-B
N.T.S. STA.: 1+54.05 - 1+59.05

NEILL TRACT UNIT 1

DRAIN 'D' P&P (STA 1+00 TO END)

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME: sh_Drain 'D'.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. **5.12**

FOR PERMIT

K:\SA164.KB Ironw\L2402 Neill Tract\426 Site Development Plans\GIMD-Sheets\sh_Drain 'D'.dwg
User: mwilliams
Last Modified: Oct. 10, 25 - 11:02
Last Plotted: Oct. 21, 25 - 14:14 -ah

NOTES:
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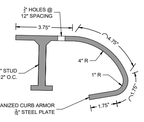
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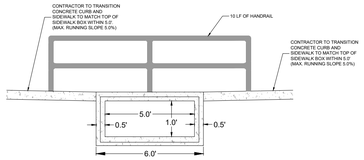
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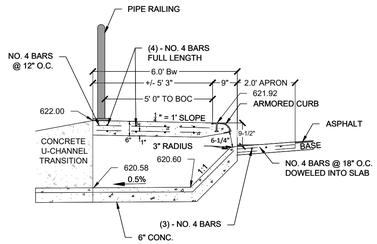
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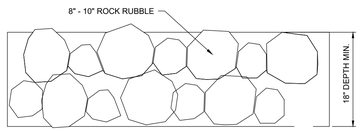
CURB ARMOR DETAIL
N.T.S.



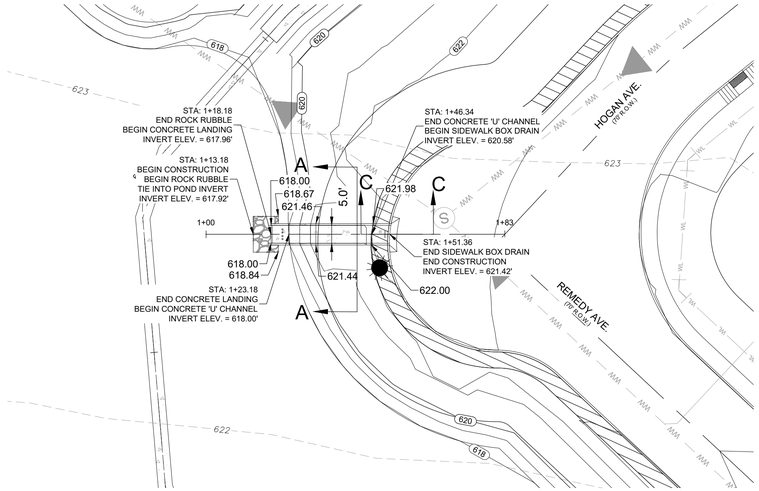
DRAIN 'E' SIDEWALK BOX DRAIN
N.T.S.



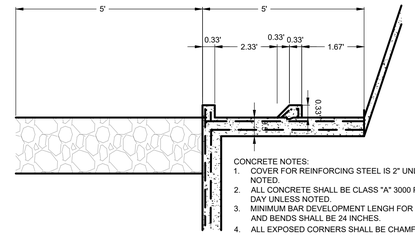
SIDEWALK BOX DRAIN SECTION C-C
N.T.S.



ROCK RUBBLE DETAIL
N.T.S.



DRAIN 'E' STA. 1+00.00 TO END



CONCRETE NOTES:
1. COVER FOR REINFORCING STEEL IS 2" UNLESS NOTED.
2. ALL CONCRETE SHALL BE CLASS "A" 3000 PSI @ 28 DAY UNLESS NOTED.
3. MINIMUM BAR DEVELOPMENT LENGH FOR SPLICE AND BENDS SHALL BE 24 INCHES.
4. ALL EXPOSED CORNERS SHALL BE CHAMFERED ¾".

BAFFLE DETAIL
N.T.S.

20 10 0 20 40
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'

LEGEND

PROPOSED	EXISTING	
	ST	STORM SEWER LINE
WW	WW	WASTEWATER LINE
		WASTEWATER SERVICE
WL	WL	WATER LINE
		WATER SERVICE
		WATER VALVE
		FIRE HYDRANT
	WMMH	WASTEWATER MANHOLE
	SSMH	STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
		1/2" REBAR FOUND (OR AS NOTED)
		1/2" REBAR WITH CAP FOUND
		1/2" REBAR WITH CHAPARRAL CAP SET
		WATER METER
		UTILITY POLE
	OU	OVERHEAD UTILITIES
		ELEC. UTILITY
		ELEC. MANHOLE
		LIGHT POLE
		TELEPHONE UTILITY
		UNDERGROUND FIBER OPTIC MARKER
		TELEPHONE MANHOLE
		UNDERGROUND GAS MARKER
	O	CHAIN LINK FENCE
		UTILITY X-ING

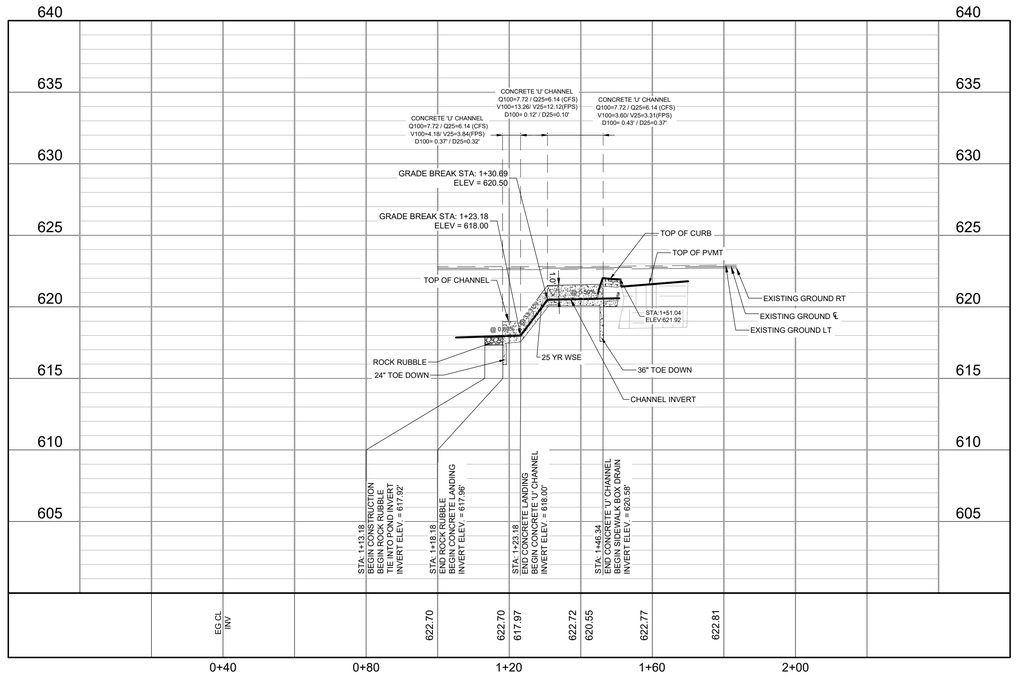
Name	Drop Structure	Concrete Channel
BEGIN STA	1+23.18	1+18.18
END STA	1+30.69	1+23.18
Q_{25} (cfs)	6.14	6.14
h (ft)	1.00'	1.00'
b_w (ft)	5.00'	5.00'
z (_): 1 left	0	0
z (_): 1 right	0	0
t_w (ft)	5	5
n	0.015	0.015
Slope (%)	33.31%	0.80%
y (ft)	0.10'	0.32'
V (fps)	12.10	3.84

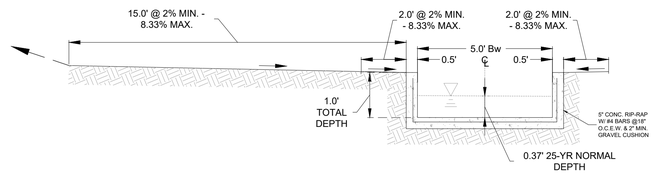
Fr_1	6.69	Froude Number
V_1 (fps)	12.10	velocity at drop
y_1 (ft)	0.10'	Supercritical Depth
g (ft/s2)	32.20	Gravitational constant
C=	0.85	Coefficient
L_B=	5.00'	Length of Basin
$L_B/3$ =	1.67	Chute to Baffle Distance
N_C =	8.00	Number of Chutes
z=	0.00	Flare
W_{B2}=	5.00	Basin Width at Baffles
y_2=	0.77	Conjugate Depth
h_1 =	0.08	Height of Baffles/Chutes
W_1 =	0.08	Baffle Width
W_2 =	0.08	Baffle Spacing
h_4=	0.08	End Sill Height
V_2	1.59	Exit Velocity

DRAIN 'E' INLET

$Q = CL(h)^{3/2}$ 8.3.2.a

Amount of flow in CFS =	**Q (cfs)**	**6.14**	ft^3/sec
The Weir coefficient 3.087 =	C	3.087	
The length of drop curb opening required in feet =	L_R	2.83	ft
Length Provided =	L_P	5.00	ft
The head or depth of water at the opening in feet =	h	0.79	ft
	h^(3/2)	0.70	ft^2
	CHECK	6.14	ft^3/sec





CONCRETE SECTION A-A
N.T.S.
STA. 1+23.18 - STA. 1+46.34

NEILL TRACT UNIT 1
DRAIN 'E' P&P (STA 1+00 TO END)

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME: sh_Drain 'E'.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. **5.13**

FOR PERMIT

K:\SA164.48 Ironwood\2402 Neill Tract\026 Site Development Plan\02WC-Sheets\sh_Drain 'E'.dwg
Last Modified: Oct. 10, 25 - 13:23
Last Modified By: Ja. Di. - Ja.Li.ch

NOTES:
1. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF ALL EXISTING UTILITIES HORIZONTALLY AND VERTICALLY PRIOR TO CONSTRUCTION.

2. CONTRACTOR TO FILL AND COMPACT TO 95% DENSITY IN FILL SECTIONS OVER STORM SEWER LINES. 2.0'(MIN) COVER OVER WATER PRIOR TO CONSTRUCTION.

3. ALL STORM SEWER PIPE SHALL BE CL III RCP AS SHOWN ON PROFILE SHEET.

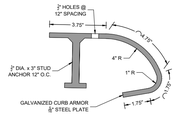
4. ALL BENDS AND FITTINGS SHALL BE PREFABRICATED BY MANUFACTURER. NO FIELD FABRICATION OF FITTINGS IS ALLOWED.

5. ALL CONCRETE LINING SHALL BE A MINIMUM OF FIVE (5) INCHES THICK AND REINFORCED WITH NO. 4 ROUND BARS @ 18 INCHES ON CENTER EACH WAY OR WELDED WIRE FABRIC OF 6" x 6"-W/D6 x W/D6. ALL CONCRETE LINING SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH STRENGTH OF NOT LESS THAN THREE THOUSAND (3,000) POUNDS PER SQUARE INCH IN TWENTY EIGHT (28) DAYS. THE DEPTH OF ALL TOEDOWNS SHALL BE 36 INCHES UPSTREAM, 24 INCHES DOWNSTREAM, AND 18 INCHES FOR SIDE SLOPES.

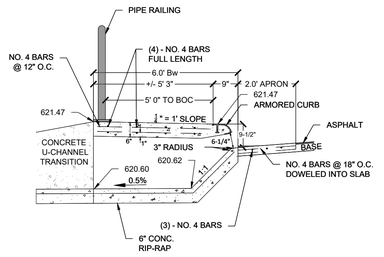
CAUTION: CONTRACTOR TO NOTIFY TEXAS ONE CALL AT 1-800-245-4545 48 HOURS PRIOR TO CONSTRUCTION FOR UTILITY LINE LOCATE. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED DESIGN CHANGES. EXISTING UTILITIES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

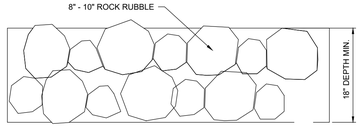
811 Know what's below. Call before you dig.



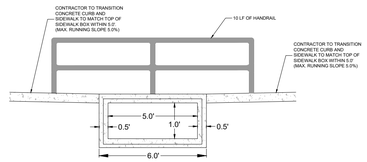
CURB ARMOR DETAIL
N.T.S.



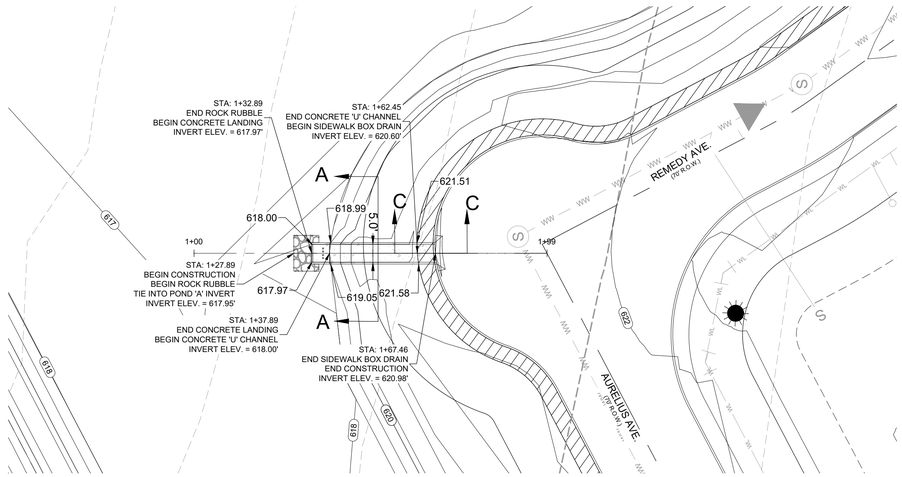
SIDEWALK BOX DRAIN SECTION C-C
N.T.S.



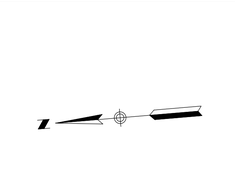
ROCK RUBBLE DETAIL
N.T.S.



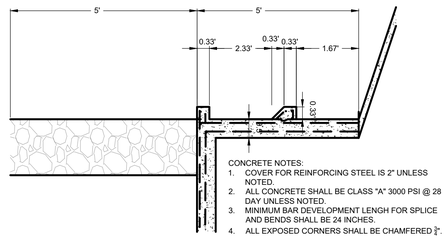
DRAIN 'F' SIDEWALK BOX DRAIN
N.T.S.



DRAIN 'F' STA. 1+00.00 TO END



HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'



CONCRETE NOTES:
1. COVER FOR REINFORCING STEEL IS 2" UNLESS NOTED.
2. ALL CONCRETE SHALL BE CLASS "A" 3000 PSI @ 28 DAY UNLESS NOTED.
3. MINIMUM BAR DEVELOPMENT LENGH FOR SPLICE AND BENDS SHALL BE 24 INCHES.
4. ALL EXPOSED CORNERS SHALL BE CHAMFERED ¾".

BAFFLE DETAIL
N.T.S.

LEGEND

PROPOSED	EXISTING	
	ST	STORM SEWER LINE
WW	WW	WASTEWATER LINE
		WASTEWATER SERVICE
WL	WL	WATER LINE
		WATER SERVICE
		WATER VALVE
		FIRE HYDRANT
	WWMH	WASTEWATER MANHOLE
	SSMH	STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
		1/2" REBAR FOUND (OR AS NOTED)
		1/2" REBAR WITH CAP FOUND
		1/2" REBAR WITH CHAPARRAL CAP SET
		WATER METER
		UTILITY POLE
	OU	OVERHEAD UTILITIES
		ELEC. UTILITY
		ELEC. MANHOLE
		LIGHT POLE
		TELEPHONE UTILITY
		UNDERGROUND FIBER OPTIC MARKER
		TELEPHONE MANHOLE
		UNDERGROUND GAS MARKER
		CHAIN LINK FENCE
		UTILITY X-ING

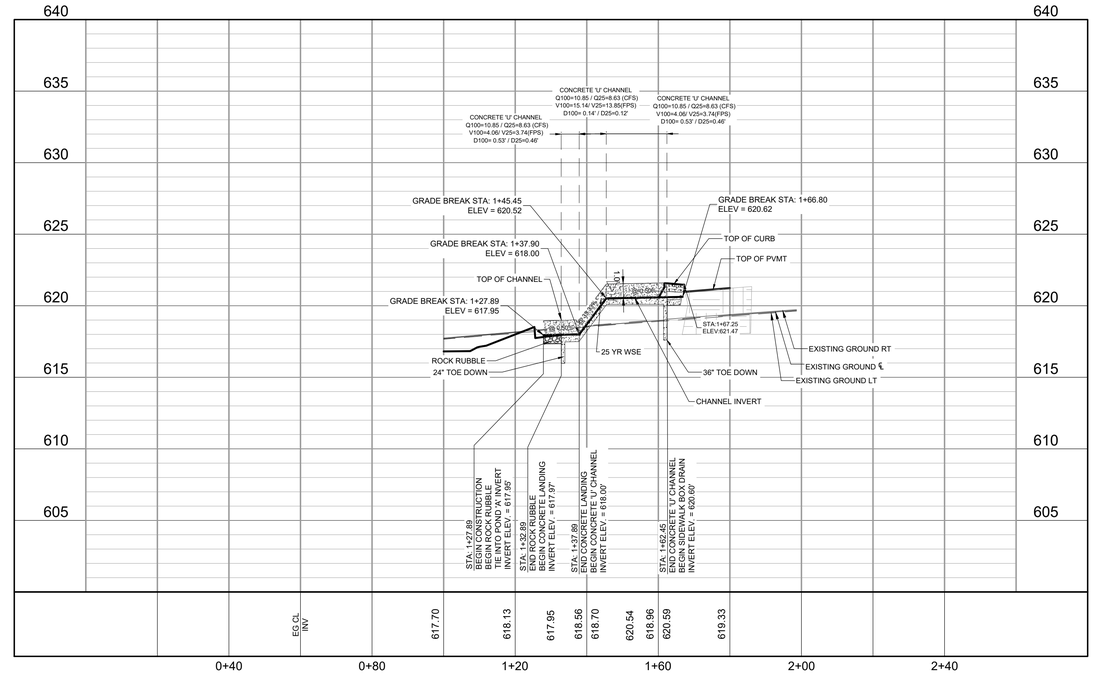
DRAIN 'F' INLET

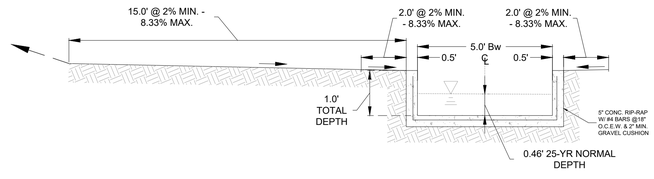
$Q = CL(h)^{3/2}$ 8.3.2.a

Amount of flow in CFS =	**Q (cfs)**	**8.63**	ft^3/sec
The Weir coefficient 3.087 =	C	3.087	
The length of drop curb opening required in feet =	L_R	3.98	ft
Length Provided =	L_P	5.00	ft
The head or depth of water at the opening in feet =	h	0.79	ft
	h^(3/2)	0.70	ft^2
	CHECK	8.63	ft^3/sec

Name	Drop Structure	Concrete Channel
BEGIN STA	1+45.45	1+37.90
END STA	1+37.90	1+32.89
Q_{25} (cfs)	8.63	8.63
h (ft)	1.00'	1.00'
b_w (ft)	5.00'	5.00'
z (_):1 left	0	0
z (_): 1 right	0	0
t_w (ft)	5	5
n	0.015	0.015
Slope (%)	33.33%	0.50%
y (ft)	0.12'	0.46'
V (fps)	13.85	3.74

Fr_1	6.91	Froude Number
V_1 (fps)	13.85	velocity at drop
y_1 (ft)	0.12'	Supercritical Depth
g (ft/s2)	32.20	Gravitational constant
C=	0.85	Coefficient
L_B=	5.00'	Length of Basin
$L_B/3$ =	1.67	Chute to Baffle Distance
N_C =	8.00	Number of Chutes
z=	0.00	Flare
W_{B2}=	5.00	Basin Width at Baffles
y_2=	0.98	Conjugate Depth
h_1 =	0.17	Height of Baffles/Chutes
W_1 =	0.08	Baffle Width
W_2 =	0.08	Baffle Spacing
h_4=	0.08	End Sill Height
V_2	1.75	Exit Velocity





CONCRETE SECTION A-A
N.T.S.
STA. 1+32.89 - STA. 1+62.45

NEILL TRACT UNIT 1

DRAIN 'F' P&P (STA 1+00 TO END)

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME: sh_Drain 'F'.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. **5.14**

FOR PERMIT

K:\SA164.48 Ironwood\2402 Neill Tract\026 Site Development Plan\DWG-Sheets\sh_Drain 'F'.dwg
Last Modified: Oct 09, 25 - 15:59
Last Modified By: Ba Ha Le - BA Le

NOTES:
1. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF ALL EXISTING UTILITIES HORIZONTALLY AND VERTICALLY PRIOR TO CONSTRUCTION.

2. CONTRACTOR TO FILL AND COMPACT TO 95% DENSITY IN FILL SECTIONS OVER STORM SEWER LINES. 2.0'(MIN) COVER OVER WATER PRIOR TO CONSTRUCTION.

3. ALL STORM SEWER PIPE SHALL BE CL III RCP AS SHOWN ON PROFILE SHEET.

4. ALL PIPE SHALL BE INSTALLED IN ACCORDANCE WITH GUADALUPE COUNTY SPECIFICATIONS.

5. ALL BENDS AND FITTINGS SHALL BE PREFABRICATED BY MANUFACTURER. NO FIELD FABRICATION OF FITTINGS IS ALLOWED.

6. ALL CONCRETE LINING SHALL BE A MINIMUM OF FIVE (5) INCHES THICK AND REINFORCED WITH NO. 4 ROUND BARS @ 18 INCHES ON CENTER EACH WAY. ALL CONCRETE LINING SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN THREE THOUSAND (3,000) POUNDS PER SQUARE INCH (PSI) IN TWENTY EIGHT (28) DAYS. THE DEPTH OF ALL TOE-DOWNS SHALL BE 36 INCHES UPSTREAM, 24 INCHES DOWNSTREAM, AND 18 INCHES FOR SIDE SLOPES.

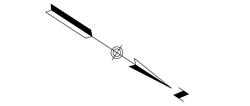
Proposed/Ultimate Run off Summary

Point of analysis	Storm event	Existing flow (cfs)	detention storage (ACRE-FT)	detention storage (cf)	Ultimate Flow with detention (cfs)	Water Surface Elevation (ft)	Net Change (cfs) (Ultimate - Exist)
POND B							
PT. 3	2yr	1621.90	3.4	148,104	1619.70	618.30	-2.2
PT. 3	10yr	3120.10	5.4	235,223	3,081.80	619.00	-38.30
PT. 3	25yr	4139.80	6.7	291,851	4,077.10	619.50	-62.7
PT. 3	100yr	5804.80	8.8	383,327	5,702.60	620.20	-102.20

POND A

Ultimate Outlet Structure 100-yr Distcharge Table

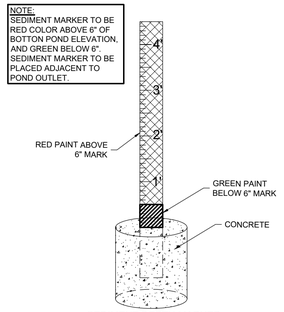
	Section/ Elevation	Weir Size or Pipe Size (FT)	Outflow Q (CFS)	Section Area (SF)	Velocity (ft/sec)
Detention A	616.00	18.0	0.3	0.00	0.00
	616.50	18.0	10.8	9.00	1.20
	617.00	18.0	28.5	18.00	1.58
	617.50	18.0	50.7	27.00	1.88
	618.00	18.0	77.1	36.00	2.14
	618.50	18.0	107.9	45.00	2.40
	619.00	18.0	137.7	54.00	2.55
	619.5	18.0	171.7	63.00	2.73
	620.00	18.0	214.7	72.00	2.98



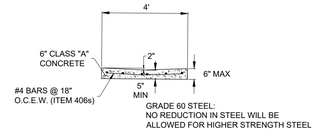
LEGEND

PROPOSED	EXISTING	
	ST	STORM SEWER LINE
WW	WW	WASTEWATER LINE
S		WASTEWATER SERVICE
WL	WL	WATER LINE
		WATER SERVICE
		WATER VALVE
		FIRE HYDRANT
	WWMH	WASTEWATER MANHOLE
	SSMH	STORMSEWER MANHOLE
		CURB INLET
		GRATE INLET
		1/2" REBAR FOUND (OR AS NOTED)
		1/2" REBAR WITH CAP FOUND
		1/2" REBAR WITH CHAPARRAL CAP SET
		WATER METER
		UTILITY POLE
	OU	OVERHEAD UTILITIES
		ELEC. UTILITY
		ELEC. MANHOLE
		LIGHT POLE
		TELEPHONE UTILITY
		UNDERGROUND FIBER OPTIC MARKER
		TELEPHONE MANHOLE
		UNDERGROUND GAS MARKER
	O	CHAIN LINK FENCE

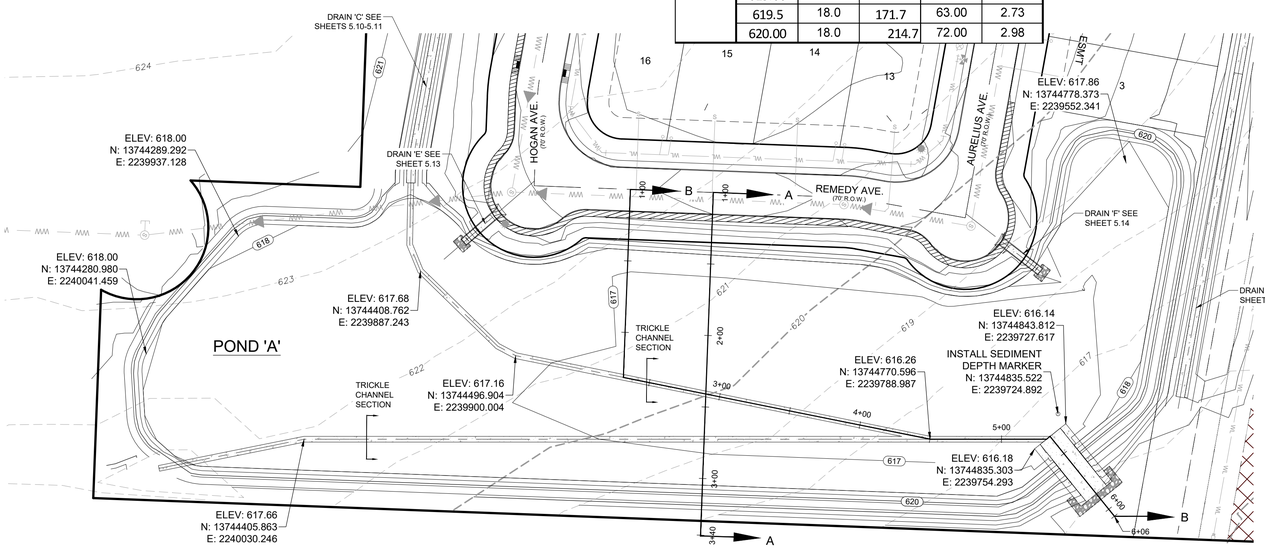
NOTE:
SEDIMENT MARKER TO BE RED COLOR ABOVE 6" OF BOTTON POND ELEVATION, AND GREEN BELOW 6". SEDIMENT MARKER TO BE PLACED ADJACENT TO POND OUTLET.



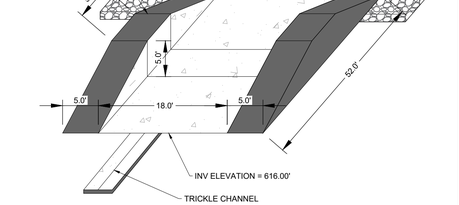
SEDIMENT DEPTH MARKER
N.T.S.



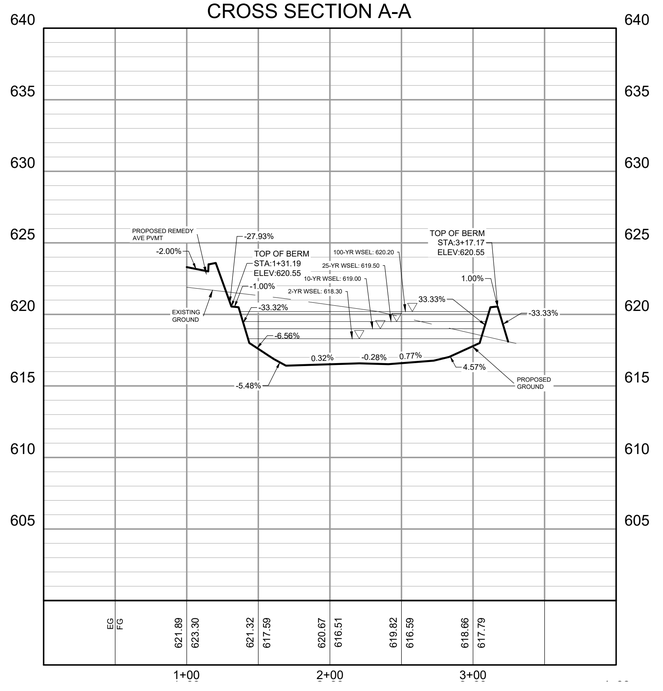
TRICKLE CHANNEL SECTION
N.T.S.

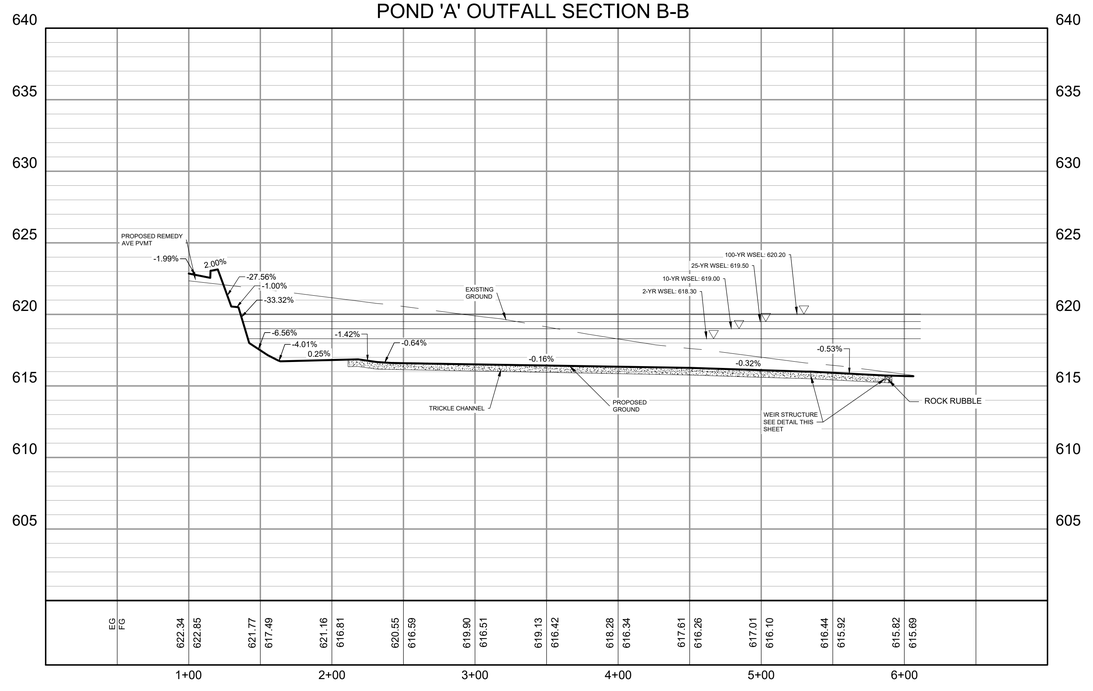


POND NOTES:
1. FOR THE POND AND BERMS, EARTHWORK SHALL BE IN CONFORMANCE WITH GUADALUPE COUNTY STANDARD SPECIFICATIONS AND EARTHWORK SECTION OF THE GEOTECHNICAL REPORT.
2. EMBANKMENT SHALL BE INSTALLED IN LIFTS AND COMPACTED PER GEOTECHNICAL REPORT.
3. ALL WORK SHALL BE PERFORMED WITHIN SITE LIMITS OF CONSTRUCTION.
4. CONTRACTOR TO PROOF ROLL BOTTOM AND SIDES OF POND TO ENSURE FIRM BOTTOM. IF BOTTOM APPEARS FRACTURED CONTRACTOR TO NOTIFY ENGINEER PRIOR TO PLACEMENT OF SAND BED ON TOPSOIL.
5. THE CONTRACTOR WILL BE REQUIRED TO PERFORM TESTING REQUIREMENTS TO SATISFY GUADALUPE COUNTY INSPECTIONS. THIS SHALL INCLUDE BUT NOT LIMITED TO PROVIDING NECESSARY WATER AS REQUESTED BY INSPECTOR.
6. THE CONTRACTOR WILL BE RESPONSIBLE FOR POSITIVE DRAINAGE IN DETENTION BASIN AREA.
7. CONTRACTOR SHALL PROVIDE STRUCTURAL DESIGN FOR ALL RETAINING WALLS GREATER THAN 4 FEET HIGH AS A SUBMITTAL TO THE ENGINEER PRIOR TO CONSTRUCTION.
8. ALL DISTURBED AREAS TO BE STABILIZED WITH HYDROMULCH IMMEDIATELY AFTER ESTABLISHING FINAL GRADES UNLESS OTHERWISE NOTED.
9. UPON COMPLETION OF THE PROPOSED STORMWATER DETENTION AND/OR WATER QUALITY STRUCTURAL CONTROL(S), AND PRIOR TO THE RELEASE OF THE CERTIFICATE OF ACCEPTANCE OR OCCUPANCY BY THE PERMIT CENTER, THE DESIGN ENGINEER SHALL CERTIFY IN WRITING THAT THE PROPOSED STRUCTURAL CONTROL(S) WAS INSPECTED (INCLUDING DATE AND TIME OF THE INSPECTION) AND CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS. ANY SUCH STRUCTURAL CONTROL(S) BUILT WITHIN GUADALUPE COUNTY MUST: MAINTAIN COMPLIANCE WITH THE COUNTY'S MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) AND APPLICABLE MS4 ORDINANCES. PRIOR TO RELEASE OF THE CERTIFICATE OF ACCEPTANCE OR OCCUPANCY, A CITY EASEMENT MUST BE SHOWN AROUND ALL STRUCTURAL CONTROLS INCLUDING A MAINTAINED COVENANT WITHIN GUADALUPE COUNTY.



POND 'A' WEIR STRUCTURE DETAIL
N.T.S.
REFERENCE NOTE 6.





LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

811 Know what's below. Call before you dig.

CAUTION: CONTRACTOR TO NOTIFY TEXAS ONE CALL AT 1-800-245-4545 48 HOURS PRIOR TO CONSTRUCTION FOR UTILITY LINE LOCATE. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED DESIGN CHANGES. EXISTING UTILITIES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.

NEILL TRACT UNIT 1

POND 'A' PLAN & PROFILE

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME: sh_Pond 'A'.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. **5.15**

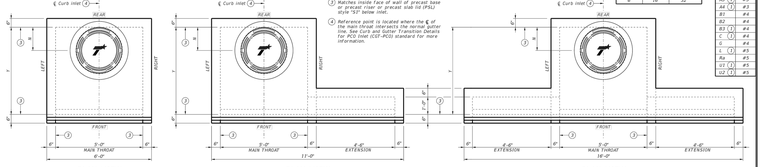
FOR PERMIT

P:\SA164.402 Neill Tract\2402 Neill Tract\2426 Site Development Plans\2460-Sheets\sh_Pond 'A'.dwg
Plotted: Oct. 01, 25 - 11:09
Last Modified: Oct. 01, 25 - 11:09
Pen Table Name: 24_22_20_18_16.ctb

Size (ft)	N	Min Dia (2)
3	9"	18"
4'	10"	32"
5'	10"	32"
6'	10"	32"

BAR TABLE	
BAR	SIZE
A1	#3
A2	#3
A3 (1)	#3
A4 (1)	#3
B1	#4
B2	#4
B3 (1)	#4
C (1)	#4
E (1)	#5
F (1)	#5
G (1)	#4
Ke	#3
U1 (1)	#5
U2 (1)	#5

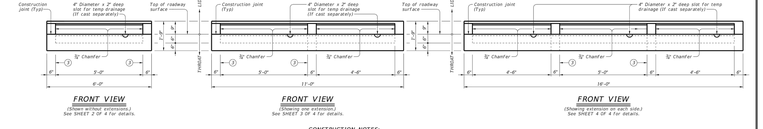
1. Reinforcing bar used only with extension(s).
2. Nominal ring and cover size.
3. Matches inside face of wall of precast base or precast riser or precast slab lid (PSL) style "D" below inlet.
4. Reference point is located where the ℄ of the main throat intersects the normal gutter line. See Curb and Gutter Transition Details for PCO Inlet (CST-PCO) standard for more information.



PLAN VIEW (Shown without extensions.) See SHEET 2 OF 4 for details.

PLAN VIEW (Showing one extension.) See SHEET 3 OF 4 for details.

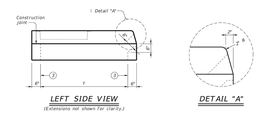
PLAN VIEW (Showing extension on each side.) See SHEET 4 OF 4 for details.



FRONT VIEW (Shown without extensions.) See SHEET 2 OF 4 for details.

FRONT VIEW (Showing one extension.) See SHEET 3 OF 4 for details.

FRONT VIEW (Showing extension on each side.) See SHEET 4 OF 4 for details.



LEFT SIDE VIEW (Extensions not shown for clarity.)

DETAIL "A"

CONSTRUCTION NOTES:
Chamfer all vertical edges of inlet lid "E" as shown in Front View, Sheet 1 of 4.
Maintain 1 ½" clear cover to ends of all vertical reinforcing bars, unless otherwise noted.

MATERIAL NOTES:
Provide Class A concrete (f'_c = 4,000 psi).
Provide Grade 60 reinforcing steel or equivalent area of WWR.
Provide cast iron solid cover, unless noted otherwise elsewhere in the plans.

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
Precast Base (PB) standard for details and notes not shown. Use cast-in-place (CI) to be used with precast base, precast riser or precast slab lid style "SF".
Inlet throat and lid are not intended for direct traffic. Do not place in roadway.
Refer to Inlet (I) standard sheet for details and notes not shown.
See Precast Base (PB) standard for details and notes not shown.
See Precast Slab Lid (PSL) standard for details and notes not shown.
Refer to Curb and Gutter standards for Curb Inlet (4) opening examples. Extensions may be right, left, both, or none. Provide extensions as specified elsewhere in the plans.
Shop drawings for approval are not required.
Payment for inlet is per Item 465, Junction Boxes, Manholes, and Inlets" by type, size, and extension placement. Extensions are subsidiary to inlet.
Gain area of one extension = 2.5 sq. ft.
Gain area of one extension throat = 324 sq. in.

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing bar dimensions shown are out-to-out of bar.

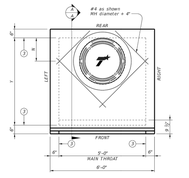
HL93 LOADING — SHEET 1 OF 4

Texas Department of Transportation — Bridge Division Standard

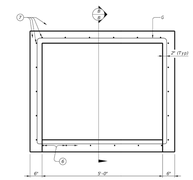
CAST-IN-PLACE CURB INLET OUTSIDE ROADWAY

CCO

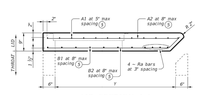
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©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
06-2021 Added "Extension" details.	DIST	COUNTY		SHEET NO.



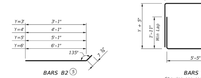
LID PLAN VIEW (Shown without extensions)



THROAT PLAN VIEW (Shown without extensions)



LID SECTION A-A



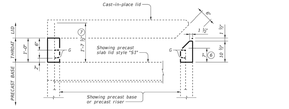


(2) Matches inside face of wall of precast base or precast riser or precast slab lid style "SI" below inlet.

(5) Cut reinforcing bars as needed to provide 1 ½" clear to manhole.

(6) Extend reinforcing bars from precast base or precast riser or precast slab lid style "SI" 7".

(7) Extend reinforcing bars from precast base or precast riser or precast slab lid style "SI" 7 ½".



THROAT SECTION B-B (Showing reinforcing bar extended from precast base or precast riser or precast slab lid style "SI")

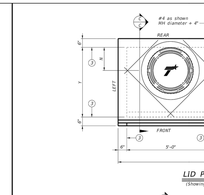
HL93 LOADING — SHEET 2 OF 4

Texas Department of Transportation — Bridge Division Standard

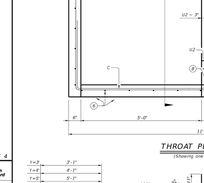
CAST-IN-PLACE CURB INLET OUTSIDE ROADWAY

CCO

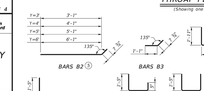
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©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
06-2021 Added "Extension" details.	DIST	COUNTY		SHEET NO.

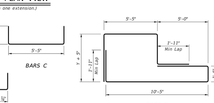


LID PLAN VIEW (Showing one extension.)



THROAT PLAN VIEW (Showing one extension.)





(2) Matches inside face of wall of precast base or precast riser or precast slab lid style "SI" below inlet.

(5) Cut reinforcing bars as needed to provide 1 ½" clear to manhole.

(6) Extend reinforcing bars from precast base or precast riser or precast slab lid style "SI" 7".

(7) Extend reinforcing bars from precast base or precast riser or precast slab lid style "SI" 7 ½".

(8) Do not extend reinforcing bars from precast base.

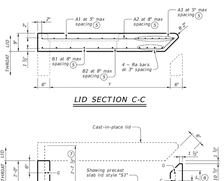
HL93 LOADING — SHEET 3 OF 4

Texas Department of Transportation — Bridge Division Standard

CAST-IN-PLACE CURB INLET OUTSIDE ROADWAY

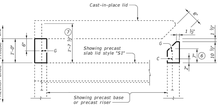
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REVISIONS				
06-2021 Added "Extension" details.	DIST	COUNTY		SHEET NO.

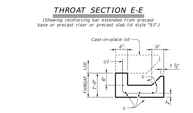


LID SECTION C-C

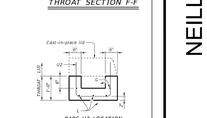
LID SECTION D-D



THROAT SECTION E-E (Showing reinforcing bar extended from precast base or precast riser or precast slab lid style "SF".)



BARS U1 LOCATION



BARS U2 LOCATION

THROAT SECTION F-F

THROAT SECTION G-G

(2) Matches inside face of wall of precast base or precast riser or precast slab lid style "SI" below inlet.

(5) Cut reinforcing bars as needed to provide 1 ½" clear to manhole.

(6) Extend reinforcing bars from precast base or precast riser or precast slab lid style "SI" 7".

(7) Extend reinforcing bars from precast base or precast riser or precast slab lid style "SI" 7 ½".

(8) Do not extend reinforcing bars from precast base.

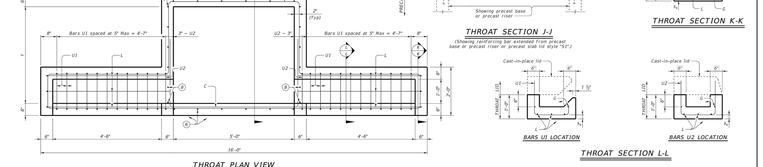
HL93 LOADING — SHEET 3 OF 4

Texas Department of Transportation — Bridge Division Standard

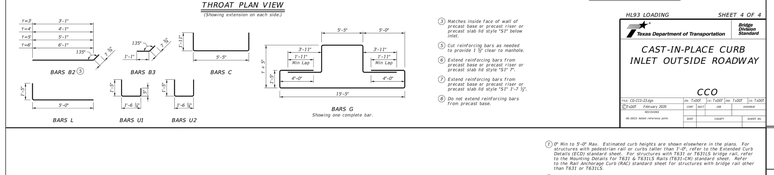
CAST-IN-PLACE CURB INLET OUTSIDE ROADWAY

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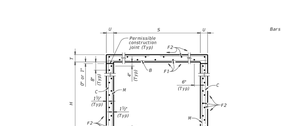
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©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
06-2021 Added "Extension" details.	DIST	COUNTY		SHEET NO.

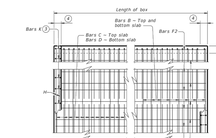


LID PLAN VIEW (Showing extension on each side.)



THROAT PLAN VIEW (Showing extension on each side.)





(1) 9" Min to 9'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 3'-0", refer to the Extended Curb Details (ECD) standard sheet. For structures with TX31 or TX33 bridge rail, refer to the Rail Anchorage Curb (RAC) standard sheet. For structures with bridge rail other than TX31 or TX33 see

(2) For vehicle safety, the following requirements must be met:
- For structures without bridge rail, construct curbs no more than 3" above finished grade.
- For structures with bridge rail, construct curbs flush with finished grades.

Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

(3) For curbs less than 10 Bars K is reduce bar height as necessary to maintain cover. For curbs less than 7" high, Bars K may be omitted.

(4) 2'-0" typical. For Rail Anchorage Curb (RAC) standard sheet is referred to elsewhere in the plans.

The Contractor may replace Bars B, C, D, E, F1, F2, H, Y, and/or Z with deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min and 18" Max. When required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes. The lap length required for WWR is never less than the lap length required for uncoated #4 bars.

Example conversion: Replacing No. 6 Gr 60 at 8" Spacing with WWR.
Required WWR = (0.44 sq. in. per ft /1.) x (60 ksi / 70 ksi) = 0.735 sq. in. per ft.
If D306 wire is used to meet the 0.735 sq. in. per ft. requirement in this example, the required spacing = (0.306 sq. in./ (0.735 sq. in. per ft.) x (12 in. per ft.) = 4.90" Max spacing. Required lap length for the provided D306 wire is 2'-2" the same minimum lap length required for uncoated #5 bars, as listed under MATERIAL NOTES).

(5) For direct traffic culverts (fill height ≥ 2 ft.), identify the required box size and select the option with the minimum fill height.

CONSTRUCTION NOTES:
Do not use permanent forms.
Chamfer the bottom edge of the top slab 3" at the entrance.
Optionally, raise construction joints shown at the free line by a maximum of 6". If this option is taken, Bars N may be cut off or raised, Bars C and D may be reversed.

MATERIAL NOTES:
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
Provide Class C concrete (f'_c = 3,600 psi) for culvert barrel and curb, with the following exceptions: provide Class S concrete (f'_c = 4,000 psi) for top slabs of:
- culverts with overlay,
- culverts with the top slab as the final riding surface.

Provide bar laps, where required, as follows:
- Uncoated or galvanized – #3 = 2'-0" Min
- Uncoated or galvanized – #4 = 2'-7" Min
- Uncoated or galvanized – #6 = 2'-0" Min

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications for the range of fill heights shown.
See the Single Box Culverts Cast-in-Place Miscellaneous Detail (SCC-MD) standard sheet for details pertaining to skewed ends, angle sections, and lengthening.

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing bar dimensions shown are out-to-out of bar.

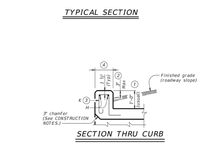
HL93 LOADING — SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

SINGLE BOX CULVERTS CAST-IN-PLACE 0' TO 30' FILL

SCC-5 & 6

File: CD-SCC06-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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REVISIONS				
06-2021 Updated 3 details.	DIST	COUNTY		SHEET NO.

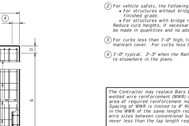


TYPICAL SECTION

PLAN OF REINF STEEL



SECTION THRU CURB



HL93 LOADING — SHEET 2 OF 2

Texas Department of Transportation — Bridge Division Standard

SINGLE BOX CULVERTS CAST-IN-PLACE 0' TO 30' FILL

SCC-5 & 6

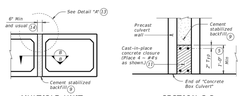
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©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
06-2021 Updated 3 details.	DIST	COUNTY		SHEET NO.

SECTION DIMENSIONS

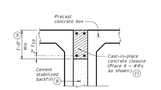
BILLS OF REINFORCING STEEL (For Box Length = 40 feet)

QUANTITIES

FILL HEIGHT (5)	Bars B						Bars C						Bars D						Bars H – #4						Bars J1 – #4 at 18" Spa			Bars J2 – #4 at 18" Spa			Bars H – #4			Bars K	Per Foot of Barrel		Curb		Total	
S	H	T	U	No.	Size	Spa	Length	Weight	No.	Size	Spa	Length	Weight	"X"	"Y"	No.	Size	Spa	Length	Weight	"Y"	"Z"	No.	Size	Spa	Length	Weight	No.	Length	Wt	No.	Length	Weight	No.	Length	Wt	No.	Wt	Conc (CY)	Reinf (Lb)	Conc Recpt (CY)	Reinf Recpt (Lb)	Conc (CY)	Reinf (Lb)
3'-0"	2'-0"	8"	7"	30	108	#5	9'-1"	960	108	#5	9"	6'-3"	704	2'-0"	3'-9"	108	#5	9"	6'-3"	723	3'-9"	2'-9"	108	#5	9"	6'-3"	732	3'-9"	2'-9"	108	#5	9"	6'-3"	732	3'-9"	2'-9"	108	#5	9"	6'-3"	732	3'-9"	2'-9"	108	#5	9"	6'-3"	732	3'-9"	2'-9"	4	39"	#5	106	22	39"-9"	584	9'-1"	16	14	39	0.4429	81.0	0.5	55	17.6	3,276
3'-0"	2'-0"	8"	7"	30	108	#6	9"	9'-1"	960	108	#5	9"	6'-3"	713	3'-7"	3'-9"	108	#5	9"	6'-3"	732	3'-9"	2'-9"	108	#6	9"	6'-3"	732	3'-9"	2'-9"	108	#6	9"	6'-3"	732	3'-9"	2'-9"	108	#6	9"	6'-3"	732	3'-9"	2'-9"	108	#6	9"	6'-3"	732	3'-9"	2'-9"	4	39"	#6	106	26	39"-9"	690	9'-1"	16	14	39	0.4434	87.8	0.5	55	17.8	3,567
3'-0"	3'-0"	8"	7"	30	108	#4	9"	9'-1"	960	108	#5	9"	6'-3"	826	3'-7"	3'-9"	108	#5	9"	6'-3"	732	3'-9"	2'-9"	108	#4	9"	6'-3"	732	3'-9"	2'-9"	108	#4	9"	6'-3"	732	3'-9"	2'-9"	108	#4	9"	6'-3"	732	3'-9"	2'-9"	108	#4	9"	6'-3"	732	3'-9"	2'-9"	4	39"	#4	106	22	39"-9"	584	9'-1"	16	14	39	0.4472	88.3	0.5	55	19.3	3,585
3'-0"	3'-0"	8"	7"	30	108	#5	9"	9'-1"	960	108	#5	9"	6'-3"	929	4'-1"	3'-9"	108	#5	9"	6'-3"	732	3'-9"	2'-9"	108	#5	9"	6'-3"	732	3'-9"	2'-9"	108	#5	9"	6'-3"	732	3'-9"	2'-9"	108	#5	9"	6'-3"	732	3'-9"	2'-9"	108	#5	9"	6'-3"	732	3'-9"	2'-9"	4	39"	#5	106	26	39"-9"	690	9'-1"	16	14	39	0.4544	93.4	0.5	55	20.3	3,752
3'-0"	4'-0"	8"	7"	30	108	#6	9"	9'-1"	960	108	#5	9"	6'-3"	939	4'-7"	3'-9"	108	#5	9"	6'-3"	732	3'-9"	2'-9"	108	#6	9"	6'-3"	732	3'-9"	2'-9"	108	#6	9"	6'-3"	732	3'-9"	2'-9"	108	#6	9"	6'-3"	732	3'-9"	2'-9"	108	#6	9"	6'-3"	732	3'-9"	2'-9"	4	39"	#6	106	26	39"-9"	690	9'-1"	16	14	39	0.4544	93.4	0.5	55	21.1	3,771
3'-0"	5'-0"	8"	7"	30	108	#6	9"	9'-1"	960	108	#5	9"	6'-3"	1,042	5'-1"	3'-9"	108	#5	9"	6'-3"	723	3'-9"	2'-9"	108	#6	9"	6'-3"	732	3'-9"	2'-9"	108	#6	9"	6'-3"	732	3'-9"	2'-9"	108	#6	9"	6'-3"	732	3'-9"	2'-9"	108	#6	9"	6'-3"	732	3'-9"	2'-9"	4	39"	#6	106	26	39"-9"	690	9'-1"	16	14	39	0.4544	93.4	0.5	55	21.9	3,790
3'-0"	6'-0"	8"	7"	30	108	#6	9"	9'-1"	960	108	#5	9"	6'-3"	1,251	5'-7"	3'-9"	108	#5	9"	6'-3"	732	3'-9"	2'-9"	108	#6	9"	6'-3"	732	3'-9"	2'-9"	108	#6	9"	6'-3"	732	3'-9"	2'-9"	108	#6	9"	6'-3"	732	3'-9"	2'-9"	108	#6	9"	6'-3"	732	3'-9"	2'-9"	4	39"	#6	106	26	39"-9"	797	9'-1"	16	14	39	0.4544	93.4	0.5	55	22.8	4,062
6'-0"	2'-0"	9"	7"	30	108	#4	9"	9'-1"	1,222	108	#5	9"	7'-3"	742	2'-9"	4'-1"	162	#5	9"	6'-10"	1,155	4'-1"	2'-9"	108	#4	9"	7'-3"	780	4'-1"	2'-9"	108	#4	9"	7'-3"	780	4'-1"	2'-9"	108	#4	9"	7'-3"	780	4'-1"	2'-9"	108	#4	9"	7'-3"	780	4'-1"	2'-9"	5	39"	#4	133	22	39"-9"	730	9'-1"	20	18	45	0.6483	89.2	0.5	63	19.1	3,828
6'-0"	2'-0"	9"	7"	30	108	#6	9"	9'-1"	1,222	108	#5	9"	7'-3"	1,122	3'-5"	4'-1"	162	#5	9"	6'-10"	1,155	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	5	39"	#6	133	25	39"-9"	664	6'-1"	18	16	45	0.6485	108.6	0.5	63	19.9	4,407
6'-0"	2'-0"	10"	8"	30	108	#6	9"	7'-1"	1,222	108	#5	9"	7'-3"	1,149	3'-5"	4'-1"	162	#5	9"	6'-10"	1,155	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	5	39"	#6	133	25	39"-9"	664	6'-1"	18	16	50	0.6551	109.0	0.5	63	22.0	4,463
6'-0"	4'-0"	9"	7"	30	108	#6	9"	6'-1"	1,222	108	#5	9"	7'-3"	854	3'-5"	4'-1"	162	#5	9"	6'-9"	760	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	5	39"	#6	133	26	39"-9"	770	6'-1"	18	16	45	0.6484	96.4	0.5	63	19.9	3,918
6'-0"	4'-0"	9"	7"	30	108	#6	9"	7'-1"	1,222	108	#5	9"	7'-3"	1,295	3'-7"	4'-1"	162	#5	9"	6'-9"	760	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	5	39"	#6	133	26	39"-9"	770	6'-1"	18	16	50	0.6528	117.2	0.5	63	21.8	4,104
6'-0"	5'-0"	10"	8"	30	108	#6	9"	7'-1"	1,149	162	#5	9"	7'-10"	1,324	3'-5"	4'-1"	162	#5	9"	7'-0"	1,183	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	5	39"	#6	133	26	39"-9"	770	6'-1"	18	16	50	0.6601	118.1	0.5	69	24.6	4,752
6'-0"	4'-0"	9"	7"	30	108	#6	9"	6'-1"	1,222	108	#5	9"	7'-3"	854	3'-5"	4'-1"	162	#5	9"	6'-9"	760	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	5	39"	#6	133	26	39"-9"	770	6'-1"	18	16	45	0.6484	96.4	0.5	63	19.9	3,918
6'-0"	4'-0"	9"	7"	30	108	#6	9"	7'-1"	1,222	108	#5	9"	7'-3"	1,295	3'-7"	4'-1"	162	#5	9"	6'-9"	760	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	5	39"	#6	133	26	39"-9"	770	6'-1"	18	16	50	0.6528	117.2	0.5	63	21.8	4,104
6'-0"	5'-0"	9"	7"	30	108	#6	9"	7'-1"	1,149	162	#5	9"	7'-10"	1,324	3'-5"	4'-1"	162	#5	9"	7'-0"	1,183	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	5	39"	#6	133	26	39"-9"	770	6'-1"	18	16	50	0.6601	118.1	0.5	69	24.6	4,752
6'-0"	4'-0"	10"	8"	30	108	#6	9"	7'-1"	1,149	162	#5	9"	7'-10"	1,295	3'-5"	4'-1"	162	#5	9"	7'-0"	1,183	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	5	39"	#6	133	26	39"-9"	770	6'-1"	18	16	50	0.6528	117.2	0.5	69	24.6	4,704
6'-0"	5'-0"	9"	7"	30	108	#6	9"	7'-1"	1,149	162	#5	9"	7'-10"	1,480	3'-5"	4'-1"	162	#5	9"	6'-9"	760	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	5	39"	#6	133	26	39"-9"	770	6'-1"	18	16	45	0.6570	108.2	0.5	63	23.3	4,395
6'-0"	5'-0"	9"	7"	30	108	#6	9"	7'-1"	1,222	162	#5	9"	7'-10"	1,633	3'-7"	4'-1"	162	#5	9"	6'-9"	760	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	5	39"	#6	133	26	39"-9"	770	6'-1"	18	16	45	0.6614	132.0	0.5	63	25.1	4,543
6'-0"	5'-0"	10"	8"	30	108	#6	9"	7'-1"	1,149	162	#5	9"	7'-10"	1,681	3'-5"	4'-1"	162	#5	9"	7'-0"	1,183	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	5	39"	#6	133	26	39"-9"	770	6'-1"	18	16	50	0.6700	133.9	0.5	69	28.5	5,345
6'-0"	6'-0"	9"	7"	30	108	#6	9"	7'-1"	1,222	108	#5	9"	7'-7"	1,192	4'-0"	4'-1"	108	#5	9"	6'-9"	760	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	5	39"	#6	133	26	39"-9"	770	6'-1"	18	16	45	0.6613	119.6	0.5	63	25.0	4,685
6'-0"	6'-0"	9"	7"	30	108	#6	9"	7'-1"	1,222	162	#5	9"	10'-10"	1,802	4'-7"	4'-1"	162	#5	9"	6'-10"	1,155	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-9"	108	#6	9"	7'-3"	780	4'-1"	2'-

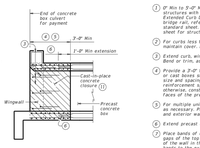


MULTIPLE UNIT PLACEMENT

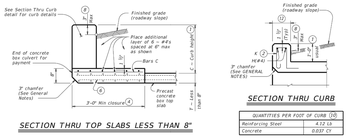


SECTION B-B

DETAIL "A" (2)



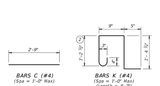
WINGWALL CONNECTION
(Also applies to safety end treatment.)

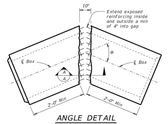


SECTION THRU TOP SLABS LESS THAN 8"

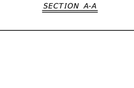
SECTION THRU CURB

QUANTITIES PER FOOT OF CURB (6)	
Reinforcing Steel	4.32 Lb
Concrete	0.032 CY

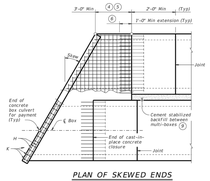




ANGLE DETAIL



SECTION A-A



PLAN OF SKEWED ENDS
(Showing multi-box placement.)

1. 0" Min to 3'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail, bicycle rail, or curbs taller than 3'-0", refer to the Extended Curb Details (ECD) standard sheet. For structures with TxDOT T631 or T631S rail, refer to the Extended Curb Details (ECD) and T631 or T631S standard sheet. Refer to the Box Culvert Rail Mounting Details (RAC) standard sheet for structures with bridge rail other than T631 or T631S.
2. For curbs less than 1'-0" high, tilt Bars K or reduce bar height as necessary to maintain cover. For curbs less than 3" high, Bars K may be omitted.
3. Extend curb, wingwall, or safety end treatment reinforcing into concrete closure. Bend or trim, as necessary, any reinforcing that does not fit into closure area.
4. Provide a 3'-0" Min cast-in-place concrete closure. Break back boxes in the field or cast boxes short. Provide bands of reinforcing in the closure that are the same size, spacing, and number as the bands in the precast box. Where additional reinforcement spaced at 12 inches Max within the closure. Except where shown otherwise, construct the cast-in-place closure flush with the inside and outside faces of the precast box section.
5. For multiple unit placements, adjust the length of the closure for the interior walls as necessary. Provide a 3'-0" Min cast-in-place closure in the top slab, bottom slab, and exterior wall. See Section B-B detail when interior walls are cast full length.
6. Extend precast box reinforcing a minimum of 1'-0" into concrete closure. (Typ)
7. Place bands of reinforcing matching the inside and outside face reinforcing in the gaps of the top and bottom slabs. Place a band matching the outside face reinforcing of the wall in the gaps of the walls (placed in the outside face only). Tack weld the bands to the exposed reinforcing at each point of contact.
8. For vehicle safety, the following requirements must be met:
   - For structures with railroad bridge rail, construct curbs no more than 3" above finished grade.
   - For structures with bridge rail, construct curbs flush with finished grade. Reinforcing steel, concrete, and excavation required for construction of curbs will be made in quantities and no additional compensation will be allowed for this work.
9. Cement stabilized backfill between boxes is considered part of the box culvert for payment.
10. Alt curb concrete and reinforcing is considered part of the box culvert for payment.
11. Any additional concrete and reinforcing required for the closures will be considered subsidiary to the box culvert for payment.
12. 1'-0" typical. 2'-3" when the Box Culvert Rail Mounting Details (RAC) standard sheet is referred to elsewhere in the plans.
13. For multiple unit placement with overlay, with 1 to 2 course surface treatment, or with the top slab as the final riding surface, provide wall closure as shown in Detail "A".
14. This dimension may be increased with approval of the Engineer to allow the precast boxes to be tunneled or jacked in accordance with Item 476, "Jacking, Boring, or Tunneling Pipe or Box." No payment will be made for any additional material in the gap between adjacent boxes.

MATERIAL NOTES:
Provide Grade 60 reinforcing steel.
Provide Class C concrete for reinforcement.
Provide Class C concrete (f'c = 3,600 psi) for the closures.
Provide cement stabilized backfill meeting the requirements of Item 400, "Excavation and Backfill for Structures."
Any additional concrete required for the closures will be considered subsidiary to the box culvert.

GENERAL NOTES:
Design and detail in accordance to AASHTO LRFD Bridge Design Specifications.
Refer to the Single Box Culverts Precast (SCP) standard sheets for details and notes not shown.
Chamfer the bottom edge of the top slab closure 3 inches at culvert closure ends.

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing bars dimensions are out-to-out of bars.

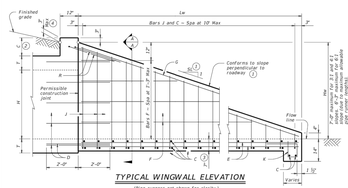
HL93 LOADING

Texas Department of Transportation — Bridge Division Standard

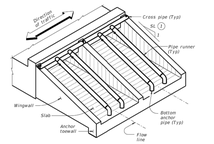
BOX CULVERTS PRECAST MISCELLANEOUS DETAILS

SCP-MD

rev. 13-SCP-MD-30.dgn	3m. GR	3m. SW	3m. CURB	3m. TxDOT
TxDOT February 2020	CHK	DATE	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.



TYPICAL WINGWALL ELEVATION
(Pipe runners not shown for clarity.)



ISOMETRIC VIEW OF TYPICAL INSTALLATION

WING DIMENSION CALCULATIONS:

Hw = H + T + C – 0.250
Le = (Hw – 0.333′) (SL)

For cast-in-place culverts:
Ahw = (N) (S) + (N + 1) (U)

For precast culverts:
Ahw = (N) (Z) + S) + (N – 1) (0.500)

Total Wingwall Area (SF):
= 10.5) (Hw + 0.333′) (Le) (N + 1)

Total Concrete Volume (CY):
= (Ahw) (Wall Width) (1/27) + (Le) (Ahw) (0.583′) + (Ahv) (1.167′) (167 – 0.583′)) + (2T)

PIPE RUNNER DIMENSION CALCULATIONS:

Pipe Runner Length
= (Le) (#1) – (1.67′)

Total Reinforcing (Lb)
= (1.33) (Le) (Ahw) + (4.43) (Ahw) + (1.1) (Hw) (N + 1) (Cle)

C = Height of curb above top of top slab (Feet)
Hw = Height of wingwall (Feet)
K = Constant value for use in formulas
S1:1 = 0 to 4:1 = 0.66
5:1 = 1.034 – 0.45
6:1 = 1.031 – 0.48
7:1 = 1.028 – 0.49
Ahw = Anchor toewall length (Feet)
Le = Length of wingwall (Feet)
N = Number of pipe runners
SL:1 = Side slope ratio (horizontal : 1 vertical)

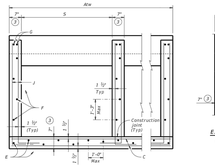
See applicable box culvert standard for H, S, T, and U values.

MATERIAL NOTES:
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
Adjust reinforcing as necessary to provide a minimum clear cover of 1 ½.
Provide Class "C" concrete (f'c = 3,600 psi).
Provide pipe runners, cross pipes, and anchor pipes meeting the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 GF B, or API 5L Gr B.
Provide ASTM A307 bolts.
Galvanize all steel components, except the concrete reinforcing, after all welding, cutting, and drilling is complete.
Repair galvanizing damaged during transport or construction in accordance with the item 445, "Galvanizing."

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
Pipe runners are designed for vehicle loads and may not be in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the pipe runners.
Pipe runners are designed for a traversing load of 1,800 pounds as used as recommended by Research Report 280-1, "Safety Evaluation of Pipe Runners for Culverts," Texas Transportation Institute, March 1982.
The quantities for pipe runners, reinforcing steel, and concrete are approximate. The following areas are for Contractor's information only.
See the Box Culvert Supplement (BCS) standard sheet for additional information and details.
Alternate design drawings bearing the seal of a professional engineer will be acceptable for precast construction of the safety end treatments.

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing dimensions are out-to-out of bars.

SHEET 1 OF 2



SECTION A-A
(Showing typical wingwall and wing slab reinforcing. Pipe runners not shown for clarity.)

AT TOP OF EXTERIOR WINGWALL (Cast-in-place culvert)

AT TOP OF INTERIOR WINGWALL (Cast-in-place culvert)

AT OUTSIDE OF BOTTOM SLAB (Cast-in-place culvert)

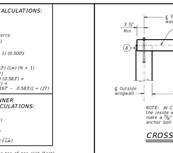
AT INTERIOR WINGWALL (Precast culvert)

PLAN VIEWS OF CORNER DETAILS



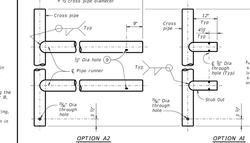
TABLE OF REINFORCING BAR SIZES AND SPACING		
Bar	Size	Spacing
C	#4	10" Max
D	#4	Match F and E
E	#4	1'-0" Max
F	#4	1'-3" Max
G	#6	As shown
J	#4	10" Max
K	#4	1'-0" Max
R	#4	As shown

1. Recommended values of slope are: 3:1, 4:1, and 6:1. Provide 3:1 or flatter slope.
2. 0" Min to 3'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures without railing, tilt Bars K or reduce bar height. Refer to the Extended Curb Details (ECD) standard sheet.
3. Wingwall and slab thicknesses may be the same as the adjacent culvert wall and slab thicknesses (7" minimum). If thicknesses greater than the minimum (7") are used, Bars C, Bars E, and Bars F quantities and no additional compensation will be allowed.
4. For vehicle safety, reduce curb height, if necessary, to provide a maximum 3" projection. No changes will be made in quantities and no additional compensation will be allowed for this work.
5. For culverts with C = 0", the precast culvert reinforcing steel shown in the wingwall may be omitted. Bars D and R may be omitted. Otherwise, refer to the Wingwall Connection detail on the Box Culvert Precast Miscellaneous Details (SCP-MD) standard sheet.



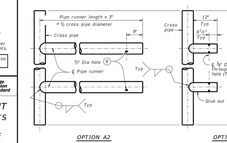
NOTE: At Contractor's option, make the cross pipe continuous across the inside corners of the culvert. Where this option is used, cut and make a ¾" diameter through hole in the cross pipe to accept the anchor bolt at the centerline of each inside wingwall.

CROSS PIPE INSTALLATION DETAILS



OPTION A2 FOR USE IN OUTSIDE CULVERT BAY

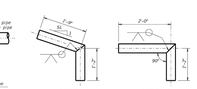
OPTION A1



OPTION A2 FOR USE IN INSIDE CULVERT BAY

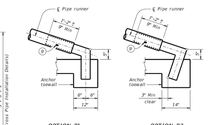
OPTION A1

CROSS PIPE AND CONNECTIONS DETAILS



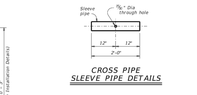
OPTION A OPTION B

BOTTOM ANCHOR PIPE DETAILS

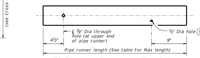


OPTION B1 OPTION B2

BOTTOM ANCHOR TOEWALL DETAILS
(Wingwall not shown for clarity.)



CROSS PIPE SLEEVE PIPE DETAILS



NOTE: The separate pipe runner shown is required when Cross Pipe Installation Option A1 is used.

PIPE RUNNER DETAILS

MAXIMUM PIPE RUNNER LENGTHS AND ④ REQUIRED PIPE RUNNER AND ANCHOR PIPE SIZES						
Maximum Culvert Rise	Required Pipe Runner Size			Required Anchor Pipe Size		
	Pipe Size	Pipe O.D.	Pipe I.D.	Pipe Size	Pipe O.D.	Pipe I.D.
10'– 3"	3" STD	3.500"	3.068"	3" STD	3.500"	3.068"
19'– 9"	4" STD	4.500"	4.026"	3" STD	3.500"	3.068"
24'– 3"	5" STD	5.563"	5.047"	4" STD	4.500"	4.026"

④ Cross pipe is the same size as the pipe runner. Cross pipe stub-out is the same size as the anchor pipe.

⑦ Note that actual slope of safety pipe runner may vary slightly from side slope.

⑧ Take care to ensure that riprap concrete does not flow into the cross pipe so as to permit disassembly of the bolted connection to allow cleanout access.

⑨ After installation, inspect the 1¼" hole to ensure that the lap of the safety pipe runner with the bottom anchor pipe is adequate.

⑩ At Fabricator's option, a heat bend to a smooth 9' radius or a manufactured elbow with a minimum 9' radius centerline radius may be substituted for the mitered and welded joint in the bottom anchor pipe.



OPTION B1 OPTION B2

BOTTOM ANCHOR TOEWALL DETAILS
(Wingwall not shown for clarity.)

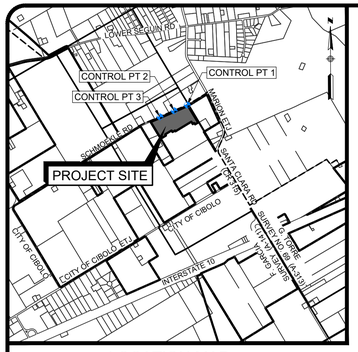


CROSS PIPE SLEEVE PIPE DETAILS

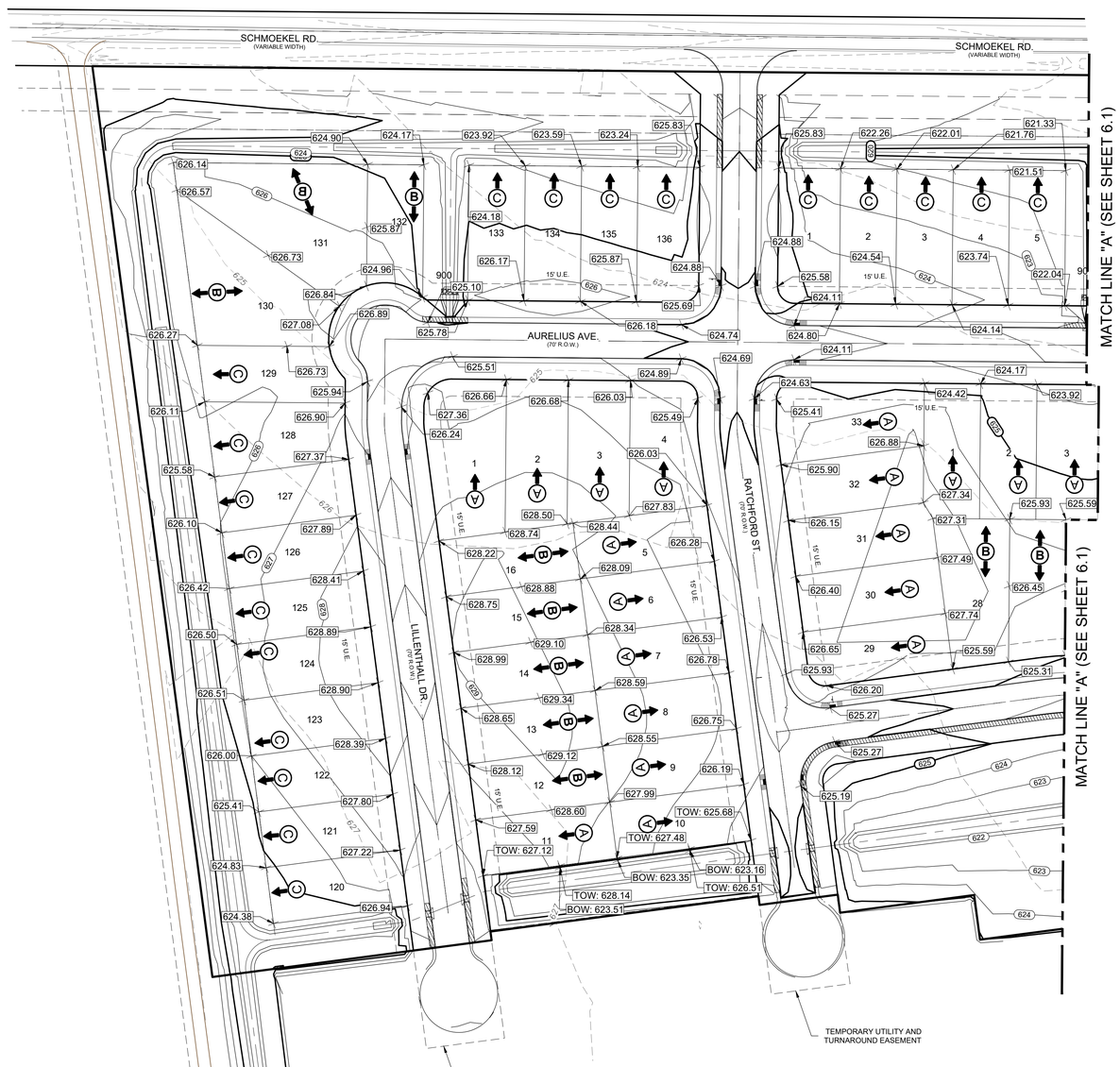


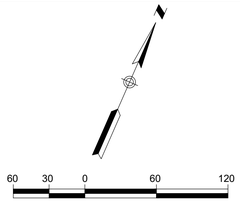
NOTE: The separate pipe runner shown is required when Cross Pipe Installation Option A1 is used.

PIPE RUNNER DETAILS



LOCATION MAP
N.T.S.





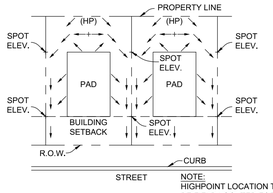
SCALE IN FEET
SCALE: 1"=60'

LEGEND

PROPOSED	EXISTING	
		SANITARY SEWER MANHOLE
		SANITARY SEWER LINE
		WATER LINE
		SANITARY SEWER LATERAL
		CLEAN OUT
		WATER VALVE
		SINGLE WATER SERVICE
		FIRE HYDRANT
		WATER METER
		GAS VALVE
		GAS LINE
		STORM SEWER MANHOLE
		CURB INLET
		POWER POLE
		STREET LIGHT (100 WATT LED)
		STREET LIGHT (250 WATT LED)
		GUY WIRE
	OU	OVERHEAD ELECTRIC
		BENCHMARK
	TMH	TOP OF MANHOLE
	EX.	EXISTING
	G,E,T,CA	GAS, ELEC, TELE & CABLE TV ESM'T.
	ESM'T.	EASEMENT
	VOL	VOLUME
	PG	PAGE
	DPR	DEED & PLAT RECORDS OF GUADALUPE COUNT,Y TEXAS
	OPR	OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS

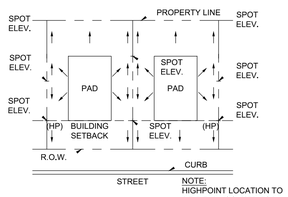
GRADING NOTES

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY AND TXDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
2. SITE PREPARATION, GRADING, EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND SPECIFICATIONS.
3. ALL SELECT FILL MATERIAL PROVIDED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING AND COMPACTING.
4. ALL ELEVATIONS AND PROPOSED CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES. THE THICKNESS OF PAVING, BASE, GRASS, TOPSOIL, AND MULCH MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
5. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
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7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
8. THE CONTRACTOR SHALL REMOVE TOP SOIL, GRASS, ROOTS, DEBRIS, ETC. AND DISPOSE OFF SITE THOSE MATERIALS NOT SUITABLE FOR EMBANKMENT AND TOPSOIL. CLEAN STRIPPINGS AND TOPSOIL MAY BE STOCKPILED ON SITE FOR REUSE IN A LOCATION SPECIFIED BY THE OWNER.
9. THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE STABILIZATION, ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND TPDES/SWPPP REQUIREMENTS. REFERENCE THE LANDSCAPE ARCHITECT'S PLAN, IF APPLICABLE.
10. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS (USE OF SILT FENCES, ETC.) TO KEEP DRAINAGE AND SILT FROM WASHING ONTO ADJACENT PROPERTY, STREETS, OR DRAINAGE WAYS. CONTRACTOR SHALL IMMEDIATELY REMOVE SILT/DEBRIS WHICH WASHES OFFSITE OR INTO EXISTING STORM DRAIN SYSTEMS. (SEE SWPPP PLANS & TPDES BOOK).
11. THE CONTRACTOR SHALL OBTAIN GRADES SHOWN HEREON WITHIN +/- ONE- TENTH (0.10) FOOT.
12. IN PROPOSED PAVING AREAS, STREET DESIGN PLANS SHALL CONTROL ALL EARTHEN SLOPES SHALL BE A MAXIMUM OF 3:1 AND A MINIMUM OF 1.0% UNLESS OTHERWISE SHOWN.
13. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING SITE AND PROPOSED IMPROVEMENTS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).
15. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN WORKING NEAR UTILITIES. GAS LINES, SEWER, OR EXISTING APPURTENANCES. PRIOR TO PERFORMING ANY EXCAVATION, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND ASSURE HIMSELF THAT ALL UTILITIES HAVE BEEN ADEQUATELY LOCATED AND IDENTIFIED. THE ENGINEER SHALL BE NOTIFIED IF ANY UTILITY CONFLICTS ARE DISCOVERED
16. UTILITIES SHOWN ON THE PLANS ARE FROM INFORMATION SOURCES AVAILABLE AT THE TIME OF DESIGN BUT MAY NOT REPRESENT ALL EXISTING UTILITIES ON SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION AND VERIFY SIZE, GRADE AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR, AT HIS OWN EXPENSE.
17. POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE SCOPE OF THE PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
18. **FOR FILL PLACEMENT ON HILL SIDES OR STEEP SLOPE AREAS, THE CONTRACTOR SHALL REFERENCE THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR SPECIAL INSTRUCTIONS REGARDING BENCHING**
19. **NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.**
20. **STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE PERIOD OF TIME PER THE NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL SEC.12.2(N).**



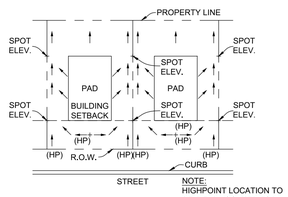
NOTE: HIGHPOINT LOCATION TO BE FIELD LOCATED FOR EACH INDIVIDUAL LOT.

TYPICAL "A" LOT GRADING
N.T.S.



NOTE: HIGHPOINT LOCATION TO BE FIELD LOCATED FOR EACH INDIVIDUAL LOT.

TYPICAL "B" LOT GRADING
N.T.S.



NOTE: HIGHPOINT LOCATION TO BE FIELD LOCATED FOR EACH INDIVIDUAL LOT.

TYPICAL "C" LOT GRADING
N.T.S.

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. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CAUTION: CONTRACTOR TO NOTIFY TEXAS ONE CALL AT 1-800-245-4545 48 HOURS PRIOR TO CONSTRUCTION FOR UTILITY LINE LOCATE. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED DESIGN CHANGES. EXISTING UTILITIES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

811 Know what's **below.** **Call** before you dig.

NEILL TRACT UNIT 1

GRADING PLAN

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 9/9/2025
DESIGNED BY: JDR
DRAWN BY: ML / TJ
CHECKED BY: NG
DRAWING NAME:

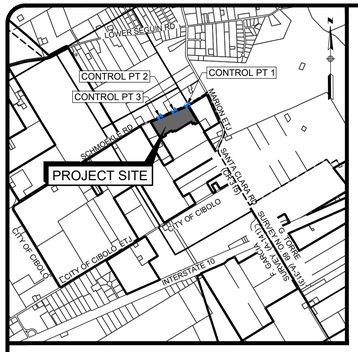
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

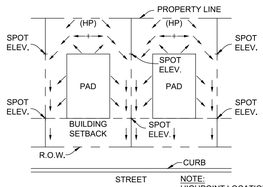
JOB NUMBER: SA164.2402

SHEET NO. **6.0**

FOR PERMIT

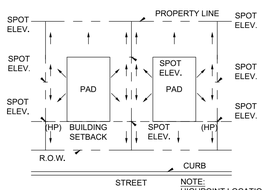


LOCATION MAP
N.T.S.



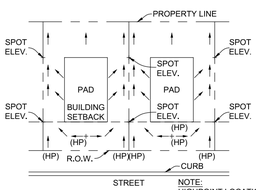
NOTE:
HIGHPOINT LOCATION TO BE FIELD LOCATED FOR EACH INDIVIDUAL LOT.

TYPICAL "A" LOT GRADING
N.T.S.



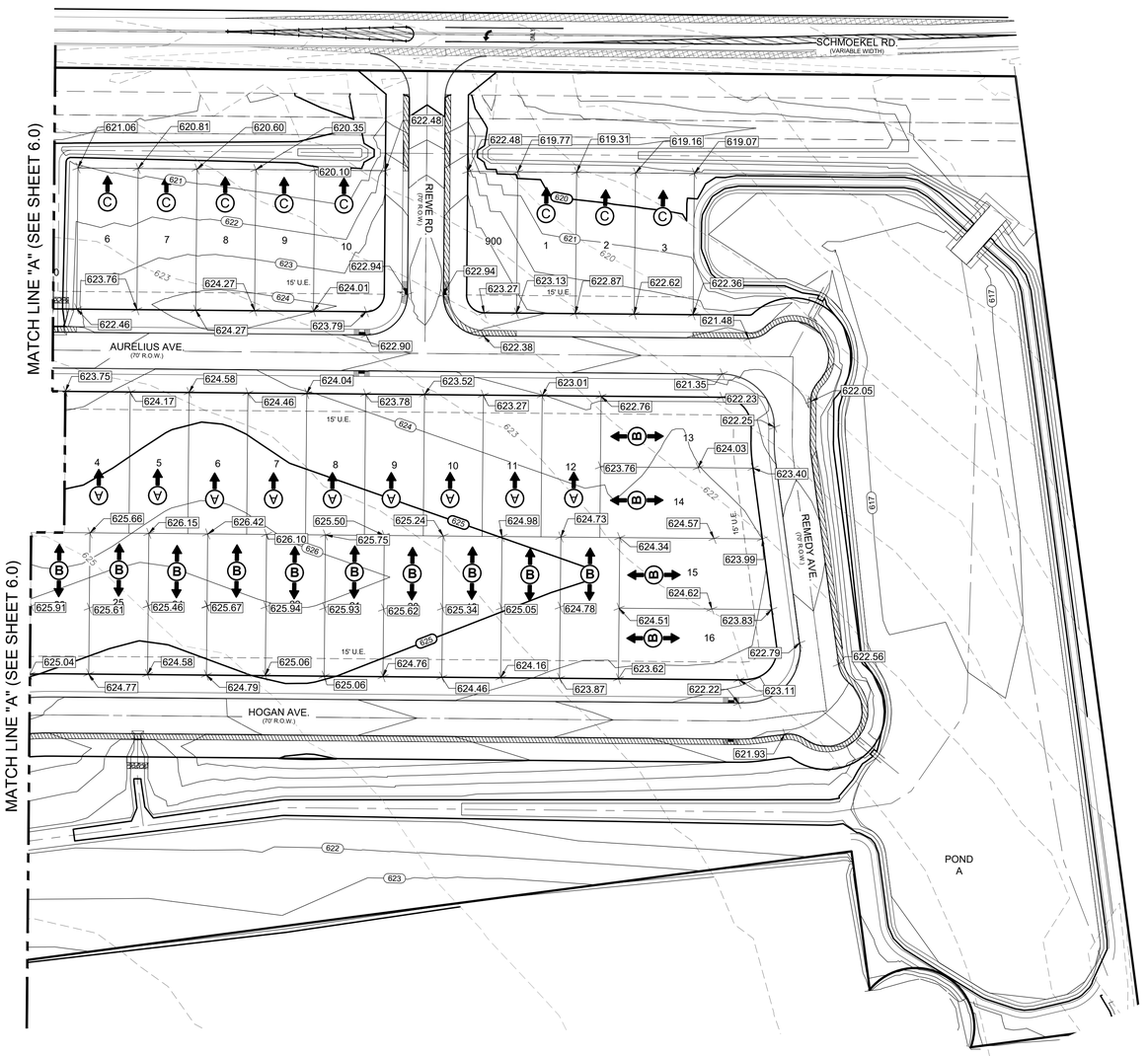
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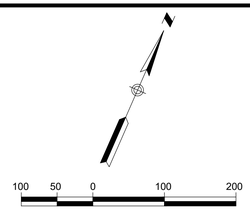
TYPICAL "B" LOT GRADING
N.T.S.



NOTE:
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TYPICAL "C" LOT GRADING
N.T.S.





SCALE IN FEET
SCALE: 1"=100'

LEGEND

PROPOSED	EXISTING	
		SANITARY SEWER MANHOLE
		SANITARY SEWER LINE
		WATER LINE
		SANITARY SEWER LATERAL
		CLEAN OUT
		WATER VALVE
		SINGLE WATER SERVICE
		FIRE HYDRANT
		WATER METER
		GAS VALVE
		GAS LINE
		STORM SEWER MANHOLE
		CURB INLET
		POWER POLE
		STREET LIGHT (100 WATT LED)
		STREET LIGHT (250 WATT LED)
		GUY WIRE
	OU	OVERHEAD ELECTRIC
		BENCHMARK
	TMH	TOP OF MANHOLE
	EX.	EXISTING
	G,E,T,CA	GAS, ELEC, TELE & CABLE TV ESM'T.
	ESM'T.	EASEMENT
	VOL	VOLUME
	PG	PAGE
	DPR	DEED & PLAT RECORDS OF GUADALUPE COUNT,Y TEXAS
	OPR	OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS

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7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
8. THE CONTRACTOR SHALL REMOVE TOP SOIL, GRASS, ROOTS, DEBRIS, ETC, AND DISPOSE OFF SITE THOSE MATERIALS NOT SUITABLE FOR EMBANKMENT AND TOPSOIL. CLEAN STRIPPINGS AND TOPSOIL MAY BE STOCKPILED ON SITE FOR REUSE IN A LOCATION SPECIFIED BY THE OWNER.
9. THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE STABILIZATION, ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND TPDES/SWPPP REQUIREMENTS. REFERENCE THE LANDSCAPE ARCHITECT'S PLAN, IF APPLICABLE.
10. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS (USE OF SILT FENCES, ETC.) TO KEEP DRAINAGE AND SILT FROM WASHING ONTO ADJACENT PROPERTY, STREETS, OR DRAINAGE WAYS. CONTRACTOR SHALL IMMEDIATELY REMOVE SILT/DEBRIS WHICH WASHES OFFSITE OR INTO EXISTING STORM DRAIN SYSTEMS. (SEE SWPPP PLANS & TPDES BOOK).
11. THE CONTRACTOR SHALL OBTAIN GRADES SHOWN HEREON WITHIN +/- ONE- TENTH (0.10) FOOT.
12. IN PROPOSED PAVING AREAS. STREET DESIGN PLANS SHALL CONTROL ALL EARTHEN SLOPES SHALL BE A MAXIMUM OF 3:1 AND A MINIMUM OF 1.0% UNLESS OTHERWISE SHOWN.
13. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING SITE AND PROPOSED IMPROVEMENTS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).
15. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN WORKING NEAR UTILITIES. GAS LINES, SEWER, OR EXISTING APPURTENANCES. PRIOR TO PERFORMING ANY EXCAVATION, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND ASSURE HIMSELF THAT ALL UTILITIES HAVE BEEN ADEQUATELY LOCATED AND IDENTIFIED. THE ENGINEER SHALL BE NOTIFIED IF ANY UTILITY CONFLICTS ARE DISCOVERED
16. UTILITIES SHOWN ON THE PLANS ARE FROM INFORMATION SOURCES AVAILABLE AT THE TIME OF DESIGN BUT MAY NOT REPRESENT ALL EXISTING UTILITIES ON SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION AND VERIFY SIZE, GRADE AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION.
ANY DAMAGE TO EXISTING UTILITIES. WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR, AT HIS OWN EXPENSE.
17. POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE SCOPE OF THE PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
18. **FOR FILL PLACEMENT ON HILL SIDES OR STEEP SLOPE AREAS, THE CONTRACTOR SHALL REFERENCE THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR SPECIAL INSTRUCTIONS REGARDING BENCHING**
19. **NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.**
20. **STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE PERIOD OF TIME PER THE NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL SEC.12.2(N).**

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. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CAUTION: CONTRACTOR TO NOTIFY TEXAS ONE CALL AT 1-800-245-4545 48 HOURS PRIOR TO CONSTRUCTION FOR UTILITY LINE LOCATE. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED DESIGN CHANGES. EXISTING UTILITIES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

811 Know what's below. Call before you dig.

NEILL TRACT UNIT 1

GRADING PLAN SH2

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 9/8/2025
DESIGNED BY: JDR
DRAWN BY: ML / TJ
CHECKED BY: NG
DRAWING NAME:

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LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER:
SA164.2402

SHEET NO.
6.1

FOR PERMIT

L:\Active Projects\SA164 Neill TRACT\CAD and Drawings\01 Plan Sheets\01 Grading Plan.dwg, 9/8/2025 10:47:05 AM, Jdr, 1:1, 22" x 34"

GENERAL NOTES:

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2. ALL ELEVATIONS ARE TOP OF CURB UNLESS OTHERWISE NOTED.
3. WHERE SIDEWALK IS SEPARATED FROM THE CURB, THE SEPARATION DISTANCE SHALL BE A MINIMUM 6' BETWEEN THE BACK OF CURB AND EDGE OF SIDEWALK.
4. REFER TO SHEET 6.9 FOR STREET AND PAVEMENT SECTION DETAIL & REFER TO SHEET 6.8 FOR CONCRETE CURB DETAIL AND SIDEWALK DETAIL.
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9. VERTICAL CURVE DESIGN SPEED ARE IN COMPLIANCE WITH THE APPROVED DEVELOPMENT CODE TABLE 13-2 FOR LOCAL A (25 MPH) AND MINOR COLLECTOR (40MPH).

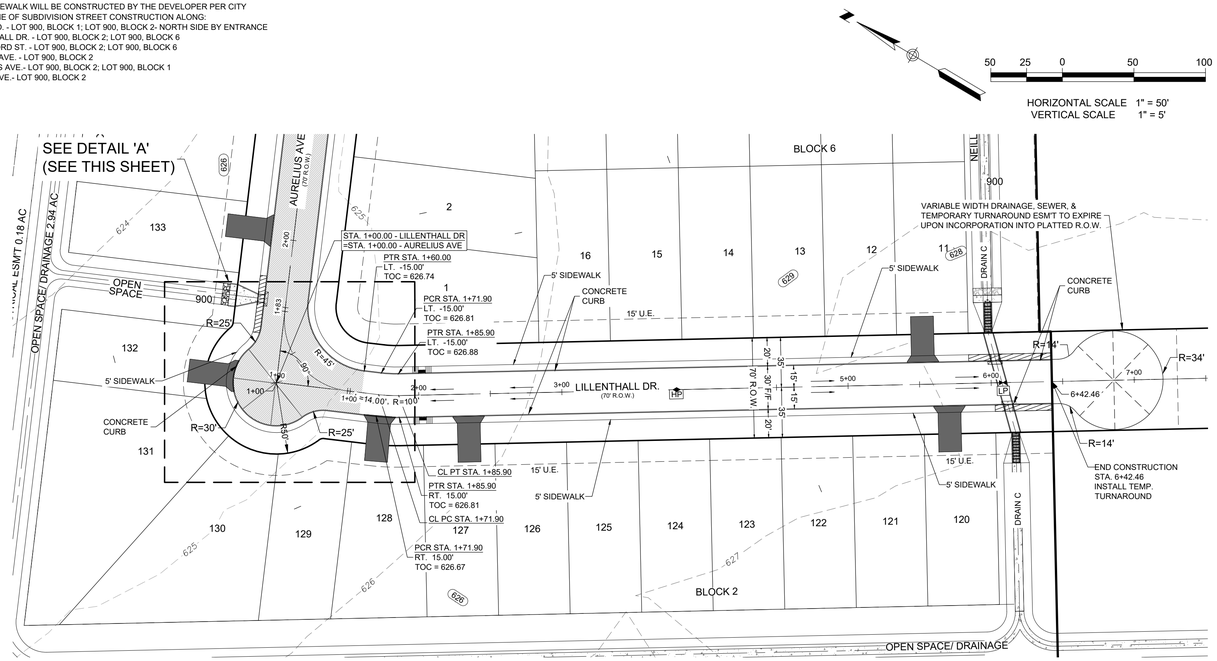
SIDEWALK NOTE:

FIVE (5) FOOT WIDE SIDEWALK WILL BE CONSTRUCTED BY THE DEVELOPER PER CITY STANDARDS AT THE TIME OF SUBDIVISION STREET CONSTRUCTION ALONG:

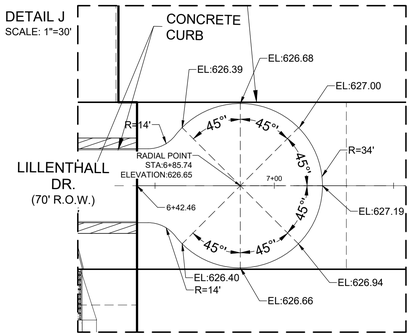
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B. LILLENTHALL DR. - LOT 900, BLOCK 2; LOT 900, BLOCK 6
C. RATCHFORD ST. - LOT 900, BLOCK 2; LOT 900, BLOCK 6
D. REMEDY AVE. - LOT 900, BLOCK 2
E. AURELIUS AVE.- LOT 900, BLOCK 2; LOT 900, BLOCK 1
F. HOGAN AVE.- LOT 900, BLOCK 2

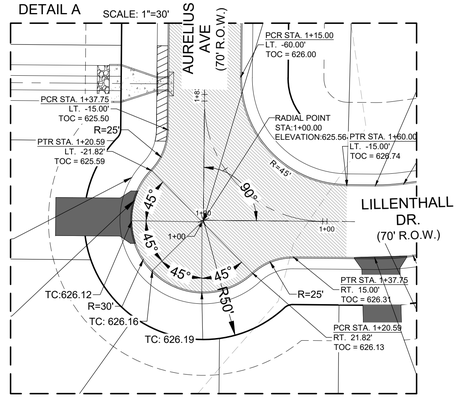
LEGEND

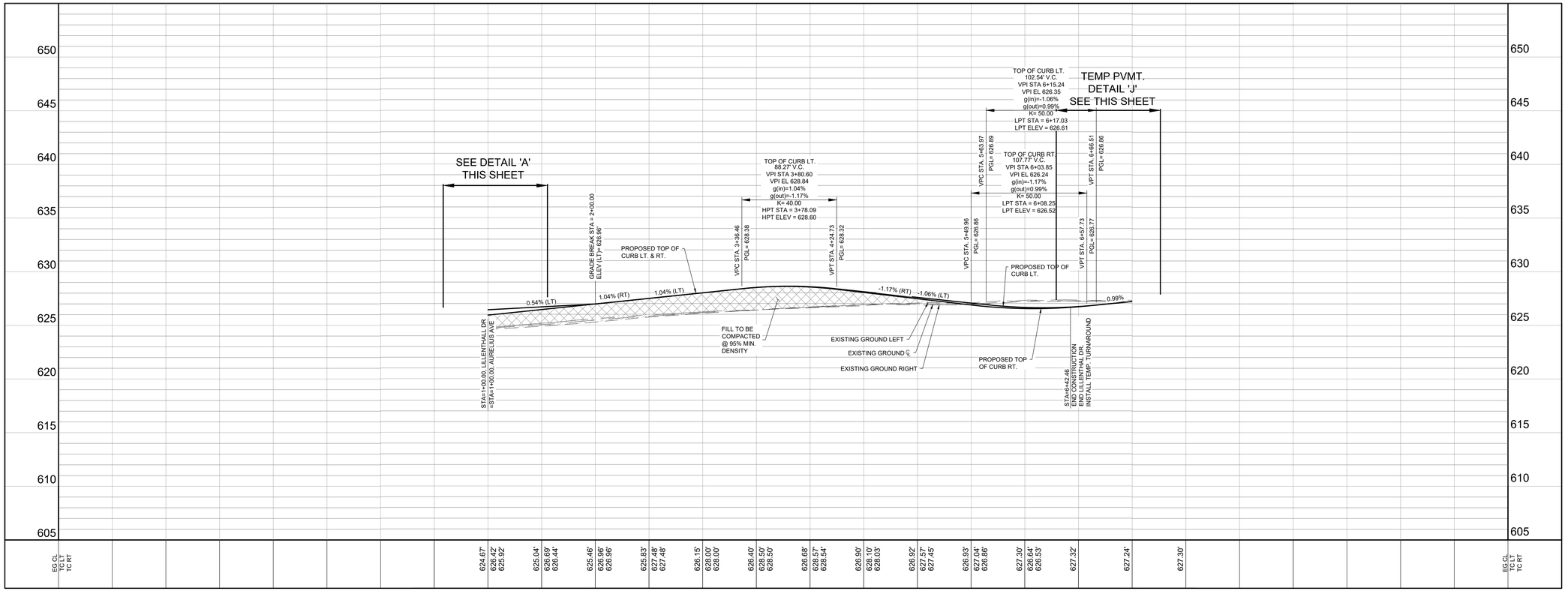
800	PROPOSED CONTOUR
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
	SIDEWALK (OTHER'S RESPONSIBILITY)
	SIDEWALK (DEVELOPER'S RESPONSIBILITY)
U.E.	UTILITY EASEMENT
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT
	WASHOUT CROWN
	WASHOUT FLOW ARROW
EG CL	EXISTING GRADE CENTER LINE
TC	TOP OF CURB
ELEV	PAVEMENT ELEVATION



LILLENTHAL DR. STA. 1+00 TO END







NEILL TRACT UNIT 1

LILLENTHAL DR. PLAN & PROFILE
STA. 1+00 TO END

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME:

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Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. **6.2**

FOR PERMIT

GENERAL NOTES:

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3. WHERE SIDEWALK IS SEPARATED FROM THE CURB, THE SEPARATION DISTANCE SHALL BE A MINIMUM 6' BETWEEN THE BACK OF CURB AND EDGE OF SIDEWALK.
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9. VERTICAL CURVE DESIGN SPEED ARE IN COMPLIANCE WITH THE APPROVED DEVELOPMENT CODE TABLE 13-2 FOR LOCAL A (25 MPH) AND MINOR COLLECTOR (40MPH).

LEGEND

800	PROPOSED CONTOUR
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
	SIDEWALK (OTHER'S RESPONSIBILITY)
	SIDEWALK (DEVELOPER'S RESPONSIBILITY)
U.E.	UTILITY EASEMENT
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT
	WASHOUT CROWN
	WASHOUT FLOW ARROW
EG CL	EXISTING GRADE CENTER LINE
TC	TOP OF CURB
ELEV	PAVEMENT ELEVATION

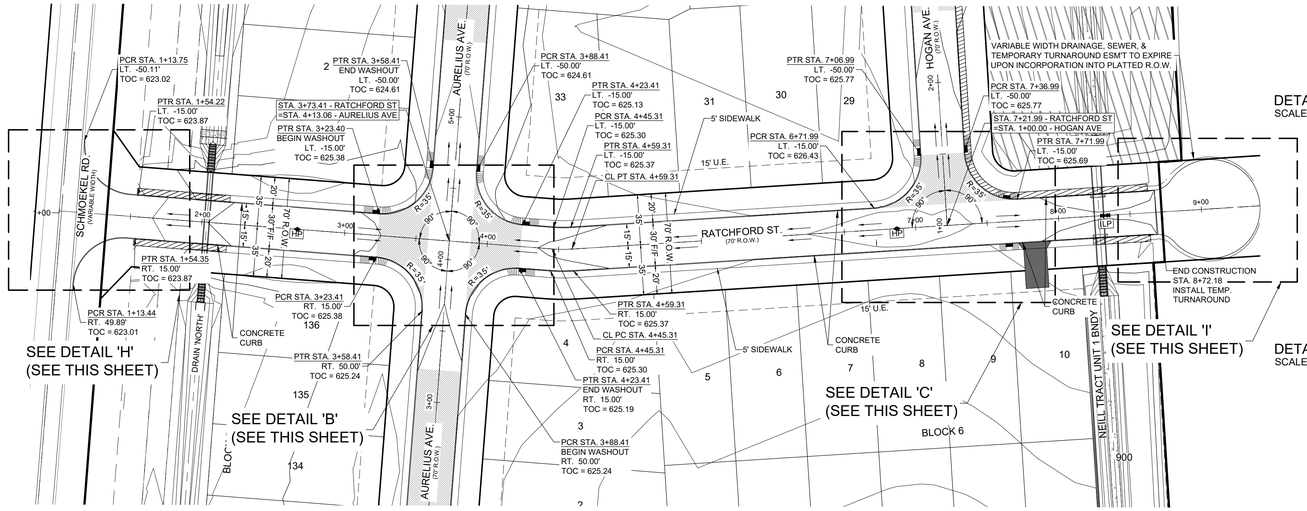
SIDEWALK NOTE:

FIVE (5) FOOT WIDE SIDEWALK WILL BE CONSTRUCTED BY THE DEVELOPER PER CITY STANDARDS AT THE TIME OF SUBDIVISION STREET CONSTRUCTION ALONG:

A. RIEWE RD. - LOT 900, BLOCK 1; LOT 900, BLOCK 2- NORTH SIDE BY ENTRANCE
B. LILLENTHALL DR. - LOT 900, BLOCK 2; LOT 900, BLOCK 6
C. RATCHFORD ST. - LOT 900, BLOCK 2; LOT 900, BLOCK 6
D. REMEDY AVE. - LOT 900, BLOCK 2
E. AURELIUS AVE.- LOT 900, BLOCK 2; LOT 900, BLOCK 1
F. HOGAN AVE.- LOT 900, BLOCK 2

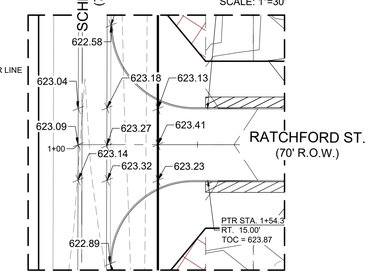
50 25 0 50 100

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

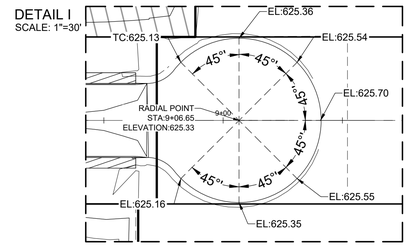


RATCHFORD ST. STA. 1+00 TO END

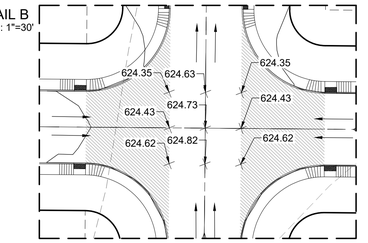
DETAIL H
SCALE: 1"=30'



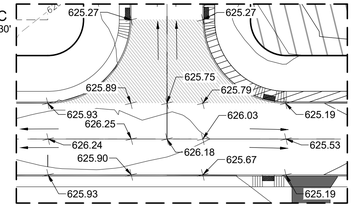
DETAIL I
SCALE: 1"=30'

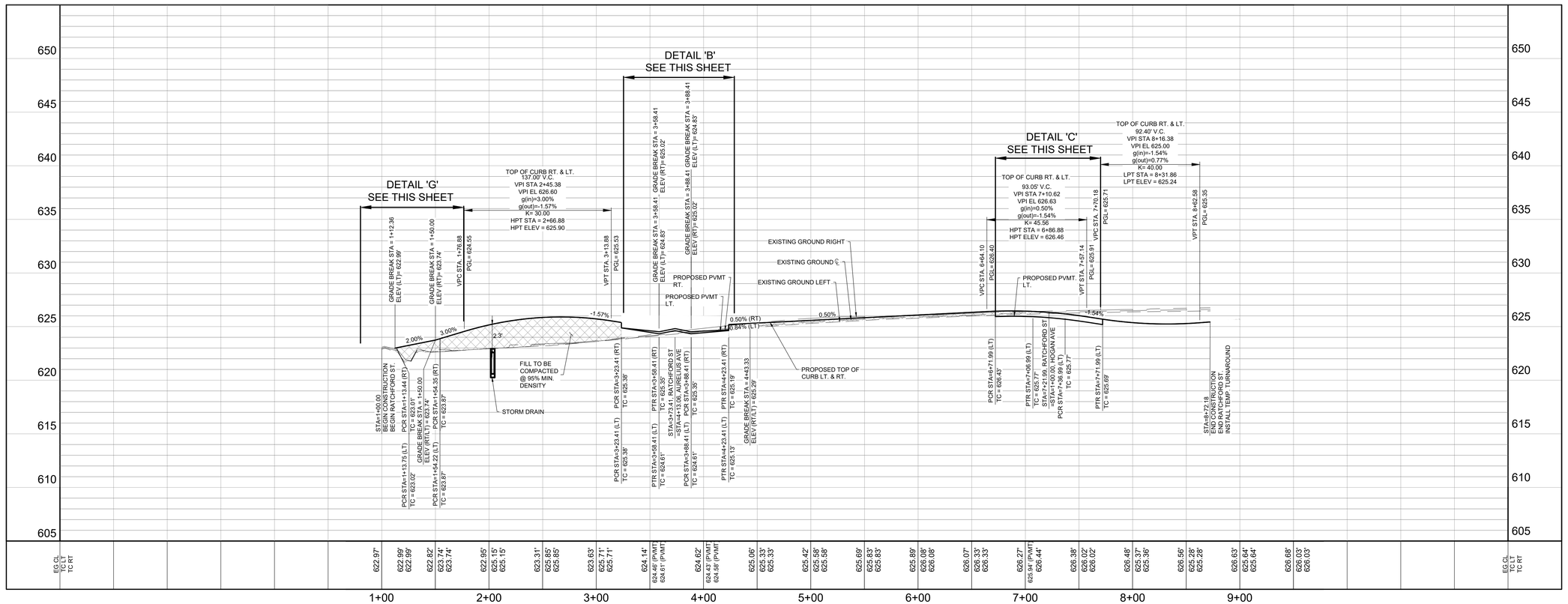


DETAIL B
SCALE: 1"=30'



DETAIL C
SCALE: 1"=30'





FOR PERMIT

NEILL TRACT UNIT 1
RATCHFORD ST. PLAN & PROFILE
STA. 1+00 TO END

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME:

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9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. 6.3

GENERAL NOTES:

1. ALL HANDICAP RAMPS TO BE TYPE III UNLESS OTHERWISE NOTED, REFER TO SHEET 6.8.
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9. VERTICAL CURVE DESIGN SPEED ARE IN COMPLIANCE WITH THE APPROVED DEVELOPMENT CODE TABLE 13-2 FOR LOCAL A (25 MPH) AND MINOR COLLECTOR (40MPH).

SIDEWALK NOTE:

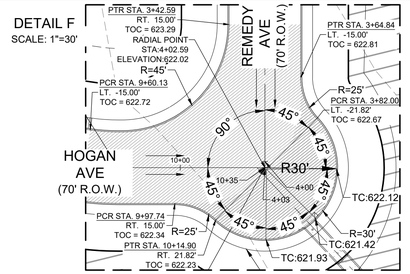
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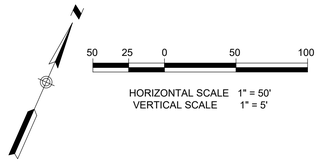
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E. AURELIUS AVE - LOT 900, BLOCK 2; LOT 900, BLOCK 1
F. HOGAN AVE.- LOT 900, BLOCK 2

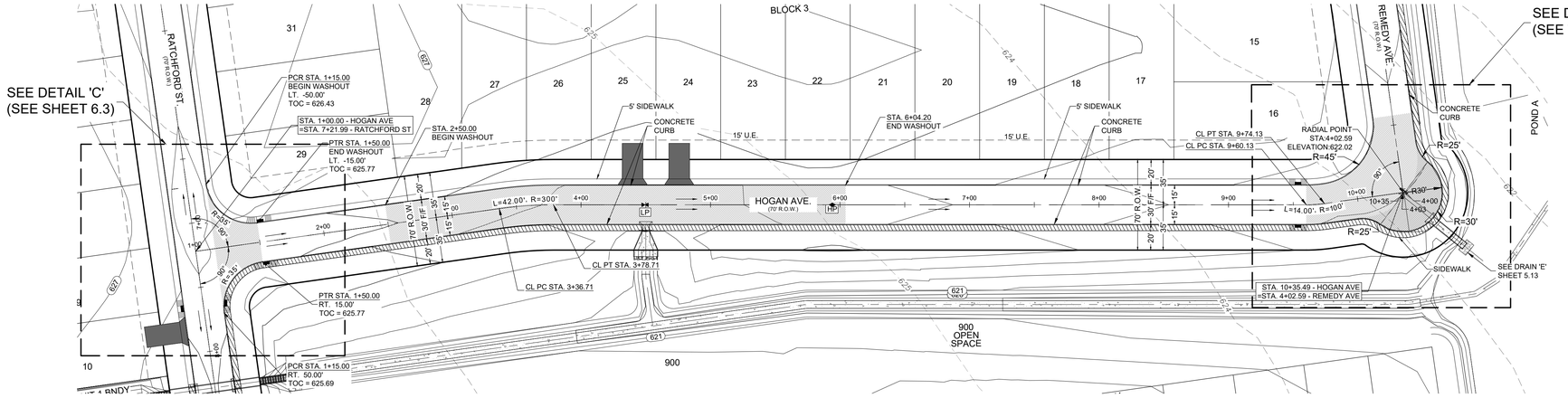
LEGEND

800	PROPOSED CONTOUR
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
	SIDEWALK (OTHER'S RESPONSIBILITY)
	SIDEWALK (DEVELOPER'S RESPONSIBILITY)
U.E.	UTILITY EASEMENT
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT
	WASHOUT CROWN
	WASHOUT FLOW ARROW
EG CL	EXISTING GRADE CENTER LINE
TC	TOP OF CURB
ELEV	PAVEMENT ELEVATION

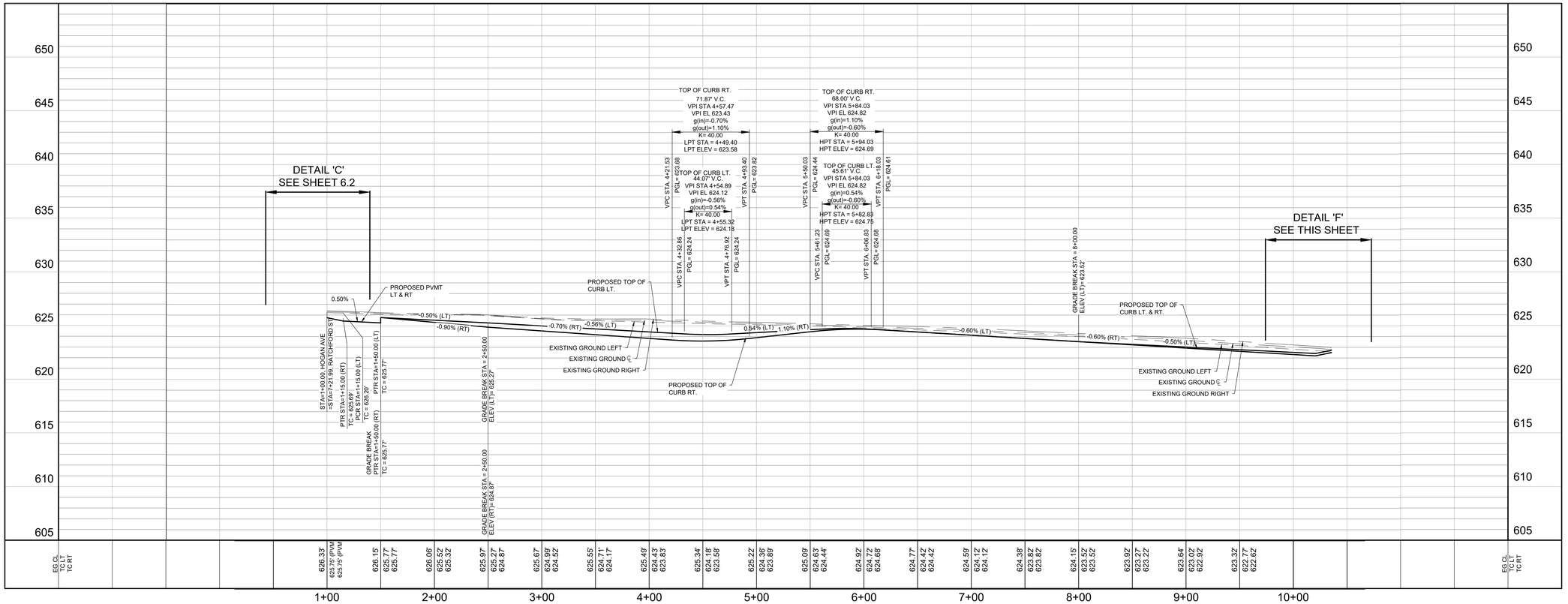
DETAIL F
SCALE: 1"=30'







HOGAN AVE. STA. 1+00 TO END



FOR PERMIT

NEILL TRACT UNIT 1
HOGAN AVE. PLAN & PROFILE
STA. 1+00 TO END

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME:

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JOB NUMBER: SA164.2402

SHEET NO. **6.4**

GENERAL NOTES:

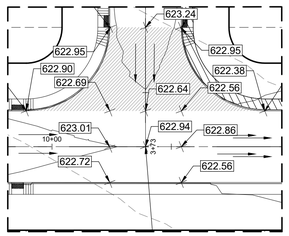
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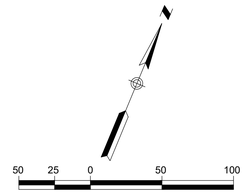
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E. AURELIUS AVE - LOT 900, BLOCK 2; LOT 900, BLOCK 1
F. HOGAN AVE.- LOT 900, BLOCK 2

DETAIL D SCALE: 1"=30'

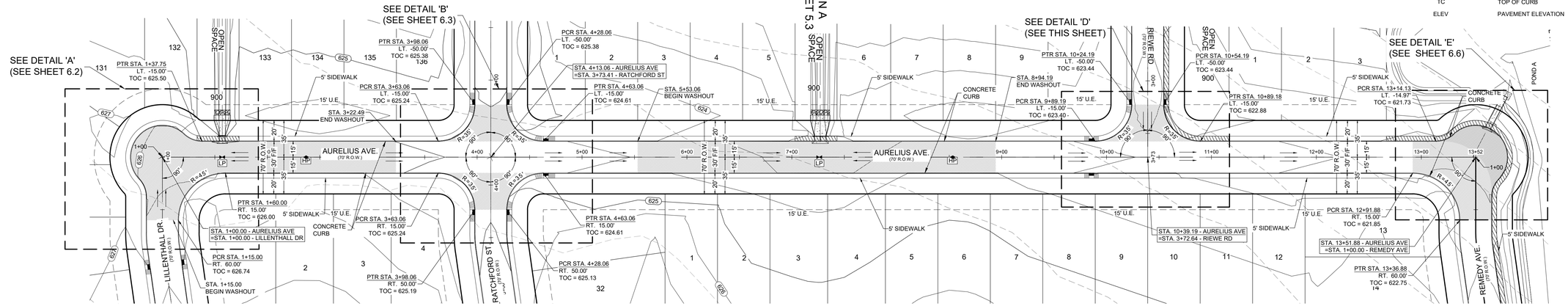




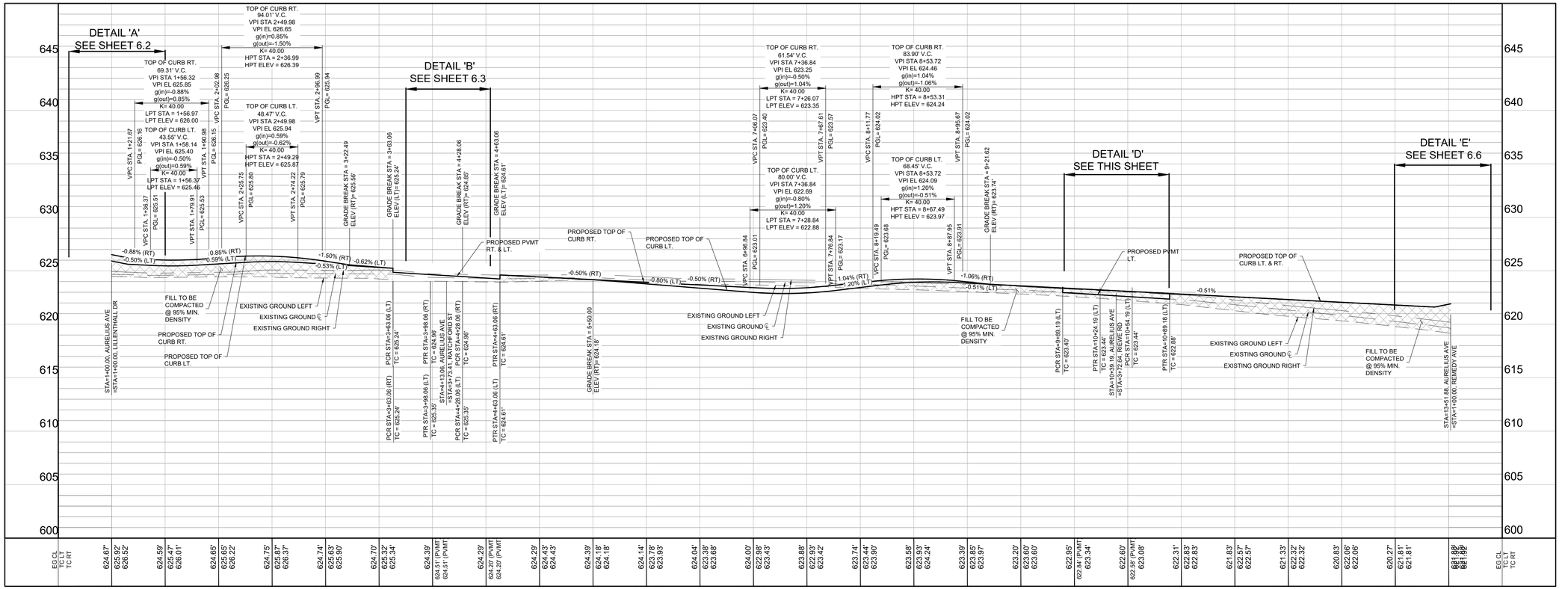
HORIZONTAL SCALE 1" = 50'
VERTICAL SCALE 1" = 5'

LEGEND

800	PROPOSED CONTOUR
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
	SIDEWALK (OTHER'S RESPONSIBILITY)
	SIDEWALK (DEVELOPER'S RESPONSIBILITY)
U.E.	UTILITY EASEMENT
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT
	WASHOUT CROWN
	WASHOUT FLOW ARROW
EG CL	EXISTING GRADE CENTER LINE
TC	TOP OF CURB
ELEV	PAVEMENT ELEVATION



AURELIUS AVE. STA. 1+00 TO STA. 9+00



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NEILL TRACT UNIT 1

AURELIUS AVE. PLAN & PROFILE

STA. 1+00 TO END

REVISIONS

NO.	DESCRIPTION	BY	DATE

DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME:
DATE:

LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. **6.5**

FOR PERMIT

GENERAL NOTES:

1. ALL HANDICAP RAMPS TO BE TYPE III UNLESS OTHERWISE NOTED, REFER TO SHEET 6.8.
2. ALL ELEVATIONS ARE TOP OF CURB UNLESS OTHERWISE NOTED.
3. WHERE SIDEWALK IS SEPARATED FROM THE CURB, THE SEPARATION DISTANCE SHALL BE A MINIMUM 6' BETWEEN THE BACK OF CURB AND EDGE OF SIDEWALK.
4. REFER TO SHEET 6.9 FOR STREET AND PAVEMENT SECTION DETAIL & REFER TO SHEET 6.8 FOR CONCRETE CURB DETAIL AND SIDEWALK DETAIL.
5. CONTRACTOR TO FIELD VERIFY ALL MATCH EXISTING ELEVATIONS, SEWER MANHOLE INVERTS, STORM DRAIN INVERTS, AND ALL OTHER UTILITIES PRIOR TO UTILITY WORK AND NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES.
6. CONTRACTOR IS TO MATCH EXISTING PAVEMENT, SIDEWALK, AND CURB ELEVATIONS.
7. NO GRADING OR OTHER CONSTRUCTION IS PERMITTED OUTSIDE OF LIMITS OF CONSTRUCTION.
8. SIDEWALK INFRASTRUCTURE SHALL BE INSTALLED ALONG THE STREET FRONT OF ALL LOTS AT THE TIME OF LOT IMPROVEMENT. FOR LOTS WHERE NO BUILDING IMPROVEMENT IS PROPOSED, ALL SIDEWALKS AND PEDESTRIAN CROSSING RAMPS ARE REQUIRED TO BE CONSTRUCTED WITH STREET CONSTRUCTION.
9. VERTICAL CURVE DESIGN SPEED ARE IN COMPLIANCE WITH THE APPROVED DEVELOPMENT CODE TABLE 13-2 FOR LOCAL A (25 MPH) AND MINOR COLLECTOR (40MPH).

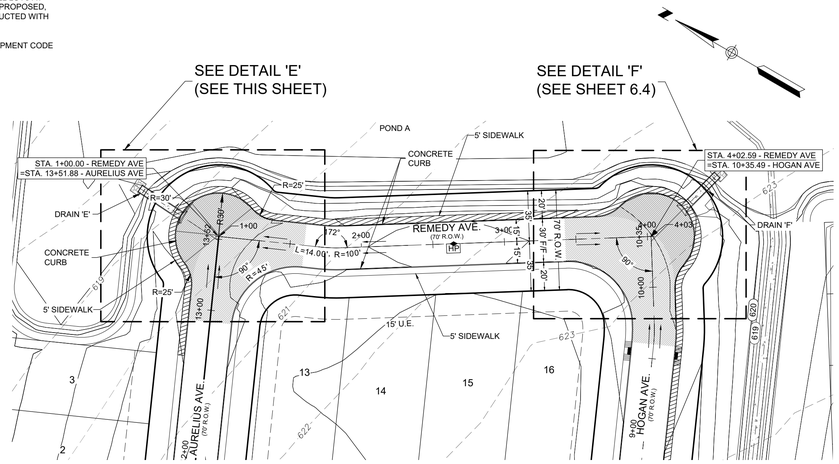
SIDEWALK NOTE:

FIVE (5) FOOT WIDE SIDEWALK WILL BE CONSTRUCTED BY THE DEVELOPER PER CITY STANDARDS AT THE TIME OF SUBDIVISION STREET CONSTRUCTION ALONG:

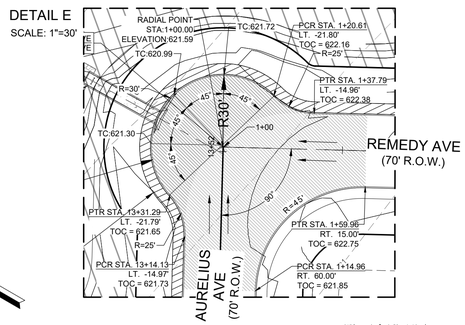
A. RIEWE RD. - LOT 900, BLOCK 1; LOT 900, BLOCK 2- NORTH SIDE BY ENTRANCE
B. LILLENTHALL DR. - LOT 900, BLOCK 2; LOT 900, BLOCK 6
C. RATCHFORD ST. - LOT 900, BLOCK 2; LOT 900, BLOCK 6
D. REMEDY AVE. - LOT 900, BLOCK 2
E. AURELIUS AVE. - LOT 900, BLOCK 2; LOT 900, BLOCK 1
F. HOGAN AVE. - LOT 900, BLOCK 2

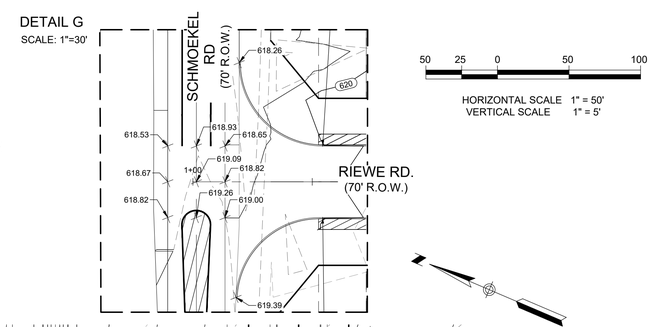
LEGEND

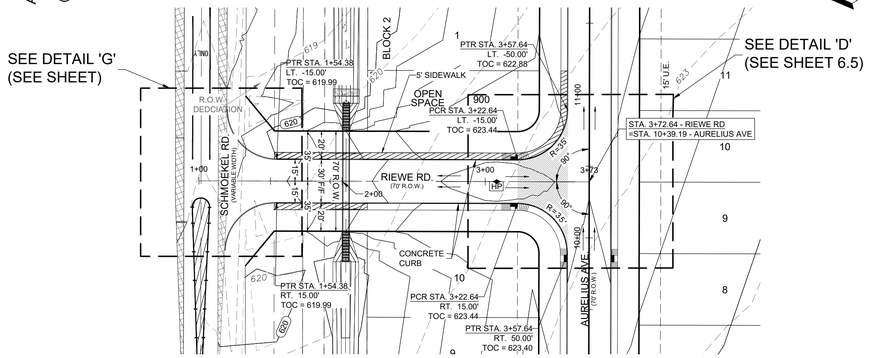
800	PROPOSED CONTOUR
	PROPOSED STREET GRADE
	EXISTING GROUND LEFT
	EXISTING GROUND CENTERLINE
	EXISTING GROUND RIGHT
	SIDEWALK (OTHER'S RESPONSIBILITY)
	SIDEWALK (DEVELOPER'S RESPONSIBILITY)
U.E.	UTILITY EASEMENT
ESM'T.	EASEMENT
LT.	LEFT
RT.	RIGHT
	WASHOUT CROWN
	WASHOUT FLOW ARROW
EG CL	EXISTING GRADE CENTER LINE
TC	TOP OF CURB
ELEV	PAVEMENT ELEVATION



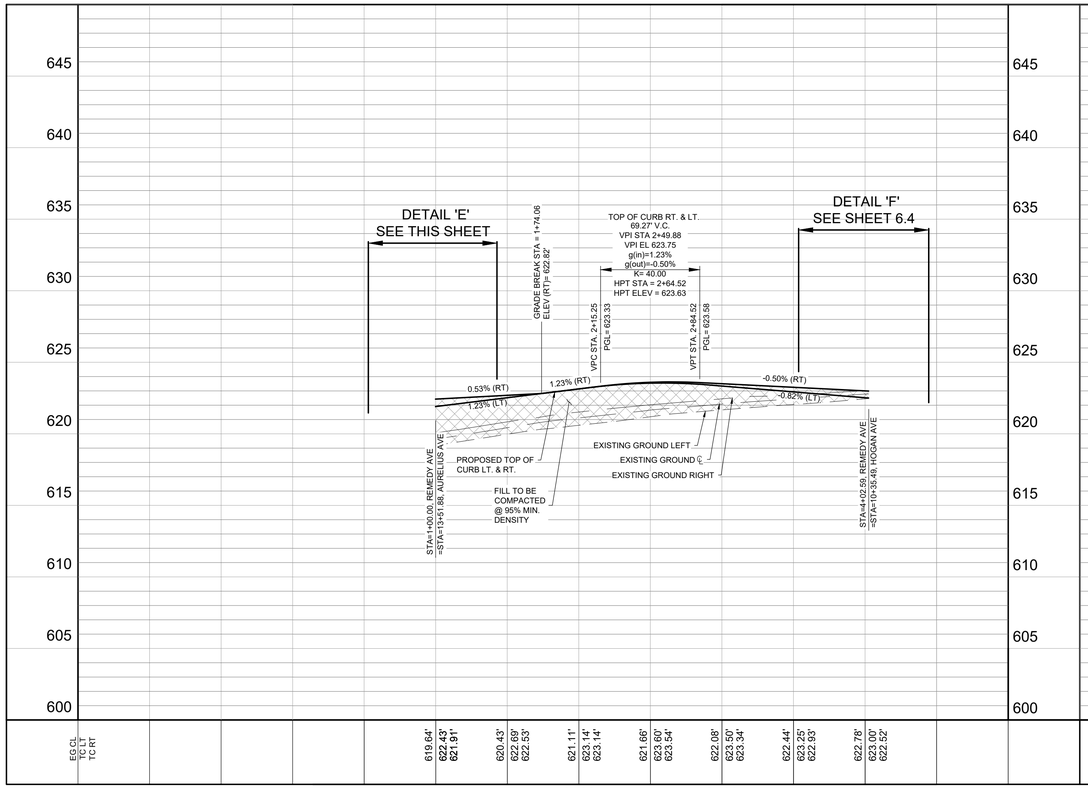
REMEDY AVE. STA. 1+00 TO END

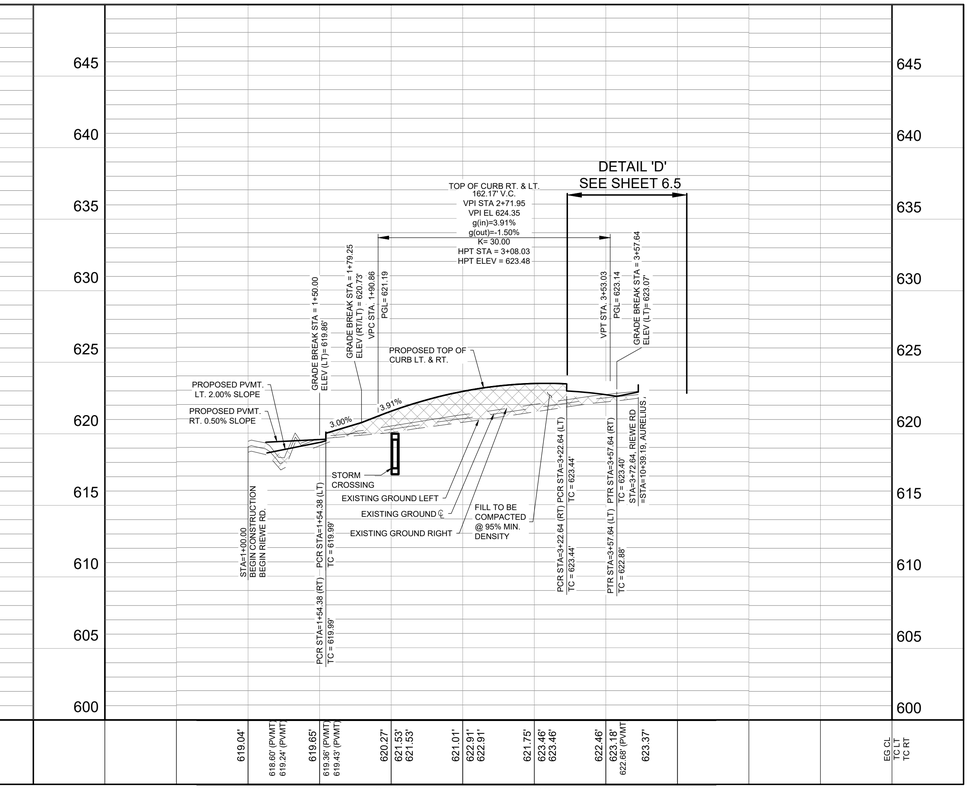






RIEWE RD. STA. 1+00 TO END





NEILL TRACT UNIT 1

REMEDY AVE. & RIEWE RD. PLAN & PROFILE
STA. 1+00 TO END

NO.	DESCRIPTION	BY	DATE

REVISIONS

DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DRAWING NAME:

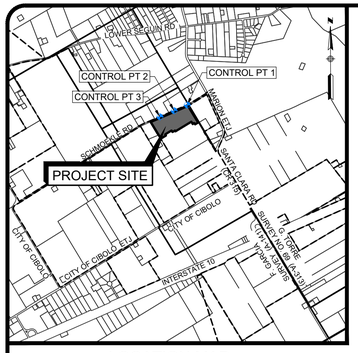
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LJA Engineering, Inc.
9830 Colonnade Blvd
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LJA.COM
TBPE No. F-1386

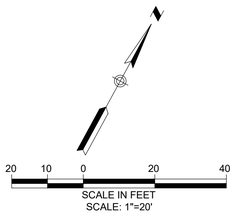
JOB NUMBER:
SA164.2402

SHEET NO.
6.6

FOR PERMIT



LOCATION MAP
N.T.S.



NOTE:

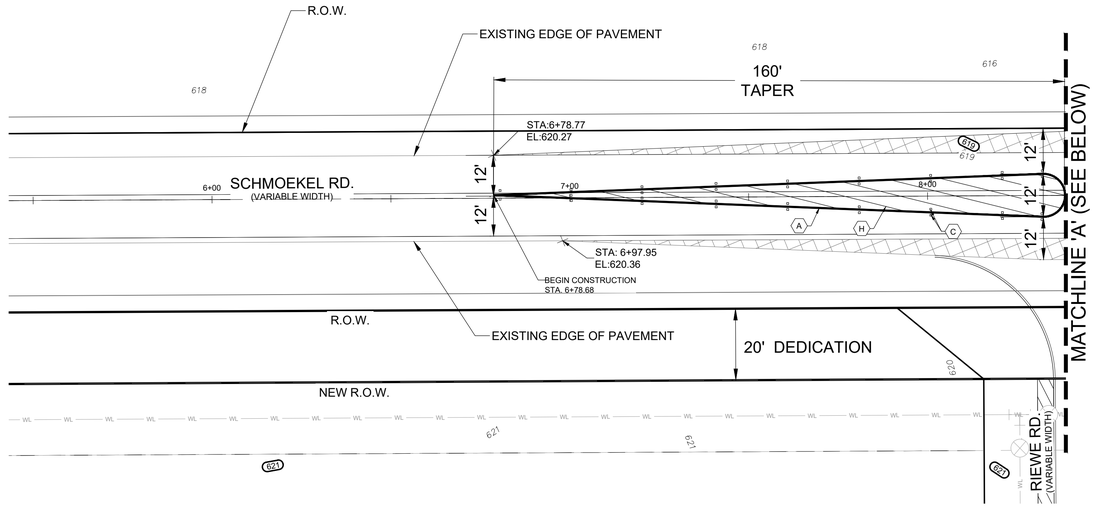
REMOVE EXISTING PAVEMENT MARKINGS
STA. 6+78.68 TO STA.13+55.08
INSTALL PAVEMENT MARKS AS SHOWN
ON SHEET 6.8

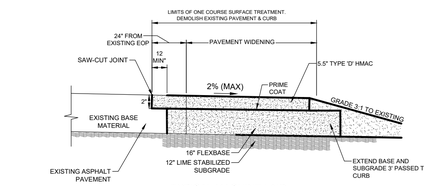
STRIPING LEGEND

- (A) 6" THERMOPLASTIC SOLID YELLOW LINE (650 LF)
- (B) 6" THERMOPLASTIC YELLOW BROKEN LINE
- (C) TYPE II-A-A SPACED AT 20' (TOTAL OF 33)
- (D) THERMOPLASTIC WHITE ARROW (ITEM 535.8 & 535.9) (7 LT.)
- (E) THERMOPLASTIC WHITE "ONLY" (ITEM 535.12) (1)
- (F) 24" WHITE SOLID THERMOPLASTIC STOP BAR (ITEM 535.7)
- (G) 8" THERMOPLASTIC SOLID WHITE LINE W/ TYP I-C RPMS
- (H) 24" YELLOW SOLID THERMOPLASTIC STRIPING (ITEM 535.7) (286 LF)

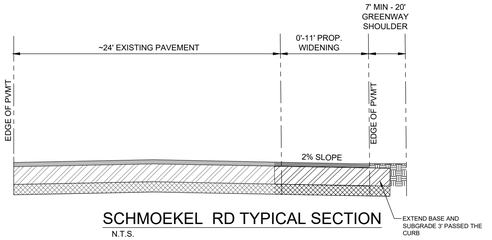
LEGEND

PROPOSED	EXISTING	
		PROP. EDGE OF PAVEMENT
		EXIST. EDGE OF PAVEMENT
		PROP. STREET GRADE
600		PROP. MAJOR CONTOUR
601		PROP. MINOR CONTOUR
	601	EXIST. CONTOUR
		CONCRETE SIDEWALK BY DEVELOPER
		PROPERTY BOUNDARY
TEL		EXIST. TEL
OHE		EXIST. OVERHEAD ELEC.
		PROP. PAVEMENT



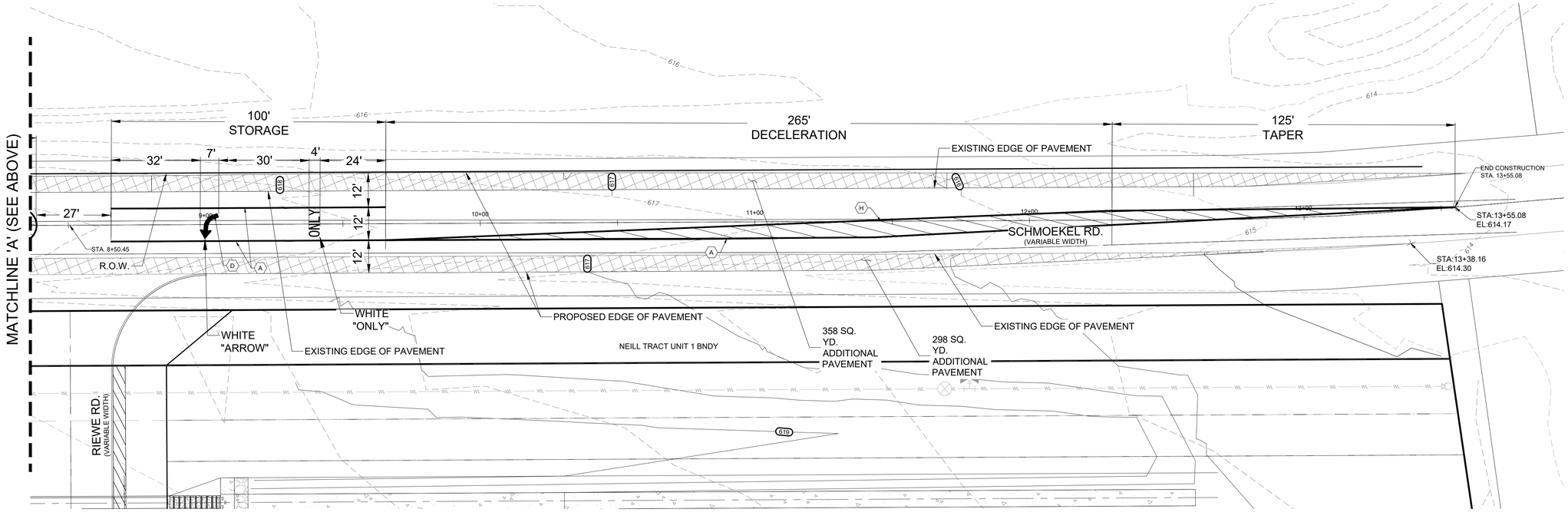


TYPICAL MACHINE LAID
PAVEMENT STRUCTURE
WIDENING DETAIL 'A'
NTS



SCHMOEKEL RD TYPICAL SECTION
N.T.S.

CAUTION: CONTRACTOR TO NOTIFY TEXAS ONE CALL AT 1-800-245-4545 48 HOURS PRIOR TO CONSTRUCTION FOR UTILITY LINE LOCATE. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED DESIGN CHANGES. EXISTING UTILITIES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.



CAUTION: CONTRACTOR TO NOTIFY TEXAS ONE CALL AT 1-800-245-4545 48 HOURS PRIOR TO CONSTRUCTION FOR UTILITY LINE LOCATE. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED DESIGN CHANGES. EXISTING UTILITIES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

811 Know what's below. Call before you dig.

FOR PERMIT

NEILL TRACT UNIT 1

TURN LANE PLAN

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 9/8/2025
DESIGNED BY: JDR
DRAWN BY: ML / TJ
CHECKED BY: NG
DRAWING NAME: 6_Turn_Lane.dwg

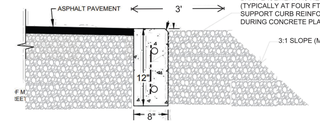
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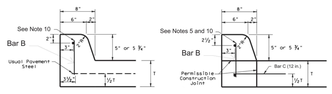
JOB NUMBER:
SA164.2402

SHEET NO.
6.7

GENERAL CONCRETE RIBBON CURB NOTES
1. CONCRETE COMPRESSIBLE STRENGTH SHALL BE 3,000 PSI MINIMUM STRENGTH AT 28 DAYS.
2. REINFORCEMENT SHALL BE CONTINUOUS #3 REBAR. REINFORCING BARS SHALL HAVE A MINIMUM CLEAR COVER OF 3 INCHES.
3. SUBGRADE SHALL BE COMPACTED TO 95% MIN. DRY DENSITY, STD. PROCTOR (MIN. 9" THICKNESS).

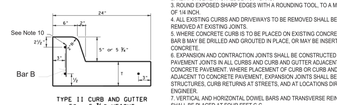


CONCRETE RIBBON CURB DETAIL



TYPE II CURB (MONOLITHIC)
5" - 5 3/4" HEIGHT

TYPE II CURB
5" - 5 3/4" HEIGHT



TYPE II CURB AND GUTTER
5" - 5 3/4" HEIGHT

GENERAL CONCRETE CURB AND GUTTER NOTES
1. REFERENCE TXDOT CONCRETE CURB AND CURB AND GUTTER DETAIL (CCCG-22).
2. REINFORCEMENT SHALL BE NO. 4 BARS.
3. ROUND EXPOSED SHARP EDGES WITH A ROUNDING TOOL, TO A MINIMUM RADIUS OF 1/4 INCH.
4. ALL EXISTING CURBS AND DRIVEWAYS TO BE REMOVED SHALL BE SAWED OR REMOVED AT EXISTING JOINTS.
5. WHERE CONCRETE CURB IS TO BE PLACED ON EXISTING CONCRETE PAVEMENT, BAR B MAY BE DRILLED AND GROUTED IN PLACE, OR MAY BE INSERTED INTO FRESH CONCRETE.
6. EXPANSION AND CONTRACTION JOINTS SHALL BE CONSTRUCTED TO MATCH PAVEMENT JOINTS IN ALL CURBS AND CURB AND GUTTER ADJACENT TO JOINTED CONCRETE PAVEMENT. WHERE PLACEMENT OF CURB OR CURB AND GUTTER IS NOT ADJACENT TO CONCRETE PAVEMENT, EXPANSION JOINTS SHALL BE PROVIDED AT STRUCTURES, CURB RETURNS AT STREETS, AND AT LOCATIONS DIRECTED BY THE ENGINEER.
7. VERTICAL AND HORIZONTAL DOWEL BARS AND TRANSVERSE REINFORCING BARS SHALL BE PLACED AT FOUR FEET C-C.
8. DIMENSION "T" SHOWN IS THE THICKNESS OF CONCRETE PAVEMENT AND IS 7 INCHES.
9. ONE-HALF INCH EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB OR CURB AND GUTTER IS ADJACENT TO SIDEWALK OR RIPRAP.
10. BAR B PLACEMENT AS NEEDED (TYPICALLY AT FOUR FT C-C) TO SUPPORT CURB REINFORCING STEEL DURING CONCRETE PLACEMENT.

CONCRETE CURB AND GUTTER DETAIL

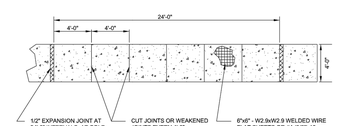
STATE OF TEXAS — GUADALUPE COUNTY

CONCRETE CURB DETAILS

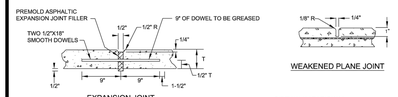
GUADALUPE COUNTY STANDARD DETAILS

DATE:	DRAWING NO.:	SHEET:
MAY 2009	ST-016	1 OF 1

SIDEWALK (RESIDENTIAL)



PLAN VIEW



EXPANSION JOINT

WEAKENED PLANE JOINT



TYPICAL SECTION

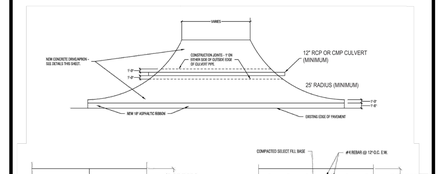
NOTES:

1. EXPANSION JOINTS ARE TO BE USED BETWEEN CONCRETE DRIVEWAY AND SIDEWALK.
2. SCORED JOINTS DENOTE SIDEWALK ACROSS THE DRIVEWAY AND ARE TO BE PLACED AT LEAST 1/3 rd. THROUGH THE SLAB THICKNESS.
3. ALL SIDEWALK AND DRIVEWAY CONSTRUCTION SHALL MEET A.D.A. SPECIFICATIONS.

DATE APPROVED: 07/2008	DWG. NO: ST-016	SCALE: N.T.S.
DRAWN BY: RAS	SHEET: 1 OF 1	

FILENAME: SIDEWALK (RESIDENTIAL)

ENGINEERING DEPARTMENT





TYPE	WIDTH MIN.	WIDTH MAX.	CONCRETE THICKNESS	DRIVEWAY BASE
RESIDENTIAL	10'	24'	6"	
COMMERCIAL	24'	40'	6"	3" (MIN.) GRAVEL, CRUSHED ROCK OR FLEX BASE

GENERAL NOTES
1. SAWCUT (IF REQUIRED) AND EXCAVATION OF DRIVEWAY AREA WILL NOT BEGIN WITHOUT ALL MATERIALS IN PLACE TO COMPLETE THE WORK WITHIN ONE BUSINESS DAY. EXCAVATION LEFT OPEN ADJACENT TO THE COUNTY ROAD WILL NOT BE ALLOWED.
2. SAWCUT INTO EXISTING COUNTY ROAD IS NOT PERMITTED.
3. WELDED WIRE MESH OF EQUAL OR GREATER EQUIVALENT CROSS SECTIONAL AREA MAY BE PERMITTED WITH GUADALUPE COUNTY APPROVAL.

STATE OF TEXAS — GUADALUPE COUNTY

CONCRETE DRIVEWAY DETAIL

GUADALUPE COUNTY STANDARD DETAILS

DATE:	DRAWING NO.:	SHEET:
MAY 2009	ST-017	1 OF 1

SITE PREPARATION AND DRAINAGE
1. AT A MINIMUM, WHERE SITE SURFACE SOILS CONSIST OF CLAY OR CLAYEY MATERIALS, A MINIMUM OF 6 INCHES OF SURFACE SOILS SHALL BE EXCAVATED. IN THE CASE OF HEAVY BLACK OR BROWN CLAYS, THE MINIMUM DEPTH OF SOILS REMOVAL IS RECOMMENDED AT 8 INCHES. PROOF ROLLING, SOILS CONSOLIDATION, AND COMPACTING ARE RECOMMENDED. IN THE ABSENCE OF ANY GEOTECHNICAL REPORT, SELECT STRUCTURAL FILLS ARE TO BE PROVIDED AT THE LOCATION OF THE DRIVEWAY FOUNDATION. A MINIMUM DEPTH OF FILL MATERIAL SHALL BE SPECIFIED IN THE GEOTECHNICAL REPORT, OR EQUAL TO THE DEPTH OF SURFACE SOILS EXCAVATION, THEREAFTER. ADDITIONAL FILL MATERIAL SHALL BE PROVIDED TO FORM A STRUCTURAL BASED AT THE GREATER OF A MINIMUM OF 12 INCHES IN HEIGHT, OR AS REQUIRED FOR PROPER FOUNDATION EXPOSURE. THE STRUCTURAL FILL SHALL CONSIST OF TYPE A CRUSHED LIMESTONE, OR TYPE B CLAYEY CRUSHED GRAVEL, IN ACCORDANCE WITH TXDOT SPECIFICATION ITEM 247 FOR GRADE 1 FILL MATERIALS. STRUCTURAL FILL SHALL BE PLACED IN LIFTS OF 8 INCHES, AND COMPACTED ACCORDANCE WITH TXDOT SPECIFICATION TEX-113-E, WITH MOISTURE CONTENT CONTROLLED TO CONFORM TO TXDOT SPECIFICATION ITEM 204 "SPRINKLING".
2. TREES WITH A DISTANCE TO THE SLAB OF ONE TIMES THE MATURE TREE HEIGHT MAY DAMAGE THE FOUNDATION. TREE REMOVAL SHALL BE REQUIRED AT THE DIRECTION OF THE COUNTY ROAD ADMINISTRATOR.
3. VOIDS (HOLES) CREATED AS A RESULT OF DEMOLITION AND REMOVAL OF EXISTING STRUCTURES, TREES, AND OTHER EXISTING OBJECTS SHALL BE FILLED WITH WELL COMPACTED SELECT FILL MATERIAL.
4. SITE SURFACE DRAINAGE DURING CONSTRUCTION SHALL BE CONTROLLED BY PROVIDING POSITIVE DRAINAGE AWAY FROM THE DRIVEWAY SLAB. THE APPLICANT IS RESPONSIBLE FOR THE INSTALLATION OF BERMS OR SWALES ON THE UPHILL SIDE OF THE CONSTRUCTION AREA TO DIVERT SURFACE RUNOFF AWAY FROM THE SLAB DURING CONSTRUCTION.

FOUNDATION CONSTRUCTION
1. FILL MATERIAL PLACED BENEATH THE SLAB SHALL BE WELL GRADED GRANULAR LOW PLASTICITY SELECT FILL MATERIAL HAVING A PI OF 5 TO 20 WITH A LIQUID LIMIT NOT EXCEEDING 40 PERCENT. THE FILL MATERIAL SHALL BE FREE OF ORGANICS, TRASH, RUBBLE, OR OTHER DELETERIOUS MATERIALS AND SHALL HAVE NO PARTICLE SIZE GREATER THAN 3 INCHES IN DIAMETER. CRUSHED LIMESTONE OR CRUSHED AND UNCRUSHED GRAVEL MATERIAL MEETING THE REQUIREMENTS OF TXDOT ITEM 247, TYPE A OR B, GRADE 1 OR 2 IS REQUIRED.
2. SLAB FILL MATERIAL SHALL BE A MINIMUM OF 12 INCHES THICK BENEATH ALL SLAB AREAS AND PLACED TO FINISH GRADE ELEVATION EQUAL TO THE GRADE ELEVATION AT THE BOTTOM OF THE SLAB. THE SLAB FILL MATERIAL SHALL BE PLACED IN 6 INCH LIFTS AND MACHINE TAMPED TO REDUCE FILL SETTLEMENT.
3. ALL CONCRETE SHALL BE PLACED IN ACCORDANCE WITH ACI 302.1R.
4. PROPER CURING OF ALL CONCRETE SURFACES SHALL BE PROVIDED BY THE APPLICANT AND IN ACCORDANCE WITH THE LATEST EDITION OF ACI 308.
5. DO NOT PLACE CONCRETE WHEN TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT UNLESS COLD WEATHER CONCRETE PROCEDURES ARE FOLLOWED. CALCIUM CHLORIDE SHALL NOT BE USED. PROVIDE SPECIAL CARE TO PREVENT HIGH TEMPERATURES DURING HOT WEATHER CONDITIONS IN FRESH CONCRETE. USE WATER REDUCING SET RETARDING ADMIXTURES IN SUCH QUANTITIES AS SPECIFICALLY RECOMMENDED BY THE MANUFACTURER TO ASSURE THE CONCRETE REMAINS WORKABLE.
6. NO HORIZONTAL JOINTS WILL BE PERMITTED IN THE CONCRETE EXCEPT AS NOTED.

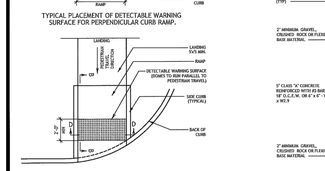
CONCRETE AND REINFORCING STEEL
1. ALL CONCRETE AND REINFORCING STEEL SHALL MEET THE LATEST EDITION OF ASTM A615 AND ACI 117 "STANDARD TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS".
2. TESTING SHALL BE THE SOLE RESPONSIBILITY OF THE APPLICANT.
3. CONCRETE COMPRESSIBLE STRENGTH SHALL BE 4,000 PSI MINIMUM STRENGTH AT 28 DAYS.
4. CEMENT SHALL BE TYPE 1 (GRAY) PORTLAND. MAXIMUM WATER CEMENT RATIO SHALL BE 0.5 AND A SLUMP RANGE OF 2 TO 5 INCHES. THE APPLICANT SHALL SATISFY FOR THEMSELVES THAT THE MIX DESIGN IS ACCEPTABLE FOR ITS INTENDED PURPOSE.
5. REINFORCING STEEL SHALL MEET LATEST EDITION OF A-615, GRADE 60 DEFORMED BARS.
6. ALL REINFORCEMENT SHALL BE SECURELY SUPPORTED AT 48 INCHES ON CENTER TO PREVENT VERTICAL AND HORIZONTAL MOVEMENT DURING THE PLACEMENT OF CONCRETE. METAL, PLASTIC, CONCRETE, OR MASONRY CHAIRS MAY BE USED TO SUPPORT REINFORCEMENT. SLAB REINFORCEMENT SHALL BE CENTERED IN CONCRETE SLAB THICKNESS.
7. SLAB REINFORCING BARS SHALL BE TIED AT EVERY OTHER INTERSECTION AND SUPPORTED AT 48 INCHES ON CENTER WITH METAL, PLASTIC, CONCRETE, OR MASONRY CHAIRS. WOOD OR OTHER ORGANIC MATERIAL IS PROHIBITED. EVERY STIRRUP BAR SHALL BE TIED AT BOTH TOP AND BOTTOM BEAM REINFORCING BAR LOCATION. STIRRUPS ARE TO INSTALLED VERTICALLY. ANGLED STIRRUPS ARE NOT PERMITTED.
8. ALL BEAM REINFORCING BARS SHALL HAVE A MINIMUM CLEAR COVER OF 3 INCHES FROM THE BOTTOM OF THE BEAM AND 2 INCHES FROM THE TOP AND SIDES OF THE BEAM.
9. REINFORCING STEEL LAPS AND SPLICES SHALL BE A MINIMUM OF 30 BAR DIAMETERS, BUT NO LESS THAN 12 INCHES. SPLICES OF THE TOP AND BOTTOM BEAM REINFORCEMENT SHALL BE PER TXDOT SPECIFICATION ITEM 440, TABLE 6.

STATE OF TEXAS — GUADALUPE COUNTY

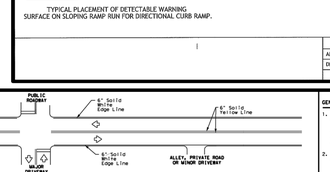
CONCRETE DRIVEWAY DETAIL NOTES

GUADALUPE COUNTY STANDARD DETAILS

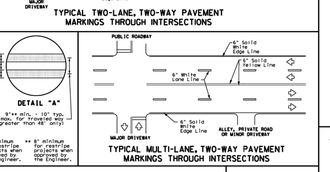
DATE:	DRAWING NO.:	SHEET:
MAY 2009	ST-018	1 OF 1



TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING FOR PARALLEL CURB RAMP.



TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE FOR PERPENDICULAR CURB RAMP.



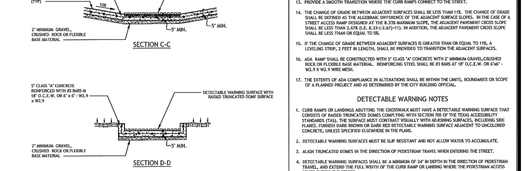
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN FOR DIRECTIONAL CURB RAMP.

CURB RAMP NOTES

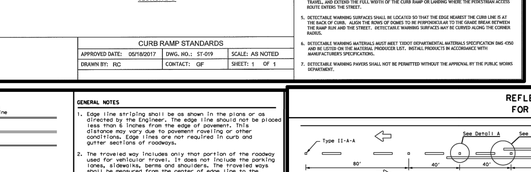
1. ALL SLOPES ARE MAXIMUM ALLOWABLE, THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHALL BE USED. ALWAYS CURB RAMP RUNS IN DIRECTION OF GRADE OF APPROACH SIDEWALK AS DIRECTED.
2. THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF CURB RAMPS ARE TO BE SHOWN ON THE CONSTRUCTION PLANS. ALL ACCESSIBLE WALK WAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE AMERICANS WITH DISABILITIES ACT (ADA) AND TEXAS ACCESSIBILITY STANDARDS (TAS). CITY ENGINEER OR BUILDING OFFICIAL MAY ADJUST LOCATIONS FOR SAFETY OR UTILITY CLEARANCE.
3. THE MINIMUM STANDARD SIDEWALKS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 119-49 OF THE NEW BRAUNFELS CODE OF ORDINANCES.
4. ALL LANDINGS WHERE REQUIRED SHALL BE 5'X 5' (60"X60") MINIMUM WITH A MAXIMUM 2% SLOPE IN ANY DIRECTION.
5. RAMP LENGTHS SHALL BE SUFFICIENT TO MAINTAIN A MAXIMUM SLOPE OF 8.33% (1Y:12H). MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND CURB RAMP SURFACES IS 2% (1Y:50H).
6. SIDEWALK GRADES SHALL NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT ROADWAY. LIP OF GUTTER SHALL BE SET AT THE SAME ELEVATION AS THE ADJACENT ROADWAY. IT IS NOT NECESSARY TO CONTRAST TO CREATE A GRADE STEP(S) THAN THE EXISTING ROADWAY WILL REQUIRE RAMPS, HANDRAILS, AND LANDINGS IN ACCORDANCE WITH CURRENT ADA AND TAS REQUIREMENTS.
7. PROVIDE FLARED RAMP SIDES WITH A MAXIMUM SLOPE OF 10% (1Y:10H) MEASURED ALONG THE CURB LINE. CURB RETURNS MAY BE USED IN LIEU OF SIDE FLARES IN AREAS NOT NORMALLY WALKED ACROSS BY PEDESTRIANS, BECAUSE THE ADJACENT SURFACE IS VEGETATION OR OTHER NON-WALKING SURFACE OR WHERE THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
8. BARRIER-FREE SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 4Y-0" (48"X48") WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICULAR TRAVEL PATH.
9. CROSSWALK DIMENSIONS, CROSSWALK MARKINGS AND STOP BAR LOCATIONS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS. AT INTERSECTIONS WHERE CROSSWALK MARKINGS ARE NOT REQUIRED, CURB RAMPS SHALL BE PROVIDED WITH THE TACTILE CROSSWALKS, OR AS DIRECTED BY THE CITY ENGINEER OR BUILDING OFFICIAL.
10. EXISTING FEATURES THAT COMPLY WITH CURRENT TAS REQUIREMENTS MAY REMAIN IN PLACE UNLESS OTHERWISE SHOWN ON THE PLANS.
11. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. PROVIDE CURB RAMPS WHEREVER AN ACCESSIBLE ROUTE CROSSES (PENETRATES) A CURB.
12. SEPARATE CURB RAMP AND LANDINGS FROM ADJACENT SIDEWALK AND ANY OTHER ELEMENTS WITH ZERO-INCH OR BOARD JOINT OF 1/2" UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER OR BUILDING OFFICIAL.
13. PROVIDE A SMOOTH TRANSITION WHERE THE CURB RAMPS CONNECT TO THE STREET.
14. THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES SHALL BE LESS THAN 11%. THE CHANGE OF GRADE SHALL BE DEFINED AS THE ALGEBRAIC DIFFERENCE OF THE ADJACENT SURFACE SLOPES. IN THE CASE OF A STREET ACCESS RAMP DESIGNED AT THE 8.33% MAXIMUM SLOPE, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN 3.67% (I.E. 8.33-(-3.67)=11). IN ADDITION, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 5%.
15. IF THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES IS GREATER THAN OR EQUAL TO 11%, A LEVELING STRIP, 2 FEET IN LENGTH, SHALL BE PROVIDED TO TRANSITION THE ADJACENT SURFACES.
16. ADA RAMP SHALL BE CONSTRUCTED WITH 5" CLASS "A" CONCRETE WITH 3" MINIMUM GRAVEL/CRUSHED ROCK OR FLEXIBLE BASE MATERIAL. REINFORCING STEEL SHALL BE #3 BARS AT 18" O.C.E.W. OR 6"x6" - W2.9 x W2.9 WELD MESH.
17. THE EXTENTS OF ADA COMPLIANCE IN ALTERATIONS SHALL BE WITHIN THE LIMITS, ROADWAYS OR SCOPE OF A PLANNED PROJECT AND AS DETERMINED BY THE CITY BUILDING OFFICIAL.

DETECTABLE WARNING NOTES

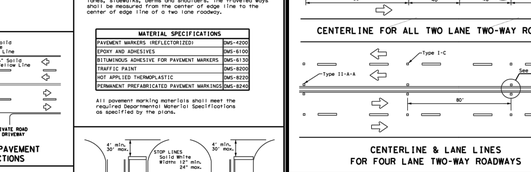
1. CURB RAMPS OR LANDINGS ABUTTING THE CROSSWALK MUST HAVE A DETECTABLE WARNING SURFACE THAT CONSISTS OF RAISED TRUNCATED DOMES COMPLYING WITH SECTION 705 OF THE TEXAS ACCESSIBILITY STANDARDS (TAS). THE SURFACE MUST CONTRAST VISUALLY WITH ADJOINING SURFACES, INCLUDING SIDE FLARES. FORMED DARK BROWN OR DARK RED DETECTABLE WARNING SURFACE ADJACENT TO UNCOLORED CONCRETE, UNLESS SPECIFIED ELSEWHERE IN THE PLANS.
2. DETECTABLE WARNING SURFACES MUST BE SLIP RESISTANT AND NOT ALLOW WATER TO ACCUMULATE.
3. ALIGN TRUNCATED DOMES IN THE DIRECTION OF PEDESTRIAN TRAVEL WHEN EXISTING THE STREET.
4. DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN THE DIRECTION OF PEDESTRIAN TRAVEL, AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.
5. DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS AT THE BACK OF CURB. ALIGN THE ROWS OF DOMES TO BE PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP RUN AND THE STREET. DETECTABLE WARNING SURFACES MAY BE CURVED ALONG THE CORNER RADIUS.
6. DETECTABLE WARNING MATERIALS MUST MEET TXDOT DEPARTMENTAL MATERIALS SPECIFICATION DMS-4350 AND BE LISTED ON ESE MATERIAL PRODUCER LIST. INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
7. DETECTABLE WARNING PAVERS SHALL NOT BE PERMITTED WITHOUT THE APPROVAL BY THE PUBLIC WORKS DEPARTMENT.



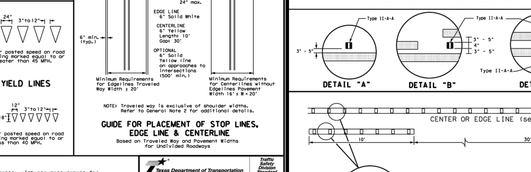
SECTION A-A



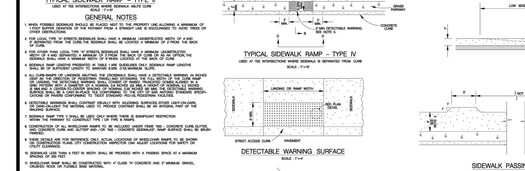
SECTION B-B



SECTION C-C



SECTION D-D



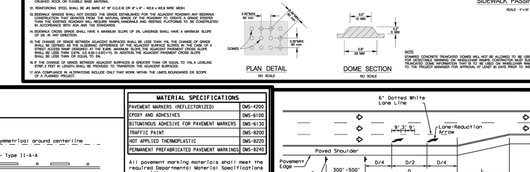
TYPICAL SIDEWALK RAMP – TYPE I

TYPICAL SIDEWALK RAMP – TYPE II

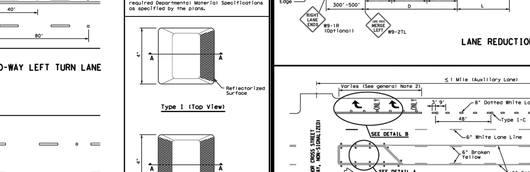
TYPICAL SIDEWALK RAMP – TYPE III

TYPICAL SIDEWALK RAMP – TYPE IV

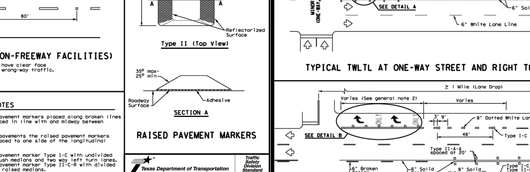
GENERAL NOTES
1. WHEN POSSIBLE SIDEWALKS SHOULD BE PLACED NEXT TO THE PROPERTY LINE ALLOWING A MINIMUM OF 1 FOOT BUFFER ZONE BETWEEN THE SIDEWALK AND THE CURB. WHEN FROM A STRAIGHT LINE IS REQUIRED TO AVOID TREES OR OTHER OBSTACLES.
2. FOR LOCAL TYPE "A" STREETS SIDEWALK SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4 FEET. IF REQUIRED FROM THE CURB THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 2 FROM THE BACK OF CURB.
3. FOR OTHER THAN LOCAL TYPE "A" STREETS SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 5 FEET. IF REQUIRED FROM THE CURB THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 2 FROM THE BACK OF CURB.
4. SIDEWALK RAMP LENGTHS PRESCRIBED IN TABLE 1 ARE GUIDELINES ONLY. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN A MAXIMUM SLOPE OF 8.33% (1Y:12H).
5. ALL CURB RAMPS OR LANDINGS ABUTTING THE CROSSWALK SHALL HAVE A DETECTABLE WARNING AS REFER TO GENERAL NOTE 2 FOR ADDITIONAL DETAILS. THE DETECTABLE WARNING SURFACE SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT OR DARK, RELATIVE TO THE ADJOINING SURFACE. DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS AT THE BACK OF CURB. ALIGN THE ROWS OF DOMES TO BE PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP RUN AND THE STREET. DETECTABLE WARNING SURFACES MAY BE CURVED ALONG THE CORNER RADIUS.
6. DETECTABLE WARNING SURFACE SHALL BE A MINIMUM 24" IN DEPTH IN THE DIRECTION OF PEDESTRIAN TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.
7. SIDEWALK RAMP SHALL BE CONSTRUCTED WITH 4" CLASS "A" CONCRETE AND 3" MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL.
8. REINFORCING STEEL SHALL BE #3 BARS AT 18" O.C.E.W. OR 6"x6" - W2.9 x W2.9 WELD MESH.
9. THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES SHALL BE LESS THAN 11%. THE CHANGE OF GRADE SHALL BE DEFINED AS THE ALGEBRAIC DIFFERENCE OF THE ADJACENT SURFACE SLOPES. IN THE CASE OF A STREET ACCESS RAMP DESIGNED AT THE 8.33% MAXIMUM SLOPE, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN 3.67% (I.E. 8.33-(-3.67)=11). IN ADDITION, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 5%.
10. IF THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES IS GREATER THAN OR EQUAL TO 11%, A LEVELING STRIP, 2 FEET IN LENGTH, SHALL BE PROVIDED TO TRANSITION THE ADJACENT SURFACES.
11. ADA COMPLIANCE IN ALTERATIONS INCLUDE ONLY THAT WORK WITHIN THE LIMITS,ROADWAYS OR SCOPE OF A PLANNED PROJECT AND AS DETERMINED BY THE CITY BUILDING OFFICIAL.



DETECTABLE WARNING SURFACE



SIDEWALK PASSING SPACE



PLAN DETAIL

DOME SECTION

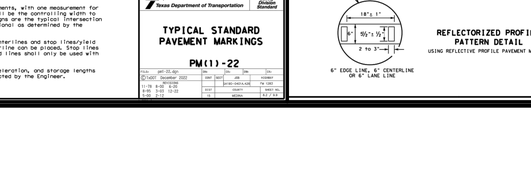
NOTE:
DOMES CONCRETE TRANSITIONS SIDES WILL NOT BE ALLOWED TO BE USED.
DOMES SHALL BE CONSTRUCTED WITH A MATERIAL THAT CONTRASTS WITH ADJACENT SURFACE.
SEE DETECTABLE WARNING SURFACE DETAIL FOR ADDITIONAL INFORMATION.
REFER TO GENERAL NOTE 2 FOR ADDITIONAL DETAILS.

MAY 2009

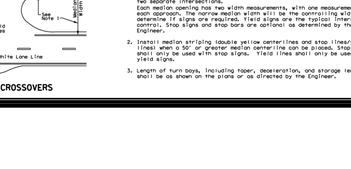
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

WHEELCHAIR RAMP STANDARDS

APPROVED DATE: 05/18/2017	DWG. NO.: ST-019	SCALE: AS NOTED
DRAWN BY: RC	CONTACT: GF	SHEET: 1 OF 1



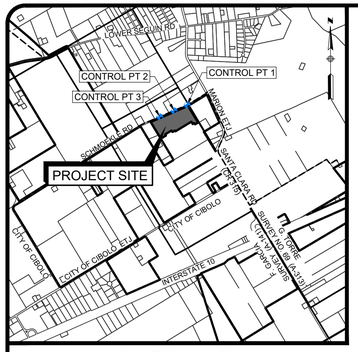
EDGE LINE AND LANE LINES
ONE-WAY ROADWAY
WITH OR WITHOUT SHOULDERS



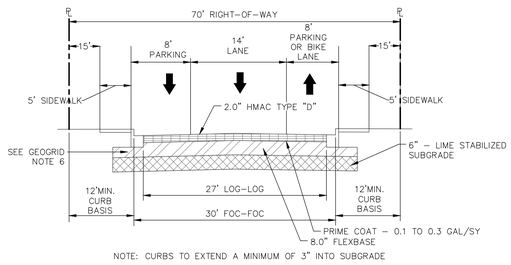
TYPICAL TWO-LANE, TWO-WAY PAVEMENT
MARKINGS THROUGH INTERSECTIONS

CENTERLINE AND LANE LINES
FOUR LANE TWO-WAY ROADWAY
WITH OR WITHOUT SHOULDERS

TYPICAL MULTI-LANE, TWO-WAY PAVEMENT
MARKINGS THROUGH INTERSECTIONS



LOCATION MAP
N.T.S.



NOTE: CURBS TO EXTEND A MINIMUM OF 3" INTO SUBGRADE

SUBGRADE NOTES

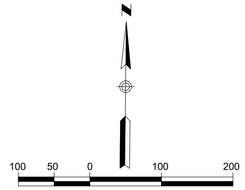
1. WE ANTICIPATE SUBGRADE PLASTICITY INDEX VALUES TO BE GREATER THAN 20. RECOMMEND STABILIZING THE SUBGRADE.
2. THE SUBGRADE SOILS SHOULD BE TESTED FOR SOIL SULFATE CONTENT PRIOR TO STABILIZATION. IF THE SOIL SULFATE CONTENT IS HIGHER THAN 3000 PPM AN ALTERNATE PROCEDURE WILL BE NEEDED.
3. WITH HIGHER SOIL SULFATE CONTENT, LIME STABILIZED SOILS WILL LIKELY EXPERIENCE SULFATE RELATED HEAVE.
4. THE STABILIZATION SHOULD BE PERFORMED WITH MUCH HIGHER MOISTURE CONTENT THAN RECOMMENDED WITH A MINIMUM CURE TIME OF 5 DAYS. IF SULFATE RELATED HEAVE IS ENCOUNTERED AFTER STABILIZATION, WE RECOMMEND RE-TREATING THE SUBGRADE SOILS WITH ADDITIONAL LIME (A MINIMUM OF 25 PERCENT (8.5 IBS PER SQ YARD FOR 6 INCH DEPTH OR 11 IBS PER SQ YARD FOR 8 INCH DEPTH), WITH THE AVAILABILITY OF ADDITIONAL MOISTURE IN THE FUTURE, SUBGRADE HEAVE MAY STILL BE ENCOUNTERED.
5. THE SUBGRADE SHOULD BE STABILIZED TO A DEPTH OF 6 OR 8 INCHES USING 7 PERCENT LIME CONTENT.
   I. LIME APPLICATION RATE OF 32.0 IBS PER SQ YARD FOR 6-INCH DEPTH OF STABILIZATION IS RECOMMENDED.
   II. LIME APPLICATION RATE OF 42.0 IBS PER SQ YARD FOR 8-INCH DEPTH OF STABILIZATION IS RECOMMENDED.

   THE SUBGRADE MAY ALSO BE STABILIZED WITH CEMENT IN LIEU OF LIME. APPLICATION RATE AS NOTED ABOVE MAY BE USED.
7. APPLICATION RATE AS NOTED ABOVE MAY BE USED.
   APPLICATION RATES SHOULD BE CONFIRMED AT THE TIME OF CONSTRUCTION.
8. THE SUBGRADE SHOULD BE PROOF ROLLED TO IDENTIFY SOFT AREAS BEFORE STABILIZATION.
9. IF FILL IS USED TO RAISE THE GRADE, APPROVED FILL MATERIAL UNDERNEATH THE PAVEMENT SHOULD BE USED. THE FILL SHOULD BE FREE OF DELETERIOUS MATERIAL WITH A MINIMUM CBR VALUE OF 2.0 AND A MAXIMUM PLASTICITY INDEX VALUE OF 50. LIME/ CEMENT APPLICATION RATES SHOULD BE RE-EVALUATED AND SULFATE CONTENT TESTED FOR THE FILL MATERIAL. THE MATERIAL SHOULD BE PLACED AS PER APPLICABLE CITY OR COUNTY GUIDELINES.
10. IF WATER IS ALLOWED TO GET UNDERNEATH THE ASPHALT / CONCRETE OR IF MOISTURE CONTENT OF THE BASE OR SUBGRADE CHANGES SIGNIFICANTLY, THEN PAVEMENT DISTRESS WILL OCCUR. MOISTURE PENETRATION UNDERNEATH THE ASPHALT PAVEMENT SURFACE SHOULD BE REDUCED. ONE OF THE FOLLOWING METHODS SHOULD BE USED:

    DEEPER CURBS; SUCH AS CURBS EXTENDING A MINIMUM OF 3 INCHES INTO SUBGRADE.
    COMPACTED CLAYS BACKFILLED AGAINST THE CURBS.
    IN ADDITION, WATER SHOULD NOT BE ALLOWED TO GET UNDERNEATH THE PAVEMENT SECTION AT THE TIME OF HOME CONSTRUCTION.

SUBGRADE VERIFICATION

THE SUBGRADE SHOULD BE VERIFIED BY INTEC AT THE TIME OF CONSTRUCTION



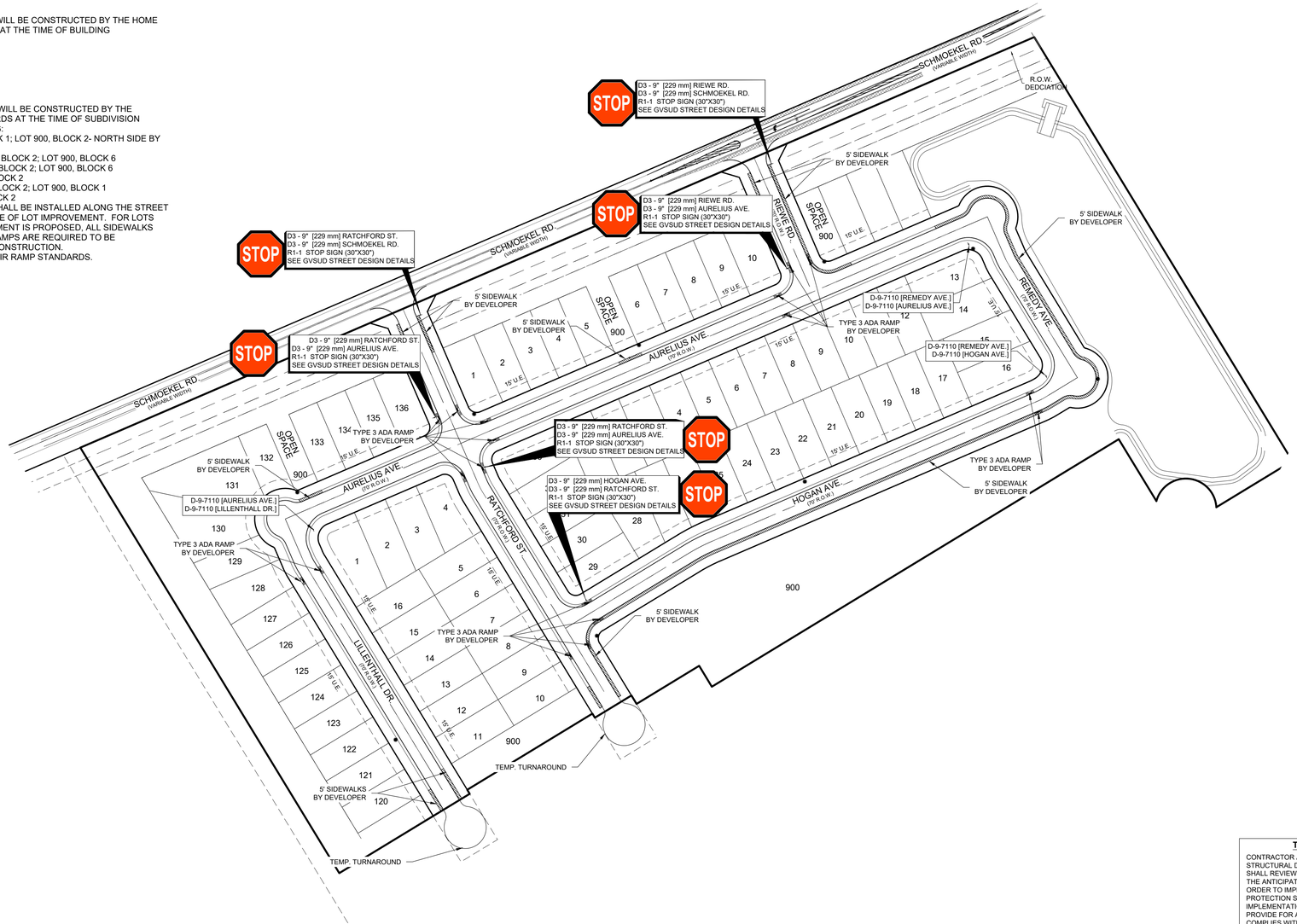
SCALE IN FEET
SCALE: 1"=100'

LEGEND

PROPOSED	EXISTING	
		SANITARY SEWER MANHOLE
		SANITARY SEWER LINE
		WATER LINE
		SANITARY SEWER LATERAL
		CLEAN OUT
		WATER VALVE
		SINGLE WATER SERVICE
		FIRE HYDRANT
		WATER METER
	GV	GAS VALVE
		GAS LINE
		STORM SEWER MANHOLE
		CURB INLET
		POWER POLE
		STREET LIGHT (100 WATT LED)
		STREET LIGHT (250 WATT LED)
		GUY WIRE
	OU	OVERHEAD ELECTRIC
		BENCHMARK
	TMH	TOP OF MANHOLE
	EX.	EXISTING
	G,E,T,CA	GAS, ELEC, TELE & CABLE TV ESM'T.
	ESM'T.	EASEMENT
	VOL	VOLUME
	PG	PAGE
	DPR	DEED & PLAT RECORDS OF GUADALUPE COUNT,Y TEXAS
	OPR	OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS

SIDEWALK NOTES:

1. FIVE (5) FOOT WIDE SIDEWALK WILL BE CONSTRUCTED BY THE HOME BUILDER PER CITY STANDARDS AT THE TIME OF BUILDING CONSTRUCTION ALONG:
   A. LILLENTHALL DR.
   B. RATCHFORD ST.
   C. RIEWE RD.
   D. REMEDY AVE.
   E. AURELIUS AVE.
   F. HOGAN AVE.
2. FIVE (5) FOOT WIDE SIDEWALK WILL BE CONSTRUCTED BY THE DEVELOPER PER CITY STANDARDS AT THE TIME OF SUBDIVISION STREET CONSTRUCTION ALONG:
   A. RIEWE RD. - LOT 900, BLOCK 1; LOT 900, BLOCK 2- NORTH SIDE BY ENTRANCE
   B. LILLENTHALL DR. - LOT 900, BLOCK 2; LOT 900, BLOCK 6
   C. RATCHFORD ST. - LOT 900, BLOCK 2; LOT 900, BLOCK 6
   D. REMEDY AVE. - LOT 900, BLOCK 2
   E. AURELIUS AVE.- LOT 900, BLOCK 2; LOT 900, BLOCK 1
   F. HOGAN AVE.- LOT 900, BLOCK 2
3. SIDEWALK INFRASTRUCTURE SHALL BE INSTALLED ALONG THE STREET FRONT OF ALL LOTS AT THE TIME OF LOT IMPROVEMENT. FOR LOTS WHERE NO BUILDING IMPROVEMENT IS PROPOSED, ALL SIDEWALKS AND PEDESTRIAN CROSSING RAMPS ARE REQUIRED TO BE CONSTRUCTED WITH STREET CONSTRUCTION.
4. SEE SHEET 6.8 FOR WHEEL CHAIR RAMP STANDARDS.



SIGNAGE NOTES:

1. UNDERGROUND UTILITIES EXIST WITHIN THE PROJECT. CONTRACTOR SHALL HAVE THE UTILITIES MARKED PRIOR TO INSTALLATION OF THE SIGN POST. SIGN LOCATIONS ILLUSTRATED ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL LOCATE SIGNS TO AVOID UTILITIES. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES BEFORE COMMENCING WORK.
2. IN ACCORDANCE WITH THE UNDERGROUND FACILITY DAMAGE PREVENTION ACT THE TELEPHONE NUMBER FOR A UTILITY LOCATOR IS 1-800-545-6005. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE ARRANGEMENTS FOR UTILITY LOCATORS, AS NEEDED.
3. WHEN PREPARING HOLES FOR POSTS, CARE SHALL BE TAKEN SO AS NOT TO RUPTURE EXISTING DRAINAGE STRUCTURES, SPRINKLER SYSTEMS, TELECOMMUNICATIONS FACILITIES, ELECTRICAL CONDUITS AND PUBLIC UTILITIES.
4. ALL SIGNS SHALL COMPLY WITH THE SIGN DESIGNS PRESENTED IN STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS OR THE MILLENNIUM STANDARD HIGHWAY SIGN DESIGNS, IF A MILLENNIUM SIGN IS SPECIFIED ON THE PLANS.
5. SIGN LOCATIONS ILLUSTRATED ON THE PLANS ARE APPROXIMATE. SIGNS SHALL BE LOCATED IN THE FIELD TO PROVIDE APPROPRIATE FUNCTIONALITY. SIGN LOCATIONS SHALL COMPLY WITH GUIDELINES AND REQUIREMENTS PRESENTED IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. CONTRACTOR SHALL FURNISH AND MAINTAIN ALL TRAFFIC CONTROL DEVICES, LIGHTING, OR WARNING DEVICES REQUIRED TO COMPLETE THE WORK. ALL CONSTRUCTION SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
7. MATERIALS FURNISHED BY THE CONTRACTOR SHALL BE NEW, UN-DEPRECIATED STOCK. ALL EQUIPMENT SHALL BE NEW, UNLESS NOTED OTHERWISE ON THE PLANS.
8. ALL SIGNS WITH A WHITE BACKGROUND SHALL BE FABRICATED WITH ENGINEER GRADE REFLECTIVE SHEETING (TXDOT TYPE A). ALL SIGNS WITH NON-WHITE BACKGROUNDS SHALL BE FABRICATED WITH HIGH SPECIFIC INTENSITY REFLECTIVE SHEETING (ALL TYPE C TXDOT TSP-(4)-08).
9. CONTRACTING SHALL BE RESPONSIBLE FOR RESTORING TO ORIGINAL CONDITION, OR BETTER, ANY DAMAGE DONE TO EXISTING BUILDINGS, RETAINING WALLS, UTILITIES, FENCES, PAVEMENT, CURBS OR DRIVEWAYS (NO SEPARATE PAY ITEM). CONTRACTOR SHALL RESTORE THE CONSTRUCTION AREA TO ORIGINAL CONDITION, OR BETTER, PRIOR TO FINAL INSPECTION.
10. ANY CONFLICT BETWEEN ANY DEFINITION, MATERIAL SPECIFICATION, CONSTRUCTION SPECIFICATION, MEASUREMENT AND PAYMENT PROCEDURE, ETC., SHOWN IN THIS PLAN SET AND ANY TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SHALL BE RESOLVED ONLY BY THE ENGINEER AND THE ENGINEER'S DECISION SHALL BE FINAL AND BINDING.
11. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC AS PER TXDOT ITEM NO. 666.
12. COMAL COUNTY WILL INSTALL COUNTY ROAD SIGNS AND INVOICE THE OWNER. THE CONTRACTOR IS TO INSTALL PAVEMENT MARKINGS. ALL ROAD SIGNS AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED ENGINEERING PLANS. THE COUNTY WILL INSPECT ALL SIGNS AT FINAL INSPECTION.
13. THE CONTRACTOR SHALL INSTALL ALL PAVEMENT MARKINGS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CONTRACTOR SHALL NOTIFY THE COUNTY AT LEAST 24 HOUR PRIOR TO THE INSTALLATION OF ALL SEALER AND FINAL MARKINGS. THE COUNTY WILL INSPECT ALL MARKINGS AT FINAL APPLICATION.

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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. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES 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.

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811 Know what's below. Call before you dig.

NEILL TRACT UNIT 1

SIGNAGE PLAN

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 9/8/2025
DESIGNED BY: JDR
DRAWN BY: ML / TJ
CHECKED BY: NG
DRAWING NAME:

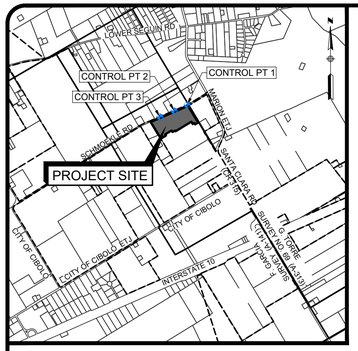
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LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

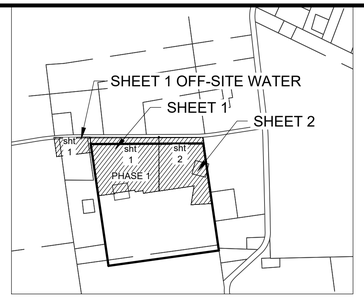
JOB NUMBER:
SA164.2402

SHEET NO.
6.9

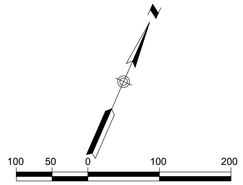
FOR PERMIT



LOCATION MAP
N.T.S.



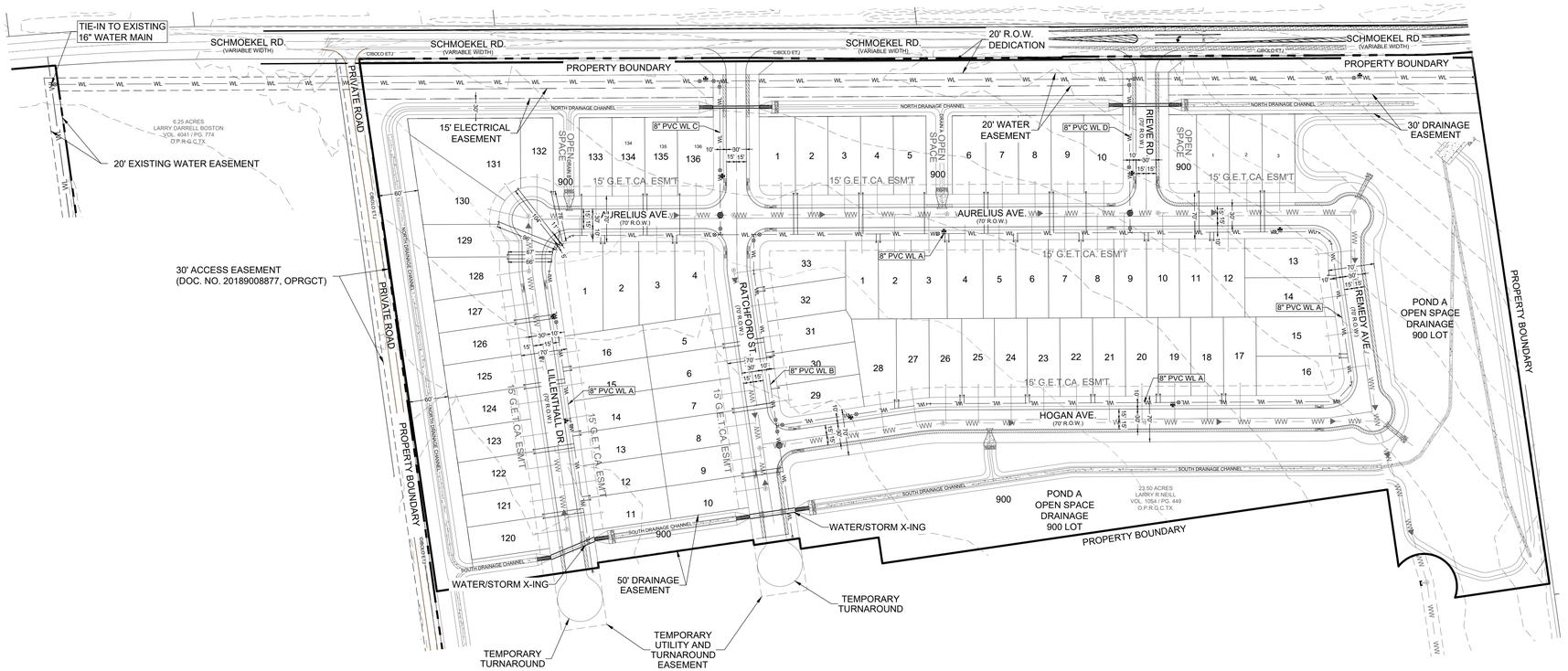
SHEET INDEX
N.T.S.



SCALE IN FEET
SCALE: 1"=100'

LEGEND

PROPOSED	EXISTING	
S	S	SANITARY SEWER MANHOLE
WW	WW	SANITARY SEWER LINE
WL	WL	WATER LINE
S		SANITARY SEWER LATERAL
C/O	C/O	CLEAN OUT
		WATER VALVE
		SINGLE WATER SERVICE
		FIRE HYDRANT
		WATER METER
	GV	GAS VALVE
G	G	GAS LINE
D	D	STORM SEWER MANHOLE
		CURB INLET
		POWER POLE
		STREET LIGHT (100 WATT LED)
		STREET LIGHT (250 WATT LED)
		GUY WIRE
	OU	OVERHEAD ELECTRIC
		BENCHMARK
	TMH	TOP OF MANHOLE
	EX.	EXISTING
	G,E,T,CA	GAS, ELEC, TELE & CABLE TV ESM'T.
	ESM'T.	EASEMENT
	VOL	VOLUME
	PG	PAGE
	DPR	DEED & PLAT RECORDS OF GUADALUPE COUNT,Y TEXAS
	OPR	OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS



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811 Know what's below. Call before you dig.

NEILL TRACT UNIT 1
OVERALL WATER PLAN

NO.	DESCRIPTION	BY	DATE

DATE: 9/8/2025
DESIGNED BY: JDR
DRAWN BY: ML / TJ
CHECKED BY: NG
DRAWING NAME: ...\Water Layout01.dwg

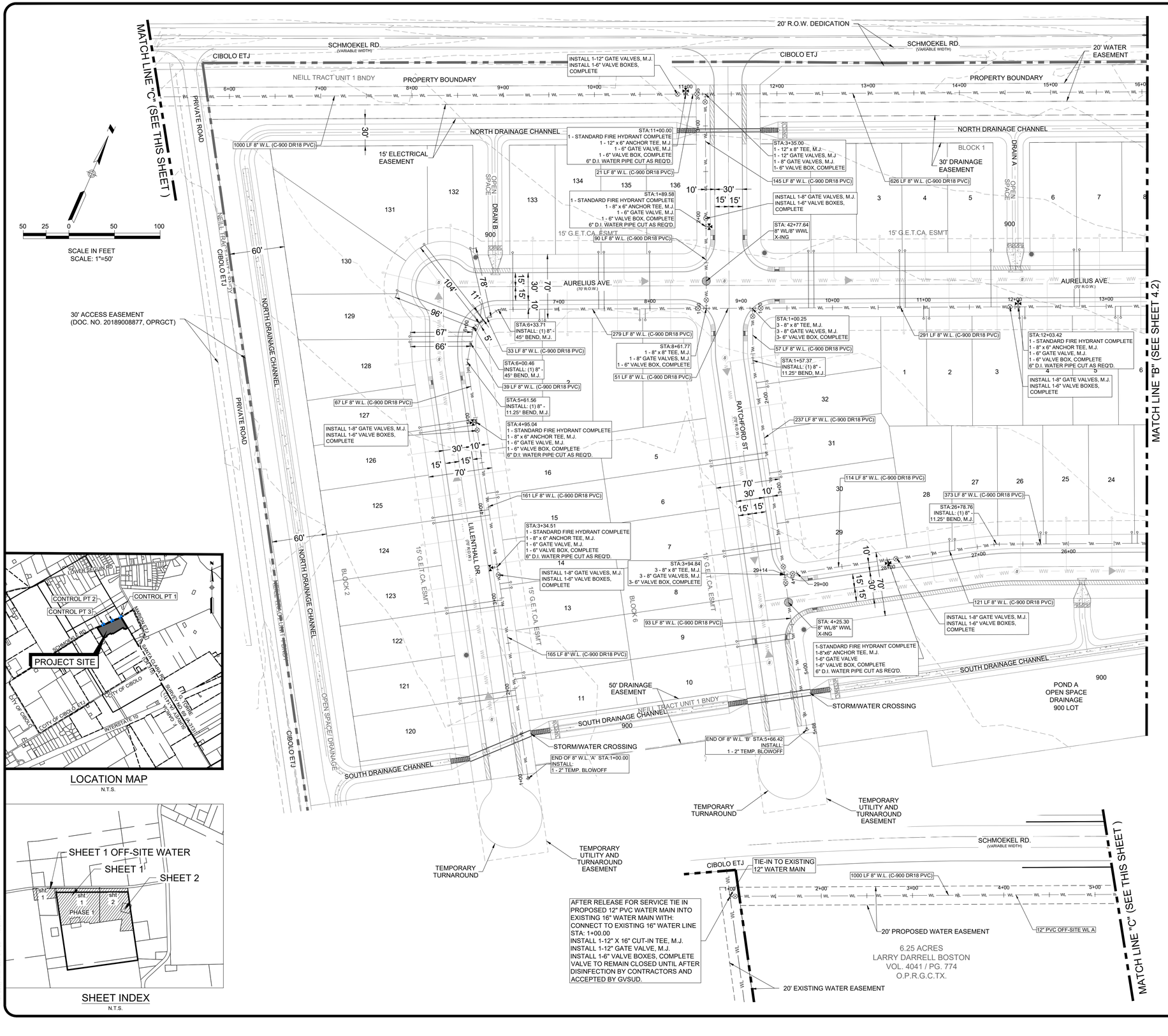
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LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. 7.0

FOR PERMIT



LOCATION MAP
N.T.S.

SHEET INDEX
N.T.S.

LEGEND

PROPOSED	EXISTING	
S	S	SANITARY SEWER MANHOLE
WW	WW	SANITARY SEWER LINE
WL	WL	WATER LINE
S		SANITARY SEWER LATERAL
C/O	C/O	CLEAN OUT
		WATER VALVE
		SINGLE WATER SERVICE
		FIRE HYDRANT
		WATER METER
		GAS VALVE
G	G	GAS LINE
D	D	STORM SEWER MANHOLE
		CURB INLET
		POWER POLE
		STREET LIGHT (100 WATT LED)
		STREET LIGHT (250 WATT LED)
		GUY WIRE
	OU	OVERHEAD ELECTRIC
		BENCHMARK
	TMH	TOP OF MANHOLE
	EX.	EXISTING
	G,E,T,CA	GAS, ELEC, TELE & CABLE TV ESM'T.
	ESM'T.	EASEMENT
	VOL	VOLUME
	PG	PAGE
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811 Know what's below. Call before you dig.

NEILL TRACT UNIT 1

WATER PLAN SH-1
(SHEET 1 OF 2)

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE: 8/4/2025
DESIGNED BY: PJR
DRAWN BY: PJR / MAP
CHECKED BY: NG
DRAWING NAME: sht_Water Layout01.dwg

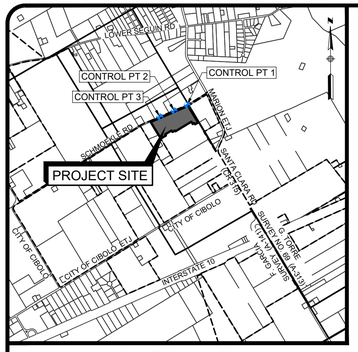
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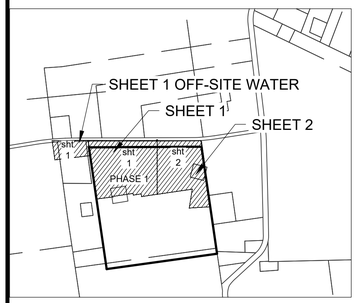
JOB NUMBER: SA164.2402

SHEET NO. 7.1

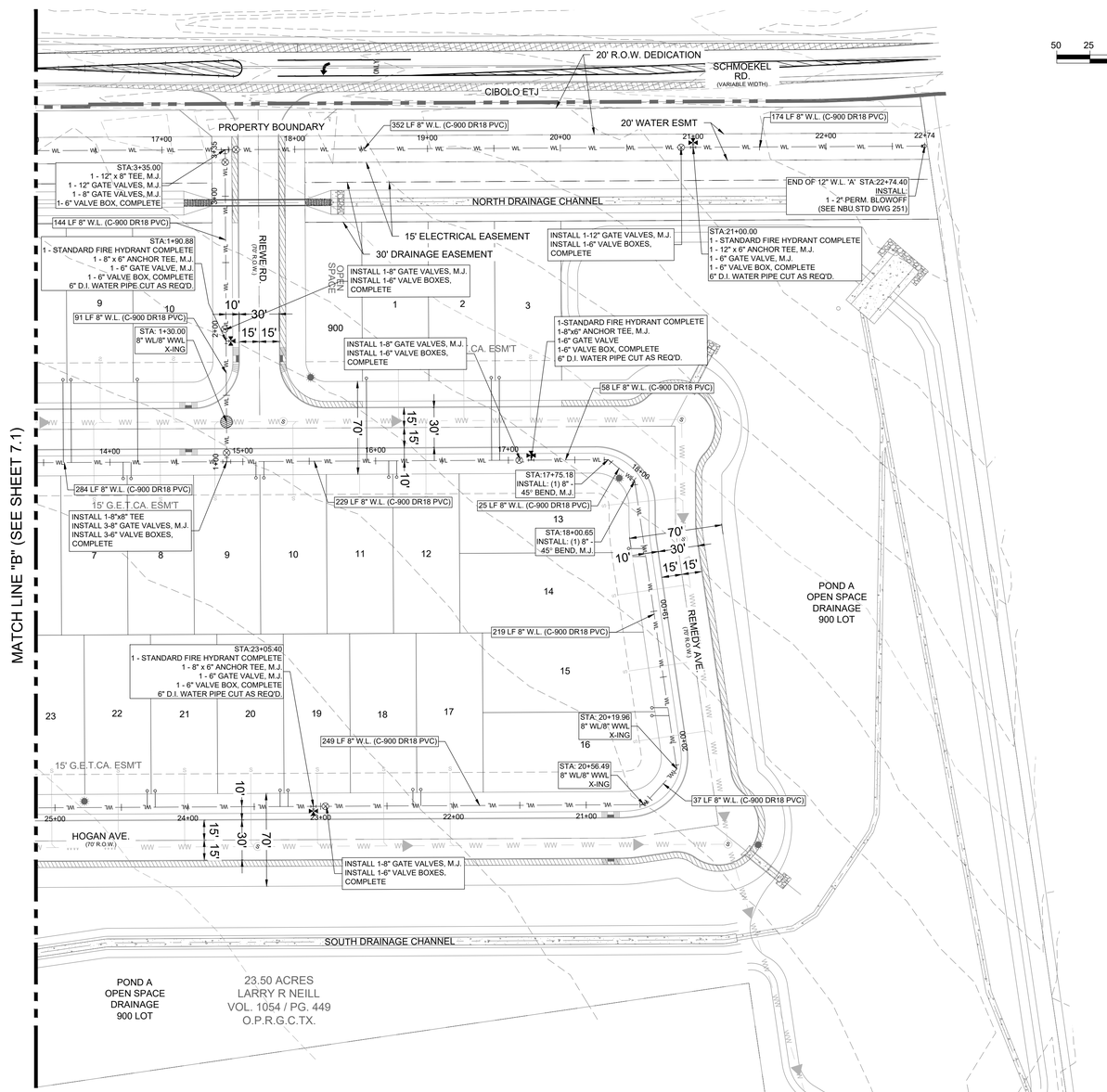
FOR PERMIT

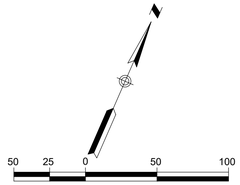


LOCATION MAP
N.T.S.



SHEET INDEX
N.T.S.





SCALE IN FEET
SCALE: 1"=50'

LEGEND

PROPOSED	EXISTING	
S	S	SANITARY SEWER MANHOLE
WW	WW	SANITARY SEWER LINE
WL	WL	WATER LINE
S		SANITARY SEWER LATERAL
C/O	C/O	CLEAN OUT
		WATER VALVE
		SINGLE WATER SERVICE
		FIRE HYDRANT
		WATER METER
		GAS VALVE
G	G	GAS LINE
D	D	STORM SEWER MANHOLE
		CURB INLET
		POWER POLE
		STREET LIGHT (100 WATT LED)
		STREET LIGHT (250 WATT LED)
		GUY WIRE
	OU	OVERHEAD ELECTRIC
		BENCHMARK
	TMH	TOP OF MANHOLE
	EX.	EXISTING
	G,E,T,CA	GAS, ELEC, TELE & CABLE TV ESM'T.
	ESM'T.	EASEMENT
	VOL	VOLUME
	PG	PAGE
	DPR	DEED & PLAT RECORDS OF GUADALUPE COUNT,Y TEXAS
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FOR PERMIT

NEILL TRACT UNIT 1
WATER PLAN SH-2 (SHEET 2 OF 2)

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 09/04/2025
DESIGNED BY: PJR
DRAWN BY: PJR / MAP
CHECKED BY: NG
DRAWING NAME: SA164.2402 - Water Layout01.dwg

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Phone 210.503.2700
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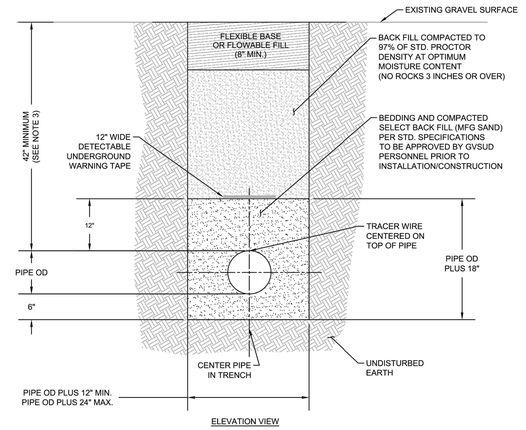
SHEET NO. 7.2

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Last Modified: Oct. 14, 25 - 02:37 pm
Last Modified By: Victoria Sanchez

NOTES:

1. ALL WASTEWATER PVC PIPING SHALL BE GREEN IN COLOR. NO WATER DESIGNATED PIPE SHALL BE USED IN WASTEWATER WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
2. ALL WATER PIPING SHALL HAVE A MINIMUM PRESSURE CLASS OF 235 PSI WATER PVC PIPING SHALL BE BLUE IN COLOR.
3. ALL WATER LINES AND WASTEWATER FORCEMAIN SHALL HAVE 42 INCH MINIMUM COVER AND 72 INCH MAXIMUM COVER. WASTEWATER GRAVITY LINES SHALL HAVE 42 INCH MINIMUM COVER AND 15 FOOT MAXIMUM COVER.
4. GENERAL CONTRACTOR SHALL CONTACT THE APPROPRIATE STREET OWNER AND PROCESS, POST FISCAL SURETY, AND HAVE STREET CUT PERMIT ISSUED IN THEIR NAME.
5. CONTRACTOR TO REPAIR PAVED AREA TO STREET OWNER'S ROAD STANDARDS FOR ALL DISTURBED AREA. GREEN VALLEY SPECIAL UTILITY DISTRICT PAYS FOR QUANTITY OF REPAIR SHOWN IN DETAIL.
6. CONTRACTOR SHALL NOT EXCEED THE MAXIMUM TRENCH ALLOWED AS INDICATED IN THE PLANS AND SPECIFICATIONS.
7. THE EXISTING PAVED SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE, A MINIMUM OF 12 INCHES WIDER THAN UNDISTURBED SIDES OF THE TRENCH AND SYMMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.
8. ANY CONCRETE PAVING SHALL BE CUT 6 INCHES WIDER THAN UNDISTURBED SIDES OF EXCAVATION.
9. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH TEMPORARY COLD MIX ASPHALT CONCRETE OR TEMPORARY HOT MIXED ASPHALT CONCRETE. TEMPORARY MIX SHALL BE PLACED OVER FLEXIBLE BASE.
10. FLEXIBLE BASE SHALL BE REPLACED IN KIND WITH BASE AND PAVEMENT THICKNESS WITH BASE EQUAL TO EXISTING BASE THICKNESS PLUS 3 INCHES, BUT IN NO CASE LESS THAN 10 INCHES.
11. DAMAGED PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED WITH A MINIMUM OF 2 INCHES HOT MIXED ASPHALT CONCRETE AND A BASE OF 10 INCHES OR A THICKNESS MATCHING EXISTING, WHICHEVER IS GREATER.
12. TACK COAT ALL EXPOSED EDGES AND SURFACES.
13. TYPE AND THICKNESS OF PROPOSED PAVING SURFACE SHALL BE AS FOLLOWS:
    - TWO COURSE SURFACE TREATMENT: SHALL MATCH EXISTING SURFACE AND SHALL BE IN ACCORDANCE WITH SPECIFICATION 02770.
    - ASPHALT PAVING: SHALL BE IN ACCORDANCE WITH SPECIFICATION 02740. HOT MIXED ASPHALT CONCRETE TYPE 'D' SHALL BE USED FOR LIFT THICKNESS UP TO 2 INCHES, AND TYPE 'C' FOR LIFT THICKNESS OVER 2 INCHES AND UP TO 3 INCHES. LIFT THICKNESS SHALL NOT BE MORE THAN 3 INCHES.
14. DETECTABLE UNDERGROUND WARNING TAPE SHALL BE PLACED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE AND ABOVE BEDDING, IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. THE DETECTABLE UNDERGROUND WARNING TAPE SHALL CONFORM TO THE SPECIFICATIONS AND COLOR CODED IN ACCORDANCE WITH THE AMERICAN PUBLIC WORKS ASSOCIATION UNIFORM COLOR CODE.
15. PIPE BEDDING SHALL BE PLACED BEFORE PIPING IS LAID, UP TO BOTTOM OF PIPE, AND COMPACTED TO 97% STANDARD PROCTOR DENSITY.
16. PLACE PIPE BEDDING IN 12 INCH LIFTS AFTER PIPE IS LAID TO 12 INCHES ABOVE THE PIPE.
17. SELECT BACKFILL MATERIAL PLACED TO REQUIRED HEIGHT IN 6 INCH LIFTS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	TRENCH DETAIL FOR PAVED AREAS (2 OF 2)	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-1

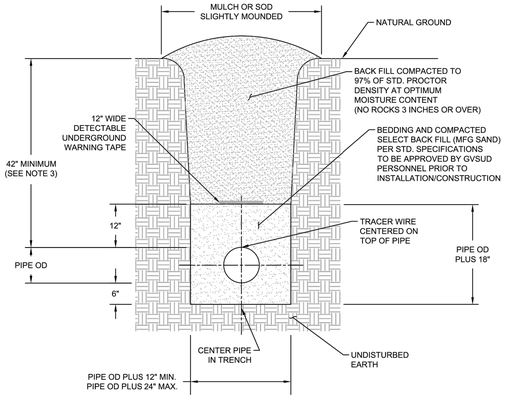


ELEVATION VIEW

NOTES:

1. ALL WASTEWATER PVC PIPING SHALL BE GREEN IN COLOR. NO WATER DESIGNATED PIPE WILL BE USED IN WASTEWATER.
2. ALL WATER PIPING SHALL HAVE A MINIMUM PRESSURE CLASS OF 235 PSI. WATER PVC PIPING SHALL BE COLOR CODED BLUE.
3. ALL WATER LINES AND WASTEWATER FORCEMAIN SHALL HAVE 42 INCHES MINIMUM COVER AND 72 INCHES MAXIMUM COVER. WASTEWATER GRAVITY LINES SHALL HAVE 42 INCHES MINIMUM COVER AND 15 FEET MAXIMUM COVER.
4. CONTRACTOR SHALL NOT EXCEED THE MAXIMUM TRENCH ALLOWED AS INDICATED IN THE PLANS AND SPECIFICATIONS.
5. DETECTABLE UNDERGROUND WARNING TAPE SHALL BE PLACED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE AND ABOVE BEDDING, IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. THE TAPE SHALL CONFORM TO THE SPECIFICATIONS AND COLOR CODED IN ACCORDANCE WITH APWA UNIFORM COLOR CODE.
6. PIPE BEDDING PLACED BEFORE PIPING IS LAID UP TO BOTTOM OF PIPE COMPACTED TO 95% ASHTO DENSITY.
7. PLACE IN 12 INCH LIFTS AFTER PIPE IS LAID TO 12 INCHES ABOVE THE PIPE.
8. SELECT BACKFILL MATERIAL PLACED TO REQUIRED HEIGHT IN 6 INCH LIFTS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	TRENCH DETAIL FOR GRAVEL SURFACED AREAS	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-2

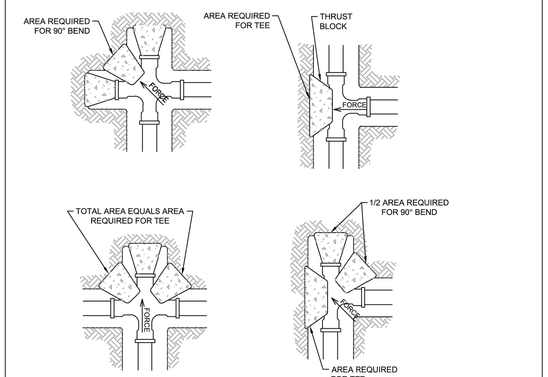


ELEVATION VIEW

NOTES:

1. ALL WASTEWATER PVC PIPING SHALL BE GREEN IN COLOR. NO WATER DESIGNATED PIPE WILL BE USED IN WASTEWATER.
2. ALL WATER PIPING SHALL HAVE A MINIMUM PRESSURE CLASS OF 235 PSI WATER PVC PIPING SHALL BE COLOR CODED BLUE.
3. ALL WATER LINES AND WASTEWATER FORCEMAIN SHALL HAVE 42 INCHES MINIMUM COVER AND 72 INCHES MAXIMUM COVER. WASTEWATER GRAVITY LINES SHALL HAVE 42 INCHES MINIMUM COVER AND 15 FEET MAXIMUM COVER.
4. CONTRACTOR SHALL NOT EXCEED THE MAXIMUM TRENCH ALLOWED AS INDICATED IN THE PLANS AND SPECIFICATIONS.
5. DETECTABLE UNDERGROUND WARNING TAPE SHALL BE PLACED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE AND ABOVE BEDDING, IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. THE TAPE SHALL CONFORM TO THE SPECIFICATIONS AND COLOR CODED IN ACCORDANCE WITH APWA UNIFORM COLOR CODE.
6. PIPE BEDDING PLACED BEFORE PIPING IS LAID UP TO BOTTOM OF PIPE COMPACTED TO 95% AASHTO DENSITY.
7. PLACE IN 12 INCH LIFTS AFTER PIPE IS LAID TO 12 INCHES ABOVE THE PIPE.
8. SELECT BACKFILL MATERIAL PLACED TO REQUIRED HEIGHT IN 6 INCH LIFTS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	TRENCH DETAIL FOR NON-PAVED AREAS	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-3

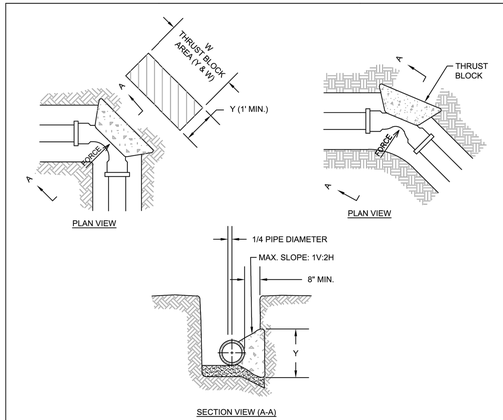


MINIMUM THRUST BLOCK AREA REQUIRED (Y AND W)		
PIPE SIZE	WATER PIPE	
	TEE, DEAD END, 90° BEND	45° AND 22.5° BENDS
4" & LESS	3 SQ. FEET	3 SQ. FEET
6"	4 SQ. FEET	3 SQ. FEET
8"	6 SQ. FEET	3 SQ. FEET
10"	9 SQ. FEET	5 SQ. FEET
12"	13 SQ. FEET	7 SQ. FEET
16"	23 SQ. FEET	12 SQ. FEET
18"	29 SQ. FEET	15 SQ. FEET

NOTES:

1. TABLE IS BASED ON SOILS WITH A MINIMUM BEARING CAPACITY OF 3,000 PSF. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
2. AREAS FOR PIPE LARGER THAN 18 INCHES SHALL BE RESTRAINED.
3. THRUST BLOCKS SHALL EXTEND TO UNDISTURBED GROUND. CONCRETE SHALL BE CLASS "C" (MIN. 2,500 PSI).
4. FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT WITH A MINIMUM PRESSURE RATING OF 250 PSI AND SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWWA A21.10/C110 OR A21.53/C153.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	CONCRETE THRUST BLOCKING (1 OF 2)	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-4

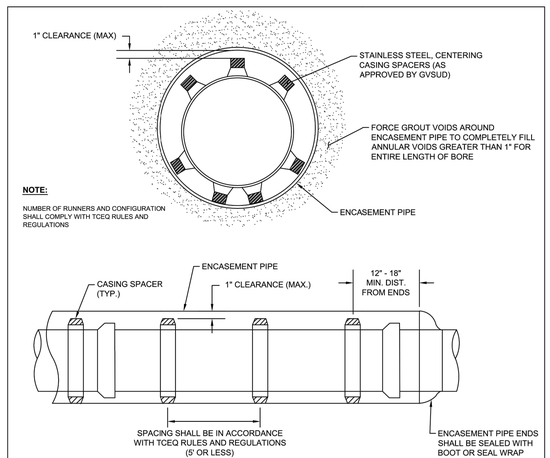


MINIMUM THRUST BLOCK AREA REQUIRED (Y AND W)		
PIPE SIZE	WATER PIPE	
	TEE, DEAD END, 90° BEND	45° AND 22.5° BENDS
4" & LESS	3 SQ. FEET	3 SQ. FEET
6"	4 SQ. FEET	3 SQ. FEET
8"	6 SQ. FEET	3 SQ. FEET
10"	9 SQ. FEET	5 SQ. FEET
12"	13 SQ. FEET	7 SQ. FEET
16"	23 SQ. FEET	12 SQ. FEET
18"	29 SQ. FEET	15 SQ. FEET

NOTES:

1. TABLE IS BASED ON SOILS WITH A MINIMUM BEARING CAPACITY OF 3,000 PSF. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
2. AREAS FOR PIPE LARGER THAN 18 INCHES SHALL BE RESTRAINED.
3. THRUST BLOCKS SHALL EXTEND TO UNDISTURBED GROUND.
4. FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT WITH A MINIMUM PRESSURE RATING OF 250 PSI AND SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWWA A21.10/C110 OR A21.53/C153.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	CONCRETE THRUST BLOCKING (2 OF 2)	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-4



NOTE:

NUMBER OF RUNNERS AND CONFIGURATION SHALL COMPLY WITH TCEQ RULES AND REGULATIONS

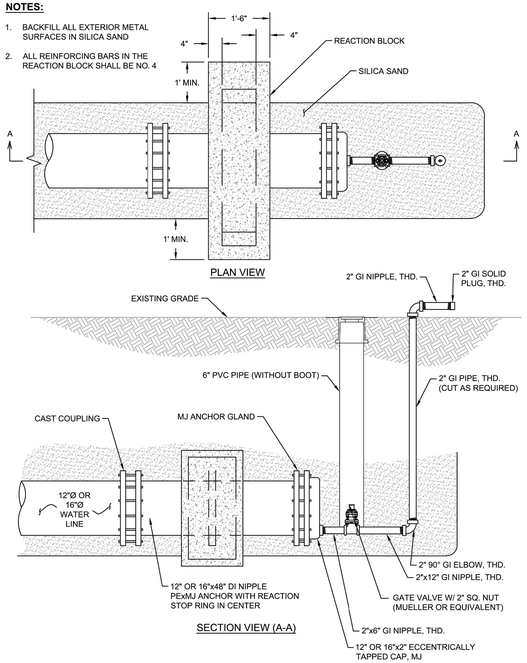
NOTES:

1. TCEQ RULES AND REGULATIONS ON SANITARY SEWER, STORM SEWER AND WATER MAIN CROSSING AND SEPARATIONS WILL BE STRICTLY ENFORCED TO TAC, CHAPTER 290, SUBCHAPTER D.
2. ALL PIPE IN ENCASEMENT PIPE SHALL BE RESTRAINED AT JOINTS FOR ENTIRE LENGTH OF THE ENCASEMENT PIPE PLUS 10 FEET ON EACH SIDE.
3. AT ANY CREEK CROSSING OR DRAINAGE DITCH THE PIPE SHALL BE ENCASED IN STEEL PIPE AND HAVE A MINIMUM OF 3 FEET OF COVER FROM THE BOTTOM OF THE CREEK/STREAM.
4. AT ANY ROADWAY CROSSING THE MAIN SHALL BE STEEL ENCASED AND HAVE A MINIMUM OF 5 FEET OF COVER FROM THE BOTTOM OF THE BASE MATERIAL.
5. BORE SHALL HAVE SUFFICIENT ROOM FOR 2" PVC O.D. (MIN) FOR FORCE GROUTING AS REQUIRED.

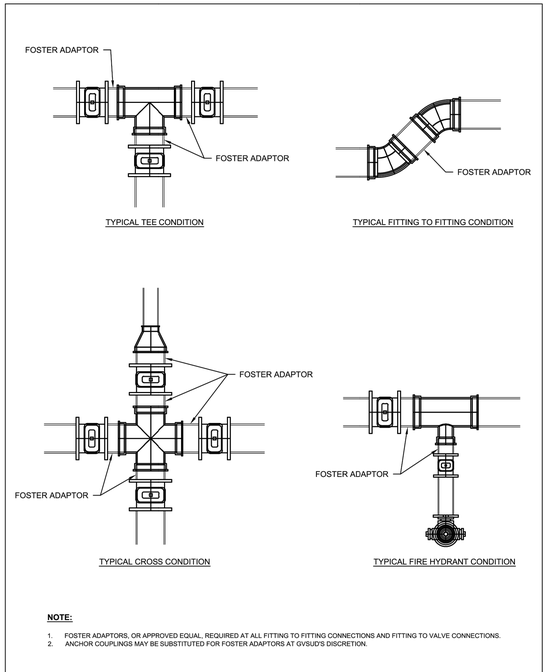
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	ENCASEMENT DETAIL WITH ENCASEMENT SPACERS	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-6

NOTES:

1. BACKFILL ALL EXTERIOR METAL SURFACES IN SILICA SAND
2. ALL REINFORCING BARS IN THE REACTION BLOCK SHALL BE NO. 4



GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	2" TEMPORARY BLOW-OFF ASSEMBLY ON 12" TO 16" MAINS	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-25



NOTE:

1. FOSTER ADAPTORS, OR APPROVED EQUAL, REQUIRED AT ALL FITTING TO FITTING CONNECTIONS AND FITTING TO VALVE CONNECTIONS.
2. ANCHOR COUPLINGS MAY BE SUBSTITUTED FOR FOSTER ADAPTORS AT GVSUD'S DISCRETION.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	MECHANICAL JOINT ADAPTOR DETAIL	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-31

NEILL TRACT UNIT 1

WATER DETAILS SH1

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 9/8/2025
DESIGNED BY: JDR
DRAWN BY: ML / T.I.
CHECKED BY: NG
DRAWING NAME: sh_Water Details01.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

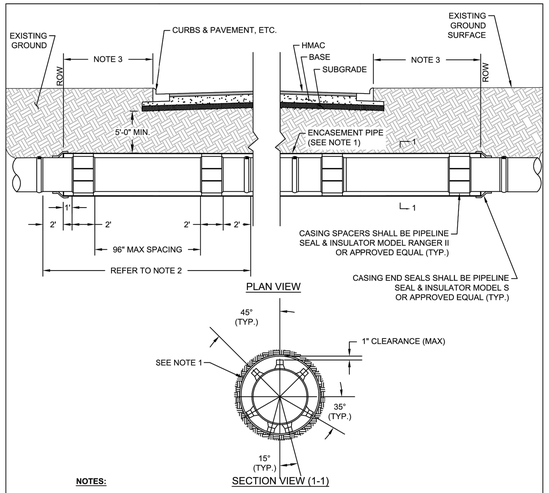
LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. **7.3**

FOR PERMIT

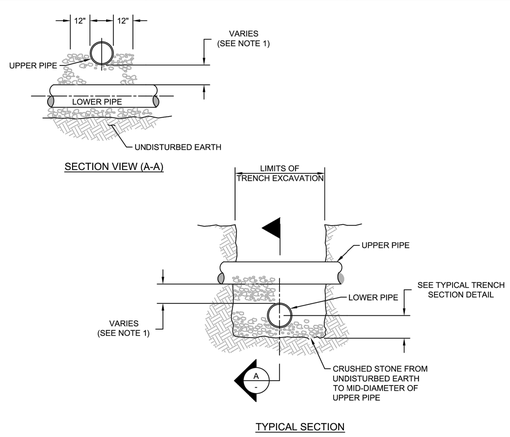
K:\SA164.#JB Items\2402 Neill Tract\426 Site Development Plans\GVWC-Sheets\sh_Water Details01.dwg
Xrefs: Base.dwg, Base_Ref.dwg, Base_Ref_Xrefs.dwg
Last Modified: Oct 03, 25 - 10:30
Last Plotted: Oct 03, 25 - 10:30



NOTES:

1. ENCASEMENT PIPE SHALL BE NEW STEEL PIPE MANUFACTURED IN ACCORDANCE WITH AWWA STANDARD C200, LATEST EDITION.
2. ALL PIPE JOINTS WITHIN THE CASING ARE TO BE RESTRAINED WITH AN APPROVED METHOD FOR ENTIRE LENGTH OF THE ENCASEMENT PIPE PLUS 10 FEET ON EACH SIDE.
3. FOR ROADWAY CROSSINGS, THE ENDS OF THE CASING PIPE SHALL EXTEND TO THE RIGHT OF WAY LINES.
4. ALL PIPE FITTINGS, VALVES, AND APPURTENANCES SHALL MATCH OR EXCEED PIPE CLASS RATING AS SHOWN ON THE PLANS.
5. REFER TO SPECIFICATION 02300 FOR CASING PIPE THICKNESS.

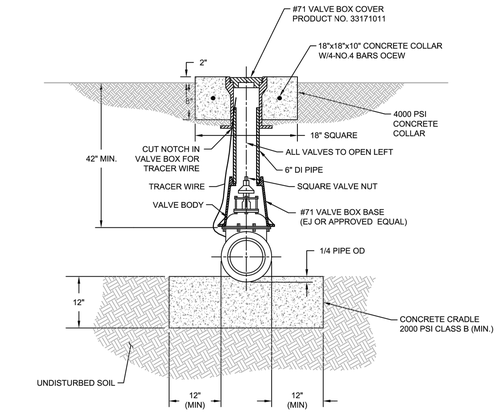
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	TYPICAL JACKING, BORING, AND TUNNELING DETAIL	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-9



NOTES:

1. MAINTAIN A MINIMUM 5 FOOT HORIZONTAL AND 2 FOOT VERTICAL SEPARATION FROM BETWEEN UTILITIES AND WATER AND WASTEWATER PIPES AND SERVICES. GAS, ELECTRIC, CABLE, ETC. TO BE LOCATED OPPOSITE SIDES OF PROPERTIES.
2. UTILITY CROSSINGS SEPARATED BY LESS THAN 5 FEET SHALL BE ENCASED WITH A MINIMUM OF 6 INCHES OF CONCRETE.
3. SPECIFICATIONS: BEDDING MATERIAL MUST BE APPROVED BY AUTHORIZED GVSUD PERSONNEL, BEFORE START OF JOB.
4. AT ANY CREEK CROSSING OR DRAINAGE DITCH THE MAIN SHALL BE ENCASED WITH STEEL PIPE AND/OR 6 INCHES CONCRETE ENCASEMENT TO WITHIN 10 FEET OUTSIDE OF CREEK OR DRAINAGE DITCH AREA.
5. PIPE JOINTS SHALL BE AT LEAST 9 FEET HORIZONTALLY FROM CROSSINGS.

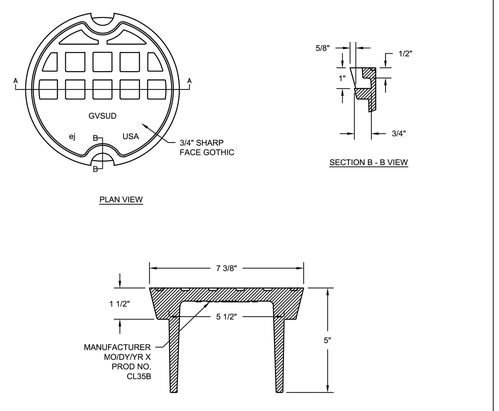
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	UTILITIES CROSSING DETAIL	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-10



NOTES:

1. WELD 2 1/2 INCH X 2 INCH DEEP SOCKET TO 1 INCH (SCHEDULE 40) ROUND STEM EXTENSION AND ON OPERATING NUT. FOR PIPE EXTENSIONS OVER 10 FEET, STEM EXTENSION SHALL BE A SCHEDULE 80 PIPE.
2. VALVE EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 3 FEET DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 18 TO 24 INCHES FROM FINISHED GRADE.
3. CONCRETE COLLARS TO BE INSTALLED ON ALL VALVE BOXES LOCATED OUTSIDE PAVEMENT. SEE APPROPRIATE VALVE BOX ADJUSTMENT DETAILS.
4. GATE VALVES SHALL BE MUELLER TYPE OR APPROVED EQUAL.
5. FOR VALVE DEEPER THAN 5 FEET, ADD EXTENSION.
6. VALVE TURNS UNDERNEATH CAP.

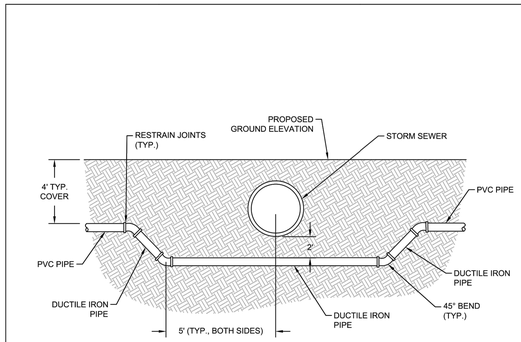
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	NON-RISING STEM VERTICAL GATE VALVE WITH BOX ASSEMBLY	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-11



NOTES:

1. VALVE BOX COVER SHALL BE EJ GROUP, INC. $71 VALVE BOX COVER PRODUCT NUMBER 33171011, OR APPROVED EQUIVALENT WITH GVSUD LOGO.
2. TYPICAL FILLET IS 3/16 INCH RADIUS.
3. LETTERING SHALL BE 3/4 INCH SHARP FACE GOTHIC AND LOCATED AS SHOWN.
4. LID REQUIRES TWO (2) PICK SLOTS.
5. THE MANUFACTURER'S IDENTIFICATION, CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID.
6. DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORDANCE WITH NORMAL FOUNDRY PRACTICE.
7. FINISH BY REMOVING FINS AND FLASHING AND PAINT WITH BLACK ASPHALT COATING.

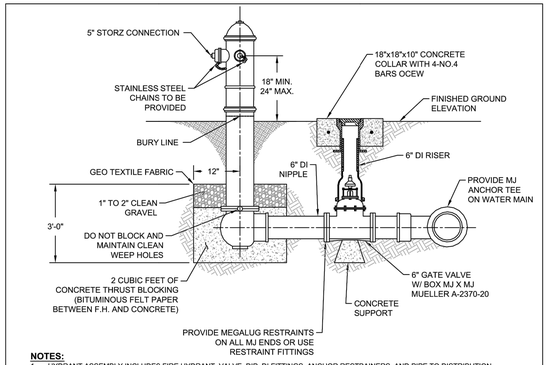
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	VALVE BOX CASTING LID	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-12



NOTES:

1. MAINTAIN 24 INCH (MIN.) SEPARATION FROM STORM SEWER LINE.
2. 45° BENDS MUST BE THRUST BLOCKED AND RESTRAINED AT BOTTOM BENDS. SEE STANDARD DETAIL.

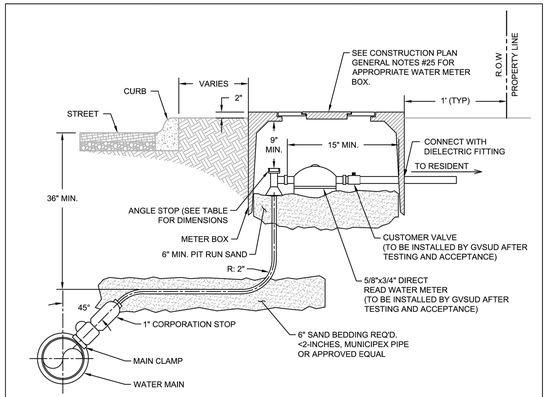
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	STORM SEWER CROSSING	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-17



NOTES:

1. HYDRANT ASSEMBLY INCLUDES FIRE HYDRANT, VALVE, DIP, DI FITTINGS, ANCHOR RESTRAINERS, AND PIPE TO DISTRIBUTION SYSTEM.
2. FIRE HYDRANTS SHALL HAVE A MINIMUM OF 3 FEET OF CLEARANCE SURROUNDING HYDRANT.
3. HYDRANTS SHALL BE A MINIMUM DISTANCE OF 3 FEET BEHIND THE CURB OR 3 FEET FROM THE R.O.W. UNDER NO CIRCUMSTANCES SHALL VALVES OR HYDRANTS BE PLACED IN A CURB OR SIDEWALK. IN AREAS WITHOUT CURBS OR SIDEWALKS, HYDRANT SHALL BE PLACED 3-6 FEET FROM THE DISTRIBUTION SYSTEM.
4. FOR BURY DEPTHS GREATER THAN 5 FEET, ONE BARREL EXTENSION NOT EXCEEDING 3 FEET IN LENGTH SHALL BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT.
5. 1 CU FOOT (MIN) OF CRUSHED STONE OR GRAVEL SHALL BE PLACED AROUND WEEP HOLE FOR A RADIUS OF 12 INCHES AND EXTEND 12 INCHES ABOVE THE OUTLET.
6. VALVE, DUCTILE IRON PIPE, AND STANDARD FIRE HYDRANT SYSTEM SHALL BE RESTRAINT JOINT CONTINUOUSLY TOGETHER.
7. FIRE HYDRANT SHALL BE 6 INCH (3) WAY HYDRANT WITH BREAK AWAY BOLTS (SHOE TYPES) PROVIDED WITH STORZ CONNECTION. DEPTH OF BURY SHALL BE 42 INCHES MINIMUM. FIRE HYDRANTS MUST BE SET PLUMB. HOSE CONNECTION MUST FACE ROADWAY.
8. HYDRANT ASSEMBLY SHALL BE RESTRAINED FROM TEE TO HYDRANT.
9. IN THE CITY OF CIBOLO'S CITY LIMITS, FIRE HYDRANTS SHALL BE MUELLER TYPE AND SHALL BE 1 FOOT MINIMUM AND 7 FEET MAXIMUM FROM THE BACK OF CURB.
10. HYDRANTS UPPER BARREL SHALL BE FACTORY PAINTED RED WITH BONNET AND CAPS COATED PER CURRENT NFPA 291 STANDARDS.
11. HYDRANTS LOCATED IN RURAL AREAS SHALL HAVE 6' TALL POLLARD WATER FLEXIFLAG #PP68802.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	STANDARD HYDRANT ASSEMBLY INSTALLATION	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-22

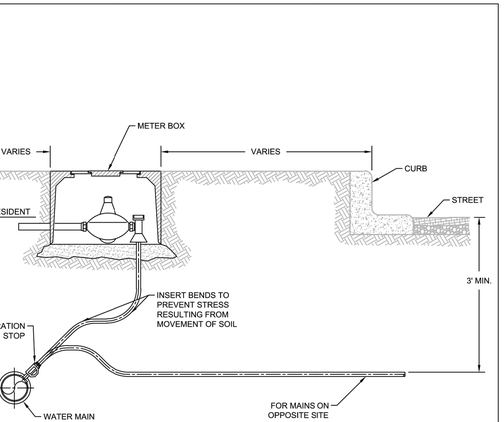


MAIN SIZE	METER SIZE	MAIN SADDLE	CORPORATION	ANGLE STOP
<12"	5/8" OR 3/4"	S-91804 IP	H-15028 IP 1"	B-24258N: 1"x 3/4"
<12"	1"	S-91804 IP	H-15028 IP 1"	B-24258N: 1"X1"

NOTES:

1. FITTINGS SHALL BE MUELLER OR APPROVED EQUAL.
2. A TRACER WIRE SHALL BE INSTALLED ON THE SERVICE LINE TAPED AT 10-INCH INCREMENTS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	STANDARD SERVICE CONNECTION	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-23



GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	TYPICAL SERVICE LOCATION DETAIL	
REVISED: JANUARY 2024	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-24

NEILL TRACT UNIT 1
WATER DETAILS SH2

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE: 9/8/2025
DESIGNED BY: JDR
DRAWN BY: ML / T.I.
CHECKED BY: NG
DRAWING NAME: sn_Water Details01.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

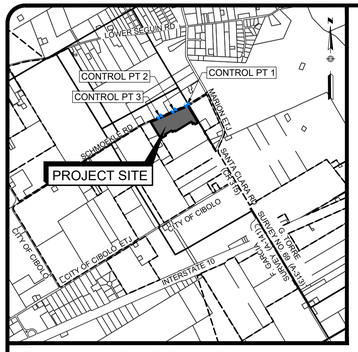
LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

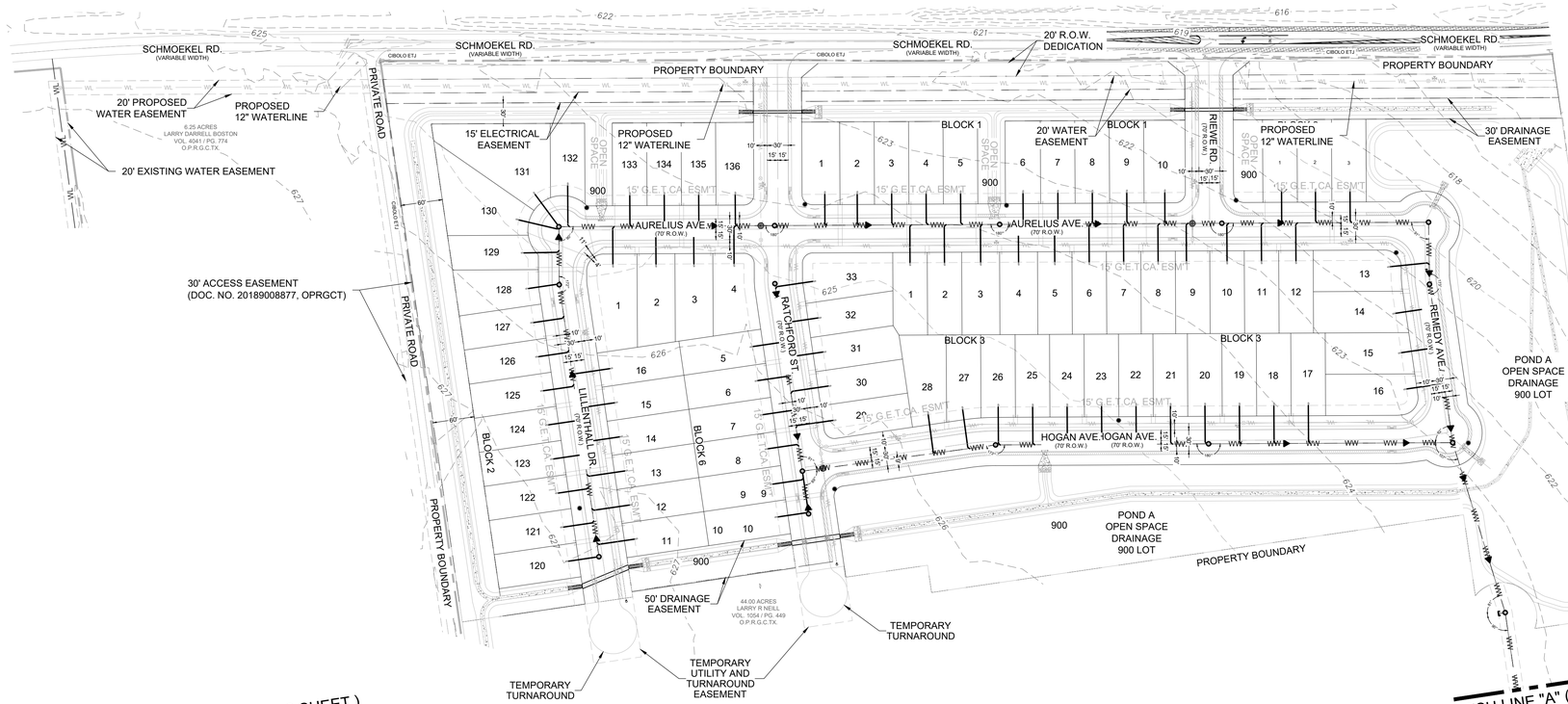
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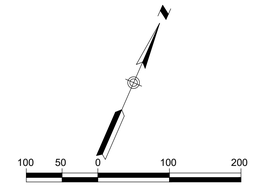
FOR PERMIT

K:\SA164.#@ Items\2402 Neill Tract\426 Site Development Plans\GIMS-Sheets\sn_Water Details01.dwg
Xrefs Attached: None
Last Modified: Oct 03, 25 - 10:30
Last Plotted: Oct 03, 25 - 10:30



LOCATION MAP
N.T.S.





LEGEND

PROPOSED	EXISTING	
S	S	SANITARY SEWER MANHOLE
WW	WW	SANITARY SEWER LINE
WL	WL	WATER LINE
S		SANITARY SEWER LATERAL
C/O	C/O	CLEAN OUT
		WATER VALVE
		SINGLE WATER SERVICE
		FIRE HYDRANT
		WATER METER
	GV	GAS VALVE
G	G	GAS LINE
D	D	STORM SEWER MANHOLE
		CURB INLET
		POWER POLE
		STREET LIGHT (100 WATT LED)
		STREET LIGHT (250 WATT LED)
		GUY WIRE
	OU	OVERHEAD ELECTRIC
		BENCHMARK
	TMH	TOP OF MANHOLE
	EX.	EXISTING
	G,E,T,CA	GAS, ELEC, TELE & CABLE TV ESM'T.
	ESM'T.	EASEMENT
	VOL	VOLUME
	PG	PAGE
	DPR	DEED & PLAT RECORDS OF GUADALUPE COUNT,Y TEXAS
	OPR	OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS

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811 Know what's below. Call before you dig.

NEILL TRACT UNIT 1
OVERALL SANITARY SEWER PLAN

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 9/8/2025
DESIGNED BY: JDR
DRAWN BY: ML / TJ
CHECKED BY: NG
DRAWING NAME: ...\Sewer Layouts\01.dwg

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LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. **8.0**

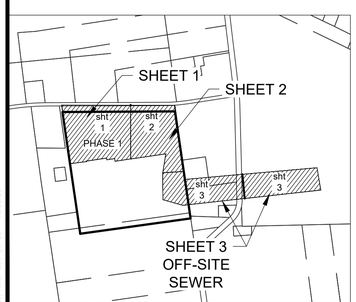
FOR PERMIT



LEGEND

PROPOSED	EXISTING	
S	S	SANITARY SEWER MANHOLE
WW	WW	SANITARY SEWER LINE
WL	WL	WATER LINE
S		SANITARY SEWER LATERAL
C/O	C/O	CLEAN OUT
		WATER VALVE
		SINGLE WATER SERVICE
		FIRE HYDRANT
		WATER METER
		GAS VALVE
G	G	GAS LINE
D	D	STORM SEWER MANHOLE
		CURB INLET
		POWER POLE
		STREET LIGHT (100 WATT LED)
		STREET LIGHT (250 WATT LED)
		GUY WIRE
	OU	OVERHEAD ELECTRIC
		BENCHMARK
	TMH	TOP OF MANHOLE
	EX.	EXISTING
	G,E,T,CA	GAS, ELEC, TELE & CABLE TV ESM'T.
	ESM'T.	EASEMENT
	VOL	VOLUME
	PG	PAGE
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LOCATION MAP
N.T.S.



SHEET INDEX
N.T.S.

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811 Know what's below. Call before you dig.

NEILL TRACT UNIT 1

SEWER PLAN SH-1

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 9/4/2025
DESIGNED BY: PJR
DRAWN BY: PJR / MAP
CHECKED BY: NG
DRAWING NAME: ...\Sewer Layout01.dwg

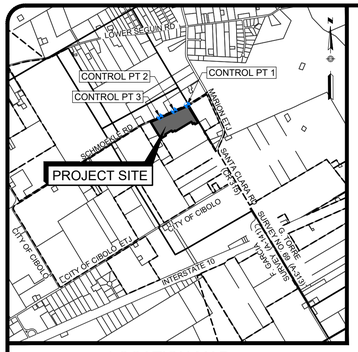
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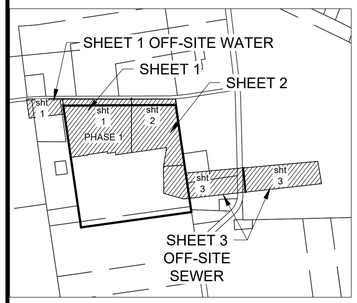
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SHEET NO. 8.1

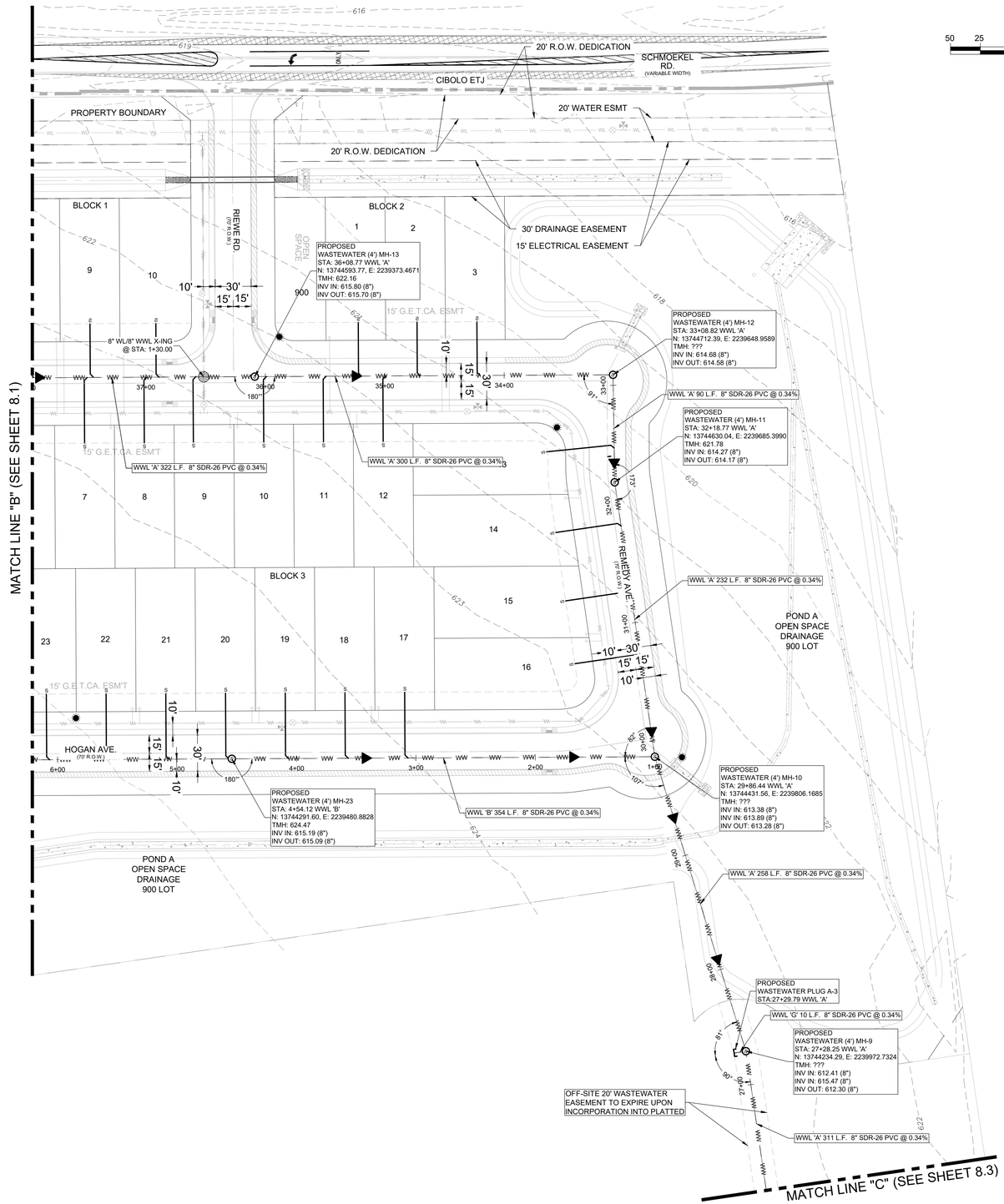
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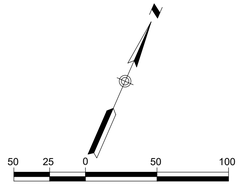


LOCATION MAP
N.T.S.



SHEET INDEX
N.T.S.





LEGEND

PROPOSED	EXISTING	
S	S	SANITARY SEWER MANHOLE
WW	WL	SANITARY SEWER LINE
WL		WATER LINE
S		SANITARY SEWER LATERAL
C/O	C/O	CLEAN OUT
		WATER VALVE
		SINGLE WATER SERVICE
		FIRE HYDRANT
		WATER METER
	GV	GAS VALVE
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811 Know what's below. Call before you dig.

NEILL TRACT UNIT 1
SEWER PLAN SH-2

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 09/04/2025
DESIGNED BY: PJR
DRAWN BY: PJR / MAP
CHECKED BY: NG
DRAWING NAME: 08_Sewer Layout01.dwg

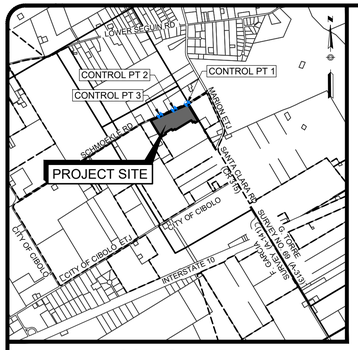
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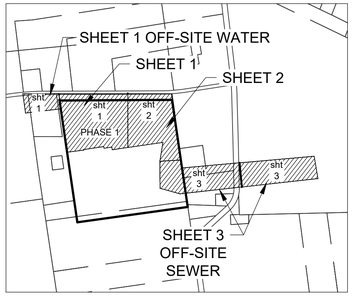
JOB NUMBER: SA164.2402

SHEET NO. 8.2

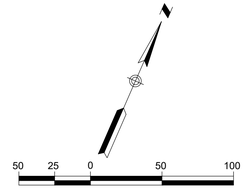
FOR PERMIT



LOCATION MAP
N.T.S.



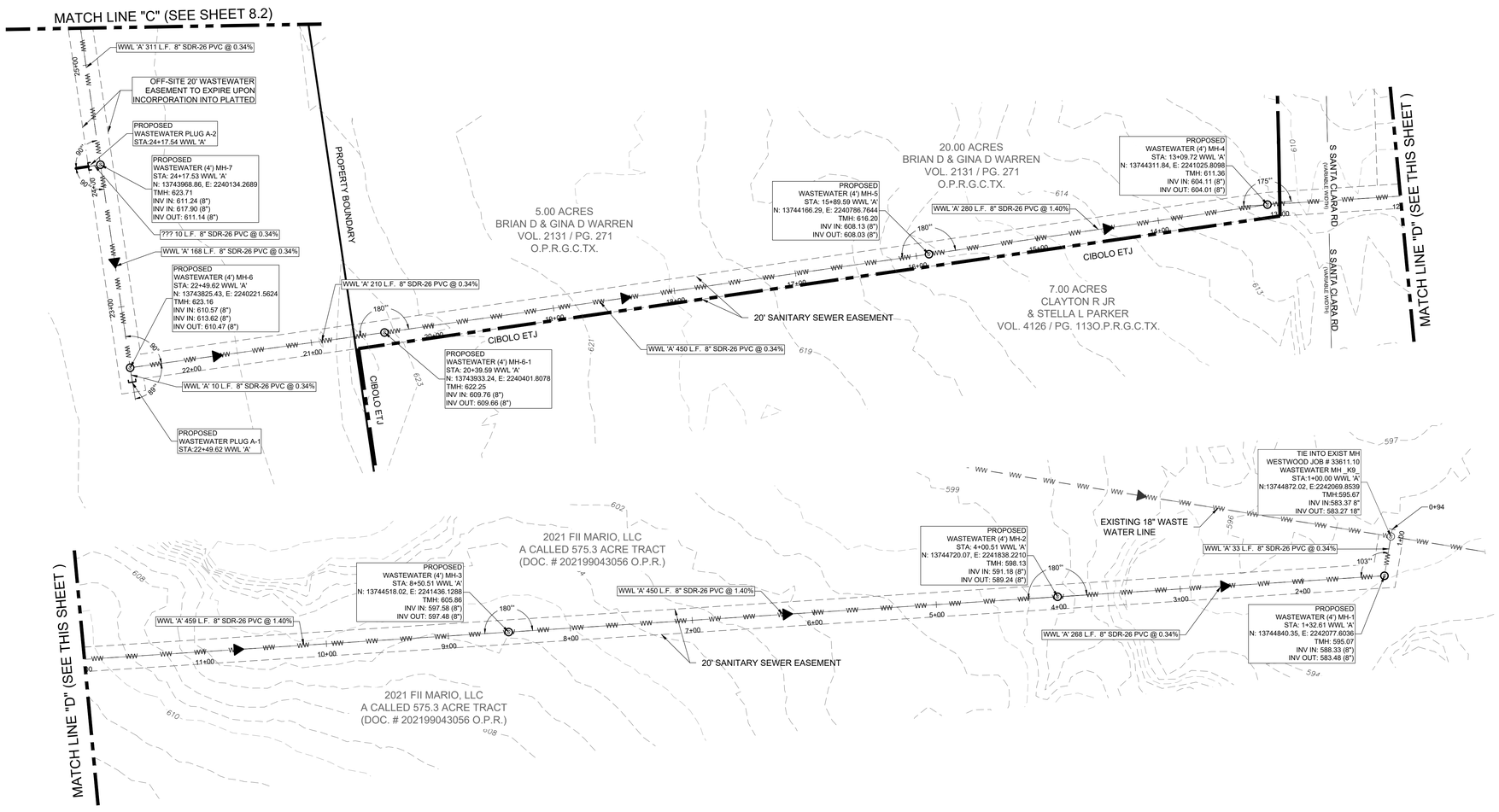
SHEET INDEX
N.T.S.



SCALE IN FEET
SCALE: 1"=50'

LEGEND

PROPOSED	EXISTING	
S	S	SANITARY SEWER MANHOLE
WW	WW	SANITARY SEWER LINE
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		BENCHMARK
	TMH	TOP OF MANHOLE
	EX.	EXISTING
	G,E,T,CA	GAS, ELEC, TELE & CABLE TV ESM'T.
	ESM'T.	EASEMENT
	VOL	VOLUME
	PG	PAGE
	DPR	DEED & PLAT RECORDS OF GUADALUPE COUNT,Y TEXAS
	OPR	OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS



GENERAL NOTES

1. CONTRACTOR TO FIELD VERIFY EXACT LOCATIONS OF ALL EXISTING UTILITIES HORIZONTALLY AND VERTICALLY PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL VERIFY GRAVITY INVERTS PRIOR TO CONSTRUCTION AND NOTIFY CIVIL ENGINEER IN WRITING OF ANY DISCREPANCIES.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL UTILITY TRENCH BACKFILL AND PAVING FOR THE TESTS TO BE PREFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY GVSUD UTILITIES INSPECTOR/TEST ADMINISTER, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY GVSUD WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.
4. REFER TO SHEET 7.3 FOR WATER/WASTEWATER OR WATER/UTILITY CROSSING DETAILS..
5. WATER VALVES AND METERS SHALL NOT BE LOCATED WITHIN ACCESSIBLE RAMPS, CURB & GUTTER, OR SIDEWALK.
6. CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD UPON DISCOVERY OF GROUNDWATER IN THE UTILITY TRENCHES. AN ONSITE MEETING WILL BE SCHEDULED TO DISCUSS HANDLING OF THE GROUNDWATER. THE ENGINEER OF RECORD WILL DEVELOP A PLAN TO ADDRESS CONVEYANCE OF GROUNDWATER AND METHOD TO PREVENT INFILTRATION OF GROUNDWATER INTO THE SANITARY SEWER SYSTEM, PUBLIC WATER MAIN, AND ROAD STRUCTURE.
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8. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
9. NO VALVES, HYDRANTS, CLEANOUTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, DRIVEWAYS, OR ROADWAYS. THE BUILDER AND/OR DEVELOPER WILL BE RESPONSIBLE FOR REPAIR TO ROADWAY AND UTILITY INFRASTRUCTURE IF PUBLIC UTILITIES ARE INSTALLED IMPROPERLY.
10. ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF SEGUIN PROJECT INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF SEGUIN PROJECT INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF SEGUIN PROJECT INSPECTOR.

CAUTION: CONTRACTOR TO NOTIFY TEXAS ONE CALL AT 1-800-245-4545 48 HOURS PRIOR TO CONSTRUCTION FOR UTILITY LINE LOCATE. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED DESIGN CHANGES. EXISTING UTILITIES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.

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811 Know what's below. Call before you dig.

NEILL TRACT UNIT 1
SEWER PLAN SH-3

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 08/04/2025
DESIGNED BY: PJR
DRAWN BY: PJR / MAP
CHECKED BY: NG
DRAWING NAME: ...\Sewer Layout01.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. 8.3

FOR PERMIT

GENERAL NOTES:

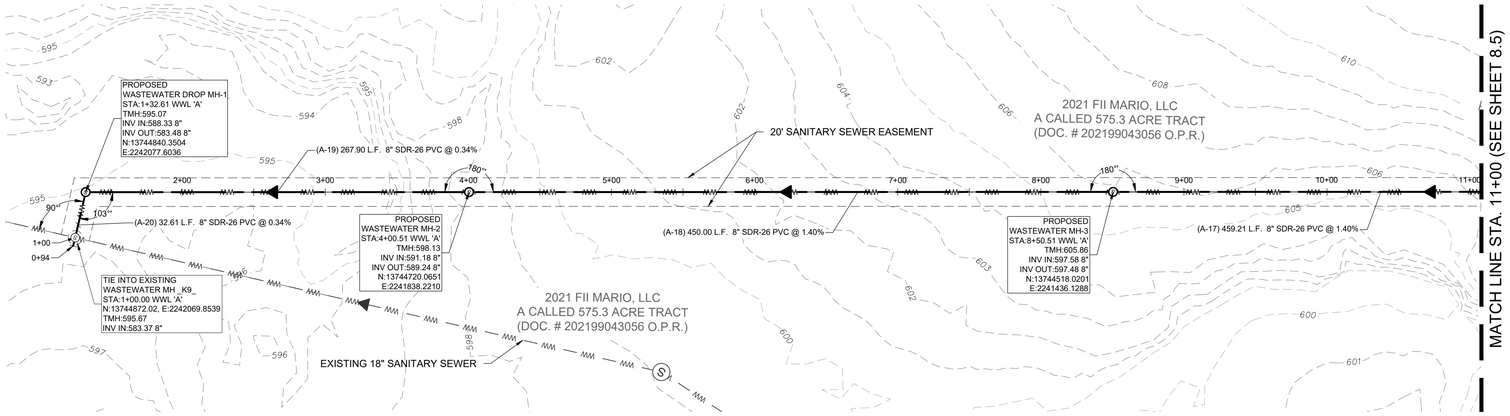
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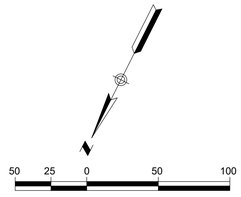
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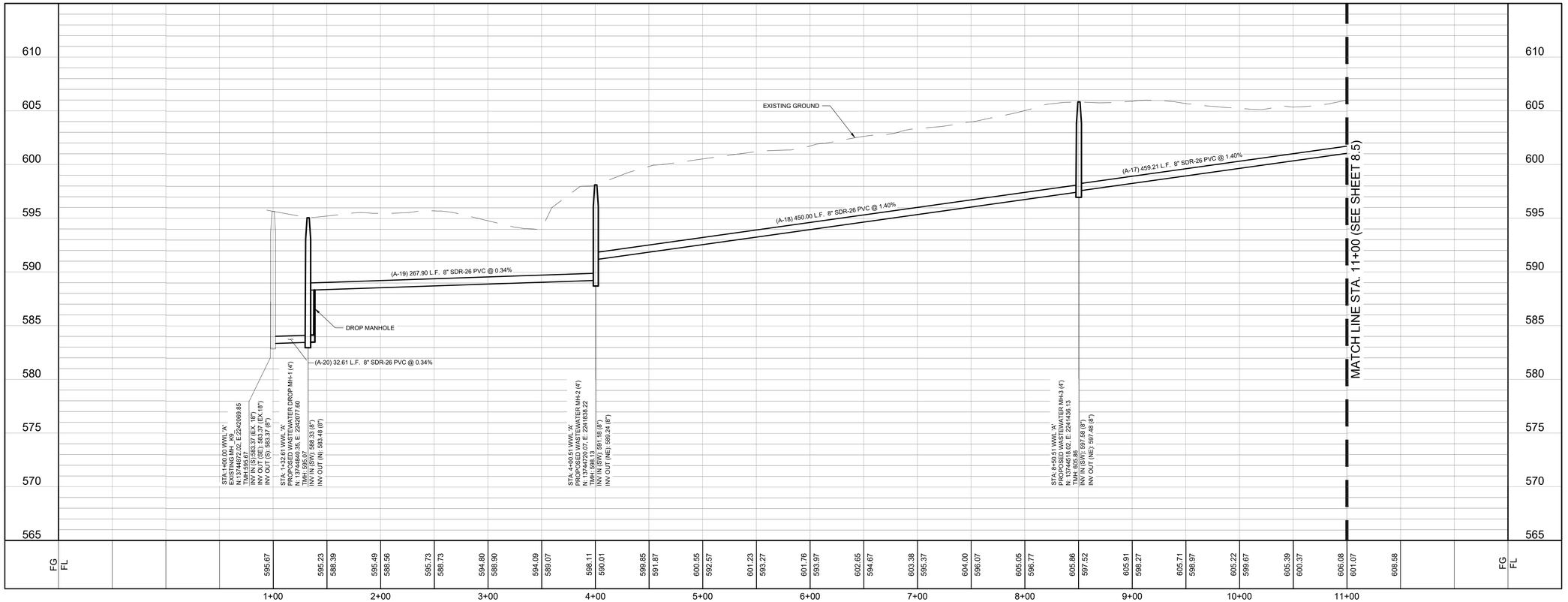


WASTEWATER LINE 'A' STA. 1+00 TO 11+00



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811 Know what's below. Call before you dig.



REVISIONS		
NO.	DESCRIPTION	BY	DATE

NEILL TRACT UNIT 1

WASTEWATER LINE 'A' STA. 1+00 TO 11+00
PLAN & PROFILE

DATE: 09/04/2025
DESIGNED BY: PJR
DRAWN BY: PJR / MAP
CHECKED BY: NG
DRAWING NAME: sh_WWL 'A'.dwg

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LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA164

SHEET NO. 8.4

SHEET # OF ####

K:\SA\164_KB Home\2402 Neill Tract\426 Site Development Plans\DWG-Sheets\sh_WWL 'A'.dwg
User: mcdesmo
Last Modified: Oct. 14, 25 - 08:38
Plot Date/Time: Oct. 21, 25 - 14:46:41

GENERAL NOTES:

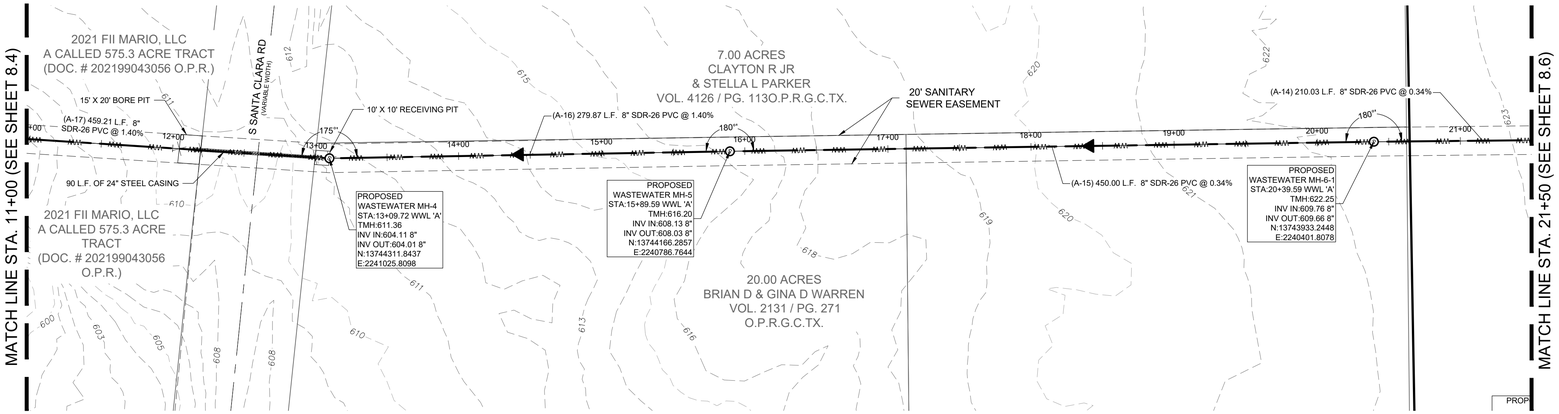
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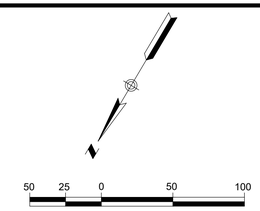
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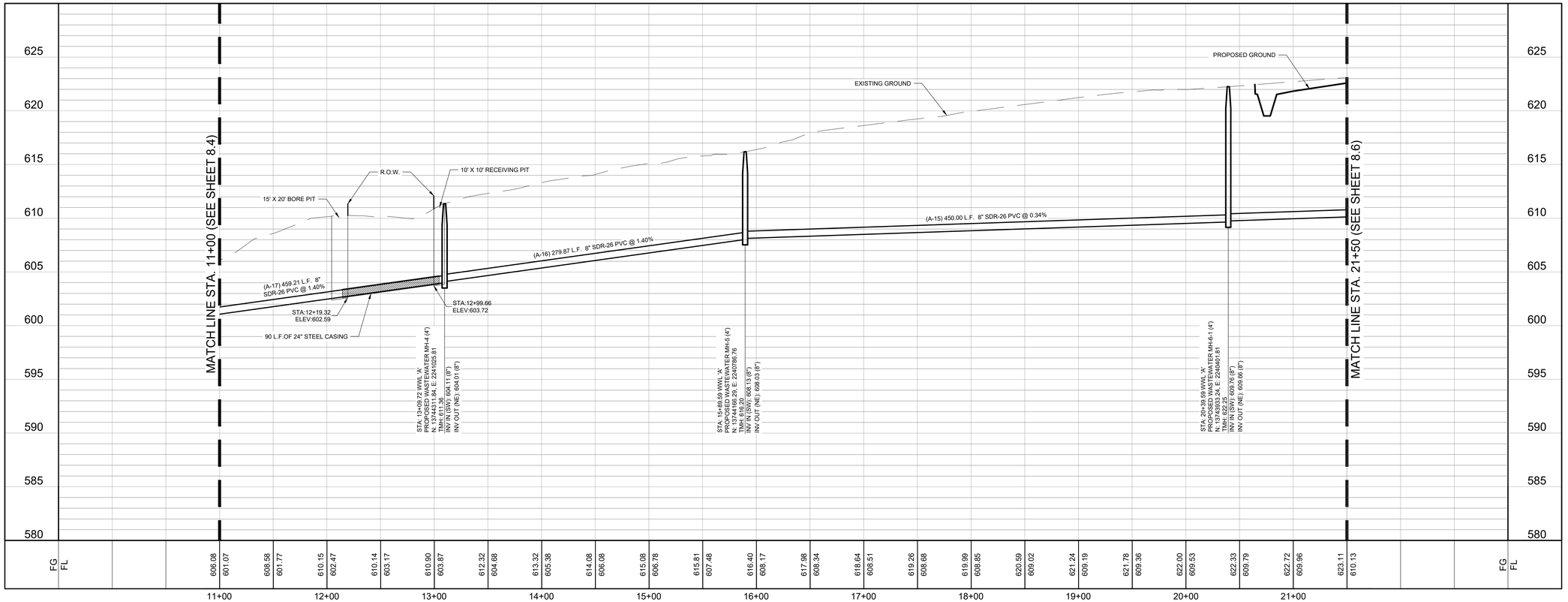


WASTEWATER LINE 'A' STA. 11+00 TO 21+50



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811 Know what's below. Call before you dig.



LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

NEILL TRACT UNIT 1

WASTEWATER LINE 'A' STA. 11+00 TO 21+50

PLAN & PROFILE

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 09/04/2025
DESIGNED BY: PJR
DRAWN BY: PJR / MAP
CHECKED BY: NG
DRAWING NAME: sh_'WWL 'A'.dwg

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JOB NUMBER: SA164

SHEET NO. 8.5

SHEET # OF ####

K:\SA\164_KB Home\2402 Neill Tract\426 Site Development Plans\Civil\~Sheets\sh_WWL 'A'.dwg
User: mcdesmo
Last Modified: Oct. 14, 25 - 08:38
Plot Date/Time: Oct. 21, 25 - 14:46:48

GENERAL NOTES:

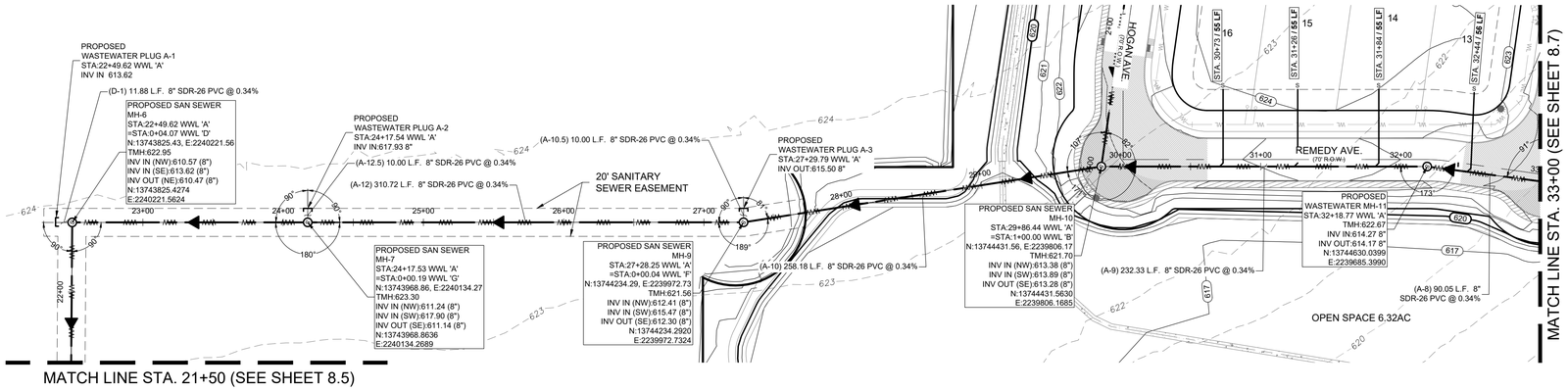
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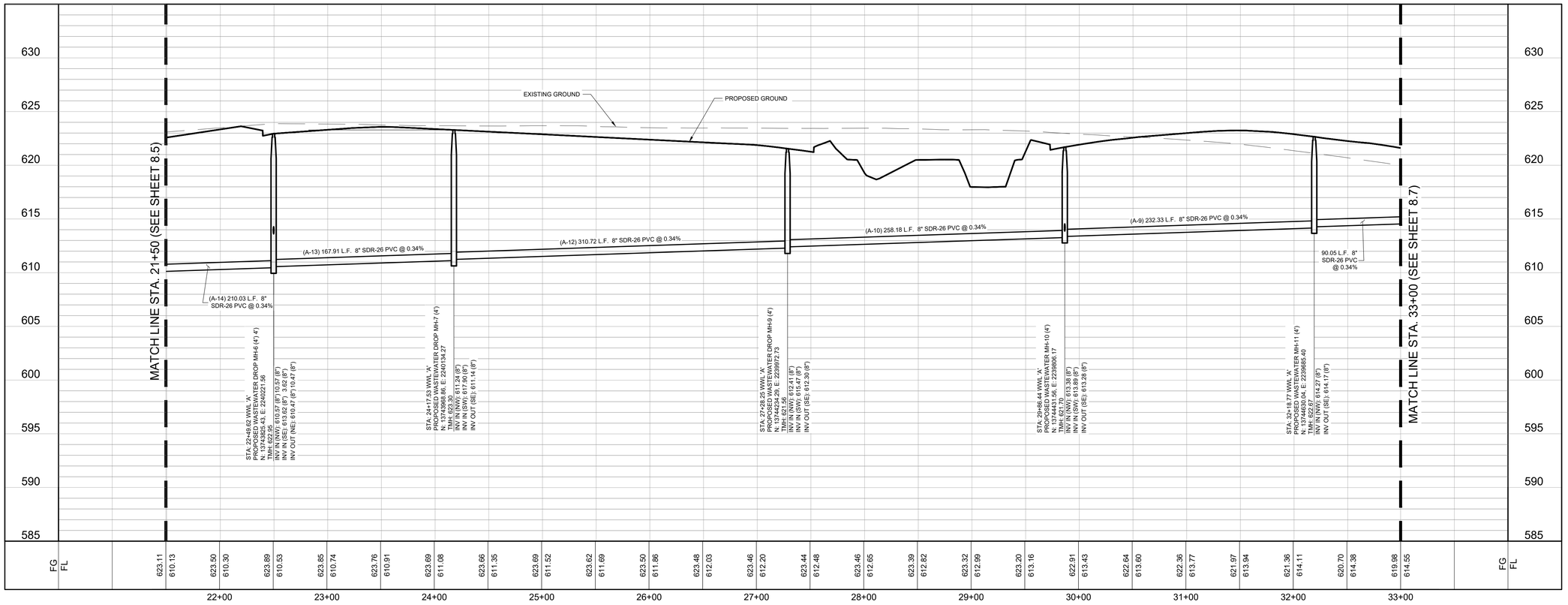


HORIZONTAL SCALE 1" = 50'
VERTICAL SCALE 1" = 5'

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WASTEWATER LINE 'A' STA. 21+50 TO 33+00



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NEILL TRACT UNIT 1

WASTEWATER LINE 'A' STA. 21+50 TO 33+00

PLAN & PROFILE

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 09/04/2025
DESIGNED BY: PJR
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JOB NUMBER: SA164

SHEET NO. 8.6

SHEET # OF ####

K:\SA164_KB Home\2402 Neill Tract\KB Site Development Plans\[WWC-Sheets\sh_WWL 'A'.dwg
User: mcdesmo
Last Modified: Oct. 14, 25 - 08:38
Plot Date/Time: Oct. 21, 25 - 16:46:53

GENERAL NOTES:

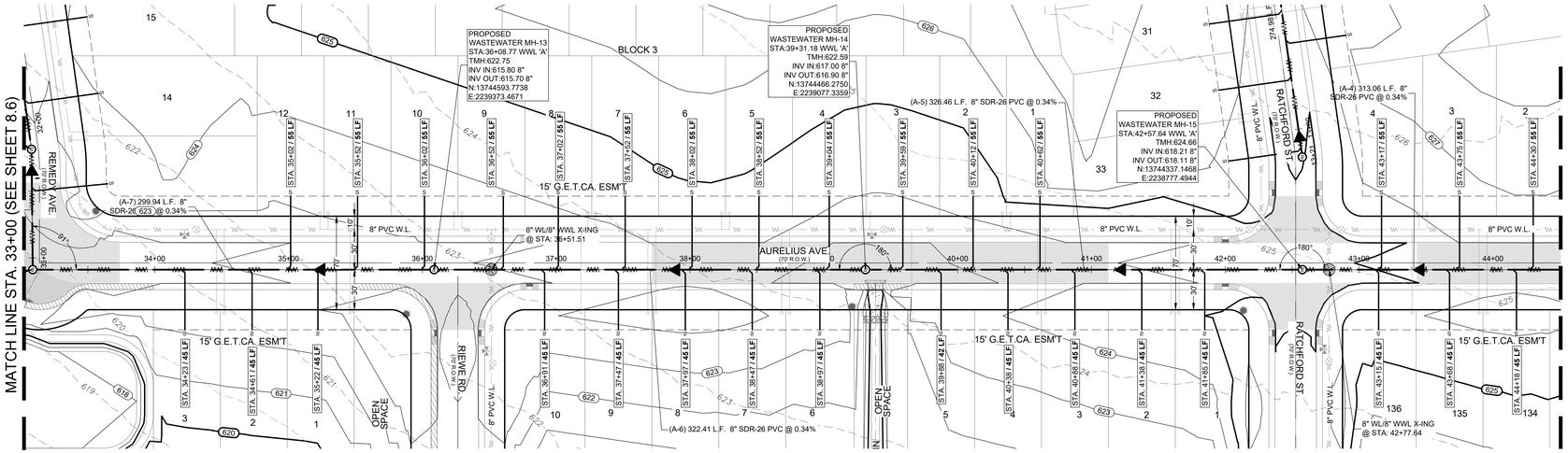
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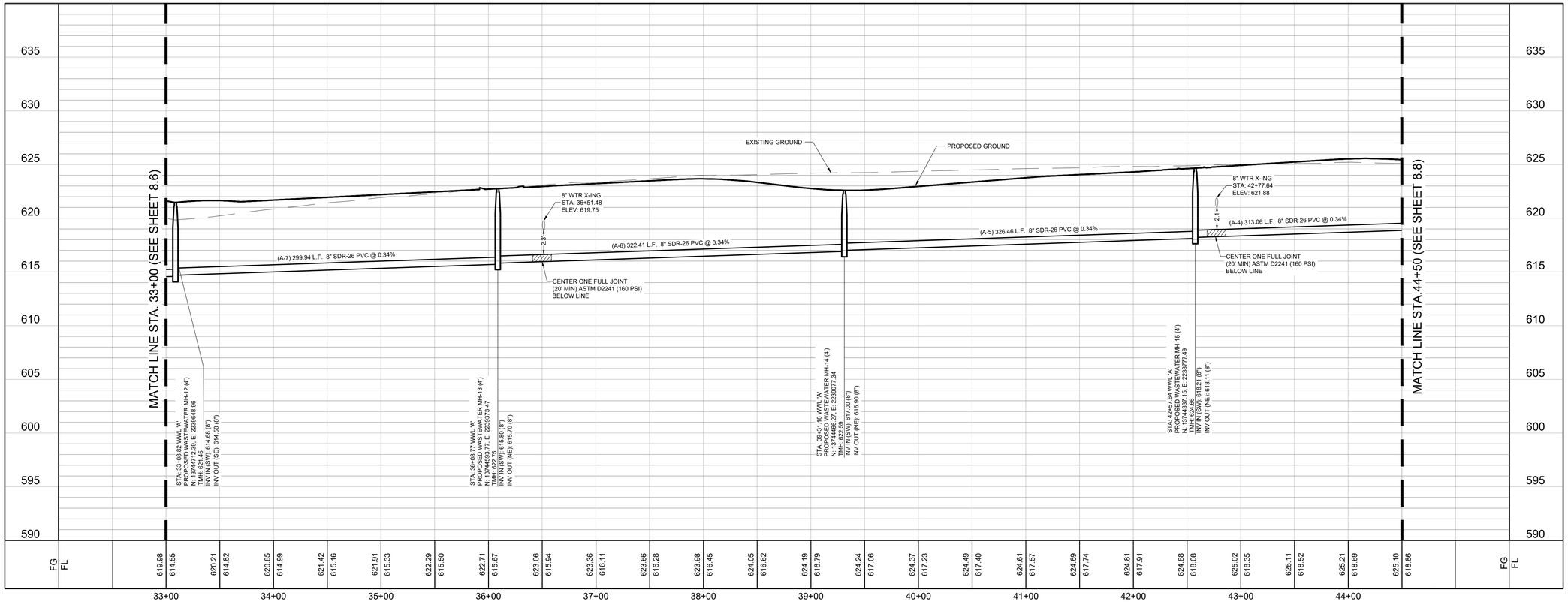




WASTEWATER LINE 'A' STA. 33+00 TO 44+50

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

811 Know what's below. Call before you dig.



LJA Engineering, Inc.
9830 Colonnade Boulevard
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
Fax 210.503.2749
TBPE No. F-1386

NEILL TRACT UNIT 1

WASTEWATER LINE 'A' STA. 33+00 TO 44+50
PLAN & PROFILE

NO.	DESCRIPTION	BY	DATE

DATE: 09/04/2025
DESIGNED BY: PJR
DRAWN BY: PJR / MAP
CHECKED BY: NG
DRAWING NAME: sh_WWL 'A'.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

JOB NUMBER: SA164

SHEET NO. 8.7

SHEET # OF ####

K:\SA\Fil #8 Home\2402 Neill Tract\#38 Site Development Plans\DWG\<Sheet>\sh_WWL 'A'.dwg
User: mcdesmo
Last Modified: Oct. 14, 25 - 08:38
Plotted/Printed: Oct. 21, 25 - 16:46:58

GENERAL NOTES:

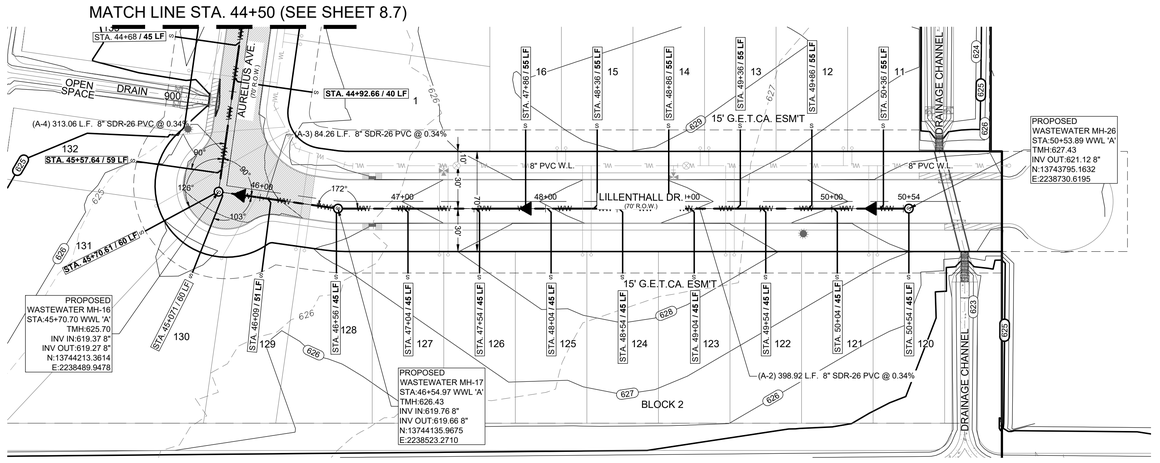
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CAUTION:

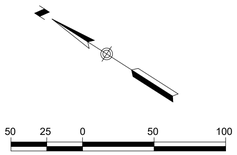
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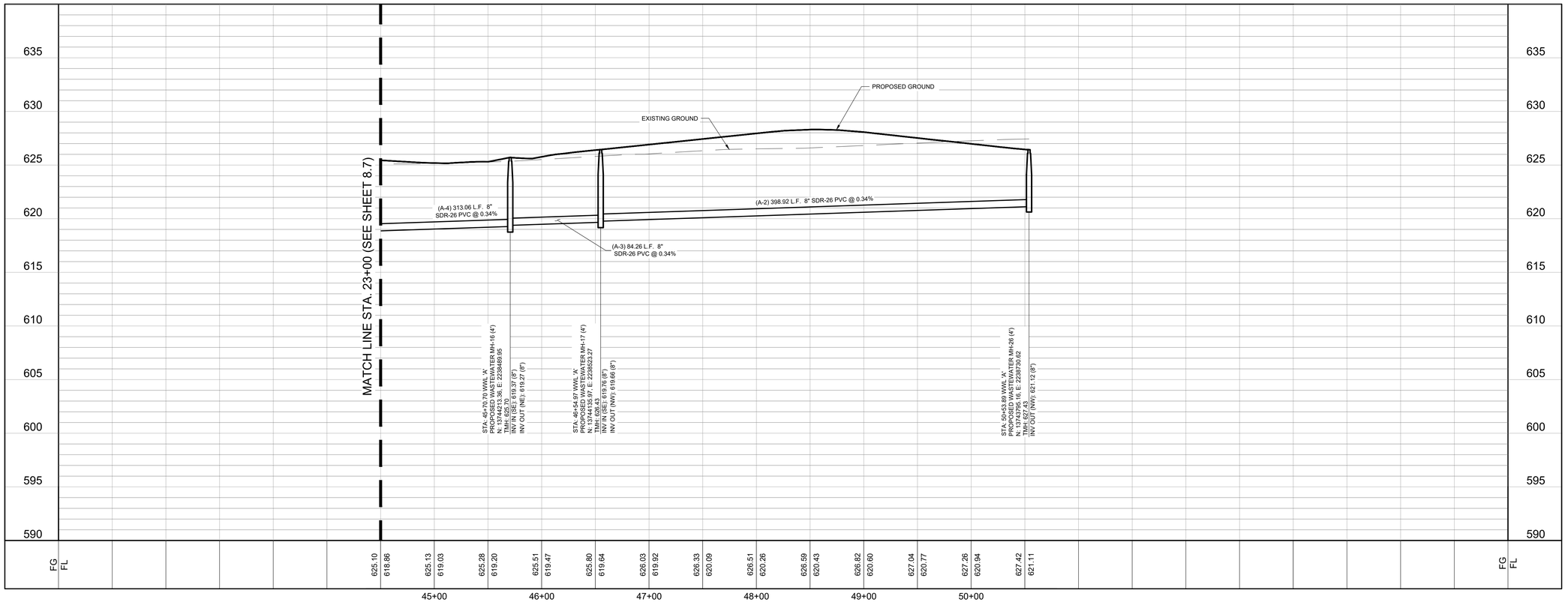


WASTEWATER LINE 'A' STA. 44+50 TO END



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NEILL TRACT UNIT 1

WASTEWATER LINE 'A' STA. 44+50 TO END

PLAN & PROFILE

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE: 09/04/2025
DESIGNED BY: PJR
DRAWN BY: PJR / MAP
CHECKED BY: NG
DRAWING NAME: sh_WWL 'A'.dwg

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Fax 210.503.2749
TBPE No. F-1386

JOB NUMBER: SA164

SHEET NO. 8.8

SHEET # OF ####

K:\SA164_KB Home\2402 Neill Tract\KB Site Development Plans\GWC- Sheets\sh_WWL 'A'.dwg
User: mcdesmo
Last Modified: Oct. 14, 25 - 08:38
Plot Date/Time: Oct. 21, 25 - 14:43:05

GENERAL NOTES:

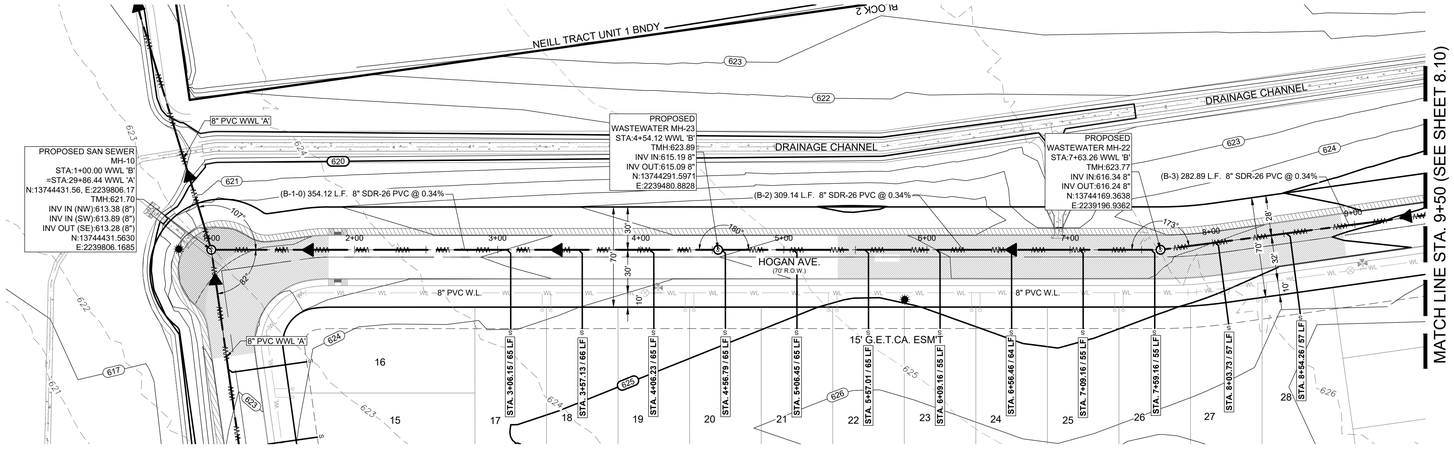
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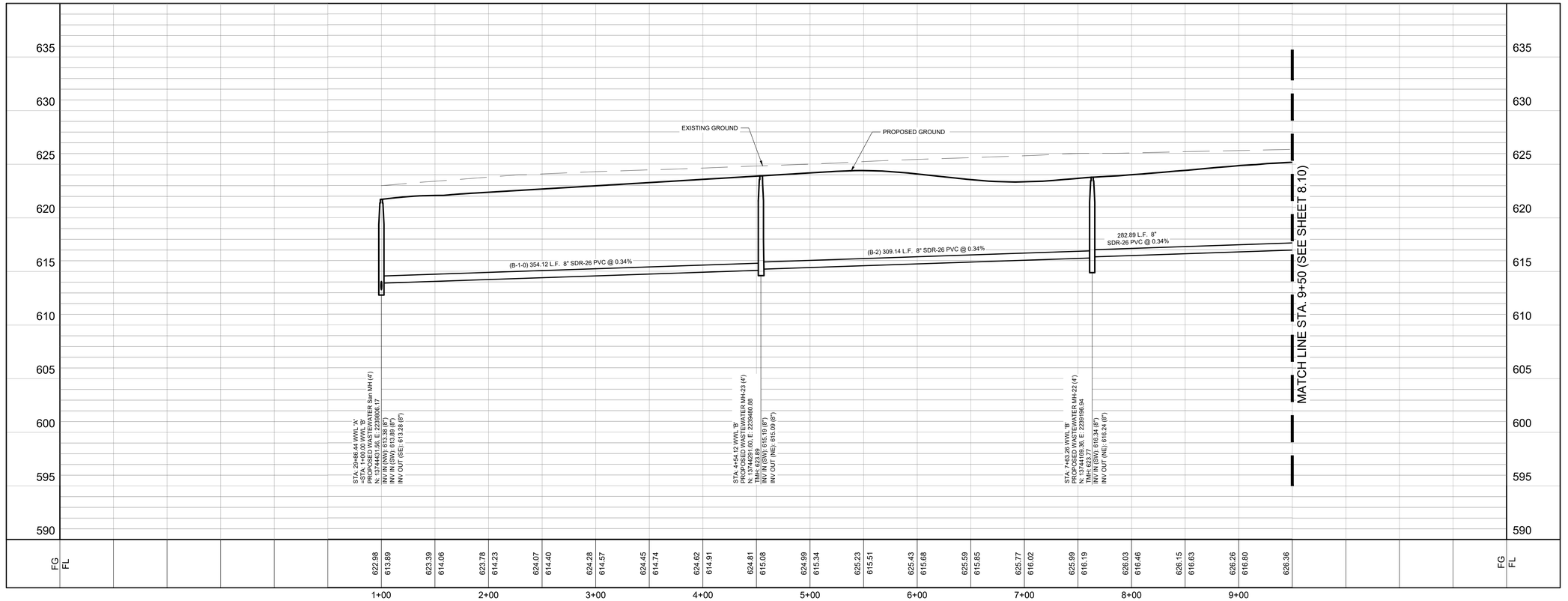
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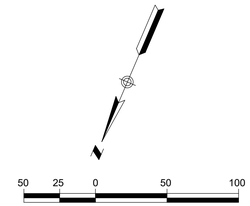
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WASTEWATER LINE 'B' STA. 1+00 TO 9+50





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NEILL TRACT UNIT 1

WASTEWATER LINE 'B' STA. 1+00 TO 9+50

PLAN & PROFILE

REVISIONS

NO.	DESCRIPTION	BY	DATE

DATE: 09/04/2025
DESIGNED BY: PJR
DRAWN BY: PJR / MAP
CHECKED BY: NG
DRAWING NAME: sh_WWL 'B'.dwg

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LJA Engineering, Inc.
9630 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. 8.9

FOR PERMIT

K:\SA164.KB Ironk\Q402 Neill Tract\426 Site Development Plans\GWG-Sheets\sh_WWL 'B'.dwg
Xrefs Attached:
Last Modified: Oct 14, 25 - 08:41
Last Saved By: pjr.m.p

GENERAL NOTES:

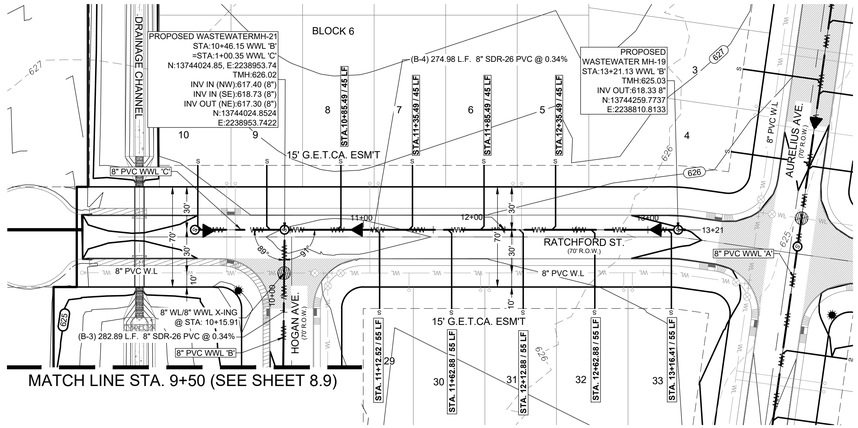
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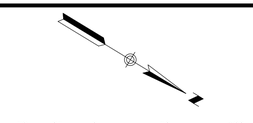
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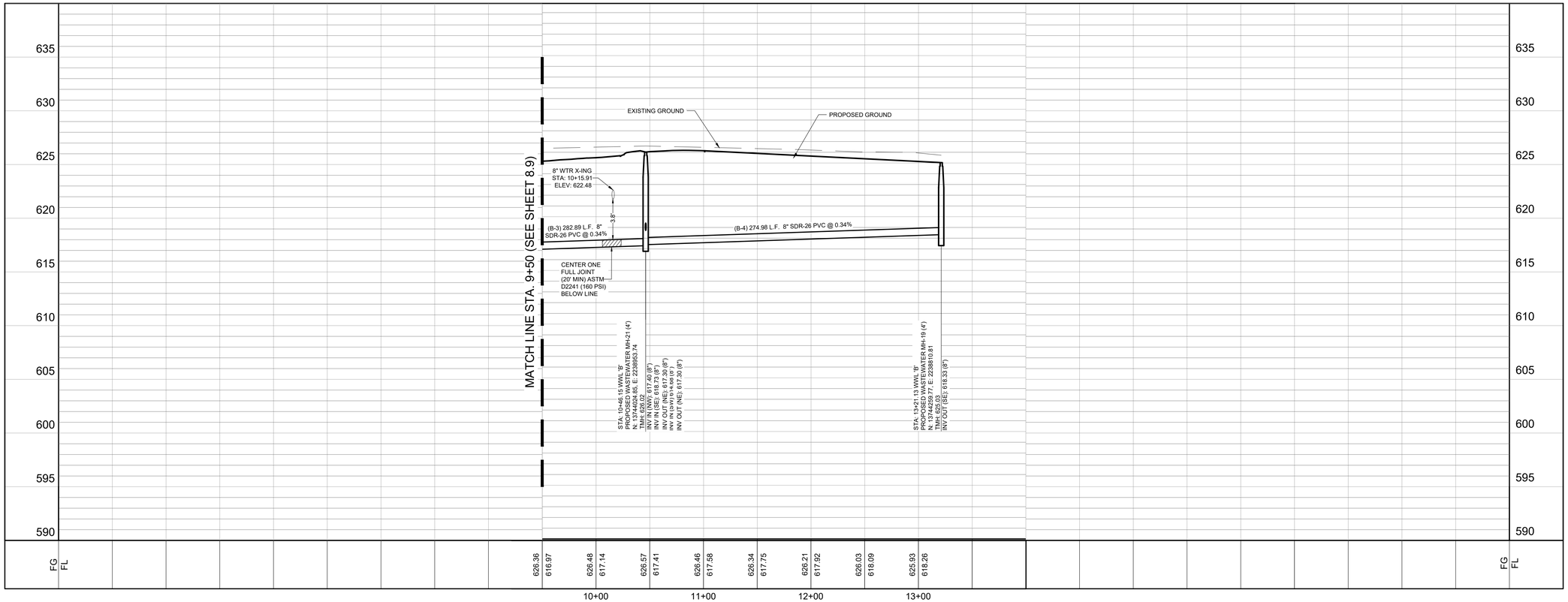




WASTEWATER LINE 'B' STA. 9+50 TO END

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FOR PERMIT

NEILL TRACT UNIT 1

WASTEWATER LINE 'B' STA. 9+50 TO END
PLAN & PROFILE

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE: 09/04/2025
DESIGNED BY: PJR
DRAWN BY: PJR / MAP
CHECKED BY: NG
DRAWING NAME: 83_WWL 'B'.dwg

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9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. 8.10

K:\SA164.402 Rome\2402 Neill Tract\438 Site Development Plans\GMD-Sheets\ph_WWL 'B'.dwg
User: Paul Rios
Last Modified: Oct. 14, 25 – 09:41
Plotted: Oct. 14, 25 – 10:42

GENERAL NOTES:

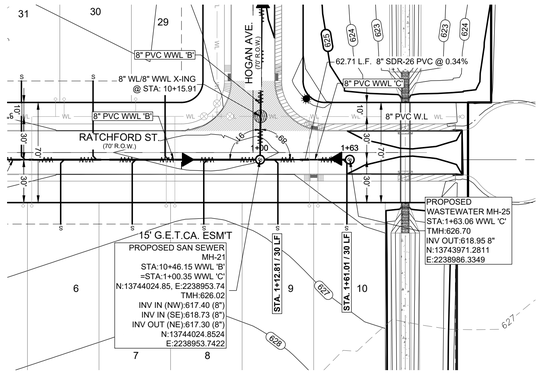
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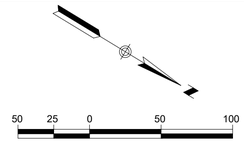
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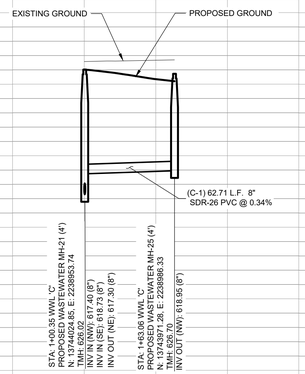


WASTEWATER LINE 'C' STA. 1+00 TO END



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NO.	REVISIONS DESCRIPTION	BY	DATE

DATE: 08/04/2025
DESIGNED BY: P.J.R.
DRAWN BY: P.J.R. / M.A.P.
CHECKED BY: N.G.
DRAWING NAME: ...\WWL 'C' .dwg

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JOB NUMBER: SA164.2402

SHEET NO. 8.11

NEILL TRACT UNIT 1

WASTEWATER LINE 'C' STA. 1+00 TO END

PLAN & PROFILE

FOR PERMIT

K:\SA164.KB Home\2402 Neil Tract\426 Site Development Plans\GWC-Sheets\ph_WWL 'C'.dwg
User: mmartinez
Last Modified: Oct. 14, 25 - 08:42
Last Plotted: Oct. 14, 25 - 08:43

GREEN VALLEY SPECIAL UTILITY DISTRICT SANITARY SEWER SYSTEM GENERAL NOTES:

THE STANDARD SPECIFICATIONS AND DRAWING (DD) ARE PROVIDED AS A TECHNICAL RESOURCE FOR ENGINEERING PROFESSIONALS FOR USE IN DESIGN AND CONSTRUCTION OF SEWER COLLECTION SYSTEMS PROJECTS MANAGED AND CONTRACTED BY THE GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD)

GENERAL: THE OWNER, DEVELOPER, ENGINEERING FIRM SHALL SUBMIT TO THE GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD) ENGINEER, FOR APPROVAL, TWO (2) COPIES OF ALL PLATES, PLANS AND PROFILES, PLUMBING LAYOUT, WHICH HAVE BEEN DESIGNED AND THE DRAWINGS SEALED BY A REGISTERED PROFESSIONAL ENGINEER. WHEN APPROVED, ONE (1) COPY WILL BE RETURNED TO THE OWNER, DEVELOPER, ENGINEERING FIRM, SO MARKED. THE OWNER WILL BE REQUIRED TO MAKE ALL CHANGES INDICATED BY THE GVSUD ENGINEER, AND RETURN WITH ALL CHANGES, CORRECTIONS, BACK TO GVSUD FOR APPROVAL.

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE GVSUD AND COMPLY WITH:
   A. CURRENT GVSUD TECHNICAL SPECIFICATIONS FOR UTILITIES CONSTRUCTION.
   B. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ), FORMERLY TEXAS NATURAL RESOURCE CONSERVATION COMMISSION (TNRCC), DESIGN CRITERIA FOR SEWAGE SYSTEMS 31 TAC 317.1, 31 TAC 317.2 AND 31 TAC 317.3, 30 TAC & 213 40 TAC &217.
2. THE CONTRACTOR IS TO NOTIFY AND MAKE ARRANGEMENTS WITH THE GVSUD INSPECTIONS DIVISION AT (830)914-2330 OR (210)372-2228 - 48 HOURS PRIOR TO ANY EXCAVATION. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD BEFORE ANY EXCAVATION OR START OF PROJECT.
3. WORK SHALL NOT BE PERFORMED ON SATURDAYS, SUNDAYS OR HOLIDAYS BEFORE 7:30 A.M. OR AFTER 4:30 P.M., UNLESS PRIOR APPROVAL IS GRANTED BY THE GVSUD ENGINEER.
   A. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES TO INCLUDE SURFACE LATERALS, SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LOCATION (POT HOLE, VERIFY LOCATION, ELEVATIONS OF ALL) UTILITY SERVICE LINES 48 HOURS PRIOR TO EXCAVATION AND TO PROTECT THE SAME DURING CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES OF EXISTING UTILITIES AND REPAIRS WILL BE AT THE CONTRACTORS EXPENSE.

EXISTING MANHOLES/SEWER

4. CONTRACTOR WILL MAINTAIN SERVICE TO ALL EXISTING SANITARY SEWERS AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR WILL MARK, CLEAN ALL DEBRIS, GRAVEL, DIRT, ETC. OUT OF MANHOLES AND ANY STOPPAGES CAUSED BY DEBRIS DURING CONSTRUCTION. CONTRACTOR WILL UNPLUG STOPPAGE AT CONTRACTORS EXPENSE. ANY DAMAGE TO EXISTING MANHOLES OR SEWER MAIN WILL BE CORRECTED AT THE CONTRACTORS EXPENSE. CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PREVENT DAMAGE TO EXISTING OR NEW RINGS, COVERS, OR CONES FROM EQUIPMENT AND MATERIALS USED OR TAKEN THROUGH THE WORK AREA. IF AN EXISTING OR NEW MANHOLE COVER, RING, OR CONE IS DAMAGED BY THE CONTRACTOR IT SHALL BE REPLACED AS DIRECTED BY THE GVSUD INSPECTOR. MANHOLES WILL NEED TO BE RESEALED WITH THE GVSUD APPROVED SEALING. IF SEAL COATING IS BROKEN, CONTRACTOR WILL HAVE MANHOLE RECOATED. RESEAL ALL LEAKS AT CONTRACTORS EXPENSE.
   A. CONTRACTOR TO ENSURE ALL PLUGS USED TO PLUG SEWER LINES, WHILE TESTING THE PROJECT (SUCH AS AIR PLUGS, SCREW TYPE PLUGS, ETC.) ARE LABELED, MARKED OR TAGGED. PROJECT INSPECTOR WILL RECORD HOW MANY PLUGS ARE BEING USED, LOCATION AND I.D., WITHIN COLLECTION SYSTEM. CONTRACTOR WILL REPORT TO PROJECT INSPECTOR OF ANY LOST OR UNRESTRAINED PLUGS INTO SEWER COLLECTION SYSTEM.
   B. CONTRACTOR WILL BE HELD LIABLE FOR ANY DAMAGES TO SEWER COLLECTION SYSTEM STOPPAGES, OVER-FLOWS, BACKUP INTO HOMES CAUSED BY LOST RUN-AWAY SEWER PLUGS THAT WERE USED ON THAT PROJECT OR OUTFALL LINE WASTEWATER TREATMENT PLANTS.
   C. CONTRACTOR WILL ALSO BE RESPONSIBLE FOR ANY DAMAGE TO WASTEWATER TREATMENT APPARATUS, SUCH AS SCREW PUMPS, ETC. CAUSED BY LOST OF RUN-AWAY SEWER PLUGS. CONTRACTOR WILL BE HELD LIABLE FOR DAMAGES, AS WELL AS COST OF REPAIRS.
5. ALL WORK IN THE TEXAS HIGHWAY DEPARTMENT, BEXAR COUNTY, GUADALUPE COUNTY, AND CITY OF CIBOLO RIGHT OF WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT.
6. ALL WORK IN PUBLIC STREETS SHALL BE COORDINATED WITH AND APPROVED BY THE BEXAR COUNTY OR GUADALUPE COUNTY PUBLIC WORKS DEPARTMENT TRAFFIC DIVISION AND STREET ENGINEER.
7. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.161, CITY PUBLIC SERVICE MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND VALVES THAT ARE IN THE PROTECTED AREAS.
8. NO TESTING WILL BE PERFORMED PRIOR TO 30 DAYS FROM THE COMPLETE INSTALLATION OF THE SANITARY SEWER LINES.

   THE FOLLOWING SEQUENCE WILL BE STRICTLY ADHERED TO:
   A. PULL MANDREL - AFTER 30 DAYS OF INSTALLATION
   B. PERFORM AIR TEST
   C. PULL WIPER (AFTER STREET HAS BE ASPHALTED IN NEW SUBDIVISIONS)
   D. VACUUM TEST ALL MANHOLES WITHIN THE PROJECT
   E. CCTV-ALL NEW LINE-PAN (TILL ALL SERVICE LATERALS TO 6"X6" CLEAN OUT. FLOOD ALL LINES BEFORE CCTV, SUMMIT DVD)
9. CONTRACTOR SHALL SUBMIT FIELD COPY PLANS AND PROFILES SHOWING AS-BUILT WORK AT END OF PROJECT, CCTV DVD AND COMPACTION DENSITY REPORTS FOR MAIN SEWER LINE AND ALL SERVICE LATERALS TRENCHES. WARRANTY LETTERS ON MATERIALS, WORKMANSHIP FOR 24 MONTHS AFTER FINAL ACCEPTANCE.
10. ALL MANHOLES SHALL BE CONSTRUCTED SO THAT THE TOP OF THE RING IS AT LEAST TWELVE (12) INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND EXCEPT WHEN LOCATED IN PAVED AREAS. IN PAVED AREAS THE MANHOLE RING SHALL BE FLUSH WITH THE PAVEMENT. ALL NEW INSTALLED MANHOLES WILL BE WITH A 30" INCH OPENING, MINIMUM, WITH THE GVSUD LOGO ON THE COVER. EVERY THIRD MANHOLE COVER WILL HAVE A 1" HOLE FOR A VENT.
11. ALL MANHOLES SHALL BE WITH A 30" INCH OPENING, HAVE WATERTIGHT RING AND COVERS, WITH THE GVSUD LOGO. ON PRIVATE PROPERTY, MANHOLE RING AND COVER SHALL BE TYPICAL MANHOLE COVER WATER TIGHT.
    A. BEFORE BACK FILLING/COMPACTION/CONCRETE ENCASEMENT

       ALL MANHOLE JOINT SECTION RISERS, CONE SECTIONS AND GRADE RING SHALL BE WRAPPED WITH GATOR WRAP SEALING SYSTEMS, BUTYL ADHESIVE SEALANT WITH A MINIMUM THICKNESS OF 30 MILS. INFI-SHIELD WRAPPED WITH RISER-WRAP SEALING SYSTEM, GATOR WRAP

       MATERIAL: RUBBER MEETS ASTM C923/MASTIC MEETS ASTM C 990 OR APPROVE BY THE GVSUD ENGINEER SUBSTITUTION ON OUTSIDE FOR I/I, GROUND WATER TABLE.
12. IF CONCRETE THROAT RINGS ARE TO BE INSTALLED, A MINIMUM OF TWO AND A MAXIMUM OF FOUR THROAT RINGS WILL BE USED AT EACH MANHOLE FOR ADJUSTMENT.
13. INFILTRATION DISHES WILL BE REQUIRED IN MANHOLES WHERE APPLICABLE (I.E., SUCH AS LOW DRAINAGE AREAS) AND EVERY THIRD MANHOLE SHALL BE VENTED. 30" INCH MANHOLE COVER WITH 1" INCH HOLE CENTER OF COVER WHERE APPLICABLE.

Note: Manhole cover inserts shall be FRW Industries, inc., "Inflow Protector-Cover" "Preco Industries Ltd.", "Sewer Guard", or approved equal, and shall be installed in strict accordance with the manufacturer's recommendations. The contractor shall be responsible for making the necessary field measurements for the manufacturer prior to construction.

   A. ALL MANHOLES MUST HAVE 350-400 FEET SPACING BETWEEN MANHOLES TO PROVIDE ACCESS TO SEWER LINES FOR CLEANING, ON THE GVSUD PUBLIC SEWER EASEMENT. A 16 FOOT GATE WITH LOCK WILL BE PROVIDED BY THE CONTRACTOR FOR ACCESS TO CLEANING AND MAINTAINING SEWER LINES.
   B. DROP MANHOLES SHALL BE REQUIRED WHEN THE INFLOW ELEVATION IS MORE THAN TWENTY-FOUR (24) INCHES ABOVE THE OUTFLOW ELEVATION. DROP SHALL BE LOCATED OUTSIDE THE MANHOLE WITH ITS FLOW LINE ELEVATION LOCATED BETWEEN THE CENTER LINE AND TOP OF SEWER LINE.
14. ALL MANHOLES WILL BE CONCRETE ENCASEMENT 1 FOOT AROUND RING, 28-INCH DEEP AFTER GATOR WRAP SEALING SYSTEM HAS BEEN APPLIED.
15. NEW MANHOLE PROTECTIVE COATING, LINER IS FOR THE PURPOSE OF INFILTRATION BECAUSE OF HIGH WATER TABLE. APPLICATION PROCEDURES ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION AND PER THE FOLLOWING SPECIFICATIONS:
   A. MANHOLE PROTECTIVE COATING: CONTRACTOR WILL BE RESPONSIBLE FOR MANHOLES ON PROJECT SAFETY ASSESSMENT; CONFINED SPACE ENTRY SET BY OCCUPATIONAL SAFETY AND HEALTH STANDARDS, 29 CFR 1910.146 APP E.
   B. THE CONTRACTOR, SHALL NOTIFY THE GVSUD UTILITIES INSPECTIONS DEPARTMENT WITH A MINIMUM OF 2 DAYS ADVANCE NOTICE OF THE START OF ANY FIELD SURFACE PREPARATION WORK OF COATING APPLICATION WORK OF MANHOLES.
   C. ALL NEW MANHOLES IN NEW DEVELOPMENTS SHALL BE 30" INCH OPENING, WATERTIGHT AND THE INTERIOR WALL COATED WITH A GVSUD APPROVED SEWER STRUCTURE FOR ALL MANHOLES, SEWPERCOAT 2000 HR REGULAR, WITH THE REQUIRED ONE-INCH THICK APPLICATION.

APPROVED MATERIALS ARE AS FOLLOWS:

CEMENTITIOUS COATING WITH REQUIRED HALF-INCH THICK APPLICATION

- SEWPERCOAT 2000 HR REGULAR
- REFRATTA HAC 100
- MAXIMUM CA PLUS

EPOXY COATING: WITH SPECIFIED THICKNESS APPLICATION

- AROMATIC POLYUREA SCP DROPLINER REQUIRED THICKNESS 125 MILS

   D. WARRANTY LETTER ON MANHOLE PROTECTIVE COATING FOR 10 YEARS AFTER FINAL ACCEPTANCE OF PROTECTIVE COATINGS CONTRACTOR IS NOT RELIEVED OF ITS RESPONSIBILITIES UNDER THE CONTRACT DOCUMENTS.
      i. ANY CONNECTIONS TO EXISTING MANHOLES WILL REQUIRE A 36-INCH CRADLE TO SUPPORT INCOMING PIPE. A RUBBER GASKET WILL ALSO BE REQUIRED (CENTERED AT MANHOLE WALL) WITH GROUTING AT INTERIOR AND EXTERIOR PENETRATIONS.

         PENETRATION INTO MANHOLE WILL BE CORE DRILLED. ANY DAMAGE EXITING THE MANHOLE WILL BE REPLACED AT CONTRACTOR'S EXPENSE. IF COATING SEAL IS BROKEN, THE MANHOLE WILL BE RECOATED WITH THE SAME MATERIALS. IF EXISTING SEWER MANHOLE SEAL COATING IS BROKEN, ALL OF MANHOLE WILL BE RELEASED WITH SAME MATERIALS AND ONE-INCH THICKNESS.
      ii. ANY AND ALL EXISTING MANHOLES WITHIN CONSTRUCTION PROJECT THAT TIE IN, ARE DONE BY CONTRACTOR TO STUB-OUT ADJUSTMENT, RECONSTRUCTION, OR LEAKING. MANHOLE WILL BE COAT SEALED AT CONTRACTOR'S EXPENSE.
      iii. MANHOLES WITH STUB-OUTS (8") INCH OR LARGER MUST BE LOCATED AT THE END OF ALL SEWER LINES THAT MAY BE EXTENDED IN THE FUTURE. MANHOLES PLACED AT THE END OF THE WASTEWATER COLLECTION SYSTEM PIPES THAT MAY BE EXTENDED IN THE FUTURE MUST INCLUDE STUB-OUTS WITH PLUGS.

PIPING

16. THE KIND AND DESCRIPTION OF THE PIPE CONDUIT IS SHOWN ON THE PLANS (IF PVC, SDR AND ASTM/ANSI DESIGNATION CLASS). AS SDR 26 PVC, ASTM D-3034 WITH A MINIMUM STIFFNESS OF 115 PSI TEXAS ADMINISTRATIVE CODE (TAC) RULES TO INCLUDE30 TAC & 213, OR ANY REVISIONS THERE TO APPLICABLE TECQ, 30 TAC 7 217, FOR ALL NEW DEVELOPMENT.
17. THE USE OF ASBESTOS CEMENT PIPE WILL BE PROHIBITED UNDER THIS CONTRACT. ALL DUCTILE IRON PIPE USED IN THIS SYSTEM SHALL BE CORROSION PROTECTED ON BOTH THE INTERIOR AND EXTERIOR SURFACES. ALL CORROSION PROTECTION SHALL BE APPLIED AND INSTALLED IN SUCH A MANNER AS TO MAINTAIN A CONTINUOUSLY PROTECTED SURFACE AFTER FINAL PIPE INSTALLATION.
18. ALL PVC SEWER PIPE WITH OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH; MINIMUM PIPE STIFFNESS OF 150 PSI.
19. ALL SEWER PIPES SHALL HAVE COMPRESSION OR MECHANICAL JOINTS.
20. SEWER PIPE CONNECTIONS TO PRECAST MANHOLES SHALL BE APPROVED BY THE GVSUD. THIS CONNECTION SHALL USE FLEXIBLE "BOOT" TYPE CONNECTOR SUCH AS THE PSX POSITIVE SEAL SYSTEM OR ENGINEER APPROVED EQUAL AND COMPLY WITH ASTM C-923. SEWER PIPE CONNECTIONS TO MONOLITHIC MANHOLES WILL BE AS SHOWN ON THE STANDARD DETAIL SHEET. ANY CHANGES IN THESE METHODS MUST BE APPROVED BY GVSUD ENGINEER.
21. ALL PIPE TRENCHING, BEDDING AND BACKFILL SHALL BE DONE IN ACCORDANCE WITH APPROPRIATE ASTM/ANSI SPECIFICATIONS [REFERENCE 31 TAC 317.2(A)(5)(A); ASTMC-12 (ANSI A106.2) OR ASTM D-2321 (ANSI K65.171)]. ALL COMPACTION @ 98% DENSITY TESTS ACROSS THE BOARD, 1 RANDOM DENSITY TEST PER LIFT FOR EVERY 400 FEET.
    A. SAND MIGRATION, SEEPAGE PREVENTION COLLAR WHEN CHANGING THE INITIAL BACKFILL FROM SELECT INITIAL BACKFILL TO OPTIONAL SELECT INITIAL BACKFILL. A TWO (2) FOOT LONG CLASS D CONCRETE ENCASEMENT, EVERY 180 FEET ALONG PIPE AND 20 FEET FROM WALL OF MANHOLE IN EACH DIRECTION. NO EXTRA PAY ITEM.
    B. BEDDING SHALL CONSIST OF TXDOT-GRADE 4 (1 1/2"-1 5/8") COMMONLY KNOWN AS SEWER GRAVEL.
       i. THE BEDDING SHALL MEET THE FOLLOWING GRADATION:
          a. 2" 100.0%
          b. 1 ¾" 100.0%
          c. 1 ½" 100.0%
          d. 1" 52.6%
          e. ¾" 10.7%
          f. ⅜" 1.3%
    C. SEWER LINE LOCATION
       i. SEWER LINES SHALL BE SIZED AND EXTENDED THROUGH THE LIMITS OF A DEVELOPMENT TO SERVE ADJACENT PROPERTY, WITH MANHOLE AND STUB-OUT AT END OF SEWER LINE.
          a. IN PHASED CONSTRUCTION OF THOROUGHFARES, THE SEWER LINE SHALL BE EXTENDED THE ENTIRE LENGTH OF THE THOROUGHFARE BEING CONSTRUCTED.
       ii. NO PUBLIC SEWER LINE SHALL BE LOCATED NEARER THAN FIVE (5) FEET FROM ANY TREE.
       iii. SIZES AND GRADES FOR SANITARY SEWER SHALL BE AS REQUIRED BY THE GVSUD ENGINEER AND CONSIDERATION SHALL BE GIVE AS TO POSSIBLE EXTENSIONS FOR FUTURE DEVELOPMENT. NO SANITARY SEWERS, OTHER THAN LATERALS AND FORCE MAINS, SHALL BE LESS THAN EIGHT (8) INCH IN DIAMETER.
22. WHEN SEWER LATERALS ARE TO BE CONNECTED TO EXISTING SEWER MAINS AND NO STUB-OUT HAS BEEN EARLIER PROVIDED, THE CONNECTION MUST BE MADE WITH AN APPROVED SERVICE SADDLE AS PER 31 TAC 313.5(C) (7). NEW INVERT TO BE BUILT, SMOOTH CHANNEL FOR NEW PIPE/SLOPE AT 2% FLOW.
23. ALL RESIDENTIAL SERVICE LATERALS SHALL BE SDR 26 WITH RATING OF 115 PSI, BE EXTENDED TO THE PROPERTY LINE AT (6 X 6) CAPPED AND SEALED. ATTACH SEWER BURIAL TAPE TO THE END OF ALL SEWER LATERALS AND BRING UP TO THE GROUND LEVEL FOR MARKER (GREEN). (SEE HOUSE LATERALS DETAILS)

AA. SEWER SERVICE LATERALS. THE SIZES AND LOCATIONS OF LATERALS SHALL BE DESIGNATED AS FOLLOWS UNLESS OTHERWISE DIRECTED BY THE GVSUD ENGINEER:
   i. IN GENERAL FOR SINGLE FAMILY DWELLING, THE LATERAL SIZE SHALL BE FOUR (4) INCH MINIMUM. HOUSE LATERALS SHALL BE IN STALL CENTER OF THE LOT AND SHALL HAVE A TEN(10) FOOT SEPARATION FROM THE WATER SERVICE. THE SERVICE SHALL THEN BE EXTENDED AT A FORTY-FIVE (45) DEGREE ANGLE TO FOUR (4) FEET ABOVE THE FINISHED GRADE AND CAPPED. USE SEWER BURIAL TAPE TO MARK ALL SEWER SERVICE LATERALS.

   ii. MULTIPLE UNITS, APARTMENTS, LOCAL RETAIL AND COMMERCIAL SIX (6) INCH MINIMUM, MANUFACTURING AND INDUSTRIAL - EIGHT (8) INCH MINIMUM, OR LARGER AS REQUIRED.

TRAPS AND INTERCEPTORS (FOG - TECQ)

UNIFORM PLUMBING CODE, CITY OF SAN ANTONIO BUILDING INSPECTIONS DEPARTMENT. ALL COMMERCIAL BUILDINGS WILL HAVE TRAPS (FOG-TECQ).

OIL SEPARATORS

WHICH INCLUDE OIL SEPARATOR-GASOLINE SERVICE STATIONS, CAR WASHES, GARAGES, DRY CLEANERS, CHEMICAL PLANTS, GAS PLANTS, HIDE PROCESSORS, TESTING LABORATORIES, OR ANY PLACE WHERE OIL OR SOLVENTS MAY BE INTRODUCED IN TO THE SANITARY SEWER SYSTEM. THE SIZING CRITERIA FOR OIL SEPARATORS SHALL BE BASED ON THE G.P.M. RATE OF ALL FIXTURES, APPLIANCE OR APPURTENANCE, DRAINING INTO SEWER SYSTEM.

SAND INTERCEPTORS

SAND INTERCEPTORS SHALL BE INSTALLED IN THE SEWER SYSTEM OF THE FOLLOWING ESTABLISHMENTS, GARAGES, CAR WASHES, SERVICE STATIONS, OR ANY PLACE OF BUSINESS WHERE HEAVY SOLIDS MAY BE INTRODUCED INTO THE SANITARY SEWER SYSTEM. THE SIZING CRITERIA FOR A SAND INTERCEPTOR SHALL BE BASED ON THE REQUIRED G.P.M. X 12 MINUTE RETENTION TIMES TO OBTAIN THE TANK SIZE IN GALLONS CAPACITY.

AUTOMATIC CAR WASHES

WITH HIGH PRESSURE SPRAYS AND/OR BRUSHES INSTALL A 50 G.P.M. INTERCEPTOR. MINIMUM, FOR A 4-BAY VEHICLE WASH, THE SIZE OF THE INTERCEPTOR SHALL INCREASE 10 G.P.M. FOR EACH ADDITIONAL WASH BAY OVER 4. SINGLE BAY OR PORTABLE WASHER TYPE VEHICLE WASHES SHALL INSTALL A 20 G.P.M. INTERCEPTOR MINIMUM.

NEUTRALIZING DEVICES

IN NO CASE SHALL CORROSIVE LIQUIDS, SPENT ACIDS, OR OTHER HARMFUL CHEMICALS WHICH MIGHT DESTROY OR INJURE A DRAIN, SEWER, SOIL, OR WASTE PIPE, OR WHICH MIGHT CREATE NOXIOUS OR TOXIC FUMES, DISCHARGE INTO THE SANITARY SEWER SYSTEM WITH OUT BEING THOROUGHLY NEUTRALIZED BY PASSING THOROUGHLY CONSTRUCTED AND ACCEPTABLE NEUTRALIZING DEVICE. SUCH DEVICE SHALL BE PROVIDED WITH A SUFFICIENT INTAKE OF NEUTRALIZING MEDIUM, CONSISTING OF LIMESTONE OR MARBLE CHIPS, SO AS THE MAKE ITS CONTENTS NON-INJURIOUS BEFORE BEING DISCHARGED INTO THE SANITARY SEWER SYSTEM.

LINT TRAPS

PUBLIC AND PRIVATE WASHATERIAS AND COMMERCIAL LAUNDRIES SHALL INSTALL A LINT TRAP EQUIPPED WITH A CONVENIENTLY LOCATED AND EASILY REMOVABLE WIRE BASKET OR OTHER SIMILAR DEVICE THAT WILL PREVENT THE STRINGS, RAGS, BUTTONS, OR OTHER PROHIBITED MATERIAL FROM ENTERING THE SANITARY SEWER SYSTEM. THE BASKET OR OTHER SIMILAR DEVICE SHALL PREVENT PASSAGE TO THE SANITARY SEWER SYSTEM OF SOLIDS GREATER THAN 1/2" INCH DIAMETER. THE LINT TRAP SIZE SHALL BE BASED ON THE TOTAL G.P.M. OF ALL FIXTURES, APPLIANCES AND APPURTENANCES DRAINING TO IT IN LIEU OF A LINT TRAP, A LINT INTERCEPTOR MAY BE INSTALL. THE INTERCEPTOR SHALL BE SIZED AND DESIGNED BY A TEXAS REGISTERED ENGINEER WITH HIS SEAL AND SIGNATURE ON THE DRAWINGS.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS		SANITARY SEWER SYSTEM GENERAL NOTES (1 OF 2)
REVISED: OCTOBER 2021	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. G-1

NEILL TRACT UNIT 1
WASTEWATER DETAILS SH1

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 9/8/2025
DESIGNED BY: JDR
DRAWN BY: ML / TJ
CHECKED BY: NG
DRAWING NAME: 31_Wastewater Details01.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

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TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. 8.12

FOR PERMIT

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Last Modified: Oct 03, 25 - 16:10
Last Plotted: Oct 03, 25 - 16:10
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SILVER RECOVERY UNITS

SILVER RECOVERY UNITS SHALL BE INSTALLED IN WASTE LINES(S) LEADING FROM X-RAY PROCESSING, PHOTOGRAPHIC PROCESSING, AND/OR ANY PROCEDURES IN ESTABLISHMENT SUCH AS MEDICAL LABS, DENTAL LABS, PHOTO FINISHERS, PRINTERS, GRAPHIC ARTS PRODUCTION FACILITIES, HOSPITAL FACILITIES, VETERINARY HOSPITALS, OR OTHER ESTABLISHMENTS WHERE SILVER MAY BE INTRODUCED INTO THE SANITARY SEWER SYSTEM.

SOLID INTERCEPTORS

SOLIDS INTERCEPTORS SHALL BE INSTALLED WHEN PRE-TREATMENT OF WASTE STREAMS IS NECESSARY TO PREVENT SOLIDS GREATER THAN $\frac{1}{2}$" IN DIAMETER, WHICH MAY CAUSE LINE STOPPAGE FROM ENTERING THE SANITARY SEWER SYSTEM.

INTERCEPTORS

a. INTERCEPTORS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DESIGN APPROVED BY THE GVSUD CONSISTING OF A MINIMUM OF TWO COMPARTMENTS WITH FITTINGS DESIGNED FOR GREASE RETENTION AND PROVIDE FOR A MINIMUM OF TWELVE (12) MINUTES RETENTION
b. THERE SHALL BE AN ADEQUATE NUMBER OF MANHOLES TO PROVIDE ACCESS FOR CLEANING ALL AREAS OF AN INTERCEPTOR, ONE MANHOLE PER TRAP COMPARTMENT. MANHOLE COVERS SHALL BE GAS TIGHT IN CONSTRUCTION HAVING A MINIMUM OPENING DIMENSION OF 20 INCHES (0.5 M).
c. IN AREAS WHERE TRAFFIC MAY EXIST THE INTERCEPTOR SHALL BE DESIGNED TO HAVE ADEQUATE REINFORCEMENT AND COVER.
d. ALL INTERCEPTORS SHALL HAVE THE SIZE OF THE INTERCEPTOR (IN GALLON PER MINUTE OR GALLON CAPACITY) PERMANENTLY AFFIXED TO THE DEVICE.
e. ALL CONCRETE UTILIZED IN THE CONSTRUCTION OF INTERCEPTOR SHALL HAVE A MINIMUM STRENGTH OF 3000 PSI.
f. AN EFFLUENT SAMPLING WELL ON ALL INTERCEPTORS SHALL BE REQUIRED. THE SAMPLE WELL SHALL HAVE A RISER A MINIMUM OF 6" INCHES IN DIAMETER AND SHALL BE INSTALLED AFTER THE CONFLUENCE OF ALL WASTE STREAMS FROM THE FACILITY AND PRIOR TO DISCHARGING INTO SANITARY SEWER COLLECTION SYSTEM. THE WELL SHALL BE PERPENDICULAR TO THE EFFLUENT LATERAL TO ALLOW VISUAL OBSERVATION OF THE FLOW STREAM AND PROVIDE FOR SAMPLING OF WASTEWATER.

WATERTIGHT TESTING (24 HOURS)

g. ALL INTERCEPTORS SHALL BE WATER TESTED OUT AT JOB SITE AFTER BEING INSTALLED (PLUG BOTH ENDS AND FILL TO TOP OF INTERCEPTOR). INTERCEPTOR SHALL SHOW NO LEAKAGE FROM SECTION SEAMS, PINHOLES, OR OTHER IMPERFECTIONS. ANY LEAKAGE IS CAUSE FOR REJECTION. WHEN LEAKAGE OCCURS, ADDITIONAL WATER TESTING SHALL BE MADE. AFTER CORRECTING MEASURE TEST, REPORTS SHALL SHOW TOTAL NUMBER OF INTERCEPTORS TESTED. WHEN LEAKAGE OCCURS, CORRECTIVE MEASURES TAKEN SHALL BE REPORTED BY GVSUD INSPECTORS. GVSUD INSPECTORS SHALL RECORD IN DAILY LOG WITH PROJECT NAME, DATE IT WAS TESTED AND COMPLETED.

B. MANHOLES WILL BE REQUIRED ON SIX (6) INCH AND LARGER LATERALS WHERE THEY CONNECT TO THE MAIN.
   a. LATERALS WILL NOT BE ATTACHED TO SEWER MAINS THAT ARE DEEPER THAN TWELVE (12) FEET.
   b. FITTINGS ARE NOT PERMITTED ON LATERALS BETWEEN THE WYE AND THE PROPERTY LINE.
   c. DEEP CUT OR DROP CONNECTIONS SHALL NOT BE PERMITTED.
   d. A MINIMUM OF ONE (1) LATERAL PER BUILDING SHALL BE REQUIRED. ALSO, A MINIMUM OF ONE (1) LATERAL PER RESIDENTIAL LOT SHALL BE REQUIRED. DUPLEXES SHALL HAVE TWO (2) LATERALS THAT SHALL BE INDEPENDENTLY ATTACHED TO THE MAIN.
   e. ALL SEWER LATERAL CROSSING WATER MAINS SHALL CONFORM TO THE REQUIREMENTS OF THE TCEQ CHAPTER 317 (DESIGN CRITERIA FOR SEWERAGE SYSTEMS) LATEST REVISION, SDR 26 150 PSI, OR DUCTILE IRON PIPE, CONCRETE ENCASEMENT.

24. WHERE REQUIRED CONCRETE ENCASEMENT SHALL BE PLACED FOR FULL WIDTH OF THE TRENCH TO A PLAIN SIX (6) INCHES ABOVE THE TOP OF THE PIPE WITH PAY UNITS AS SHOWN ON THE STANDARD DETAILS SHEET.
25. A MINIMUM OF FOUR (4) FEET OF COVER IS TO BE MAINTAINED OVER THE SANITARY SEWER MAIN AND LATERALS AT GRADE, OTHERWISE CONCRETE ENCASEMENT IS REQUIRED.
26. WHERE POROUS MATERIAL , INCLUDING "SUBGRADE FILLER" IS USED FOR BACKFILL IN THE BEDDING AND INITIAL BACKFILL ZONES, SEEPAGE RETAINERS ARE REQUIRED AT AN APPROXIMATE OF 180 FEET. RETAINERS SHALL CONSIST OF CLASS "D" CONCRETE ENCASEMENT. THE RETAINERS SHALL EXTEND FROM THE BOTTOM OF THE TRENCH TO THE TOP OF THE GRANULAR MATERIAL FOR THE ENTIRE TRENCH WIDTH. ENCASEMENT SHALL BE 24 INCHES LONG. NO EXTRA PAY ITEM

BLASTING

27. WHEN ALLOWABLE, BLASTING SHALL BE PREFORMED IN ACCORDANCE WITH THE ABOVE CRITERIA ESTABLISHED BY THE NATIONAL FIRE PROTECTION ASSOCIATION 312 TAC 313.5(C) (6).
28. BLASTING SEWER LINE EXCAVATION MUST BE DONE IN SUCH A MANNER AS TO MINIMIZE THE FRACTURING OF ROCK BEYOND THE REQUIRED EXCAVATION. THE CONTRACTOR SHALL CONSIDER THE ELEVATION OF THE EXISTING SANITARY SEWER MAIN IN RELATION TO THE BLASTING CHARGE AND RELATIVE DIRECTION OF EXISTING AND PROPOSED TRENCHES. BLASTING WITHIN SUCH AREAS SHALL BE ACCOMPLISHED ONLY BY QUALIFIED BLASTING CONTRACTORS WHO HOLD BLASTING LICENSES FROM A QUALIFIED AGENCY SUCH AS THE SAN ANTONIO FIRE DEPARTMENT IN BEXAR COUNTY. ANY DAMAGE TO EXISTING SANITARY SEWERS RESULTING FROM BLASTING SHALL BE REPAIRED AND RESTORED BY THE CONTRACTOR AT HIS OWN EXPENSE.
29. NO BLASTING SHALL BE PERFORMED WITHIN 75 FEET OF EXISTING UTILITIES.

TESTING

30. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH THE FOLLOWING:
   A. 317.2(A)(5)(B); DEFLECTION TEST FOR FLEXIBLE AND SEMI-RIGID PIPE CONDUCTED AFTER FINAL BACKFILL AS BEEN IN PLACE AT LEAST 30 DAYS.
   B. 317.2(A)(4)(A) & (B) OR GVSUD SPECIFICATIONS INFILTRATION AND OR EXFILTRATION AND OR LOW-PRESSURE AIR TEST.
   C. 313.5(C)(10)(C) OR GVSUD SPECIFICATIONS: ALL MANHOLES AND WET WELLS MUST BE TESTED SEPARATELY AND INDEPENDENTLY OF THE COLLECTION LINES.
   D. IN THE EVENT THAT TESTING REQUIREMENTS CONFLICT, THE LATEST TCEQ DESIGN CRITERIA SHALL BE USED.
31. SEWER LINES SHALL BE TESTED FROM MANHOLE TO MANHOLE.
32. SANITARY SEWER CONNECTIONS MADE DIRECTLY TO EXISTING MANHOLES WHICH REQUIRE PENETRATION INTO MANHOLE WILL BE CORE DRILLED. ANY DAMAGE TO EXISTING MANHOLE WILL BE REPLACED AT CONTRACTORS EXPENSE AND WILL REQUIRE SUCCESSFUL TESTING OF THE EXISTING MANHOLE IN ACCORDANCE WITH THE GVSUD SPECIFICATIONS. HANG A GOLF BALL IN FRONT OF CAMERA, PIPE GRADE IS OUT OF TOLERANCE IF GOLF BALL BECOMES 50% SUBMERGED.
33. AFTER CONSTRUCTION, TESTING WILL BE DONE BY PAN/TILT TV CAMERA BY THE CONTRACTOR AND OBSERVED BY INSPECTOR, WASTEWATER ENGINEERING PERSONNEL AND CONTRACTOR AS CAMERA IS RUN THROUGH THE LINES. PAN/TILT ALL 6" SERVICE LATERALS TO 6"X6" STUB-OUT. VIDEOS MUST INCLUDE SUBDIVISION NAME, MANHOLE NUMBER, SERVICE LATERAL STATION NUMBER, FLOW DIRECTION, LOCATION ANY ABNORMALITIES, SUCH AS BROKEN PIPE OR MISALIGNED, JOINT, GRAVEL, DIRT, MUST BE CLEANED OUT, REPLACE AT CONTRACTOR'S EXPENSE. NEW SEWER SYSTEM WILL BE FLOODED WITH H20 BEFORE BEING TV. ALL SEWER LINES MUST BE PRESSURE CLEANED TO INCLUDE SERVICE LATERALS 6" INCH TO STUB-OUT. ALL VIDEOS SHALL BE SUBMITTED IN DVD FORMAT WITH WRITTEN REPORTS.
34. A COPY OF ALL TESTING REPORTS INCLUDING BACKFILL COMPACTION TESTS SHALL BE FORWARDED TO GVSUD.
   A. DENSITY TEST WILL BE REQUIRED ON ALL SANITARY SEWER TRENCHES INCLUDING SERVICE LATERALS. SERVICE LATERALS TO BE CHOSEN RANDOMLY BY FIELD INSPECTOR. DENSITIES ON SERVICE LATERAL SHALL NOT EXCEED 25% OF TOTAL NUMBER OF SERVICES.

EXCAVATION

35. 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 CONTRACTORS TRENCH EXCAVATION SAFETY SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTORS IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITHIN OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
36. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PERMANENTLY PLACE ANY WASTE MATERIALS IN THE 100 YEAR FLOODPLAIN WITHOUT AN APPROVED FLOODPLAIN PERMIT.
37. WATER JETTING THE BACKFILL WITHIN A STREET WILL NOT BE PERMITTED. SANITARY SEWER TRENCHES SUBJECT TO TRAFFIC SHALL CONFORM TO GVSUD SPECIFICATIONS.

WATERLINE CROSSING

38. WHERE THE MINIMUM 9 FOOT SEPARATION DISTANCE BETWEEN SEWER LINES AND WATERLINES CANNOT BE MAINTAINED, THE INSTALLATION OF SEWER LINES SHALL BE IN STRICT ACCORDANCE WITH TCEQ RULES (31 TAC 317.3 APPENDIX E), SDR 26 ASTM 150 PSI OR CONCRETE ENCASEMENT DUCT IRON.

EROSION AND SEDIMENTATION

39. THE TCEQ AND THE ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIRE EROSION AND SEDIMENTATION CONTROL FOR CONSTRUCTION OF SEWER COLLECTION SYSTEMS. DEVELOPER OR AUTHORIZED REPRESENTATIVE SHALL PROVIDE EROSION AND SEDIMENTATION CONTROL AS NOTED ON THE PROJECT PLAN AND PROFILE SHEETS.
40. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY GVSUD.

SUPPLEMENTING

41. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS BUT NOT INCLUDED ON THE BID SCHEDULE. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED UNDER PAY ITEM 10 WHICH IT RELATES TO.
42. UNLESS THE DEVELOPMENT IS PRIVATELY OWNED, THE DEVELOPERS DEDICATES THE SANITARY SEWER MAIN AND MANHOLES TO THE GVSUD. UPON COMPLETION BY THE DEVELOPER AND FINAL ACCEPTANCE BY THE GVSUD. GVSUD WILL OWN AND MAINTAIN THE SANITARY SEWER MAINS AND MANHOLES WHICH ARE LOCATED WITHIN THIS PARTICULAR SUBDIVISION.
43. WORK COMPLETED BY CONTRACTOR WHICH HAS NOT RECEIVED A WORK ORDER OR THE CONSENT OF THE GVSUD CONSTRUCTION INSPECTION DIVISION WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.
44. GVSUD IS NOT TO BE RESPONSIBLE FOR ANY ABNORMALITIES ON STUB-OUT, INVERT, GRADE OR SLOPE FOR ANY EXISTING MANHOLE TIE IN OR SERVICE LATERAL TIE IN.
45. ENGINEER, DEVELOPER, AND BUILDER, WILL HAVE PLUMBER AND CONTRACTOR WITH BID PRICE ON NEW INSTALLATION OF ALL 4" INCH SEWER SERVICE LATERALS TO COMPLY WITH TRENCH SAFETY (OSHA) SHORING PROTECTION ON ALL NEW INSTALLATION OF 4" INCH SEWER SERVICE LATERALS. GVSUD WILL NOT BE HELD RESPONSIBLE FOR ANY INJURIES OR DEATH CAUSED BY TRENCH FAILURE OR A WRONG OR DAMAGE DONE TO A PERSON OR TO HIS PROPERTY, OSHA GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
46. ALL 4" INCH SEWER SERVICE LATERALS WILL BE HYDRAULIC TESTED AND OR LOW AIR PRESSURE TESTED. ALL 4" INCH SEWER SERVICE LATERALS WILL BE TELEVISED (TV) FROM 4" INCH CLEAN OUT AT OUTSIDE EACH RESIDENCE TO 6"X6" CLEAN OUT. CONTRACTOR AND PLUMBER WILL SUBMIT REPORTS AND/OR VIDEOS TO GVSUD, WITH THE FOLLOWING INFORMATION: SUBDIVISION NAME, LOT NUMBER, BLOCK NUMBER, STATION NUMBER, STREET NAME AND ADDRESS OF EACH SEWER SERVICE LATERAL.

PLUMBER WILL BE PROVIDED PLAN/PROFILE BY ENGINEER/BUILDER. PLUMBER WILL WORK CLOSELY WITH THE GVSUD INSPECTOR ON DAILY TESTING AND TELEVISION BY MAKING ARRANGEMENTS 48 HOURS IN ADVANCE. SEWER SERVICE LATERALS THAT HAVE NOT BEEN INSPECTED OR APPROVED AND/OR COVERED UP, WILL HAVE TO BE RE-DUG AT CONTRACTOR/PLUMBER EXPENSE AND RE-INSPECTED.

   A. A PROPERTY LINE CLEAN OUT (6"X6") SHALL BE INSTALLED FOR RESIDENTIAL SERVICES. CLEAN OUTS IN THE SIDEWALK OR DRIVEWAY SHALL HAVE A CAST IRON BOOT. CLEAN OUT NOT LOCATED IN A SIDEWALK OR DRIVEWAY SHALL BE LOCATED ON REINFORCED CONCRETE PAD A MINIMUM OF TWELVE (12") INCHES BY TWELVE (12") INCHES BY SIX (6") INCHES THICK. ALL PROPERTY LINE CLEAN OUTS SHALL INCLUDE A LID WITH SEWER IN GREEN COLOR.

47. N1 FENCING: ANY AND ALL FENCING, INCLUDING ELECTRIC FENCE, WHETHER OR NOTE IDENTIFIED ON THE PLANS, MUST BE MAINTAINED AT ALL TIMES. ANY AND ALL DAMAGES DIRECTLY ATTRIBUTED TO THE CONTRACTOR MUST BE REPLACED TO EQUAL OR BETTER CONDITIONS AT THE CONTRACTOR'S EXPENSE AND AS APPROVED BY THE PROJECT MANAGER. GAPS IN THE FENCING MUST BE PROVIDED AT ALL LOCATIONS WHERE THE SEWER LINE EASEMENT CROSSES FENCING. FENCING REQUIRED TO MAINTAIN LIVESTOCK MUST BE MAINTAINED AT ALL TIMES.
48. N2 DAMAGE TO ADJACENT LAND: THE CONTRACTOR MUST AVOID DAMAGE TO ADJACENT LAND OUTSIDE THE IDENTIFIED CONSTRUCTION LIMITS. ANY AND ALL CLAIMS DIRECTORY ATTRIBUTED TO THE CONTRACTOR RESULTING FROM HIS STRAYING BEYOND THE CONSTRUCTION LIMITS MUST BE SETTLED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE APPROPRIATE LANDOWNER.
49. N3 PROPERTY OWNER ACCESS: THE CONTRACTOR MUST MAINTAIN ACCESS FOR PRIVATE INDIVIDUALS AT ALL TIMES. IF NORMAL ACCESS IS DAMAGED DURING CONSTRUCTION THE CONTRACTOR MUST REPLACE THE ACCESS TO EQUAL OR BETTER CONDITIONS AT THE CONTRACTOR'S EXPENSE, AS APPROVED BY THE ENGINEER.
50. N4 CONTRACTOR IS RESPONSIBLE FOR LOCATION AND PROTECTION ALL UTILITIES WHETHER OR NOT SHOWN ON THE PLANS. SHOULD THE CONTRACTOR DAMAGE ANY UTILITIES THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS TO REPAIR THE UTILITIES TO THEIR ORIGINAL CONDITION. CONTRACTOR IS SOLELY RESPONSIBLE FOR LOST REVENUE, LOSSES, ETC CLAIMED BY UTILITY COMPANIES DUE TO CONTRACTORS WORK. CONTRACTOR SHALL NOTIFY GVSUD AND IMPACTED UTILITY COMPANIES 48 HRS. PRIOR TO BEGINNING WORK. CONTRACTOR SHALL VERIFY THE LOCATION OF UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
51. N5 CLEARING PERMANENT EASEMENTS: THE LIMITS OF BOTH THE EXISTING AND PARALLEL SEWER LINES PERMANENT EASEMENTS, AS DELINEATED IN THESE PLANS, MUST BE CLEARED IN ACCORDANCE WITH THE SPECIFICATION. THE CONTRACTOR MAY BE DIRECTED BY THE ENGINEER TO PROTECT AND AVOID CERTAIN TRESS WITHIN THE LIMITS OF THE PERMANENT CONSTRUCTION EASEMENTS. ALL BRUSH MUST BE REMOVED FROM SITE. NO BRUSH PILES TO REMAIN AFTER CONSTRUCTION. BURNING OF BRUSH OR TRASH WILL NOT BE ACCEPTABLE.
52. N7 CONTRACTOR SHALL PROVIDE APPROPRIATE SAFE ACCESS AND BARRICADE WORK AT ALL TIMES TO PROTECT THE PUBLIC. THIS INCLUDES SUBSTANTIAL BARRICADES AROUND ALL TRENCHES, BORE PITS, OPEN EXCAVATIONS, EQUIPMENT, ETC. THE SITE MUST BE LEFT IN SECURE SAFE CONDITION AT NIGHT. IT IS THE CONTRACTORS RESPONSIBILITY TO TAKE NECESSARY PRECAUTIONS TO PROTECT THE PUBLIC THROUGHOUT THE DURATION OF THE PROJECT.
53. N14 SHOULD CONTRACTOR SELECT A TRENCH EXCAVATION PROCEDURE THAT EXTENDS THE LIMITS OF SEEDING OR PAVING AND FINAL SITE PREPARATION (I.E. SLOPE BACK PROTECTION SYSTEM) HE WILL BE RESPONSIBLE FOR MEETING PLAN AND SPECIFICATION REQUIREMENTS TO THE NEW LIMITS AT NO ADDITIONAL COST TO GVSUD.
54. N16 WARNING: NOTE THAT CERTAIN PORTIONS OF THE PROJECT MAY PARALLEL AND/OR CROSS EXISTING UTILITIES. THE CONTRACTORS WILL BE REQUIRED TO PROTECT EXISTING UTILITIES. ADDITIONAL SUPPORTIVE SHORING MAY BE REQUIRED. IT IS SPECIFICALLY THE CONTRACTORS RESPONSIBILITY TO PROTECT HIS WORKERS, EXISTING UTILITIES, AND FINISHED WORK THROUGHOUT THE JOB.
55. N17 OVERHEAD ELECTRIC, CITY PUBLIC SERVICE (CPS) AN APPROPRIATELY SAFE OVERHEAD CLEARANCE MUST BE MAINTAINED BETWEEN ALL EQUIPMENT AND PERSONNEL. THE CONTRACTOR SHALL NOTIFY CITY PUBLIC SERVICE AT 353-2700 AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION IN THE VICINITY OF THE CPS OVERHEAD ELECTRIC LINE CONTRACTOR SHALL MAINTAIN CPS RECOMMENDED CLEARANCE REQUIREMENTS.
56. N23 BYPASS PUMPING: THE CONTRACTOR IS RESPONSIBLE FOR ALL BYPASS PUMPING REQUIRED TO COMPLETE THE WORK. BYPASS PUMPS SHALL BE ADEQUATE TO HANDLE PEAK FLOW EVENTS DURING STORM EVENTS. CONTRACTOR SHALL HAVE STANDBY PUMPS AVAILABLE TO BYPASS FLOW IN CASE PRIMARY PUMP FAILS. CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR ALL COSTS FOR CLEANUP OF AN UNAUTHORIZED DISCHARGE AND ANY ASSOCIATED FINES.
57. N26 CONTRACTOR SHALL BACKFILL ALL OPEN TRENCHES AT THE END OF THE DAY. CONTRACTOR SHALL NO INSTALL MORE PIPE THAN CAN BE COVERED. NO OPEN TRENCHES WILL BE PERMITTED OVERNIGHT ALL END OF OPEN PIPE WILL BE PLUGGED OVERNIGHT.
58. N33 THE PROJECT AREA MAY BE SUBJECT TO ARCHEOLOGICAL MONITORING, SHOULD THE CONTRACTOR ENCOUNTER ANY ARCHEOLOGICAL DEPOSITS DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL STOP ALL WORK IN THE AREA OF THE DEPOSITS AND IMMEDIATELY CALL THE PROJECT MANAGER.
59. N37 CONTRACTOR TO NOTE THAT PORTIONS OF THE CONSTRUCTION ARE WITHIN THE LIMITS OF THE 100 YEAR FLOODPLAIN. THE CONTRACTOR IS REQUIRED TO KEEP THE CHANNEL CLEAR OF POTENTIAL OBSTRUCTIONS TO FLOOD FLOWS. POTENTIAL OBSTRUCTIONS INCLUDE HEAVY CONSTRUCTION EQUIPMENT, TEMPORARY ROADS ACROSS CHANNEL, EXCAVATED MATERIAL, STOCKPILED DEBRIS, ETC. UNDER THREATENING WEATHER CONDITIONS WHERE FLOODING IS LIKELY, OBSTRUCTIONS SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST TO GVSUD. THE CONTRACTOR ASSUMES ALL RISK FOR UNFINISHED WORK.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS		SANITARY SEWER SYSTEM GENERAL NOTES (2 OF 2)	
REVISED: OCTOBER 2021		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. G-2

NEILL TRACT UNIT 1
WASTEWATER DETAILS SH2

NO.	REVISIONS DESCRIPTION	BY	DATE

DATE: 9/8/2025
DESIGNED BY: JDR
DRAWN BY: ML / T.I
CHECKED BY: NG
DRAWING NAME: sh_t:\Wastewater Details\01.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

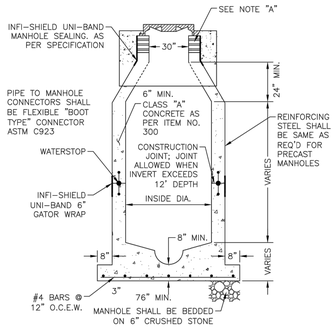
LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

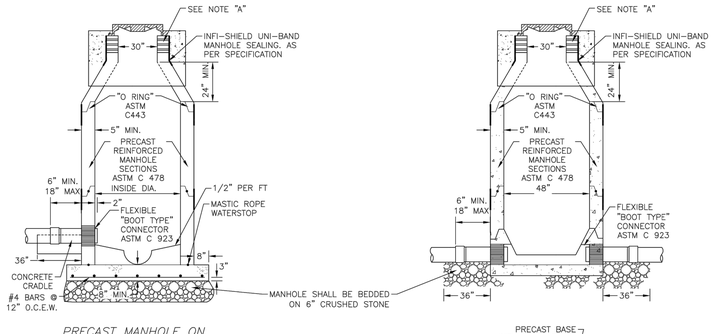
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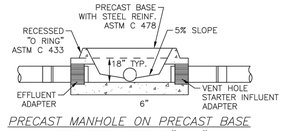
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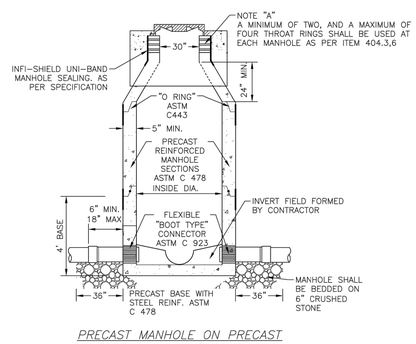
CAST-IN-PLACE MANHOLE



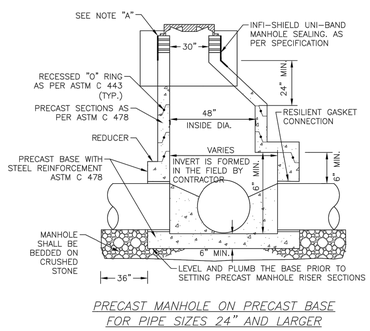
PRECAST MANHOLE ON CAST-IN-PLACE BASE



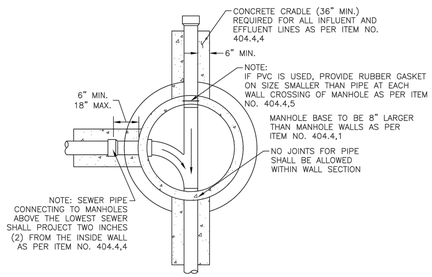
PRECAST MANHOLE ON PRECAST BASE FOR PIPE SIZES 8"-12"



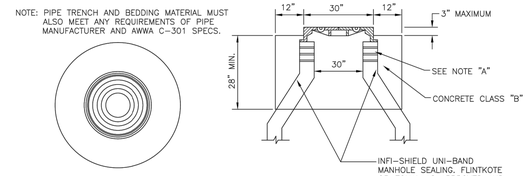
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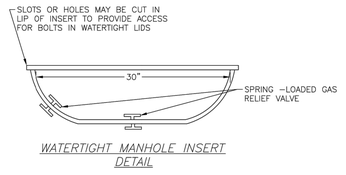
PRECAST MANHOLE ON PRECAST BASE FOR PIPE SIZES 24" AND LARGER



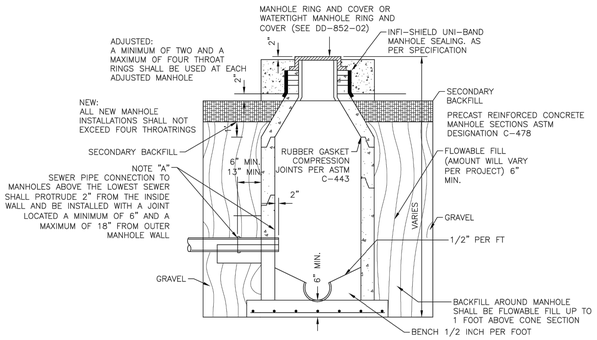
CAST-IN-PLACE MANHOLE BASE PLAN



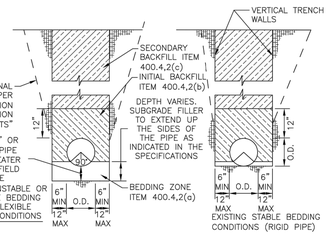
MANHOLE RING ENCASEMENT DETAIL



WATERTIGHT MANHOLE INSERT DETAIL

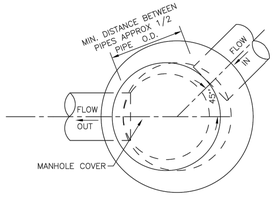


PRECAST MANHOLE ON PRECAST BASE

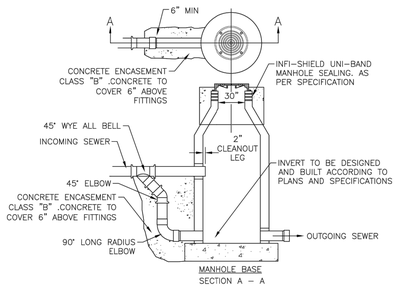


PIPE LAID IN TRENCH DETAILS

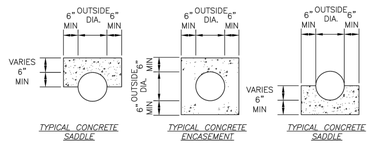
MAX PIPE SIZE OD		
MANHOLE ID	0° TO 45°	>45°
DIA	DEFL.	DEFL.
5 FT	42"	32"
6 FT	51"	38"
8 FT	73 1/2"	50"

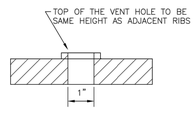


PRECAST MANHOLE ON PRECAST BASE-PLAN



OUTSIDE DROP MANHOLE





VENT HOLE DETAIL SECTION A - A

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS		SANITARY SEWER SYSTEM STANDARD DETAILS (1 OF 2)
REVISED: OCTOBER 2021	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. S-1

NEILL TRACT UNIT 1

WASTEWATER DETAILS SH3

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 9/8/2025
DESIGNED BY: JDR
DRAWN BY: ML / TJ
CHECKED BY: NG
DRAWING NAME: sh_r:\Wastewater Details\01.dwg

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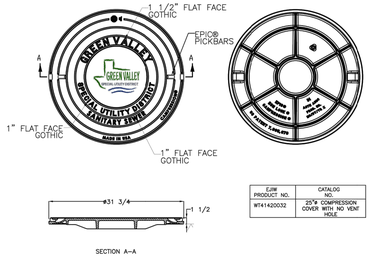
LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. 8.14

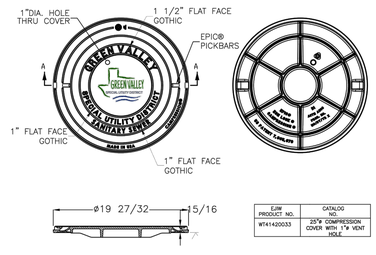
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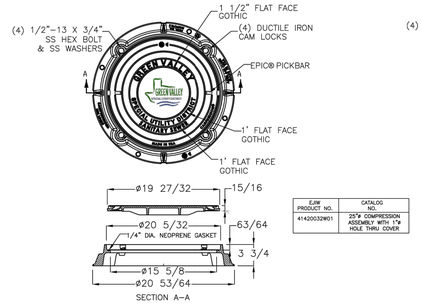
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WT41420032	25"ø COMPRESSION COVER WITH NO VENT HOLE

COMPRESSION COVER WITH NO HOLE



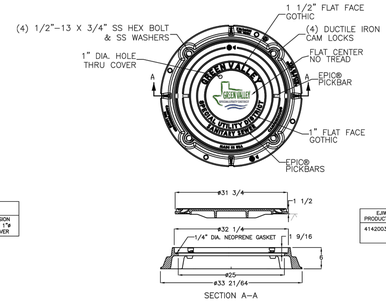
EJIW PRODUCT NO.	CATALOG NO.
WT41420033	25"ø COMPRESSION COVER WITH 1"ø VENT HOLE

COMPRESSION COVER WITH HOLE



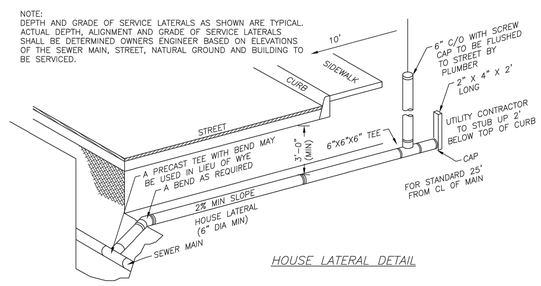
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41420032WH01	25"ø COMPRESSION ASSEMBLY W/O 1"ø HOLE THRU COVER

COMPRESSION ASSEMBLY WITH NO HOLE

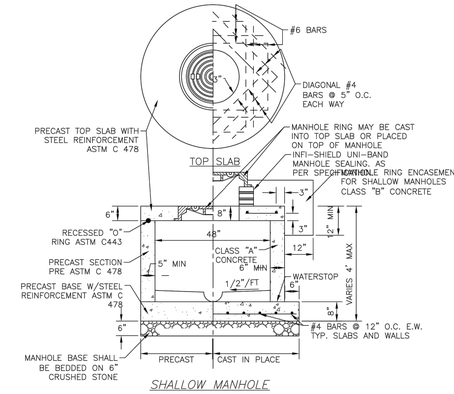


EJIW PRODUCT NO.	CATALOG NO.
41420033WH01	25"ø COMPRESSION ASSEMBLY WITH 1"ø HOLE THRU COVER

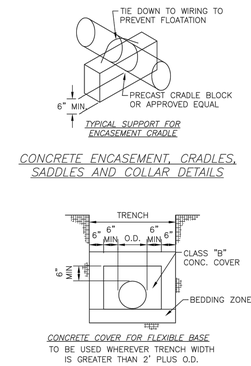
COMPRESSION ASSEMBLY WITH HOLE



HOUSE LATERAL DETAIL



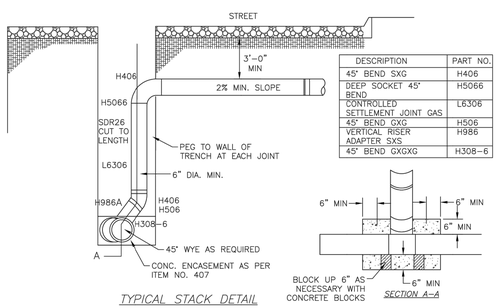
SHALLOW MANHOLE



CONCRETE ENCASEMENT, CRADLES, SADDLES AND COLLAR DETAILS

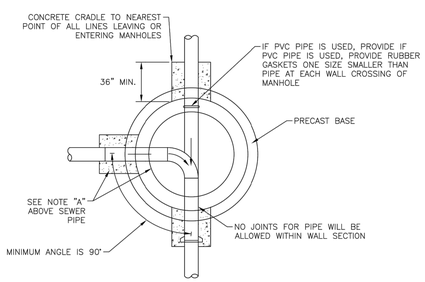
CONCRETE COVER FOR FLEXIBLE BASE

TO BE USED WHEREVER TRENCH WIDTH IS GREATER THAN 2' PLUS O.D.



DESCRIPTION	PART NO.
45° BEND SXG	H406
DEEP SOCKET 45° BEND	H5066
CONTROLLED SETTLEMENT JOINT GAS	L6306
45° BEND GXG	H506
VERTICAL RISER ADAPTER SXS	H986
45° BEND GXGXG	H308–6

TYPICAL STACK DETAIL



MANHOLE FLOOR PLAN

SANITARY SEWER GENERAL NOTES

ALL NEW EXISTING SANITARY SEWER MAINS AND MANHOLES IN THIS PROJECT ARE TO REMAIN ACTIVE AND SHALL BE PROTECTED BY THE CONTRACTOR. ALL LINES AND MANHOLES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR RECONSTRUCTED BY THE CONTRACTOR AT NO ADDITIONAL COST. NOTIFY GVSUD'S UTILITY INSPECTORS AT (210)372–2223 PRIOR TO ENCASING.

THE EXISTING CONDITIONS OF SEWER MAINS AND MANHOLES HAVE BEEN DOCUMENTED BY GVSUD. A PRE–PRECONSTRUCTION VIDEO OF THE LINES AND PHYSICAL SURVEY OF THE MANHOLES WILL BE USED TO DETERMINE THE PRE–EXISTING CONDITION OF THE SEWER SYSTEM. IF POST CONSTRUCTION INSPECTION WORK SHOWS PORTIONS OF SANITARY SEWER MAINS OR MANHOLES DAMAGED BY THE CONTRACTOR, THE CONTRACTOR SHALL REPAIR OR REPLACE THE SEWER MAIN AT THEIR EXPENSE, TO THE APPROVAL OF GVSUD'S INSPECTORS OR ENGINEER.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS		SANITARY SEWER SYSTEM STANDARD DETAILS (2 OF 2)
REVISED: OCTOBER 2021	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. S-2

NEILL TRACT UNIT 1

WASTEWATER DETAILS SH4

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 9/8/2025
DESIGNED BY: JDR
DRAWN BY: ML / TJ
CHECKED BY: NG
DRAWING NAME: sh Wastewater Details01.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

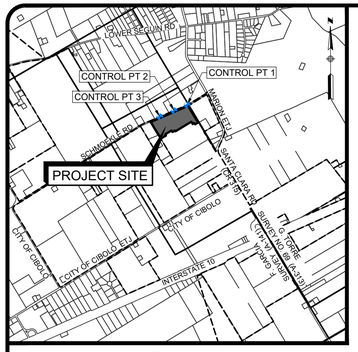
LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. 8.15

FOR PERMIT

K:\SA164.02 Home\2402 Neill Tract\026 Site Development Plan\CIVIL\Sheets\sh_Wastewater Details01.dwg
Xrefs Attached:
Last Modified: Oct 03, 25 - 16:10
Last Modified By: ML, TJ



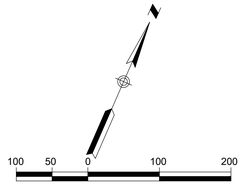
LOCATION MAP
N.T.S.

SWPPP MODIFICATIONS

DATE	SIGNATURE	MODIFICATIONS

TREE INVENTORY

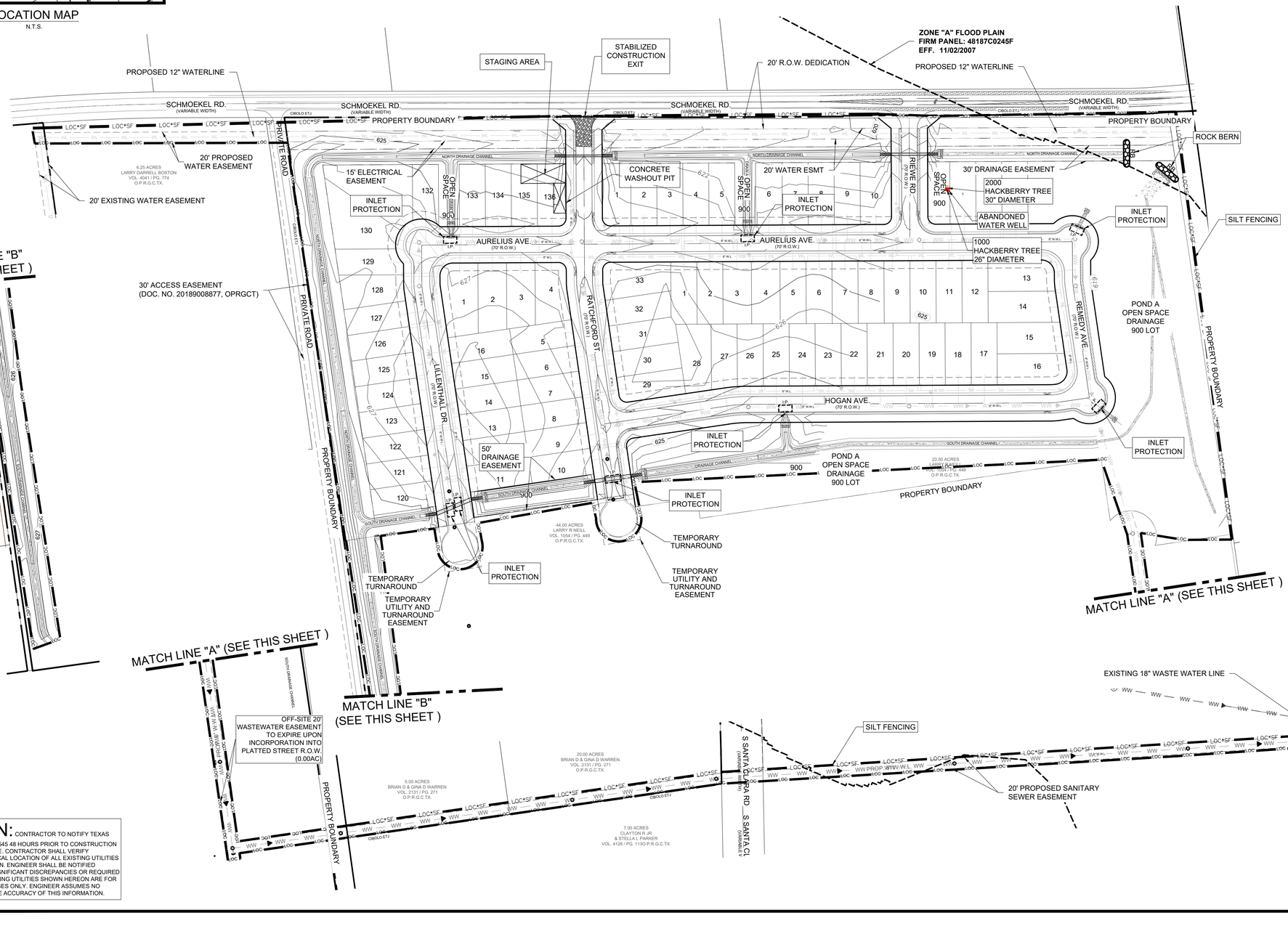
TREE TAG #	SIZE	TREE TO BE REMOVED	TREE PRESERVED
1000	28" HACKBERRY	28"	0
2000	30" HACKBERRY	30"	0
SUBTOTAL INCHES		58"	



SCALE IN FEET
SCALE: 1"=100'

LEGEND

GRASSED DRAIN FLOW
PAVEMENT DRAIN FLOW
800 EXISTING CONTOUR
800 PROPOSED CONTOUR
CONCRETE WASHOUT PIT
STABILIZED CONSTRUCTION EXIT
SF SILT FENCE
LOC LIMITS OF CONSTRUCTION
RB ROCK BERM
I.P. I.P. INLET PROTECTION SEE DETAIL #3.04, SHEET 27
TREE (PRESERVE)
TREE (REMOVE)
HERITAGE TREE (PRESERVE)
HERITAGE TREE (REMOVE)



LEGEND

TREE (REMOVE)
800 EXISTING MAJOR CONTOUR
801 EXISTING MINOR CONTOUR

GENERAL NOTES

1. PER FEMA FLOOD PANEL 48187C0245F, A PORTION OF THIS SITE IS WITHIN THE LIMITS OF THE 1% ANNUAL CHANCE FLOODPLAIN.
2. THE SITE IS LOCATED WITHIN THE CITY OF CIBOLO ETJ.
3. ALL REQUIRED PLANT MATERIALS SHALL BE FROM THE CITY'S PREFERRED PLANT LIST IN THE CITY OF SEGUIN TECHNICAL MANUAL.
4. TREES MUST BE 2 INCHES IN CALIPER AND 8 FEET HIGH AT TIME OF PLANTING.
5. SEE SHEET 9.1 FOR TREE DETAILS AND NOTES.

NOTES:
1. CONTRACTOR AND DEVELOPER WILL BE RESPONSIBLE FOR MAINTENANCE OF SWMP AND DRAINAGE CHANNEL WHILE SUBDIVISION IS UNDER CONSTRUCTION. FREQUENT REVIEW OF THE SITE BMP'S AS REQUIRED BY THE TCEQ GENERAL CONSTRUCTION PERMIT ARE RECOMMENDED.
2. THE BUILDER WILL BE RESPONSIBLE FOR MAINTENANCE RESPONSIBILITIES AFTER ACCEPTANCE OF THE UNIT 3 PUBLIC IMPROVEMENTS UNTIL FINAL BUILD OUT.
3. THE HOA WILL BE RESPONSIBLE FOR MAINTENANCE OF THESE AREAS AFTER FULL BUILD OUT OF THE SUBDIVISION.

SEQUENCE OF EVENTS
1. ESTABLISH PERIMETER, TEMPORARY SEDIMENTATION & EROSION CONTROL BMP'S.
2. PERFORM PERFORM SITE ROUGH GRADING AND UTILITY CONSTRUCTION.
3. PERFORM ROAD CONSTRUCTION.
4. INSTALL CURB AND GUTTER ASPHALT.
5. PERFORM SITE REVEGETATION AND SITE STABILIZATION.
6. REMOVE TEMPORARY SEDIMENTATION CONTROL BMP'S
7. FINAL INSPECTION AND WALK THROUGH WITH GUADALUPE COUNTY.

CAUTION: CONTRACTOR TO NOTIFY TEXAS ONE CALL AT 1-800-245-4545 48 HOURS PRIOR TO CONSTRUCTION FOR UTILITY LINE LOCATE. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY SIGNIFICANT DISCREPANCIES OR REQUIRED DESIGN CHANGES. EXISTING UTILITIES SHOWN HEREON ARE FOR INFORMATIONAL PURPOSES ONLY. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.

DEVELOPER: KB HOME
4800 FREDERICKSBURG ROAD, SUITE 100
SAN ANTONIO, TX 78229
CONTACT PERSON: JASON TOWNSLEY
PHONE # (210) 301-2815

ENGINEER: LJA ENGINEERING, INC.
9830 COLONNADE BLVD, SUITE 300
SAN ANTONIO, TEXAS 78230
CONTACT PERSON: PRISCILLA G. FLORES, P.E.
PHONE # (210) 503-2700

LOCATION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO BEGINNING WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR.

811 Know what's below. Call before you dig.

NEILL TRACT UNIT 1
STORM WATER PROTECTION PLAN

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 9/8/2025
DESIGNED BY: JDR
DRAWN BY: ML / TJ
CHECKED BY: NG
DRAWING NAME: sh_SWPPP.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. 9.0

FOR PERMIT

SEDIMENTATION AND EROSION CONTROLS

A. SILT FENCE

1. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR YBAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FT², AND BRINDELL HARDNESS EXCEEDING 140.
2. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2' X 4" WELDED WIRE, 12 GAUGE MINIMUM.
3. 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 8 FEET ON CENTER. WHERE WATER CONCENTRATES,THE MAXIMUM SPACING SHOULD BE 6 FEET.
4. 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.
5. 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.
6. 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.
7. 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.
8. INSPECT ALL FENDING WEEKLY, AND AFTER ANY RAINFALL. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES. REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.

B. TRIANGULAR SEDIMENT FILTER DIKE

1. THE DIKE STRUCTURE SHALL BE CONSTRUCTED OF 6' X 6", 6 GAUGE WELDED WIRE MESH, 18 INCHES PER SIDE, AND WRAPPED WITH GEOTEXTILE FABRIC THE SAME COMPOSITION AS THAT USED FOR SILT FENCES.
2. FILTER FABRIC SHOULD LAP OVER ENDS SIX (6) INCHES TO COVER DIKE TO DIKE JUNCTION; EACH JUNCTION SHOULD BE SECURED BY SHOAT RINGS.
3. POSITION DIKE PARALLEL TO THE CONTOURS, WITH THE END OF EACH SECTION CLOSELY ABUTTING THE ADJACENT SECTIONS.
4. FASTENING - THE FABRIC SKIRT MAY BE TOED- IN WITH 6 INCHES OF COMPACTED MATERIAL, OR 12 INCHES OF THE FABRIC SKIRT SHOULD EXTEND UPHILL AND BE SECURED WITH A MINIMUM OF 3 INCHES OF OPEN GRADED ROCK, OR WITH STAPLES OR NAILS. IF THESE TWO OPTIONS ARE NOT FEASIBLE THE DIKE STRUCTURE MAY BE TRENCHED IN 4 INCHES.
5. TRIANGULAR SEDIMENT FILTER DIKES SHOULD BE INSTALLED ACROSS EXPOSED SLOPES DURING CONSTRUCTION WITH ENDS OF THE DIKE TIED INTO EXISTING GRADES TO PREVENT FAILURE AND SHOULD INTERCEPT NO MORE THAN ONE ACRE OF RUNOFF.
6. WHEN MOVED TO ALLOW VEHICULAR ACCESS, THE DIKES SHOULD BE REINSTALLED AS SOON AS POSSIBLE, BUT ALWAYS AT THE END OF THE WORKDAY.
7. INSPECTION SHOULD BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR. INSPECT AND REALIGN DIKES AS NEEDED TO PREVENT GAPS BETWEEN SECTIONS.
8. ACCUMULATED SILT SHOULD BE REMOVED AFTER EACH RAINFALL, AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.

C. TEMPORARY CONSTRUCTION ENTRANCE/EXIT

1. AGGREGATE SIZE - 4 TO 8 INCHES WASHED, COARSE STONE.
2. LENGTH - AT LEAST 50 FEET.
3. THICKNESS - MINIMUM 8 INCHES.
4. WIDTH - MINIMUM WIDTH SHALL BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
5. WASHING - WHEN NECESSARY, IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM 4 INCH DIAMETER WASHED STONE OR COMMERCIAL RACK SHALL BE INSTALLED WHICH DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE - IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE 6 TO 8 INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.
8. FABRIC - PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.

D. INTERCEPTOR SWALE

1. MAXIMUM DEPTH OF FLOW IN THE SWALE SHALL BE 1 FOOT.
2. THE MINIMUM BOTTOM WIDTH OF THE SWALE SHALL BE 2 FEET.
3. SIDE SLOPES OF THE SWALE SHALL BE 3:1 OR FLATTER.
4. MINIMUM DESIGN CHANNEL FREEBOARD SHALL BE 6 INCHES
5. SWALES MUST MAINTAIN POSITIVE GRADE TO AN ACCEPTABLE OUTLET.
6. INTERCEPTOR SWALES MUST BE STABILIZED IMMEDIATELY UPON EXCAVATION SO AS NOT TO CONTRIBUTE TO THE EROSION PROBLEM THEY ARE ADDRESSING.
7. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS AND OTHER MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
8. ALL EARTH REMOVED AND NOT NEEDED IN CONSTRUCTION SHALL BE DISPOSED OF IN AN APPROPRIATE SPOILS SITE.
9. INSPECTION MUST BE MADE AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE TO THE CHANNEL OR TO CLEAR DEBRIS OR OTHER OBSTRUCTIONS SO AS NOT TO DIMINISH FLOW CAPACITY. DAMAGES WHICH RESULT FROM NORMAL CONSTRUCTION ACTIVITIES SHALL BE REPAIRED AT THE END OF EACH WORK DAY.

E. ROCK BERMS

1. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.
2. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
3. PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM (FIGURE 1-28), TO A HEIGHT NOT LESS THAN 18".
4. 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.
5. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE. 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.
6. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
7. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.
8. REPAIR ANY LOOSE WIRE SHEATHING. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION. 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.
9. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

F. SANDBAG BERMS

1. THE BAG LENGTH SHOULD BE 24 TO 30 INCHES, WIDTH SHOULD BE 16 TO 18 INCHES AND THICKNESS SHOULD BE 6 TO 8 INCHES. (3) SANDBAGS SHOULD BE FILLED WITH COARSE GRADE SAND, FREE FROM DELETERIOUS MATERIAL ALL SAND SHOULD PASS THROUGH A NO. 10 SIEVE. THE FILLED BAG SHOULD HAVE AN APPROXIMATE WEIGHT OF 40 POUNDS.
2. THE BERM SHOULD BE A MINIMUM HEIGHT OF 18 INCHES, MEASURED FROM THE TOP OF THE EXISTING GROUND AT THE UPSLOPE TOE TO THE TOP OF THE BERM.
3. THE BERM SHOULD BE SIZED AS SHOWN IN THE PLANS BUT SHOULD HAVE A MINIMUM WIDTH OF 48 INCHES MEASURED AT THE BOTTOM OF THE BERM AND 16 INCHES MEASURED AT THE TOP OF THE BERM.
4. RUNOFF WATER SHOULD FLOW OVER THE TOPS OF THE SANDBAGS OR THROUGH 4-INCH DIAMETER PVC PIPES EMBEDDED BELOW THE TOP LAYER OF BAGS AS SHOWN.
5. SANDBAGS SHOULD BE STACKED IN AT LEAST THREE ROWS ABUTTING EACH OTHER, AND IN STAGGERED ARRANGEMENT.
6. THE BASE OF THE BERM SHOULD HAVE AT LEAST 3 SANDBAGS. THESE CAN BE REDUCED TO 2 AND 1 BAG IN THE SECOND AND THIRD ROWS RESPECTIVELY, FOR EACH ADDITIONAL 6 INCHES OF HEIGHT, AN ADDITIONAL SANDBAG MUST BE ADDED TO EACH ROW WIDTH.
7. THE SAND BAG BERM SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN. THE SANDBAGS SHOULD BE RESHAPED OR REPLACED AS NEEDED DURING INSPECTION.
8. WHEN THE SILT REACHES 6 INCHES, THE ACCUMULATED SILT SHOULD BE REMOVED AND DISPOSED OF AT AN APPROVED SITE IN A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

G. STONE OUTLET SEDIMENT TRAP

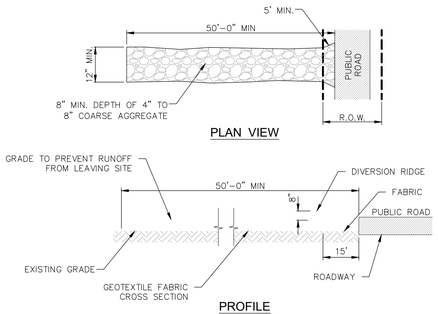
1. ALL AGGREGATE SHOULD BE AT LEAST 3 INCHES IN DIAMETER AND SHOULD NOT EXCEED A VOLUME OF 0.5 CUBIC FOOT.
2. EARTH EMBANKMENT: PLACE FILL MATERIAL IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH. BEFORE COMPACTION, MOISTEN OR AERATE EACH LAYER AS NECESSARY TO PROVIDE THE OPTIMUM MOISTURE CONTENT OF THE MATERIAL. COMPACT EACH LAYER TO 95 PERCENT STANDARD PROCTOR DENSITY. DO NOT PLACE MATERIAL ON SURFACES THAT ARE MUDDY OR FROZEN. SIDE SLOPES FOR THE EMBANKMENT ARE TO BE 3:1. THE MINIMUM WIDTH OF THE EMBANKMENT SHOULD BE 3 FEET.
3. A GAP IS TO BE LEFT IN THE EMBANKMENT IN THE LOCATION WHERE THE NATURAL CONFLUENCE OF RUNOFF CROSSES THE EMBANKMENT LINE. THE GAP IS TO HAVE A WIDTH IN FEET EQUAL TO 6 TIMES THE DRAINAGE AREA IN ACRES.
4. GEOTEXTILE COVERED ROCK CORE: A CORE OF FILTER STONE HAVING A MINIMUM HEIGHT OF 1.5 FEET AND A MINIMUM WIDTH AT THE BASE OF 3 FEET SHOULD BE PLACED ACROSS THE OPENING OF THE EARTH EMBANKMENT AND SHOULD BE COVERED WITH GEOTEXTILE FABRIC WHICH SHOULD EXTEND A MINIMUM DISTANCE OF 2 FEET IN EITHER DIRECTION FROM THE BASE OF THE FILTER STONE CORE.
5. FILTER STONE EMBANKMENT: FILTER STONE SHOULD BE PLACED OVER THE GEOTEXTILE AND IS TO HAVE A SIDE SLOPE WHICH MATCHES THAT OF THE EARTH EMBANKMENT OF 3:1 AND SHOULD COVER THE GEOTEXTILE/ROCK CORE A MINIMUM OF 6INCHES WHEN INSTALLATION IS COMPLETE. THE CREST OF THE OUTLET SHOULD BE AT LEAST 1 FOOT BELOW THE TOP OF THE EMBANKMENT.
6. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
7. TRASH AND OTHER DEBRIS SHOULD BE REMOVED AFTER EACH RAINFALL TO PREVENT CLOGGING OF THE OUTLET STRUCTURE. SEDIMENT SHOULD BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO HALF OF THE DESIGN DEPTH OF THE TRAP.

H. SEDIMENT BASINS

1. THE DRAINAGE AREA FOR A SEDIMENT BASIN SHALL BE LESS THAN 100 ACRES.
2. THE BASIN SHOULD INCLUDE A PERMANENT STAKE TO INDICATE THE SEDIMENT LEVEL IN THE POOL AND MARKED TO INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME (NOT THE TOP OF THE STAKE). SEDIMENT SHALL BE REMOVED WHEN SEDIMENT REACHES 50% STORAGE CAPACITY.
3. PLACE FILL MATERIAL IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH. BEFORE COMPACTION, MOISTEN OR AERATE EACH LAYER AS NECESSARY TO PROVIDE THE OPTIMUM MOISTURE CONTENT OF THE MATERIAL. COMPACT EACH LAYER TO 95 PERCENT STANDARD PROCTOR DENSITY. DO NOT PLACE MATERIAL ON SURFACES THAT ARE MUDDY OR FROZEN. SIDE SLOPES FOR THE EMBANKMENT SHOULD BE 3:1 (H:V). MINIMUM WIDTH OF THE EMBANKMENT AT THE TOP SHALL BE 8 FEET.
4. AN EMERGENCY SPILLWAY SHOULD BE INSTALLED ADJACENT TO THE EMBANKMENT ON UNDISTURBED SOIL AND SHOULD BE SIZED TO CARRY THE FULL AMOUNT OF FLOW GENERATED BYA 10-YEAR, 3-HOUR STORM WITH 1 FOOT OF FREEBOARD LESS THE AMOUNT WHICH CAN BE CARRIED BY THE PRINCIPAL OUTLET CONTROL DEVICE. THE EMERGENCY SPILLWAY SHOULD BE LINED WITH RIPRAP AS SHOULD THE SWALE LEADING FROM THE SPILLWAY TO THE NORMAL WATERCOURSE AT THE BASE OF THE EMBANKMENT.
5. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CHECK THE EMBANKMENT, SPILLWAYS, AND OUTLET FOR EROSION DAMAGE, AND INSPECT THE EMBANKMENT FOR PIPING AND SETTLEMENT. REPAIR SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.TRASH AND OTHER DEBRIS SHOULD BE REMOVED AFTER EACH RAINFALL TO PREVENT CLOGGING OF THE OUTLET STRUCTURE.
6. ACCUMULATED SILT SHOULD BE REMOVED AND THE BASIN SHOULD BE RE- GRADED TO ITS ORIGINAL DIMENSIONS AT SUCH POINT THAT THE CAPACITY OF THE IMPOUNDMENT HAS BEEN REDUCED TO 75% OF ITS ORIGINAL STORAGE CAPACITY.

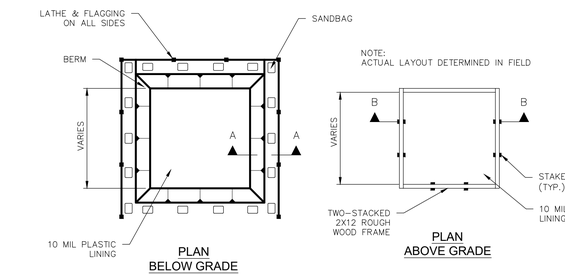
ADDITIONAL NOTES:

1. UPON COMPLETION OF CONSTRUCTION ALL DISTURBED AREAS SHALL BE REVEGETATED TO 70% OF EXISTING CONDITIONS IN ACCORDANCE WITH THE SWPPP AND TPDES REQUIREMENTS.
2. THIS SITE IS NOT LOCATED ADJACENT TO ANY SURFACE WATERS.
3. THIS SITE WILL NOT HAVE ANY LOCATIONS WHERE STORM WATER DISCHARGES DIRECTLY TO A SURFACE WATER BODY.



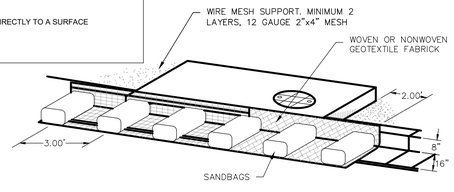
27.01 STABILIZED CONSTRUCTION EXIT

N.T.S.



27.02 CONCRETE WASHOUT AREA

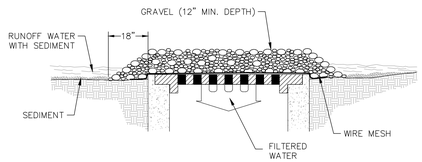
N.T.S.



CURB INLET PROTECTION

NOTES:

1. WHEN A SANDBAG IS FILLED WITH MATERIAL, THE OPEN END OF THE SANDBAG SHOULD BE STAPLED OR TIED WITH NYLON OR POLY CHORD.
2. INLET PROTECTION SHALL BE PLACED OVER THE MOUTH OF THE INLET WITH A 2 FOOT OVERLAP ON EITHER SIDE.
3. THE FABRIC COVER AND SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE.
4. THE SKIRT SHALL BE WEIGHTED WITH ONE 18"x24"x6" SANDBAG EVERY 3 FEET.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF FOUR INCHES, AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
7. AFTER THE DEVELOPMENT SITE IS COMPLETELY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.



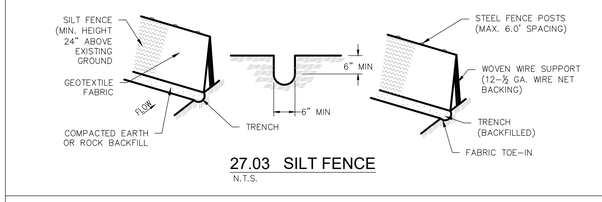
GRATE INLET PROTECTION

NOTES:

1. WIRE MESH SHALL BE LAID OVER THE DROP INLET SO THAT THE WIRE EXTENDS MINIMUM OF 1 FOOT BEYOND EACH SIDE OF THE INLET STRUCTURE. WIRE MESH WITH ½ INCH OPENINGS SHALL BE USED. IF MORE THAN ONE STRIP OF MESH IS NECESSARY, THE STRIPS SHALL BE OVERLAPPED.
2. COARSE AGGREGATE SHALL BE PLACED OVER THE WIRE MESH AS INDICATED ABOVE. THE DEPTH OF STONE SHALL BE AT LEAST 12 INCHES OVER THE ENTIRE INLET OPENING. THE STONE SHALL EXTEND BEYOND THE INLET OPENING AT LEAST 18 INCHES ON ALL SIDES.
3. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS IT'S FUNCTION, THE STONES MUST BE PULLED AWAY FROM THE INLET, CLEANED AND REPLACED.

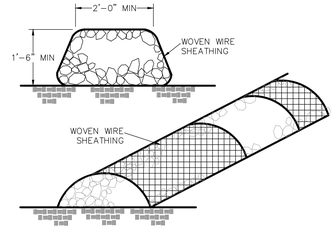
27.04 INLET PROTECTION

N.T.S.



27.03 SILT FENCE

N.T.S.

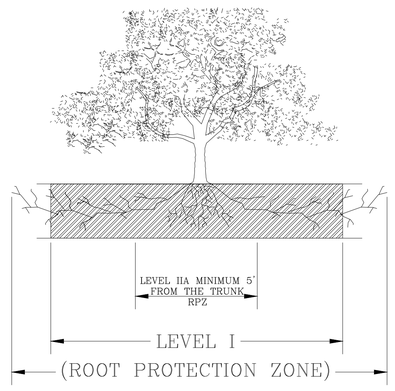


NOTES:

1. USE ONLY OPEN GRADED ROCK 4-8 INCH DIAMETER FOR STREAMFLOW CONDITION; USE OPEN GRADED ROCK 3-5 INCHES DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENINGS AND MINIMUM WIRE DIAMETER OF 20 GAUGE.
3. THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE -- WOVEN WIRE SHEATHING, SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SEVERE SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6 INCHES.
6. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

27.05 ROCK BERM

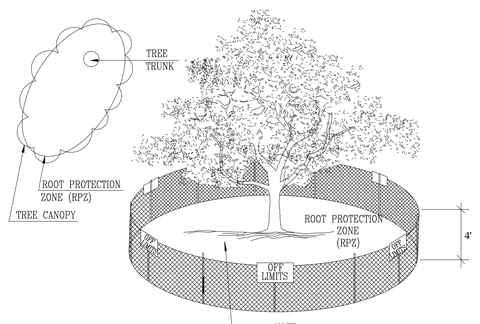
N.T.S.



1.1.1 ELEVATION

N. T. S.

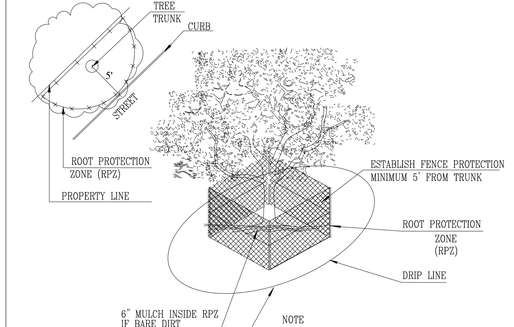
ROOT PROTECTION ZONE—THE ROOT PROTECTION ZONE IS A CIRCULAR AREA AROUND A TREE THAT IS BASED ON THE DIAMETER OF THE TREE. EACH 1 INCH DIAMETER OF THE TREE EQUALS 1 FOOT RADIUS FOR ROOT PROTECTION ZONE.



NOTE:
1. THE FENCING SHOWN ABOVE IS DIAGRAMATIC ONLY AND WILL CONFORM TO THE DRIP LINE AND LIMITED TO PROJECT BOUNDARY.
2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

1.1.2 LEVEL I & FENCE PROTECTION

N. T. S.



NOTE
1. OPTION USED FOR TIGHT CONSTRUCTION AREAS OR WHEN CONSTRUCTION OCCURS IN ROOT PROTECTION ZONE.
2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

1.1.3 LEVEL II A FENCE PROTECTION

N. T. S.

NEILL TRACT UNIT 1

STORM WATER PROTECTION PLAN DETAILS

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

DATE: 9/8/2025
DESIGNED BY: JDR
DRAWN BY: ML / TJ
CHECKED BY: NG
DRAWING NAME: sh_SWPPP.dwg

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING REVIEW UNDER THE AUTHORITY OF VICTORIA SANCHEZ, P.E. 151617, ON 10/21/2025. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.

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Phone 210.503.2700
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TBPE No. F-1386

JOB NUMBER: SA164.2402

SHEET NO. 9.1

FOR PERMIT