GUADALUPE BEND PHASE 1

GUADALUPE COUNTY

CIVIL CONSTRUCTION DRAWINGS

WATER, SEWER, STREET AND DRAINAGE IMPROVEMENTS

March 24

FEMA FLOOD HAZARD AREAS: ZONE A & ZONE AE
FEMA PANELS: FEMA ON SITE, #48187C0115F & #48187C0120F, DATED NOVEMBER 2, 2007
TRACT SIZE: 299.778 ACRES
DEVELOPMENT CATEGORY: TYPE 3 SINGLE FAMILY RESIDENTIAL

CONTACT INFORMATION FOR COORDINATION AND EMERGENCY

GUADALUPE COUNTY ENGINEER'S OFFICE : 830-379-9721
ELECTRIC UTILITY: GUADALUPE VALLEY ELECTRIC COOPERATIVE, GVEC: (800) 223-4832
WATER UTILITY: GREEN VALLEY SPECIAL UTILITY DISTRICT, GVSUD: (830) 914-2330
WASTEWATER UTILITY: GUADALUPE-BLANCO RIVER AUTHORITY, GBRA: (830) 379-5822
TEXAS DEPARTMENT OF TRANSPORTATION: (512) 832-7000
FIRE DEPARTMENT: GUADALUPE COUNTY: (830) 303-8856

CITY OF NEW BRAUNFELS NOTES:

1. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
2. IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION THAT IS APPROVED IS NO LONGER VALID.
3. GAS UTILITIES ARE NOT INCLUDED IN THE CIVIL CONSTRUCTION PLANS. FINAL GAS UTILITY DESIGN SHALL BE APPROVED BY THE CITY AND/OR COUNTY FOR ANY WORK WITHIN THE RIGHT OF WAY.
4. THE PROJECT IS NOT LOCATED WITHIN ANY EDWARDS AQUIFER JURISDICTIONAL ZONE.

PROJECT ADDRESS: FM 725, NEW BRAUNFELS TEXAS, 78130

LEGAL DESCRIPTION:
A 45.914 ACRE TRACT OF LAND IN THE GREENBERRY PATE SURVEY NUMBER 46, ABSTRACT NO. 260 AND THE WILLIAM BRACKEN SURVEY, ABSTRACT NO. 52, GUADALUPE COUNTY, TEXAS; PARTIALLY OUT OF A CALLED 234.030 ACRE TRACT OF LAND AS CONVEYED UNTO HIGHLANDER NB ONE, LLC IN DOCUMENT NUMBER 202199043575 OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS, PARTIALLY OUT OF A CALLED 64.918 ACRE TRACT OF LAND AS CONVEYED UNTO HIGHLANDER NB ONE, LLC IN DOCUMENT NUMBER 202199043263 OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS, AND PARTIALLY OUT OF A CALLED 14.866 ACRE TRACT OF LAND AS CONVEYED UNTO CURTIS KOEHLER IN DOCUMENT NUMBER 201999022951 OF THE OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS.

BENCHMARK

CP #3: ½" IRON ROD.
ELEVATION: 577.58'

CP #4: ½" IRON ROD 83' NW OF LIGHT POLE AND 35' E. OF EDGE OF ASPHALT.
ELEVATION: 621.64'

TBM #4: MAG NAIL WITH WASHER MARKED GIS IN HEADWALL AT THE SE CORNER OF CULVERT
ELEVATION: 571.55'

ACCEPTED FOR CONSTRUCTION:

GUADALUPE COUNTY _____ DATE _____

GREEN VALLEY SPECIAL UTILITY DISTRICT, GVSUD _____ DATE _____

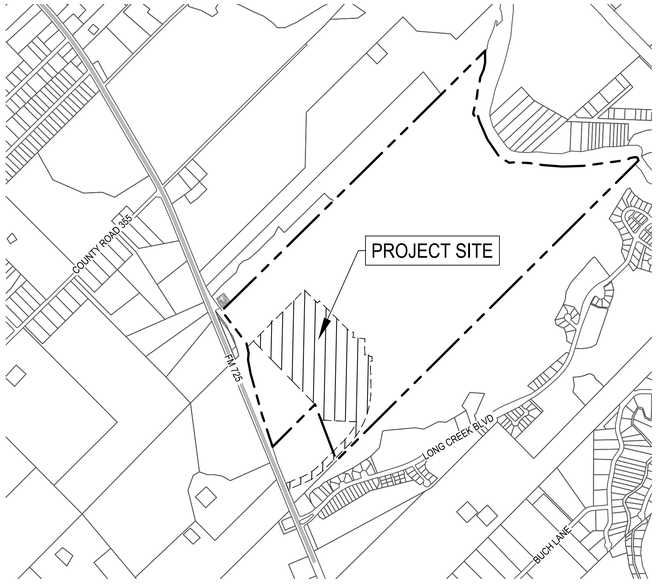
GUADALUPE COUNTY MUD NO. 5 _____ DATE _____

CITY OF NEW BRAUNFELS _____ DATE _____

Know what's below. Call before you dig.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

VICINITY MAP



N
1" = 1,000'

NAME: GUADALUPE BEND PHASE 1
OWNER: HIGHLANDER NB ONE, LLC
CONTACT: JOHN MABERRY
P.O. BOX 470249
FORT WORTH, TEXAS 76147
PHONE: (214) 505-7854

ENGINEER: BGE, INC., TBPE-1046
CONTACT: STACY MULHOLLAND P.E.
EMAIL: SMULHOLLAND@BGEINC.COM
7330 SAN PEDRO AVENUE SUITE 202
SAN ANTONIO, TEXAS 78216
PHONE: (210) 581-3637

WATER: GREEN VALLEY SPECIAL UTILITY DISTRICT, GVSUD
P.O. BOX 99
MARION, TEXAS 78124
PHONE: (830) 914-2330

ELECTRIC: GUADALUPE VALLEY ELECTRIC COOPERATIVE, GVEC
927 N, TX-46
SEGUIN, TX 78155
PHONE: (800) 223-4832

DEVELOPER: HIGHLANDER REAL ESTATE PARTNERS
CONTACT: JOHN MABERRY
P.O. BOX 470249
FORT WORTH, TEXAS 76147
PHONE: (214) 505-7854

LAND SURVEYOR: BGE INC., TBPE F1046
CONTACT: DION ALBERTSON R.P.L.S.
7330 SAN PEDRO AVE SUITE 202
SAN ANTONIO, TX 78216
PHONE: (210) 581-3600

WASTEWATER: GUADALUPE-BLANCO RIVER AUTHORITY, GBRA
933 EAST COURT STREET
SEGUIN, TX 78155
PHONE: (830) 379-5822

REVISIONS/CORRECTIONS

SHEET LIST	DESCRIPTION	DATE	REVISE (R) ADD (A) VOID (V) SHEET NO.'S	ACCEPTED BY	APPROVAL DATE

Sheet List Table

Sheet Number	Sheet Title
C00.00	TITLE SHEET
C01.00	CIVIL GENERAL NOTES (SHEET 1 OF 2)
C01.01	CIVIL GENERAL NOTES (SHEET 2 OF 2)
C01.10	EXISTING CONDITIONS PLAN
C01.30	SUBDIVISION PLAT (SHEET 1 OF 4)
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C01.32	SUBDIVISION PLAT (SHEET 3 OF 4)
C01.33	SUBDIVISION PLAT (SHEET 4 OF 4)
C02.00	OVERALL SITE PLAN (SHEET 1 OF 2)
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C02.10	DETAILED SITE PLAN (SHEET 1 OF 3)
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C04.00	OVERALL GRADING PLAN
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C04.10	BMP PLAN
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C05.05	BARNSLEY COVE PLAN & PROFILE
C05.06	CHARLTON PASS PLAN & PROFILE
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C05.08	MILLWALL SUMMIT PLAN & PROFILE
C05.09	EMERGENCY ACCESS A PLAN & PROFILE
C06.00	STORM DRAIN COLLECTION PLAN (SHEET 1 OF 2)
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C06.02	STORM DRAIN A PLAN & PROFILE STA 1+00 TO 8+00
C06.03	STORM DRAIN A PLAN & PROFILE STA 8+00 TO 16+00
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C06.22	STREET & DRAINAGE DETAILS (SHEET 3 OF 11)
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C09.05	SANITARY SEWER C PLAN AND PROFILE
C09.06	SANITARY SEWER D PLAN AND PROFILE
C09.07	SANITARY SEWER E PLAN AND PROFILE
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C09.09	SANITARY SEWER G PLAN AND PROFILE
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C12.02	TRAFFIC CONTROL DETAILS (SHEET 3 OF 3)

SUBMITTED BY

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GENERAL NOTES

THESE NOTES MUST APPEAR ON THE COVER AND/OR "NOTES" SHEET OF ALL SUBDIVISION CONSTRUCTION PLANS AND ON COMMERCIAL PLANS WHERE APPLICABLE:

1. IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE-YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.
2. THE MOST CURRENT EDITIONS OF THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS AND THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES SHALL BE FOLLOWED FOR ALL CONSTRUCTION EXCEPT AS AMENDED BY THE CITY OF NEW BRAUNFELS STANDARD DETAILS.
3. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
4. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE CITY OF NEW BRAUNFELS TO SCHEDULE A PRECONSTRUCTION MEETING.

   FOR PUBLIC INFRASTRUCTURE PERMIT OR GRADING PERMIT PROJECTS:

   FOR INSPECTIONS, YOU MUST CALL BEFORE 12:00 P.M., 48 HOURS PRIOR TO YOUR INSPECTION REQUEST.

   EACH INSPECTION WILL BE ALLOTTED 1 HOUR UNLESS YOU REQUEST FOR MORE TIME.

   ONCE YOUR REQUEST HAS BEEN ACCEPTED, YOU WILL RECEIVE A CALL FROM THE CITY OF NEW BRAUNFELS INSPECTOR.

   FOR COMMERCIAL PERMIT (CP) PROJECTS:

   ALL INSPECTIONS ARE TO BE CALLED IN AT 830-221-4068 OR,

   FAXED IN AT 830-608-2117 OR,

   E-MAILED AT INSPECTIONS@NBTEXAS.ORG.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL TEMPORARY AND PERMANENT TRAFFIC CONTROL DEVICES ARE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE PLANS AND LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. IF, IN THE OPINION OF THE ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED. IF THE NEED ARISES, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES MAY BE ORDERED BY THE ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
6. A TXDOT TYPE II B-B BLUE REFLECTIVE RAISED PAVEMENT MARKER SHALL BE INSTALLED IN THE CENTER OF THE ROADWAY ADJACENT TO ALL FIRE HYDRANTS. IN LOCATIONS WHERE HYDRANTS ARE SITUATED ON CORNERS, BLUE REFLECTIVE RAISED PAVEMENT MARKERS SHALL BE INSTALLED ON BOTH APPROACHES WHICH FRONT THE HYDRANT. THE RAISED PAVEMENT MARKER SHALL MEET TXDOT MATERIAL, EPOXY AND ADHESIVE SPECIFICATIONS.

GROUND WATER:

1. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, CONTRACTOR, SUBCONTRACTORS, BUILDERS, GEO-TECHNICAL ENGINEER, AND PROJECT ENGINEER TO IMMEDIATELY NOTIFY THE OFFICE OF THE CITY ENGINEER AND PROJECT ENGINEER IF THE PRESENCE OF GROUNDWATER WITHIN THE SITE IS EVIDENT. UPON NOTIFICATION THE PROJECT ENGINEER SHALL RESPOND WITH PLAN REVISIONS FOR THE MITIGATION OF THE GROUNDWATER ISSUE. THE CITY ENGINEER SHALL RESPOND WITHIN TWO (2) BUSINESS DAYS UPON RECEIPT OF THE MITIGATION PLAN. ALL CONSTRUCTION ACTIVITY, IMPACTED BY THE DISCOVERY OF GROUNDWATER, SHALL BE SUSPENDED UNTIL THE CITY ENGINEER GRANTS A WRITTEN APPROVAL OF THE GROUNDWATER MITIGATION PLAN.

RECORD DRAWINGS:

1. AS PER PLATTING ORDINANCE SECTION 118-38M.: WHEN ALL OF THE IMPROVEMENTS ARE FOUND TO BE CONSTRUCTED AND COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND WITH THE CITY'S STANDARDS, AND UPON RECEIPT OF ONE SET OF "RECORD DRAWING" PLANS, AND A DIGITAL COPY OF ALL PLANS (PDF COPY) THE CITY ENGINEER SHALL ACCEPT SUCH IMPROVEMENTS FOR THE CITY OF NEW BRAUNFELS, SUBJECT TO THE GUARANTY OF MATERIAL AND WORKMANSHIP PROVISIONS IN THIS SECTION.

CONSTRUCTION NOTE:

1. ENGINEER OF RECORD IS RESPONSIBLE TO ENSURE THAT EROSION CONTROL MEASURES AND STORM WATER CONTROL SUFFICIENT TO MITIGATE OFF SITE IMPACTS ARE IN PLACE AT ALL STAGES OF CONSTRUCTION.

DRAINAGE NOTE:

1. DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE THE IMPACT OF CONSTRUCTION SHALL BE INSTALLED PRIOR TO ADDING IMPERVIOUS COVER.

FINISHED FLOOR ELEVATIONS:

1. THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORM WATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORM WATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE.

SOILS TESTING:

1. PROCTORS SHALL BE SAMPLED FROM ON-SITE MATERIAL (ON-SITE IS DEFINED AS LIMITS OF CONSTRUCTION FOR THIS -PLAN SET) AND A COPY OF THE PROCTOR RESULTS SHALL BE DELIVERED TO THE CITY OF NEW BRAUNFELS STREET INSPECTOR PRIOR TO ANY DENSITY TESTS.

ROADWAY:

1. ALL ROADWAY COMPACTION TESTS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FLEXIBLE BASE OR FILL/EMBANKMENT MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED EIGHT INCHES (8") LOOSE. THE REQUIRED DENSITY FOR THE FILL/EMBANKMENT MATERIAL SHALL MEET THE REQUIREMENTS OF TXDOT'S SPECIFICATION ITEM 132. THE REQUIRED DENSITY FOR THE FLEXIBLE BASE MATERIAL SHALL MEET THE REQUIREMENTS OF TXDOT'S SPECIFICATION ITEM 247. EACH LAYER OF MATERIAL, INCLUSIVE OF SUBGRADE, SHALL BE COMPACTED AS SPECIFIED 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 NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT, UPON COMPLETION OF TESTING, THE GEOTECHNICAL ENGINEER WILL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FLEXIBLE BASE, AND FILL MATERIAL, AND SUBGRADE, HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.
2. ASPHALTIC CONCRETE PAVEMENT SHALL BE THE TYPE OF HOT MIX ASPHALT AS DEFINED IN TXDOT'S STANDARD SPECIFICATIONS FOR CURRENT TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREET AND BRIDGES.THE CITY OF NEW BRAUNFELS WILL NOT ACCEPT THE USE OF RECYCLED ASPHALT PAVEMENT (RAP) OR RECYCLED ASPHALT SHINGLES (RAS) IN ASPHALT MIXTURES FOR NEW ROADWAYS. ANY DEBRIS INCLUSIONS WITHIN NEW ASPHALT PAVEMENTS WILL RESULT IN ASPHALT REMOVAL AND REPLACEMENT FROM CURB TO CURB FOR LIMITS TO BE DETERMINED BY THE CITY OF NEW BRAUNFELS. THE ASPHALTIC CONCRETE PAVEMENT SURFACE COURSE SHALL BE PLANT MIXED, HOT LAID TYPE "D" MEETING THE SPECIFICATION REQUIREMENTS OF TXDOT ITEM 340. THE ASPHALTIC CONCRETE PAVEMENT SUB-SURFACE COURSES SHALL BE PLANT MIXED, HOT LAID TYPE "B" MEETING THE SPECIFICATION REQUIREMENTS OF TXDOT ITEM 340. THE MIXTURE SHALL BE DESIGNED PER THE DESIGN REQUIREMENTS SPECIFIED IN TXDOT ITEM 340 AND SHALL BE COMPACTED TO BETWEEN 91 AND 95 PERCENT OF THE MAXIMUM THEORETICAL DENSITY AS DETERMINED BY TXDOT TEST METHOD TEX-227-F. PLACE THE MIXTURE WHEN THE ROADWAY SURFACE TEMPERATURE IS AT OR ABOVE 60°F. COMPLETE ALL COMPACTION OPERATIONS BEFORE THE PAVEMENT TEMPERATURE DROPS BELOW 160°F. THE ASPHALT CEMENT CONTENT BY PERCENT OF TOTAL MIXTURE WEIGHT SHALL FALL WITHIN A TOLERANCE OF +0.5 PERCENT FROM A SPECIFIC MIX DESIGN.

UTILITY TRENCH COMPACTION:

1. 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 NEW BRAUNFELS STREET 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 NEW BRAUNFELS STREET 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 NEW BRAUNFELS INSPECTOR.

CURB CUT DUE TO CONSTRUCTION OF NEW RIGHT-OF-WAY CONSTRUCTION:

1. SAW CUT EXISTING STREET AND MATCH TO NEW CONSTRUCTION.
2. SAW CUT EXISTING CURB TO TIE INTO EXISTING CONSTRUCTION.

CONSTRUCTION STABILIZED ENTRANCE:

1. SAW CUT CURB FOR CONSTRUCTION ENTRANCE.
2. STABILIZED CONSTRUCTION AREA SHALL BE CONSTRUCTED OF 3"X5" ROCK TO BE PLACED A MINIMUM LENGTH OF 25-FT AND MAINTAINED SO THAT CONSTRUCTION DEBRIS DOES NOT FALL WITHIN THE CITY RIGHT-OF-WAY. RIGHT-OF-WAY MUST BE CLEARED FROM MUD, ROCKS, ETC.

(NOTES TO BE PLACED ON ALL WW PLAN & DETAIL SHEETS)

1. ENSURE ALL DRIVEWAY APPROACHES ARE BUILT IN GENERAL ACCORDANCE WITH A.D.A. SPECIFICATIONS. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

SIGNING AND PAVEMENT MARKING PLAN NOTES:

1. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY AND WARNING SIGNS, STREETS NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CITY WILL INSPECT ALL SIGNS AT FINAL INSPECTION.
2. THE CONTRACTOR SHALL INSTALL ALL PAVEMENT MARKINGS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST TWENTY-FOUR (24 HOURS PRIOR TO THE INSTALLATION OF ALL SEALER AND FINAL MARKINGS. THE CITY WILL INSPECT ALL MARKINGS AT FINAL APPLICATION.

SEEDING AND ESTABLISHMENT OF VEGETATION WITHIN EARTHEN CHANNELS, STORMWATER BASINS AND DISTURBED AREAS

1. SEEDING FOR THE PURPOSE OF ESTABLISHING VEGETATION WITHIN CONSTRUCTED EARTHEN CHANNELS, BASINS AND DISTURBED AREAS SHALL BE CONDUCTED IN ACCORDANCE WITH ITEM 164 (SEEDING FOR EROSION CONTROL OF TXDOT'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS AND BRIDGES MANUAL. ONLY SEED TYPES AND MIXES SPECIFIED FOR THE SAN ANTONIO DISTRICT (DISTRICT 15 IN TABLES 1 AND 2 UNDER ITEM 164 SHALL BE UTILIZED. DURING THE COOL SEASON (SEPT 1-NOV 30, CEREAL RYE AND SEED SPECIES SPECIFIED FOR THE SAN ANTONIO DISTRICT IN TABLE 3 MAY BE USED. FOR COOL SEASON SEEDING APPLICATIONS, COOL SEASON SEED MIXES SHALL BE USED IN CONJUNCTION WITH SEED MIXES FOR THE SAN ANTONIO DISTRICT AS SPECIFIED IN TABLE 1 AND 2 UNDER ITEM 164.
2. IT MAY BE DEEMED NECESSARY TO INCORPORATE TOPSOIL AND SOIL AMENDMENTS (I.E. COMPOST/ FERTILIZER INTO EXISTING SOIL IN ORDER TO FACILITATE VEGETATION GROWTH. TOPSOIL, COMPOST AND FERTILIZER ADDITIONS SHALL BE CONDUCTED ACCORDING TO ITEMS 160, 161 AND 166 OF TXDOT'S STANDARD SPECIFICATIONS MANUAL, RESPECTIVELY.
3. AREAS REQUIRING PERMANENT VEGETATION (EARTHEN CHANNELS, PONDS, ETC.) ARE REQUIRED TO MEET TXDOT SPECIFICATIONS FOR ITEM 160 TOPSOIL. TESTING PER TEX-128-E WILL BE REQUIRED AT THE CITY'S REQUEST.
4. WATERING MAY ALSO BE NECESSARY TO FACILITATE AND EXPEDITE THE SPROUTING AND GROWTH OF VEGETATION. ITEM 168 OF TXDOT'S STANDARD SPECIFICATIONS MANUAL SHALL BE ADHERED TO FOR VEGETATIVE WATERING.
5. IF EXTENDED DROUGHT CONDITIONS EXIST THAT HINDER OR PROHIBIT THE GROWTH AND ESTABLISHMENT OF VEGETATION, THE CONTRACTOR/ DEVELOPER SHALL PROVIDE A PLAN TO THE CITY OF NEW BRAUNFELS DESCRIBING THE MEASURES THAT WILL BE TAKEN TO STABILIZE EARTHEN DRAINAGE INFRASTRUCTURE UNTIL A TIME WHEN GROWING CONDITIONS BECOME MORE FAVORABLE.

GREEN VALLEY SPECIAL UNIT DISTRICT, (GVSUD) WATERLINE 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 WATERPROOF 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 BELL SHOULD 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 DFW38C 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 200 PSI 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 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

GBRA CONSTRUCTION NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH GBRA STANDARDS AS PUBLISHED AT THE FOLLOWING WEBSITE: HTTPS://WWW.GBRA.ORG/OPERATIONS/DEVELOPER-RESOURCES
2. COPIES OF EACH CONSTRUCTION SUBMITTAL (SHOP DRAWINGS, PRODUCT DATA, ETC.) SHALL BE PROVIDED FOR GBRA REVIEW AND APPROVAL PRIOR TO FABRICATION. USE CLOUDS, BOXES, ARROWS, ETC., TO CLEARLY MARK ALL PROPOSED OPTIONS AND PART NUMBERS. LIST ANY PROPOSED DEVIATIONS ON THE SUBMITTAL COVER SHEET. ALLOW 21 CALENDAR DAYS FOR REVIEW.
3. ALL WATER AND WASTEWATER INSTALLATIONS MUST BE INSPECTED AND APPROVED BY GBRA PRIOR TO BACKFILLING OR OTHERWISE COVERING THE WORK. THIS INCLUDES CROSSINGS OF WATER AND WASTEWATER BY OTHER UTILITIES. GBRA WILL PERFORM A MAXIMUM OF ONE (1) INSPECTION DAILY FOR ONE (1) HOUR DURATION BETWEEN 8:00AM AND 5:00PM EXCLUDING WEEKENDS AND HOLIDAYS. CALL 830-379-5822 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. HORIZONTAL OFFSETS SHALL BE 15 FEET MAXIMUM. INSTALL PROPERTY PINS AND STAKES. MARK FINISH GRADE LINES WITH CUT/FILL ON OFFSET STAKES AND PROPERTY STAKES. ALL MARKS SHALL FACE THE PIPELINE. SURVEY STAKING SHALL BE PERFORMED BY THE CONTRACTOR.
5. PVC MALE ADAPTERS ARE NOT ALLOWED.
6. SANITARY TAPPING SADDLES ARE NOT ALLOWED.
7. MANHOLE INTERNAL DROPS ARE NOT ALLOWED.
8. PIPE BELLS SHALL BE INSTALLED IN UPSTREAM DIRECTION.
9. ALL PIPING SHALL BE DESIGNED IN STRAIGHT ALIGNMENT VERTICALLY AND HORIZONTALLY. PIPE CURVATURE AND/OR DEFLECTION ARE NOT ALLOWED.
10. INSTALL CONCRETE THRUST BLOCKING AND MECHANICAL RESTRAINTS FOR PRESSURE PIPING SYSTEMS.
11. MAINTAIN A MINIMUM OF 10 FEET HORIZONTAL AND 12 INCHES VERTICAL CLEARANCE BETWEEN WATER AND WASTEWATER AND OTHER UTILITIES. SHARED TRENCHES ARE NOT ALLOWED.
12. WATER AND WASTEWATER PIPE LENGTHS SHALL BE CENTERED AT CROSSINGS WITH ALL OTHER UTILITIES, INCLUDING DRY UTILITY SERVICES. BOTH PIPES SHALL BE CENTERED AT WATER AND WASTEWATER CROSSINGS, INCLUDING WASTEWATER SERVICE LATERALS AND FIRE HYDRANT LEADS.
13. WATER AND WASTEWATER PIPING (INCLUDING MAINS, SERVICES, AND LATERALS) SHALL BE SLEEVED IF LOCATED UNDER CONCRETE CHANNELS, BOX CULVERTS, OR MULTIPLE BARREL STORM SEWER CROSSINGS REGARDLESS OF SIZE AND SINGLE BARRELS 30" OR LARGER.
14. VALVE BOXES, EXPOSED PIPING AND VALVES, AND APPURTENANCES SHALL BE PAINTED. PROVIDE PAINTED CURB CUT MARKINGS AT VALVES AND SERVICES.
15. ALL EXPOSED

TXDOT REQUIRED NOTES:

1. FOR RESIDENTIAL DEVELOPMENT DIRECTLY ADJACENT TO STATE ROW, THE DEVELOPER SHALL BE RESPONSIBLE FOR ADEQUATE SETBACK AND/OR SOUND ABATEMENT MEASURES FOR FUTURE NOISE MITIGATION.
2. THE OWNER/DEVELOPER IS RESPONSIBLE FOR PREVENTING ANY ADVERSE IMPACT TO THE EXISTING DRAINAGE SYSTEM WITHIN THE HIGHWAY ROW.OUTFALLS FOR WATER QUALITY AND/OR DETENTION PONDS TREATING IMPERVIOUS COVER RELATED TO THE DEVELOPMENT AND STRUCTURES FOR REDUCTION OF DISCHARGE VELOCITY WILL NOT ENCROACH BY STRUCTURE OR GRADING INTO STATE ROW OR INTO AREAS ROW RESERVATION OR DEDICATION. FOR PROJECTS IN THE EDWARDS AQUIFER RECHARGE, TRANSITION OR CONTRIBUTING ZONES, PLACEMENT OF PERMANENT STRUCTURAL BMP DEVICES OR VEGETATIVE FILTER STRIPS WITHIN STATE ROW OR INTO AREAS OF ROW RESERVATION OR DEDICATION WILL NOT BE ALLOWED. NO NEW EASEMENTS OF ANY TYPE SHOULD BE LOCATED IN AREAS OF R.O.W. RESERVATION OR DEDICATION.
3. MAXIMUM ACCESS POINTS TO STATE HIGHWAY FROM THIS PROPERTY WILL BE REGULATED AS DIRECTED BY TXDOT'S "ACCESS MANAGEMENT MANUAL".
4. IF SIDEWALKS ARE REQUIRED BY APPROPRIATE CITY ORDINANCE, A SIDEWALK PERMIT MUST BE APPROVED BY TXDOT, PRIOR TO CONSTRUCTION WITHIN STATE R.O.W. LOCATIONS OF SIDEWALK WITHIN STATE R.O.W. SHALL BE AS DIRECTED BY TXDOT.
5. ANY TRAFFIC CONTROL MEASURES (LEFT–TURN, RIGHT–TURN LANE SIGNAL, ETC.) FOR ANY ACCESS FRONTING A STATE MAINTAINED ROADWAY SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/OWNER.

GEOTECHNICAL REPORT:

GUADALUPE BEND PAVEMENT DESIGN
GUADALUPE BEND SUBDIVISION
GUADALUPE COUNTY, TEXAS
REPORT FOR HIGHLANDER REAL ESTATE PARTNERS
SEPTEMBER 19, 2023
BY ALPHA TESTING
4740 PERRIN CREEK SUITE 480
SAN ANTONIO, TX 78217

STREET CLASSIFICATION		HOT MIX ASPHALTIC CONCRETE, TYPE D	FLEXIBLE BASE	LIME TREATED SUBGRADE	STRUCTURAL NUMBER
LOCAL STREET	A MINIMUM OF 250,000 ESALS SHALL BE USED IN THE DESIGN	3.0"	8.0"	9.0"	3.16
RESIDENTIAL COLLECTOR	A MINIMUM OF 500,000 ESALS SHALL BE USED IN THE DESIGN	3.0"	13.0"	8.0"	3.78
MAJOR COLLECTOR	A MINIMUM OF 1,500,000 ESALS SHALL BE USED IN THE DESIGN	4.0"	18.0"	8.0"	4.92
TEMPORARY ROADWAYS	---	---	13.0"	6.0"	---

CONTRACTOR NOTE: CONTRACTOR MUST REFERENCE THE SIGNED AND SEALED GEOTECH REPORT
PAVEMENT THICKNESS NOTE: REFERENCE THE SIGNED AND SEALED GEOTECH REPORT FOR OTHER PAVEMENT THICKNESS OPTIONS.

SUBGRADE NOTE:

1. REFER TO ALPHA GEOTECHNICAL REPORT NO. A232013-R FOR SUBGRADE PREPARATION AND STANDARDS AND LIME STABILIZATION SPECIFICATIONS.
2. REFER TO ALPHA GEOTECHNICAL REPORT NO. A232013-R-A FOR TEMPORARY ROADWAY RECOMMENDATIONS.

LIME TREATMENT

1. THE PAVEMENT SUBGRADE SHOULD BE TREATED WITH HYDRATED LIME IN PAVEMENT AREAS WHERE THE PI EXCEEDS 20. THE SUBGRADE SHOULD BE SACRIFICED TO A DEPTH OF 6 INCHES AND MIXED WITH A MINIMUM 7 PERCENT HYDRATED LIME (BY DRY SOIL WEIGHT) IN CONFORMANCE WITH TXDOT STANDARD SPECIFICATION ITEM 260.

SEQUENCE OF CONSTRUCTION:

1. HOLD PRE-CONSTRUCTION MEETING.
2. INSTALL TEMPORARY EROSION AND SEDIMENT CONTROLS AND STABILIZED CONSTRUCTION ENTRANCE, IF REQUIRED, IN THE APPROVED PLANS.
3. ROUGH CUT DETENTION/WATER QUALITY PONDS/BASINS AND DIRECT RUNOFF TO PONDS TO ACT AS A SEDIMENT TRAP
4. ROUGH GRADE STREETS
5. INSTALL ALL UTILITIES IN THE RIGHT OF WAY.
6. REGRADE AND COMPACT SUBGRADE. MEET WITH INSPECTOR AND/DESIGN ENGINEER TO DETERMINE AREAS OF DIFFERING STREET SECTIONS OR SUBGRADE PREPARATION, IF CALLED FOR IN THE GEOTECHNICAL REPORT.
7. INSURE ALL UNDERGROUND UTILITY CROSSINGS ARE IN PLACE INCLUDING SLEEVES FOR DRY UTILITIES AND INSTALL FIRST COURSE OF BASE.
8. INSTALL CURB RIP-RAP AND MISCELLANEOUS CONCRETE.
9. INSTALL SECOND COURSE OF BASE.
10. PRIOR TO PAVING, ALL UTILITY TESTING MUST BE COMPLETE AND APPROVED BY UTILITY OWNER.
11. LAY ASPHALT
12. FINAL GRADE ANY DITCHES AND PARKWAYS.
13. REVEGETATE ALL DISTURBED AREAS. DISPOSE OF SPOIL IN AN APPROVED MANNER.
14. SCHEDULE A FINAL INSPECTION.

AFTER ACCEPTANCE OF CONSTRUCTION, TEMPORARY EROSION CONTROLS MAY BE REMOVED

CONSTRUCTION OF UTILITIES CROSSING THE VISTA RIDGE EASEMENT

1. CONTRACTOR TO SUBMIT A WORK PLAN FOR CROSSING THE VISTA RIDGE PIPE AND NOTIFICATION PER ENCROACHMENT AGREEMENT BEFORE COMMENCING WORK WITHIN OR OVER VISTA RIDGE EASEMENT. WORK PLAN WILL PROVIDE DETAILS ON CONSTRUCTION METHODS, PIPE PROTECTION, RESTORATION, AND COORDINATION WITH CTRWSC. THE WORK PLAN REQUIRE WRITTEN APPROVAL BY CTRWSC 14-DAYS BEFORE WORKING WITHIN OR CROSSING THE VISTA RIDGE EASEMENT.
2. WORK PLAN MUST PROVIDE CROSSING PLAN THAT CLEARLY SHOWS DESIGNATED AREAS WHERE HEAVY EQUIPMENT WILL CROSS OVER THE VISTA RIDGE EASEMENT AND PROVIDE DETAILS FOR PIPELINE PROTECTION. CONTRACTOR WILL CLEARLY DELINEATE CROSSING LOCATIONS IN THE FIELD USING CONSTRUCTION FENCE OR SIMILAR MATERIALS.
3. NO MECHANICAL EXCAVATION WITHIN TEN FEET (10') OF THE CENTERLINE OF THE VISTA RIDGE PIPELINE UNLESS APPROVED IN WRITING BY CTRWSC. ANY AGREEMENT SHOULD BE PART OF THE WORK PLAN PROVIDED BY THE CONTRACTOR.
4. CTRWSC WILL DESIGNATE A REPRESENTATIVE FOR FIELD OBSERVATION DURING ANY CROSSING OF THE VR LINE. CONTRACTOR WILL COORDINATE WITH CTRWSC'S DESIGNATED REPRESENTATIVE 3-BUSINESS DAYS BEFORE CROSSING THE VR PIPELINE. CONTRACTOR WILL MAKE ARRANGEMENTS WITH CTRWSC TO PAY FOR OBSERVER TIME INCLUDING TRAVEL TIME TO THE SITE.
5. NO TEMPORARY STOCKPILING OR STATIONING OF MATERIALS, EQUIPMENT OR FACILITIES WITHIN EASEMENT.
6. IF CROSSING OVER THE VR PIPELINE, THE CONTRACTOR WILL HAVE FIELD VERIFIED BOTH THE FIBER OPTIC LINE AND WATER LINE.
7. CONTRACTOR TO PROVIDE PROTECTION FROM EQUIPMENT AND TRUCKS TRAVELING OVER VISTA RIDGE PIPE WHICH MEETS OR EXCEED HS-20 LOADING CRITERIA.
8. FOR CROSSING UNDER THE VR PIPELINE, THE PREFERENCE IS TO USE TRENCHLESS METHODS. TRENCHLESS METHODS STILL REQUIRE AN OBSERVER TO BE ONSITE. ADDITIONALLY, CONTRACTOR WILL USE A HYDROVAC OR SIMILAR PIECE OF EQUIPMENT TO CREATE A HOLE ALONGSIDE OF THE VR PIPELINE SO THAT THE OBSERVER AND CONTRACTOR CAN WITNESS THE AUGER OR DRILL PASSING UNDER THE BOTTOM OF THE VR PIPELINE AT THE APPROPRIATE SPACING.
9. IF CROSSING UNDER THE VR PIPELINE USING THE OPEN-CUT METHOD, THE CONTRACTOR MUST GET A WORK PLAN APPROVED IN WRITING BY CTRWSC WHICH AT A MINIMUM INCLUDES HOW THE LINE WILL BE INSTALLED UNDER THE VR PIPELINE, HOW TO MINIMIZE THE AMOUNT OF VR PIPELINE BEING EXPOSED, AND HOW TO SUPPORT THE VR PIPELINE. TRENCH BACKFILL NEEDS TO BE FLOWABLE FILL FROM THE BEDDING OF THE NEW UTILITY CROSSING UNDER THE VR PIPELINE UP TO AND ELEVATION THAT IS 70% OF THE VR PIPELINE DIAMETER. WORK WILL NEED TO BE OBSERVED BY THE CTRWSC DESIGNATED REPRESENTATIVE.
10. IF METALLIC PIPE SUCH AS DUCTILE IRON CROSSES THE VISTA RIDGE EASEMENT, ENGINEER WILL PROVIDE CATHODIC PROTECTION DEVICES THAT PROTECT THE VISTA RIDGE PIPE. DETAILS TO BE COORDINATED WITH CTRWSC.
11. CONTRACTOR SHALL TAKE NECESSARY PRECAUTION TO PROTECT VISTA RIDGE CATHODIC PROTECTION SYSTEM COMPONENTS AND PIPE PROTECTIVE COATING.
12. BACKFILL ACCORDING TO DETAIL EXHIBIT A ON SHEET C10.04

CITY OF NEW BRAUNFELS NOTE:

THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5-FEET IN DEPTH LOCATED IN PUBLIC RIGHT-OF-WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	APR

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
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GUADALUPE BEND PHASE 1

CIVIL GENERAL NOTES (SHEET 2 OF 2)

This Document Is Released Under The Authority Of Stacy S. Mulholland, PE Texas Licensed Professional Engineer 146417 For Internal Review Purposes. BGE, Inc. TBPE Registration No. F-1046

SHEET
C01.01

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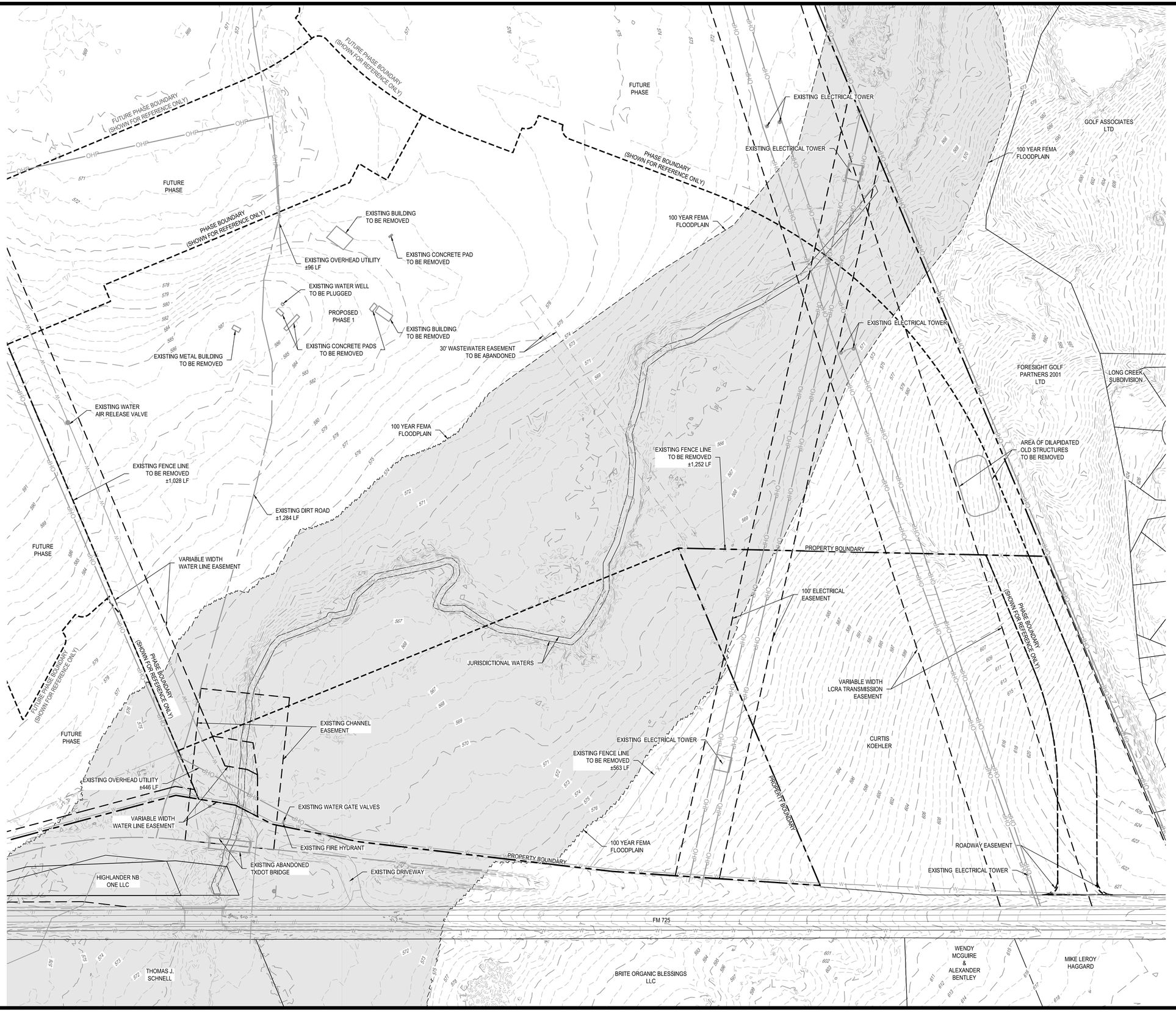


BENCHMARK TABLE			
	NORTHING	EASTING	ELEVATION
CP #3	13,780,905.68	2,266,438.49	577.58
CP #4	13,778,467.72	2,265,780.36	621.64
TBM #4	13,780,618.77	2,264,978.06	571.55

REV	DESCRIPTION	DATE	APR

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.browngay.com
TBPE Registration No. F-1046

NOT FOR CONSTRUCTION

GUADALUPE BEND PHASE 1

EXISTING CONDITIONS PLAN

This Document Is Released Under The Authority Of Stacy S. Mulholland, PE
Texas Licensed Professional Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C01.10

G:\TX\CIP\projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C01.10 EXISTING CONDITIONS PLAN.dwg Layout: EXISTING CONDITIONS PLAN Plotted: 3/22/2024 10:11:09 AM By: Lhuck

GUADALUPE BEND PHASE 1

A SUBDIVISION OF 45.914 ACRES OF LAND LOCATED IN WILLIAM BRACKEN SURVEY, A–52, & GREENBERRY PATE SURVEY NO. 46, A–260 GUADALUPE COUNTY, TEXAS

TXDOT REQUIRED NOTES:

1. FOR RESIDENTIAL DEVELOPMENT DIRECTLY ADJACENT TO STATE ROW, THE DEVELOPER SHALL BE RESPONSIBLE FOR ADEQUATE SETBACK AND/OR SOUND ABATEMENT MEASURES FOR FUTURE NOISE MITIGATION.
2. THE OWNER/DEVELOPER IS RESPONSIBLE FOR PREVENTING ANY ADVERSE IMPACT TO THE EXISTING DRAINAGE SYSTEM WITHIN THE HIGHWAY ROW. OUTFALLS FOR WATER QUALITY AND/OR DETENTION PONDS TREATING IMPERVIOUS COVER RELATED TO THE DEVELOPMENT AND STRUCTURES FOR REDUCTION OF DISCHARGE VELOCITY WILL NOT ENCROACH BY STRUCTURE OR GRADING INTO STATE ROW OR INTO AREAS ROW RESERVATION OR DEDICATION. FOR PROJECTS IN THE EDWARDS AQUIFER RECHARGE, TRANSITION OR CONTRIBUTING ZONES, PLACEMENT OF PERMANENT STRUCTURAL BMP DEVICES OR VEGETATIVE FILTER STRIPS WITHIN STATE ROW OR INTO AREAS OF ROW RESERVATION OR DEDICATION WILL NOT BE ALLOWED. NO NEW EASEMENTS OF ANY TYPE SHOULD BE LOCATED IN AREAS OF R.O.W. RESERVATION OR DEDICATION.
3. MAXIMUM ACCESS POINTS TO STATE HIGHWAY FROM THIS PROPERTY WILL BE REGULATED AS DIRECTED BY TXDOT'S "ACCESS MANAGEMENT MANUAL".
4. IF SIDEWALKS ARE REQUIRED BY APPROPRIATE CITY ORDINANCE, A SIDEWALK PERMIT MUST BE APPROVED BY TXDOT, PRIOR TO CONSTRUCTION WITHIN STATE R.O.W. LOCATIONS OF SIDEWALK WITHIN STATE R.O.W. SHALL BE AS DIRECTED BY TXDOT.
5. ANY TRAFFIC CONTROL MEASURES (LEFT–TURN, RIGHT–TURN LANE SIGNAL, ETC.) FOR ANY ACCESS FRONTING A STATE MAINTAINED ROADWAY SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/OWNER.

FLOOD PLAIN NOTE:

1. THE GRAPHIC LOCATION OF THE SUBJECT TRACT SUPERIMPOSED UPON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 48187C0115F AND 48187C012 OF EFFECTIVE DATE NOVEMBER 2, 2007. INDICATES THAT THE SUBJECT TRACT IS LOCATED WITHIN ZONE "X" WHICH IS DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AND ZONE "A", (SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT – WITHOUT BASE FLOOD ELEVATIONS DETERMINED) THIS STATEMENT DOES NOT IMPLY THAT ANY PORTION IS TOTALLY FREE OF POTENTIAL FLOOD HAZARD. LOCALIZED FLOODING CAN OCCUR DUE TO NATURAL AND/OR MAN–MADE INFLUENCES. THIS FLOOD STATEMENT SHALL CREATE NO LIABILITY ON THE PART OF BGE, INC. OR THE UNDERSIGNED.
2. THIS PROPERTY DOES LIE WITHIN A SPECIAL FLOOD HAZARD AREA, ZONE "A", THE 100–YEAR FLOOD ZONE, AS DEFINED BY THE FLOOD INSURANCE RATE MAP FOR GUADALUPE COUNTY, TEXAS ON COMMUNITY PANEL NO. 48187C0115F AND 48187C012, EFFECTIVE DATE NOVEMBER 2, 2007, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
3. NO STRUCTURE OR LAND IN THIS PLAT SHALL HEREAFTER BE LOCATED OR ALTERED WITHOUT FIRST OBTAINING A FLOODPLAIN DEVELOPMENT PERMIT FROM THE GUADALUPE COUNTY FLOODPLAIN ADMINISTRATOR.

DRAINAGE NOTE:

NO STRUCTURES, WALLS OR OTHER OBSTRUCTIONS OF ANY KIND SHALL BE PLACED WITHIN THE BOUNDARIES OF THE DRAINAGE EASEMENTS. NO LANDSCAPING, FENCES, OR OTHER TYPE OF MODIFICATIONS, WHICH ALTER THE CROSS–SECTIONS OF THE DRAINAGE EASEMENTS, OR DECREASE THE HYDRAULIC CAPACITY OF THE EASEMENT SHALL BE ALLOWED.

GUADALUPE COUNTY REQUIRED NOTES:

1. NO STRUCTURE, WALLS, OR OTHER OBSTRUCTION OF ANY KIND SHALL BE PLACED WITHIN BOUNDARIES OF DRAINAGE EASEMENTS. NO LANDSCAPING, FENCES, OR ANY OTHER TYPE OF MODIFICATIONS WHICH ALTER THE CROSS SECTIONS OF THE DRAINAGE EASEMENTS OR DECREASES THE HYDRAULIC CAPACITY OF THE EASEMENT SHALL BE ALLOWED.
2. NO FENCING OR STRUCTURES THAT WILL INTERFERE WITH ADEQUATE DRAINAGE FLOW WILL BE ALLOWED ON OR ACROSS PROPERTY LINES.
3. IN ORDER TO PROMOTE SAFE USE OF STREETS AND PRESERVE THE CONDITION OF PUBLIC STREETS, NO DRIVEWAY CONSTRUCTED ON ANY LOT WITHIN THIS SUBDIVISION SHALL BE PERMITTED ACCESS ONTO A PUBLICLY DEDICATED COUNTY RIGHT–OF–WAY UNLESS A DRIVEWAY PERMIT HAS BEEN ISSUED BY THE GUADALUPE COUNTY ROAD & BRIDGE DEPARTMENT". THE DRIVEWAY SHALL BE CONSTRUCTED TO MEET THE GUADALUPE COUNTY ROAD & BRIDGE DEPARTMENT SPECIFICATIONS WHICH SHALL BE STATED ON THE PERMIT.
4. NO STRUCTURES/HOMES ARE TO BE BUILT OR BROUGHT ONTO THE LOT UNTIL AN ON–SITE SEWAGE FACILITY PERMIT HAS BEEN ISSUED OR PUBLIC SEWER HAS BEEN PROVIDED AND ROAD CONSTRUCTION IS COMPLETED AND APPROVED.
5. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF DRAINAGE STRUCTURES, EASEMENT, AND DETENTION POND.

SURVEYOR'S NOTES:

1. BEARING ORIENTATION IS BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD–83. DISTANCES SHOWN ARE SURFACE VALUES. THE COMBINED SCALE FACTOR IS 0.99986499. COORDINATES SHOWN HEREON ARE GRID COORDINATES.
2. VERTICAL DATUM: NAVD 88 (GEOID 18)
3. MONUMENTATION AS SHOWN. IT IS THE POLICY OF BGE INC. TO SET A 1/2–INCH IRON ROD WITH A CAP STAMPED "BGE INC" AT ALL CORNERS, P.C.'s, P.T.'s, AND P.I.'s (WHERE PRACTICAL) UPON COMPLETION OF CONSTRUCTION.
4. DATE OF PREPARATION: AUGUST 3, 2023

APPLICANT:
HIGHLANDER REAL ESTATE PARTNERS
P.O. BOX 470249
FORT WORTH, TX 76147

RECORD TITLE HOLDER:
HIGHLANDER NB ONE
P.O. BOX 470249
FORTH WORTH, TX 76147

ENGINEER & SURVEYOR:
BGE, INC.
7330 SAN PEDRO AVE #202
SAN ANTONIO, TX 78216
TEL: 210–581–3600

GUADALUPE–BLANCO RIVER AUTHORITY NOTES:

1. THE GUADALUPE–BLANCO RIVER AUTHORITY (GBRA) IS HEREBY DEDICATED THE EASEMENTS AND RIGHTS–OF–WAY IN THE AREAS DESIGNATED ON THIS PLAT AS SEWER UTILITY EASEMENT FOR THE PURPOSE OF INSTALLING, CONSTRUCTING, RECONSTRUCTING, OPERATING, MAINTAINING, INSPECTING, REPAIRING, REMOVING, AND RELOCATING BURIED AND/OR EXPOSED SANITARY SEWER FACILITIES AND APPURTENANCES.
2. TOGETHER WITH THE RIGHT OF INGRESS AND EGRESS, GBRA SHALL HAVE THE RIGHT TO REMOVE SAID LANDS OF ALL TREES OR PARTS THEREOF, OR ANY OTHER OBSTRUCTIONS WHICH MAY ENDANGER, OR INTERFERE WITH MAINTENANCE OF THE FACILITIES AND APPURTENANCES.
3. OTHER UTILITIES, STRUCTURES, GRADING, DRAINAGE, DETENTION/RETENTION PONDS, LANDSCAPING, TREES, ROADS, PARKING LOTS, FENCES, WALLS, CONSTRUCTION OF ANY TYPE, OR ANY OTHER IMPROVEMENTS OR OBSTRUCTIONS, ARE NOT ALLOWED WITHIN GBRA EASEMENTS.
4. DESIGNS FOR ANY PROPOSED ALTERATIONS OR CROSSINGS OF GBRA EASEMENTS MUST BE APPROVED IN WRITING BY GBRA AND THE INSTALLATION OF SUCH MUST BE INSPECTED AND APPROVED BY GBRA.
5. MAINTENANCE OF EASEMENTS IS THE RESPONSIBILITY OF THE PROPERTY OWNER.
6. THE PROPERTY OWNER MUST INSTALL 16 FOOT GATES IN ANY FENCES THAT CROSS GBRA UTILITIES; GATES MUST BE CENTERED ACROSS GBRA UTILITIES.
7. CUSTOMER SANITARY SEWER SERVICES SHALL NOT BE INSTALLED WITHIN FENCED AREAS.

GUADALUPE VALLEY ELECTRIC COOPERATIVE NOTES:

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. ALL UTILITY EASEMENTS ARE FOR THE CONSTRUCTION, MAINTENANCE (INCLUDING BUT NOT LIMITED TO REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING OF METERS, AND REPAIR OF ALL OVERHEAD AND UNDERGROUND UTILITIES.
4. 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, AND MAINTAINING THE ELECTRICAL FACILITIES.
5. 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.
6. 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. THIS SUBDIVISION PLAT OF GUADALUPE BEND HAS BEEN SUBMITTED TO AND APPROVED BY GUADALUPE VALLEY ELECTRIC COOPERATIVE, INC. FOR EASEMENTS.

GENERAL NOTES:

1. WASTEWATER SYSTEM WILL BE OWNED BY GUADALUPE BLANCO RIVER AUTHORITY.
2. WATER SYSTEM WILL BE OWNED BY GREEN VALLEY SPECIAL UTILITY DISTRICT.
3. SIDEWALKS ARE REQUIRED ON ALL STREETS. HOMEBUILDER SHALL BE RESPONSIBLE FOR LOT FRONTAGE SIDEWALK PRIOR TO CERTIFICATE OF OCCUPANCY ISSUANCE. OPEN SPACE AND EASEMENT FRONTAGE SIDEWALK SHALL BE BUILT BY DEVELOPER PRIOR TO SUBDIVISION ACCEPTANCE.
4. A PORTION OF THE SUBDIVISION FALLS WITHIN THE ONE PERCENT CHANCE FLOODPLAIN AND THE FOLLOWING MINIMUM FINISHED FLOOR ELEVATIONS ARE PROVIDED IN THE TABLE BELOW AND ALL BUILDINGS MUST BE CONSTRUCTED ABOVE THE STATED MINIMUM FLOOR ELEVATION.
5. A PORTION OF THE PLATTED AREA IS IN AND DEFINED BY FEMA FLOOD INSURANCE RATE MAP, GUADALUPE COUNTY, COMMUNITY PANEL NO. 48487C0115F AND 48187C012 (EFF. 11/2/2007).
6. FINISHED FLOOR ELEVATIONS MUST BE A MINIMUM OF TEN INCHES ABOVE FINAL ADJACENT GRADE AND THE LOT BE GRADED IN ACCORDANCE WITH THE APPROVED GRADING PLAN.
7. SEE APPROVED MASTER PLAN FOR TRAIL LOCATION, PER CITY OF NEW BRAUNFELS APPROVAL, TO BE BUILT WITH EACH PLATTED PHASE. TRAIL SHALL BE MAINTAINED BY HOMEOWNER'S ASSOCIATION.
8. DRAINAGE, OPEN SPACE LOTS AND COMMON AREA SHALL BE MAINTAINED BY HOMEOWNER'S ASSOCIATION.

GREEN VALLEY SPECIAL UTILITY DISTRICT EASEMENT CERTIFICATE

THE OWNER OF THE LAND SHOWN ON THIS PLAT AND WHOSE NAME IS SUBSCRIBED HERETO, IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, DEDICATES TO THE GREEN VALLY SPECIAL UTILITY DISTRICT OF MARION, TEXAS, ITS SUCCESSORS AND ASSIGNS, A PERPETUAL EASEMENT MARKED AS 'GVSUD WATERLINE EASEMENT', 'GVSUD SEWER EASEMENT'OR 'GVSUD REUSE WATER EASEMENT'AS APPLICABLE WITH THE RIGHT TO ERECT, CONSTRUCT, INSTALL, AND LAY AND THEREAFTER ACCESS AND USE, OPERATE, INSPECT, REPAIR, MAINTAIN, REPLACE, UPGRADE, PARALLEL AND REMOVE WATER OR WASTE–WATER TRANSMISSION, COLLECTION AND/OR DISTRIBUTION LINES AND APPURTENANCES AND ANY OTHER FACILITIES NECESSARY TO SERVE GRANTORS' PROPERTY, AS WELL AS THE GRANTEE'S CURRENT AND FUTURE SYSTEM–WIDE CUSTOMERS, TOGETHER WITH THE RIGHT OF INGRESS AND EGRESS UNDER, OVER AND ACROSS GRANTOR'S ADJACENT LANDS AND IN ALL STREETS AND BYWAYS FOR THE PURPOSE FOR WHICH THE ABOVE MENTIONED RIGHTS ARE GRANTED, INCLUDING THE RIGHT TO REMOVE FROM SAID LANDS ALL TREES, SHRUBS, GRASSES, PAVEMENTS, FENCES, STRUCTURES, IMPROVEMENTS, OR OTHER OBSTRUCTIONS WHICH MAY INTERFERE WITH THE FACILITY OR THE ACCESS THERETO.

IT IS AGREED AND UNDERSTOOD THAT NO OTHER UTILITIES SHALL BE INSTALLED WITHIN OUR EASEMENT TO INCLUDE BUT NOT LIMITED TO PERMANENT STRUCTURES AND/OR BUILDINGS, CONCRETE SLABS, SIDEWALKS, WALLS, AND PAVEMENTS. ANY MONETARY LOSS TO GREEN VALLEY SUD RESULTING FROM MODIFICATIONS REQUIRED OF UTILITY EQUIPMENT LOCATED WITHIN SAID EASEMENT DUE TO GRADE CHANGE OR GROUND ELEVATION ALTERATIONS SHALL BE CHARGED TO THE PERSON OR PERSONS DEEMED RESPONSIBLE FOR SAID GRADE CHANGES OR GROUND ELEVATION ALTERATIONS. UPON ENTERING IN AND UPON SAID EASEMENT, THE DISTRICT WILL ENDEAVOR TO RESTORE THE LAND SURFACE TO A USEABLE CONDITION BUT NOT OBLIGATED TO RESTORE IT TO A PRE–EXISTING CONDITION.

THE EASEMENT CONVEYED HEREIN WAS OBTAINED OR IMPROVED THROUGH FEDERAL FINANCIAL ASSISTANCE. THIS EASEMENT IS SUBJECT TO THE PROVISION OF TITLE VI OF THE CIVIL RIGHTS ACT OF 1964, AND THE REGULATIONS ISSUED PURSUANT THERETO FOR SO LONG AS THE EASEMENT CONTINUES TO BE USED FOR THE SAME OR SIMILAR PURPOSE FOR WHICH FINANCIAL ASSISTANCE WAS EXTENDED OR FOR SO LONG AS THE GRANTEE OWNS IT, WHICHEVER IS LONGER.

GREEN VALLEY SPECIAL UTILITY DISTRICT CERTIFICATE

THIS LAND DEVELOPMENT PLAT HAS BEEN SUBMITTED TO AND APPROVED BY GREEN VALLEY SPECIAL UTILITY DISTRICT FOR EASEMENTS. UPON REQUEST OF THE CUSTOMER AND PAYMENT OF THE REQUIRED FEES, THE DISTRICT WILL PROVIDE DOMESTIC WATER SERVICE TO EACH LOT IN THIS SUBDIVISION, BY AGREEMENT WITH THE DEVELOPER.

_____
AGENT, GREEN VALLEY SPECIAL UTILITY DISTRICT

STATE OF TEXAS
COUNTY OF GUADALUPE

I, THE UNDERSIGNED OWNER OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS PLAT OF BLOCK A (LOTS 1 THROUGH 32, AND 901 THROUGH 903), BLOCK B (LOTS 1 THROUGH 21), BLOCK C (LOTS 1 THROUGH 6), BLOCK D (LOTS 1 THROUGH 16), BLOCK E (LOTS 1 THROUGH 15) AND BLOCK F (LOTS 1 THROUGH 13 AND LOT 900) GUADALUPE BEND PHASE 1, A SUBDIVISION TO THE CITY OF NEW BRAUNFELS, COUNTY OF GUADALUPE, TEXAS, AND WHOSE NAME IS SUBSCRIBED HERETO, DO HEREBY SUBDIVIDE SUCH PROPERTY AND DEDICATE TO THE USE OF THE PUBLIC ALL STREETS ALLEYS, PARKS, DRAINS, EASEMENTS AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREIN EXPRESSED.

_____
OWNER/DEVELOPER: HIGHLANDER NB ONE, LLC
JOHN MABERRY, MANAGER

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

GIVEN UNDER MY HAND AND SEAL OF OFFICE

DATED THIS _____ DAY OF _____ A.D. 20_____.

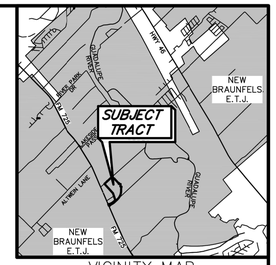
_____ _____
NOTARY PUBLIC, GUADALUPE COUNTY, TEXAS MY COMMISSION EXPIRES

STATE OF TEXAS
COUNTY OF GUADALUPE

I, THE UNDERSIGNED, DION P. ALBERTSON, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECTLY MADE UNDER MY SUPERVISION AND IN COMPLIANCE WITH CITY AND STATE SURVEY REGULATIONS AND LAWS AND MADE ON THE GROUND AND THAT THE CORNER MONUMENTS WILL BE PROPERLY PLACED UPON COMPLETION OF CONSTRUCTION.

PRELIMINARY PENDING FINAL REVIEW

_____
DION P. ALBERTSON, TEXAS R.P.L.S. NO. 4963



VICINITY MAP
NOT TO SCALE

APPROVED THIS THE _____ DAY OF _____, 20___, BY THE PLANNING COMMISSION OF THE CITY OF NEW BRAUNFELS, TEXAS.

_____
CHAIRMAN

APPROVED FOR ACCEPTANCE

_____ _____
PLANNING AND DEVELOPMENT SERVICES DIRECTOR DATE

_____ _____
CITY ENGINEER DATE

_____ _____
NEW BRAUNFELS UTILITIES DATE

THE STATE OF TEXAS

COUNTY OF GUADALUPE

I, _____, COUNTY CLERK OF GUADALUPE COUNTY, TEXAS, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT OF WRITING WITH ITS CERTIFICATE OF AUTHENTICATION WAS FILED FOR RECORD IN MY OFFICE, ON THE _____ DAY OF _____ A.D. 20___ AT _____ M., AND DULY RECORDED THE _____ DAY OF _____, 20___ AD AT _____ M. IN THE MAP AND PLAT RECORDS OF GUADALUPE COUNTY, TEXAS IN VOLUME _____, PAGE _____ IN TESTIMONY WHEREOF, WITNESS MY HAND AND OFFICIAL SEAL OF OFFICE THIS _____ DAY OF _____ A.D. 20___.

BY _____
COUNTY CLERK, GUADALUPE TEXAS

BGE, Inc.
7330 San Pedro Ave., Suite 202
San Antonio, TX 78216
Tel: 210-581-3600 ● www.bgeinc.com
TBPELS Registration No. F-1046
TBPELS Licensed Surveying Firm No. 10194490

NOT FOR CONSTRUCTION

GUADALUPE BEND PHASE 1

SUBDIVISION PLAT (SHEET 1 OF 4)

							APR
							DATE
							DESCRIPTION
◁	◁	◁	◁	◁	◁		REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

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SHEET
C01.30

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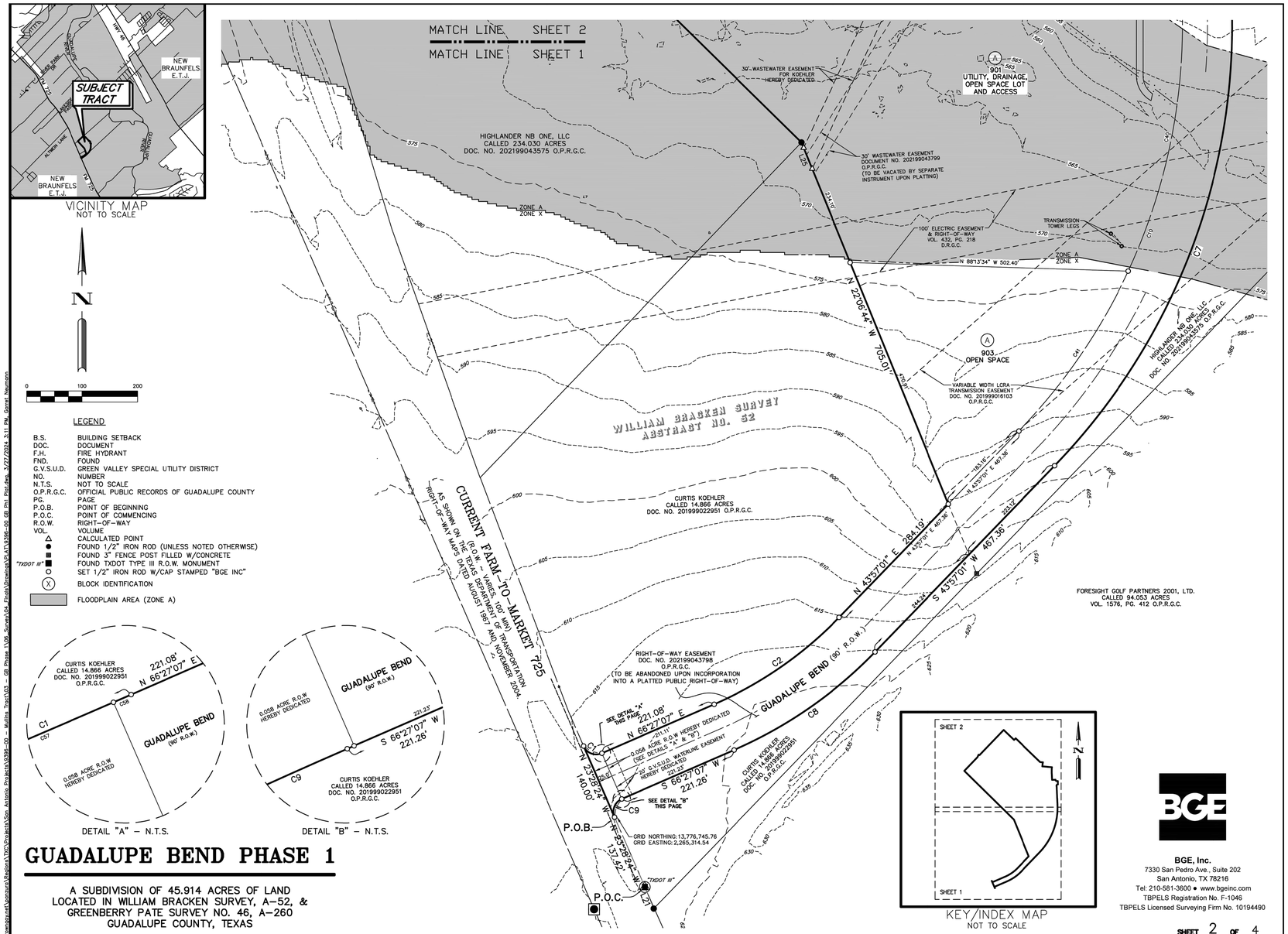

VICINITY MAP
NOT TO SCALE

N

0 100 200

LEGEND

B.S.	BUILDING SETBACK
DOC.	DOCUMENT
F.H.	FIRE HYDRANT
FND.	FOUND
G.V.S.U.D.	GREEN VALLEY SPECIAL UTILITY DISTRICT
NO.	NUMBER
N.T.S.	NOT TO SCALE
O.P.R.G.C.	OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY
PG.	PAGE
P.O.B.	POINT OF BEGINNING
P.O.C.	POINT OF COMMENCING
R.O.W.	RIGHT-OF-WAY
VOL.	VOLUME
△	CALCULATED POINT
●	FOUND 1/2" IRON ROD (UNLESS NOTED OTHERWISE)
■	FOUND 3" FENCE POST FILLED W/CONCRETE
"TXDOT III" ■	FOUND TXDOT TYPE III R.O.W. MONUMENT
○	SET 1/2" IRON ROD W/CAP STAMPED "BGE INC"
(X)	BLOCK IDENTIFICATION
	FLOODPLAIN AREA (ZONE A)

DETAIL "A" – N.T.S.

DETAIL "B" – N.T.S.

GUADALUPE BEND PHASE 1

A SUBDIVISION OF 45.914 ACRES OF LAND
LOCATED IN WILLIAM BRACKEN SURVEY, A-52, &
GREENBERRY PATE SURVEY NO. 46, A-260
GUADALUPE COUNTY, TEXAS

KEY/INDEX MAP
NOT TO SCALE

BGE, Inc.
7330 San Pedro Ave., Suite 202
San Antonio, TX 78216
Tel: 210-581-3600 • www.bgeinc.com
TBPELS Registration No. F-1046
TBPELS Licensed Surveying Firm No. 10194490

SHEET 2 OF 4

NOT FOR CONSTRUCTION

GUADALUPE BEND PHASE 1

SUBDIVISION PLAT (SHEET 2 OF 4)

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.browngay.com
TBPE Registration No. F-1046

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SHEET C01.31

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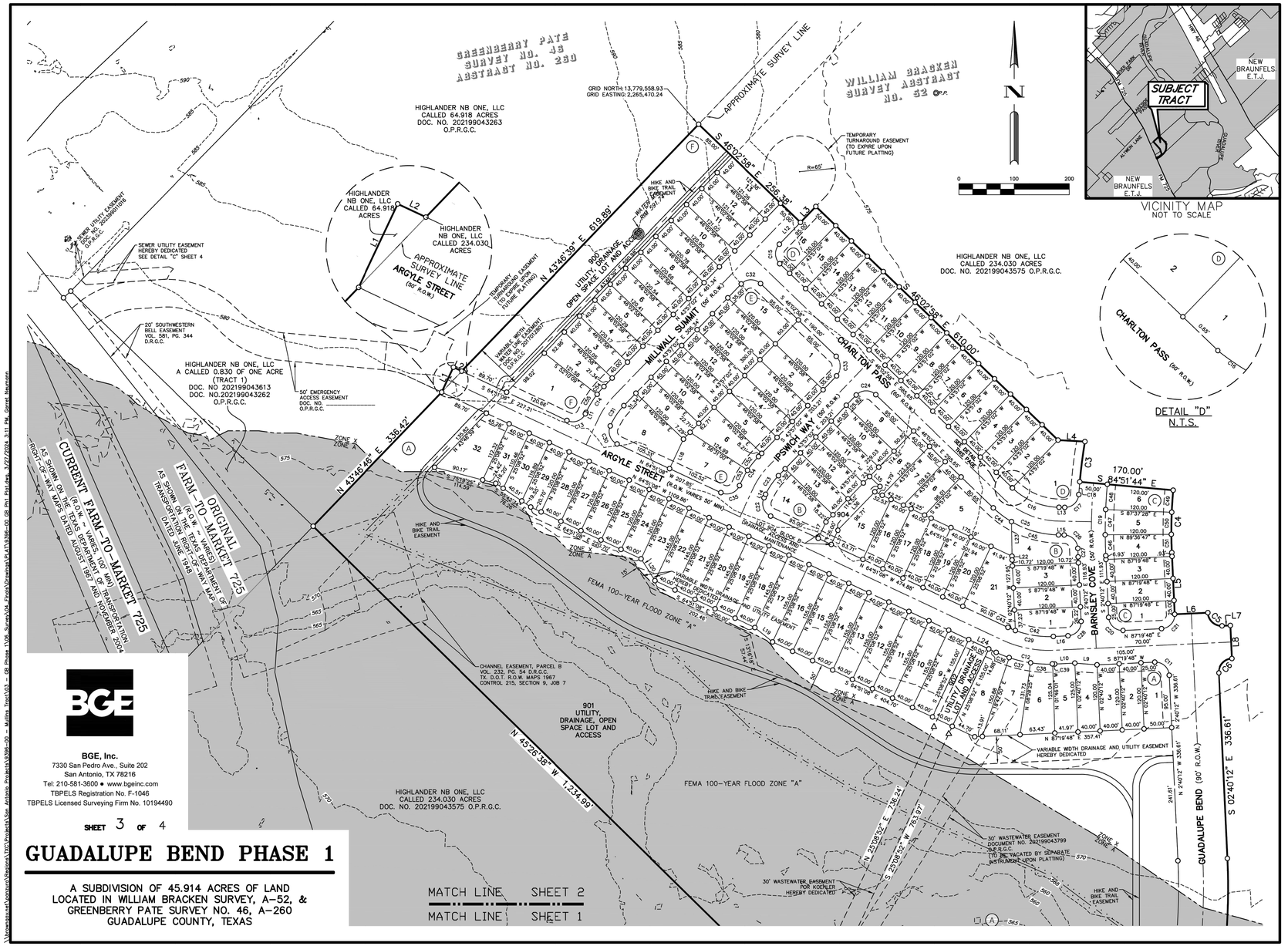

GREENBERRY PATE SURVEY NO. 43 ABSTRACT NO. 260
WILLIAM BRACKEN SURVEY ABSTRACT NO. 52
GRID NORTH:13,779,558.93
GRID EASTING:2,265,470.24
APPROXIMATE SURVEY LINE
HIGHLANDER NB ONE, LLC CALLED 64.918 ACRES DOC. NO. 202199043263 O.P.R.G.C.
HIGHLANDER NB ONE, LLC CALLED 234.030 ACRES
HIGHLANDER NB ONE, LLC CALLED 234.030 ACRES DOC. NO. 202199043575 O.P.R.G.C.
HIGHLANDER NB ONE, LLC A CALLED 0.830 OF ONE ACRE (TRACT 1) DOC. NO 202199043613 DOC. NO.202199043262 O.P.R.G.C.
ARGYLE STREET (50' R.O.W.)
MILLWALL SUMMIT (50' R.O.W.)
CHARLTON PASS (60' R.O.W.)
IPSWICH WAY (60' R.O.W.)
BARNSLEY COVE (50' R.O.W.)
GUADALUPE BEND (90' R.O.W.)
CURRENT FARM-TO-MARKET 725
FARM-TO-MARKET 725 (R.O.W. VARIES)
N 43°46'39" E 619.89'
S 46°02'58" E 256.39'
S 46°02'58" E 810.00'
N 43°46'46" E 336.42'
N 43°26'38" W 1,234.99'
S 84°51'44" E 170.00'
S 02°40'12" E 336.61'
N 25°08'02" E 736.24'
S 25°08'02" W 765.97'
S 64°51'58" E 327.21'
S 64°51'58" W 307.85'
N 64°51'58" W 1058.90'
N 64°51'58" W 644.88'
N 64°51'58" W 644.70'
N 64°51'58" W 644.70'
N 64°51'58" W 644.70

LOT AREA TABLE		
LOT	BLOCK	SQUARE FEET
1	A	5,866
2	A	4,800
3	A	4,800
4	A	4,900
5	A	5,123
6	A	6,575
7	A	7,395
8	A	7,564
9	A	6,200
10	A	6,200
11	A	6,200
12	A	6,200
13	A	6,200
14	A	6,200
15	A	6,200
16	A	6,200
17	A	6,000
18	A	5,800

LOT AREA TABLE		
LOT	BLOCK	SQUARE FEET
19	A	5,800
20	A	5,800
21	A	5,800
22	A	5,800
23	A	5,300
24	A	4,800
25	A	4,800
26	A	4,800
27	A	4,800
28	A	4,800
29	A	4,770
30	A	4,547
31	A	4,389
32	A	7,894
901	A	869,721
902	A	6,200
903	A	116,898

LOT AREA TABLE		
LOT	BLOCK	SQUARE FEET
1	B	5,698
2	B	4,800
3	B	4,800
6	B	4,113
7	B	4,658
8	B	4,736
9	B	5,964
10	B	4,800
11	B	4,800
12	B	4,800
13	B	4,800

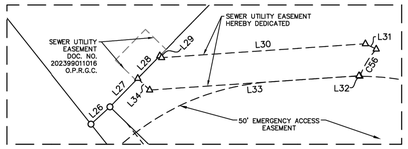
LOT AREA TABLE		
LOT	BLOCK	SQUARE FEET
14	B	8,344
15	B	6,218
16	B	4,800
17	B	4,800
18	B	4,800
19	B	4,800
20	B	4,800
21	B	8,800
904	B	3,717

LOT AREA TABLE		
LOT	BLOCK	SQUARE FEET
1	C	5,732
2	C	4,800
3	C	4,800
4	C	5,088
5	C	5,149
6	C	5,149

LOT AREA TABLE		
LOT	BLOCK	SQUARE FEET
1	D	10,445
2	D	4,800
3	D	4,800
4	D	4,800
5	D	4,800
6	D	4,800
7	D	4,800
8	D	4,800
9	D	4,800
10	D	4,800
11	D	4,800
12	D	4,800
13	D	4,800
14	D	4,800
15	D	4,800
16	D	5,866

LOT AREA TABLE		
LOT	BLOCK	SQUARE FEET
1	E	7,066
2	E	4,800
3	E	4,800
4	E	4,800
5	E	4,800
6	E	6,226
7	E	8,360
8	E	9,972
9	E	4,800
10	E	4,800
11	E	4,800
12	E	4,800
13	E	4,800
14	E	4,800
15	E	7,066

LOT AREA TABLE		
LOT	BLOCK	SQUARE FEET
1	F	10,526
2	F	5,590
3	F	4,805
4	F	4,809
5	F	4,814
6	F	4,819
7	F	4,824
8	F	4,829
9	F	4,834
10	F	4,838
11	F	4,843
12	F	4,848
13	F	4,853
900	F	51,461



DETAIL "C"
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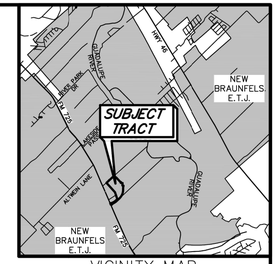


VICINITY MAP
NOT TO SCALE

CURVE TABLE					
NUMBER	ARC LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD DISTANCE
C1	39.30'	25.00'	90°04'29"	S 68°30'39" E	35.38'
C2	276.87'	705.00'	22°30'06"	N 55°12'04" E	275.10'
C3	73.60'	1,000.00'	4°13'01"	S 07°14'46" W	73.58'
C4	113.10'	830.00'	7°48'28"	S 01°14'02" W	113.02'
C5	39.27'	25.00'	90°00'00"	S 47°40'12" E	35.36'
C6	39.27'	25.00'	90°00'00"	S 42°19'48" W	35.36'
C7	931.66'	1,145.00'	46°37'13"	N 20°38'25" E	906.17'
C8	312.22'	795.00'	22°30'06"	N 55°12'04" E	310.21'
C9	39.24'	25.00'	89°55'31"	S 21°29'22" W	35.33'
C10	858.43'	1,055.00'	46°37'13"	N 20°38'25" E	834.95'
C11	39.27'	25.00'	90°00'00"	N 47°40'12" W	35.36'
C12	109.24'	225.00'	27°49'04"	S 78°45'40" E	108.17'
C13	39.27'	25.00'	90°00'00"	N 70°08'52" E	35.36'
C14	57.43'	175.00'	18°48'10"	S 34°32'57" W	57.17'
C15	39.27'	25.00'	90°00'00"	S 01°02'58" E	35.36'
C16	93.67'	125.00'	42°56'00"	S 67°30'58" E	91.49'
C17	38.05'	25.00'	87°12'14"	N 47°24'55" E	34.48'
C18	23.11'	1,000.00'	1°19'28"	S 04°28'32" W	23.11'
C19	129.46'	950.00'	7°48'28"	S 01°14'02" W	129.36'
C20	39.27'	25.00'	90°00'00"	S 47°40'12" E	35.36'
C21	39.27'	25.00'	90°00'00"	N 42°19'48" E	35.36'
C22	39.27'	25.00'	90°00'00"	S 19°51'08" E	35.36'
C23	41.02'	125.00'	18°48'10"	S 34°32'57" W	40.84'
C24	39.27'	25.00'	90°00'00"	S 88°57'02" W	35.36'
C25	131.13'	175.00'	42°56'00"	S 67°30'58" E	128.09'
C26	38.05'	25.00'	87°12'14"	N 45°22'50" W	34.48'
C27	15.56'	1,000.00'	0°53'29"	S 02°13'28" E	15.56'
C28	39.27'	25.00'	90°00'00"	N 42°19'48" E	35.36'
C29	84.96'	175.00'	27°49'04"	S 78°45'40" E	84.13'

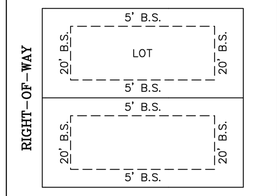
CURVE TABLE					
NUMBER	ARC LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD DISTANCE
C30	38.58'	25.00'	88°25'01"	N 20°38'38" W	34.86'
C31	44.47'	125.00'	20°23'09"	N 33°45'27" E	44.24'
C32	39.27'	25.00'	90°00'00"	N 88°57'02" E	35.36'
C33	39.27'	25.00'	90°00'00"	S 01°02'58" E	35.36'
C34	63.49'	175.00'	20°47'13"	N 33°33'25" E	63.14'
C35	40.14'	25.00'	91°59'03"	S 69°09'20" W	35.96'
C36	25.27'	225.00'	6°26'02"	S 68°04'09" E	25.25'
C37	40.21'	225.00'	10°14'25"	S 76°24'23" E	40.16'
C38	40.21'	225.00'	10°14'25"	S 86°38'48" E	40.16'
C39	3.55'	225.00'	0°54'11"	N 87°46'54" E	3.55'
C40	506.73'	1,055.00'	27°31'12"	N 11°05'24" E	501.87'
C41	351.70'	1,055.00'	19°06'02"	N 34°24'01" E	350.07'
C42	70.43'	175.00'	23°03'36"	S 81°08'24" E	69.96'
C43	14.53'	175.00'	4°45'28"	S 67°13'52" E	14.53'
C44	41.38'	175.00'	13°32'54"	S 52°49'25" E	41.28'
C45	89.75'	175.00'	29°23'05"	S 74°17'25" E	88.77'
C46	37.86'	950.00'	2°16'59"	S 01°31'42" E	37.85'
C47	45.80'	950.00'	2°45'44"	S 00°59'39" W	45.80'
C48	45.80'	950.00'	2°45'44"	S 03°45'24" W	45.80'
C49	40.02'	830.00'	2°45'44"	S 03°45'24" W	40.01'
C50	40.02'	830.00'	2°45'44"	S 00°59'39" W	40.01'
C51	33.07'	830.00'	2°16'59"	S 01°31'42" E	33.07'
C52	31.97'	175.00'	10°28'02"	S 38°43'01" W	31.93'
C53	31.52'	175.00'	10°19'11"	S 28°19'24" W	31.48'
C54	18.69'	175.00'	6°07'11"	S 40°53'26" W	18.68'
C55	38.74'	175.00'	12°40'59"	S 31°29'21" W	38.66'
C56	22.19'	60.00'	21°11'33"	S 30°55'10" W	22.07'
C57	39.27'	25.00'	90°00'00"	S 68°28'24" E	35.36'
C58	0.03'	25.00'	0°04'29"	N 66°27'07" E	0.03'

LINE TABLE		
NUMBER	BEARING	DISTANCE
L1	N 25°08'52" E	50.00'
L2	S 64°51'08" E	16.86'
L3	N 43°57'02" E	40.00'
L4	S 86°52'48" E	48.61'
L5	S 02°40'12" E	111.93'
L6	N 87°19'48" E	60.00'
L7	N 87°19'48" E	15.00'
L8	S 02°40'12" E	60.00'
L9	N 85°32'42" W	40.31'
L10	S 87°19'48" W	36.45'
L11	N 25°08'52" E	2.76'
L12	S 43°57'02" W	55.00'
L13	S 88°58'58" E	10.35'
L14	N 25°08'52" E	6.92'
L15	S 88°58'58" E	10.35'
L16	S 87°19'48" W	26.45'
L17	N 25°08'52" E	32.75'
L18	S 25°08'52" W	59.05'
L19	S 50°48'58" E	41.23'

LINE TABLE		
NUMBER	BEARING	DISTANCE
L20	S 32°50'49" E	47.17'
L21	S 23°58'13" E	41.88'
L22	S 00°53'24" E	6.94'
L23	S 00°53'24" E	62.65'
L24	S 64°51'08" E	30.00'
L25	N 22°06'48" W	40.85'
L26	S 47°36'02" W	17.92'
L27	S 44°15'08" W	27.74'
L28	N 44°15'08" E	22.00'
L29	S 45°44'52" E	1.77'
L30	N 86°05'46" E	142.59'
L31	S 63°31'44" E	8.43'
L32	N 63°31'44" W	0.75'
L33	S 86°05'46" W	146.45'
L34	N 45°44'52" W	11.61'
L35	S 46°02'58" E	26.00'
L36	S 43°57'02" W	110.21'
L37	S 25°08'52" W	28.45'

STREET NAMES		
STREET	R.O.W. WIDTH	CENTERLINE LENGTH
ARGYLE STREET	R.O.W. VARIES 50' MIN	1528 FT.
BARSNSLEY COVE	50 FT.	300 FT.
CHARLTON PASS	60 FT.	807 FT.
GUADALUPE BEND	90 FT.	2349 FT.
IPSWICH WAY	50 FT.	359 FT.
MILLWALL SUMMIT	60 FT.	563 FT.
TOTAL LINEAR FEET		5,960 FT.

TYPICAL BUILDING SETBACK



NOT TO SCALE

LAND USE SCHEDULE			
DESCRIPTION	NO.	ACREAGE	DENSITY
RESIDENTIAL	103	13.119 AC.	0.127 LOTS/AC.
OPEN SPACE LOT	1	2.684 AC.	
DRAINAGE, ACCESS AND MAINTENANCE	1	0.085 AC.	
UTILITY/DRAINAGE LOT AND ACCESS	1	0.142 AC.	
UTILITY, DRAINAGE, OPEN SPACE LOT AND ACCESS	2	21.148 AC	
RIGHT-OF-WAY DEDICATION	–	0.058 AC	
RIGHT-OF-WAY	–	8.678 AC	
TOTAL	108	45.914 AC.	

GUADALUPE BEND PHASE 1

A SUBDIVISION OF 45.914 ACRES OF LAND
LOCATED IN WILLIAM BRACKEN SURVEY, A-52, &
GREENBERRY PATE SURVEY NO. 46, A-260
GUADALUPE COUNTY, TEXAS

BGE, Inc.
7330 San Pedro Ave., Suite 202
San Antonio, TX 78216
Tel: 210-581-3600 ● www.bgeinc.com
TBPELS Registration No. F-1046
TBPELS Licensed Surveying Firm No. 10194490

							APR
							DATE
							DESCRIPTION
◁	◁	◁	◁	◁	◁		REV
DESIGNED BY:	SAR						
REVIEWED BY:	SSM						
DRAWN BY:	SAR						

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

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GUADALUPE BEND PHASE 1

SUBDIVISION PLAT (SHEET 4 OF 4)

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SHEET
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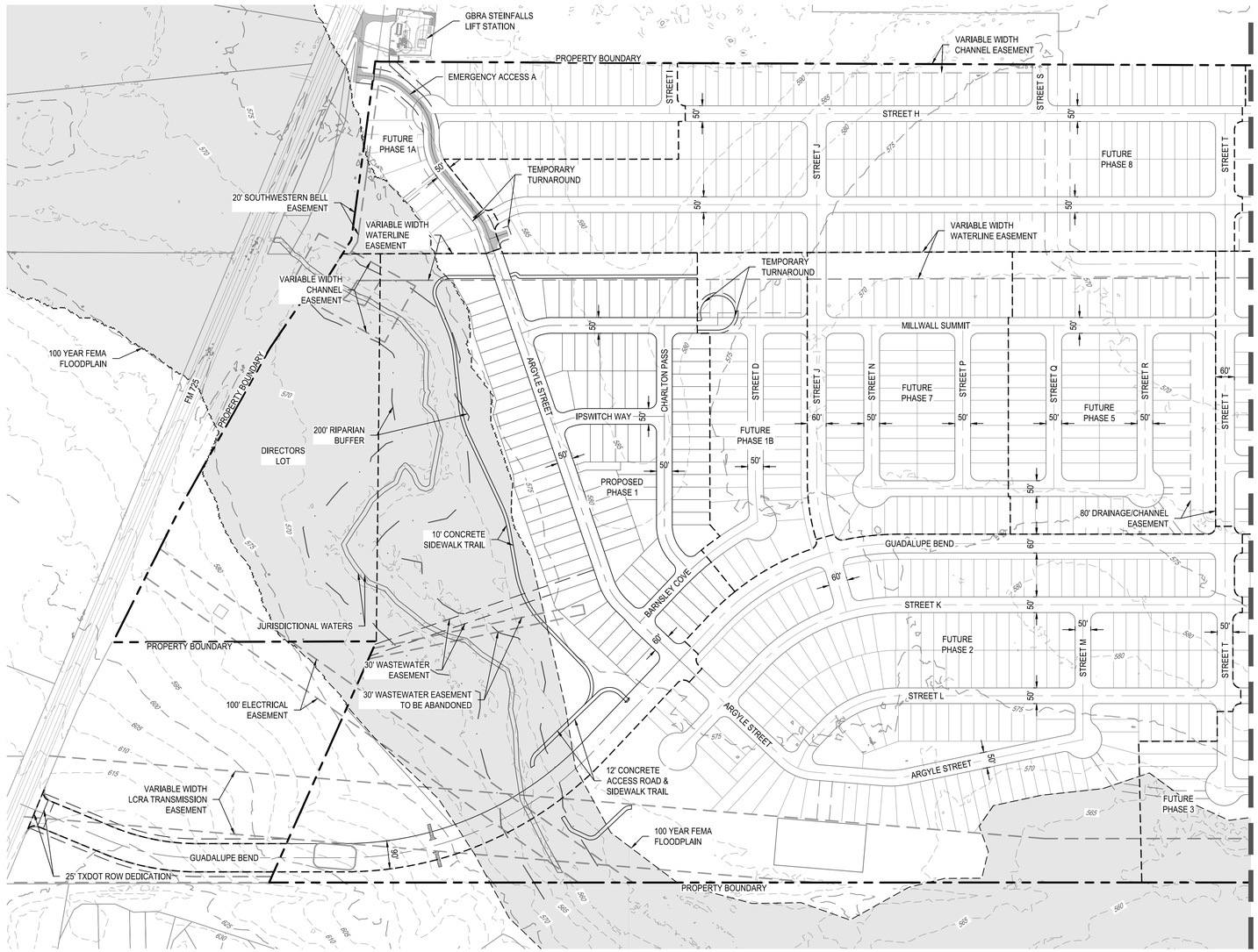
\\Vconexgcs.net\vconexcs\Revizto\TX\C\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\06_Survey\04_Field\Drawings\PLAT\9396-00_GB Ph1 Plat.dwg, 3/27/2024 3:11 PM, Garret Neumann

PROJECT LAND SUMMARY													
	PHASE 1	PHASE 1A	PHASE 1B	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PHASE 9	DIRECTORS LOT	TOTAL
SITE ACREAGE:	45.91	9.71	7.50	45.79	60.84	13.35	13.56	20.93	13.30	28.84	27.19	14.53	299.78
SINGLE FAMILY RESIDENTIAL LOTS:	103	46	41	168	184	63	71	81	72	185	131	0	1,145
LOCAL STREET (LF):	3,558 LF	1,788 LF	1,177 LF	6,111 LF	5,195 LF	3,285 LF	2,135 LF	2,563 LF	3,024 LF	5,196 LF	3,741 LF	0	37,773 LF
COLLECTOR STREET (LF):	2,403 LF	0 LF	0 LF	1,858 LF	1,260 LF	0 LF	0 LF	0 LF	0 LF	0 LF	0 LF	0	5,521 LF
DENSITY (LOT/AC):	2.24	4.74	5.47	3.67	3.02	4.72	5.24	3.87	5.41	6.41	4.82	0.00	4.61

NOTES:

1. THE PROPOSED LAND USE WITHIN THIS MASTER PLAN WILL BE SINGLE-FAMILY RESIDENTIAL.
2. THIS MASTER PLAN IS WITHIN THE EXTRA TERRITORIAL JURISDICTION OF THE CITY OF NEW BRAUNFELS AND IS NOT SUBJECT TO ZONING.
3. THE WATER PROVIDER WILL BE GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD). SEWER SERVICE WILL BE PROVIDED BY GUADALUPE BLANCO RIVER AUTHORITY (GBRA). ELECTRIC SERVICE WILL BE PROVIDED BY GUADALUPE VALLEY ELECTRIC COOP (GVEC).
4. THIS MASTER PLAN AND FUTURE SUBDIVISION UNITS ARE SUBJECT TO THE NEW BRAUNFELS CODE ORDINANCES, CHAPTER 114, APPROVED TRAFFIC IMPACT ANALYSIS AND DEVELOPMENT AGREEMENT (FOR STREETS, SIDEWALK AND OTHER PUBLIC SPACES).
5. THIS SUBDIVISION IS WHOLLY WITHIN SEGUIN ISD.
6. THIS MASTER PLAN IS SUBJECT TO THE 2018 CITY OF NEW BRAUNFELS PARK LAND DEDICATION AND DEVELOPMENT ORDINANCE. THIS MASTER PLAN IS APPROVED FOR ONE (1) DWELLING UNIT PER BUILDABLE LOT WHERE FEES ARE DUE AT THE TIME OF FINAL PLAT RECORDATION. AT SUCH TIME THAT ADDITIONAL DWELLING UNITS ARE CONSTRUCTED, THE OWNER OF THE LOT SHALL CONTACT THE CITY AND COMPLY WITH THE ORDINANCE FOR EACH DWELLING UNIT.
7. THE APPLICABLE FLOOD HAZARD ZONE IS DEFINED BY FEMA FLOOD INSURANCE RATE MAP, COMAL COUNTY, COMMUNITY PANEL NO 48187C0115F (DATED 11/2/200) AND PANEL NO. 481870120F (DATED 11/2/2007).



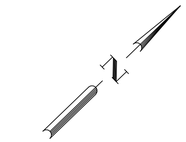
GENERAL SITE PLAN NOTES

1. THIS DEVELOPMENT SHALL COMPLY WITH THE CITY OF NEW BRAUNFELS CONSTRUCTION STANDARDS AND SPECIFICATIONS MANUAL AND THE DEVELOPMENT MANUAL.
2. THIS SITE PLAN SHALL MEET THE GUADALUPE COUNTY STORM WATER REQUIREMENTS.
3. A HOMEOWNER'S ASSOCIATION WILL BE ESTABLISHED FOR THIS DEVELOPMENT.
4. WATER SERVICE IS TO BE PROVIDED BY GREEN VALLEY SPECIAL UNIT DISTRICT, GVSUD.
5. ELECTRIC SERVICE TO BE PROVIDED BY GUADALUPE VALLEY ELECTRIC COOPERATIVE, GVEC.
6. SANITARY SEWER SERVICE IS TO BE PROVIDED BY GUADALUPE-BLANCO RIVER AUTHORITY, GBRA..
7. A PORTION OF THIS SUBDIVISION IS WITHIN SPECIAL FLOOD HAZARD ZONE AS DELINEATED ON THE FLOOD INSURANCE MAP (FIRM) FOR GUADALUPE COUNTY, TEXAS ON MAP NUMBER 48187C0115F AND NUMBER 48187C0120F RESPECTIVELY, DATED NOVEMBER 2, 2007 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
8. DURING THE BUILDING PERMIT STAGE, THE INDIVIDUAL HOME BUILDER/OWNER SHALL BE RESPONSIBLE FOR CONSTRUCTION OF A 4' CONCRETE SIDEWALK ALONG THE FRONTAGE OF THE INDIVIDUAL LOT. THE DEVELOPER OF THIS PROJECT SHALL BE RESPONSIBLE FOR CONSTRUCTION OF CONCRETE SIDEWALK AT COMMON AREAS, DRAINAGE EASEMENT, AND ALL OTHER AREAS WHERE SIDEWALK IS REQUIRED TO BE CONSTRUCTED(SEE TYPICAL STREET SECTION FOR PLACEMENT OF SIDEWALK)
9. MAINTENANCE OF DRAINAGE EASEMENTS DESIGNATED WITH IN A LOT SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER, ANY USE, OF ANY EASEMENT, OR ANY PORTION OF IT, INCLUDING LANDSCAPING OR DRAINAGE FEATURES IS SUBJECT TO AND SHALL NOT CONFLICT WITH THE TERMS AND CONDITIONS OF IN THE EASEMENT, MUST NOT ENDANGER OR INTERFERE WITH THE RIGHTS GRANTED BY THE EASEMENT TO THE UTILITIES, IT'S SUCCESSORS AND ASSIGNS, AND SHALL BE SUBJECT TO APPLICABLE PERMIT REQUIREMENTS OF GUADALUPE COUNTY OR ANY OTHER GOVERNING BODY. THE PROPERTY OWNER MUST OBTAIN, IN ADVANCE, WRITTEN AGREEMENT WITH THE UTILITIES TO UTILIZE THE EASEMENT, OR ANY PART OF IT.
10. ALL STREETS WITHIN THE GUADALUPE BEND SUBDIVISION WILL BE BUILT TO THE CITY OF NEW BRAUNFELS SPECIFICATIONS.
11. CONTRACTOR SHALL REFER TO THE RECOMMENDATIONS CONTAINED WITHIN THE GEOTECHNICAL INVESTIGATION REPORTS PREPARED BY ALPHA TESTING (PROJECT NO. A220996).

UTILITIES:
WATER PROVIDED BY: GREEN VALLEY SPECIAL UTILITY DISTRICT, GVSUD
WASTEWATER: GUADALUPE-BLANCO RIVER AUTHORITY, GBRA
ELECTRIC: GUADALUPE VALLEY ELECTRIC COOPERATIVE, GVEC
GAS; CENTRIC INFRASTRUCTURE
ECOMMERCE: CENTRIC INFRASTRUCTURE

TOTAL ACREAGE: 299.778

NOTE: CONTRACTOR SHALL AVOID OR MINIMIZE IMPACTS TO JURISDICTIONAL STREAMS.



SCALE: 1" = 200'

LEGEND

- PROPERTY BOUNDARY
- PHASE BOUNDARY
- 710 MAJOR 25' ELEVATION CONTOUR
- 685 MINOR 5' ELEVATION CONTOUR
- FACE OF CURB
- RIPARIAN BUFFER
- JURISDICTIONAL WATERS
- EASEMENT
- 100 YEAR FEMA FLOODPLAIN

DEVELOPER:
HIGHLANDER REAL ESTATE PARTNERS
CONTACT: JOHN MABERRY
P.O.BOX 470249
FORT WORTH, TEXAS 76147
PHONE: (214) 505-7854

ENGINEER:
BGE INC.
7330 SAN PEDRO AVENUE, SUITE 202
SAN ANTONIO, TX 78216
PHONE: 210-581-3600

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

NOT FOR CONSTRUCTION

GUADALUPE BEND PHASE 1

OVERALL SITE PLAN (SHEET 1 OF 2)

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Texas Licensed Professional Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C02.00

G:\TXC\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C02.00 OVERALL SITE PLAN.dwg Layout: OVERALL SITE PLAN (SHEET 1 OF 2) Plotted: 3/22/2024 10:13:53 AM By: Lhuck

PROJECT LAND SUMMARY													
	PHASE 1	PHASE 1A	PHASE 1B	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PHASE 9	DIRECTORS LOT	TOTAL
SITE ACREAGE:	45.91	9.71	7.50	45.79	60.84	13.35	13.56	20.93	13.30	28.84	27.19	14.53	299.78
SINGLE FAMILY RESIDENTIAL LOTS:	103	46	41	168	184	63	71	81	72	185	131	0	1,145
LOCAL STREET (LF):	3,558 LF	1,788 LF	1,177 LF	6,111 LF	5,195 LF	3,285 LF	2,135 LF	2,563 LF	3,024 LF	5,196 LF	3,741 LF	0	37,773 LF
COLLECTOR STREET (LF):	2,403 LF	0 LF	0 LF	1,858 LF	1,260 LF	0 LF	0 LF	0 LF	0 LF	0 LF	0 LF	0	5,521 LF
DENSITY (LOT/AC):	2.24	4.74	5.47	3.67	3.02	4.72	5.24	3.87	5.41	6.41	4.82	0.00	4.61

NOTES:

1. THE PROPOSED LAND USE WITHIN THIS MASTER PLAN WILL BE SINGLE-FAMILY RESIDENTIAL.
2. THIS MASTER PLAN IS WITHIN THE EXTRA TERRITORIAL JURISDICTION OF THE CITY OF NEW BRAUNFELS AND IS NOT SUBJECT TO ZONING.
3. THE WATER PROVIDER WILL BE GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD). SEWER SERVICE WILL BE PROVIDED BY GUADALUPE BLANCO RIVER AUTHORITY (GBRA). ELECTRIC SERVICE WILL BE PROVIDED BY GUADALUPE VALLEY ELECTRIC COOP (GVEC).
4. THIS MASTER PLAN AND FUTURE SUBDIVISION UNITS ARE SUBJECT TO THE NEW BRAUNFELS CODE ORDINANCES, CHAPTER 114, APPROVED TRAFFIC IMPACT ANALYSIS AND DEVELOPMENT AGREEMENT (FOR STREETS, SIDEWALK AND OTHER PUBLIC SPACES).
5. THIS SUBDIVISION IS WHOLLY WITHIN SEGUIN ISD.
6. THIS MASTER PLAN IS SUBJECT TO THE 2018 CITY OF NEW BRAUNFELS PARK LAND DEDICATION AND DEVELOPMENT ORDINANCE. THIS MASTER PLAN IS APPROVED FOR ONE (1) DWELLING UNIT PER BUILDABLE LOT WHERE FEES ARE DUE AT THE TIME OF FINAL PLAT RECORDATION, AT SUCH TIME THAT ADDITIONAL DWELLING UNITS ARE CONSTRUCTED, THE OWNER OF THE LOT SHALL CONTACT THE CITY AND COMPLY WITH THE ORDINANCE FOR EACH DWELLING UNIT.
7. THE APPLICABLE FLOOD HAZARD ZONE IS DEFINED BY FEMA FLOOD INSURANCE RATE MAP, COMAL COUNTY, COMMUNITY PANEL NO 48187C0115F (DATED 11/2/200) AND PANEL NO. 481870120F (DATED 11/2/2007).

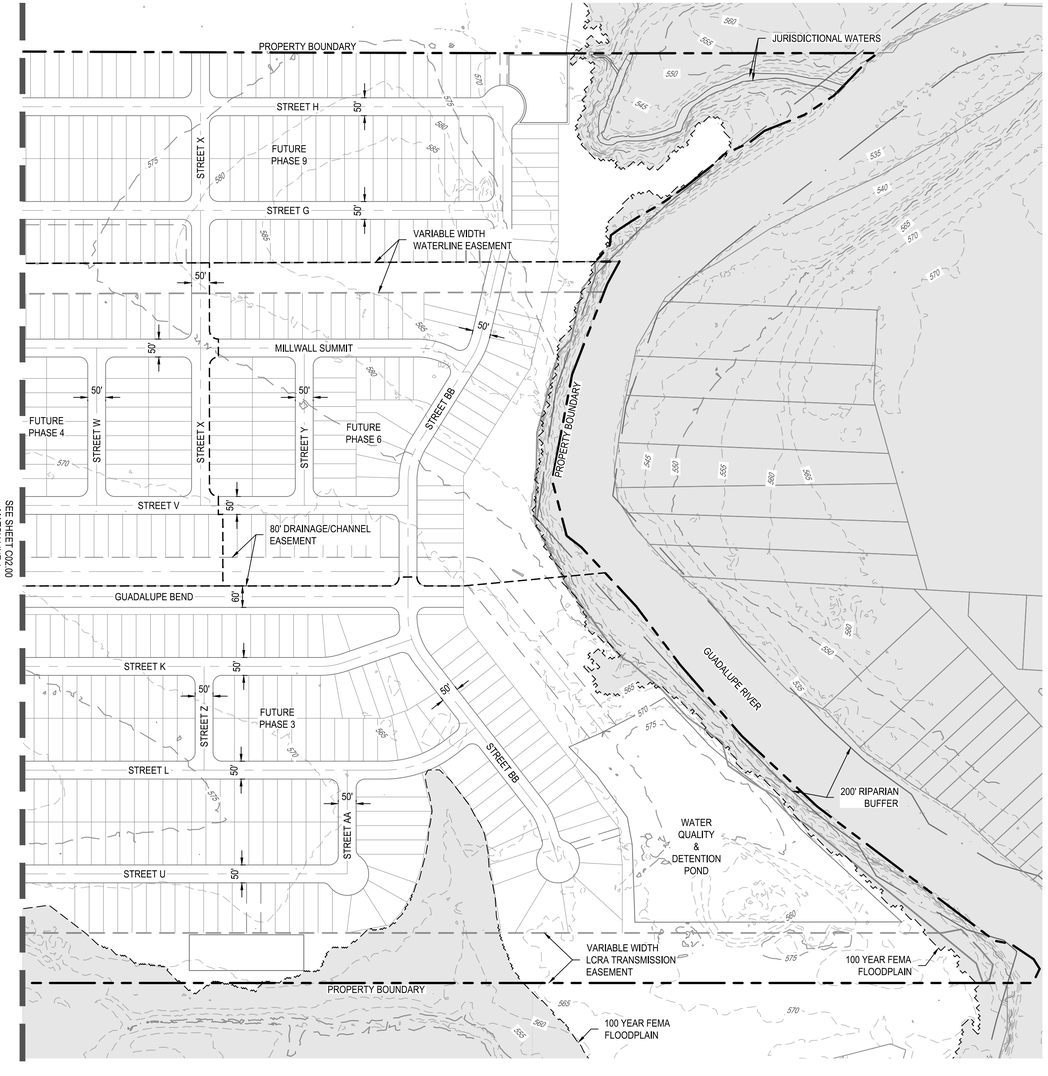
GENERAL SITE PLAN NOTES

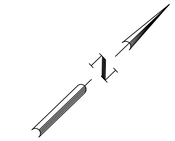
1. THIS DEVELOPMENT SHALL COMPLY WITH THE CITY OF NEW BRAUNFELS CONSTRUCTION STANDARDS AND SPECIFICATIONS MANUAL AND THE DEVELOPMENT MANUAL.
2. THIS SITE PLAN SHALL MEET THE GUADALUPE COUNTY STORM WATER REQUIREMENTS.
3. A HOMEOWNER'S ASSOCIATION WILL BE ESTABLISHED FOR THIS DEVELOPMENT.
4. WATER SERVICE IS TO BE PROVIDED BY GREEN VALLEY SPECIAL UNIT DISTRICT, GVSUD.
5. ELECTRIC SERVICE TO BE PROVIDED BY GUADALUPE VALLEY ELECTRIC COOPERATIVE, GVEC.
6. SANITARY SEWER SERVICE IS TO BE PROVIDED BY GUADALUPE-BLANCO RIVER AUTHORITY, GBRA..
7. A PORTION OF THIS SUBDIVISION IS WITHIN SPECIAL FLOOD HAZARD ZONE AS DELINEATED ON THE FLOOD INSURANCE MAP (FIRM) FOR GUADALUPE COUNTY, TEXAS ON MAP NUMBER 48187C0115F AND NUMBER 48187C0120F RESPECTIVELY, DATED NOVEMBER 2, 2007 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
8. DURING THE BUILDING PERMIT STAGE, THE INDIVIDUAL HOME BUILDER/OWNER SHALL BE RESPONSIBLE FOR CONSTRUCTION OF A 4' CONCRETE SIDEWALK ALONG THE FRONTAGE OF THE INDIVIDUAL LOT. THE DEVELOPER OF THIS PROJECT SHALL BE RESPONSIBLE FOR CONSTRUCTION OF CONCRETE SIDEWALK AT COMMON AREAS, DRAINAGE EASEMENT, AND ALL OTHER AREAS WHERE SIDEWALK IS REQUIRED TO BE CONSTRUCTED(SEE TYPICAL STREET SECTION FOR PLACEMENT OF SIDEWALK)
9. MAINTENANCE OF DRAINAGE EASEMENTS DESIGNATED WITH IN A LOT SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER, ANY USE, OF ANY EASEMENT, OR ANY PORTION OF IT, INCLUDING LANDSCAPING OR DRAINAGE FEATURES IS SUBJECT TO AND SHALL NOT CONFLICT WITH THE TERMS AND CONDITIONS OF IN THE EASEMENT, MUST NOT ENDANGER OR INTERFERE WITH THE RIGHTS GRANTED BY THE EASEMENT TO THE UTILITIES, IT'S SUCCESSORS AND ASSIGNS, AND SHALL BE SUBJECT TO APPLICABLE PERMIT REQUIREMENTS OF GUADALUPE COUNTY OR ANY OTHER GOVERNING BODY. THE PROPERTY OWNER MUST OBTAIN, IN ADVANCE, WRITTEN AGREEMENT WITH THE UTILITIES TO UTILIZE THE EASEMENT, OR ANY PART OF IT.
10. ALL STREETS WITHIN THE GUADALUPE BEND SUBDIVISION WILL BE BUILT TO THE CITY OF NEW BRAUNFELS SPECIFICATIONS.
11. CONTRACTOR SHALL REFER TO THE RECOMMENDATIONS CONTAINED WITHIN THE GEOTECHNICAL INVESTIGATION REPORTS PREPARED BY ALPHA TESTING (PROJECT NO. A220996).

UTILITIES:
WATER PROVIDED BY: GREEN VALLEY SPECIAL UTILITY DISTRICT, GVSUD
WASTEWATER: GUADALUPE-BLANCO RIVER AUTHORITY, GBRA
ELECTRIC: GUADALUPE VALLEY ELECTRIC COOPERATIVE, GVEC
GAS; CENTRIC INFRASTRUCTURE
ECOMMERCE: CENTRIC INFRASTRUCTURE

TOTAL ACREAGE: 299.778

NOTE: CONTRACTOR SHALL AVOID OR MINIMIZE IMPACTS TO JURISDICTIONAL STREAMS.





0 100' 200' 400'

SCALE: 1" = 200'

LEGEND

- PROPERTY BOUNDARY
- PHASE BOUNDARY
- MAJOR ELEVATION CONTOUR
- MINOR ELEVATION CONTOUR
- FACE OF CURB
- RIPARIAN BUFFER
- JURISDICTIONAL WATERS
- EASEMENT
- 100 YEAR FEMA FLOODPLAIN

DEVELOPER:
HIGHLANDER REAL ESTATE PARTNERS
CONTACT: JOHN MABERRY
P.O.BOX 470249
FORT WORTH, TEXAS 76147
PHONE: (214) 505-7854

ENGINEER:
BGE INC.
7330 SAN PEDRO AVENUE, SUITE 202
SAN ANTONIO, TX 78216
PHONE: 210-581-3600

NOTE: CONTRACTOR SHALL AVOID OR MINIMIZE IMPACTS TO JURISDICTIONAL STREAMS.

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.brownge.com
TBPE Registration No. F-1046

NOT FOR CONSTRUCTION

GUADALUPE BEND PHASE 1

OVERALL SITE PLAN (SHEET 2 OF 2)

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SHEET
C02.01

G:\TX\C\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Sht\sC02.00 OVERALL SITE PLAN.dwg Layout: OVERALL SITE PLAN (SHEET 2 OF 2) Plotted: 3/22/2024 10:13:57 AM By: Lhuck

STREET CLASSIFICATION		HOT MIX ASPHALTIC CONCRETE, TYPE D	FLEXIBLE BASE	LIME TREATED SUBGRADE	STRUCTURAL NUMBER
LOCAL STREET	A MINIMUM OF 250,000 ESALS SHALL BE USED IN THE DESIGN	3.0"	8.0"	9.0"	3.16
RESIDENTIAL COLLECTOR	A MINIMUM OF 500,000 ESALS SHALL BE USED IN THE DESIGN	3.0"	13.0"	8.0"	3.78
MAJOR COLLECTOR	A MINIMUM OF 1,500,000 ESALS SHALL BE USED IN THE DESIGN	4.0"	18.0"	8.0"	4.92

NOTE: REFERENCE THE SIGNED AND SEALED GEOTECH REPORT FOR OTHER PAVEMENT THICKNESS OPTIONS.

NOTE: REFERENCE C01.01 FOR REPORT INFORMATION AND ADDITIONAL NOTES.

UTILITIES:
WATER PROVIDED BY: GREEN VALLEY SPECIAL UTILITY DISTRICT, GVSUD
WASTEWATER: GUADALUPE-BLANCO RIVER AUTHORITY, GBRA
ELECTRIC: GUADALUPE VALLEY ELECTRIC COOPERATIVE, GVEC

TOTAL ACREAGE: 45.91 ACRES

NOTE: SEE PLAT FOR EASEMENT DIMENSIONS & BUILDING SETBACKS

NOTE: CONTRACTOR SHALL AVOID OR MINIMIZE IMPACTS TO JURISDICTIONAL STREAMS.

DEVELOPER:
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CONTACT: JOHN MABERRY
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PHONE: (214) 505-7854

ENGINEER:
BGE INC.
7330 SAN PEDRO AVENUE, SUITE 202
SAN ANTONIO, TX 78216
PHONE: 210-581-3600

GENERAL SITE PLAN NOTES
1. THIS DEVELOPMENT AND FUTURE SUBDIVISION UNITS ARE SUBJECT TO THE NEW BRAUNFELS CODE ORDINANCES, CHAPTER 114, APPROVED TRAFFIC IMPACT ANALYSIS AND DEVELOPMENT AGREEMENT (FOR STREETS, SIDEWALK AND OTHER PUBLIC SPACES)
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3. A HOMEOWNER'S ASSOCIATION WILL BE ESTABLISHED FOR THIS DEVELOPMENT.
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10. ALL STREETS WITHIN GUADALUPE BEND SUBDIVISION WILL BE BUILT TO THE GUADALUPE COUNTY SPECIFICATIONS AND WILL BE DEDICATED TO THE PUBLIC.
11. CONTRACTOR SHALL REFER TO THE RECOMMENDATIONS CONTAINED WITHIN THE GEOTECHNICAL INVESTIGATION REPORTS PREPARED BY ALPHA TESTING (PROJECT NO. A220996).



0 30' 60' 120'
SCALE: 1" = 60'

LEGEND
- PROPERTY BOUNDARY
- PHASE BOUNDARY
- CONTRACTOR SIDEWALK
- HOMEBUILDER SIDEWALK
- 1 LOT NUMBERS
- SETBACK
- P.U.E.
- RAMP
- RETAINING WALL
- 100 YEAR FEMA FLOODPLAIN
- RIPARIAN BUFFER
- JURISDICTIONAL WATERS
- 10' TRAIL
- EASEMENT
- CHIP SEAL ROAD
- ENGINEERED FILTER STRIP
- CONCRETE VALLEY GUTTER

NOT FOR CONSTRUCTION

PROJECT LAND SUMMARY	
PHASE 1	
SITE ACREAGE:	45.91
SINGLE FAMILY RESIDENTIAL LOTS:	103
LOCAL STREET (LF):	3,558 LF
COLLECTOR STREET (LF):	2,403 LF
DENSITY (LOT/AC):	2.24

STREET TABLE CLASSIFICATIONS		
STREET	CLASSIFICATION	LF
GUADALUPE BEND	COLLECTOR STREET	2,403 LF
ARGYLE STREET	LOCAL STREET	1,528 LF
BARNSLEY COVE	LOCAL STREET	300 LF
CHARLTON PASS	LOCAL STREET	807 LF
IPSWITCH WAY	LOCAL STREET	359 LF
MILLWALL SUMMIT	LOCAL STREET	563 LF

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgetx.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

DETAILED SITE PLAN (SHEET 1 OF 3)

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Texas Licensed Professional Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C02.10

G:\TX\Civil\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C02.10 DETAILED SITE PLAN.dwg Layout: DETAILED SITE PLAN (SHEET 1 OF 3) Plotted: 3/22/2024 10:14:17 AM By: Lhuck

STREET CLASSIFICATION		HOT MIX ASPHALTIC CONCRETE, TYPE D	FLEXIBLE BASE	LIME TREATED SUBGRADE	STRUCTURAL NUMBER
LOCAL STREET	A MINIMUM OF 250,000 ESALS SHALL BE USED IN THE DESIGN	3.0"	8.0"	9.0"	3.16
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NOTE: REFERENCE C01.01 FOR REPORT INFORMATION AND ADDITIONAL NOTES.

UTILITIES:
WATER PROVIDED BY: GREEN VALLEY SPECIAL UTILITY DISTRICT, GVSUD
WASTEWATER: GUADALUPE-BLANCO RIVER AUTHORITY, GBRA
ELECTRIC: GUADALUPE VALLEY ELECTRIC COOPERATIVE, GVEC

TOTAL ACREAGE: 45.91 ACRES

NOTE: CONTRACTOR SHALL AVOID OR MINIMIZE IMPACTS TO JURISDICTIONAL STREAMS.

DEVELOPER:
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CONTACT: JOHN MABERRY
P.O.BOX 470249
FORT WORTH, TEXAS 76147
PHONE: (214) 505-7854

ENGINEER:
BGE INC.
7330 SAN PEDRO AVENUE, SUITE 202
SAN ANTONIO, TX 78216
PHONE: 210-581-3600

NOTE: SEE PLAT FOR EASEMENT DIMENSIONS & BUILDING SETBACKS

GENERAL SITE PLAN NOTES
1. THIS DEVELOPMENT AND FUTURE SUBDIVISION UNITS ARE SUBJECT TO THE NEW BRAUNFELS CODE ORDINANCES, CHAPTER 114, APPROVED TRAFFIC IMPACT ANALYSIS AND DEVELOPMENT AGREEMENT (FOR STREETS, SIDEWALK AND OTHER PUBLIC SPACES)
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PROJECT LAND SUMMARY	
PHASE 1	
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STREET TABLE CLASSIFICATIONS		
STREET	CLASSIFICATION	LF
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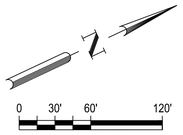

LEGEND
- PROPERTY BOUNDARY
- PHASE BOUNDARY
- CONTRACTOR SIDEWALK
- HOMEBUILDER SIDEWALK
- 1 LOT NUMBERS
- SETBACK
- P.U.E.
- RAMP
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- 100 YEAR FEMA FLOODPLAIN
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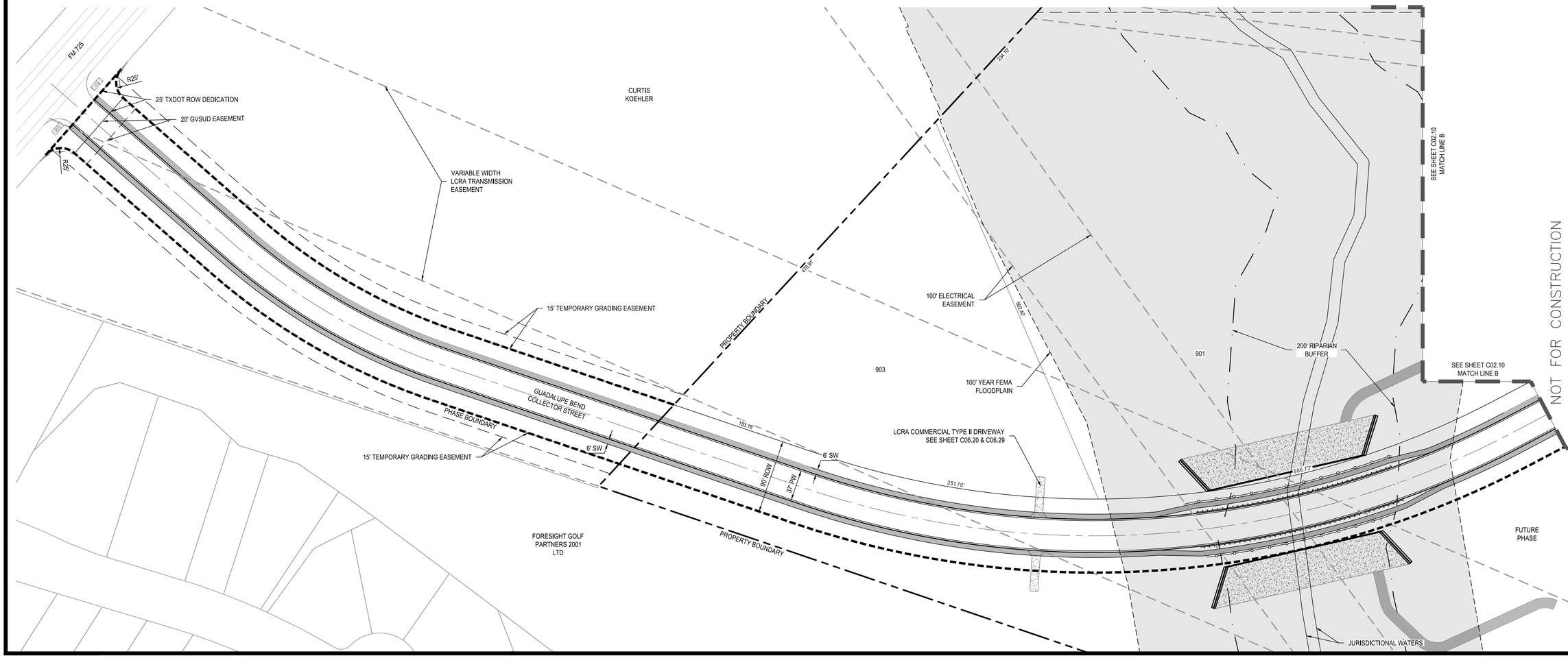

REV	DESCRIPTION	DATE	APR

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgetexas.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

DETAILED SITE PLAN (SHEET 2 OF 3)

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SHEET
C02.11

G:\TXCO\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C02.10 DETAILED SITE PLAN.dwg Layout: DETAILED SITE PLAN (SHEET 2 OF 3) Plotted: 3/22/2024 10:14:23 AM By: Lhuck

STREET CLASSIFICATION		HOT MIX ASPHALTIC CONCRETE, TYPE D	FLEXIBLE BASE	LIME TREATED SUBGRADE	STRUCTURAL NUMBER
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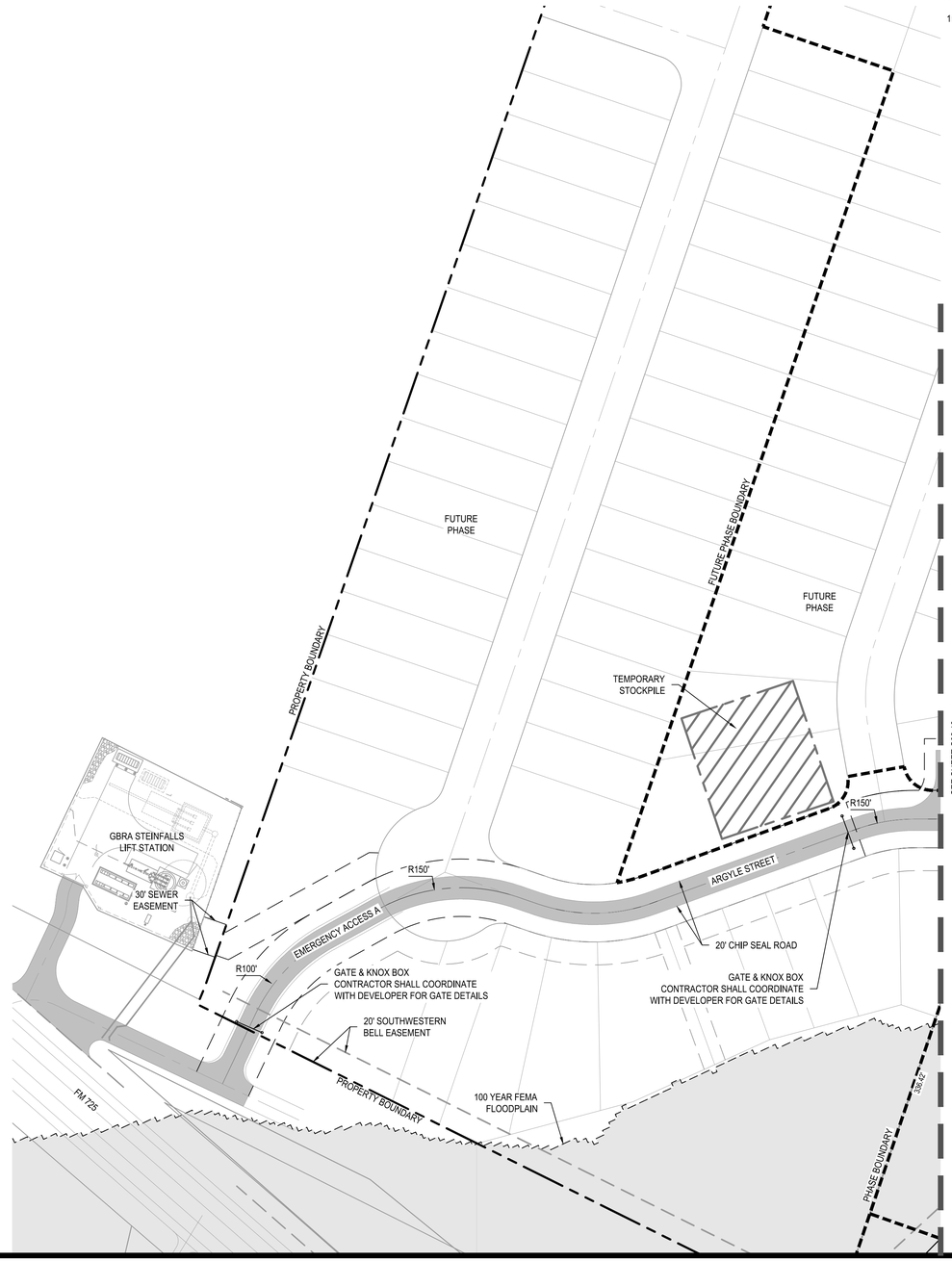
NOTE: REFERENCE C01.01 FOR REPORT INFORMATION AND ADDITIONAL NOTES.



GENERAL SITE PLAN NOTES

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0 30' 60' 120'

SCALE: 1" = 60'

LEGEND

- PROPERTY BOUNDARY
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- CONTRACTOR SIDEWALK
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TOTAL ACREAGE: 45.91 ACRES

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NOTE: SEE PLAT FOR EASEMENT DIMENSIONS & BUILDING SETBACKS

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NOT FOR CONSTRUCTION

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GUADALUPE BEND PHASE 1

DETAILED SITE PLAN (SHEET 3 OF 3)

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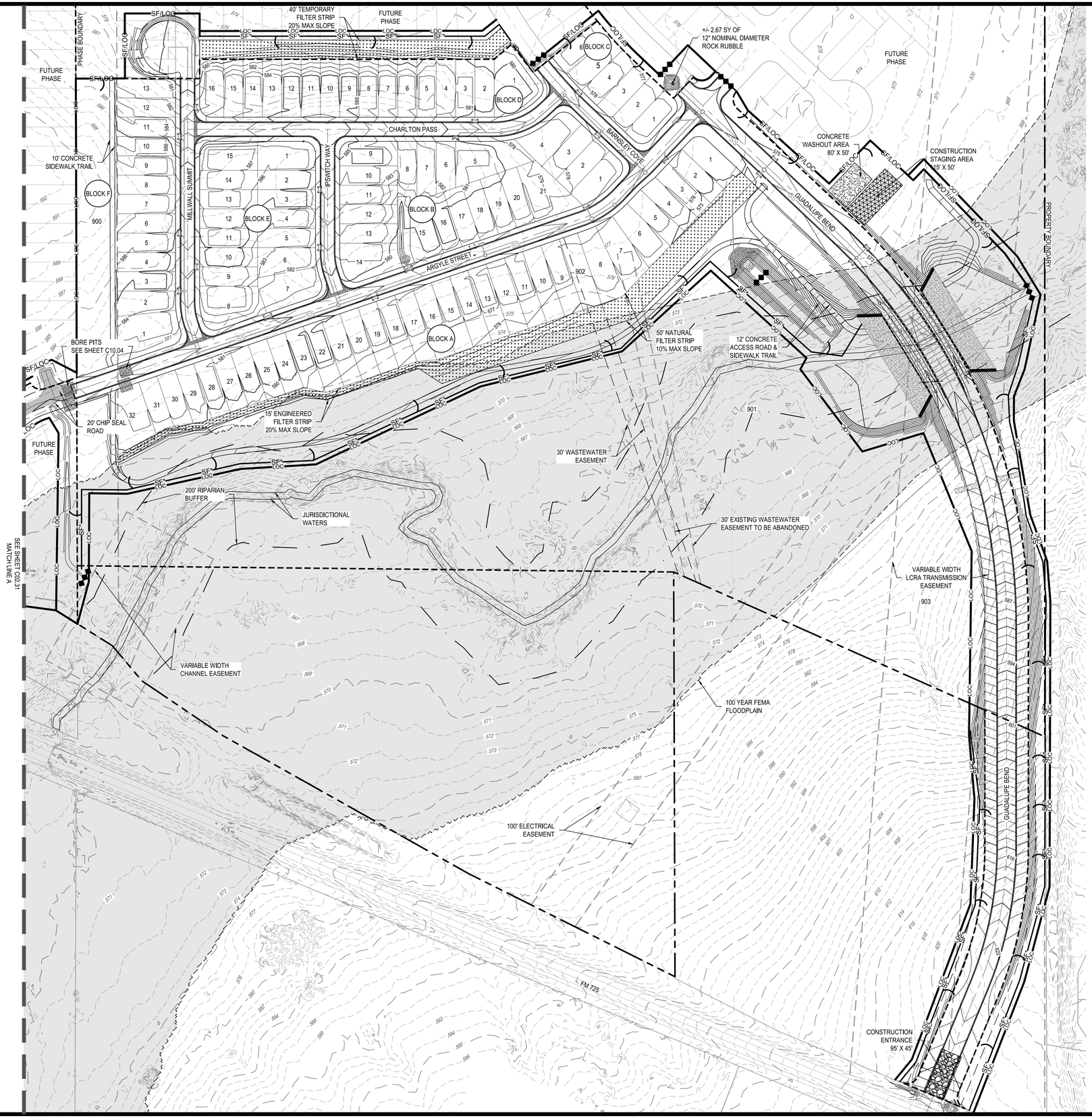
SHEET
C02.12

G:\TX\C\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C02.10 DETAILED SITE PLAN.dwg Layout: DETAILED SITE PLAN (SHEET 3 OF 3) Plotted: 3/22/2024 10:14:30 AM By: Lhuck



LEGEND

- PROPERTY BOUNDARY
- UNIT BOUNDARY
- LOC — LIMITS OF CONSTRUCTION
- SF — SILT FENCE
- SF/LOC — COMBINED SILT FENCE AND LOC
- FLOW ARROW
- CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT AREA
- CONSTRUCTION STAGING AREA
- INLET PROTECTION
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- JURISDICTIONAL WATERS
- RIPARIAN BUFFER
- JURISDICTIONAL WATERS
- EASEMENT
- 100 YEAR FEMA FLOODPLAIN
- ROCK BERM
- J HOOKS

TEMPORARY OR PERMANENT VEGETATIVE SOIL STABILIZATION

1. INTERIM OR FINAL GRADING MUST BE COMPLETED PRIOR TO SEEDING, MINIMIZING ALL STEEP SLOPES.
2. FERTILIZER SHOULD BE APPLIED AT THE RATE OF 40 POUNDS OF NITROGEN AND 40 POUNDS OF PHOSPHORUS PER ACRE. COMPOST CAN BE USED INSTEAD OF FERTILIZER AND APPLIED AT THE SAME TIME AS THE SEED.
3. PER TPDES REQUIREMENTS, DISCHARGED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL. BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.
4. ADD J HOOKS PER CITY OF NEW BRAUNFELS DETAIL ALONG THE SILT FENCE.
5. A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) MUST BE PREPARED/AMENDED BY A TX PE. CPESC, OR QPSWPPP (CITY CODE SECTION 86.529(B)(2) OR 86.529(C)(3)), IMPLEMENTED, AND UPDATED TO MATCH SITE CONDITIONS DURING THE PROJECT. THE ASSOCIATED TPDES CONSTRUCTION SITE NOTICE MUST BE POSTED IN PUBLIC VIEW. TXR150000 PART III.D.2.
6. HAVE A CISEC, CESSWI, OR QCIS CONDUCT WEEKLY SWPPP INSPECTIONS AND DOCUMENT PER CITY CODE SECTIONS 86.523 AND 86.529(B)(9) OR 86.529(C)(10). MAINTAIN ALL ESC MEASURES AND ADDRESS ALL IDENTIFIED CORRECTIVE ACTIONS PER CITY CODE SECTION 86.529(C)(11).
7. THE LIMITS OF CONSTRUCTION (LOC) SHALL BE ADJUSTED AS NEEDED DURING THE PROJECT TO COVER ALL AREAS DISTURBED DURING DEMOLITION, GRADING, CONSTRUCTION, STORAGE, STOCKPILING, PARKING, ETC., PER TXR150000 PARTS I AND III.G.4.(C) AND (D). ADDITIONAL EROSION AND SEDIMENT CONTROLS MAY BE REQUIRED.
8. PER TXR150000 PART III.F.1.(M)., LOCATIONS OF THE FOLLOWING, AS APPLICABLE, MUST BE MARKED ON THIS ESCP IN THE FIELD: THE TPDES CONSTRUCTION SITE NOTICE POSTING IN PUBLIC VIEW, STAGING, SPOILS STORAGE, CONCRETE WASHOUT, DUMPSTERS, PORTABLE TOILET(S), FUELING POINT(S), AND/OR OTHER POTENTIAL CONTAMINANT SOURCES. THIS ESCP MUST ALSO BE UPDATED AS THESE POTENTIAL CONTAMINANT SOURCES MOVE OR OTHER CHANGES OCCUR ONSITE. PEN AND INK CHANGES ARE EXPECTED AND DON'T REQUIRE RESUBMITTAL; JUST DATE AND INITIAL.
9. IF THERE IS A BREAK OF MORE THAN 14 DAYS DURING THE PROJECT WHERE NO DIRT WORK IS DONE ON A SITE PORTION(S) WITHIN THE LIMITS OF CONSTRUCTION, TEMPORARY (OR PERMANENT) STABILIZATION IS REQUIRED PER TXR150000 PART III.F.2.(B).III/CITY CODE SECTION 86.529(A)(1)(G). SUCH DIRT WORK STOPPAGE INCLUDES TIME PERIODS BETWEEN ROUGH GRADING COMPLETION AND CONSTRUCTION START, DURING CONSTRUCTION, BETWEEN CONSTRUCTION AND FINAL STABILIZATION, ETC. USE TEMPORARY (OR PERMANENT) SEEDING, ROCK, GRAVEL (1" MINIMUM), CONCRETE RIP-RAP, DEGRADABLE STRAW MATTING, SHREDDED HARDWOOD MULCH, DEGRADABLE SOIL RETENTION BLANKETS, OR SIMILAR. NOTE THAT MATTING, MULCH, OR BLANKETS REQUIRE ONGOING MAINTENANCE.
10. ANY EXISTING STORM WATER INLETS WITHIN 200' OF THE LOC MUST HAVE INLET PROTECTION. STORM WATER INLET PROTECTION IS ALSO REQUIRED AS NEW STORM WATER INLETS ARE ADDED TO THE SITE, IF APPLICABLE.
11. POND OR OTHER DISTURBED SLOPES 3:1 OR FLATTER MUST BE STABILIZED WITH BIODEGRADABLE SOIL RETENTION BLANKETS WITH NO PLASTIC NETTING. DISTURBED SLOPES EXCEEDING 3:1 REQUIRE BLANKETS OR EQUIVALENT UNTIL RE-VEGETATION IS ESTABLISHED OR SOD.

ALL DISTURBED AREAS SHALL BE PERMANENTLY SEEDED OR OTHERWISE STABILIZED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE TEMPORARY CONSTRUCTION ACTIVITY HAS CEASED FOR MORE THAN 21 DAYS

NOT FOR CONSTRUCTION

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1
EROSION & SEDIMENTATION CONTROL PLAN (SHEET 1 OF 2)

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Texas Licensed Professional Engineer 146417
For Internal Review Purposes.
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SHEET
C02.30

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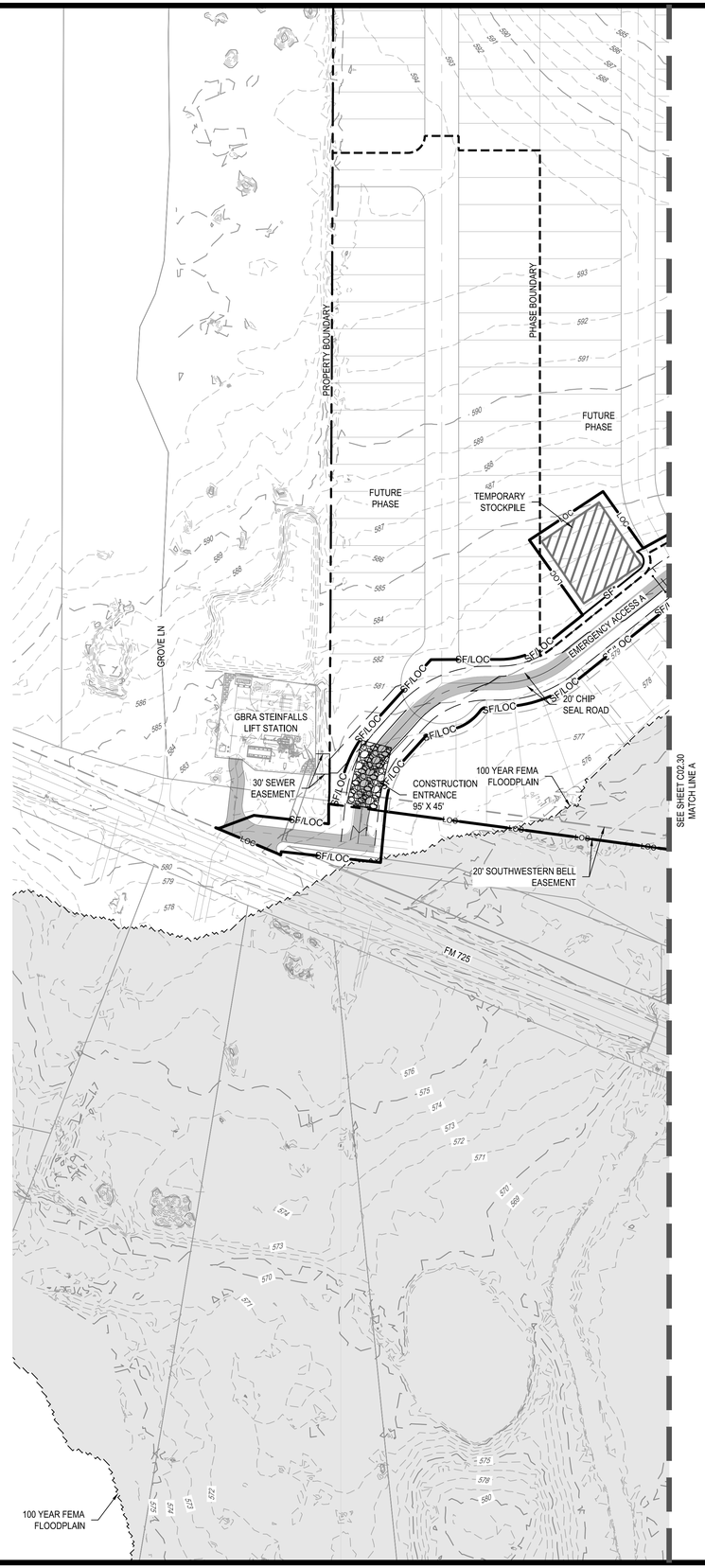

0 50' 100' 200'

SCALE: 1" = 100'

LEGEND

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- CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT AREA
- CONSTRUCTION STAGING AREA
- INLET PROTECTION
- 631 — EXISTING 1' CONTOUR
- 630 — EXISTING 5' CONTOUR
- 681 — PROPOSED 1' CONTOUR
- 686 — PROPOSED 5' CONTOUR
- JURISDICTIONAL WATERS
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GUADALUPE BEND PHASE 1

EROSION & SEDIMENTATION CONTROL PLAN (SHEET 2 OF 2)

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BGE, Inc.
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SHEET
C02.31

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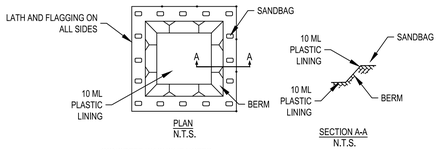
ROCK BERM DETAIL



CONCRETE WASHOUT NOTES:

1. THE LINED WASHOUT PIT SHALL BE SUFFICIENTLY LARGE ENOUGH TO HOLD EXPECTED VOLUME OF WASHOUT MATERIAL.
2. WHEN FACILITY IS NO LONGER REQUIRED, HARDENED CONCRETE SHALL PROPERLY REMOVED AND DISPOSED OF.
3. CONTRACTOR TO BACKFIELD PIT UPON REMOVAL OF LINING.

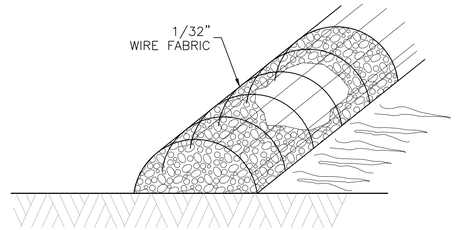
SAND BAG NOTES:

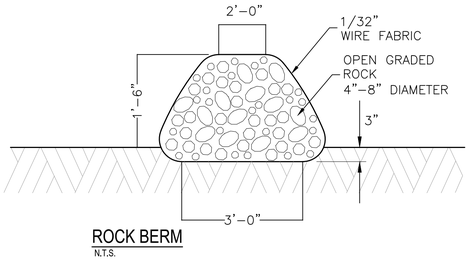
1. THE SAND BAG MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, POLYAMIDE OR COTTON BURLAP WOVEN FABRIC, MINIMUM UNIT WEIGHT 4 OZ/YD2, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70 PERCENT.
2. THE BAG LENGTH SHOULD BE 24 TO 30 INCHES, WIDTH SHOULD BE 16 TO 18 INCHES AND 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.
4. OUTLET PIPE SHOULD BE SCHEDULE 40 OR STRONGER POLYVINYL CHLORIDE (PVC) HAVING A NOMINAL INTERNAL DIAMETER OF 4 INCHES.

IN-GROUND CONCRETE WASHOUT PIT

N.T.S.

NOTE: SEE GENERAL NOTES SHEETS FOR EROSION CONTROL NOTES





ROCK BERM

N.T.S.

GENERAL NOTES:

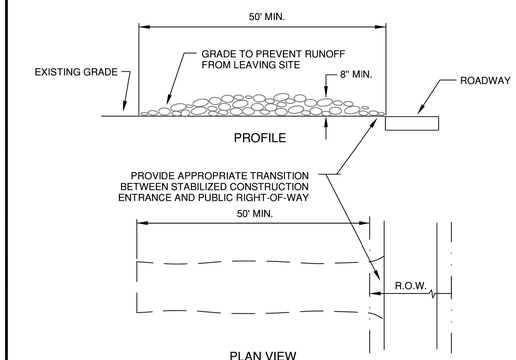
1. USE ONLY OPEN GRADED ROCK 4-8 INCHES DIAMETER FOR STREAM FLOW CONDITION; USE OPEN GRADED ROCK 3-5 INCHES DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENING AND MINIMUM WIRE DIAMETER OF 1/32 INCH.
3. THE ROCK BERM SHALL BE INSPECTED 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 12 INCHES, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED SITE AND IN A MANNER AS TO NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SERVE 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.

COMPLIANCE CHECKLIST:

1. PERIMETER CONTROLS: INSTALL ESC'S (EROSION SEDIMENT CONTROLS) ALONG THE BACK OF THE CURB AND ALONG THE LOT LINE OF ADJACENT PROPERTIES, WHICH ARE DOWNHILL AND RECEIVE RUNOFF FROM YOUR LOT. FOLLOWING SIDEWALK INSTALLATION, ESC'S SHOULD BE REMOVED TO THE BACK OF THE SIDEWALK TO PREVENT SEDIMENT FROM REACHING THE SIDEWALK. MAINTAIN ESC'S TO ENSURE PROPER FUNCTION, INCLUDING REPAIR OR REPLACEMENT OF TORN, DEGRADED OR OTHERWISE INEFFECTIVE MATERIALS. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE PROTECTION.
2. STOCKPILES: INSTALL SEDIMENT CONTROLS AROUND STOCKPILES TO PREVENT SEDIMENT FROM REACHING THE STREET AND ADJACENT PROPERTIES. LOCATE STOCKPILES AWAY FROM THE STREET, PROPERTY LINES AND DRAINAGE WAYS.
3. LOT ACCESS: REQUIRED FOR EACH INDIVIDUAL LOT. MAINTAIN A SURFACE SUITABLE FOR PARKING AND UNLOADING TO PREVENT THE TRACKING OF MUD AND ROCK ONTO THE STREET. A MINIMUM 6-INCH DEPTH OF 3- TO 5-INCH AGGREGATE IS SUGGESTED. ALL VEHICLES THAT ACCESS THE LOT MUST USE THE CONSTRUCTION ENTRANCE. ANY SOILS THAT ARE TRUCKED ONTO THE STREET MUST BE REMOVED BY THE END OF THE DAY.
4. INTERMEDIATE CONTROL: LONG OR STEEP DRAINAGE PATHS MAY REQUIRE INTERMEDIATE OR INTERIOR ESC'S TO HELP SLOW THE FLOW OF RUNOFF. FAILURE OF PERIMETER CONTROLS DUE TO THE FORCE OF RUNOFF OFTEN DETERMINE THE NEED FOR INTERMEDIATE CONTROLS.
5. HOUSEKEEPING: PROVIDE ADEQUATE SANITARY FACILITIES, TRASH/REFUSE BINS, AND DESIGNATED CONCRETE WASHOUT.

CONTRACTOR/BUILDERS RESPONSIBILITY:

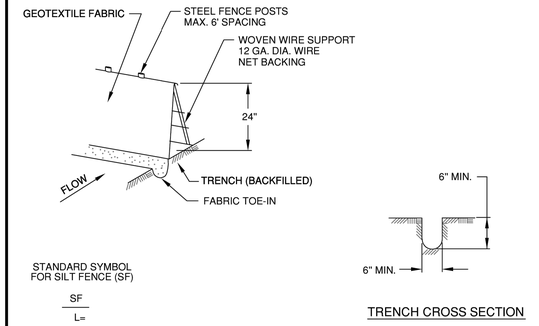
1. INSTALL NEEDED EROSION AND SEDIMENT CONTROL PRACTICES PRIOR TO ANY LAND DISTURBANCE TO PREVENT EXCESSIVE SEDIMENT FROM LEAVING THE SITE.
2. PERIODIC INSPECTION AND MAINTENANCE ARE VITAL TO THE PERFORMANCE OF EROSION AND SEDIMENT CONTROLS. IT IS RECOMMENDED THAT ALL TEMPORARY EROSION CONTROLS BE INSPECTED WEEKLY AND AFTER EVERY RAINFALL.
3. MAINTENANCE: ESC (EROSION SEDIMENT CONTROLS) SHOULD BE ROUTINELY INSPECTED AND MAINTAINED UNTIL SITE IS PERMANENTLY VEGETATED. SOMETIMES ROUTINE INSPECTIONS MAY SHOW A NEED FOR ADJUSTMENTS OR ADDITIONAL ESC'S.
4. SUBMIT A NOTICE OF TERMINATION (NOT) TO THE TCEQ AND LOCAL MS4 WHEN CONSTRUCTION IS COMPLETE.
5. REVEGETATE THE SITE: PREVENT EROSION ON INDIVIDUAL LOTS WITH GROUND COVER. EXISTING TREES AND VEGETATION SHOULD BE PROTECTED TO HELP MAINTAIN A STABLE GROUND SURFACE AND PREVENT LOSS OF VALUABLE TOPSOIL. EROSION CONTROL BLANKETS, MATTING AND MULCHES CAN HELP STABILIZE THE AREA UNTIL PERMANENT VEGETATION IS ESTABLISHED. THE SITE NEEDS TO HAVE AT LEAST 70 PERCENT COVER OF PERMANENT VEGETATION BEFORE ESC'S CAN BE REMOVED.



NOTES:

1. STONE SIZE: 3"-5" OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 50'.
3. THICKNESS: NOT LESS THAN 8".
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND 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 A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: H Shadrock	APPROVED BY:	STANDARD DRAWING: STABILIZED CONSTRUCTION ENTRANCE			
	UPDATED: 4-30-03	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO. 506		



STANDARD SYMBOL FOR SILT FENCE (SF)

SF
L=

TRENCH CROSS SECTION

NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 1".
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TRENCHED INTO THE SURFACE (E.G. PAVEMENT), THE FABRIC FLAP SHALL BE WEIGHTED DOWN WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. 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.
4. 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.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 inches. THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING	DRAWN BY: H Shadrock	APPROVED BY:	STANDARD DRAWING: SILT FENCE			
	UPDATED: 4-29-03	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO. 501		

						APR
						DATE
						DESCRIPTION
◁	◁	◁	◁	◁	◁	REV
DESIGNED BY: SAR						
REVIEWED BY: SSM						
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NOT FOR CONSTRUCTION

GUADALUPE BEND PHASE 1

EROSION & SEDIMENTATION CONTROL DETAILS (SHEET 1 OF 2)

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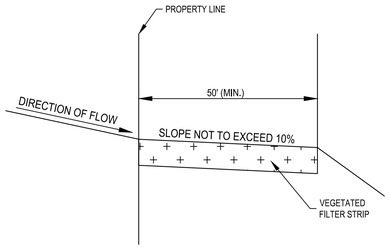
SHEET
C02.40



NATURAL FILTER STRIP
N.T.S.

NOTES:

NATURAL FILTER STRIPS
1. THE FILTER STRIP SHOULD EXTEND ALONG THE ENTIRE LENGTH OF THE CONTRIBUTING AREA AND THE SLOPE SHOULD NOT EXCEED 10%. THE MINIMUM DIMENSION OF THE FILER STRIP (IN THE DIRECTION OF FLOW) SHOULD BE NO LESS THAN 50 FEET.

2. THE MINIMUM VEGETATED COVER FOR ENGINEERED STRIPS IS 80%.

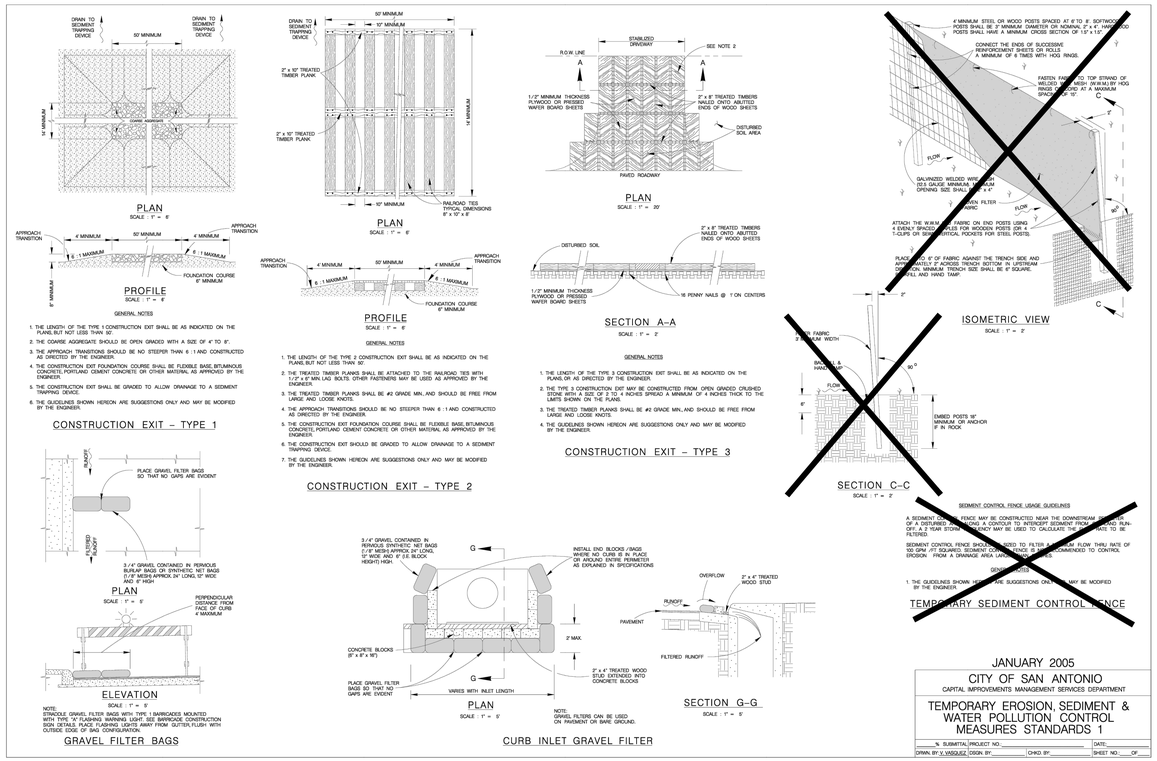
3. THE AREA CONTRIBUTING RUNOFF TO A FILTER STRIP SHOULD BE RELATIVELY FLAT SO THAT THE RUNOFF IS DISTRIBUTED EVENLY TO THE VEGETATED AREA WITHOUT THE USE OF A LEVEL SPREADER.

4. THE AREA TO BE USED FOR THE STRIP SHOULD BE FREE OF GULLIES OR RILLS THAT CAN CONCENTRATE OVERLAND FLOW.

5. THE TOP EDGE OF THE FILTER STRIP ALONG THE PAVEMENT WILL BE DESIGNED TO AVOID THE SITUATION WHERE RUNOFF WOULD TRAVEL ALONG THE TOP OF THE FILTER STRIP, RATHER THAN THROUGH IT.

6. TOP EDGE OF THE FILTER STRIP SHOULD BE LEVEL, OTHERWISE RUNOFF WILL TEND TO FORM A CHANNEL IN THE LOW SPOT. A LEVEL SPREADER SHOULD NOT BE USED TO DISTRIBUTE RUNOFF TO THE FILTER STRIP.

7. FILTER STRIPS SHOULD BE LANDSCAPED AFTER OTHER PORTIONS OF THE PROJECT ARE COMPLETED.

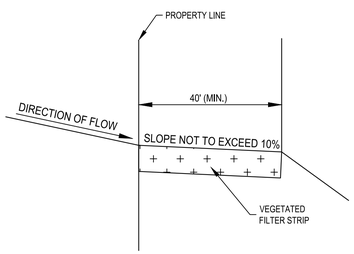


JANUARY 2005

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TEMPORARY EROSION, SEDIMENT & WATER POLLUTION CONTROL MEASURES STANDARDS 1

_____% SUBMITTAL | PROJECT NO.: _____ | DATE: _____
DRAWN BY: V. VASQUEZ | DSGN. BY: _____ | CHKD. BY: _____ | SHEET NO.: ____ OF ____



TEMPORARY FILTER STRIP
N.T.S.

NOTES:

TEMPORARY FILTER STRIPS
1. THE FILTER STRIP SHOULD EXTEND ALONG THE ENTIRE LENGTH OF THE CONTRIBUTING AREA AND THE SLOPE SHOULD NOT EXCEED 10%. THE MINIMUM DIMENSION OF THE FILER STRIP (IN THE DIRECTION OF FLOW) SHOULD BE NO LESS THAN 40 FEET.

2. THE MINIMUM VEGETATED COVER FOR ENGINEERED STRIPS IS 80%.

3. THE AREA CONTRIBUTING RUNOFF TO A FILTER STRIP SHOULD BE RELATIVELY FLAT SO THAT THE RUNOFF IS DISTRIBUTED EVENLY TO THE VEGETATED AREA WITHOUT THE USE OF A LEVEL SPREADER.

4. THE AREA TO BE USED FOR THE STRIP SHOULD BE FREE OF GULLIES OR RILLS THAT CAN CONCENTRATE OVERLAND FLOW.

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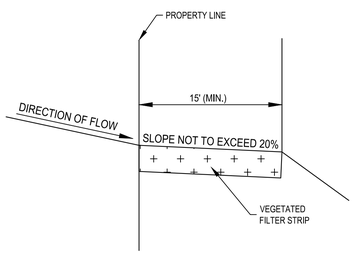

ENGINEERED FILTER STRIP
N.T.S.

NOTES:

ENGINEERED FILTER STRIPS
1. THE FILTER STRIP SHOULD EXTEND ALONG THE ENTIRE LENGTH OF THE CONTRIBUTING AREA AND THE SLOPE SHOULD NOT EXCEED 20%. THE MINIMUM DIMENSION OF THE FILER STRIP (IN THE DIRECTION OF FLOW) SHOULD BE NO LESS THAN 15 FEET. THE MAXIMUM WIDTH (IN THE FLOW OF DIRECTION) OF THE CONTRIBUTING IMPERVIOUS AREA SHOULD NOT EXCEED 72 FEET. FOR ROADWAYS WITH A VEGETATED STRIP ALONG BOTH SIDES OF THE TOTAL WIDTH OF THE ROADWAY SHOULD NOT EXCEED 144 FEET.

2. THE MINIMUM VEGETATED COVER FOR ENGINEERED STRIPS IS 80%.

3. THE AREA CONTRIBUTING RUNOFF TO A FILTER STRIP SHOULD BE RELATIVELY FLAT SO THAT THE RUNOFF IS DISTRIBUTED EVENLY TO THE VEGETATED AREA WITHOUT THE USE OF A LEVEL SPREADER.

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7. FILTER STRIPS SHOULD BE LANDSCAPED AFTER OTHER PORTIONS OF THE PROJECT ARE COMPLETED.

NOT FOR CONSTRUCTION

							APR
							DATE
							DESCRIPTION
◁	◁	◁	◁	◁	◁		REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.browngay.com
TBPE Registration No. F-1046

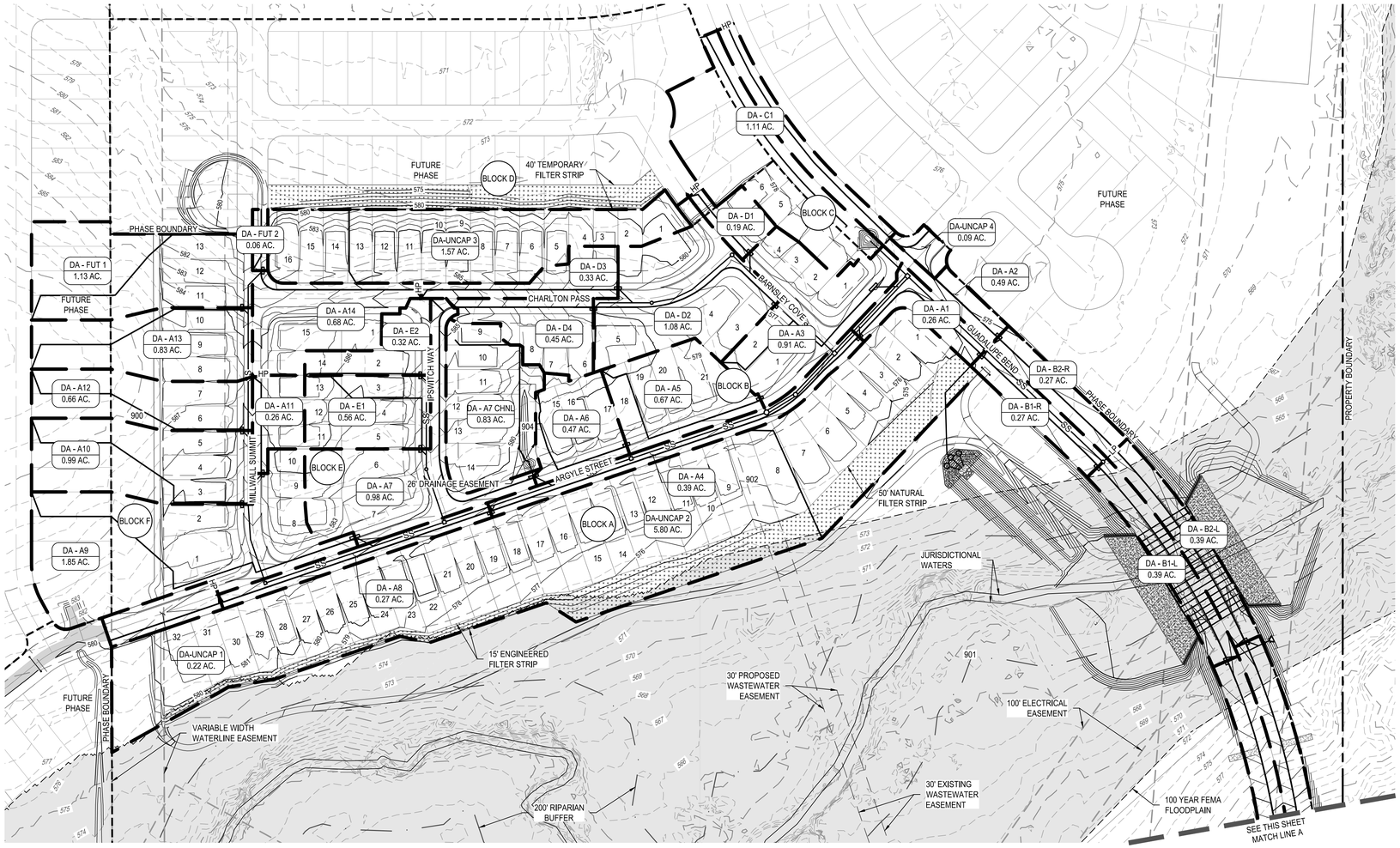
GUADALUPE BEND PHASE 1

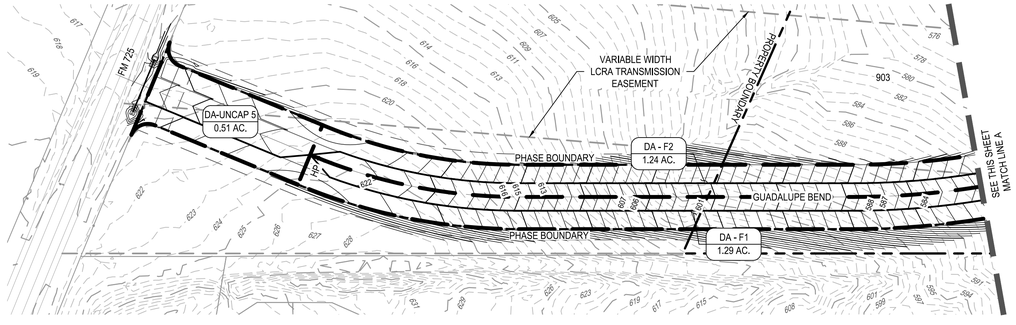
EROSION & SEDIMENTATION CONTROL DETAILS (SHEET 2 OF 2)

This Document Is Released Under The Authority Of Stacy S. Mulholland, PE
Texas Licensed Professional Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C02.41

G:\TXCO\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C02.40 EROSION AND SEDIMENTATION CONTROL DETAILS.dwg Layout: EROSION & SEDIMENTATION CONTROL DETAILS (SHEET 2 OF 2) Plotted: 3/22/2024 10:16:02 AM By: Srodriguez





0 50' 100' 200'

SCALE: 1" = 100'

LEGEND

- PHASE BOUNDARY
- 1 — LOT NUMBERS
- A — LOT GRADING TYPE
- 831 — PROPOSED 1' CONTOUR
- 830 — PROPOSED 5' CONTOUR
- 831 — EXISTING 1' CONTOUR
- 830 — EXISTING 5' CONTOUR
- DIRECTION OF FLOW
- DA - 37 0.79 AC. — DRAINAGE AREA LABEL
- DRAINAGE AREA BOUNDARY
- PROPOSED 10' CURB INLET
- JUNCTION BOX
- JURISDICTIONAL WATERS
- RIPARIAN BUFFER
- 100 YEAR FEMA FLOODPLAIN

NOTE:
1. PROPOSED DRAINAGE PATTERNS ARE TO FOLLOW THE FINISHED LOT/PAD GRADING BASED ON THE LOT TYPE DESIGNATION AND DETAIL SHOWN ON SHEET C03.10.
2. REFERENCE GRADING DETAIL ON SHEET C03.10

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR

REVIEWED BY: SSM

DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

NOT FOR CONSTRUCTION

GUADALUPE BEND PHASE 1

ONSITE WATERSHED EXHIBIT

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Texas Licensed Professional Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C03.00

G:\TX\C\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C03.00 ONSITE WATERSHED EXHIBIT.dwg Layout: ONSITE WATERSHED EXHIBIT Plotted: 3/22/2024 10:16:37 AM By: Lhuck

Runoff Coeffecients	10 Yr	25 Yr	100 Yr
Asphalt	0.81	0.86	0.95
Conc. / Roof	0.83	0.88	0.97
Grass (0-2%) good	0.35	0.39	0.46

Avg. Imperv. per lot
3,600 sf

			STREET								IMPERVIOUS				GRASS					
Drainage Area	Total Area (Ac)	Total Area (sf)	Street Width (ft)	Sidewalk Width (ft)	% of Street	Street Length (lf)	Sidewalk Length (lf)	Area Street (sf)	Area Street (Ac)	Area Street (%)	Num Homes in Area	Area Imper. (sf)	Area Imper. (Ac)	Area Imper. (%)	Area Grass (sf)	Area Grass (Ac)	Area Grass (%)	Composite 10 Yr "C"	Composite 25 Yr "C"	Composite 100 Yr "C"
A1	0.26	11,326	37	6	50%	135	109	8,136	0.19	71.8%	0.0	0	0.00	0.0%	3,189	0.07	28.2%	**0.68**	**0.73**	**0.81**
			41	6	50%	196	159													
A2	0.49	21,344	37	6	50%	502	439	16,512	0.38	77.4%	0	0	0.00	0.0%	4,833	0.11	22.6%	**0.71**	**0.75**	**0.84**
			41	6	50%	183	140													
A3	0.91	39,640	31	4	78%	206	280	14,914	0.34	37.6%	4.5	16,200	0.37	40.9%	8,525	0.20	21.5%	**0.72**	**0.77**	**0.85**
			37	6	50%	301	261													
			41	6	50%	42	33													
A4	0.39	16,988	31	4	50%	592	592	13,458	0.31	79.2%	0	0	0.00	0.0%	3,530	0.08	20.8%	**0.71**	**0.76**	**0.85**
			37	6	50%	78	78													
A5	0.67	29,185	31	4	50%	232	232	4,525	0.10	15.5%	4	14,400	0.33	49.3%	10,260	0.24	35.2%	**0.66**	**0.70**	**0.79**
A6	0.47	20,473	31	4	50%	160	160	3,114	0.07	15.2%	3	10,800	0.25	52.8%	6,559	0.15	32.0%	**0.67**	**0.72**	**0.80**
A7	0.98	42,689	31	4	50%	552	552	15,232	0.35	35.7%	3.5	12,600	0.29	29.5%	14,857	0.34	34.8%	**0.66**	**0.70**	**0.79**
			31	4	100%	114	114													
A7 CHNL	0.83	36,155	0	0	0%	0	0	0	0.00	0.0%	6	21,600	0.50	59.7%	14,555	0.33	40.3%	**0.64**	**0.68**	**0.76**
A8	0.27	11,761	31	4	50%	461	461	8,992	0.21	76.5%	0	0	0.00	0.0%	2,769	0.06	23.5%	**0.70**	**0.75**	**0.83**
A9	1.85	80,586	31	4	50%	291	291	10,475	0.24	13.0%	7.5	27,000	0.62	33.5%	43,111	0.99	53.5%	**0.57**	**0.62**	**0.69**
			31	4	100%	123	123													
A10	0.99	43,124	31	4	50%	120	120	2,340	0.05	5.4%	6	21,600	0.50	50.1%	19,184	0.44	44.5%	**0.62**	**0.66**	**0.74**
A11	0.26	11,326	31	4	50%	158	158	3,073	0.07	27.1%	1.5	5,400	0.12	47.7%	2,853	0.07	25.2%	**0.70**	**0.75**	**0.84**
A12	0.66	28,750	31	4	50%	88	88	1,708	0.04	5.9%	4	14,400	0.33	50.1%	12,642	0.29	44.0%	**0.62**	**0.66**	**0.74**
A13	0.83	36,155	31	4	50%	112	112	2,192	0.05	6.1%	5	18,000	0.41	49.8%	15,963	0.37	44.2%	**0.62**	**0.66**	**0.74**
A14	0.68	29620.8	31	4	50%	172	172	3,362	0.08	11.3%	2.0	7,200	0.17	24.3%	19,059	0.44	64.3%	**0.52**	**0.56**	**0.64**
			31	4	100%	257	257													
B1-R	0.27	11,851	41	6	50%	264	263	7,003	0.16	59.1%	0	0	0.00	0.0%	4,848	0.11	40.9%	**0.62**	**0.67**	**0.75**
B1-L	0.39	16,988	41	6	50%	389	382	10,257	0.24	60.4%	0	0	0.00	0.0%	6,732	0.15	39.6%	**0.63**	**0.67**	**0.76**
B2-R	0.27	11,954	41	6	50%	264	266	7,015	0.16	58.7%	0	0	0.00	0.0%	4,939	0.11	41.3%	**0.62**	**0.67**	**0.75**
B2-L	0.39	16,988	41	6	50%	373	380	9,926	0.23	58.4%	0	0	0.00	0.0%	7,063	0.16	41.6%	**0.62**	**0.66**	**0.75**
C1	1.11	48,352	37	6	50%	382	382	9,349	0.21	19.3%	2.5	9,000	0.21	18.6%	30,002	0.69	62.1%	**0.53**	**0.57**	**0.65**
D1	0.19	8,276	31	4	50%	138	138	2,700	0.06	32.6%	1	3,600	0.08	43.5%	1,977	0.05	23.9%	**0.71**	**0.76**	**0.84**
D2	1.08	47,045	31	4	50%	264	264	13,427	0.31	28.5%	4	14,400	0.33	30.6%	19,217	0.44	40.8%	**0.63**	**0.67**	**0.76**
			31	4	100%	212	212													
D3	0.33	14,375	31	4	50%	320	320	6,241	0.14	43.4%	1.25	4,500	0.10	31.3%	3,634	0.08	25.3%	**0.70**	**0.75**	**0.83**
D4	0.45	19,602	31	4	50%	240	240	4,671	0.11	23.8%	3.50	12,600	0.29	64.3%	2,331	0.05	11.9%	**0.77**	**0.82**	**0.90**
E1	0.56	24,394	31	4	50%	120	120	2,340	0.05	9.6%	4.5	16,200	0.37	66.4%	5,854	0.13	24.0%	**0.71**	**0.76**	**0.85**
E2	0.32	13,939	31	4	50%	125	125	2,438	0.06	17.5%	2	7,200	0.17	51.7%	4,302	0.10	30.9%	**0.68**	**0.73**	**0.81**
F1	1.29	56,192	41	6	50%	1,233	1,249	32,764	0.75	58.3%	0	0	0.00	0.0%	23,429	0.54	41.7%	**0.62**	**0.66**	**0.75**
F2	1.24	54,014	41	6	50%	1,217	1,201	32,152	0.74	59.5%	0	0	0.00	0.0%	21,863	0.50	40.5%	**0.62**	**0.67**	**0.75**
FUTURE 1	1.13	49,223	31	4	50%	120	120	2,340	0.05	4.8%	7	25,200	0.58	51.2%	21,683	0.50	44.1%	**0.62**	**0.66**	**0.74**
FUTURE 2	0.06	2,614									0	0	0.00	0.0%	663	0.02	25.4%	**0.69**	**0.74**	**0.83**
			31	4	50%	100	100	1,950	0.04	74.6%										
UNCAP 1	0.22	9,583	31	4	100%	192	192	7,490	0.17	78.2%	0	0	0.00	0.0%	2,093	0.05	21.8%	**0.71**	**0.76**	**0.84**
UNCAP 2	5.80	252,648	0	0	0%	0	0	0	0.00	0.0%	32	115,200	2.64	45.6%	137,448	3.16	54.4%	**0.57**	**0.61**	**0.69**
UNCAP 3	1.57	68,389	0	0	0%	0	0	0	0.00	0.0%	13.75	49,500	1.14	72.4%	18,889	0.43	27.6%	**0.70**	**0.74**	**0.83**
UNCAP 4	0.09	3,920	37	6	100%	52	52	2,567	0.06	65.5%	0	0	0.00	0.0%	1,354	0.03	34.5%	**0.65**	**0.70**	**0.78**
UNCAP 5	0.51	22,216	41	6	100%	242	242	12,802	0.29	57.6%	0	0	0.00	0.0%	9,413	0.22	42.4%	**0.62**	**0.66**	**0.74**

Inlet Flow Calculations

Basin		Area	Area	Sheet Flow (Max 100 feet)						Grass Shallow Conc. Flow						Street Shallow Conc. Flow							10-year			25-year			100-year		
From	To	(Ac)	(sf)	L (ft)	Elev 1	Elev 2	n	S (%)	T_c (min)	L (ft)	Elev 1	Elev 2	n	S (%)	T_c (min)	L (ft)	Elev 1	Elev 2	n	S (%)	T_c (min)	T_c (min)	C	I (in/hr)	Q (cfs)	C	I (in/hr)	Q (cfs)	C	I (in/hr)	Q (cfs)
A1	INLET	0.26	11,326	13.2	576.19	575.41	0.15	5.93%	1.11							267.4	575.41	574.15	0.013	0.47%	3.19	10.00	0.68	7.50	1.33	0.73	9.12	1.73	0.81	11.70	2.47
A2	INLET	0.49	21,344	18.0	578.18	578.00	0.013	1.00%	0.41							676.6	578.00	574.14	0.013	0.57%	7.34	10.00	0.71	7.50	2.59	0.75	9.12	3.37	0.84	11.70	4.81
A3	INLET	0.91	39,640	27.1	578.71	577.99	0.15	2.66%	2.72	124.1	577.99	576.61	0.15	1.11%	1.22	195.7	576.61	574.88	0.013	0.88%	1.71	10.00	0.72	7.50	4.91	0.77	9.12	6.37	0.85	11.70	9.08
A4	INLET	0.39	16,988	14.9	579.13	578.80	0.013	2.22%	0.26							671.5	578.80	575.43	0.013	0.50%	7.77	10.00	0.71	7.50	2.09	0.76	9.12	2.71	0.85	11.70	3.87
A5	INLET	0.67	29,185	23.7	581.64	580.21	0.15	6.03%	1.76	134.7	580.21	577.41	0.15	2.08%	0.97	193.2	577.41	576.44	0.013	0.50%	2.24	10.00	0.66	7.50	3.31	0.70	9.12	4.31	0.79	11.70	6.17
A6	INLET	0.47	20,473	6.7	581.59	581.35	0.15	3.58%	0.79	128.8	581.35	578.19	0.15	2.45%	0.85	118.8	578.19	577.60	0.013	0.50%	1.38	10.00	0.67	7.50	2.37	0.72	9.12	3.09	0.80	11.70	4.42
A7	INLET	0.98	42,689	30.8	585.76	584.79	0.013	3.15%	0.40							450.8	584.79	578.40	0.013	1.42%	3.10	10.00	0.66	7.50	4.82	0.70	9.12	6.28	0.79	11.70	9.01
A7 CHNL	PIPE	0.83	36,155	10.6	584.69	584.49	0.15	1.89%	1.47	299.8	584.49	575.41	0.15	3.03%	1.78							10.00	0.64	7.50	3.96	0.68	9.12	5.17	0.76	11.70	7.43
A8	INLET	0.27	11,761	14.8	581.38	581.07	0.013	2.09%	0.26							459.0	581.07	578.83	0.013	0.49%	5.39	10.00	0.70	7.50	1.42	0.75	9.12	1.85	0.83	11.70	2.64
A9	INLET	1.85	80,586	42.7	589.30	588.40	0.24	2.11%	6.27	408.3	588.40	581.53	0.20	1.68%	3.25	194.0	581.53	579.93	0.013	0.82%	1.75	11.27	0.57	7.23	7.63	0.62	8.78	9.99	0.69	11.26	14.47
A10	INLET	0.99	43,124	42.7	591.80	590.80	0.24	2.34%	6.01	374.1	590.80	582.94	0.20	2.10%	2.67	7.9	582.94	582.28	0.013	8.38%	0.02	10.00	0.62	7.50	4.57	0.66	9.12	5.97	0.74	11.70	8.59
A11	INLET	0.26	11,326	17.8	585.83	585.47	0.013	2.02%	0.31							149.6	585.47	583.07	0.013	1.60%	0.97	10.00	0.70	7.50	1.37	0.75	9.12	1.78	0.84	11.70	2.54
A12	INLET	0.66	28,750	42.7	592.70	592.30	0.24	0.94%	8.67	340.0	592.30	584.95	0.21	2.16%	2.39	10.4	584.95	584.24	0.013	6.82%	0.03	11.09	0.62	7.23	2.95	0.66	8.78	3.84	0.74	11.26	5.53
A13	INLET	0.83	36,155	42.7	592.70	592.60	0.24	0.23%	15.10	340.1	592.60	583.68	0.21	2.62%	2.17	6.0	583.68	583.04	0.013	10.62%	0.02	17.28	0.62	5.83	2.98	0.66	7.02	3.86	0.74	8.98	5.54
A14	INLET	0.68	29,621	17.2	585.82	585.50	0.013	1.86%	0.31							271.2	585.50	580.92	0.013	1.69%	1.71	10.00	0.52	7.50	2.65	0.56	9.12	3.49	0.64	11.70	5.09
B1-R	INLET	0.27	11,851	19.9	574.55	574.12	0.013	2.16%	0.33							258.1	574.12	572.79	0.013	0.52%	2.95	10.00	0.62	7.50	1.26	0.67	9.12	1.64	0.75	11.70	2.39
B1-L	INLET	0.39	16,988	20.2	575.24	574.79	0.013	2.23%	0.33							376.3	574.79	572.79	0.013	0.53%	4.23	10.00	0.63	7.50	1.84	0.67	9.12	2.40	0.76	11.70	3.45
B2-R	INLET	0.27	11,954	20.0	574.55	574.11	0.013	2.19%	0.33							260.2	574.11	572.79	0.013	0.51%	2.99	10.00	0.62	7.50	1.26	0.67	9.12	1.64	0.75	11.70	2.40
B2-L	INLET	0.39	16,988	19.8	575.15	574.71	0.013	2.22%	0.32							374.6	574.71	572.79	0.013	0.51%	4.29	10.00	0.62	7.50	1.81	0.66	9.12	2.36	0.75	11.70	3.41
C1	INLET	1.11	48,352	10.2	578.58	578.38	0.013	1.95%	0.20							390.0	578.38	576.42	0.013	0.50%	4.51	10.00	0.53	7.50	4.40	0.57	9.12	5.79	0.65	11.70	8.44
D1	INLET	0.19	8,276	15.2	578.14	577.82	0.013	2.10%	0.27							126.8	577.82	576.86	0.013	0.76%	1.20	10.00	0.71	7.50	1.01	0.76	9.12	1.31	0.84	11.70	1.87
D2	INLET	1.08	47,045	5.8	581.08	581.03	0.15	0.87%	1.23	78.6	581.03	579.96	0.15	1.36%	0.70	343.6	579.96	576.74	0.013	0.94%	2.91	10.00	0.63	7.50	5.09	0.67	9.12	6.64	0.76	11.70	9.55
D3	INLET	0.33	14,375	17.2	585.82	585.48	0.013	1.97%	0.30							313.1	585.48	578.79	0.013	2.14%	1.76	10.00	0.70	7.50	1.73	0.75	9.12	2.25	0.83	11.70	3.21
D4	INLET	0.45	19,602	21.8	585.46	584.82	0.15	2.93%	2.20							229.8	584.82	579.96	0.013	2.12%	1.30	10.00	0.77	7.50	2.59	0.82	9.12	3.35	0.90	11.70	4.76
E1	INLET	0.56	24,394	7.8	587.15	587.01	0.15	1.80%	1.18	192.7	587.01	583.01	0.15	2.08%	1.38	90.6	583.01	580.76	0.013	2.48%	0.47	10.00	0.71	7.50	2.99	0.76	9.12	3.88	0.85	11.70	5.54
E2	INLET	0.32	13,939	7.8	587.15	587.12	0.15	0.38%	2.18	182.8	587.12	583.10	0.15	2.20%	1.27							10.00	0.68	7.50	1.63	0.73	9.12	2.12	0.81	11.70	3.03
F1	INLET	1.29	56,192	41.5	622.72	622.25	0.013	1.13%	0.76							1,211.3	622.25	574.73	0.013	3.92%	5.01	10.00	0.62	7.50	5.98	0.66	9.12	7.81	0.75	11.70	11.25
F2	INLET	1.24	54,014	42.0	622.72	622.27	0.013	1.07%	0.79							1,164.6	622.27	574.81	0.013	4.08%	4.73	10.00	0.62	7.50	5.80	0.67	9.12	7.57	0.75	11.70	10.91
FUTURE 1	FUTURE	1.13	49,223	42.7	592.20	591.00	0.24	2.81%	5.59	368.4	591.00	579.55	0.21	3.11%	2.16	5.2	579.55	578.90	0.013	12.40%	0.01	10.00	0.62	7.50	5.23	0.66	9.12	6.83	0.74	11.70	9.84
FUTURE 2	FUTURE	0.06	2,614	27.9	581.23	580.12	0.013	3.98%	0.33							75.6	580.12	577.58	0.013	3.36%	0.34	10.00	0.69	7.50	0.31	0.74	9.12	0.41	0.83	11.70	0.58
UNCAP 1	UNCAP	0.22	9,583	14.8	581.38	581.07	0.013	2.09%	0.26							188.1	581.07	580.46	0.013	0.32%	2.71	10.00	0.71	7.50	1.17	0.76	9.12	1.52	0.84	11.70	2.17
UNCAP 2	UNCAP	5.80	252,648	41.1	577.36	576.97	0.15	0.95%	5.74	192.1	576.97	573.48	0.15	1.82%	1.47							10.00	0.57	7.50	24.75	0.61	9.12	32.45	0.69	11.70	47.00
UNCAP 3	UNCAP	1.57	68,389	21.7	585.05	584.40	0.15	2.99%	2.18	101.5	584.40	580.64	0.15	3.71%	0.54							10.00	0.70	7.50	8.21	0.74	9.12	10.66	0.83	11.70	15.23
UNCAP 4	UNCAP	0.09	3,920													79.4	575.49	574.55	0.013	1.18%	0.60	10.00	0.65	7.50	0.44	0.70	9.12	0.57	0.78	11.70	0.82
UNCAP 5	UNCAP	0.51	22,216	41.9	622.72	622.09	0.013	1.50%	0.69							204.3	622.09	618.31	0.013	1.85%	1.23	10.00	0.62	7.50	2.35	0.66	9.12	3.07	0.74	11.70	4.43

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							DATE
							DESCRIPTION
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DESIGNED BY: SAR

REVIEWED BY: SSM

DRAWN BY: SAR

BGE, INC.
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San Antonio, TX 78216
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TBPE Registration No. F-1046

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GUADALUPE BEND PHASE 1

ONSITE WATERSHED AREA CALCULATIONS (SHEET 1 OF 3)

This Document Is Released Under The Authority Of Stacy S. Mulholland, PE
Texas Licensed Professional Engineer 146417
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TBPE Registration No. F-1046

SHEET
C03.01

G:\TXC\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C03.00 ONSITE WATERSHED EXHIBIT.dwg Layout: ONSITE WATERSHED AREA CALCULATIONS (SHEET 1 OF 3) Plotted: 3/22/2024 10:16:39 AM By: Lhuck

STREET FLOW AND INLET CALCULATIONS

10 YEAR STORM

						STREET CAPACITY							INLET ON GRADE CAPACITY										SUMP INLET CAPACITY							
Drainage Area	Inlet	Area (Ac)	$Q_{(10)}$ (cfs)	$Q_{(pass)}$ (cfs)	$Q_{(basin)}$ (cfs)	FOC to FOC (ft)	Crown Type	Street Slope (ft/ft)	a (ft)	Z	Y_o (ft)	Ponded Width (ft)	Reduction Factor (%)	Q_a/L_a (ft)	L_a (ft)	Length (ft)	L/L_a	a/Y_o	Q/Q_a	Q_a (cfs)	$Q_{(pass)}$ (cfs)	Pass to Inlet #	Clogging Factor (%)	$Q_{(total)}$ (cfs)	Length (ft)	W (ft)	Opening Height (ft)	C_w	C_o	h (ft)
A1	ON GRADE	0.26	1.33	0.00	1.33	36	S	0.0050	0.58	50	0.18		0%	0.96	1.38	10	7.26	3.33	0.14	9.6	0.00									
						40		0.0055	0.58	50	0.18	8.75																		
A2	ON GRADE	0.49	2.59	0.00	2.59	36	S	0.0055	0.58	50	0.23		0%	1.02	2.55	10	3.93	2.59	0.25	10.2	0.00									
						40		0.0055	0.58	50	0.23	11.25																		
A3	ON GRADE	0.91	4.91	0.00	4.91	30	S	0.0078	0.58	50	0.27		0%	1.09	4.49	15	3.34	2.00	0.30	16.4	0.00									
						36		0.0050	0.58	50	0.29	14.55																		
						40		0.0055	0.58	50	0.29																			
A4	ON GRADE	0.39	2.09	0.00	2.09	30	S	0.0050	0.58	50	0.21		0%	1.00	2.08	10	4.80	2.76	0.21	10.0	0.00									
						36		0.0050	0.58	50	0.21	10.56																		
A5	ON GRADE	0.67	3.31	0.00	3.31	30	S	0.0050	0.58	50	0.25	12.55	0%	1.05	3.15	10	3.17	2.32	0.32	10.5	0.00									
A6	ON GRADE	0.47	2.37	0.00	2.37	30	S	0.0050	0.58	50	0.22	11.08	0%	1.02	2.75	10	3.64	2.63	0.27	10.2	0.00									
A7	ON GRADE	0.98	4.82	0.00	4.82	30	S	0.0050	0.58	50	0.29	14.45	0%	1.09	6.99	10	1.43	2.02	0.70	10.9	0.00									
A7 CHNL	---	0.83	3.96	0.00	3.96	0																								
A8	ON GRADE	0.27	1.42	0.00	1.42	30	S	0.0050	0.58	50	0.18	9.14	0%	0.97	1.46	10	6.84	3.19	0.15	9.7	0.00									
A9	ON GRADE	1.85	7.63	0.00	7.63	30	S	0.0050	0.58	50	0.34	17.17	0%	1.16	3.81	10	2.62	1.70	0.38	11.6	0.00									
A10	ON GRADE	0.99	4.57	0.00	4.57	30	S	0.0168	0.58	50	0.23	11.29	0%	1.02	4.48	10	2.23	2.58	0.45	10.2	0.00									
A11	ON GRADE	0.26	1.37	0.00	1.37	30	S	0.0168	0.58	50	0.14	7.19	0%	0.93	1.48	10	6.77	4.06	0.15	9.3	0.00									
A12	ON GRADE	0.66	2.95	0.00	2.95	30	S	0.0168	0.58	50	0.19	9.57	0%	0.98	3.00	10	3.33	3.05	0.30	9.8	0.00									
A13	ON GRADE	0.83	2.98	0.00	2.98	30	S	0.0335	0.58	50	0.17	8.45	0%	0.96	3.12	10	3.21	3.45	0.31	9.6	0.00									
A14	ON GRADE	0.68	2.65	0.00	2.65	30	S	0.0335	0.58	50	0.16	8.08	0%	0.95	2.79	10	3.59	3.61	0.28	9.5	0.00									
B1-R	SUMP	0.27	1.26	0.00	1.26	40	S	0.0055	0.58	50	0.17	8.58											10%	3.1	10	2	0.583	2.3	0.67	0.23
B1-L	SUMP	0.39	1.84	0.00	1.84	40	S	0.0055	0.58	50	0.20	9.88																		
B2-R	SUMP	0.27	1.26	0.00	1.26	40	S	0.0055	0.58	50	0.17	8.57											10%	3.1	10	2	0.583	2.3	0.67	0.23
B2-L	SUMP	0.39	1.81	0.00	1.81	40	S	0.0055	0.58	50	0.20	9.83																		
C1	ON GRADE	1.11	4.40	0.00	4.40	36	S	0.0050	0.58	50	0.28	13.95	0%	1.08	4.07	10	2.46	2.09	0.41	10.8	0.00									
D1	ON GRADE	0.19	1.01	0.00	1.01	30	S	0.0075	0.58	50	0.15	7.45	0%	0.94	1.08	10	9.26	3.91	0.11	9.4	0.00									
D2	ON GRADE	1.08	5.09	0.00	5.09	30	S	0.0075	0.58	50	0.27	13.67	0%	1.07	4.74	10	2.11	2.13	0.47	10.7	0.00									
D3	ON GRADE	0.33	1.73	0.00	1.73	30	S	0.0099	0.58	50	0.17	8.66	0%	0.96	1.80	10	5.55	3.37	0.18	9.6	0.00									
D4	ON GRADE	0.45	2.59	0.00	2.59	30	S	0.0252	0.58	50	0.17	8.46	0%	0.96	2.71	10	3.69	3.45	0.27	9.6	0.00									
E1	ON GRADE	0.56	2.99	0.00	2.99	30	S	0.0189	0.58	50	0.19	9.42	0%	0.98	3.06	10	3.27	3.10	0.31	9.8	0.00									
E2	ON GRADE	0.32	1.63	0.00	1.63	30	S	0.0189	0.58	50	0.15	7.50	0%	0.94	1.74	10	5.75	3.89	0.17	9.4	0.00									
F1	ON GRADE	1.29	5.98	0.00	5.98	40	S	0.0055	0.58	50	0.31	15.39	0%	1.11	5.37	10	1.86	1.89	0.54	11.1	0.00									
F2	ON GRADE	1.24	5.80	0.00	5.80	40	S	0.0055	0.58	50	0.30	15.22	0%	1.11	5.23	10	1.91	1.92	0.52	11.1	0.00									
FUTURE 1	---	1.13	5.23	0.00	5.23	30	S	0.0335	0.58	50	0.21	10.43																		
FUTURE 2	---	0.06	0.31	0.00	0.31	30	S	0.0335	0.58	50	0.07	3.62																		
UNCAP 1	---	0.22	1.17	0.00	1.17	30	S	0.0050	0.58	50	0.17	8.50																		
UNCAP 2	---	5.80	24.75	0.00	24.75	0																								
UNCAP 3	---	1.57	8.21	0.00	8.21	0																								
UNCAP 4	---	0.09	0.44	0.00	0.44	36	S	0.0050	0.58	50	0.12	5.89																		
UNCAP 5	---	0.51	2.35	0.00	2.35	40	S	0.0200	0.58	50	0.17	8.52																		

STREET FLOW AND INLET CALCULATIONS

25 YEAR STORM

						STREET CAPACITY							INLET ON GRADE CAPACITY										SUMP INLET CAPACITY							
Drainage Area	Inlet	Area (Ac)	$Q_{(25)}$ (cfs)	$Q_{(pass)}$ (cfs)	$Q_{(basin)}$ (cfs)	FOC to FOC (ft)	Crown Type	Street Slope (ft/ft)	a (ft)	Z	Y_o (ft)	Ponded Width (ft)	Reduction Factor (%)	Q_a/L_a (ft)	L_a (ft)	Length (ft)	L/L_a	a/Y_o	Q/Q_a	Q_a (cfs)	$Q_{(pass)}$ (cfs)	Pass to Inlet #	Clogging Factor (%)	$Q_{(total)}$ (cfs)	Length (ft)	W (ft)	Opening Height (ft)	C_w	C_o	h (ft)
A1	ON GRADE	0.26	1.73	0.00	1.73	36	S	0.0050	0.58	50	0.20		0%	0.98	1.75	10	5.70	3.02	0.18	9.8	0.00									
						40		0.0055	0.58	50	0.19	9.66																		
A2	ON GRADE	0.49	3.37	0.00	3.37	36	S	0.0055	0.58	50	0.25		0%	1.05	3.22	10	3.10	2.35	0.32	10.5	0.00									
						40		0.0055	0.58	50	0.25	12.41																		
A3	ON GRADE	0.91	6.37	0.00	6.37	30	S	0.0078	0.58	50	0.30		0%	1.13	6.74	15	2.22	1.82	0.45	16.9	0.00									
						36		0.0050	0.58	50	0.32	16.04																		
						40		0.0055	0.58	50	0.32																			
A4	ON GRADE	0.39	2.71	0.00	2.71	30	S	0.0050	0.58	50	0.23		0%	1.03	2.64	10	3.79	2.50	0.26	10.3	0.00									
						36	S	0.0050	0.58	50	0.23	11.65																		
A5	ON GRADE	0.67	4.31	0.00	4.31	30	S	0.0050	0.58	50	0.28	13.85	0%	1.08	3.99	10	2.50	2.11	0.40	10.8	0.00									
A6	ON GRADE	0.47	3.09	0.00	3.09	30	S	0.0050	0.58	50	0.24	12.23	0%	1.04	4.76	10	2.10	2.39	0.48	10.4	0.00									
A7	ON GRADE	0.98	6.28	0.00	6.28	30	S	0.0050	0.58	50	0.32	15.96	0%	1.13	8.87	10	1.13	1.83	0.89	11.3	0.00									
A7 CHNL	---	0.83	5.17	0.00	5.17	0																								
A8	ON GRADE	0.27	1.85	0.00	1.85	30	S	0.0050	0.58	50	0.20	10.08	0%	0.99	1.86	10	5.38	2.89	0.19	9.9	0.00									
A9	ON GRADE	1.85	9.99	0.00	9.99	30	S	0.0050	0.58	50	0.38	19.00	0%	1.20	3.67	10	2.72	1.54	0.37	12.0	0.00									
A10	ON GRADE	0.99	5.97	0.00	5.97	30	S	0.0168	0.58	50	0.25	12.47	0%	1.05	5.70	10	1.75	2.34	0.57	10.5	0.00									
A11	ON GRADE	0.26	1.78	0.00	1.78	30	S	0.0168	0.58	50	0.16	7.93	0%	0.95	1.88	10	5.31	3.68	0.19	9.5	0.00									
A12	ON GRADE	0.66	3.84	0.00	3.84	30	S	0.0168	0.58	50	0.21	10.58	0%	1.00	3.83	10	2.61	2.76	0.38	10.0	0.00									
A13	ON GRADE	0.83	3.86	0.00	3.86	30	S	0.0335	0.58	50	0.19	9.31	0%	0.98	3.96	10	2.53	3.13	0.40	9.8	0.00									
A14	ON GRADE	0.68	3.49	0.00	3.49	30	S	0.0335	0.58	50	0.18	8.96	0%	0.97	3.60	10	2.78	3.25	0.36	9.7	0.00									
B1-R	SUMP	0.27	1.64	0.00	1.64	40	S	0.0055	0.58	50	0.19	9.48											10%	4.0	10	2	0.583	2.3	0.67	0.27
B1-L	SUMP	0.39	2.40	0.00	2.40	40	S	0.0055	0.58	50	0.22	10.92																		
B2-R	SUMP	0.27	1.64	0.00	1.64	40	S	0.0055	0.58	50	0.19	9.47											10%	4.0	10	2	0.583	2.3	0.67	0.27
B2-L	SUMP	0.39	2.36	0.00	2.36	40	S	0.0055	0.58	50	0.22	10.87																		
C1	ON GRADE	1.11	5.79	0.00	5.79	36	S	0.0050	0.58	50	0.31	15.47	0%	1.12	5.19	10	1.93	1.89	0.52	11.2	0.00									
D1	ON GRADE	0.19	1.31	0.00	1.31	30	S	0.0075	0.58	50	0.16	8.22	0%	0.95	1.38	10	7.26	3.55	0.14	9.5	0.00									
D2	ON GRADE	1.08	6.64	0.00	6.64	30	S	0.0075	0.58	50	0.30	15.10	0%	1.11	4.87	10	2.05	1.93	0.49	11.1	0.00									
D3	ON GRADE	0.33	2.25	0.00	2.25	30	S	0.0099	0.58	50	0.19	9.55	0%	0.98	2.29	10	4.36	3.05	0.23	9.8	0.00									
D4	ON GRADE	0.45	3.35	0.00	3.35	30	S	0.0252	0.58	50	0.19	9.31	0%	0.98	3.44	10	2.91	3.13	0.34	9.8	0.00									
E1	ON GRADE	0.56	3.88	0.00	3.88	30	S	0.0189	0.58	50	0.21	10.39	0%	1.00	3.88	10	2.57	2.81	0.39	10.0	0.00									
E2	ON GRADE	0.32	2.12	0.00	2.12	30	S	0.0189	0.58	50	0.17	8.27	0%	0.95	2.22	10	4.50	3.53	0.22	9.5	0.00									
F1	ON GRADE	1.29	7.81	0.00	7.81	40	S	0.0055	0.58	50	0.34	17.01	0%	1.15	6.78	10	1.47	1.71	0.68	11.5	0.00									
F2	ON GRADE	1.24	7.57	0.00	7.57	40	S	0.0055	0.58	50	0.34	16.82	0%	1.15	6.60	10	1.51	1.73	0.66	11.5	0.00									
FUTURE 1	---	1.13	6.83	0.00	6.83	30	S	0.0335	0.58	50	0.23	11.53																		
FUTURE 2	---	0.06	0.41	0.00	0.41	30	S	0.0335	0.58	50	0.08	4.00																		
UNCAP 1	---	0.22	1.52	0.00	1.52	30	S	0.0050	0.58	50	0.19	9.37																		
UNCAP 2	---	5.80	32.45	0.00	32.45	0																								
UNCAP 3	---	1.57	10.66	0.00	10.66	0																								
UNCAP 4	---	0.09	0.57	0.00	0.57	36	S	0.0050	0.58	50	0.13	6.50																		
UNCAP 5	---	0.51	3.07	0.00	3.07	40	S	0.0200	0.58	50	0.19	9.41																		

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	APR

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

ONSITE WATERSHED AREA CALCULATIONS (SHEET 2 OF 3)

This Document Is Released Under The Authority Of Stacy S. Mulholland, PE
Texas Licensed Professional Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C03.02

G:\TX\CIP\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C03.00 ONSITE WATERSHED EXHIBIT.dwg Layout: ONSITE WATERSHED AREA CALCULATIONS (SHEET 2 OF 3) Plotted: 3/22/2024 10:16:41 AM By: Lhuck

STREET FLOW AND INLET CALCULATIONS

100 YEAR STORM

						STREET CAPACITY						INLET ON GRADE CAPACITY										SUMP INLET CAPACITY							
Drainage Area	Inlet	Area (Ac)	$Q_{(100)}$ (cfs)	$Q_{(pass)}$ (cfs)	$Q_{(basin)}$ (cfs)	FOC to FOC (ft)	Crown Type	Street Slope (ft/ft)	a (ft)	Z	Y_o (ft)	Ponded Width (ft)	Reduction Factor (%)	Q_a/L_a (ft)	L_a (ft)	Length (ft)	L/L_a	a/Y_o	Q/Q_a	Q_a (cfs)	$Q_{(pass)}$ (cfs)	Pass to Inlet #	Clogging Factor (%)	$Q_{(total)}$ (cfs)	Length (ft)	W (ft)	Opening Height (ft)	C_w	C_o	h (ft)
A1	ON GRADE	0.26	2.47	0.00	2.47	36	S	0.0050	0.58	50	0.22		0%	1.01	2.43	10	4.11	2.64	0.24	10.1	0.00									
						40		0.0055	0.58	50	0.22	11.05																		
A2	ON GRADE	0.49	4.81	0.00	4.81	36	S	0.0055	0.58	50	0.28		0%	1.09	4.43	10	2.26	2.06	0.44	10.9	0.00									
						40		0.0055	0.58	50	0.28	14.18																		
A3	ON GRADE	0.91	9.08	0.00	9.08	30	S	0.0078	0.58	50	0.34		0%	1.18	13.75	15	1.09	1.59	0.92	17.7	0.00									
						36		0.0050	0.58	50	0.37	18.32																		
						40		0.0055	0.58	50	0.36																			
A4	ON GRADE	0.39	3.87	0.00	3.87	30	S	0.0050	0.58	50	0.27		0%	1.07	3.63	10	2.75	2.19	0.36	10.7	0.00									
						36	S	0.0050	0.58	50	0.27	13.31																		
A5	ON GRADE	0.67	6.17	0.00	6.17	30	S	0.0050	0.58	50	0.32	15.86	0%	1.12	6.29	10	1.59	1.84	0.63	11.2	0.00									
A6	ON GRADE	0.47	4.42	2.65	7.07	30	S	0.0050	0.58	50	0.33	16.68	0%	1.14	7.87	10	1.27	1.75	0.79	11.4	0.00									
A7	ON GRADE	0.98	9.01	0.00	9.01	30	S	0.0050	0.58	50	0.37	18.27	0%	1.18	12.24	10	0.82	1.60	1.22	11.8	2.65	A6								
A7 CHNL	---	0.83	7.43	0.00	7.43	0																								
A8	ON GRADE	0.27	2.64	0.00	2.64	30	S	0.0050	0.58	50	0.23	11.53	0%	1.03	2.57	10	3.89	2.53	0.26	10.3	0.00									
A9	ON GRADE	1.85	14.47	0.00	14.47	30	S	0.0050	0.58	50	0.44	21.82	0%	1.27	3.89	10	2.57	1.34	0.39	12.7	0.00									
A10	ON GRADE	0.99	8.59	0.00	8.59	30	S	0.0168	0.58	50	0.29	14.30	0%	1.09	7.41	10	1.35	2.04	0.74	10.9	0.00									
A11	ON GRADE	0.26	2.54	0.00	2.54	30	S	0.0168	0.58	50	0.18	9.06	0%	0.97	2.62	10	3.82	3.22	0.26	9.7	0.00									
A12	ON GRADE	0.66	5.53	0.00	5.53	30	S	0.0168	0.58	50	0.24	12.13	0%	1.04	5.33	10	1.88	2.41	0.53	10.4	0.00									
A13	ON GRADE	0.83	5.54	0.00	5.54	30	S	0.0335	0.58	50	0.21	10.66	0%	1.01	5.51	10	1.81	2.74	0.55	10.1	0.00									
A14	ON GRADE	0.68	5.09	0.00	5.09	30	S	0.0335	0.58	50	0.21	10.32	0%	1.00	5.10	10	1.96	2.83	0.51	10.0	0.00									
B1-R	SUMP	0.27	2.39	0.00	2.39	40	S	0.0055	0.58	50	0.22	10.90											10%	6.8	10	2	0.583	2.3	0.67	0.39
B1-L	SUMP	0.39	3.45	0.00	3.45	40	S	0.0055	0.58	50	0.25	12.52																		
B2-R	SUMP	0.27	2.40	0.00	2.40	40	S	0.0055	0.58	50	0.22	10.93											10%	7.1	10	2	0.583	2.3	0.67	0.40
B2-L	SUMP	0.39	3.41	0.00	3.41	40	S	0.0055	0.58	50	0.25	12.46																		
C1	ON GRADE	1.11	8.44	0.00	8.44	36	S	0.0050	0.58	50	0.36	17.81	0%	1.17	6.13	10	1.63	1.64	0.61	11.7	0.00									
D1	ON GRADE	0.19	1.87	0.00	1.87	30	S	0.0075	0.58	50	0.19	9.39	0%	0.98	1.91	10	5.23	3.11	0.19	9.8	0.00									
D2	ON GRADE	1.08	9.55	0.00	9.55	30	S	0.0075	0.58	50	0.35	17.31	0%	1.16	4.65	10	2.15	1.68	0.47	11.6	0.00									
D3	ON GRADE	0.33	3.21	0.00	3.21	30	S	0.0099	0.58	50	0.22	10.92	0%	1.01	3.18	10	3.15	2.67	0.32	10.1	0.00									
D4	ON GRADE	0.45	4.76	0.00	4.76	30	S	0.0252	0.58	50	0.21	10.62	0%	1.01	4.74	10	2.11	2.75	0.47	10.1	0.00									
E1	ON GRADE	0.56	5.54	0.00	5.54	30	S	0.0189	0.58	50	0.24	11.87	0%	1.03	5.36	10	1.86	2.46	0.54	10.3	0.00									
E2	ON GRADE	0.32	3.03	0.00	3.03	30	S	0.0189	0.58	50	0.19	9.46	0%	0.98	3.09	10	3.23	3.08	0.31	9.8	0.00									
F1	ON GRADE	1.29	11.25	0.00	11.25	40	S	0.0055	0.58	50	0.39	19.51	0%	1.21	8.21	10	1.22	1.49	0.82	12.1	0.00									
F2	ON GRADE	1.24	10.91	0.00	10.91	40	S	0.0055	0.58	50	0.39	19.28	0%	1.21	8.25	10	1.21	1.51	0.82	12.1	0.00									
FUTURE 1	---	1.13	9.84	0.00	9.84	30	S	0.0335	0.58	50	0.26	13.22																		
FUTURE 2	---	0.06	0.58	0.00	0.58	30	S	0.0335	0.58	50	0.09	4.57																		
UNCAP 1	---	0.22	2.17	0.00	2.17	30	S	0.0050	0.58	50	0.21	10.71																		
UNCAP 2	---	5.80	47.00	0.00	47.00	0																								
UNCAP 3	---	1.57	15.23	0.00	15.23	0																								
UNCAP 4	---	0.09	0.82	0.00	0.82	36	S	0.0050	0.58	50	0.15	7.45																		
UNCAP 5	---	0.51	4.43	0.00	4.43	40	S	0.0200	0.58	50	0.22	10.80																		

NOT FOR CONSTRUCTION

							APR
							DATE
							DESCRIPTION
◁	◁	◁	◁	◁	◁		REV

DESIGNED BY: SAR

REVIEWED BY: SSM

DRAWN BY: SAR

BGE, INC.
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San Antonio, TX 78216
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TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

ONSITE WATERSHED AREA CALCULATIONS (SHEET 3 OF 3)

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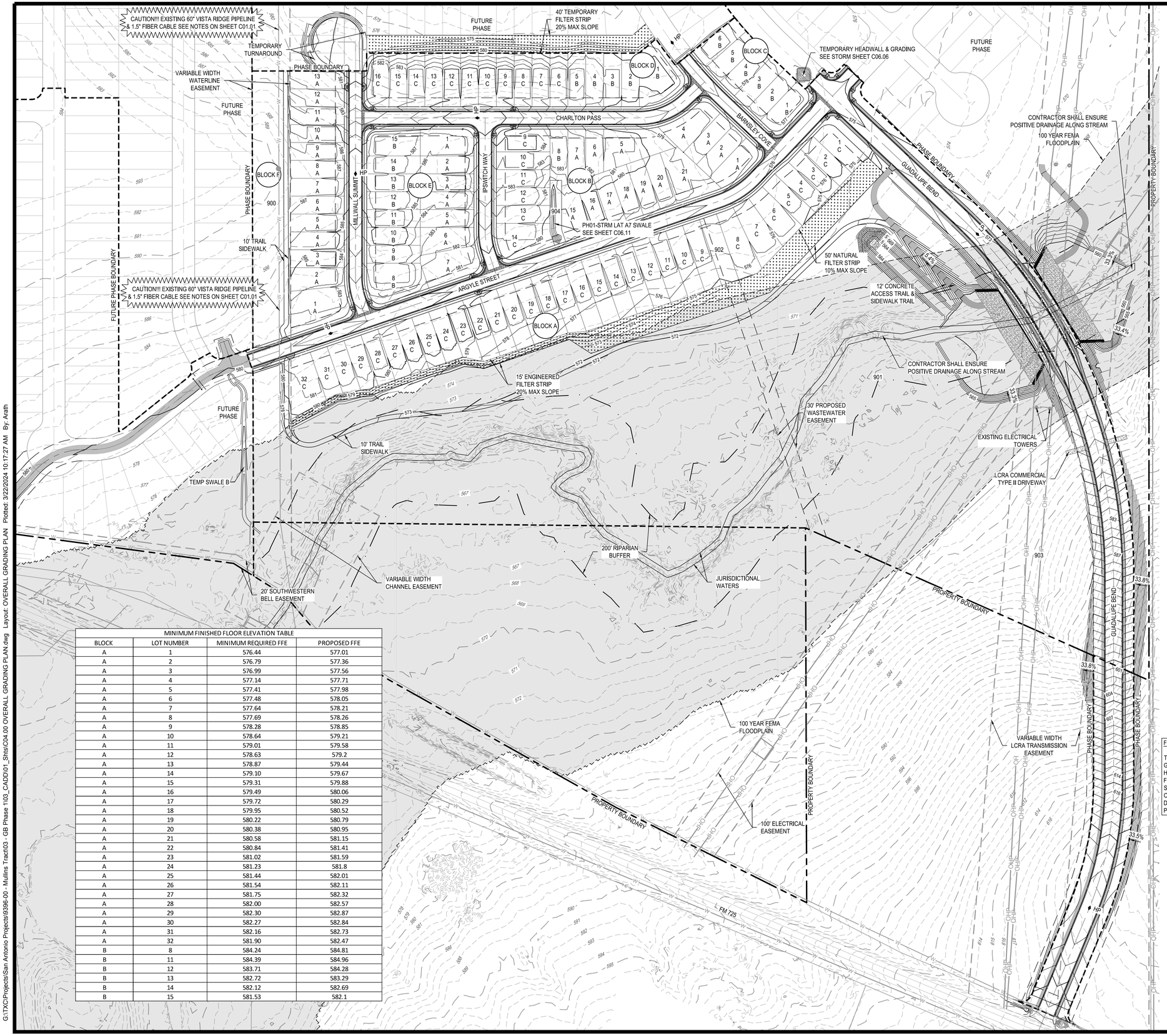
Texas Licensed Professional Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C03.03

G:\TXC\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C03.00 ONSITE WATERSHED EXHIBIT.dwg Layout: ONSITE WATERSHED AREA CALCULATIONS (SHEET 3 OF 3) Plotted: 3/22/2024 10:16:44 AM By: Lhuck



MINIMUM FINISHED FLOOR ELEVATION TABLE			
BLOCK	LOT NUMBER	MINIMUM REQUIRED FFE	PROPOSED FFE
A	1	576.44	577.01
A	2	576.79	577.36
A	3	576.99	577.56
A	4	577.14	577.71
A	5	577.41	577.98
A	6	577.48	578.05
A	7	577.64	578.21
A	8	577.69	578.26
A	9	578.28	578.85
A	10	578.64	579.21
A	11	579.01	579.58
A	12	578.63	579.2
A	13	578.87	579.44
A	14	579.10	579.67
A	15	579.31	579.88
A	16	579.49	580.06
A	17	579.72	580.29
A	18	579.95	580.52
A	19	580.22	580.79
A	20	580.38	580.95
A	21	580.58	581.15
A	22	580.84	581.41
A	23	581.02	581.59
A	24	581.23	581.8
A	25	581.44	582.01
A	26	581.54	582.11
A	27	581.75	582.32
A	28	582.00	582.57
A	29	582.30	582.87
A	30	582.27	582.84
A	31	582.16	582.73
A	32	581.90	582.47
B	8	584.24	584.81
B	11	584.39	584.96
B	12	583.71	584.28
B	13	582.72	583.29
B	14	582.12	582.69
B	15	581.53	582.1

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

LEGEND

- PHASE BOUNDARY
- 1 LOT NUMBERS
- A LOT GRADING TYPE
- BUILDING SETBACK
- 831 PROPOSED 1' CONTOUR
- 830 PROPOSED 5' CONTOUR
- 831 EXISTING 1' CONTOUR
- 830 EXISTING 5' CONTOUR
- PROPOSED ROW
- PROPOSED LOT LINE
- DIRECTION OF FLOW
- CONTRACTOR SIDEWALK
- HOME BUILDER SIDEWALK
- LP / HP RAMP (SEE SHEET C06.31 FOR DETAILS)
- LP / HP LOW POINT/HIGH POINT
- RETAINING WALL
- JURISDICTIONAL WATERS
- RIPARIAN BUFFER
- 100 YEAR FEMA FLOODPLAIN
- EASEMENT
- SIDEWALK TRAIL

GENERAL NOTES:

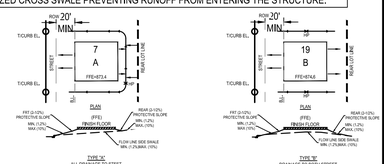
1. HOME BUILDER SHALL REFER TO THE APPROVED SUBDIVISION PLAT TO CONFIRM ALL BUILDING SETBACKS PRIOR TO ANY FOUNDATION WORK.
2. AS SOON AS PRACTICAL, HOME BUILDER SHALL ESTABLISH VEGETATION (HYDROMULCH, SEEDING, SODDING, ETC...) TO PREVENT EROSION FROM OCCURRING.
3. CONTRACTOR SHALL CONTACT ENGINEER REGARDING ANY QUESTIONS ON THE INTENT OF THIS PLAN.
4. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS AND TOWARDS THE PROPER DRAINAGE EASEMENT OF STREET RIGHT OF WAY ACCORDING TO THE MASTER DRAINAGE PLAN FOR THE PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW PONDING OF WATER.
5. GRADING PLAN IS INTENDED FOR USE IN LOT GRADING ONLY. CONTRACTOR SHOULD REFER TO CONSTRUCTION DRAWINGS FOR ALL OTHER GRADES, INCLUDING, BUT NOT LIMITED TO, CHANNELS, ROADS, AND DETENTION PONDS.
6. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ALL SWALES.
7. EARTHEN GRADING SLOPES SHALL BE NO GREATER THAN 3:1.
8. STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST PERIOD OF TIME PER THE NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL SEC. 12.2 (N)

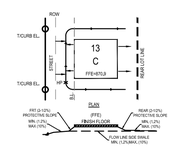
LOT FILL NOTES:

1. ALL LOTS WITH FILL SHALL BE COMPACTED IN ACCORDANCE WITH THE 79G PROCEDURE THAT MEETS THE REQUIREMENTS OF THE FHA DATA SHEET. DOCUMENTATION AND THE EVIDENCE OF COMPACTED SHALL BE FURNISHED TO THE ENGINEER & OWNER.

FINISHED FLOOR ELEVATIONS

THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND OR FINISHED FLOOR ELEVATION WHICH EVER IS HIGHER, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORM WATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO THE STORM WATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE STRUCTURE.





NOT FOR CONSTRUCTION

							APR
							DATE
							DESCRIPTION
							REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
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TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

OVERALL GRADING PLAN

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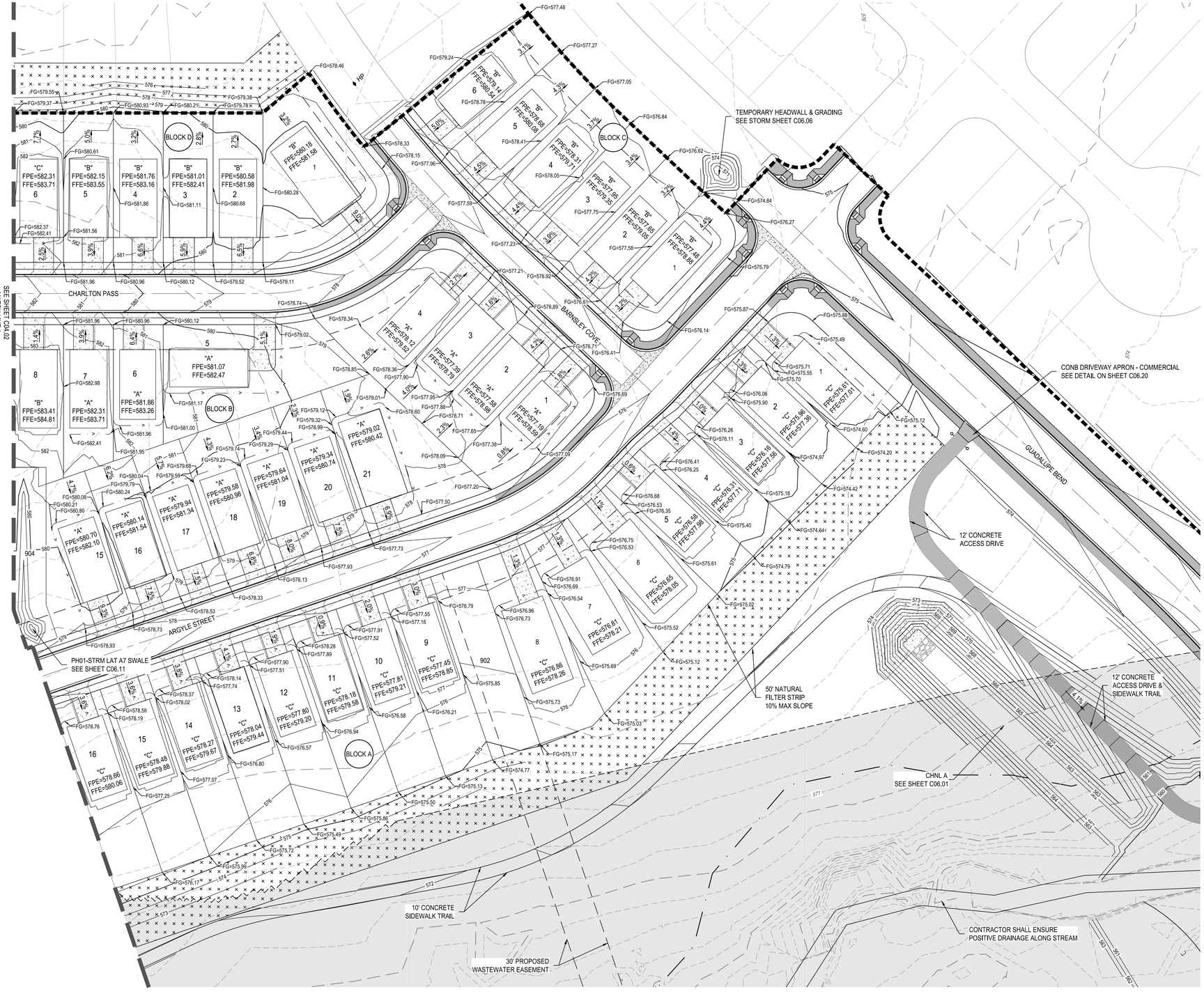
SHEET
C04.00

G:\TX\Cl\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C04.00 OVERALL GRADING PLAN.dwg Layout: OVERALL GRADING PLAN Plotted: 3/22/2024 10:17:27 AM By: Arath



0 20' 40' 80'

SCALE: 1" = 40'

LEGEND

- PHASE BOUNDARY
- 1 — LOT NUMBERS
- A — LOT GRADING TYPE
- BUILDING SETBACK
- 831 — PROPOSED 1' CONTOUR
- 830 — PROPOSED 5' CONTOUR
- 831 — EXISTING 1' CONTOUR
- 830 — EXISTING 5' CONTOUR
- PROPOSED ROW
- PROPOSED LOT LINE
- DIRECTION OF FLOW
- CONTRACTOR SIDEWALK
- HOME BUILDER SIDEWALK
- RAMP (SEE SHEET C06.31 FOR DETAILS)
- LP / HP — LOW POINT/HIGH POINT
- RETAINING WALL
- JURISDICTIONAL WATERS
- RIPARIAN BUFFER
- 100 YEAR FEMA FLOODPLAIN
- EASEMENT
- SIDEWALK TRAIL

GENERAL NOTES:

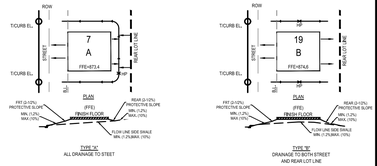
1. HOME BUILDER SHALL REFER TO THE APPROVED SUBDIVISION PLAT TO CONFIRM ALL BUILDING SETBACKS PRIOR TO ANY FOUNDATION WORK.
2. AS SOON AS PRACTICAL, HOME BUILDER SHALL ESTABLISH VEGETATION (HYDROMULCH, SEEDING, SODDING, ETC...) TO PREVENT EROSION FROM OCCURRING.
3. CONTRACTOR SHALL CONTACT ENGINEER REGARDING ANY QUESTIONS ON THE INTENT OF THIS PLAN.
4. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS AND TOWARDS THE PROPER DRAINAGE EASEMENT OF STREET RIGHT OF WAY ACCORDING TO THE MASTER DRAINAGE PLAN FOR THE PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW PONDING OF WATER.
5. GRADING PLAN IS INTENDED FOR USE IN LOT GRADING ONLY. CONTRACTOR SHOULD REFER TO CONSTRUCTION DRAWINGS FOR ALL OTHER GRADES, INCLUDING, BUT NOT LIMITED TO, CHANNELS, ROADS, AND DETENTION PONDS.
6. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ALL SWALES.
7. EARTHEN GRADING SLOPES SHALL BE NO GREATER THAN 3:1.

LOT FILL NOTES:

1. ALL LOTS WITH FILL SHALL BE COMPACTED IN ACCORDANCE WITH THE 79G PROCEDURE THAT MEETS THE REQUIREMENTS OF THE FHA DATA SHEET. DOCUMENTATION AND THE EVIDENCE OF COMPACTED SHALL BE FURNISHED TO THE ENGINEER & OWNER.

FINISHED FLOOR ELEVATIONS

THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND OR FINISHED FLOOR ELEVATION WHICH EVER IS HIGHER, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORM WATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO THE STORM WATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE STRUCTURE.



NOT FOR CONSTRUCTION

							APR
							DATE
							DESCRIPTION
◁	◁	◁	◁	◁	◁		REV

DESIGNED BY: SAR

REVIEWED BY: SSM

DRAWN BY: SAR

BGE, INC.
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TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

DETAILED GRADING PLAN SHEET 1 OF 2

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Under The Authority Of Stacy S.
Mulholland, PE
Texas Licensed Professional
Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C04.01

G:\TX\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C04.01 DETAILED LOT GRADING PLAN.dwg Layout: DETAILED GRADING PLAN SHEET 1 OF 2 Plotted: 3/22/2024 10:18:14 AM By: Lhuck



0 20' 40' 80'

SCALE: 1" = 40'

LEGEND

- PHASE BOUNDARY
- 1 — LOT NUMBERS
- A — LOT GRADING TYPE
- BUILDING SETBACK
- 831 — PROPOSED 1' CONTOUR
- 830 — PROPOSED 5' CONTOUR
- 831 — EXISTING 1' CONTOUR
- 830 — EXISTING 5' CONTOUR
- PROPOSED ROW
- PROPOSED LOT LINE
- DIRECTION OF FLOW
- CONTRACTOR SIDEWALK
- HOME BUILDER SIDEWALK
- LP / HP — RAMP (SEE SHEET C06.31 FOR DETAILS)
- LOW POINT/HIGH POINT
- RETAINING WALL
- JURISDICTIONAL WATERS
- RIPARIAN BUFFER
- 100 YEAR FEMA FLOODPLAIN
- EASEMENT
- SIDEWALK TRAIL

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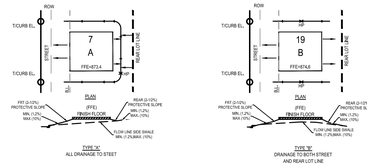
1. ALL LOTS WITH FILL SHALL BE COMPACTED IN ACCORDANCE WITH THE 79G PROCEDURE THAT MEETS THE REQUIREMENTS OF THE FHA DATA SHEET. DOCUMENTATION AND THE EVIDENCE OF COMPACTED SHALL BE FURNISHED TO THE ENGINEER & OWNER.

FINISHED FLOOR ELEVATIONS

THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND OR FINISHED FLOOR ELEVATION WHICH EVER IS HIGHER, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORM WATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO THE STORM WATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE STRUCTURE.



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	APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

DETAILED GRADING PLAN SHEET 2 OF 2

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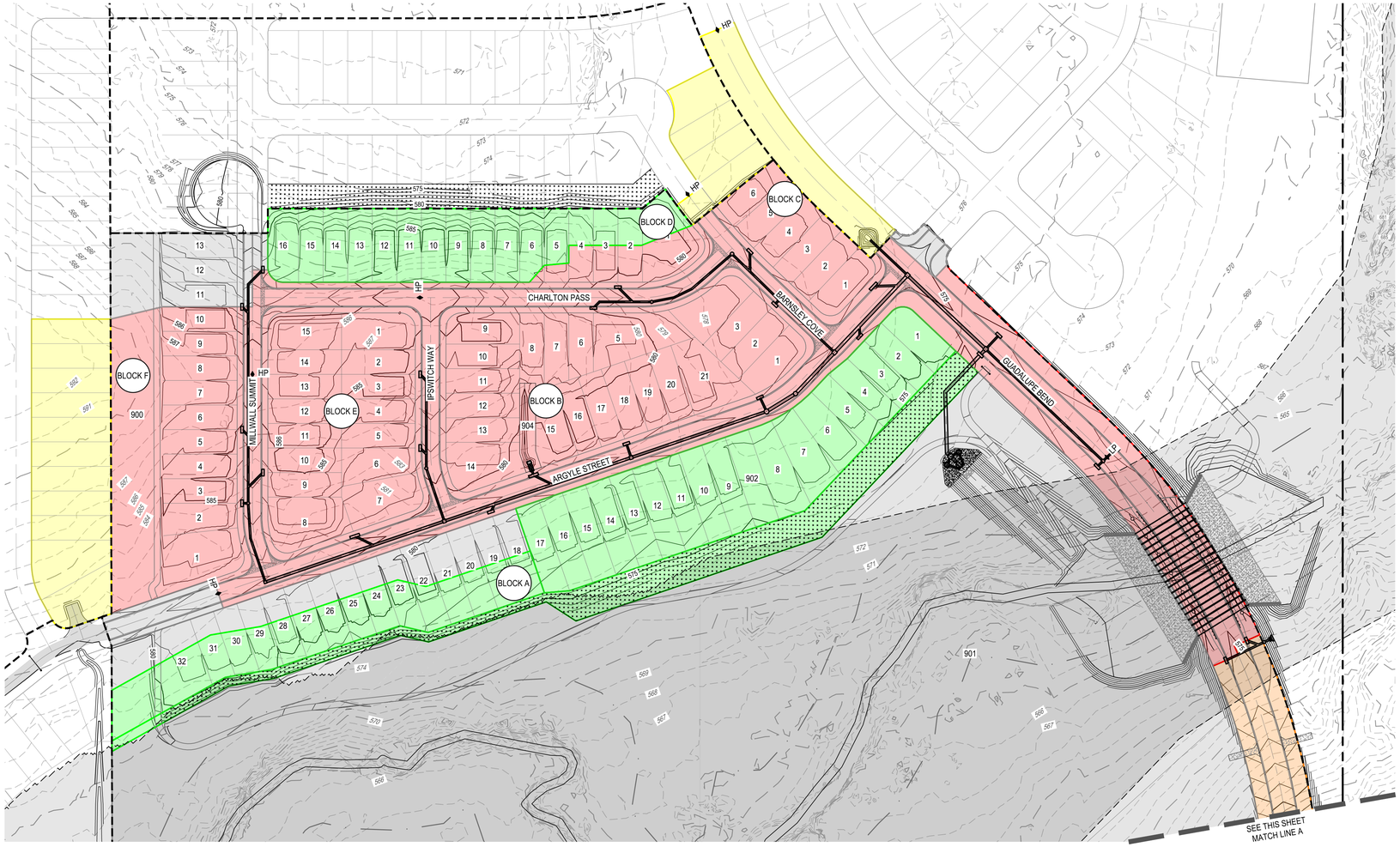
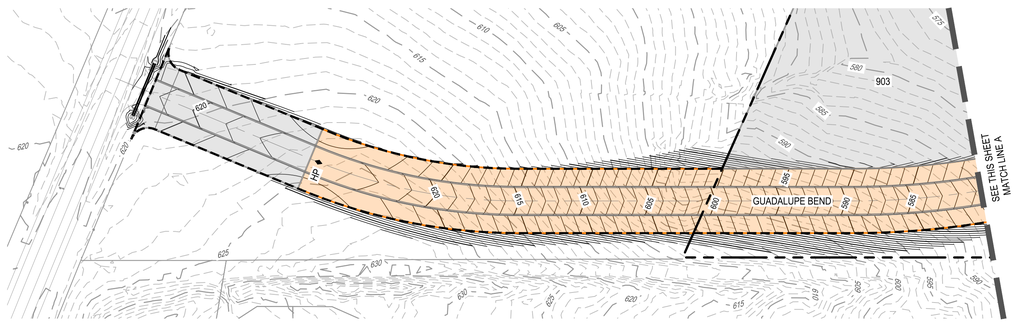
G:\TX\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C04.01 DETAILED LOT GRADING PLAN.dwg Layout: DETAILED GRADING PLAN SHEET 2 OF 2 Plotted: 3/22/2024 10:18:28 AM By: Lhuck





LEGEND

- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- 681 PROPOSED 1' CONTOUR
- 685 PROPOSED 5' CONTOUR
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- FILTER STRIP
- PHASE 1 FLOW TO BARRACUDAS 1 & 2
- PHASE 1 FLOW TO BARRACUDA 3
- FLOW TREATED BY VEGETATED FILTER STRIPS
- FLOW FROM FUTURE PHASES TO BARRACUDAS
- PHASE 1 UNCAPTURED FLOW

REV	DESCRIPTION	DATE	APR

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

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GUADALUPE BEND PHASE 1

BMP PLAN

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G:\TXC\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C04.10 BMP PLAN.dwg Layout: BMP PLAN Plotted: 3/22/2024 10:19:11 AM By: Lhuck

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Guadalupe Bend
Date Prepared: 8/24/2023

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 0.7 \times 0.226(170 \times 0.9\text{-}80 \times 0.03) \times (A_N \times P) = 23.8(A_N \times P)$

where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 70% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Guadalupe	
Total project area included in plan * =	48.51	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	14.48	acres
Total post-development impervious cover fraction * =	0.30	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	11373	lbs.

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = PH1 BRCDA 1&2

Total drainage basin/outfall area =	15.91	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	8.37	acres
Post-development impervious fraction within drainage basin/outfall area =	0.53	
$L_{M\ THIS\ BASIN}$ =	6574	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	Barracuda	
Removal efficiency =	80	percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	15.91	acres
A_I =	8.37	acres
A_P =	7.54	acres
L_R =	7753	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ =	7715	lbs.
F =	1.00	

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Guadalupe Bend
Date Prepared: 8/24/2023

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where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 70% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Guadalupe	
Total project area included in plan * =	48.51	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	14.48	acres
Total post-development impervious cover fraction * =	0.30	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	11373	lbs.

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = PH1 BRCDA 3

Total drainage basin/outfall area =	2.53	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	1.48	acres
Post-development impervious fraction within drainage basin/outfall area =	0.58	
$L_{M\ THIS\ BASIN}$ =	1162	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	Barracuda	
Removal efficiency =	80	percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	2.53	acres
A_I =	1.48	acres
A_P =	1.05	acres
L_R =	1367	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ =	1361	lbs.
F =	1.00	

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Guadalupe Bend
Date Prepared: 7/19/2023

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
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where:
$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 70% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Guadalupe	
Total project area included in plan * =	48.51	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	14.48	acres
Total post-development impervious cover fraction * =	0.30	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	11373	lbs.

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = VFS 1 PERM

Total drainage basin/outfall area =	4.91	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	2.02	acres
Post-development impervious fraction within drainage basin/outfall area =	0.41	
$L_{M\ THIS\ BASIN}$ =	1587	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	Vegetated Filter Strips	
Removal efficiency =	85	percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:
A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	4.91	acres
A_I =	2.02	acres
A_P =	2.89	acres
L_R =	2004	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ =	1995	lbs.
F =	1.00	

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							APR
							DATE
							DESCRIPTION
◁	◁	◁	◁	◁	◁		REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
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TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

BMP CALCULATIONS (SHEET 1 OF 2)

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SHEET
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G:\TX\C\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C04.10 BMP PLAN.dwg Layout: BMP CALCULATIONS (SHEET 1 OF 2) Plotted: 3/22/2024 10:19:12 AM By: Lhuck

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Guadalupe Bend
Date Prepared: 7/19/2023

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
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Page 3-29 Equation 3.3: $L_M = 0.7 \times 0.226(170 \times 0.9\text{-}80 \times 0.03) \times (A_N \times P) = 23.8(A_N \times P)$

where:
- $L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 70% of increased load
- A_N = Net increase in impervious area for the project
- P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Guadalupe	
Total project area included in plan * =	48.51	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	14.48	acres
Total post-development impervious cover fraction * =	0.30	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	11373	lbs.

* **The values entered in these fields should be for the total project area.**

Number of drainage basins / outfalls areas leavng the plan area = 1

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = VFS 2 TEMP

Total drainage basin/outfall area =	1.57	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	1.12	acres
Post-development impervious fraction within drainage basin/outfall area =	0.71	
$L_{M\ THIS\ BASIN}$ =	880	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP =	Vegetated Filter Strips	
Removal efficiency =	85	percent

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (A_I \times 34.6 + A_P \times 0.54)$

where:
- A_C = Total On-Site drainage area in the BMP catchment area
- A_I = Impervious area proposed in the BMP catchment area
- A_P = Pervious area remaining in the BMP catchment area
- L_R = TSS Load removed from this catchment area by the proposed BMP

A_C =	1.57	acres
A_I =	1.12	acres
A_P =	0.45	acres
L_R =	1094	lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ =	1089	lbs.
F =	1.00	

G:\TXC\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C04.10 BMP PLAN.dwg Layout: BMP CALCULATIONS (SHEET 2 OF 2) Plotted: 3/22/2024 10:19:14 AM By: Lhuck

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DRAWN BY: SAR

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GUADALUPE BEND PHASE 1

BMP CALCULATIONS (SHEET 2 OF 2)

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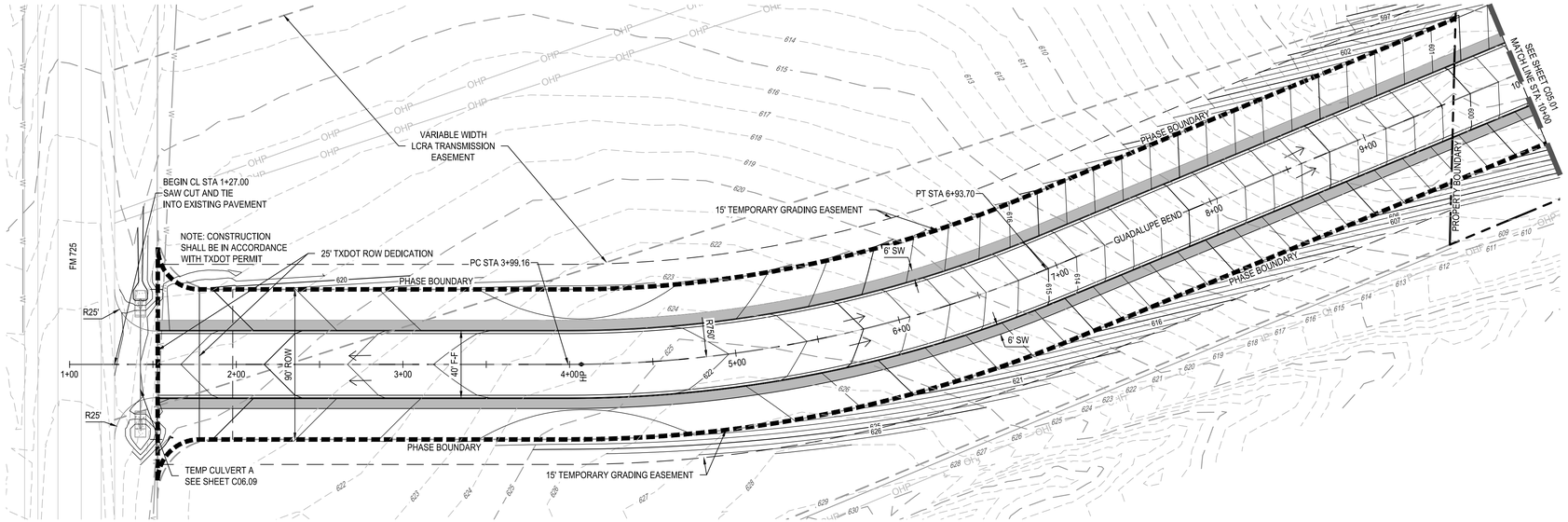
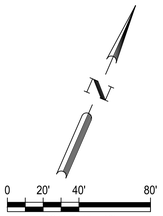


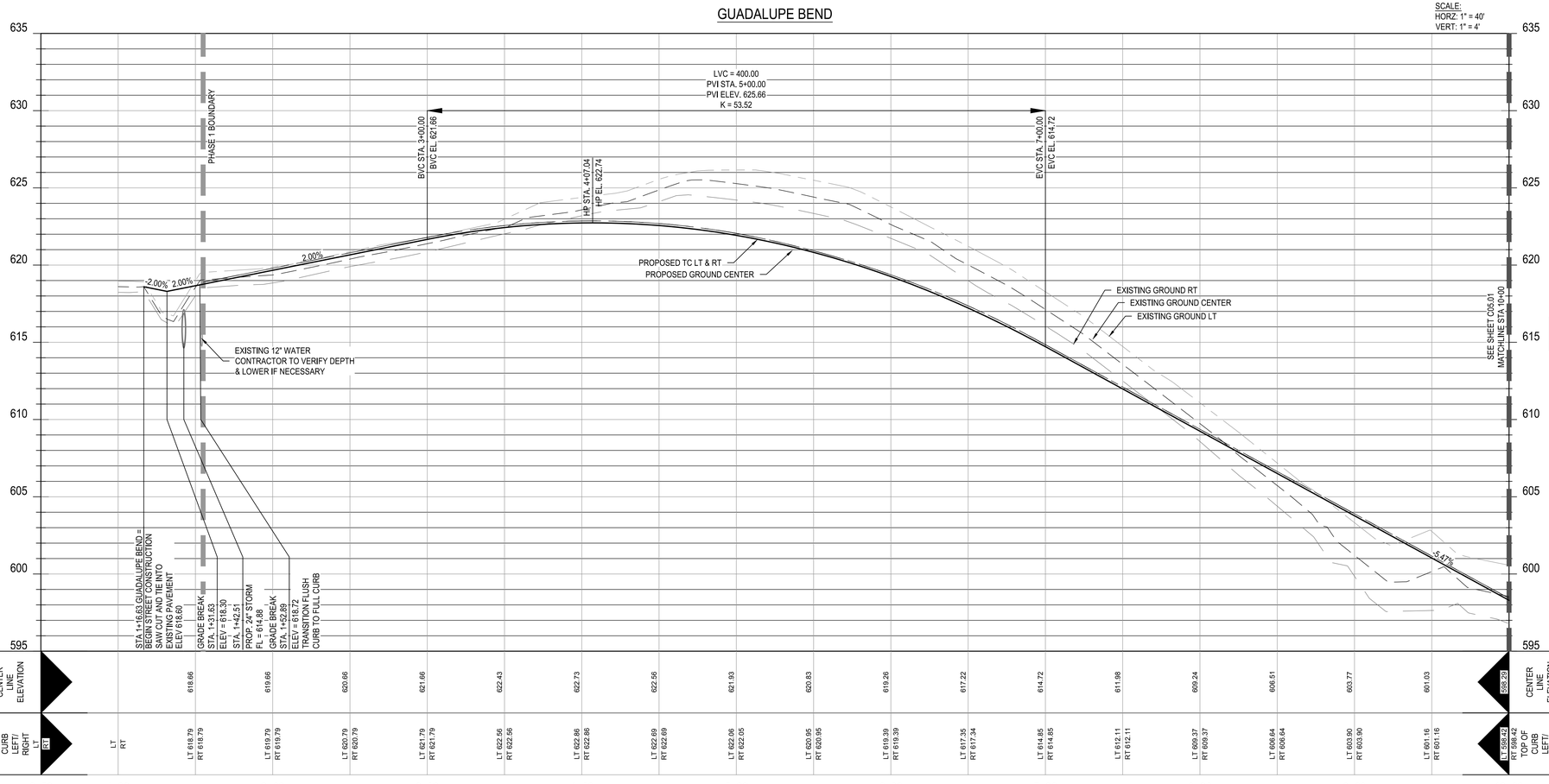


LEGEND

- ROAD CENTERLINE
- CURB & GUTTER
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- DIRECTION OF FLOW
- 10 — LOT NUMBERS
- CONTRACTOR SIDEWALK
- HOME BUILDER SIDEWALK
- RAMP (SEE SHEET C06.21 FOR DETAILS)
- CONCRETE VALLEY GUTTER
- RETAINING WALL
- LP/HP — LOW POINT / HIGH POINT
- EASEMENT
- RIPARIAN BUFFER
- SS — PROPOSED STORM DRAIN
- JURISDICTIONAL WATERS
- HANDRAIL
- GUARDRAIL
- 100 YEAR FEMA FLOODPLAIN

GUADALUPE BEND

SCALE:
HORZ: 1" = 40'
VERT: 1" = 4'



	0+50	1+00	2+00	3+00	4+00	5+00	6+00	7+00	8+00	9+00	10+00
CENTER LINE ELEVATION		618.66	619.66	620.66	621.66	622.43	622.73	622.56	621.93	620.83	619.26	617.22	614.72	611.98	609.24	606.51	603.77	601.03	598.29
TOP OF CURB LEFT/ RIGHT	LT RT	LT 618.79 RT 618.79	LT 619.79 RT 619.79	LT 620.79 RT 620.79	LT 621.79 RT 621.79	LT 622.56 RT 622.56	LT 622.86 RT 622.86	LT 622.69 RT 622.69	LT 622.06 RT 622.05	LT 620.95 RT 620.95	LT 619.39 RT 619.39	LT 617.35 RT 617.34	LT 614.85 RT 614.85	LT 612.11 RT 612.11	LT 609.37 RT 609.37	LT 606.64 RT 606.64	LT 603.90 RT 603.90	LT 601.16 RT 601.16	LT 598.42 RT 598.42

TRENCH EXCAVATION SAFETY PROTECTION

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

NOTE:
CONTRACTOR SHALL ENSURE THAT PROPOSED A.D.A. RAMPS AND ACCESSIBLE ROUTES ALONG ROAD CROSSING COMPLY WITH SPECIFICATIONS FOR BOTH RUNNING SLOPE AND CROSS SLOPE.

* CONTRACTOR TO FIELD VERIFY AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

DESIGN SPEED: 30 MPH

NOTES:

1. CONTRACTOR TO SEE DETAIL SHEET FOR TYPICAL ROAD CROSS-SECTIONS.
2. CONTRACTOR SHALL CLEAR AND GRUB THE ENTIRE STREET RIGHT OF WAY WITH THE EXCEPTION OF TREES TO REMAIN AND COORDINATE WITH OWNER AND ENGINEER TO SELECT CLEAR P.U.E. WHERE APPLICABLE FOR DRY UTILITY INSTALLATION.
3. CONTRACTOR TO GRADE OR REGRADE ALL AREAS WITHIN ROAD ROW INCLUDING DITCHES FOR POSITIVE DRAINAGE.
4. CONTRACTOR SHALL GRADE TO DRAIN AREAS UPSTREAM AND DOWNSTREAM OF ALL PROPOSED CHANNELS.
5. CONTRACTOR TO COORDINATE WITH DEVELOPER REGARDING TREE WELLS TO ENSURE TREES TO REMAIN ARE SAVED. CONTRACTOR TO REFERENCE LANDSCAPE PLANS FOR TREE WELL FINISHES.
6. CONTRACTOR SHALL HYDROMULCH OR WOODMULCH ALL DISTURBED AREAS, INCLUDING RIGHT-OF-WAY, STEEP SLOPES, DRAINAGE DITCHES WHERE SOIL SUBGRADE IS ENCOUNTERED. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SUFFICIENT WATERING IN HYDROMULCH AREAS TO ESTABLISH VEGETATION.
7. ALL TRAFFIC CONTROL DEVICES AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. ALL STRIPING TO BE THERMOPLASTIC.
8. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
9. SIDEWALKS ADJACENT TO SINGLE FAMILY LOTS ARE TO BE CONSTRUCTED CONCURRENTLY WITH EACH SINGLE FAMILY HOUSE BY THE HOME BUILDER.
10. FLOODPLAIN PERMIT SHOULD BE SECURED BEFORE CONSTRUCTION CAN BEGIN.

NOT FOR CONSTRUCTION

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1
GUADALUPE BEND STREET PLAN & PROFILE
STA 1+00 TO 10+00

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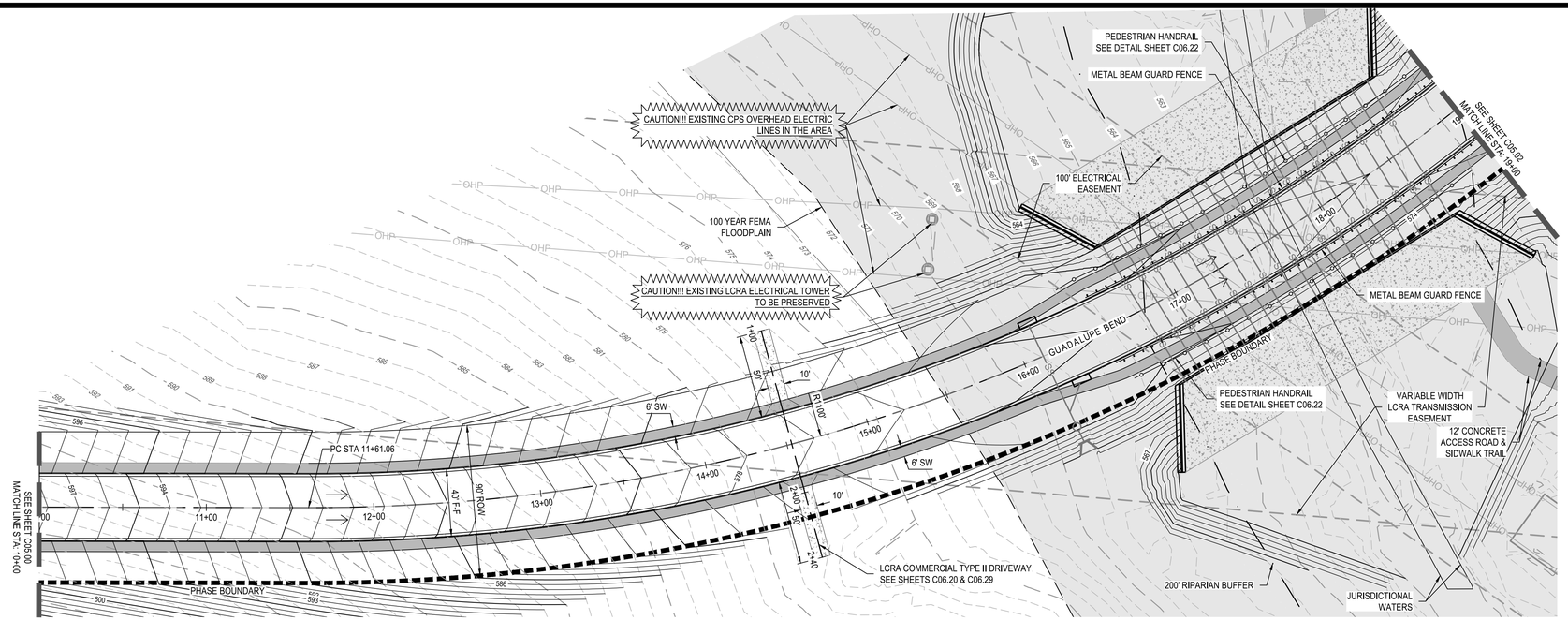
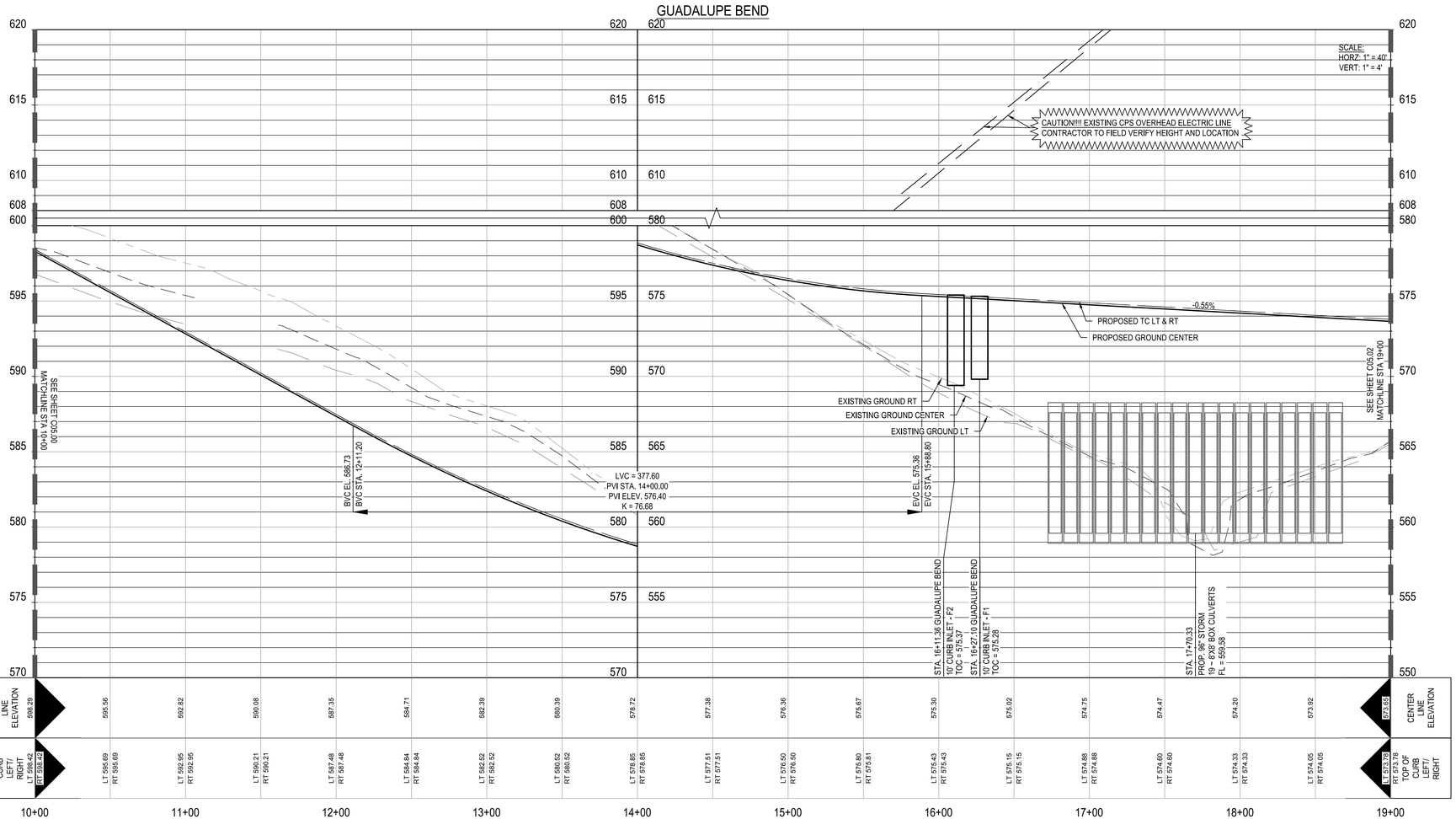
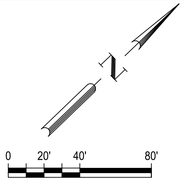
TBPE Registration No. F-1046

SHEET
C05.00

G:\TX\C\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C05.00 GUADALUPE BEND STREET PLAN AND PROFILE.dwg Layout: GUADALUPE BEND STREET PLAN & PROFILE STA 1+00 TO 10+00 Plotted: 3/22/2024 10:19:51 AM By: Lhuck







LEGEND

- ROAD CENTERLINE
- CURB & GUTTER
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- DIRECTION OF FLOW
- 10 — LOT NUMBERS
- CONTRACTOR SIDEWALK
- HOME BUILDER SIDEWALK
- RAMP (SEE SHEET C06.21 FOR DETAILS)
- CONCRETE VALLEY GUTTER
- RETAINING WALL
- LP/HP — LOW POINT / HIGH POINT
- EASEMENT
- RIPARIAN BUFFER
- SS — PROPOSED STORM DRAIN
- JURISDICTIONAL WATERS
- HANDRAIL
- GUARDRAIL
- 100 YEAR FEMA FLOODPLAIN

TRENCH EXCAVATION SAFETY PROTECTION

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

NOTE:
CONTRACTOR SHALL ENSURE THAT PROPOSED A.D.A. RAMPS AND ACCESSIBLE ROUTES ALONG ROAD CROSSING COMPLY WITH SPECIFICATIONS FOR BOTH RUNNING SLOPE AND CROSS SLOPE.

* CONTRACTOR TO FIELD VERIFY AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

DESIGN SPEED: 30 MPH

NOTES:

1. CONTRACTOR TO SEE DETAIL SHEET FOR TYPICAL ROAD CROSS-SECTIONS.
2. CONTRACTOR SHALL CLEAR AND GRUB THE ENTIRE STREET RIGHT OF WAY WITH THE EXCEPTION OF TREES TO REMAIN AND COORDINATE WITH OWNER AND ENGINEER TO SELECT CLEAR P.U.E. WHERE APPLICABLE FOR DRY UTILITY INSTALLATION.
3. CONTRACTOR TO GRADE OR REGRADE ALL AREAS WITHIN ROAD ROW INCLUDING DITCHES FOR POSITIVE DRAINAGE.
4. CONTRACTOR SHALL GRADE TO DRAIN AREAS UPSTREAM AND DOWNSTREAM OF ALL PROPOSED CHANNELS.
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6. CONTRACTOR SHALL HYDROMULCH OR WOODMULCH ALL DISTURBED AREAS, INCLUDING RIGHT-OF-WAY, STEEP SLOPES. DRAINAGE DITCHES WHERE SOIL SUBGRADE IS ENCOUNTERED. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SUFFICIENT WATERING IN HYDROMULCH AREAS TO ESTABLISH VEGETATION.
7. ALL TRAFFIC CONTROL DEVICES AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. ALL STRIPING TO BE THERMOPLASTIC.
8. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
9. SIDEWALKS ADJACENT TO SINGLE FAMILY LOTS ARE TO BE CONSTRUCTED CONCURRENTLY WITH EACH SINGLE FAMILY HOUSE BY THE HOME BUILDER.
10. FLOODPLAIN PERMIT SHOULD BE SECURED BEFORE CONSTRUCTION CAN BEGIN.

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

NOT FOR CONSTRUCTION

GUADALUPE BEND PHASE 1
GUADALUPE BEND STREET PLAN & PROFILE
STA 10+00 TO 19+00

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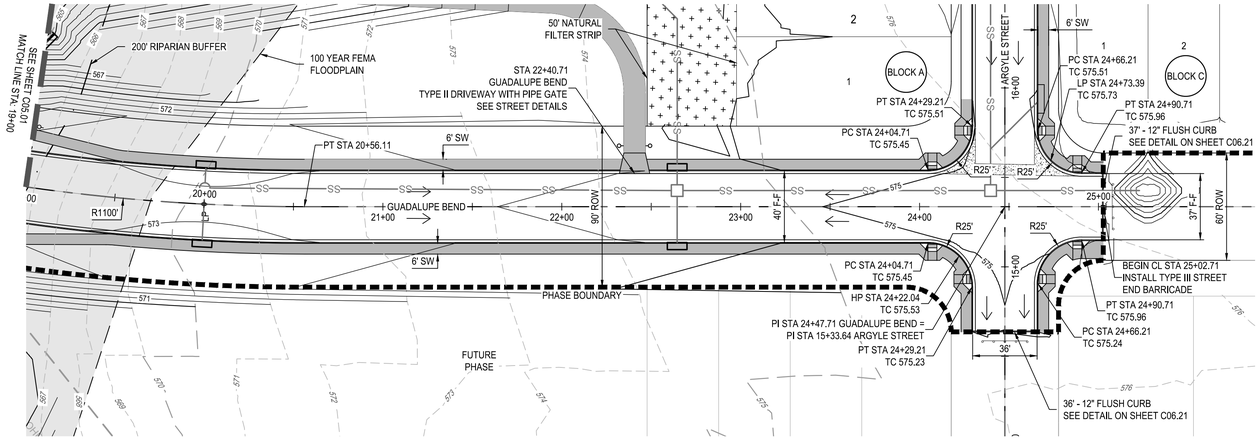
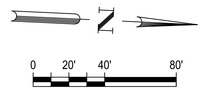
Texas Licensed Professional Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C05.01

G:\TX\CI\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C05.00 GUADALUPE BEND STREET PLAN AND PROFILE.dwg Layout: GUADALUPE BEND PHASE 1 STA 10+00 TO 19+00 Plotted: 3/22/2024 10:20:04 AM By: Lhuck





LEGEND

- ROAD CENTERLINE
- CURB & GUTTER
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
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- DIRECTION OF FLOW
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* CONTRACTOR TO FIELD VERIFY AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

DESIGN SPEED: 30 MPH

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2. CONTRACTOR SHALL CLEAR AND GRUB THE ENTIRE STREET RIGHT OF WAY WITH THE EXCEPTION OF TREES TO REMAIN AND COORDINATE WITH OWNER AND ENGINEER TO SELECT CLEAR P.U.E. WHERE APPLICABLE FOR DRY UTILITY INSTALLATION.
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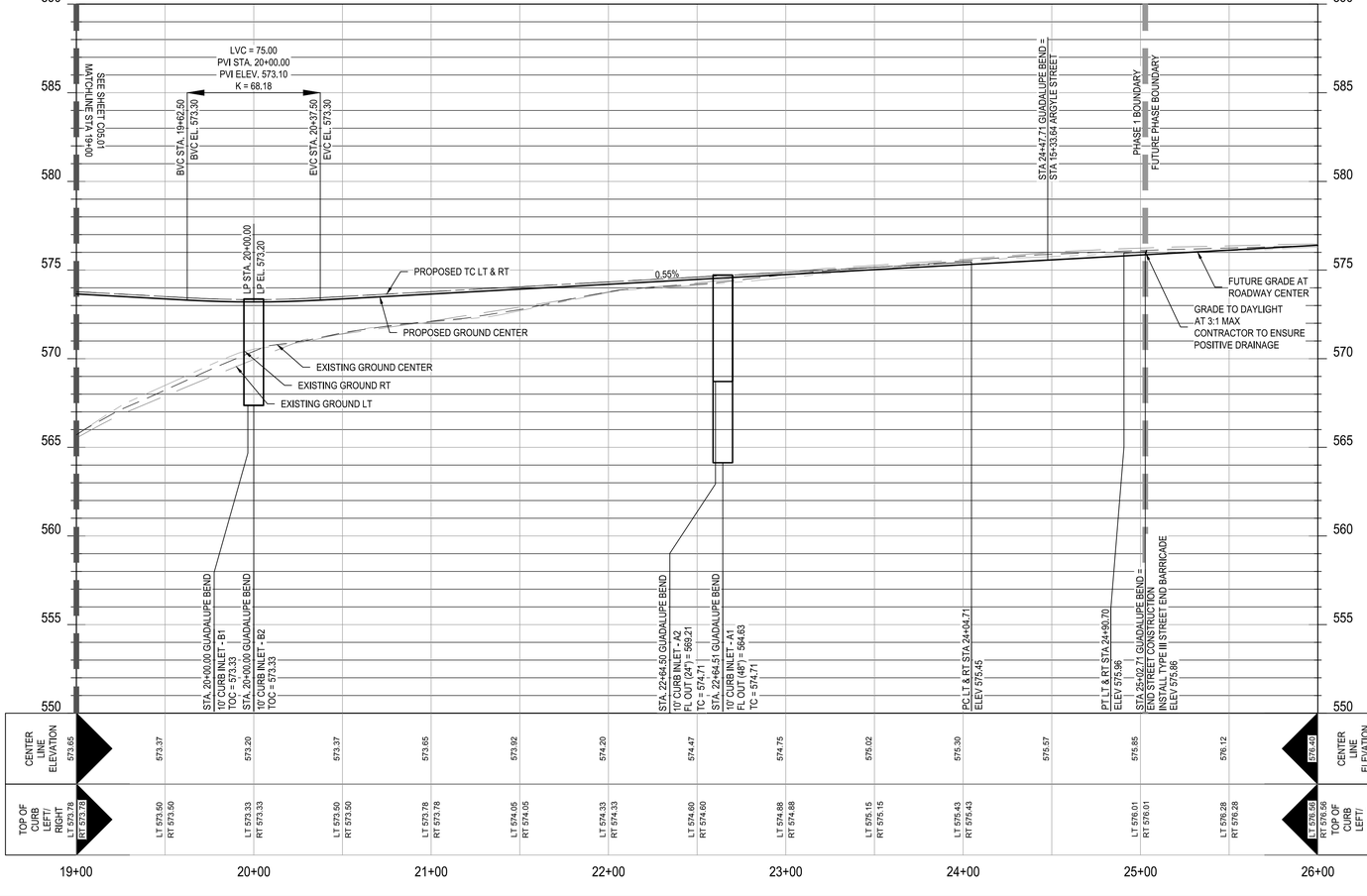
10. FLOODPLAIN PERMIT SHOULD BE SECURED BEFORE CONSTRUCTION CAN BEGIN.

NOT FOR CONSTRUCTION

GUADALUPE BEND

SCALE:
HORZ: 1" = 40'
VERT: 1" = 4'



							APR	
							DATE	
							DESCRIPTION	
◁	◁	◁	◁	◁	◁		REV	

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.browngay.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1
GUADALUPE BEND STREET PLAN & PROFILE
STA 19+00 TO END

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Engineer 146417
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BGE, Inc.
TBPE Registration No. F-1046

SHEET
C05.02

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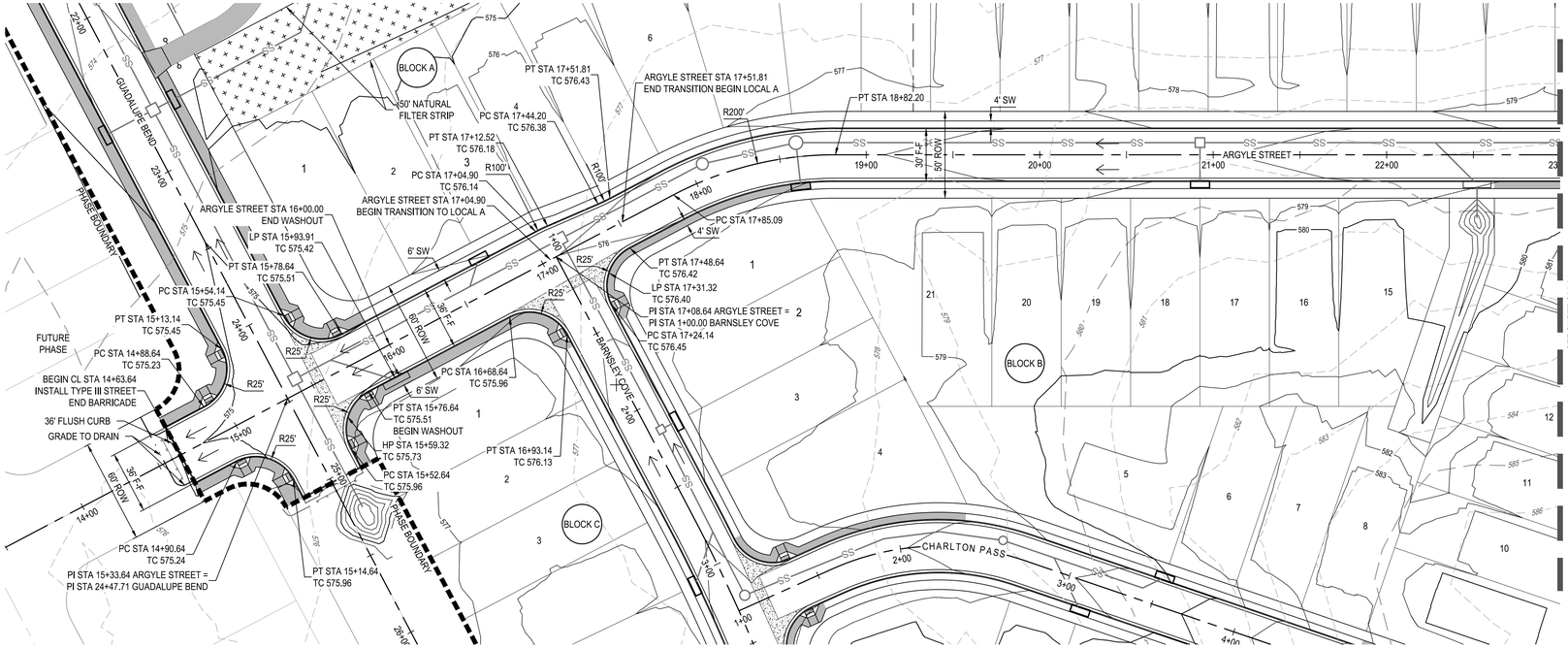

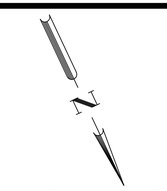

LEGEND

- ROAD CENTERLINE
- CURB & GUTTER
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- DIRECTION OF FLOW
- 10 — LOT NUMBERS
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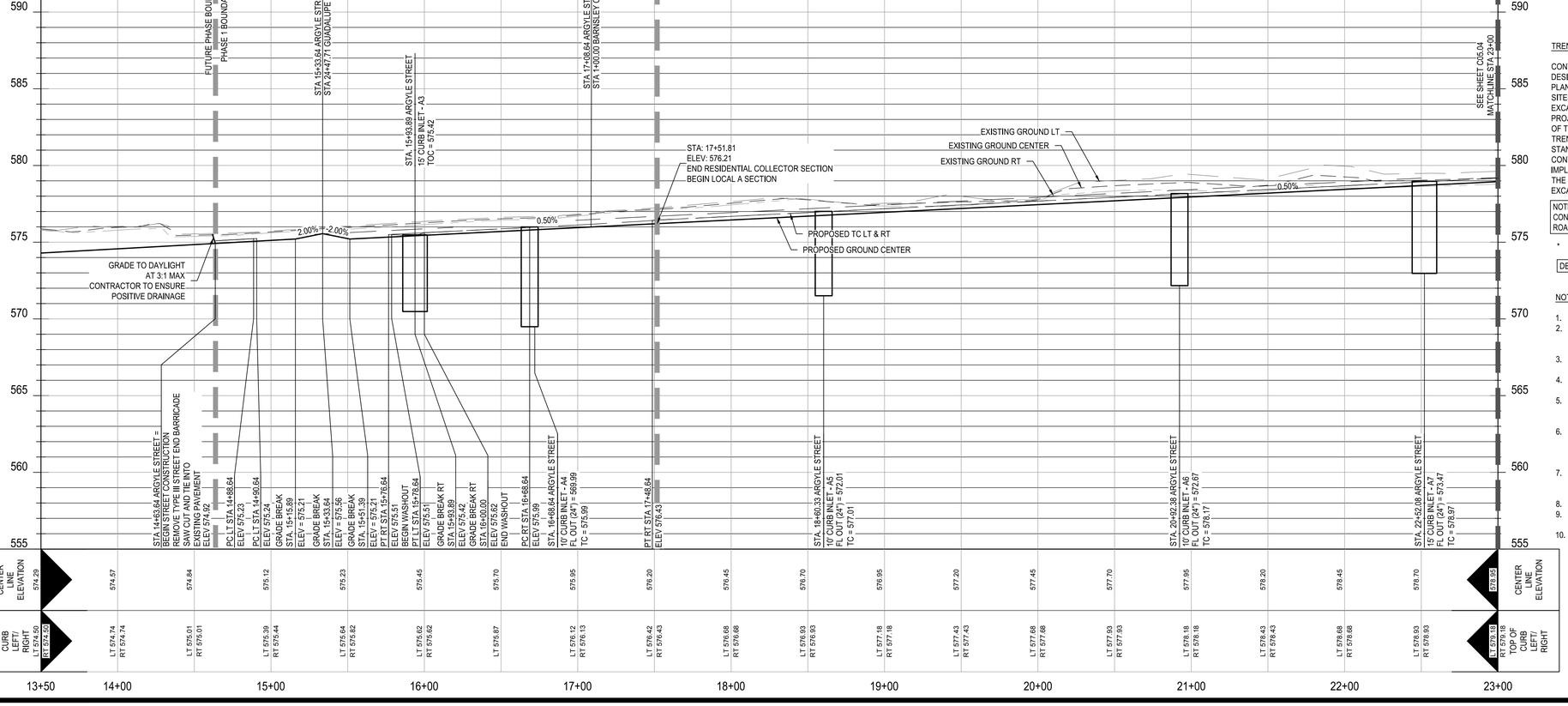
- GUARDRAIL
- 100 YEAR FEMA FLOODPLAIN



TRENCH EXCAVATION SAFETY PROTECTION

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* CONTRACTOR TO FIELD VERIFY AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

DESIGN SPEED: 20 MPH

NOTES:

1. CONTRACTOR TO SEE DETAIL SHEET FOR TYPICAL ROAD CROSS-SECTIONS.
2. CONTRACTOR SHALL CLEAR AND GRUB THE ENTIRE STREET RIGHT OF WAY WITH THE EXCEPTION OF TREES TO REMAIN AND COORDINATE WITH OWNER AND ENGINEER TO SELECT CLEAR P.U.E. WHERE APPLICABLE FOR DRY UTILITY INSTALLATION.
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8. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
9. SIDEWALKS ADJACENT TO SINGLE FAMILY LOTS ARE TO BE CONSTRUCTED CONCURRENTLY WITH EACH SINGLE FAMILY HOUSE BY THE HOME BUILDER.
10. FLOODPLAIN PERMIT SHOULD BE SECURED BEFORE CONSTRUCTION CAN BEGIN.

NOT FOR CONSTRUCTION

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

ARGYLE STREET PLAN & PROFILE
STA 14+63 TO 23+00

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Texas Licensed Professional Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C05.03

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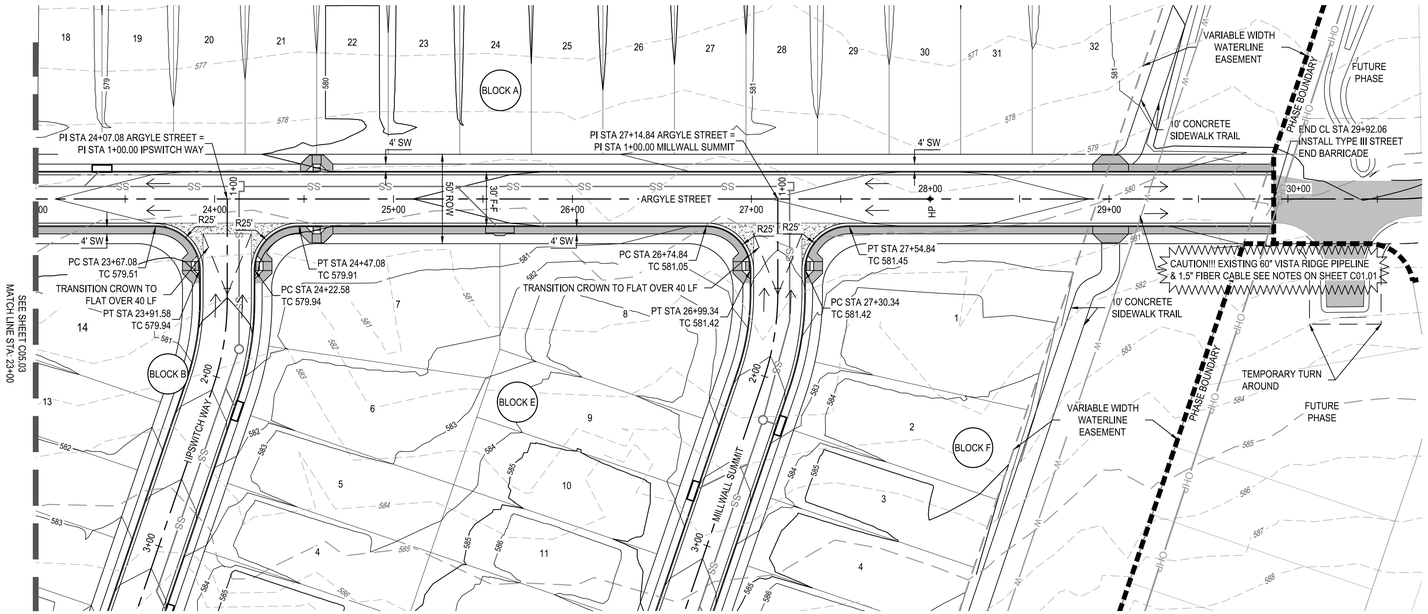

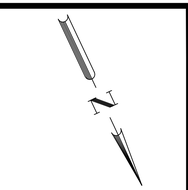

LEGEND

- ROAD CENTERLINE
- CURB & GUTTER
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- DIRECTION OF FLOW
- LOT NUMBERS
- CONTRACTOR SIDEWALK
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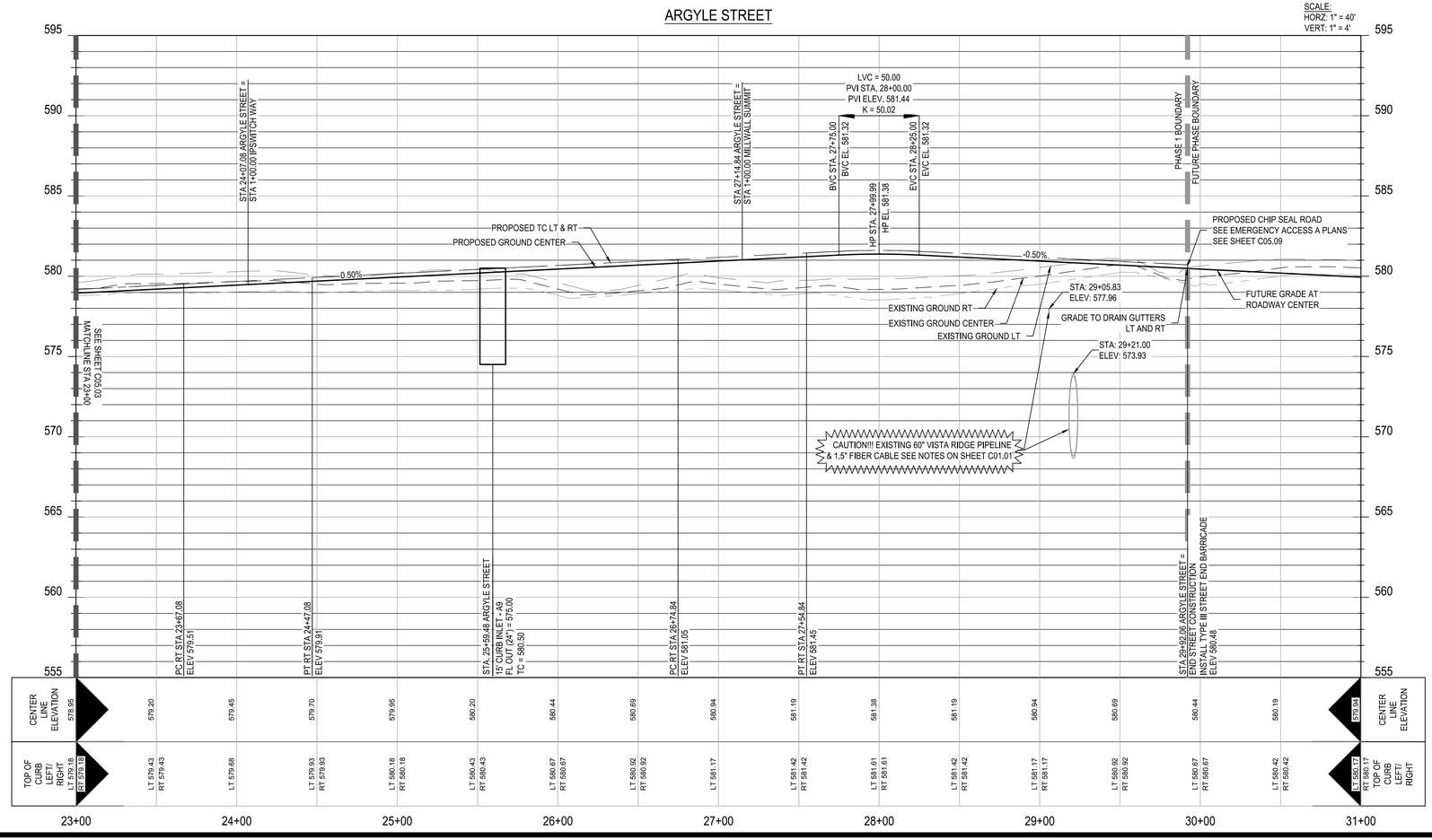
- SS — PROPOSED STORM DRAIN
- JURISDICTIONAL WATERS
- HANDRAIL
- GUARDRAIL
- 100 YEAR FEMA FLOODPLAIN

ARGYLE STREET

SCALE:
HORZ: 1" = 40'
VERT: 1" = 4'



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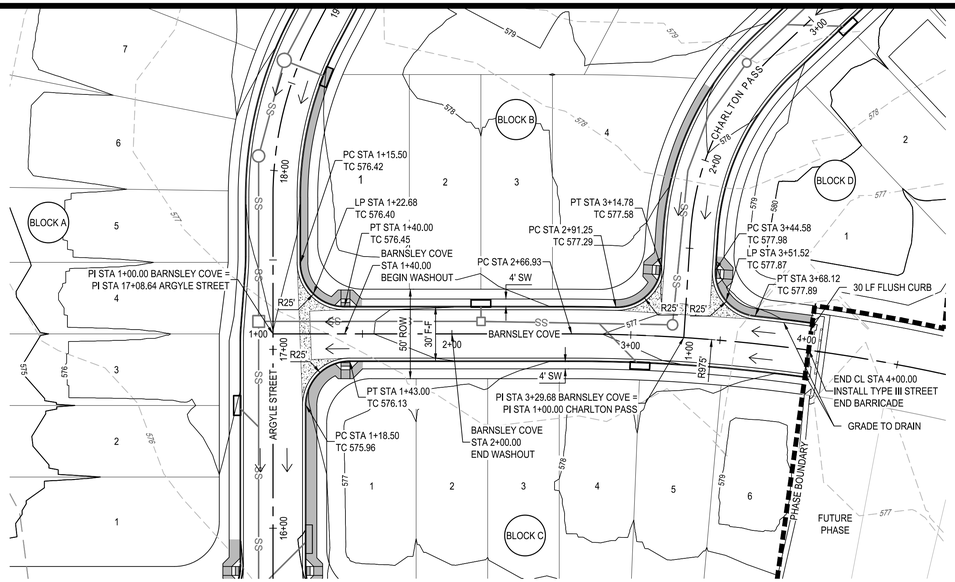

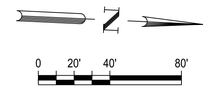

LEGEND

- ROAD CENTERLINE
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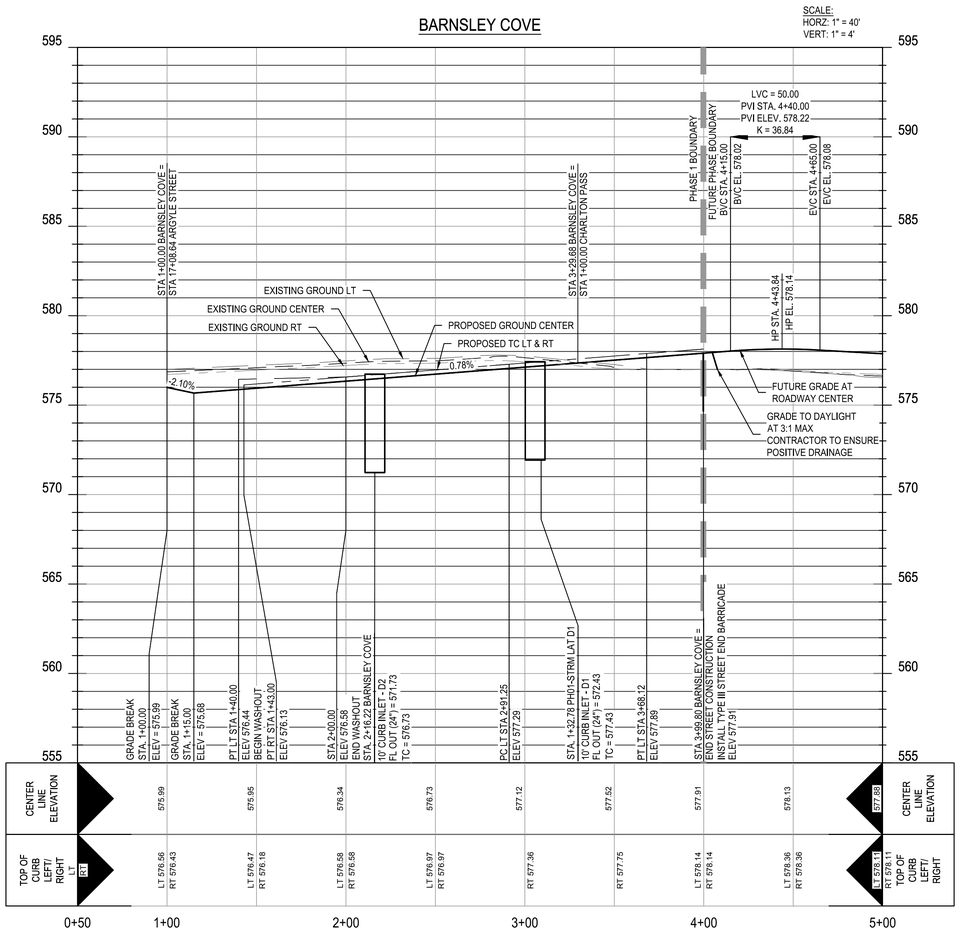

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NOT FOR CONSTRUCTION

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DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

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7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

BARNSLEY COVE PLAN & PROFILE

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SHEET
C05.05

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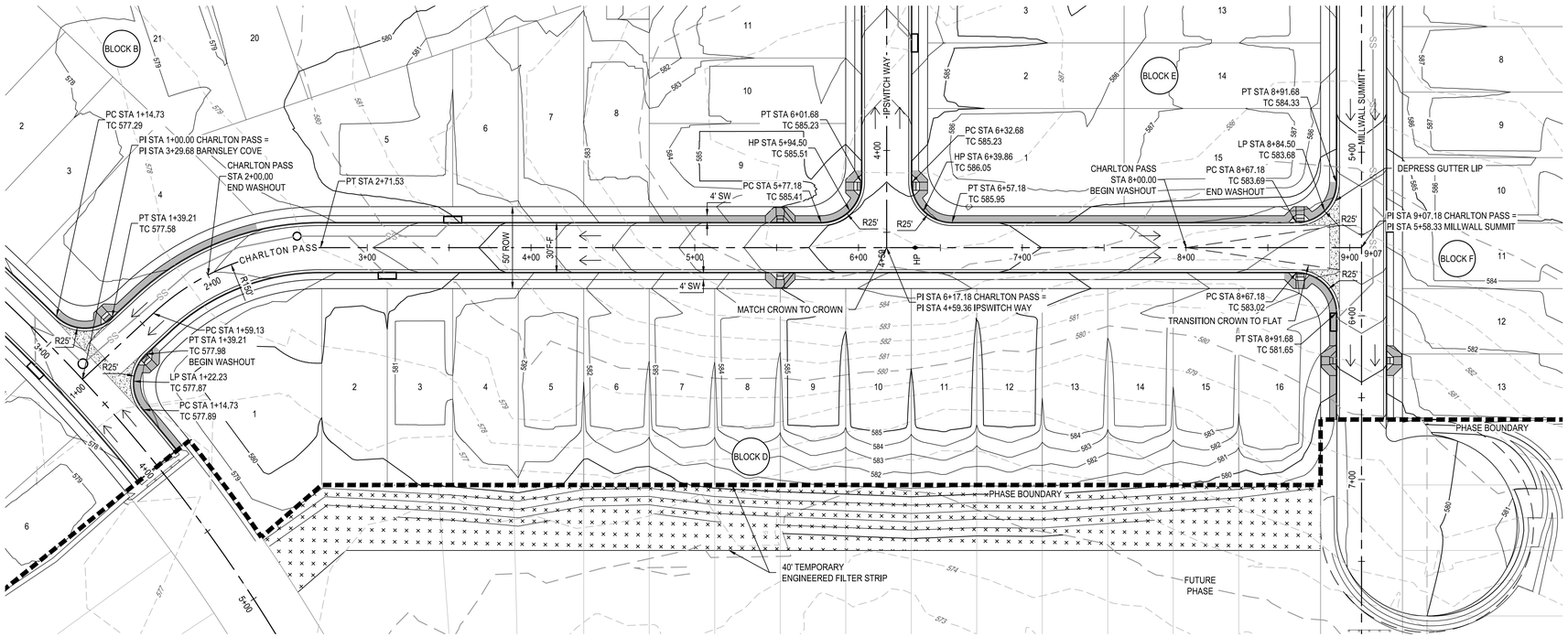

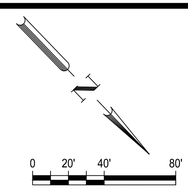

LEGEND

- ROAD CENTERLINE
- CURB & GUTTER
- UNIT BOUNDARY
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- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
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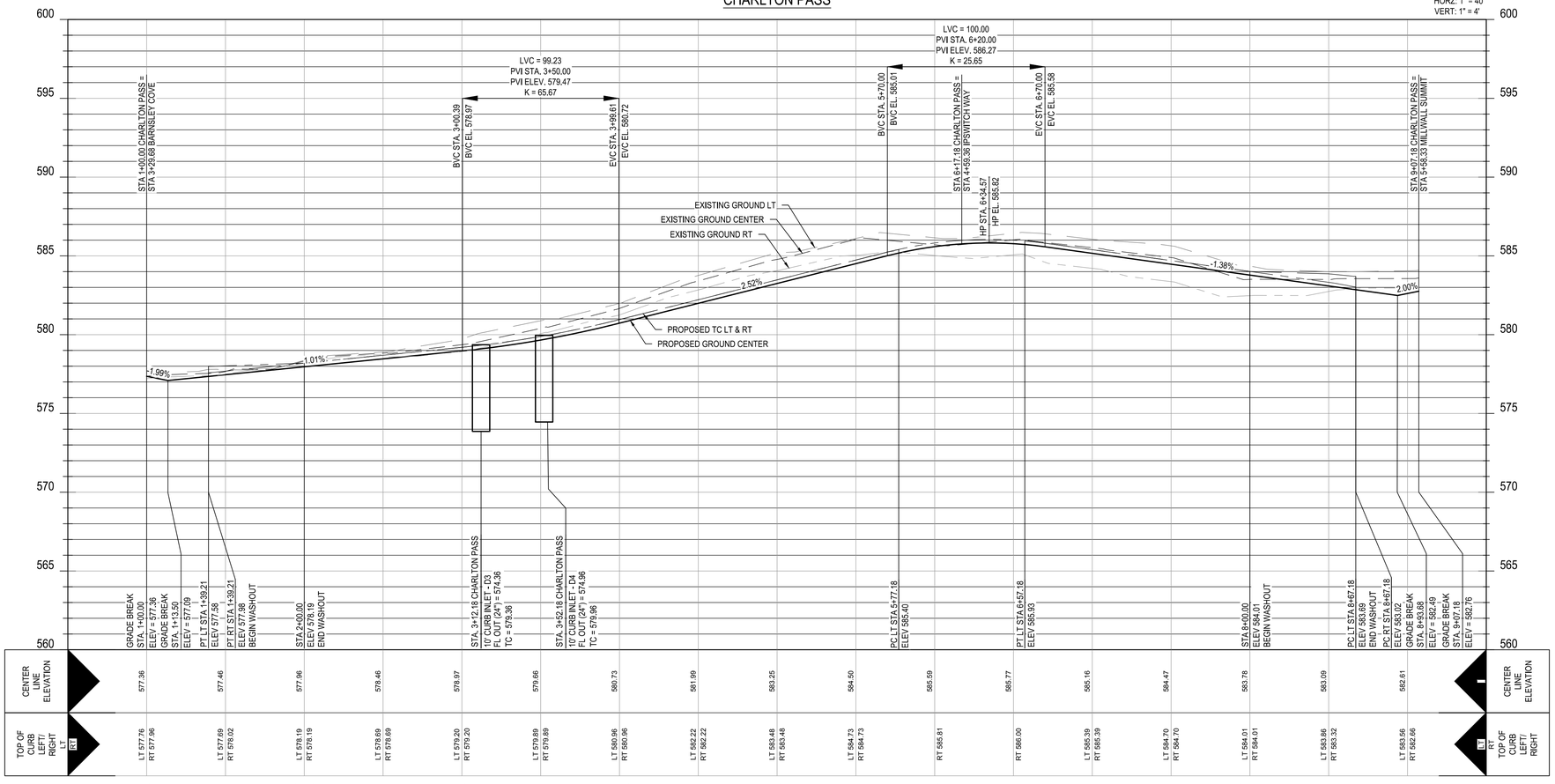
- HANDRAIL
- GUARDRAIL
- 100 YEAR FEMA FLOODPLAIN

CHARLTON PASS

SCALE:
HORZ: 1" = 40'
VERT: 1" = 4'



TRENCH EXCAVATION SAFETY PROTECTION

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

NOTE:
CONTRACTOR SHALL ENSURE THAT PROPOSED A.D.A. RAMPS AND ACCESSIBLE ROUTES ALONG ROAD CROSSING COMPLY WITH SPECIFICATIONS FOR BOTH RUNNING SLOPE AND CROSS SLOPE.

* CONTRACTOR TO FIELD VERIFY AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

DESIGN SPEED: 20 MPH

NOTES:

1. CONTRACTOR TO SEE DETAIL SHEET FOR TYPICAL ROAD CROSS-SECTIONS.
2. CONTRACTOR SHALL CLEAR AND GRUB THE ENTIRE STREET RIGHT OF WAY WITH THE EXCEPTION OF TREES TO REMAIN AND COORDINATE WITH OWNER AND ENGINEER TO SELECT CLEAR P.U.E. WHERE APPLICABLE FOR DRY UTILITY INSTALLATION.
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7. ALL TRAFFIC CONTROL DEVICES AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. ALL STRIPING TO BE THERMOPLASTIC.
8. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
9. SIDEWALKS ADJACENT TO SINGLE FAMILY LOTS ARE TO BE CONSTRUCTED CONCURRENTLY WITH EACH SINGLE FAMILY HOUSE BY THE HOME BUILDER.
10. FLOODPLAIN PERMIT SHOULD BE SECURED BEFORE CONSTRUCTION CAN BEGIN.

NOT FOR CONSTRUCTION

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE
BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

CHARLTON PASS PLAN & PROFILE

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SHEET
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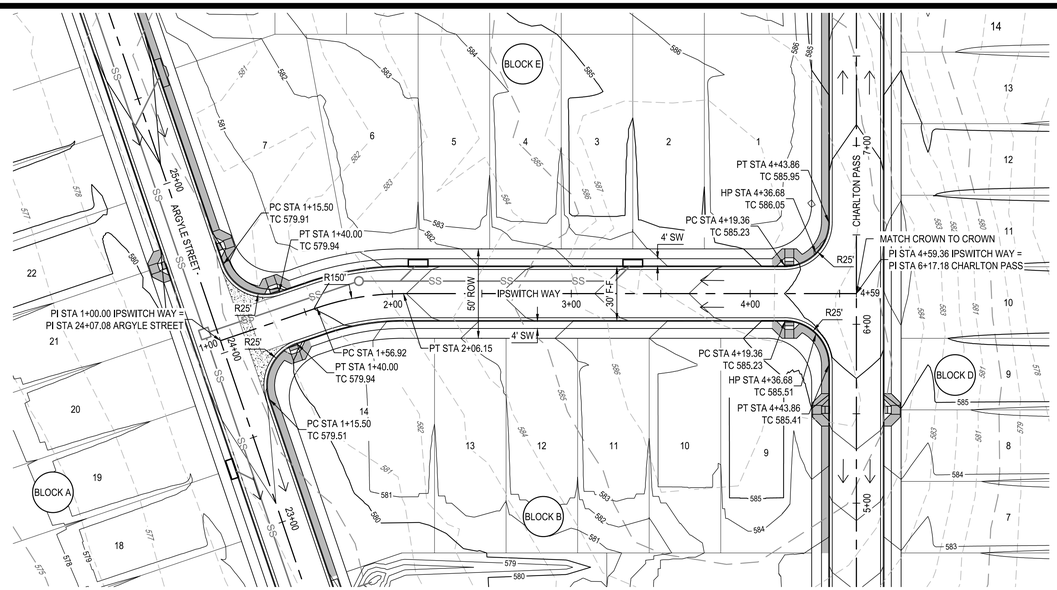
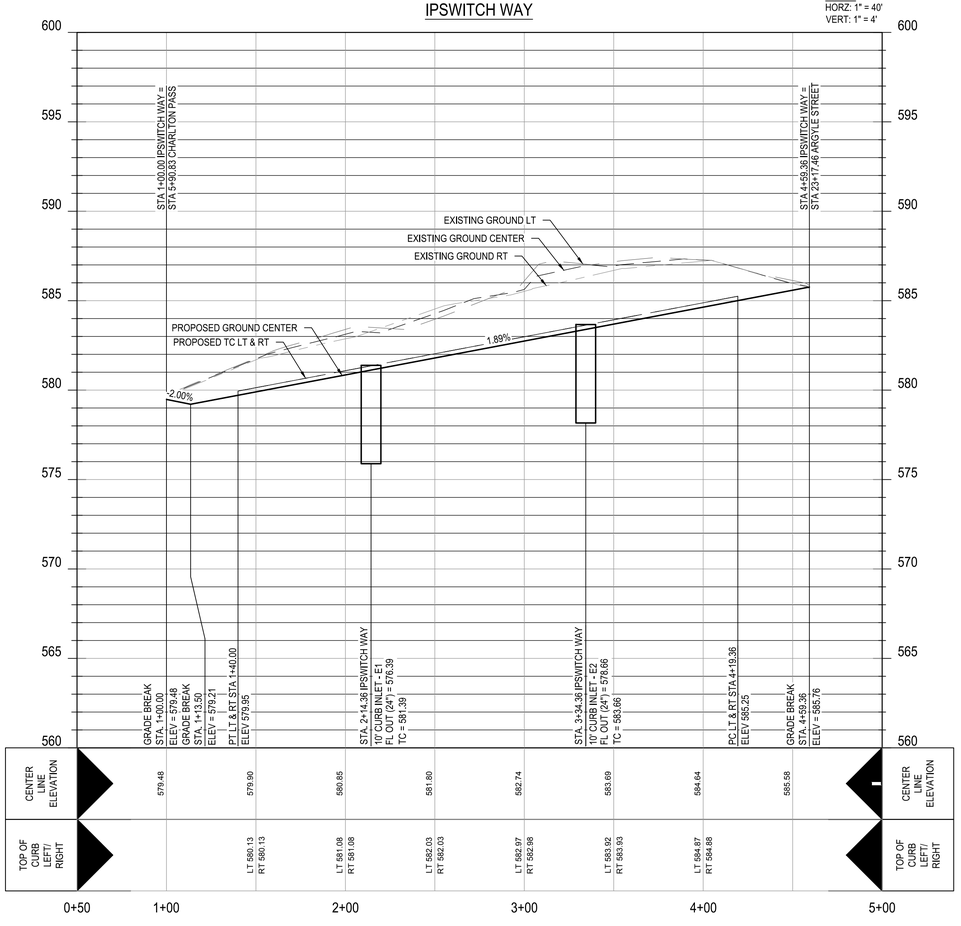
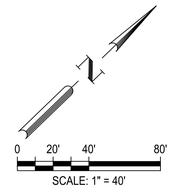
G:\TX\C\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C05.06 CHARLTON PASS PLAN AND PROFILE.dwg Layout: CHARLTON PASS PLAN & PROFILE Plotted: 3/22/2024 10:21:45 AM By: Lhuck







LEGEND

- ROAD CENTERLINE
- CURB & GUTTER
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- 681 EXISTING 1' CONTOUR
- 685 EXISTING 5' CONTOUR
- 681 PROPOSED 1' CONTOUR
- 685 PROPOSED 5' CONTOUR
- DIRECTION OF FLOW
- 10 LOT NUMBERS
- CONTRACTOR SIDEWALK
- HOME BUILDER SIDEWALK
- RAMP (SEE SHEET C06.21 FOR DETAILS)
- CONCRETE VALLEY GUTTER
- RETAINING WALL
- LP/HP LOW POINT / HIGH POINT
- EASEMENT
- RIPARIAN BUFFER
- SS PROPOSED STORM DRAIN
- JURISDICTIONAL WATERS
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DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.browngay.com
TBPE Registration No. F-1046

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GUADALUPE BEND PHASE 1

IPSWITCH WAY PLAN & PROFILE

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Texas Licensed Professional
Engineer 146417
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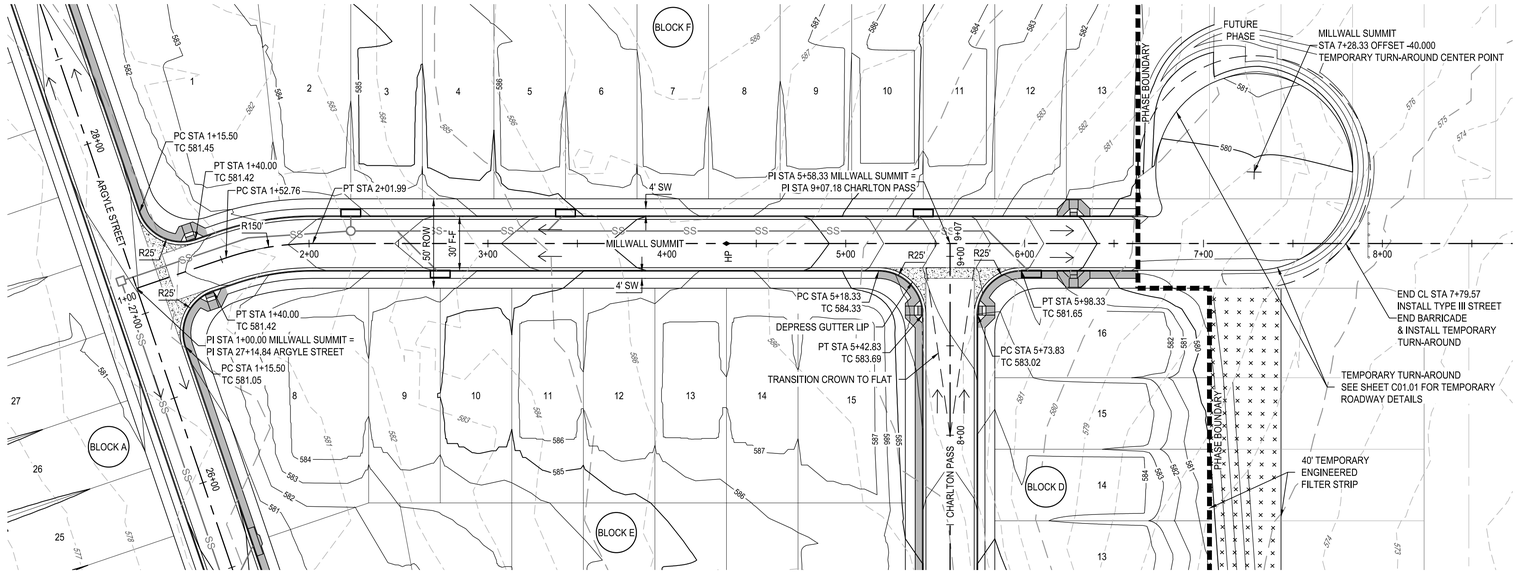

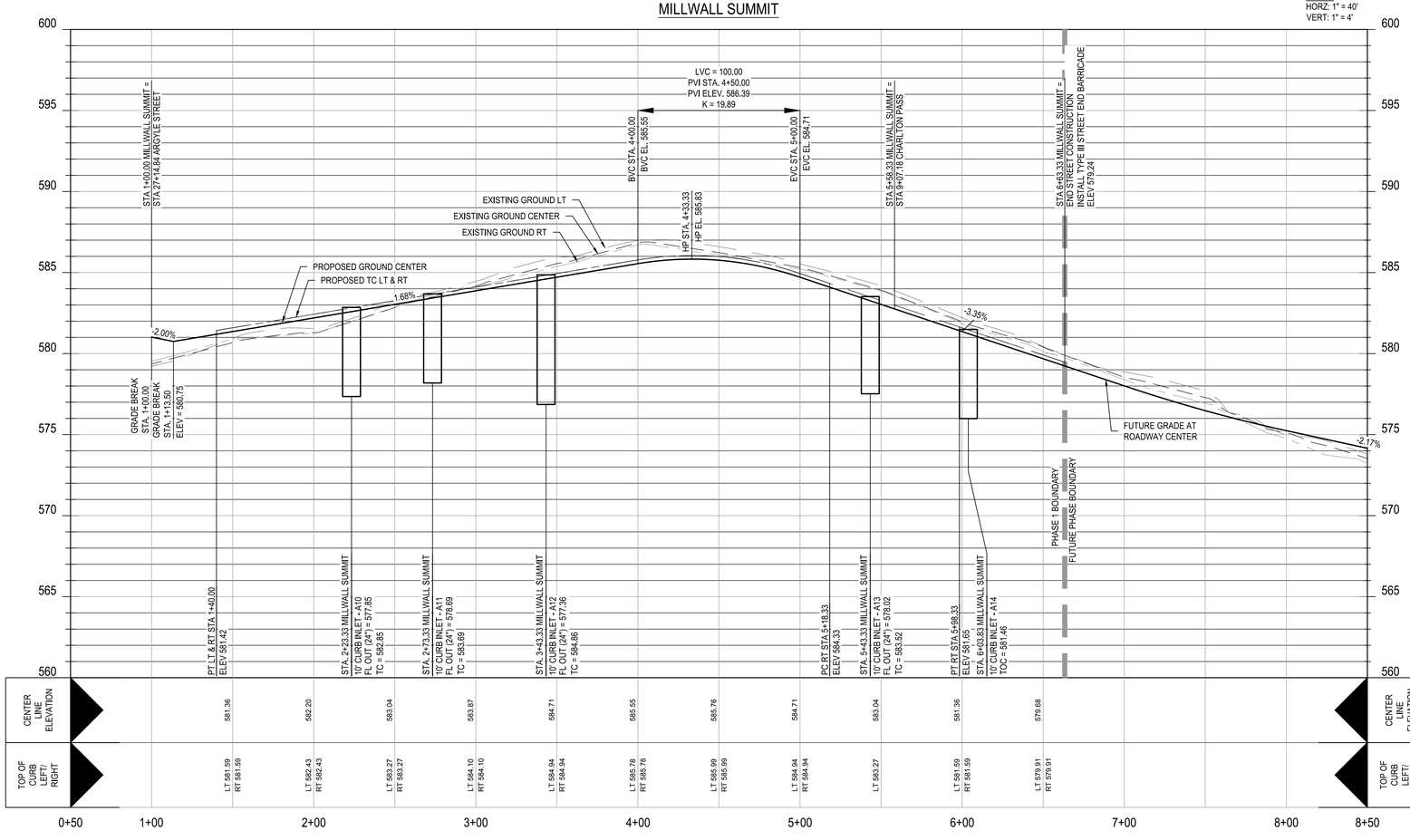

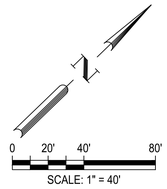

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NOT FOR CONSTRUCTION

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.browngay.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

MILLWALL SUMMIT PLAN & PROFILE

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Texas Licensed Professional Engineer 146417
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BGE, Inc.
TBPE Registration No. F-1046

SHEET
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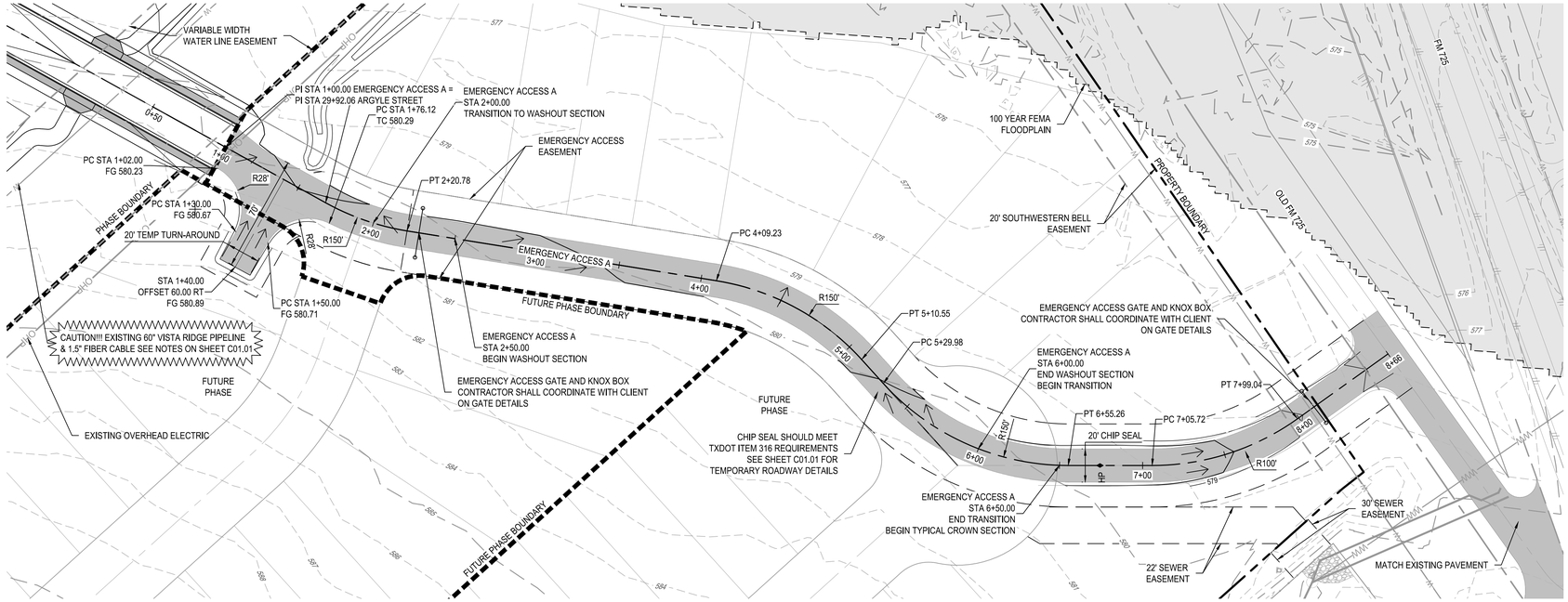
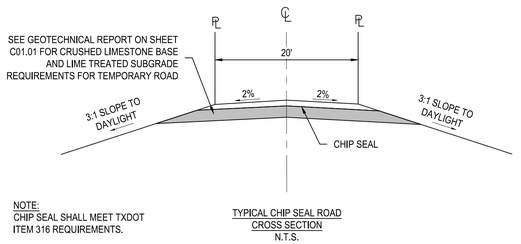
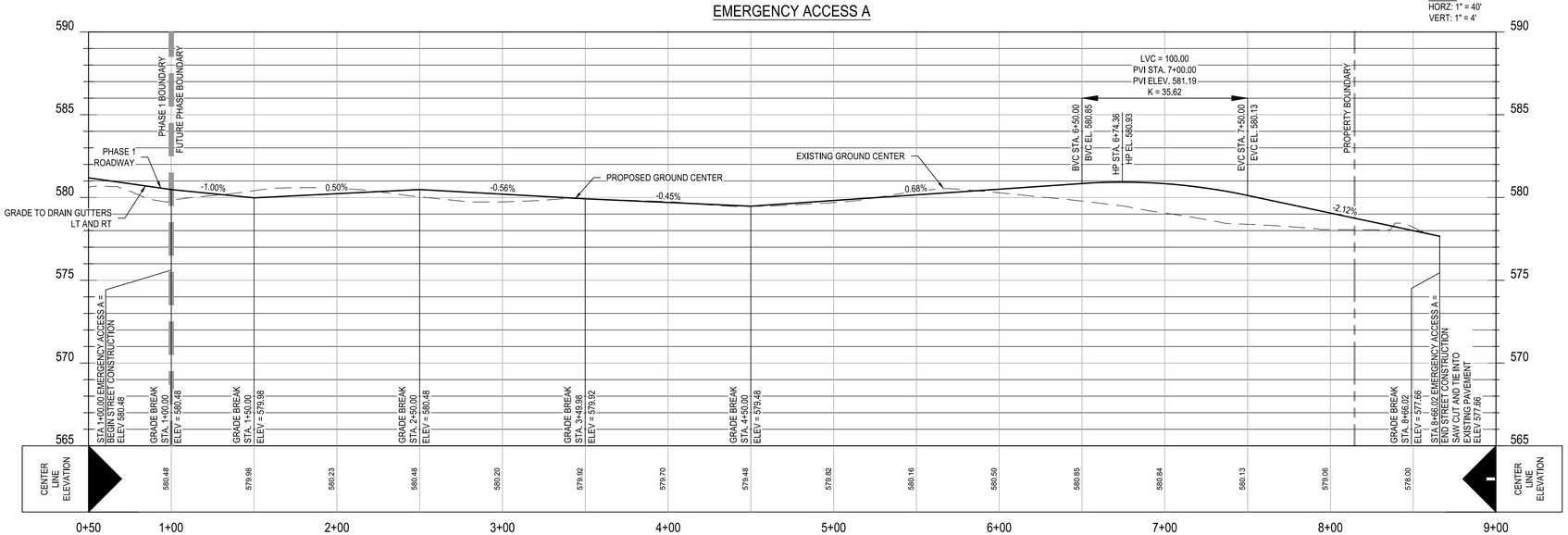
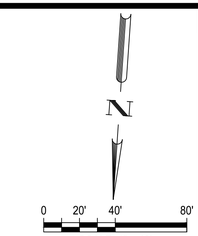




NOTE:
CHIP SEAL SHALL MEET TXDOT
ITEM 316 REQUIREMENTS.

TYPICAL CHIP SEAL ROAD
CROSS SECTION
N.T.S.





LEGEND

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- 681 EXISTING 1' CONTOUR
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- CHIP SEAL ROAD

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NOT FOR CONSTRUCTION

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◁ ◁ ◁ ◁ ◁ ◁	REV
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GUADALUPE BEND PHASE 1

EMERGENCY ACCESS A PLAN & PROFILE

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Texas Licensed Professional
Engineer 146417
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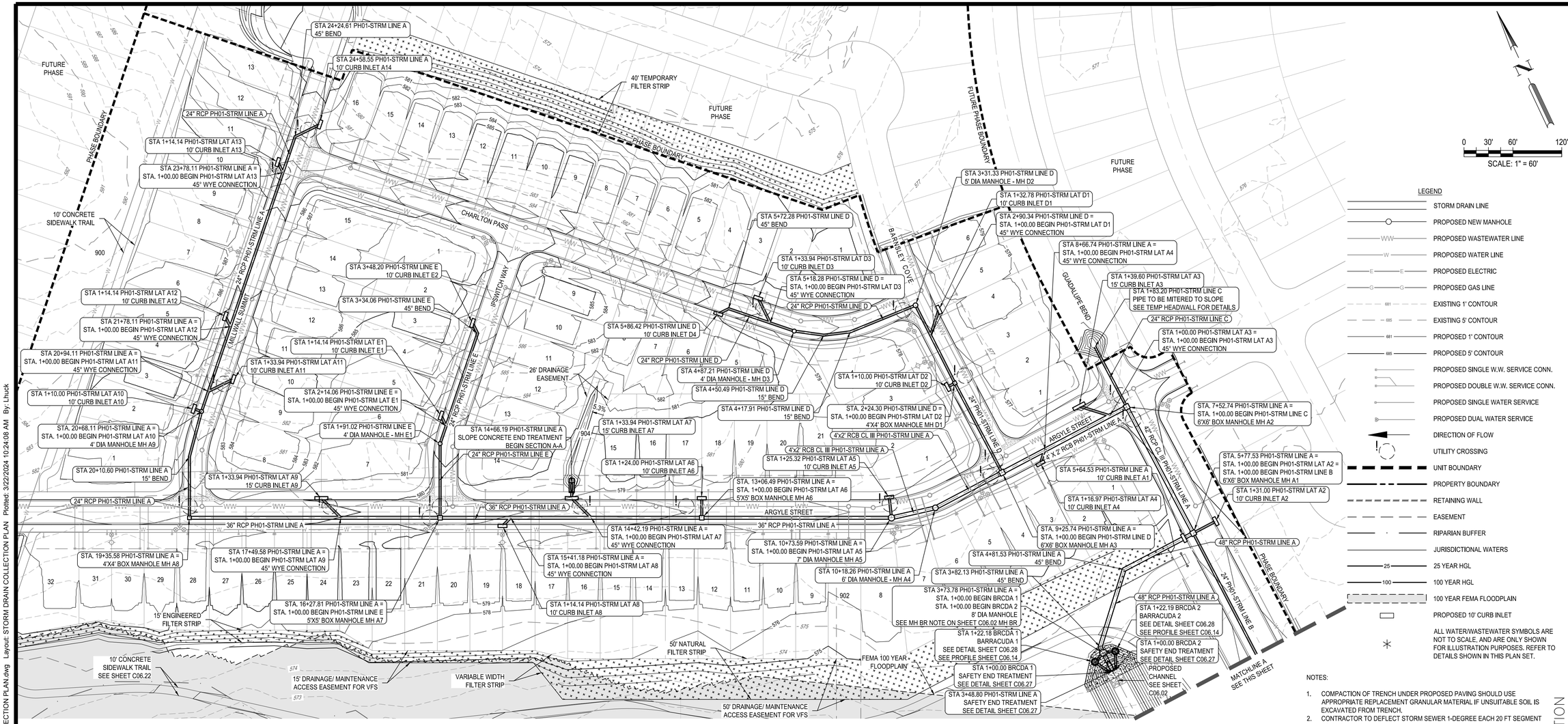
SHEET
C05.09

G:\TX\C\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C05.09 EMERGENCY ACCESS PLAN AND PROFILE.dwg Layout: EMERGENCY ACCESS A PLAN & PROFILE Plotted: 3/22/2024 10:23:27 AM By: Lhuck



NOTES:

1. COMPACTION OF TRENCH UNDER PROPOSED PAVING SHOULD USE APPROPRIATE REPLACEMENT GRANULAR MATERIAL IF UNSUITABLE SOIL IS EXCAVATED FROM TRENCH.
2. CONTRACTOR TO DEFLECT STORM SEWER 1-DEGREE EACH 20 FT SEGMENT AS REQUIRED.
3. CONTRACTOR TO CONNECT PROPOSED STORM SEWER OUTFALL TO POND.
4. CONTRACTOR TO ENSURE THAT ALL OFF-SITE STORM WATER RUNOFF IS BYPASSED UNTIL PROPOSED DRAINAGE IMPROVEMENTS ARE CONSTRUCTED.
5. CONTRACTOR TO ADJUST MANHOLE RIM ELEVATIONS AS NEEDED TO ENSURE FLUSHNESS WITH PROPOSED GRADING.
6. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
7. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
8. CONTRACTOR SHALL ENSURE FLOODPLAIN PERMIT IS SECURED BEFORE CONSTRUCTION BEGINS.

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UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. 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 GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF SAN MARCOS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100LF FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF SAN MARCOS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

NOT FOR CONSTRUCTION

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

STORM DRAIN COLLECTION PLAN (SHEET 1 OF 2)

This Document Is Released
Under The Authority Of Stacy S. Mulholland, PE
Texas Licensed Professional Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C06.00

G:\TX\CIP\projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C06.00 STORM DRAIN COLLECTION PLAN.dwg Layout: STORM DRAIN COLLECTION PLAN Plotted: 3/22/2024 10:24:08 AM By: Lhuck



0 30' 60' 120'

SCALE: 1" = 60'

LEGEND

- STORM DRAIN LINE
- PROPOSED NEW MANHOLE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED ELECTRIC
- PROPOSED GAS LINE
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
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- PROPOSED DOUBLE W.W. SERVICE CONN.
- PROPOSED SINGLE WATER SERVICE
- PROPOSED DUAL WATER SERVICE
- DIRECTION OF FLOW
- UTILITY CROSSING
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- RETAINING WALL
- EASEMENT
- RIPARIAN BUFFER
- JURISDICTIONAL WATERS
- 25 YEAR HGL
- 100 YEAR HGL
- 100 YEAR FEMA FLOODPLAIN
- PROPOSED 10' CURB INLET
- ALL WATER/WASTEWATER SYMBOLS ARE NOT TO SCALE, AND ARE ONLY SHOWN FOR ILLUSTRATION PURPOSES. REFER TO DETAILS SHOWN IN THIS PLAN SET.

NOTES:

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TRENCH EXCAVATION SAFETY PROTECTION

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DRAWN BY: SAR

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GUADALUPE BEND PHASE 1

STORM DRAIN COLLECTION PLAN (SHEET 2 OF 2)

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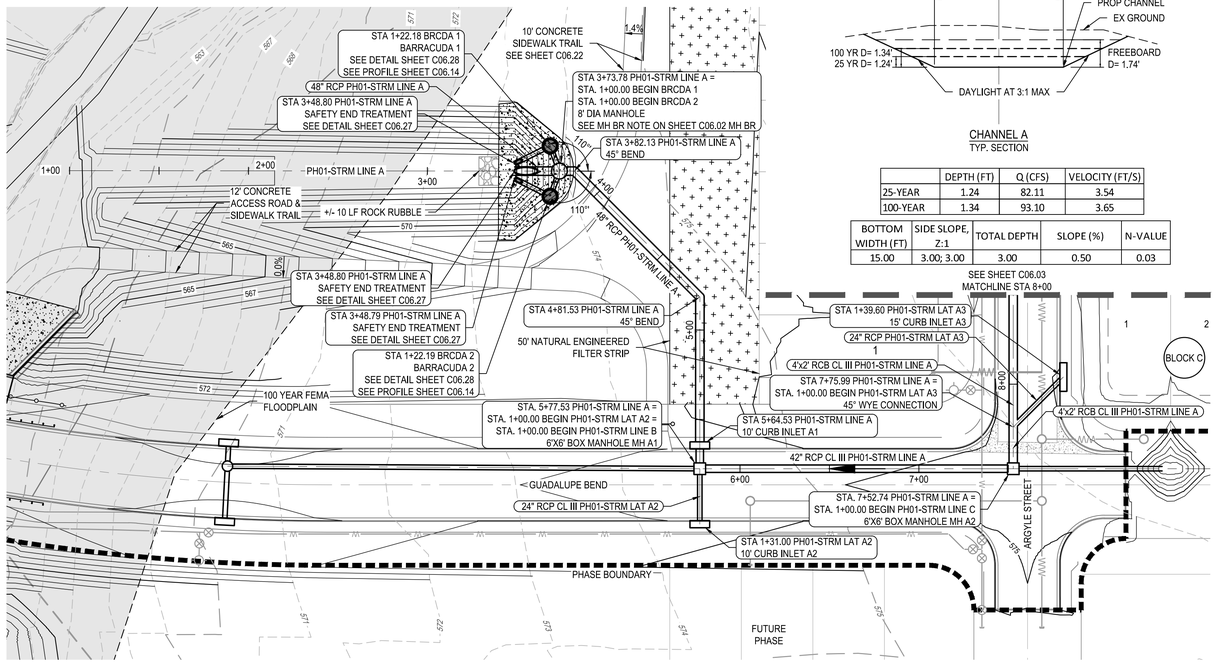
SHEET C06.01

G:\TX\C\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C06.00 STORM DRAIN COLLECTION PLAN.dwg Layout: STORM DRAIN COLLECTION PLAN (2) Plotted: 3/22/2024 10:24:18 AM By: Lhuck

PIPE IDENTIFICATION	FLOW 100 (CFS)	VELOCITY 100 (FPS)	DEPTH 100 (FT)
STRM A-A	82.62	16.66	2.13
STRM A-B	92.40	9.19	3.04
STRM A-C	92.78	9.16	3.19
STRM A-D	93.09	9.17	3.20
STRM A-E	91.53	9.51	2.96
STRM A-F	81.37	8.46	4.72
STRM A-G	75.87	9.48	5.38
STRM A-H	70.17	8.77	5.77

PIPE IDENTIFICATION	FLOW 25 (CFS)	VELOCITY 25 (FPS)	DEPTH 25 (FT)
STRM A-A	56.36	15.01	1.70
STRM A-B	66.14	8.63	2.47
STRM A-C	66.43	8.62	2.59
STRM A-D	66.68	8.62	2.59
STRM A-E	65.55	8.39	2.54
STRM A-F	58.29	8.25	3.74
STRM A-G	54.43	6.80	3.64
STRM A-H	50.40	6.30	3.75



MH BR NOTE: CONTRACTOR TO GROUT MANHOLE FROM 48" INVERT TO 24" INVERTS TO ENSURE POSITIVE DRAINAGE WITHIN MANHOLE

NOTE: BARRACUDA PROFILES ARE LOCATED ON SHEET C06.14

CHANNEL A
TYP. SECTION

	DEPTH (FT)	Q (CFS)	VELOCITY (FT/S)
25-YEAR	1.24	82.11	3.54
100-YEAR	1.34	93.10	3.65

BOTTOM WIDTH (FT)	SIDE SLOPE, Z:1	TOTAL DEPTH	SLOPE (%)	N-VALUE
15.00	3.00; 3.00	3.00	0.50	0.03



SCALE: 1" = 40'

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PH01-STRM LINE A

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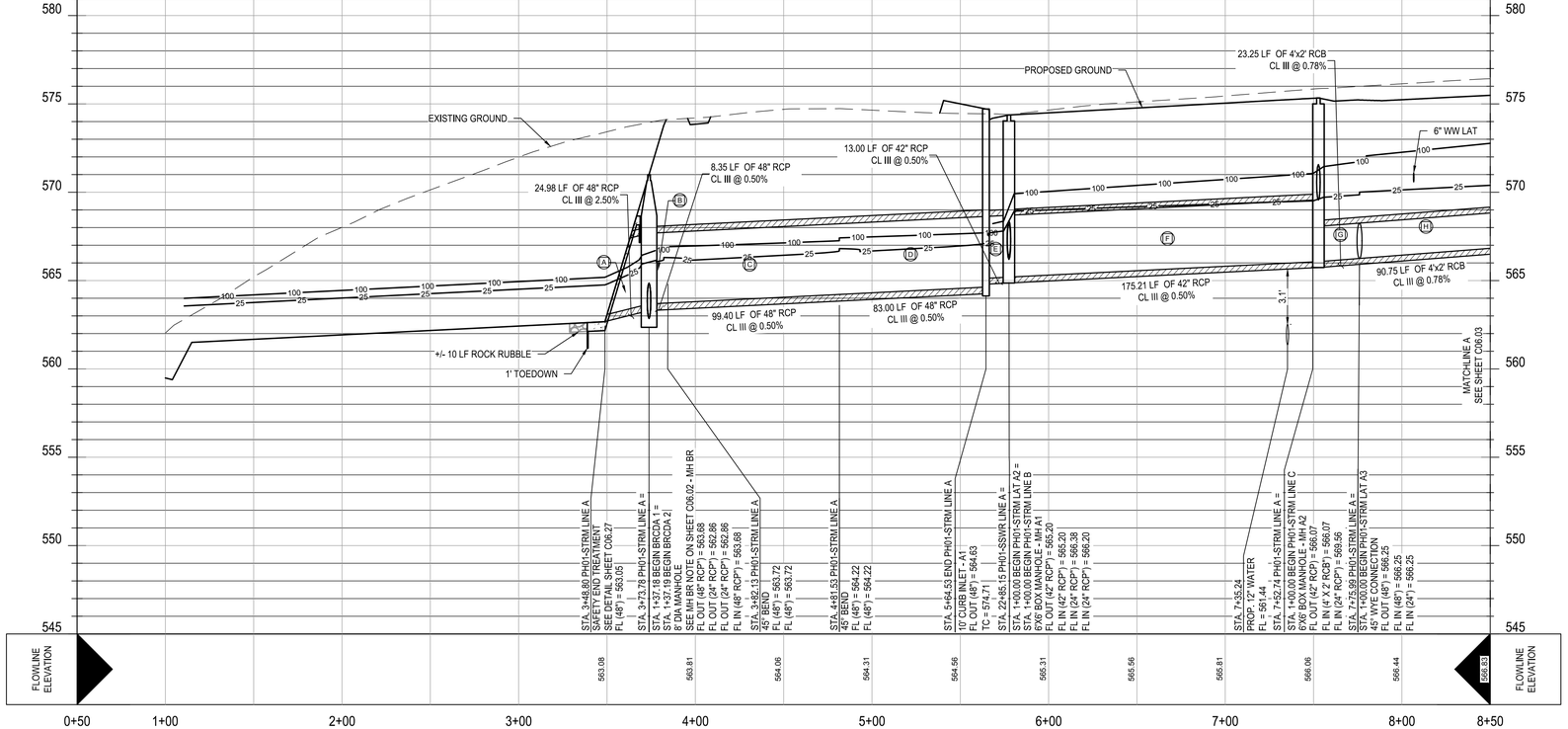

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REVIEWED BY: SSM
DRAWN BY: SAR

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San Antonio, TX 78216
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TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

STORM DRAIN A PLAN & PROFILE
STA 1+00 TO 8+00

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Under The Authority Of Stacy S.
Mulholland, PE
Texas Licensed Professional
Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C06.02

G:\TXCO\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C06.01 STORM DRAIN A PLAN AND PROFILE.dwg Layout: STORM DRAIN A PLAN & PROFILE STA 1+00 TO 8+00 Plotted: 3/22/2024 10:25:10 AM By: Jclifton

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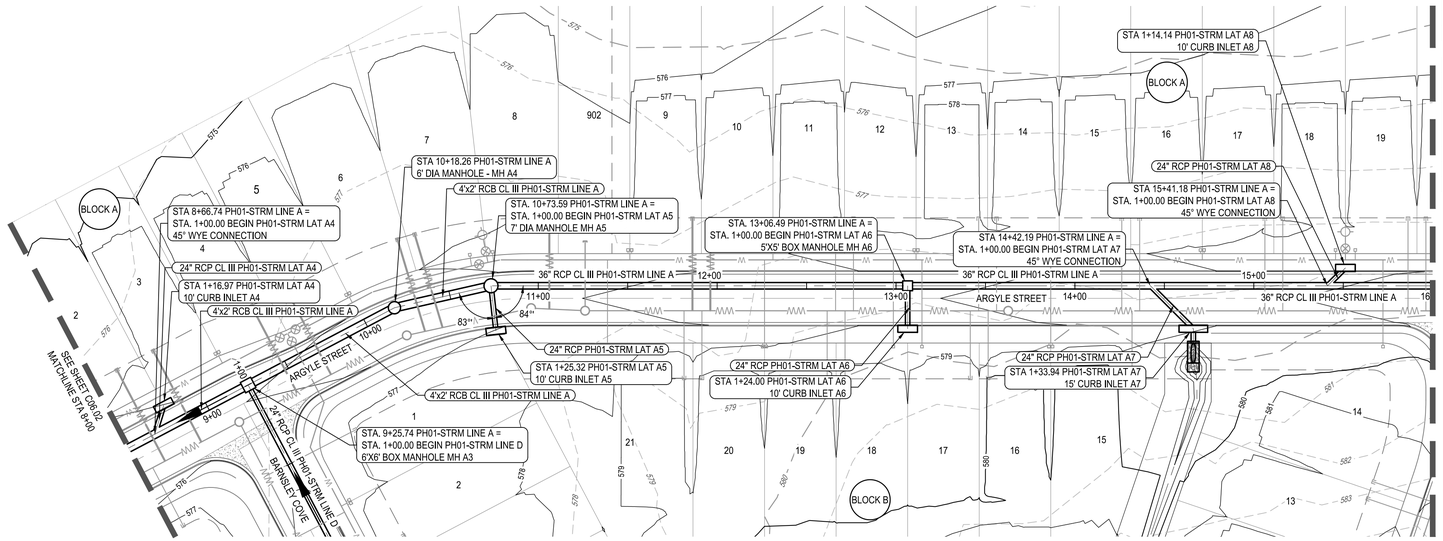
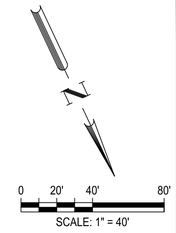
PIPE IDENTIFICATION	FLOW 100 (CFS)	VELOCITY 100 (FPS)	DEPTH 100 (FT)
STRM A-H	70.17	8.77	5.77
STRM A-I	67.76	8.47	6.09
STRM A-J	55.14	6.89	6.75
STRM A-K	55.31	6.91	6.90
STRM A-L	51.84	7.33	7.09
STRM A-M	49.22	6.96	7.41
STRM A-N	38.26	5.41	7.56
STRM A-O	36.74	5.20	7.40

PIPE IDENTIFICATION	FLOW 25 (CFS)	VELOCITY 25 (FPS)	DEPTH 25 (FT)
STRM A-H	50.40	6.30	3.75
STRM A-I	48.71	6.09	3.58
STRM A-J	39.69	4.96	3.70
STRM A-K	39.86	4.98	3.55
STRM A-L	37.57	5.32	3.52
STRM A-M	35.66	7.34	3.13
STRM A-N	27.66	6.94	2.86
STRM A-O	26.50	6.87	2.46





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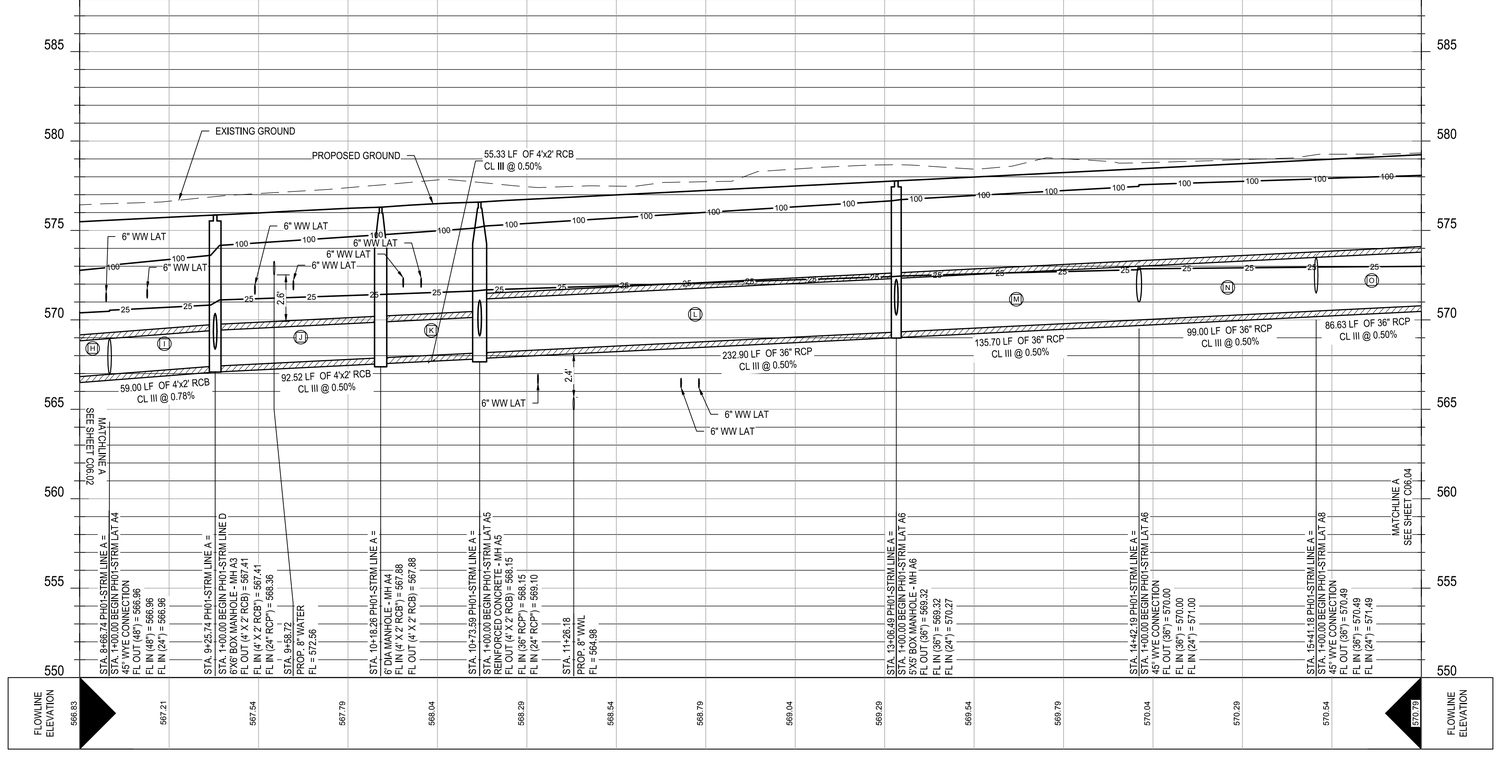

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GUADALUPE BEND PHASE 1

STORM DRAIN A PLAN & PROFILE
STA 8+00 TO 16+00

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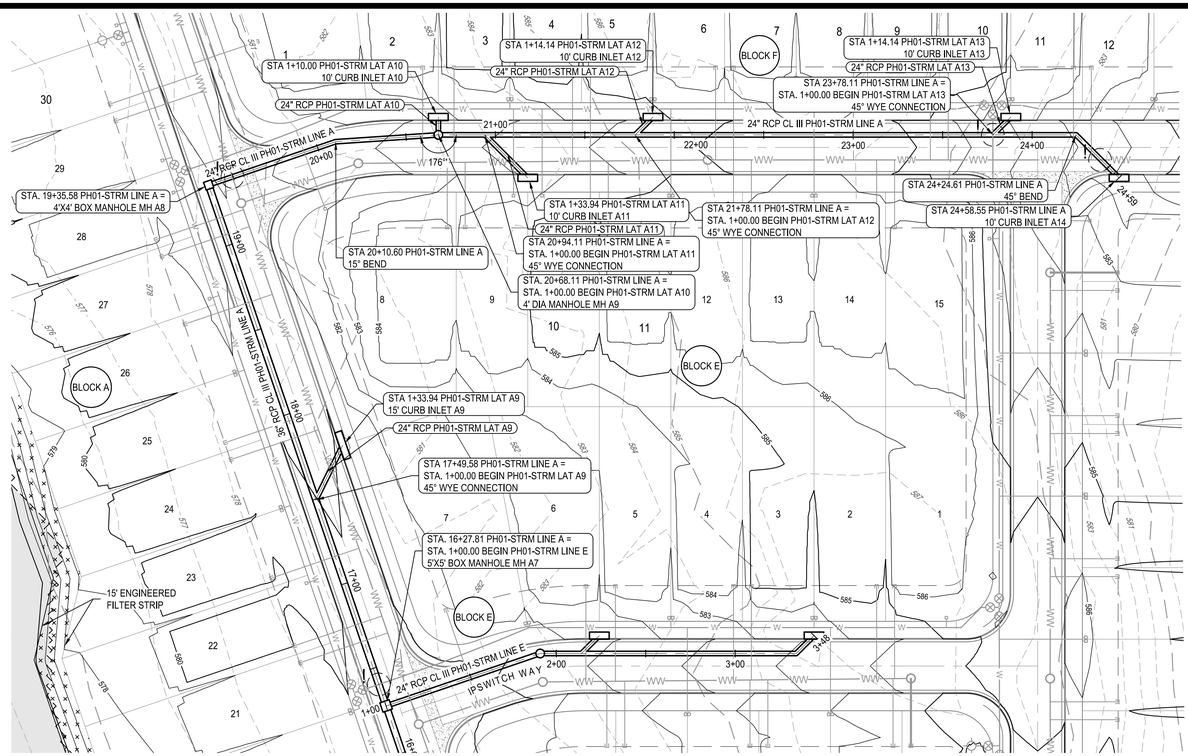
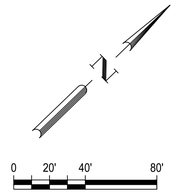
SHEET
C06.03

PIPE IDENTIFICATION	FLOW 100 (CFS)	VELOCITY 100 (FPS)	DEPTH 100 (FT)
STRM A-O	36.74	5.20	7.40
STRM A-P	31.13	4.40	7.28
STRM A-Q	21.16	2.99	6.94
STRM A-R	21.26	6.77	5.23
STRM A-S	21.35	6.80	5.54
STRM A-T	15.11	4.81	6.02
STRM A-U	13.41	4.27	6.01
STRM A-V	9.44	3.01	5.82
STRM A-W	5.10	1.62	4.96
STRM A-X	5.16	1.64	4.71

PIPE IDENTIFICATION	FLOW 25 (CFS)	VELOCITY 25 (FPS)	DEPTH 25 (FT)
STRM A-O	26.50	6.87	2.46
STRM A-P	22.31	6.57	2.12
STRM A-Q	14.98	5.92	1.53
STRM A-R	15.07	5.79	1.40
STRM A-S	15.14	5.79	1.55
STRM A-T	10.70	5.87	1.74
STRM A-U	9.45	5.70	1.62
STRM A-V	6.56	5.19	1.14
STRM A-W	3.52	4.37	0.92
STRM A-X	3.53	4.38	0.61





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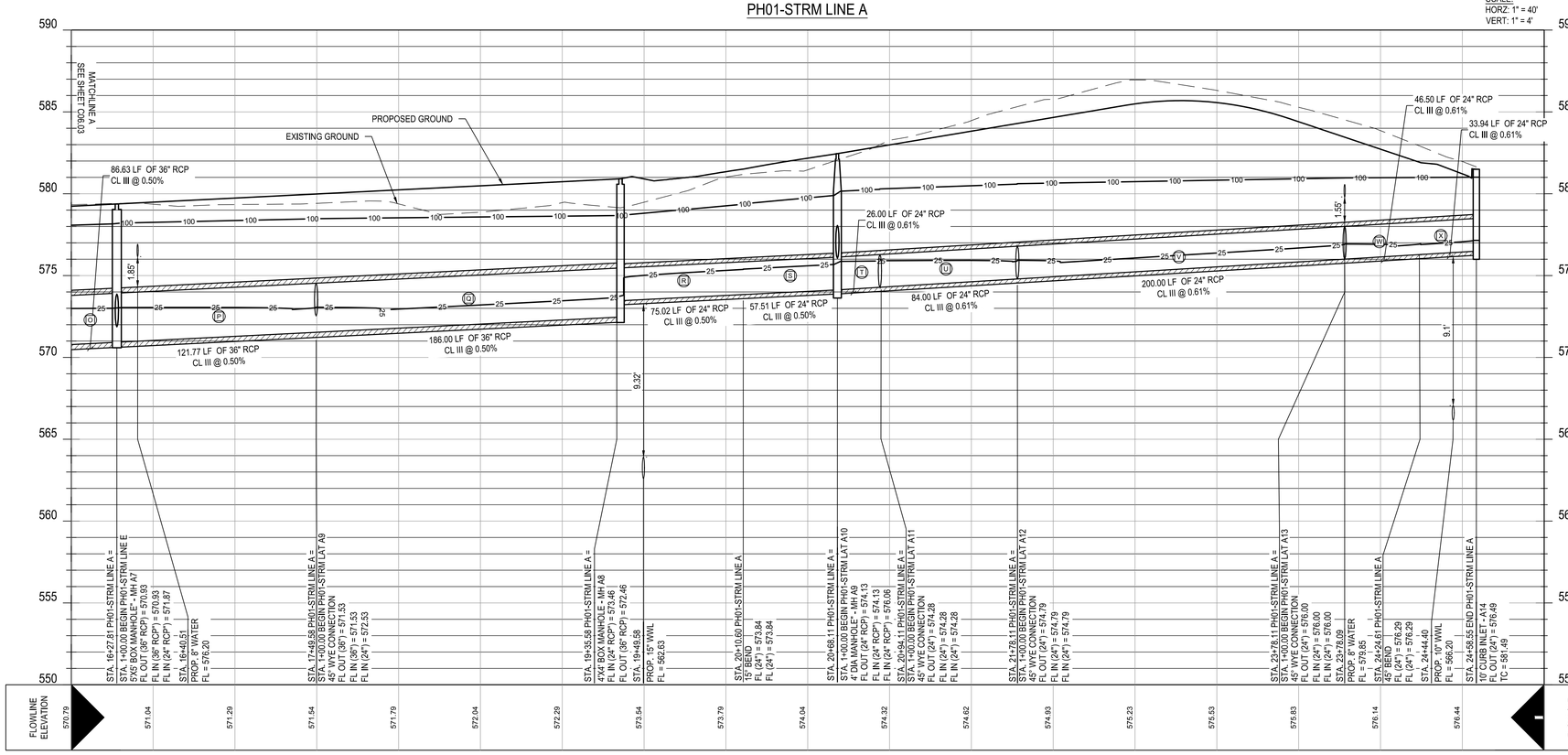

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2. CONTRACTOR TO DEFLECT STORM SEWER 1-DEGREE EACH 20 FT SEGMENT AS REQUIRED.
3. CONTRACTOR TO CONNECT PROPOSED STORM SEWER OUTFALL TO POND.
4. CONTRACTOR TO ENSURE THAT ALL OFF-SITE STORM WATER RUNOFF IS BYPASSED UNTIL PROPOSED DRAINAGE IMPROVEMENTS ARE CONSTRUCTED.
5. CONTRACTOR TO ADJUST MANHOLE RIM ELEVATIONS AS NEEDED TO ENSURE FLUSHNESS WITH PROPOSED GRADING.
6. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
7. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
8. CONTRACTOR SHALL ENSURE FLOODPLAIN PERMIT IS SECURED BEFORE CONSTRUCTION BEGINS.

TRENCH EXCAVATION SAFETY PROTECTION

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

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. 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 GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF SAN MARCOS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100LF FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF SAN MARCOS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

NOT FOR CONSTRUCTION

							APR
							DATE
							DESCRIPTION
◁	◁	◁	◁	◁	◁		REV
DESIGNED BY:						SAR	
REVIEWED BY:						SSM	
DRAWN BY:						SAR	

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

STORM DRAIN A PLAN & PROFILE
STA 16+00 TO END

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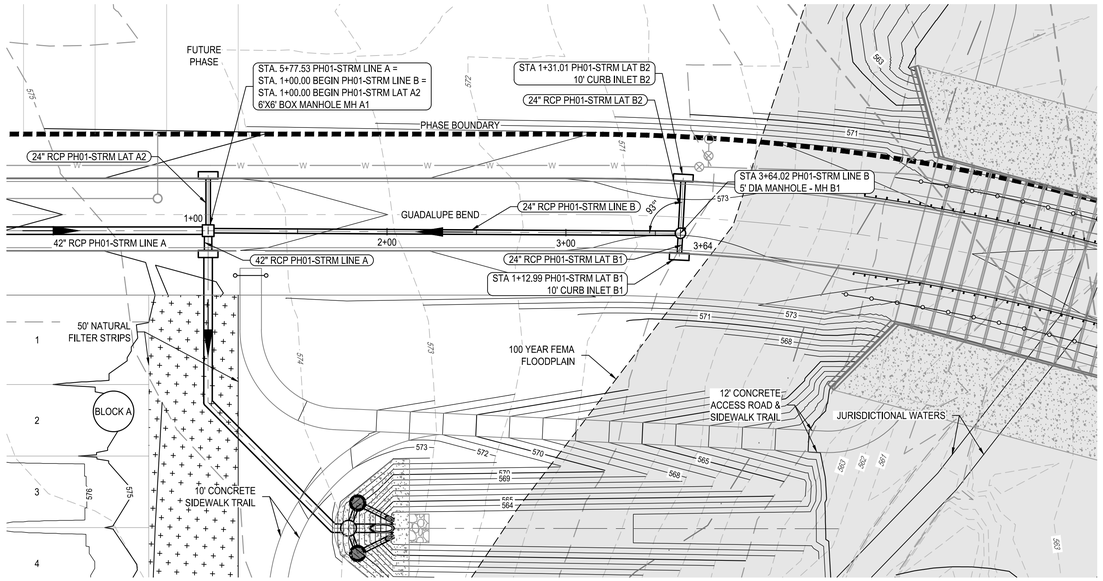
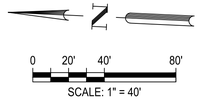
SHEET
C06.04

G:\TXCD\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C06.01 STORM DRAIN A PLAN AND PROFILE.dwg Layout: STORM DRAIN A PLAN & PROFILE STA 16+00 TO END Plotted: 3/22/2024 10:25:35 AM By: Jclifton



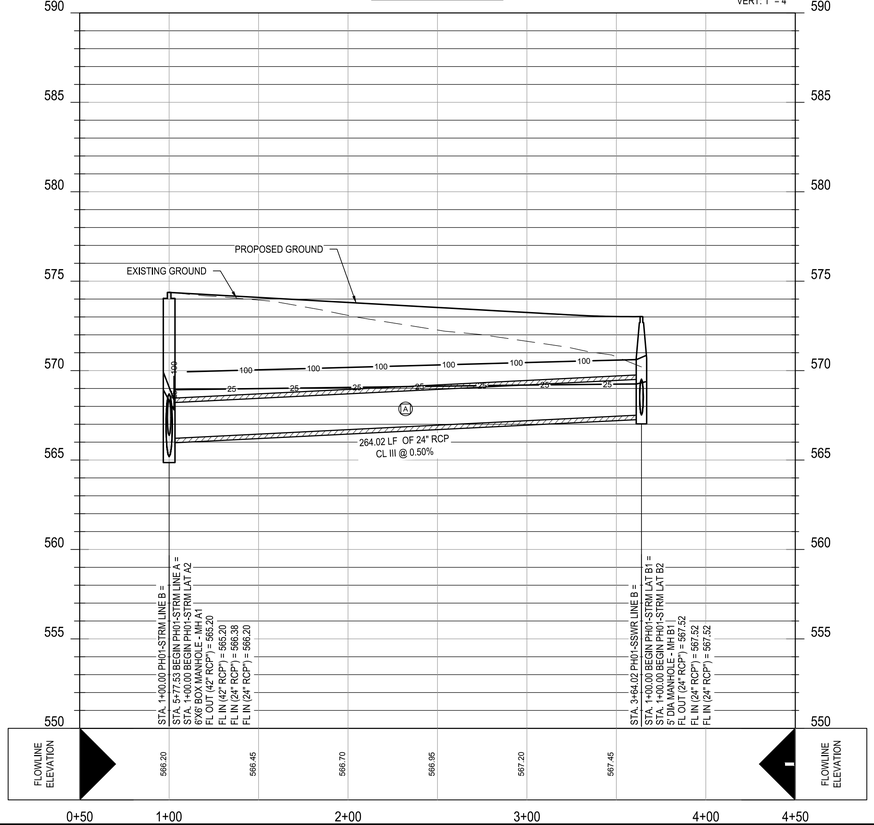


LEGEND

- STORM DRAIN LINE
- PROPOSED NEW MANHOLE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED ELECTRIC
- PROPOSED GAS LINE
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- PROPOSED SINGLE W.W. SERVICE CONN.
- PROPOSED DOUBLE W.W. SERVICE CONN.
- PROPOSED SINGLE WATER SERVICE
- PROPOSED DUAL WATER SERVICE
- DIRECTION OF FLOW
- UTILITY CROSSING
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- RETAINING WALL
- EASEMENT
- RIPARIAN BUFFER
- JURISDICTIONAL WATERS
- 25 YEAR HGL
- 100 YEAR HGL
- 100 YEAR FEMA FLOODPLAIN
- PROPOSED 10' CURB INLET
- ALL WATER/WASTEWATER SYMBOLS ARE NOT TO SCALE, AND ARE ONLY SHOWN FOR ILLUSTRATION PURPOSES. REFER TO DETAILS SHOWN IN THIS PLAN SET.

PH01-STRM LINE B

SCALE:
HORZ: 1" = 40'
VERT: 1" = 4'



PIPE IDENTIFICATION	FLOW 100 (CFS)	VELOCITY 100 (FPS)	DEPTH 100 (FT)
STRM B-A	11.67	3.71	3.71

PIPE IDENTIFICATION	FLOW 25 (CFS)	VELOCITY 25 (FPS)	DEPTH 25 (FT)
STRM B-A	8.16	5.12	2.73

NOTES:

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							DESCRIPTION
◁	◁	◁	◁	◁	◁		REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
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San Antonio, TX 78216
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TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

STORM DRAIN B PLAN & PROFILE

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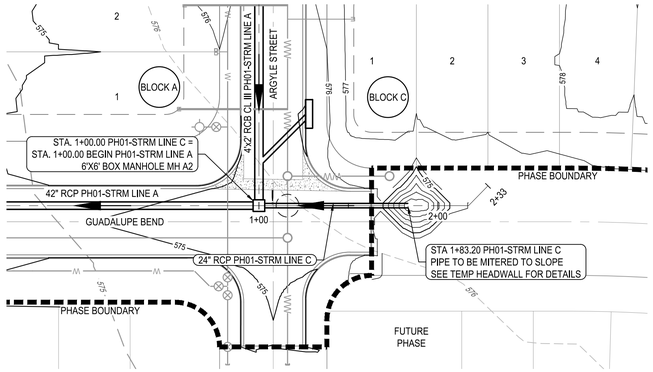
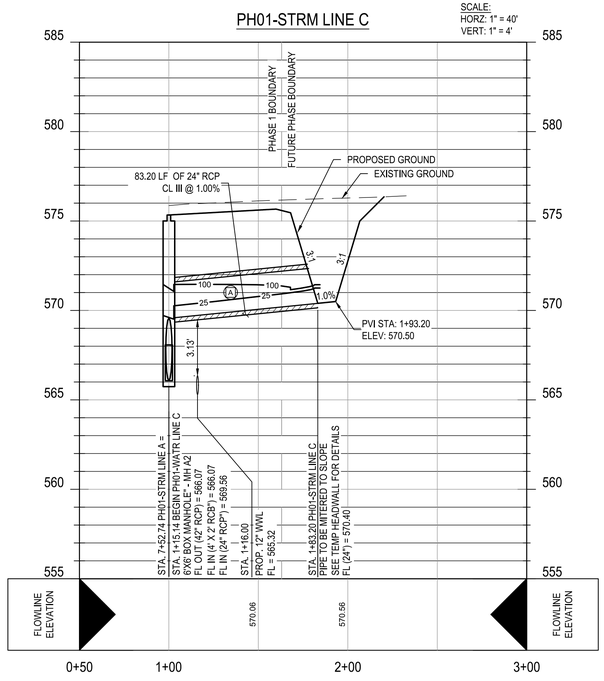
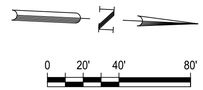


PIPE IDENTIFICATION	FLOW 100 (CFS)	VELOCITY 100 (FPS)	DEPTH 100 (FT)
STRM C-A	8.51	6.69	1.89

PIPE IDENTIFICATION	FLOW 25 (CFS)	VELOCITY 25 (FPS)	DEPTH 25 (FT)
STRM C-A	5.84	6.04	0.69





LEGEND

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NOT FOR CONSTRUCTION

							APR
							DATE
							DESCRIPTION
◁	◁	◁	◁	◁	◁		REV

DESIGNED BY: SAR

REVIEWED BY: SSM

DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

STORM DRAIN C PLAN & PROFILE

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SHEET
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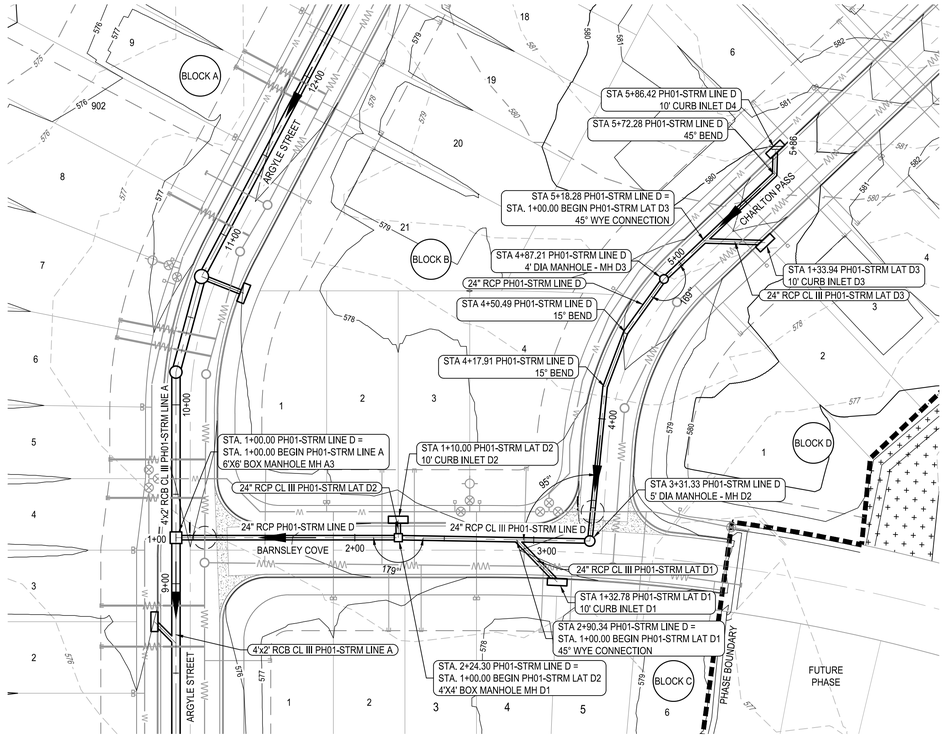

PIPE IDENTIFICATION	FLOW 100 (CFS)	VELOCITY 100 (FPS)	DEPTH 100 (FT)
STRM D-A	18.26	5.81	5.80
STRM D-B	9.37	2.98	3.71
STRM D-C	7.69	2.45	3.30
STRM D-D	7.87	2.50	3.02
STRM D-E	7.93	2.52	2.35
STRM D-F	7.96	6.32	2.09
STRM D-G	7.98	7.15	1.80
STRM D-H	4.81	6.21	1.38
STRM D-I	4.82	6.21	0.77

PIPE IDENTIFICATION	FLOW 25 (CFS)	VELOCITY 25 (FPS)	DEPTH 25 (FT)
STRM D-A	13.13	10.49	2.75
STRM D-B	6.72	5.79	1.51
STRM D-C	5.49	5.48	0.93
STRM D-D	5.54	5.73	0.84
STRM D-E	5.56	5.74	0.70
STRM D-F	5.59	5.74	0.70
STRM D-G	5.60	6.48	0.84
STRM D-H	3.38	5.61	0.85
STRM D-I	3.39	5.62	0.64

0 20' 40' 80'

SCALE: 1" = 40'

LEGEND

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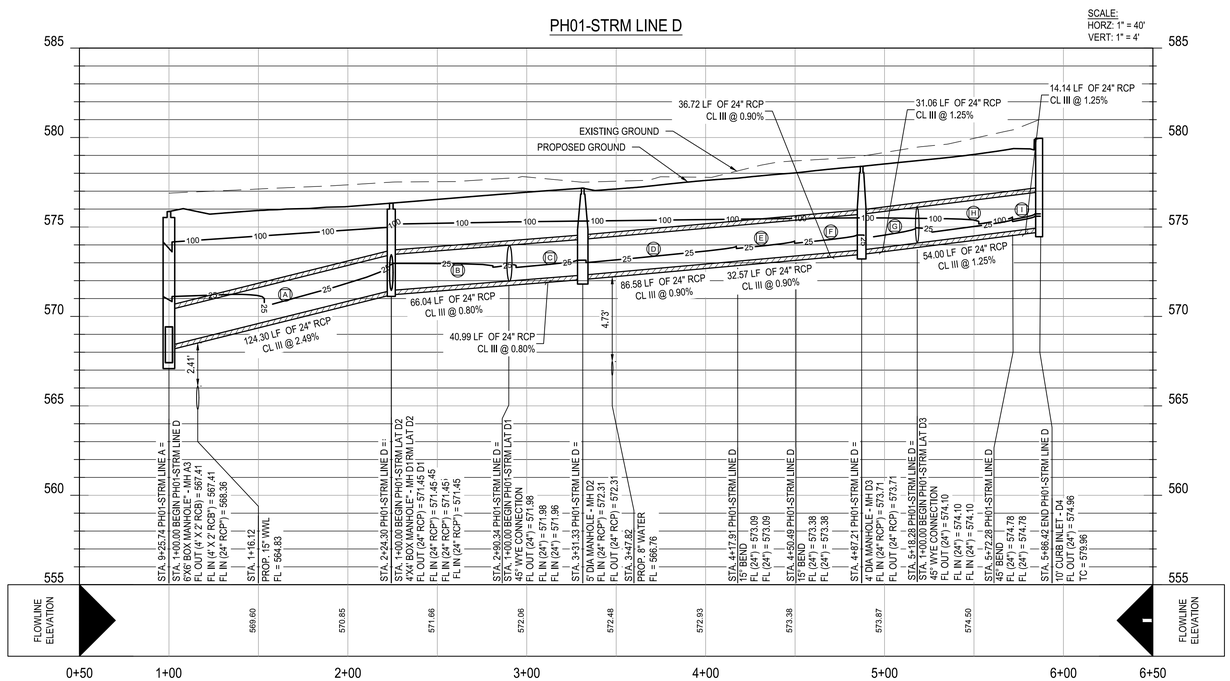

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GUADALUPE BEND PHASE 1

STORM DRAIN D PLAN & PROFILE

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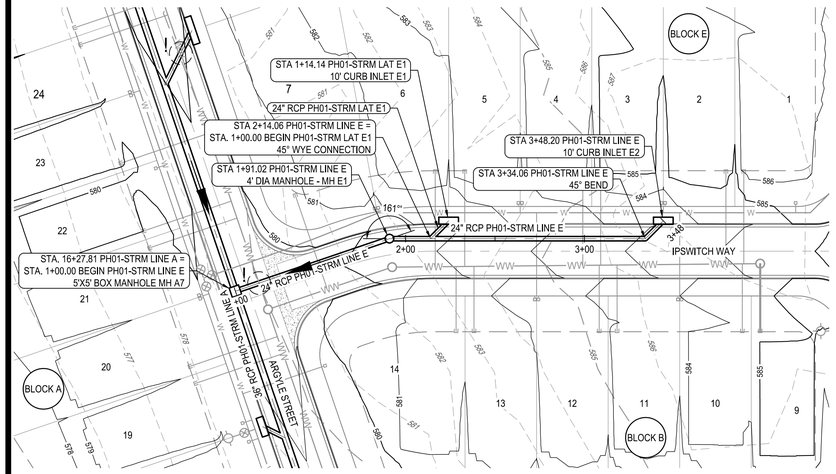
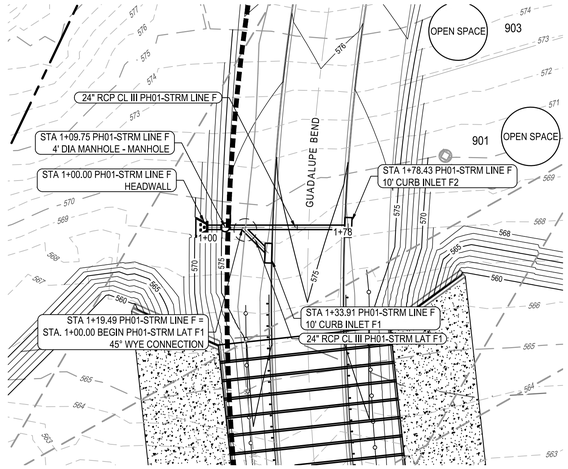


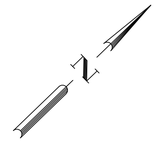


PIPE IDENTIFICATION	FLOW 100 (CFS)	VELOCITY 100 (FPS)	DEPTH 100 (FT)
STRM E-A	8.55	2.72	6.34
STRM E-B	8.59	2.74	2.82
STRM E-C	3.07	6.43	2.43
STRM E-D	3.07	6.43	0.63

PIPE IDENTIFICATION	FLOW 25 (CFS)	VELOCITY 25 (FPS)	DEPTH 25 (FT)
STRM E-A	5.99	10.00	1.18
STRM E-B	6.00	7.82	0.87
STRM E-C	2.14	5.79	1.00
STRM E-D	2.15	5.79	0.52

PIPE IDENTIFICATION	FLOW 100 (CFS)	VELOCITY 100 (FPS)	DEPTH 100 (FT)
STRM F-A	22.10	7.83	1.68
STRM F-B	22.12	7.04	3.01
STRM F-C	10.98	3.50	3.59

PIPE IDENTIFICATION	FLOW 25 (CFS)	VELOCITY 25 (FPS)	DEPTH 25 (FT)
STRM F-A	15.26	7.46	1.30
STRM F-B	15.28	4.86	2.31
STRM F-C	7.63	2.43	2.54



LEGEND

- STORM DRAIN LINE
- PROPOSED NEW MANHOLE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED ELECTRIC
- PROPOSED GAS LINE
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- PROPOSED SINGLE W.W. SERVICE CONN.
- PROPOSED DOUBLE W.W. SERVICE CONN.
- PROPOSED SINGLE WATER SERVICE
- PROPOSED DUAL WATER SERVICE
- DIRECTION OF FLOW
- UTILITY CROSSING
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- RETAINING WALL
- EASEMENT
- RIPARIAN BUFFER
- JURISDICTIONAL WATERS
- 25 YEAR HGL
- 100 YEAR HGL
- 100 YEAR FEMA FLOODPLAIN
- PROPOSED 10' CURB INLET
- ALL WATER/WASTEWATER SYMBOLS ARE NOT TO SCALE, AND ARE ONLY SHOWN FOR ILLUSTRATION PURPOSES. REFER TO DETAILS SHOWN IN THIS PLAN SET.

NOTES:

1. COMPACTION OF TRENCH UNDER PROPOSED PAVING SHOULD USE APPROPRIATE REPLACEMENT GRANULAR MATERIAL IF UNSUITABLE SOIL IS EXCAVATED FROM TRENCH.
2. CONTRACTOR TO DEFLECT STORM SEWER 1-DEGREE EACH 20 FT SEGMENT AS REQUIRED.
3. CONTRACTOR TO CONNECT PROPOSED STORM SEWER OUTFALL TO POND.
4. CONTRACTOR TO ENSURE THAT ALL OFF-SITE STORM WATER RUNOFF IS BYPASSED UNTIL PROPOSED DRAINAGE IMPROVEMENTS ARE CONSTRUCTED.
5. CONTRACTOR TO ADJUST MANHOLE RIM ELEVATIONS AS NEEDED TO ENSURE FLUSHNESS WITH PROPOSED GRADING.
6. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
7. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
8. CONTRACTOR SHALL ENSURE FLOODPLAIN PERMIT IS SECURED BEFORE CONSTRUCTION BEGINS.

TRENCH EXCAVATION SAFETY PROTECTION

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

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. 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 GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF SAN MARCOS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100LF FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF SAN MARCOS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

NOT FOR CONSTRUCTION

						APR
						DATE
						DESCRIPTION
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DESIGNED BY:						SAR
REVIEWED BY:						SSM
DRAWN BY:						SAR

BGE, INC.
7330 San Pedro, Suite 202
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TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

STORM DRAIN E & F PLAN & PROFILE

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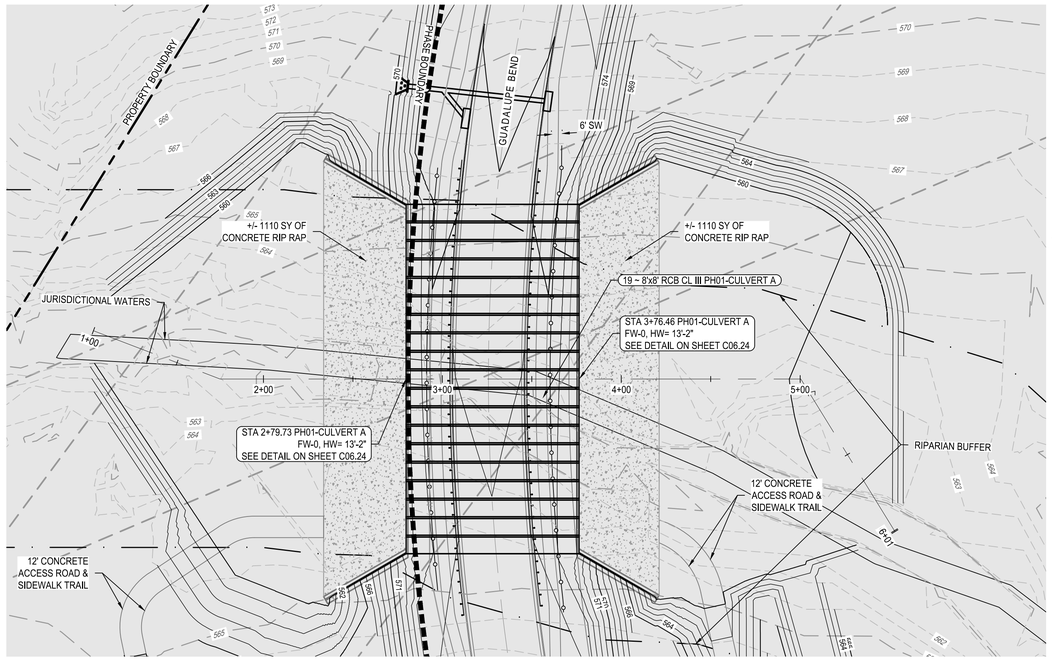
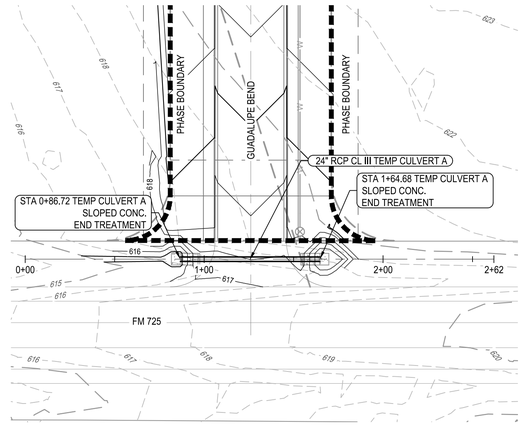
SHEET
C06.08

G:\TXCO\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C06.08 STORM DRAIN E PLAN AND PROFILE.dwg Layout: STORM DRAIN E & F PLAN & PROFILE Plotted: 3/22/2024 10:28:28 AM By: jclifton

	DEPTH DOWNSTREAM (FT)	DEPTH UPSTREAM (FT)	Q (CFS)	VELOCITY DOWNSTREAM (FT/S)	VELOCITY UPSTREAM (FT/S)
2-YEAR	5.11	4.74	2,846.23	3.67	3.95





0 20' 40' 80'

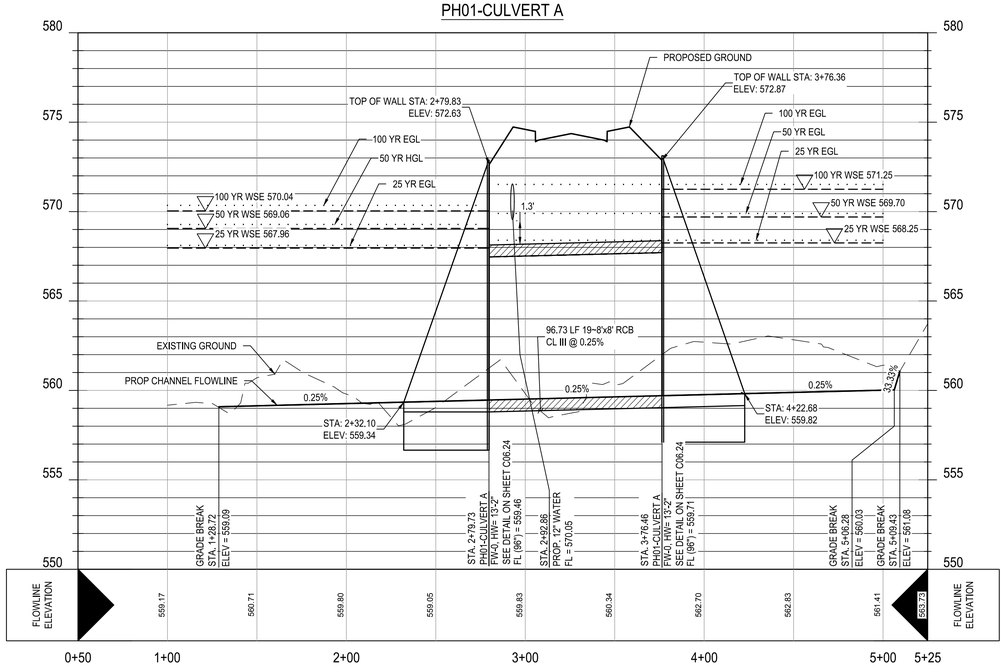
SCALE: 1" = 40'

LEGEND

- PROPERTY BOUNDARY
- PHASE BOUNDARY
- PROPOSED LOT LINE
- 631 EXISTING 1' CONTOUR
- 630 EXISTING 5' CONTOUR
- 631 PROPOSED 1' CONTOUR
- 630 PROPOSED 5' CONTOUR
- HANDRAIL
- GAURDRAIL
- JURISDICTIONAL WATERS
- RIPARIAN BUFFERS
- 100 YEAR FEMA FLOODPLAIN

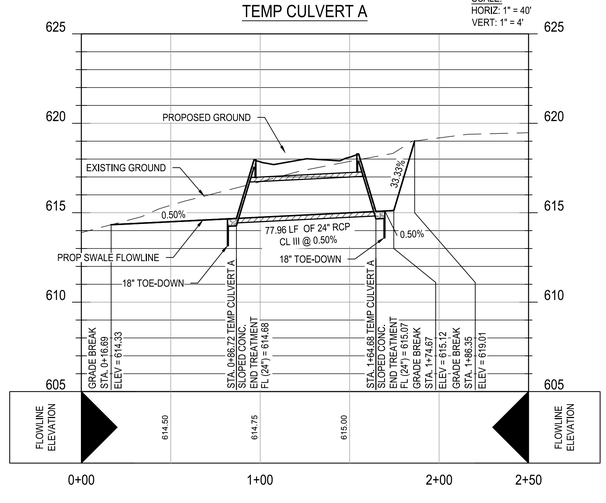
SCALE:
HORIZ: 1" = 40'
VERT: 1" = 4'

PH01-CULVERT A



SCALE:
HORIZ: 1" = 40'
VERT: 1" = 4'

TEMP CULVERT A



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							DATE
							DESCRIPTION
◁	◁	◁	◁	◁	◁		REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

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GUADALUPE BEND PHASE 1

CULVERT A & TEMP CULVERT A PLAN & PROFILE

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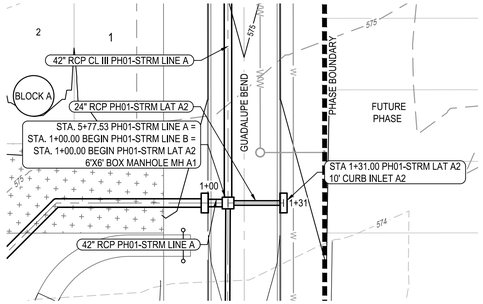
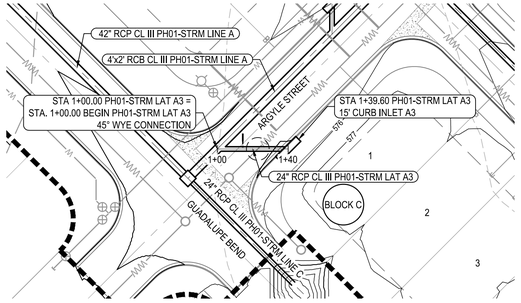
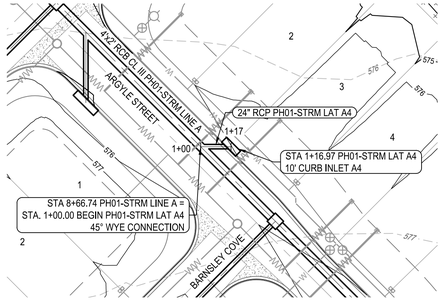
SHEET
C06.09

G:\TX\C\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C06.09 CULVERT A PLAN AND PROFILE.dwg Layout: CULVERT A & TEMP CULVERT A PLAN & PROFILE Plotted: 3/22/2024 10:29:03 AM By: Arath







SCALE: 1" = 40'

PIPE IDENTIFICATION	FLOW 100 (CFS)	VELOCITY 100 (FPS)	DEPTH 100 (FT)
STRM A2	4.83	12.57	3.54
STRM A3	9.12	16.64	5.77
STRM A4	3.94	1.25	6.09

PIPE IDENTIFICATION	FLOW 25 (CFS)	VELOCITY 25 (FPS)	DEPTH 25 (FT)
STRM A2	3.38	11.31	2.56
STRM A3	6.39	15.00	3.75
STRM A4	2.76	13.45	3.58

LEGEND

- STORM DRAIN LINE
- PROPOSED NEW MANHOLE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED ELECTRIC
- PROPOSED GAS LINE
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- PROPOSED SINGLE W.W. SERVICE CONN.
- PROPOSED DOUBLE W.W. SERVICE CONN.
- PROPOSED SINGLE WATER SERVICE
- PROPOSED DUAL WATER SERVICE
- DIRECTION OF FLOW
- UTILITY CROSSING
- UNIT BOUNDARY
- PROPERTY BOUNDARY
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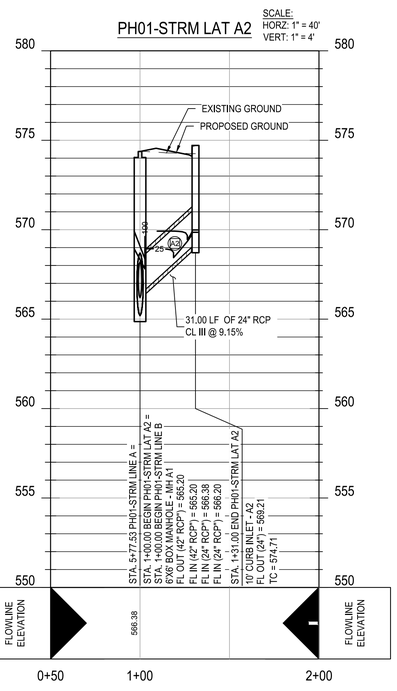
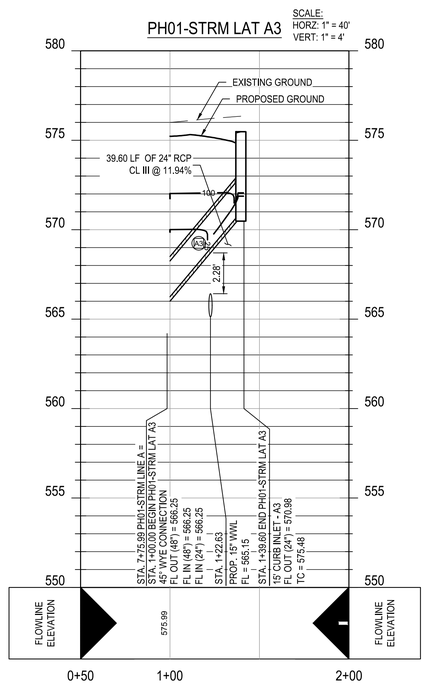
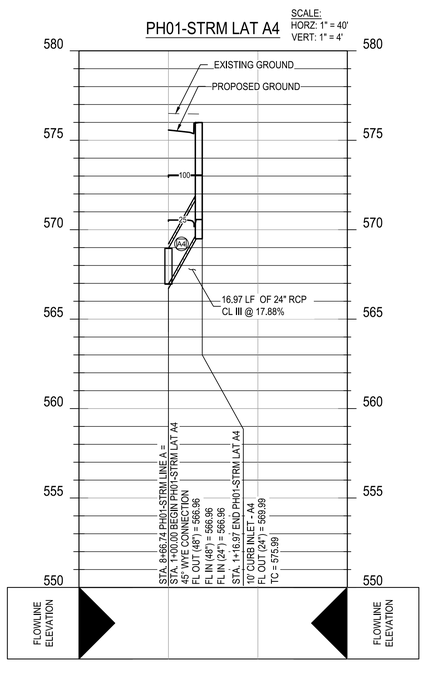
- EASEMENT
- RIPARIAN BUFFER
- JURISDICTIONAL WATERS
- 25 YEAR HGL
- 100 YEAR HGL
- 100 YEAR FEMA FLOODPLAIN
- PROPOSED 10' CURB INLET
- ALL WATER/WASTEWATER SYMBOLS ARE NOT TO SCALE, AND ARE ONLY SHOWN FOR ILLUSTRATION PURPOSES. REFER TO DETAILS SHOWN IN THIS PLAN SET.







NOTES:

1. COMPACTION OF TRENCH UNDER PROPOSED PAVING SHOULD USE APPROPRIATE REPLACEMENT GRANULAR MATERIAL IF UNSUITABLE SOIL IS EXCAVATED FROM TRENCH.
2. CONTRACTOR TO DEFLECT STORM SEWER 1-DEGREE EACH 20 FT SEGMENT AS REQUIRED.
3. CONTRACTOR TO CONNECT PROPOSED STORM SEWER OUTFALL TO POND.
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UTILITY TRENCH COMPACTION

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NOT FOR CONSTRUCTION

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						DATE
						DESCRIPTION
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DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

STORM DRAIN A LATERALS PLAN & PROFILE (SHEET 1 OF 4)

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SHEET
C06.10

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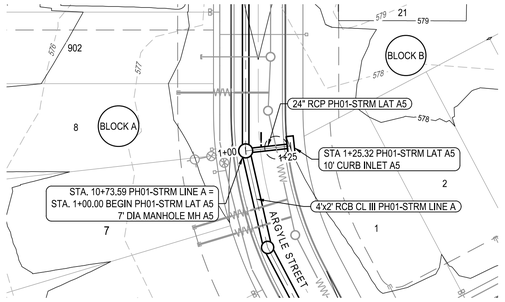

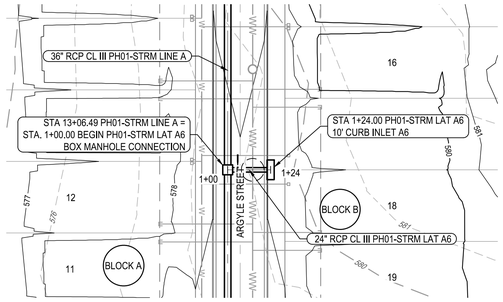

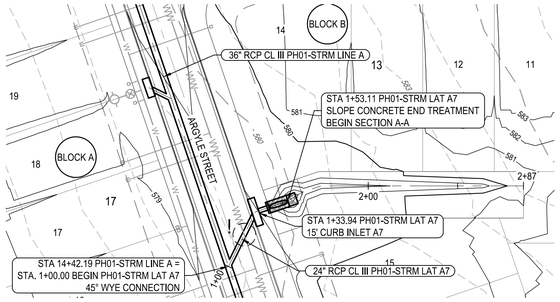

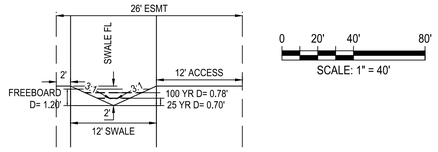

SECTION A-A

0 20' 40' 80'

SCALE: 1" = 40'

LEGEND

- STORM DRAIN LINE
- PROPOSED NEW MANHOLE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED ELECTRIC
- PROPOSED GAS LINE
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
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- PROPOSED SINGLE W.W. SERVICE CONN.
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- PROPOSED SINGLE WATER SERVICE
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- PROPERTY BOUNDARY
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- EASEMENT
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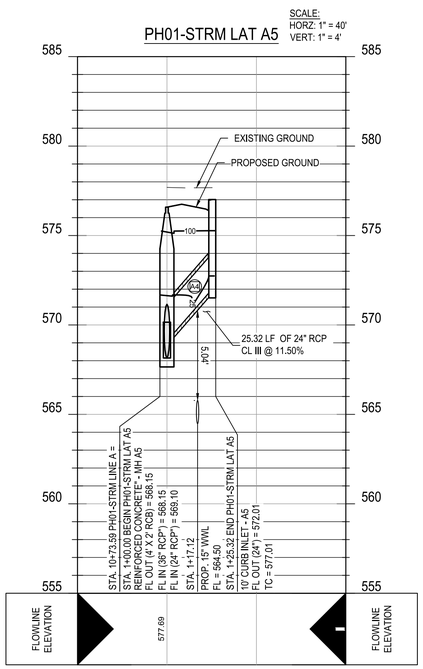
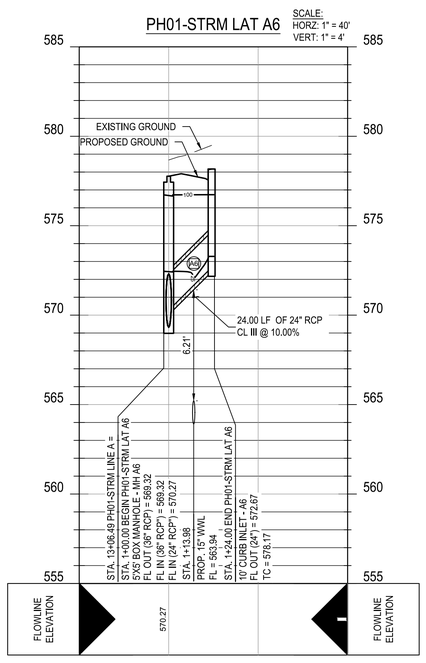
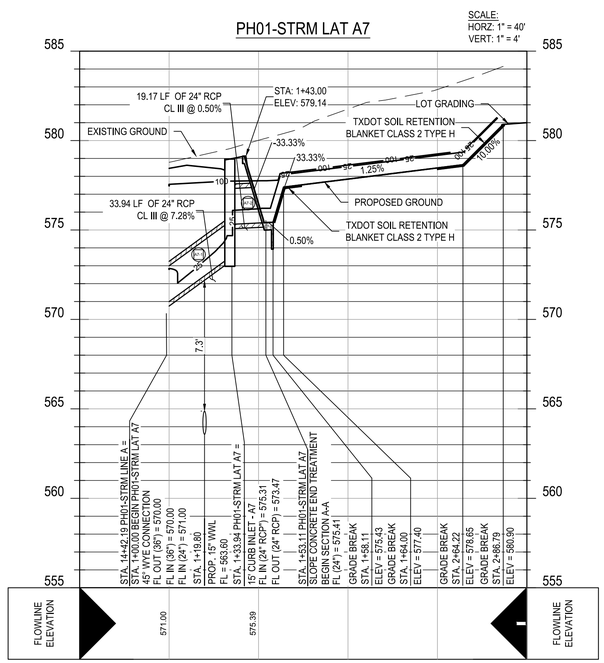
- 25 YEAR HGL
- 100 YEAR HGL
- 100 YEAR FEMA FLOODPLAIN
- PROPOSED 10' CURB INLET
- ALL WATER/WASTEWATER SYMBOLS ARE NOT TO SCALE, AND ARE ONLY SHOWN FOR ILLUSTRATION PURPOSES. REFER TO DETAILS SHOWN IN THIS PLAN SET.

PIPE IDENTIFICATION	FLOW 100 (CFS)	VELOCITY 100 (FPS)	DEPTH 100 (FT)
STRM A5	6.18	1.97	6.15
STRM A6	4.46	1.42	6.46
STRM A7-1	16.47	5.24	6.56
STRM A7-2	7.47	2.38	2.42

PIPE IDENTIFICATION	FLOW 25 (CFS)	VELOCITY 25 (FPS)	DEPTH 25 (FT)
STRM A5	4.31	13.17	2.58
STRM A6	3.11	11.38	2.18
STRM A7-1	11.50	14.91	1.86
STRM A7-2	5.20	4.56	0.78







NOTES:

1. COMPACTION OF TRENCH UNDER PROPOSED PAVING SHOULD USE APPROPRIATE REPLACEMENT GRANULAR MATERIAL IF UNSUITABLE SOIL IS EXCAVATED FROM TRENCH.
2. CONTRACTOR TO DEFLECT STORM SEWER 1-DEGREE EACH 20 FT SEGMENT AS REQUIRED.
3. CONTRACTOR TO CONNECT PROPOSED STORM SEWER OUTFALL TO POND.
4. CONTRACTOR TO ENSURE THAT ALL OFF-SITE STORM WATER RUNOFF IS BYPASSED UNTIL PROPOSED DRAINAGE IMPROVEMENTS ARE CONSTRUCTED.
5. CONTRACTOR TO ADJUST MANHOLE RIM ELEVATIONS AS NEEDED TO ENSURE FLUSHNESS WITH PROPOSED GRADING.
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7. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
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						DESCRIPTION
◁	◁	◁	◁	◁	◁	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
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GUADALUPE BEND PHASE 1

STORM DRAIN A LATERALS PLAN & PROFILE (SHEET 2 OF 4)

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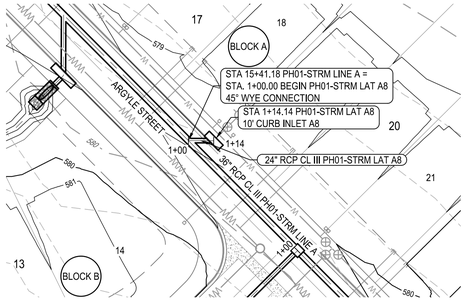
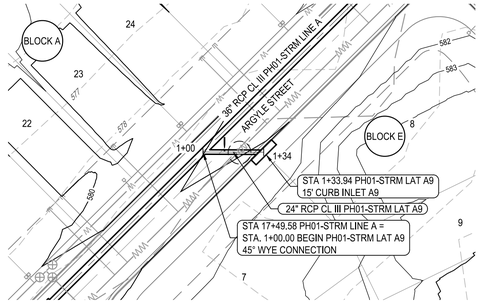
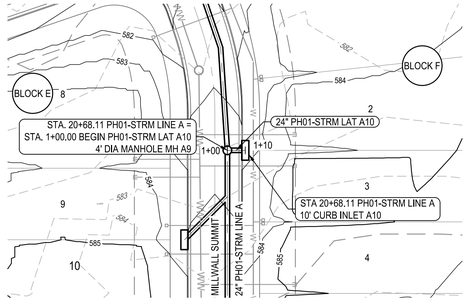
TBPE Registration No. F-1046

SHEET
C06.11

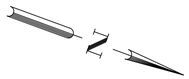
G:\TXC\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C06.13 STORM DRAIN A LATERAL PLAN AND PROFILE.dwg Layout: STORM DRAIN A LATERALS PLAN & PROFILE (SHEET 2 OF 4) Plotted: 3/22/2024 10:30:33 AM By: Jciffton

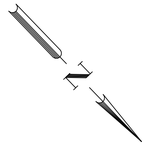










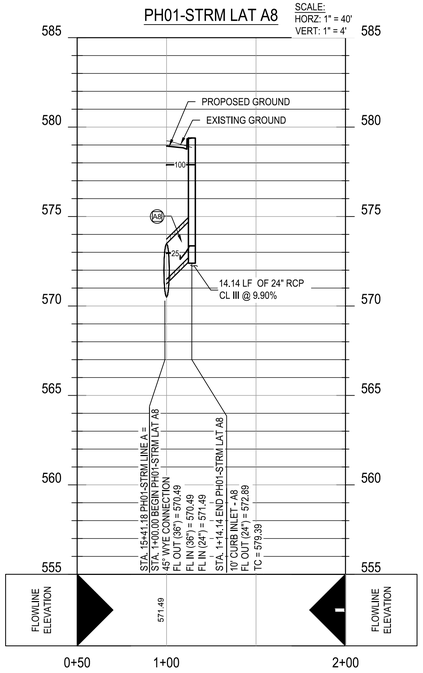


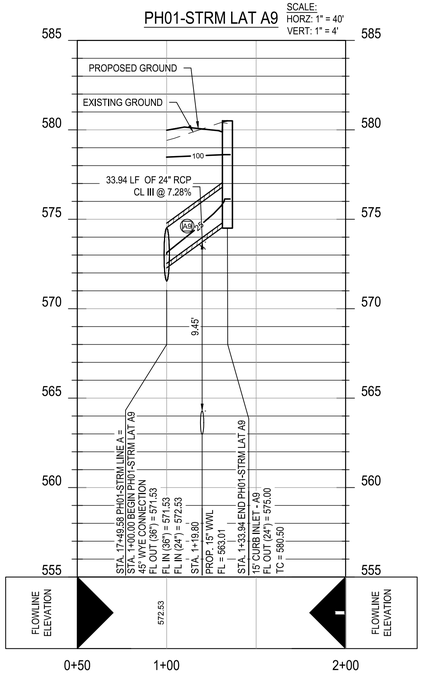
0 20' 40' 80'

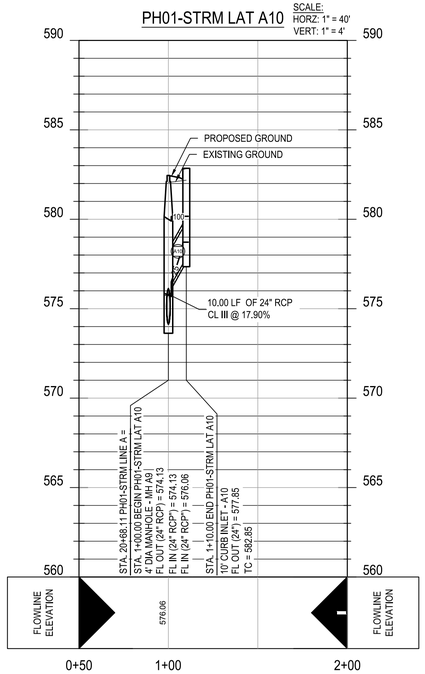
SCALE: 1" = 40'

LEGEND

- STORM DRAIN LINE
- PROPOSED NEW MANHOLE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED ELECTRIC
- PROPOSED GAS LINE
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- PROPOSED SINGLE W.W. SERVICE CONN.
- PROPOSED DOUBLE W.W. SERVICE CONN.
- PROPOSED SINGLE WATER SERVICE
- PROPOSED DUAL WATER SERVICE
- DIRECTION OF FLOW
- UTILITY CROSSING
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- RETAINING WALL
- EASEMENT
- RIPARIAN BUFFER
- JURISDICTIONAL WATERS
- 25 YEAR HGL
- 100 YEAR HGL
- 100 YEAR FEMA FLOODPLAIN
- PROPOSED 10' CURB INLET
- ALL WATER/WASTEWATER SYMBOLS ARE NOT TO SCALE, AND ARE ONLY SHOWN FOR ILLUSTRATION PURPOSES. REFER TO DETAILS SHOWN IN THIS PLAN SET.







NOTES:

1. COMPACTION OF TRENCH UNDER PROPOSED PAVING SHOULD USE APPROPRIATE REPLACEMENT GRANULAR MATERIAL IF UNSUITABLE SOIL IS EXCAVATED FROM TRENCH.
2. CONTRACTOR TO DEFLECT STORM SEWER 1-DEGREE EACH 20 FT SEGMENT AS REQUIRED.
3. CONTRACTOR TO CONNECT PROPOSED STORM SEWER OUTFALL TO POND.
4. CONTRACTOR TO ENSURE THAT ALL OFF-SITE STORM WATER RUNOFF IS BYPASSED UNTIL PROPOSED DRAINAGE IMPROVEMENTS ARE CONSTRUCTED.
5. CONTRACTOR TO ADJUST MANHOLE RIM ELEVATIONS AS NEEDED TO ENSURE FLUSHNESS WITH PROPOSED GRADING.
6. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
7. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
8. CONTRACTOR SHALL ENSURE FLOODPLAIN PERMIT IS SECURED BEFORE CONSTRUCTION BEGINS.

TRENCH EXCAVATION SAFETY PROTECTION

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

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. 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 GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF SAN MARCOS STREET INSPECTOR, AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100LF FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF SAN MARCOS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

NOT FOR CONSTRUCTION

							APR
							DATE
							DESCRIPTION
◁	◁	◁	◁	◁	◁		REV

DESIGNED BY: SAR

REVIEWED BY: SSM

DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

STORM DRAIN A LATERALS PLAN & PROFILE (SHEET 3 OF 4)

This Document Is Released Under The Authority Of Stacy S. Mulholland, PE
Texas Licensed Professional Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C06.12

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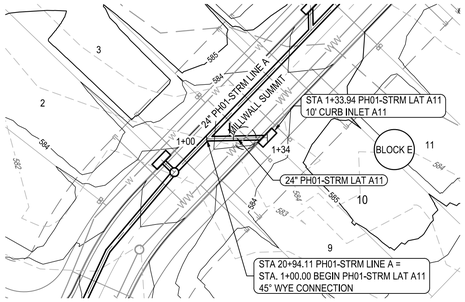
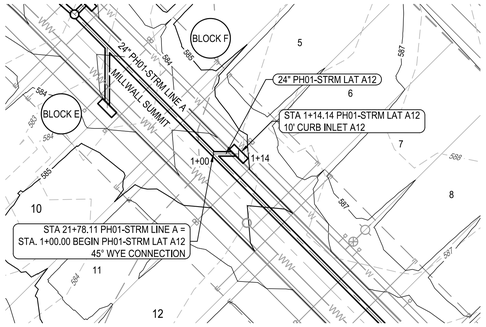
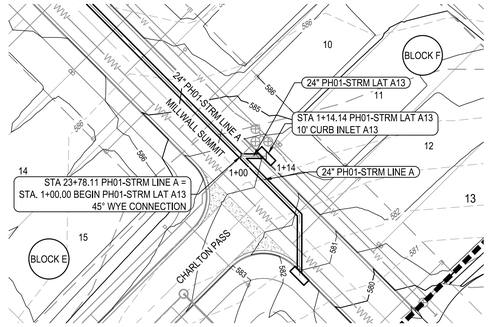
PIPE IDENTIFICATION	FLOW 100 (CFS)	VELOCITY 100 (FPS)	DEPTH 100 (FT)
STRM A11	5.55	1.77	4.96
STRM A12	11.67	3.71	3.71
STRM A13	5.91	1.88	3.31

PIPE IDENTIFICATION	FLOW 25 (CFS)	VELOCITY 25 (FPS)	DEPTH 25 (FT)
STRM A11	3.86	13.75	0.92
STRM A12	8.16	5.12	2.73
STRM A13	4.11	7.71	1.85







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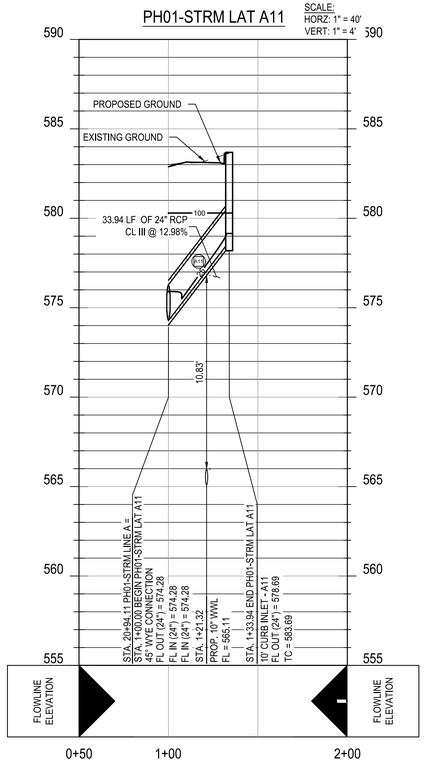

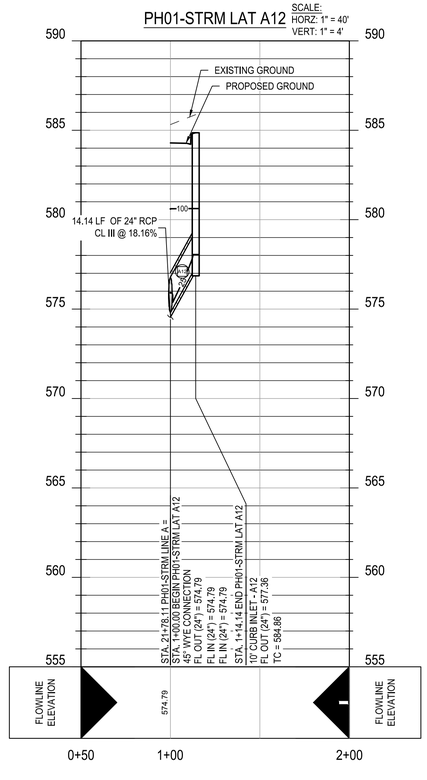

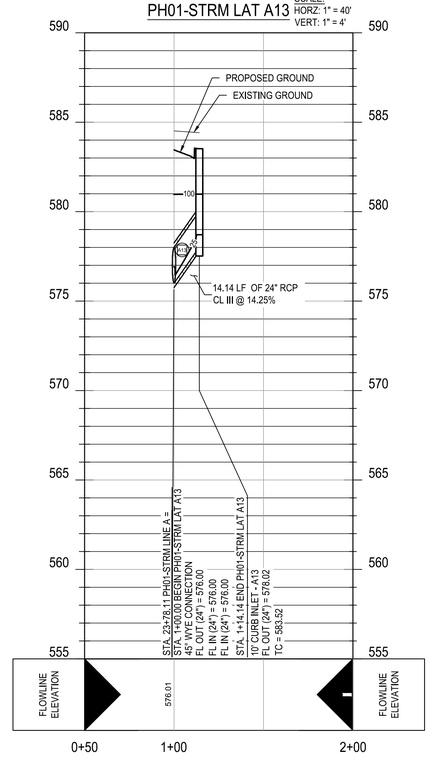

0 20' 40' 80'

SCALE: 1" = 40'

LEGEND

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- PROPOSED NEW MANHOLE
- WW — PROPOSED WASTEWATER LINE
- W — PROPOSED WATER LINE
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- G — G — PROPOSED GAS LINE
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- 585 — EXISTING 5' CONTOUR
- 581 — PROPOSED 1' CONTOUR
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- PROPOSED SINGLE W.W. SERVICE CONN.
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NOT FOR CONSTRUCTION

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

STORM DRAIN A LATERALS PLAN & PROFILE (SHEET 4 OF 4)

This Document Is Released Under The Authority Of Stacy S. Mulholland, PE
Texas Licensed Professional Engineer 146417
For Internal Review Purposes.
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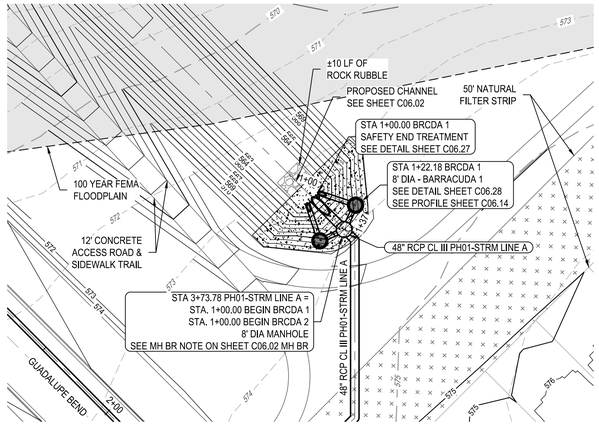
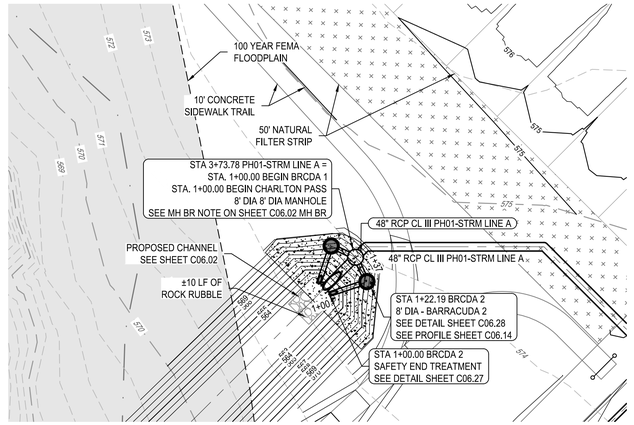
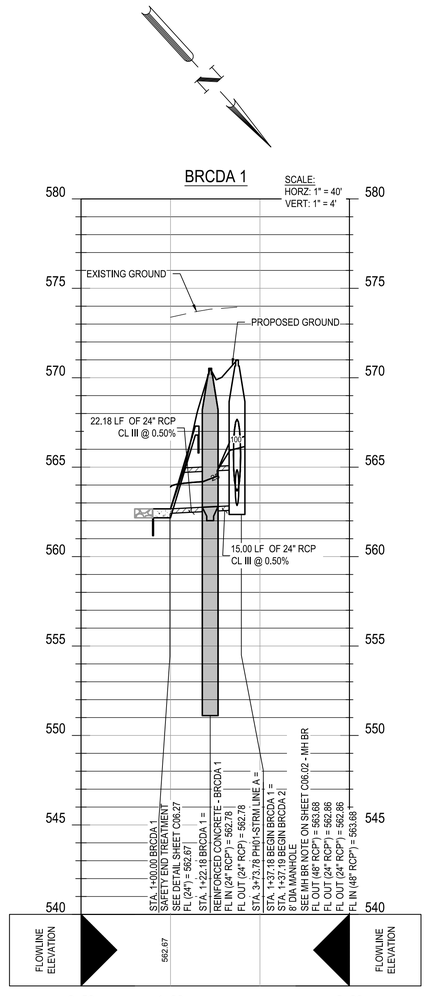
TBPE Registration No. F-1046

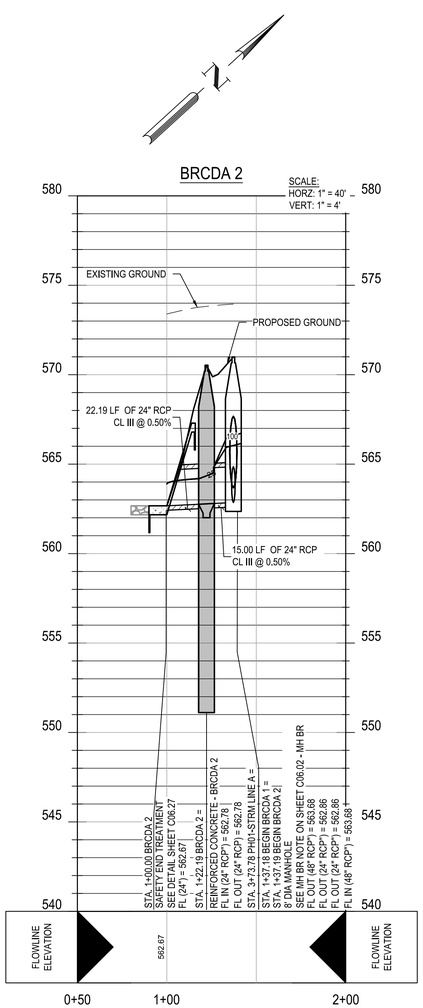
SHEET
C06.13

G:\TX\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C06.13 STORM DRAIN A LATERAL PLAN AND PROFILE.dwg Layout: STORM DRAIN A LATERALS PLAN & PROFILE (SHEET 4 OF 4) Plotted: 3/22/2024 10:31:19 AM By: Jclifton









MH BR NOTE: CONTRACTOR TO GROUT MANHOLE FROM 48" INVERT TO 24" INVERTS TO ENSURE POSITIVE DRAINAGE WITHIN MANHOLE

0 20' 40' 80'
SCALE: 1" = 40'

PIPE IDENTIFICATION	FLOW 100 (CFS)	VELOCITY 100 (FPS)	DEPTH 100 (FT)
BRCDA 1-A	4.88	1.55	1.12
BRCDA 1-B	4.88	0.00	2.04
BRCDA 2-A	4.88	1.55	1.12
BRCDA 2-B	4.88	0.00	2.04

PIPE IDENTIFICATION	FLOW 25 (CFS)	VELOCITY 25 (FPS)	DEPTH 25 (FT)
BRCDA 1-A	4.88	1.55	1.12
BRCDA 1-B	4.88	0.00	2.04
BRCDA 2-A	4.88	1.55	1.12
BRCDA 2-B	4.88	0.00	2.04

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NOTES:

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GUADALUPE BEND PHASE 1

STORM DRAIN A BARRACUDA PLAN & PROFILE

This Document Is Released Under The Authority Of Stacy S. Mulholland, PE
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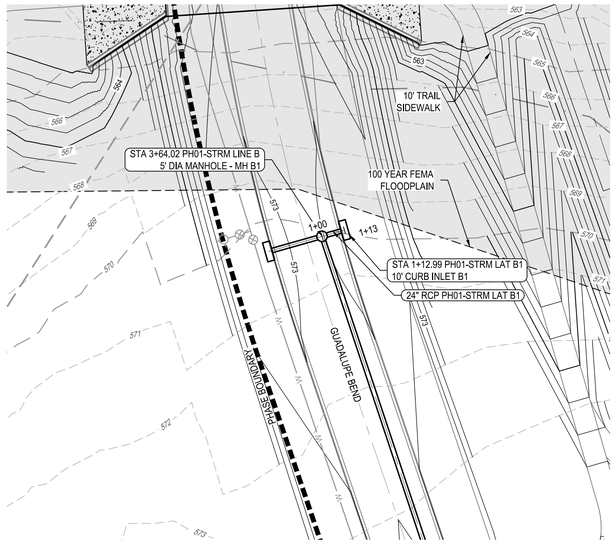
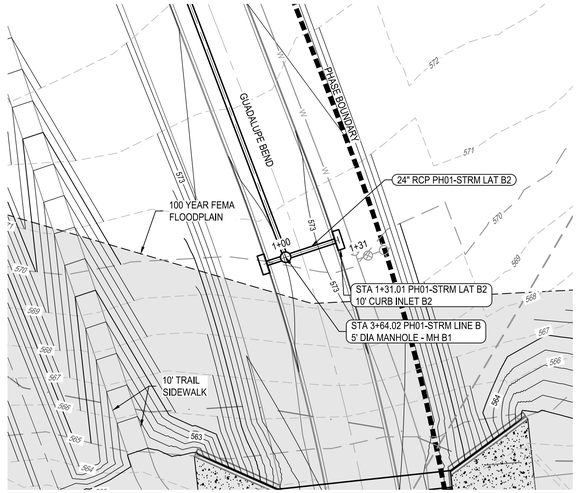
SHEET
C06.14

G:\TXC\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C06.14 STORM DRAIN A BARRACUDA PLAN AND PROFILE.dwg Layout: STORM DRAIN A BARRACUDA PLAN AND PROFILE Plotted: 3/22/2024 10:32:04 AM By: Jclifton



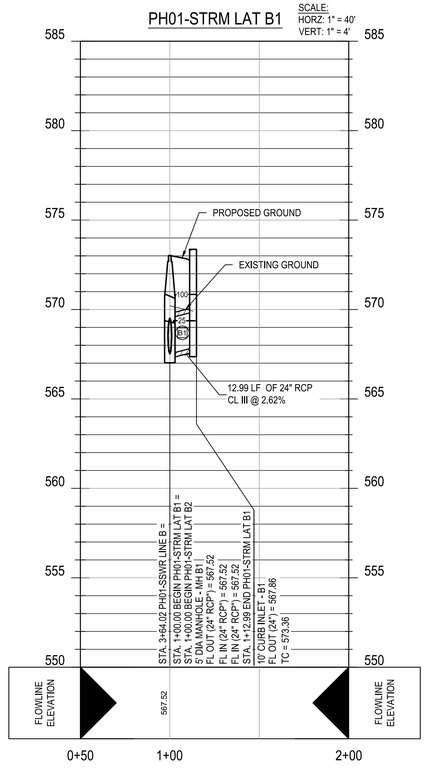


PIPE IDENTIFICATION	FLOW 100 (CFS)	VELOCITY 100 (FPS)	DEPTH 100 (FT)
STRM B1	5.91	1.88	3.31
STRM B2	5.88	1.87	3.31

PIPE IDENTIFICATION	FLOW 25 (CFS)	VELOCITY 25 (FPS)	DEPTH 25 (FT)
STRM B1	4.11	7.71	1.85
STRM B2	4.08	5.64	1.85

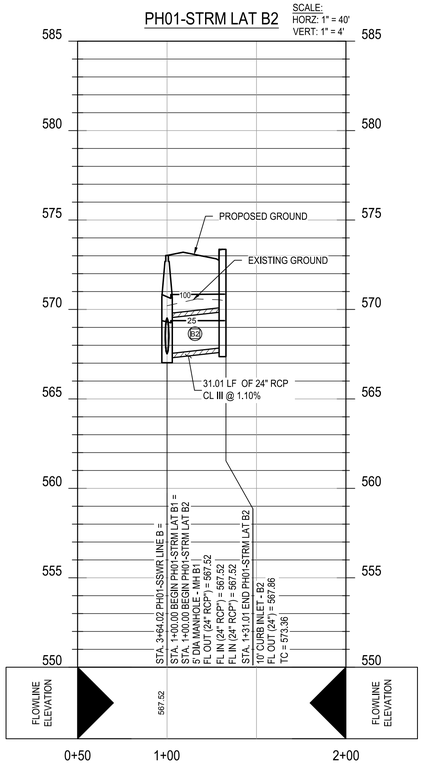
PH01-STRM LAT B1

SCALE:
HORZ: 1" = 40'
VERT: 1" = 4'



PH01-STRM LAT B2

SCALE:
HORZ: 1" = 40'
VERT: 1" = 4'



0 20' 40' 80'

SCALE: 1" = 40'

LEGEND

- STORM DRAIN LINE
- PROPOSED NEW MANHOLE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED ELECTRIC
- PROPOSED GAS LINE
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- PROPOSED SINGLE W.W. SERVICE CONN.
- PROPOSED DOUBLE W.W. SERVICE CONN.
- PROPOSED SINGLE WATER SERVICE
- PROPOSED DUAL WATER SERVICE
- DIRECTION OF FLOW
- UTILITY CROSSING
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- RETAINING WALL
- EASEMENT
- RIPARIAN BUFFER
- JURISDICTIONAL WATERS
- 25 YEAR HGL
- 100 YEAR HGL
- 100 YEAR FEMA FLOODPLAIN
- PROPOSED 10' CURB INLET
- ALL WATER/WASTEWATER SYMBOLS ARE NOT TO SCALE, AND ARE ONLY SHOWN FOR ILLUSTRATION PURPOSES. REFER TO DETAILS SHOWN IN THIS PLAN SET.

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

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NOT FOR CONSTRUCTION

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

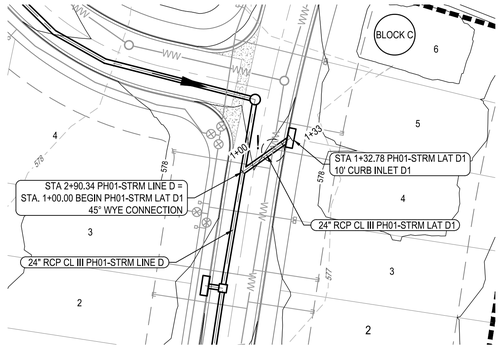
GUADALUPE BEND PHASE 1

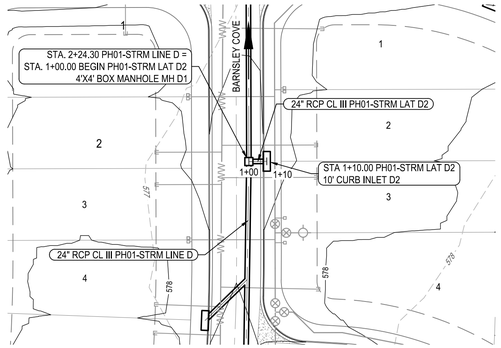
STORM DRAIN B LATERALS
PLAN & PROFILE

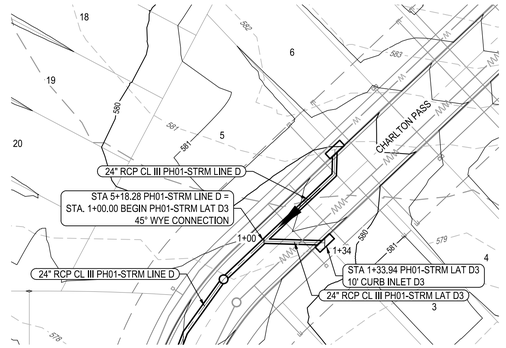
This Document Is Released
Under The Authority Of Stacy S.
Mulholland, PE
Texas Licensed Professional
Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C06.15

G:\TXC\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C06.15 STORM DRAIN B LATERALS PLAN AND PROFILE.dwg Layout: STORM DRAIN B LATERALS PLAN & PROFILE Plotted: 3/22/2024 10:32:48 AM By: Jclifton







0 20' 40' 80'

SCALE: 1" = 40'

PIPE IDENTIFICATION	FLOW 100 (CFS)	VELOCITY 100 (FPS)	DEPTH 100 (FT)
STRM D1	1.86	0.59	3.32
STRM D2	9.67	3.08	3.71
STRM D3	3.22	4.63	1.38

PIPE IDENTIFICATION	FLOW 25 (CFS)	VELOCITY 25 (FPS)	DEPTH 25 (FT)
STRM D1	1.30	4.44	0.95
STRM D2	6.72	9.08	1.51
STRM D3	2.26	4.17	0.85

N

N

N

LEGEND

- STORM DRAIN LINE
- PROPOSED NEW MANHOLE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED ELECTRIC
- PROPOSED GAS LINE
- EXISTING 1' CONTOUR
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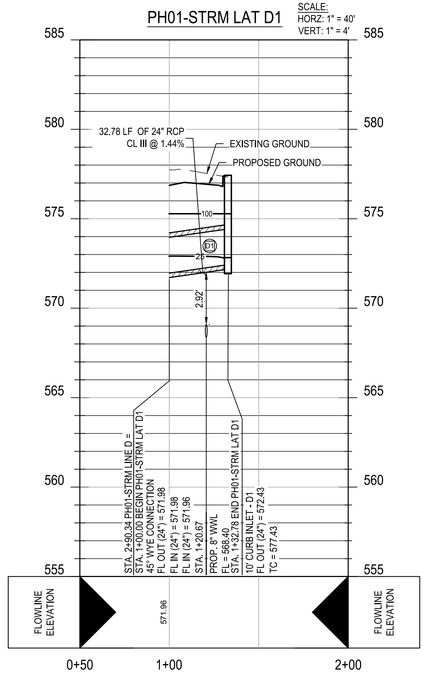
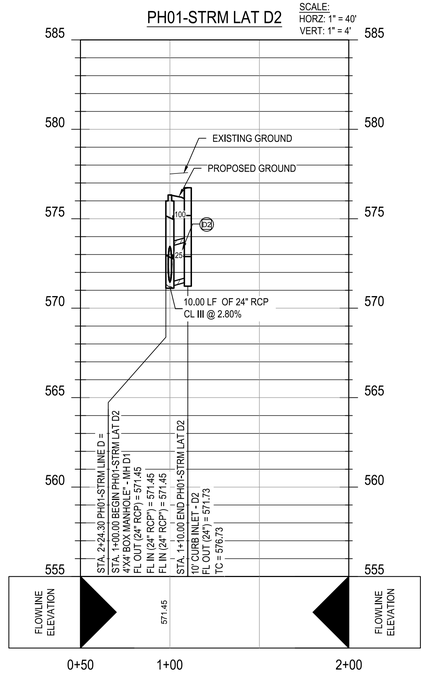
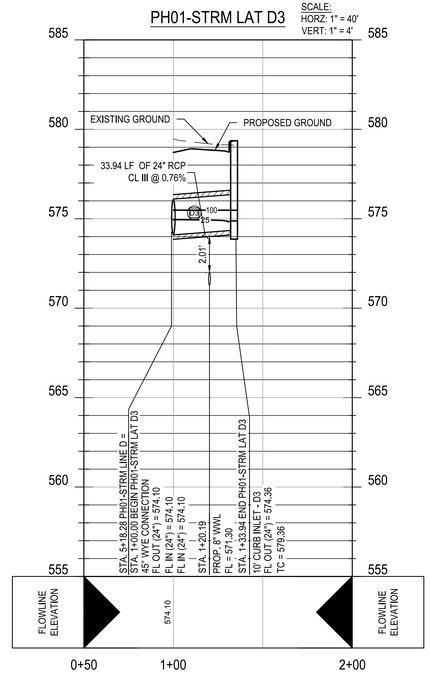






NOT FOR CONSTRUCTION

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR

REVIEWED BY: SSM

DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgetgay.com
TBPE Registration No. F-1046

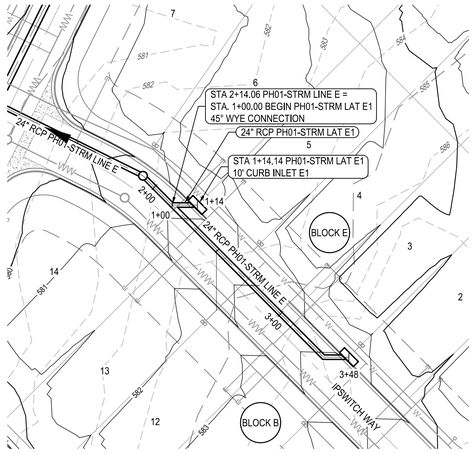
GUADALUPE BEND PHASE 1

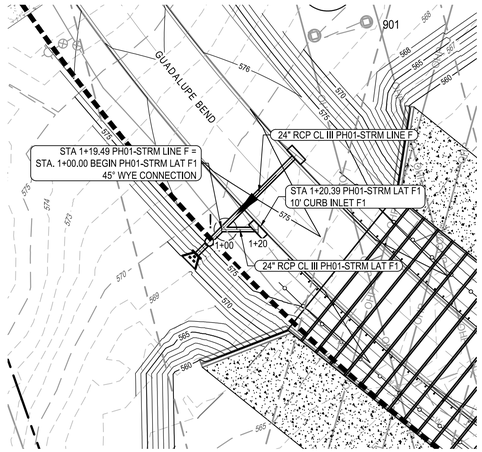
STORM DRAIN D LATERALS PLAN & PROFILE

This Document Is Released Under The Authority Of Stacy S. Mulholland, PE
Texas Licensed Professional Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C06.16

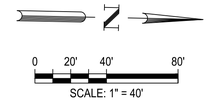
G:\TXC\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C06.16 STORM DRAIN D LATERALS PLAN AND PROFILE.dwg Layout: STORM DRAIN D LATERALS PLAN & PROFILE Plotted: 3/22/2024 10:33:40 AM By: Jolfton





PIPE IDENTIFICATION	FLOW 100 (CFS)	VELOCITY 100 (FPS)	DEPTH 100 (FT)
STRM E1	5.63	1.79	2.44
STRM F1	11.37	3.62	3.59

PIPE IDENTIFICATION	FLOW 25 (CFS)	VELOCITY 25 (FPS)	DEPTH 25 (FT)
STRM E1	3.95	7.87	1.00
STRM F1	7.89	11.43	2.54



LEGEND

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- PROPOSED NEW MANHOLE
- PROPOSED WASTEWATER LINE
- PROPOSED WATER LINE
- PROPOSED ELECTRIC
- PROPOSED GAS LINE
- EXISTING 1' CONTOUR
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- PROPOSED SINGLE W.W. SERVICE CONN.
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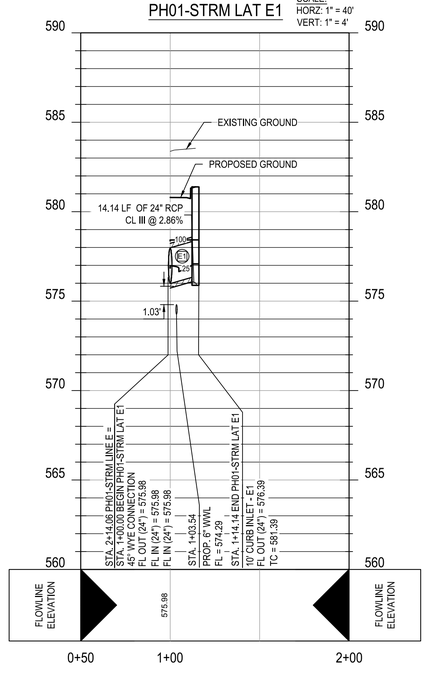
NOT FOR CONSTRUCTION

PH01-STRM LAT E1

SCALE: HORZ: 1" = 40' VERT: 1" = 4'



PH01-STRM LAT F1

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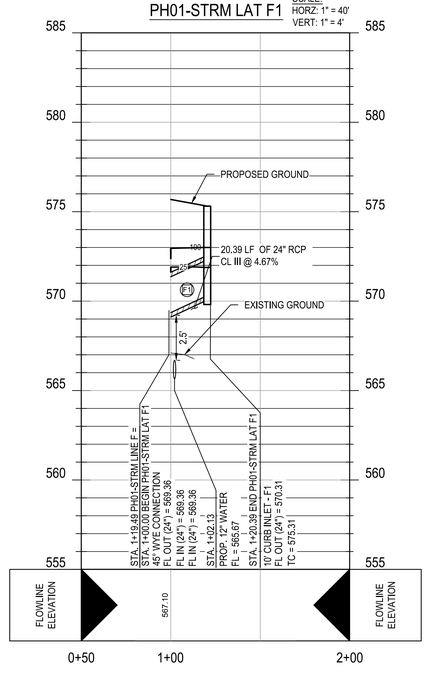


						APR
						DATE
						DESCRIPTION
◁	◁	◁	◁	◁	◁	REV

DESIGNED BY: SAR

REVIEWED BY: SSM

DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

STORM DRAIN E & F LATERALS PLAN & PROFILE

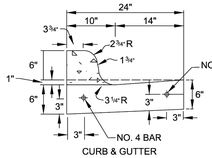
This Document Is Released Under The Authority Of Stacy S. Mulholland, PE Texas Licensed Professional Engineer 146417 For Internal Review Purposes. BGE, Inc. TBPE Registration No. F-1046

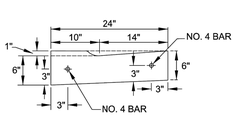
SHEET C06.17

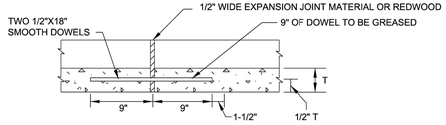
G:\TXC\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C06.17 STORM DRAIN E LATERALS PLAN AND PROFILE.dwg Layout: STORM DRAIN E & F LATERALS PLAN & PROFILE Plotted: 3/22/2024 10:34:25 AM By: Jolifton

G:\TXC\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Site\C06.20 STREET AND DRAINAGE DETAILS.dwg Layout: STREET & DRAINAGE DETAILS (SHEET 1 OF 11) Plotted: 3/22/2024 10:46:51 AM By: Lhuck

CURB AND GUTTER







LONGITUDINAL SECTION THRU CURB AND GUTTER
SHOWING TYPICAL EXPANSION JOINT DETAILS.
REINFORCING STEEL SHALL NOT CROSS EXPANSION JOINTS.
STEEL SHALL BE TERMINATED 3" (+ OR -) 1" FROM FACE OF THE JOINT.

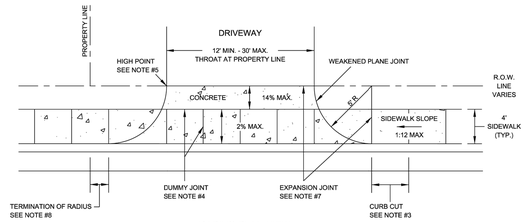
NOTES:

1. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 18".
2. CURB AND GUTTER SHALL HAVE FORMED TOOLED OR SAWED CONTRACTION JOINTS AT ± 10'. THE DEPTH OF THESE JOINTS SHALL BE SUFFICIENT TO ENSURE CRACKING AT THE JOINTS.
3. CURB OR CURB AND GUTTER SHALL HAVE EXPANSION JOINTS AT POINTS OF CURVATURE, AT INTERVALS NO GREATER THAN 100' AND AT ALL ADJACENT STRUCTURES.
4. UNLESS OTHERWISE SHOWN, TRANSITIONS BETWEEN CURBS OR CURBS AND GUTTER OF DIFFERING CROSS SECTION SHALL BE ACCOMPLISHED OVER A 10' LENGTH OR AS APPROVED BY THE CITY ENGINEER.
5. ALL CONCRETE TO BE CLASS "A" 3000 PSI CONCRETE.
6. ALL EXPOSED CONCRETE SURFACES TO BE BRUSHED SMOOTH AND UNIFORM.

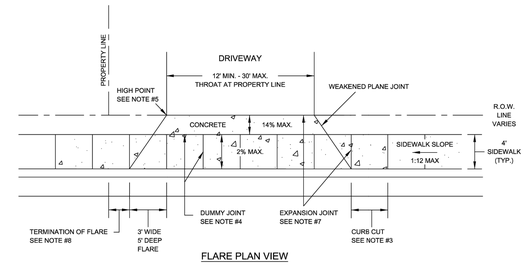
DATE APPROVED: 07/2008	DWG. NO: ST-013	SCALE: N.T.S.
DRAWN BY: RAS	SHEET: 1 OF 1	
FILENAME: CURB & GUTTER		

City of New Braunfels ENGINEERING DEPARTMENT

DRIVEWAY APRON
(RESIDENTIAL - ONE OR TWO FAMILY)



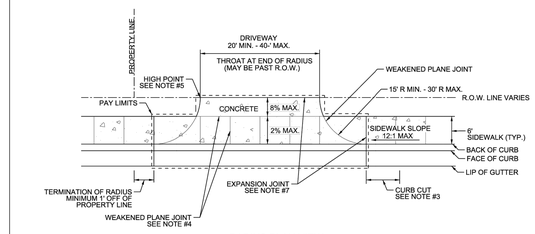
RADIUS PLAN VIEW



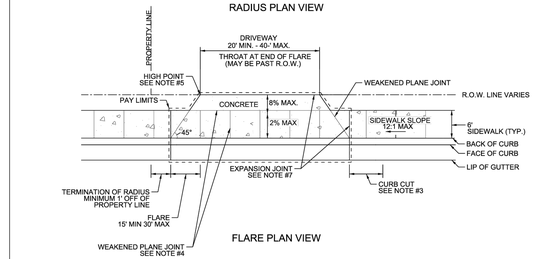
FLARE PLAN VIEW

DATE APPROVED: 04/2016	DWG. NO: ST-014.1	SCALE: N.T.S.
DRAWN BY: RAS	SHEET: 1 OF 2	
FILENAME: DRIVEWAY (RESIDENTIAL - ONE OR TWO FAMILY)		

City of New Braunfels ENGINEERING DEPARTMENT



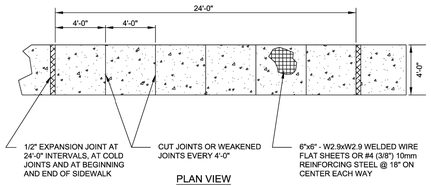
RADIUS PLAN VIEW



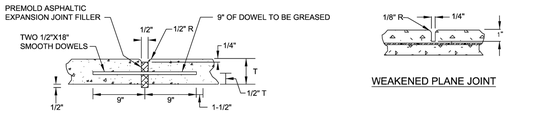
FLARE PLAN VIEW

City of New Braunfels ENGINEERING DIVISION	STANDARD CONSTRUCTION DETAIL DRIVEWAY APRON COMMERCIAL - MULTIFAMILY - INDUSTRIAL PLAN VIEW	SHEET 1 OF 2 SCALE: N.T.S. APPROVED DATE: XXX STANDARD NO: XXX	

SIDEWALK
(RESIDENTIAL)



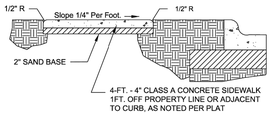
PLAN VIEW



EXPANSION JOINT



WEAKENED PLANE JOINT



TYPICAL SECTION

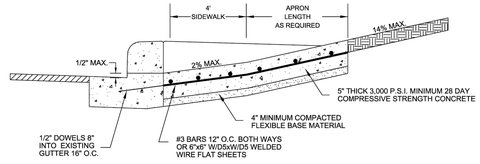
NOTES:

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.

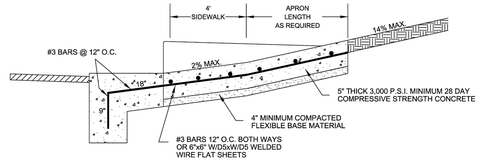
DATE APPROVED: 07/2008	DWG. NO: ST-016	SCALE: N.T.S.
DRAWN BY: RAS	SHEET: 1 OF 1	
FILENAME: SIDEWALK (RESIDENTIAL)		

City of New Braunfels ENGINEERING DEPARTMENT

DRIVEWAY APRON
(RESIDENTIAL - ONE OR TWO FAMILY)



STRUCTURAL SECTION



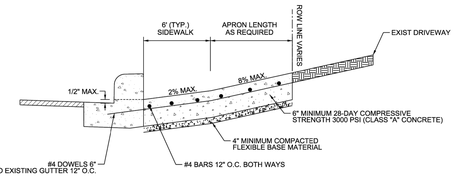
NO EXISTING CURB STRUCTURAL SECTION

NOTES:

1. WHERE GUTTER DOES NOT EXIST DRIVEWAY APRON SHALL EXTEND TO EDGE OF ASPHALT AND SHALL HAVE A MINIMUM 6" WIDE 1' DEEP GRADE BEAM MONOLITHIC AND REINFORCED SIMILAR TO APRON.
2. PLACEMENT OF SIDEWALK SHOWN IS TYPICAL; HOWEVER, ALTERNATIVE SIDEWALK PLACEMENT COMMON TO DRIVEWAY APRON WILL BE CONSIDERED PROVIDED CROSS SLOPE OF SIDEWALK IS NO GREATER THAN 2%.
3. CURB CUT LENGTH NO GREATER THAN AS REQUIRED TO MATCH SLOPE OF ADJACENT SIDEWALK.
4. DUMMY JOINTS TO BE PROVIDED AT MINIMUM 4-FT. INTERVALS PERPENDICULAR TO THE CURB LINE WITHIN THE SIDEWALK AREA AND PARALLEL TO THE SIDEWALK AREA.
5. PROVIDE A MINIMUM 7" HIGH POINT. HIGH POINT HEIGHT SHALL BE MEASURED FROM THE GUTTER FLOW LINE TO THE DRIVEWAY APRON. NOTE HIGH POINT MAY OCCUR OUTSIDE OF ROW.
6. DRIVEWAY THROAT TRANSITION MAY OCCUR OUTSIDE OF ROW.
7. PROVIDE EXPANSION JOINTS AT ALL SIDEWALK AND DRIVEWAY THROAT JOINTS. EXPANSION JOINTS SHALL BE PLACED USING 1/2" ASPHALTIC MATERIAL WITH 1/2" DOWELS 16" O.C.
8. THE TANGENT POINT OF THE DRIVEWAY CURB RETURN AT THE PUBLIC ROADWAY LINE OR FLARE SHALL BE A MINIMUM DISTANCE OF 1' OFF THE PROPERTY PROJECTED PERPENDICULAR TO THE STREET CENTERLINE, EXCEPT SINGLE FAMILY OR ZERO LOT LINE LOTS. ON SINGLE FAMILY ZERO LOT LINE LOTS WHERE THE DRIVE IS ON THE ZERO LOT LINE, THE TANGENT POINT OR FLARE SHALL BE NO GREATER THAN 3' BEYOND THE ADJOINING PROPERTY LINE PROJECTED PERPENDICULAR TO THE STREET CENTERLINE.

DATE APPROVED: 04/2016	DWG. NO: ST-014.2	SCALE: N.T.S.
DRAWN BY: RAS	SHEET: 2 OF 2	
FILENAME: DRIVEWAY (RESIDENTIAL - ONE OR TWO FAMILY)		

City of New Braunfels ENGINEERING DEPARTMENT



STRUCTURAL SECTION

NO EXISTING CURB
STRUCTURAL SECTION

NOTES:

1. WHERE GUTTER DOES NOT EXIST DRIVEWAY APRON SHALL EXTEND TO EDGE OF ASPHALT AND SHALL HAVE A MINIMUM 9" WIDE 1' DEEP GRADE BEAM MONOLITHIC AND REINFORCED SIMILAR TO APRON.
2. PLACEMENT OF SIDEWALK SHOWN IS TYPICAL; HOWEVER, ALTERNATIVE SIDEWALK PLACEMENT COMMON TO DRIVEWAY APRON WILL BE CONSIDERED PROVIDED CROSS SLOPE OF SIDEWALK IS NO GREATER THAN 2%.
3. CURB CUT LENGTH NO GREATER THAN AS REQUIRED TO MATCH SLOPE OF ADJACENT SIDEWALK.
4. WEAKENED PLANE JOINTS TO BE PROVIDED AT MINIMUM 4-FT. INTERVALS PERPENDICULAR TO THE CURB LINE WITHIN THE SIDEWALK AREA AND PARALLEL TO THE SIDEWALK AREA. WEAKENED PLANE JOINTS DENOTE SIDEWALK ACROSS THE DRIVEWAY. SEE EXPANSION JOINT AND WEAKENED PLANE JOINT DETAIL STANDARD FOR MORE INFORMATION.
5. PROVIDE A MINIMUM 7" HIGH POINT. HIGH POINT HEIGHT SHALL BE MEASURED FROM THE GUTTER FLOW LINE TO THE DRIVEWAY APRON. NOTE HIGH POINT MAY OCCUR OUTSIDE OF ROW.
6. DRIVEWAY THROAT TRANSITION MAY OCCUR OUTSIDE OF ROW.
7. PROVIDE EXPANSION JOINTS AT ALL SIDEWALK AND DRIVEWAY THROAT JOINTS.
8. ALL SIDEWALK AND DRIVEWAY CONSTRUCTION SHALL MEET A.D.A. SPECIFICATIONS.
9. SHAPE AND COMPACT SUBGRADE TO PREVENT WATER FROM PONDING IN DRIVEWAY AREA AFTER IT HAS BEEN EXCAVATED. IF WATER PONDS IN THIS AREA PUMP IT OUT AS SOON AS POSSIBLE. DO NOT ALLOW WATER TO POND MORE THAN ONE DAY AFTER A RAIN EVENT.

City of New Braunfels ENGINEERING DIVISION	STANDARD CONSTRUCTION DETAIL DRIVEWAY APRON COMMERCIAL - MULTIFAMILY - INDUSTRIAL PROFILE VIEW	SHEET 2 OF 2 SCALE: N.T.S. APPROVED DATE: XXX STANDARD NO: XXX	

APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.browngay.com
TBPE Registration No. F-1046

NOT FOR CONSTRUCTION

GUADALUPE BEND PHASE 1

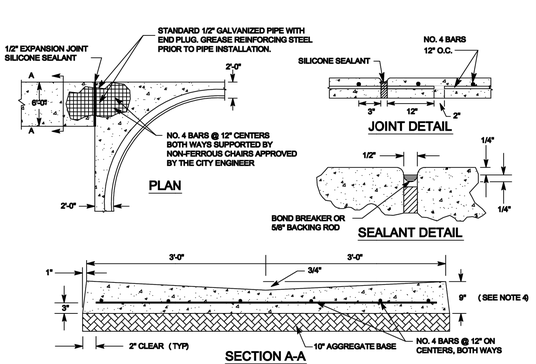
STREET & DRAINAGE DETAILS
(SHEET 1 OF 11)

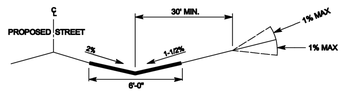
This Document Is Released
Under The Authority Of Stacy S.
Mulholland, PE
Texas Licensed Professional
Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C06.20

G:\TXCI\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C06.20 STREET AND DRAINAGE DETAILS.dwg Layout: STREET & DRAINAGE DETAILS (SHEET 2 OF 11) Plotted: 3/22/2024 10:46:58 AM By: Lhuck

CROSS GUTTER





TYPICAL PROFILE AT LOCAL RESIDENTIAL STREET INTERSECTION

NOTES:

1. **ALL CONCRETE SHALL BE CLASS "A" 3,000 PSI.**
2. **FINISHED ASPHALT CONCRETE SURFACE TO BE FLUSH WITH CROSS GUTTER LIP.**
3. **CONSTRUCTION OF CROSS GUTTER IS NOT ALLOWED ACROSS MAJOR COLLECTOR OR ARTERIAL STREETS.**
4. **ADJACENT SPANDREL SHALL BE 9" THICK CLASS "A" 3,000 PSI CONCRETE.**

DATE APPROVED: 7/08	**DWG. NO: ST-020**	**SCALE: N.T.S.**	**ENGINEERING DEPARTMENT**
DRAWN BY: RAS	**SHEET: 1 OF 1**		
FILENAME: CROSS GUTTER			
P:\CURRENT NEW BRAUNFELS DETAILS\2008			

NOTES:

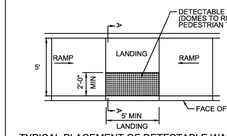
1. REINFORCING STEEL SHALL BE GRADE 60 DEFORMED BARS CONFORMING TO ASTM A 615/A 615M OR ASTM A 706/A 706M.
2. WIRE TIES SHALL BE 16 GAUGE OR HEAVIER BLACK ANNEALED STEEL WIRE.

12" FLUSH CURB
N.T.S.

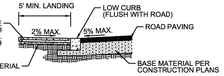
TRANSITION CURB
N.T.S.

*NOTE: TIE INTO EXISTING ASPHALT SHALL BE PER TXDOT REQUIREMENTS FOR ACCESS CONNECTIONS.

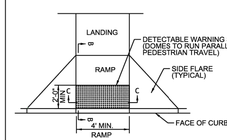
MATCH EXISTING PAVEMENT
N.T.S.



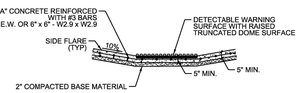
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING FOR PARALLEL CURB RAMP.



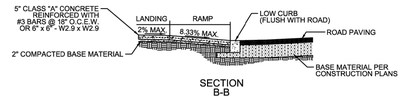
SECTION A-A



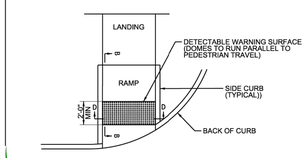
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE FOR PERPENDICULAR CURB RAMP.



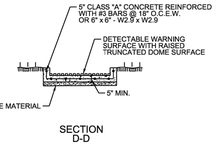
SECTION C-C



SECTION B-B



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



SECTION D-D

CURB RAMP NOTES

1. ALL SLOPES ARE MAXIMUM ALLOWABLE. I.E. THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED. ADJUST CURB RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS 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 118-49 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% (1V:12H). MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND CURB RAMP SURFACES IS 2% (1V:50H).
6. SIDEWALK GRADES SHALL NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT ROADWAY. ANY SIDEWALK CONSTRUCTION THAT DEVIATES FROM THE GRADE OF THE NATURAL GRADE OF THE ROADWAY TO CREATE A GRADE STEEPER 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% (1V: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. MANEUVERING SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 4'X 4' (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 ALIGNED WITH THEORETICAL 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 PRE-MOLD 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 2.67% (1.E. 8.33+2.67=11). IN NO CASE SHALL 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 2" 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 WIRE MESH.
17. THE EXTENTS OF ADA COMPLIANCE IN ALTERATIONS SHALL BE WITHIN THE LIMITS, BOUNDARIES 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. FURNISH 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 ENTERING 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 THE 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.

NOT FOR CONSTRUCTION

								APR
								DATE
								DESCRIPTION
◁	◁	◁	◁	◁	◁	◁		REV

SHEET 1 OF 1
SCALE: N.T.S.
APPROVED DATE: XXX
STANDARD NO.: XXX

STANDARD CONSTRUCTION DETAIL

ADA RAMP

City of New Braunfels
ENGINEERING DIVISION

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

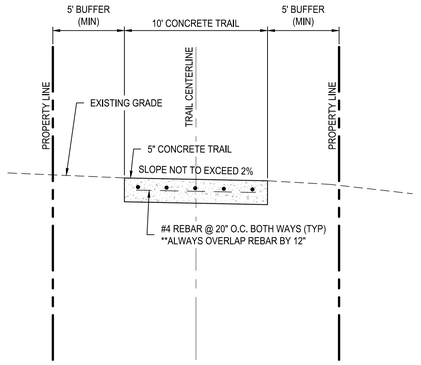
BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

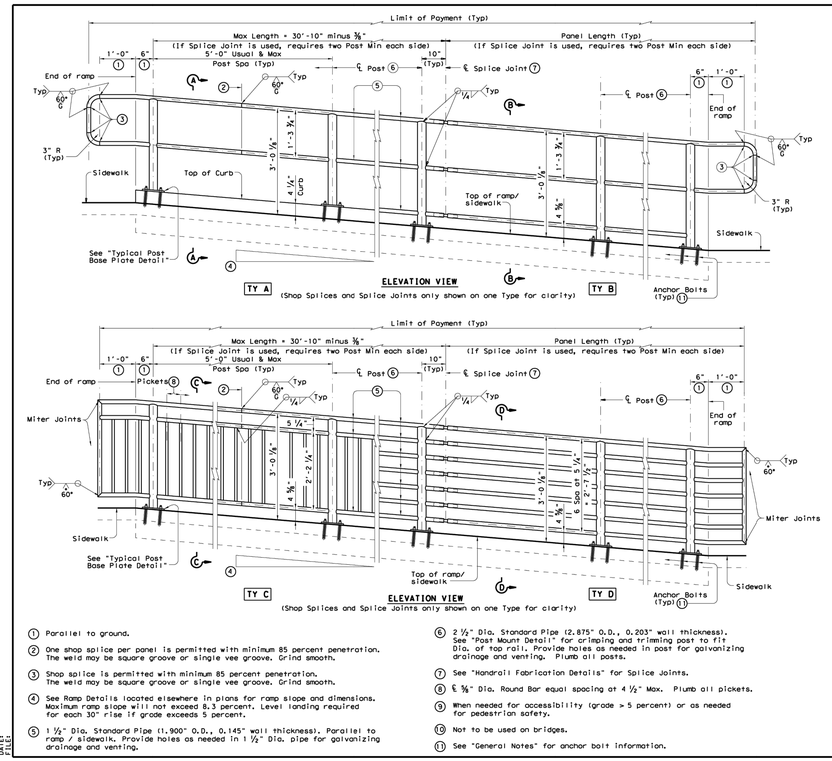
STREET & DRAINAGE DETAILS
(SHEET 2 OF 11)

This Document Is Released Under The Authority Of Stacy S. Mulholland, PE
Texas Licensed Professional Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C06.21



HIKE & BIKE TRAIL TYPICAL SECTION
N.T.S.



RECOMMENDED USAGE 9 10	
Dropoff Height/ Condition	Recommended Rail Options
< 30" dropoff	TY A, TY B, TY C, or TY D
≥ 30" dropoff, or along Bike Path	TY E or TY F

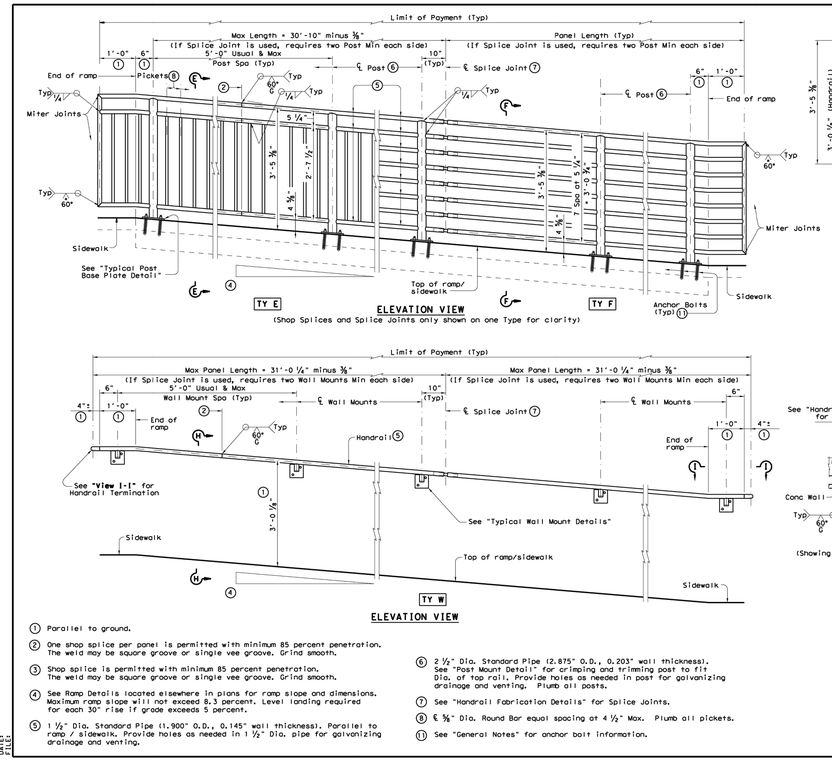
1. Parallel to ground.
2. One shop splice per panel is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
3. Shop splice is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
4. See Ramp Details located elsewhere in plans for ramp slope and dimensions. Maximum ramp slope will not exceed 8.3 percent. Level landing required for each 30" rise if grade exceeds 5 percent.
5. 1 ½" Dia. Standard Pipe (1.900" O.D., 0.145" wall thickness). Parallel to ramp / sidewalk. Provide holes as needed in 1 ½" Dia. pipe for galvanizing drainage and venting.
6. 2 ½" Dia. Standard Pipe (2.875" O.D., 0.203" wall thickness). See "Post Mount Detail" for crimping and trimming post to fit Dia. of top rail. Provide holes as needed in post for galvanizing drainage and venting. Plumb all posts.
7. See "Handrail Fabrication Details" for Splice Joints.
8. ℄ ¾" Dia. Round Bar equal spacing at 4 ½" Max. Plumb all pickets.
9. When needed for accessibility (grade > 5 percent) or as needed for pedestrian safety.
10. Not to be used on bridges.
11. See "General Notes" for anchor bolt information.

SHEET 1 OF 3

Texas Department of Transportation — Design Division Standard

PEDESTRIAN HANDRAIL DETAILS
PRD-13

FILE: prd13.dgn	DN: TxDOT	CK: AM	DW: JTR	CK: CGL
©TxDOT December 2006	CONT	SECT	JOB	HIGHWAY
REVISIONS				
REVISED MAY, 2013 (VP)	DIST	COUNTY		SHEET NO.



1. Parallel to ground.
2. One shop splice per panel is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
3. Shop splice is permitted with minimum 85 percent penetration. The weld may be square groove or single vee groove. Grind smooth.
4. See Ramp Details located elsewhere in plans for ramp slope and dimensions. Maximum ramp slope will not exceed 8.3 percent. Level landing required for each 30" rise if grade exceeds 5 percent.
5. 1 ½" Dia. Standard Pipe (1.900" O.D., 0.145" wall thickness). Parallel to ramp / sidewalk. Provide holes as needed in 1 ½" Dia. pipe for galvanizing drainage and venting.
6. 2 ½" Dia. Standard Pipe (2.875" O.D., 0.203" wall thickness). See "Post Mount Detail" for crimping and trimming post to fit Dia. of top rail. Provide holes as needed in post for galvanizing drainage and venting. Plumb all posts.
7. See "Handrail Fabrication Details" for Splice Joints.
8. ℄ ¾" Dia. Round Bar equal spacing at 4 ½" Max. Plumb all pickets.
11. See "General Notes" for anchor bolt information.

SHEET 2 OF 3

Texas Department of Transportation — Design Division Standard

PEDESTRIAN HANDRAIL DETAILS
PRD-13

FILE: prd13.dgn	DN: TxDOT	CK: AM	DW: JTR	CK: CGL
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REVISIONS				
REVISED MAY, 2013 (VP)	DIST	COUNTY		SHEET NO.

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GUADALUPE BEND PHASE 1

STREET & DRAINAGE DETAILS
(SHEET 3 OF 11)

							APR
							DATE
							DESCRIPTION
◁	◁	◁	◁	◁	◁		REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

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TBPE Registration No. F-1046

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SHEET
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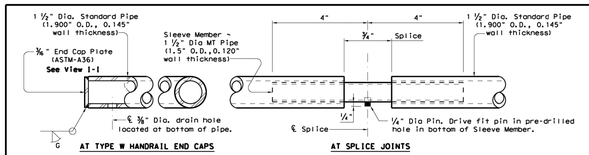
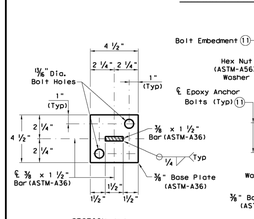


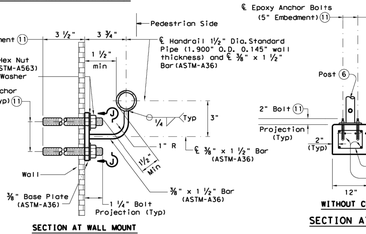
AT TYPE W HANDRAIL END CAPS

AT SPLICE JOINTS

HANDRAIL FABRICATION DETAILS

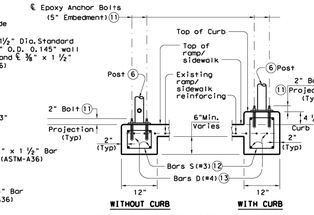


SECTION J-J
(Anchor Bolts not shown for clarity)



SECTION AT WALL MOUNT

TYPICAL WALL MOUNT DETAILS



WITHOUT CURB

WITH CURB

SECTION AT RAIL POST FOUNDATIONS

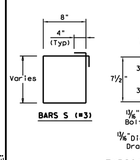
(5) 1 ½" Dia. Standard Pipe (1.900" O.D., 0.145" wall thickness). Parallel to ramp/sidewalk. Provide holes as needed in 1 ½" Dia. pipe for galvanizing drainage and venting.

(6) 2 ½" Dia. Standard Pipe (2.875" O.D., 0.203" wall thickness). Plumb all posts. See "Post Mount Detail" for crimping and trimming post to fit the diameter of top rail. Provide holes as needed in post for galvanizing drainage and venting.

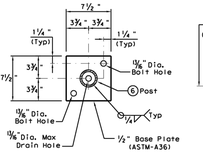
(11) See "General Notes" for anchor bolt information.

(12) Bars S(#3) spaced at 12" Max (Spaced 3" from outside edge of overall length of Ramp/Sidewalk).

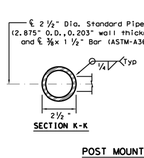
(13) Provide 1 ½" end cover to Bars D(#4) from outside edge of overall length of Ramp/Sidewalk.



BARS S (#3)

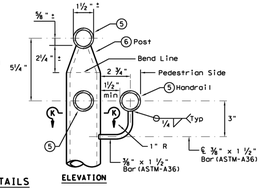


TYPICAL POST BASE PLATE DETAIL



SECTION K-K

POST MOUNT DETAILS



ELEVATION

PLAN SHOWING RAIL AT RAMP CONDITIONS

GENERAL NOTES

Designed according to ADAAG, Texas Accessibility Standards, Uniform Building Code, and AASHTO LRFD Specifications.

Handrail anchorage details shown on this standard may require modification for select structure types. See appropriate details elsewhere in plans for these modifications.

Pipe will conform to ASTM-A53 Grade B or A500 Grade B. Steel plates and steel bars will conform to ASTM-A36. Mechanical tubing (MT) will conform to ASTM A513 Grade 1015 or higher. Galvanize all steel components except reinforcing steel unless noted otherwise.

Concrete for foundations will be in accordance with Item 531 "Sidewalks". All reinforcing steel must be Grade 60. Bar laps, where required, will be as follows: Uncoated - #4 = 1'-5" Epoxy coated - #4 = 2'-1"

When the plans require painted steel, follow the requirements for painting galvanized steel in Item 446, "Cleaning and Painting Steel". Sleeve Members will receive galvanization and any gap field painted after installation unless directed otherwise by Engineer.

Epoxy Anchor bolts for wall mount and post base plate will be ⅝" Dia. ASTM A36 threaded rods with one hex nut and one hardened steel washer at each bolt. ⅝" Dia. threaded rod embedment depth for wall mounts is 3 ½" and embedment depth for post base plate is 5".

Embed threaded rods into concrete with a Type III (Class C) epoxy meeting the requirements of DMS-6100, "Epoxies and Adhesives", Mix and dispense adhesive with the manufacturer's static mixing nozzle/dual cartridge system. Core drill holes (percussion drilling not permitted).

At the contractor's option the post base plate anchor bolts may be cast with the Ramp/Sidewalk (See Cast-in-Place Anchor Bolt Options).

Optional cast-in-place anchor bolts will be ⅝" Dia ASTM A307 Grade A bolts (or A36 threaded rods with one tack welded hex nut each) with one hex nut and one hardened steel washer at each bolt. Embedment depth of cast-in-place bolt will be 8" for post base plate.

Handrails and any wall or other surface adjacent to them will be free of any sharp or abrasive elements.

Submit shop drawings to the Engineer unless otherwise noted. For curved handrail applications, fabricate the handrail to the curve if radius is less than 600 ft. Shop drawings are required when rail is fabricated to the curve.

For all handrails, erection drawings will be submitted to the Engineer for approval to ensure proper installation.

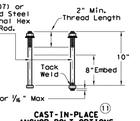
Drawings will show handrail mount locations with bolts setting, spacing, ramp slope, and/or splice joint locations, and handrail lengths with identification showing where each handrail goes on the layout.

Payment for concrete sidewalks or curb ramps will be paid for in accordance with Item 531 "Sidewalks".

Payment for all items shown is to be included in unit price bid in accordance with Item 450 "Railing" of the type specified.

All exposed edges will be rounded or chamfered to approximately ⅛" by grinding.

℄ ⅜" Dia. Hex Head Anchor Bolt (ASTM-A307) or Threaded Rod (ASTM-A36) with one Hardened Steel Washer placed under Hex Nut. One additional Hex Nut will be furnished for each Threaded Rod.



CAST-IN-PLACE ANCHOR BOLT OPTIONS
(Used for Post Base Plate only)

SHEET 3 OF 3

Texas Department of Transportation — Design Division Standard

PEDESTRIAN HANDRAIL DETAILS

PRD-13

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DESIGNED BY: SAR

REVIEWED BY: SSM

DRAWN BY: SAR

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GUADALUPE BEND PHASE 1

STREET & DRAINAGE DETAILS (SHEET 4 OF 11)

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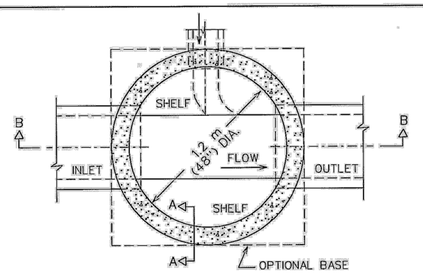
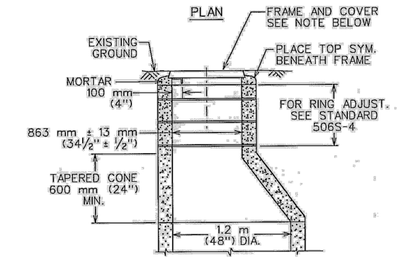




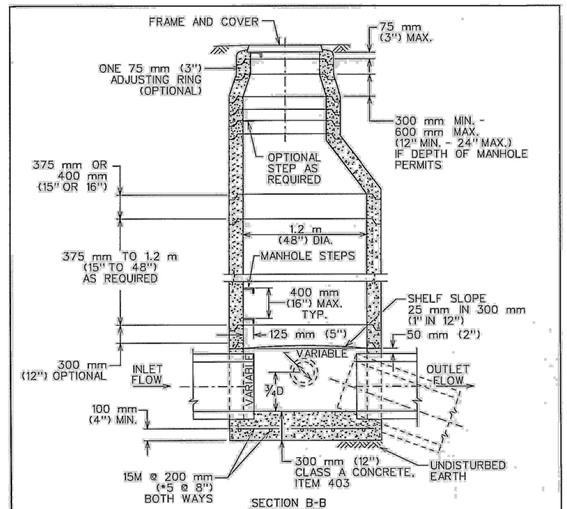
ALTERNATE SECTION
MAY BE SUBMITTED FOR APPROVAL.

NOTE:
USE 800 mm (32") FRAME AND COVER.

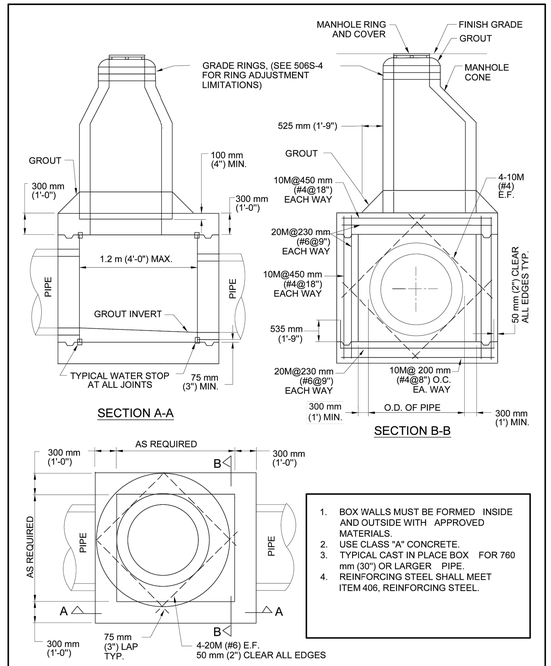
MINIMUM MANHOLE DIA.	MINIMUM PIPE SIZE
1.2 m (4')	450 TO 600 mm (18 TO 24")
1.5 m (5')	750 mm TO 1.1 m (30 TO 42")
1.8 m (6')	1.2 TO 1.4 m (48 TO 54")
2.1 m (7')	1.5 TO 1.7 m (60 TO 66")

SIZE TO BE USED IS DEPENDENT ON DRAIN ANGLES.

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	PRE-CAST CONCRETE STORM DRAIN MANHOLE	
George E. Dowdy 2/17/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-3 1 OF 2



CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	PRE-CAST CONCRETE STORM DRAIN MANHOLE	
George E. Dowdy 2/17/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-3 2 OF 2



1. BOX WALLS MUST BE FORMED INSIDE AND OUTSIDE WITH APPROVED MATERIALS.
2. USE CLASS "A" CONCRETE.
3. TYPICAL CAST IN PLACE BOX FOR 760 mm (30") OR LARGER PIPE.
4. REINFORCING STEEL SHALL MEET ITEM 406, REINFORCING STEEL.

CITY OF AUSTIN WATER AND WASTEWATER UTILITY	TYPICAL BOX MANHOLE 760 mm (30") & LARGER PIPE	
RECORD COPY SIGNED BY KATHI F. PAYNE 2/17/00 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-5 1 OF 1

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REVIEWED BY:						SSM	
DRAWN BY:						SAR	

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GUADALUPE BEND PHASE 1

STREET & DRAINAGE DETAILS
(SHEET 5 OF 11)

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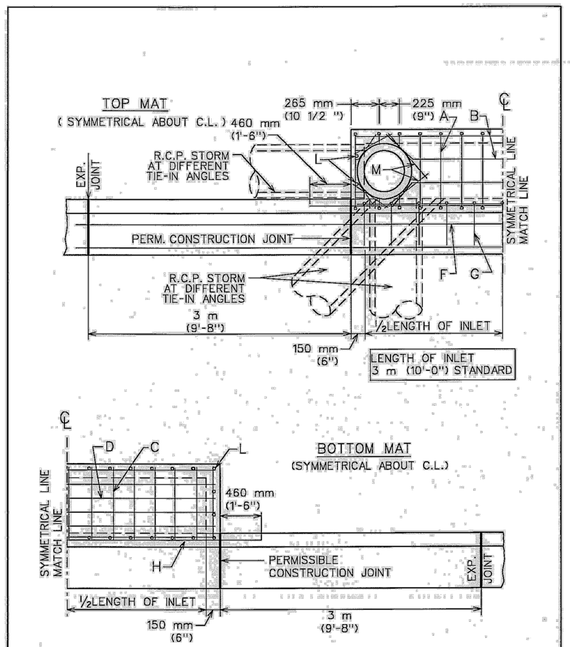
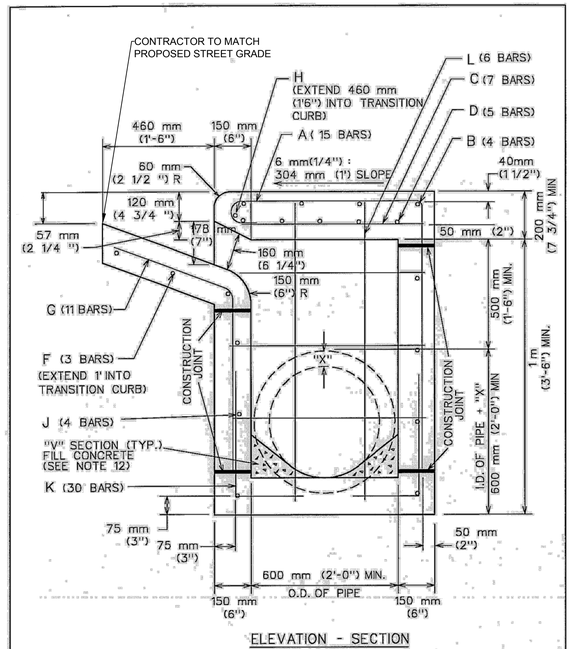


CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPICAL DETAILS FOR CURB INLET	
Bill Gardner 12/9/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S-3 1 OF 4

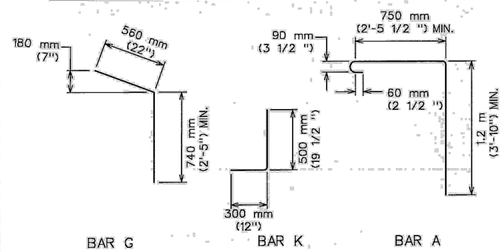


ELEVATION - SECTION

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPICAL DETAILS FOR CURB INLET	
Bill Gardner 12/9/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S-3 2 OF 4

TABLE OF QUANTITIES
FOR 18" OUTLET PIPE
REINFORCING STEEL QUANTITIES

BARS	SIZE	SPACING	NUMBER	LENGTH	WEIGHT
A	4	230mm (9")×	15	2 m (7'-0")	73
B	4	250 mm (10")	4	3.25 m (10'-8")	29
C	4	460 mm (18")	7	760 mm (2'-6")	12
D	6	150 mm (6")	5	3.25 m (10'-8")	80
E	4	300 mm (12")	6	760 mm (2'-6")	10
F	4	250 mm (10")	3	4 m (13'-0")	35
G	4	300 mm (12")	11	1.25 m (4'-3")	31
H	6	-	1	4.25 m (14'-0")	20
J	4	300 mm (12")	7	3.25 m (10'-8")	50
K	4	230 mm (9")×	30	800 mm (2'-7 1/2")	52
L	4	300 mm (12")×	6	1.3 m (4'-4")	17
M	4	-	4	500 mm (1'-8") AVG	4
TOTAL STEEL, LB.					413
TOTAL CONCRETE, C.Y.					4.06
× EXCEPT AS SHOWN ON PLAN					



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Bill Gardner 12/9/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S-3 3 OF 4

NOTES:
1. ALL CONCRETE SHALL BE CLASS "A"
2. ALL REINFORCING STEEL SHALL BE GRADE 60
3. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTERS OF BARS.
4. VERTICAL STEEL MAY BE SPLICED (380 mm or 15" MIN. LAP) IN THE LOWER ONE-HALF OF ALL INLET WALLS.5. IN AREAS OF CONFLICT BETWEEN REINFORCING STEEL, PIPES AND MANHOLE FRAME, THE REINFORCEMENT SHALL BE BENT OR ADJUSTED TO CLEAR AS DIRECTED BY THE ENGINEER.
6. QUANTITIES SHOWN HEREON ARE FOR THE CONTRACTOR'S INFORMATION ONLY. PAYMENT WILL BE MADE FOR EACH INLET OF THE TYPE SPECIFIED, COMPLETE IN PLACE INCLUDING MANHOLE FRAME AND OVER.
7. CHAMFER ALL EXPOSED EDGES 20 mm (3/4 ").
8. MANHOLE FRAME AND COVER SHALL BE IN ACCORDANCE WITH CITY OF AUSTIN STANDARD 503S-1.
9. THE CONTRACTOR MAY PROPOSE ALTERNATE PROCEDURES FOR THE CONSTRUCTION OF INLETS, INCLUDING PRECAST UNITS. PLANS FOR SUCH PROPOSED ALTERNATES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BEFORE CONSTRUCTION.
10. ALL INLET WALLS SHALL BE FORMED EXCEPT WHERE THE NATURE OF THE SURROUNDING MATERIAL IS SUCH THAT IT CAN BE TRIMMED TO A SMOOTH VERTICAL FACE. WHEN INLET WALLS ARE PLACED TO NEAT EXCAVATION LINES THE WALL THICKNESS SHALL NOT EXCEED 10 INCHES.
11. PAYMENT FOR INLET AT THE CONTRACT PRICE SHALL INCLUDE THE TRANSITION CURB.
12. INVERT OF INLET SHALL BE SLOPED 1:20 WITH FILL CONCRETE, SHAPED AS "V" SECTION
13. NO SPLICING OF REINFORCING STEEL SHALL BE PERMITTED UNLESS OTHERWISE NOTED ON THE PLANS OR PERMITTED IN WRITING BY THE ENGINEER.

REFERENCES:
FOR EXPANSION JOINT DOWEL AND DOWEL LOCATION DETAILS SEE STD. 430S-3, "CURB EXPANSION JOINT DOWEL DETAIL".
FOR 18" MANHOLE FRAME AND COVER DETAILS SEE STD. 503S-1, "18" COVER AND FRAME".

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPICAL DETAILS FOR CURB INLET	
Bill Gardner 12/9/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S-3 4 OF 4

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GUADALUPE BEND PHASE 1

STREET & DRAINAGE DETAILS (SHEET 6 OF 11)

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TABLE OF DIMENSIONS AND REINFORCING STEEL
(Wings for one structure end)

Maximum Wingwall Height Hw	Dimensions W	X	Y	Z	Variable Reinforcing Bars J1 Size	Bars J1 Spa	Bars J2 Size	Bars J2 Spa	Estimated Quantities per ft of wing length (2-wings) ③ Reinf (Lb/Ft)	Conc (CY/Ft)
2'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	33.73	0.248
3'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.07	0.261
3'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.74	0.273
4'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	38.41	0.285
4'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	41.75	0.330
5'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	42.42	0.342
5'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.75	0.355
6'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	46.42	0.367
7'-0"	3'-8"	1'-9"	1'-3"	7"	#4	1'-0"	#4	1'-0"	52.77	0.414
8'-0"	4'-2"	2'-0"	1'-6"	8"	#5	1'-0"	#4	1'-0"	60.19	0.486
9'-0"	4'-8"	2'-3"	1'-9"	8"	#4	6"	#4	6"	81.49	0.535
10'-0"	5'-2"	2'-6"	2'-0"	8"	#5	6"	#4	6"	97.25	0.584
11'-0"	5'-8"	2'-9"	2'-3"	8"	#6	6"	#5	6"	133.65	0.634
12'-0"	6'-2"	3'-0"	2'-6"	9"	#7	6"	#5	6"	162.26	0.721
13'-0"	6'-8"	3'-3"	2'-9"	11"	#7	6"	#5	6"	178.80	0.856
14'-0"	7'-2"	3'-6"	3'-0"	1'-1"	#8	6"	#5	6"	216.78	0.959
15'-0"	7'-8"	4'-0"	3'-0"	1'-1"	#9	6"	#6	6"	283.06	1.068
16'-0"	8'-2"	4'-6"	3'-0"	1'-3"	#9	6"	#6	6"	297.02	1.234

TABLE OF WINGWALL REINFORCING (2-wings)

Bar	Size	No.	Spa
D	#5	~	1'-0"
E	#4	~	1'-0"
F	#4	~	1'-0"
G	#6	4	~
M	#4	4	~
P	#4	~	1'-0"
R	#5	6	~
V	#4	~	1'-0"

TABLE OF ESTIMATED CULVERT TOEWALL QUANTITIES

Bar	Size	No.	Spa
L	#4	~	1'-6"
Q	#4	1	~
Reinf (Lb/Ft)			2.45
Conc (CY/Ft)			0.037

WING DIMENSION FORMULAS:
(All values are in feet.)

Hw = H + T + C – 0.250'
A = (Hw – 0.333') (SL)
B = (A) tangent (30°)
Lw = (A) ÷ cosine (30°)

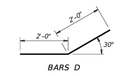
For cast-in-place culverts:
Ltw = (N) (S) + (N + 1) (U)

For precast culverts:
Ltw = (N) (2U + S) + (N – 1) (0.5')

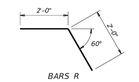
Total wingwall area (two wings – SF) = (Hw + 0.333) (Lw)

Hw = Height of wingwall
SL:1 = Side slope ratio (horizontal:1 vertical)
Lw = Length of wingwall
Ltw = Culvert toewall length
N = Number of culvert spans

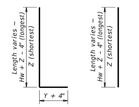
See applicable box culvert standard sheet for H, S, T, and U values.



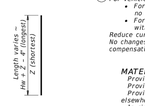
BARS D



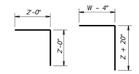
BARS R



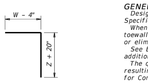
BARS J1



BARS V



BARS L



BARS J2

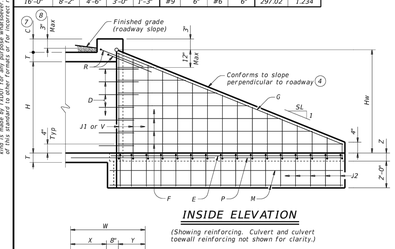
1. *Extend Bars P 3'-0" minimum into bottom slab of box culvert.*
2. *Adjust as necessary to maintain 1 1#2" clear cover and 4" minimum between bars.*
3. *Quantities shown are based on an average wing height for two wings (one structure end). To determine total quantities for two wings, multiply the tabulated values by Lw.*
4. *Recommended values of side slope are: 2:1, 3:1, 4:1, and 6:1.*
5. *When shown elsewhere on the plans, construct 5" deep concrete riprap. Payment for riprap is as required by Item 432, "Riprap". Unless otherwise shown on the plans or directed by the Engineer, provide a 6" wide by 1'-6" deep reinforced concrete toewall along all edges of the riprap adjacent to natural ground; reinforce the toewall by extending typical riprap reinforcing into the toewall; and extend construction joints or grooved joints oriented in the direction of flow across the full distance of the riprap at intervals of approximately 20'. When such riprap is provided, the culvert toewall shown in SECTION B-B will not be required.*
6. *At Contractor's option, culvert toewall may be ended flush with wingwall toewall. Adjust reinforcing as needed.*
7. *0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'-0, refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) standard sheet. Refer to the Box Culvert Rail Mounting Details (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.*
8. *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 grade.*

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.

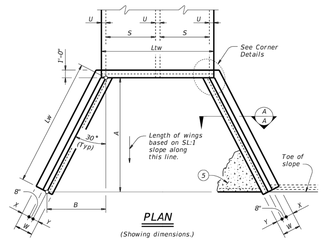
MATERIAL NOTES:
Provide Class C concrete (f'c=3,600 psi).
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
In riprap concrete synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing unless noted otherwise.

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
When structure is founded on solid rock, depth of toewalls for culverts and wingwalls may be reduced or eliminated as directed by the Engineer.
See Box Culvert Supplement (BCS) standard sheet for additional dimensions and information.
The quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for Contractor's information only.

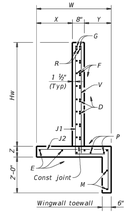
Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing dimensions are out-to-out of bars.



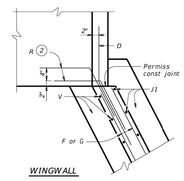
INSIDE ELEVATION
(Showing reinforcing. Culvert and culvert toewall reinforcing not shown for clarity.)



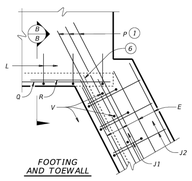
PLAN
(Showing dimensions.)

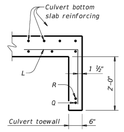


SECTION A-A



WINGWALL


FOOTING AND TOEWALL



SECTION B-B ⑤

CORNER DETAILS
(Culvert and culvert toewall reinforcing not shown for clarity.)

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DATE:
FILE:

Texas Department of Transportation — Bridge Division Standard

CONCRETE WINGWALLS WITH FLARED WINGS FOR 0° SKEW BOX CULVERTS

FW-0

FILE: fw-0skb-20.dgn	DN: GAF	CK: CAT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

NOT FOR CONSTRUCTION

							APR
							DATE
							DESCRIPTION
◁	◁	◁	◁	◁	◁		REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

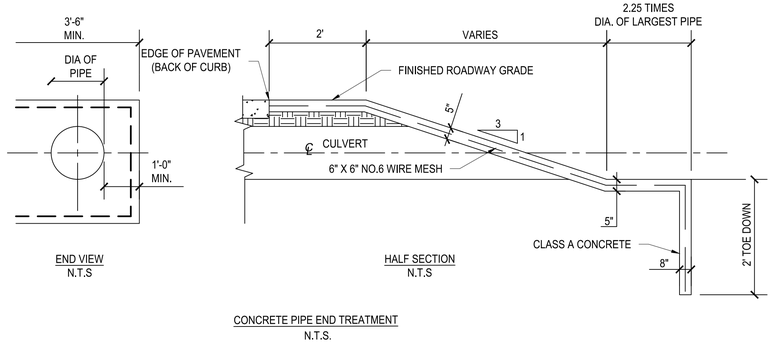
BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

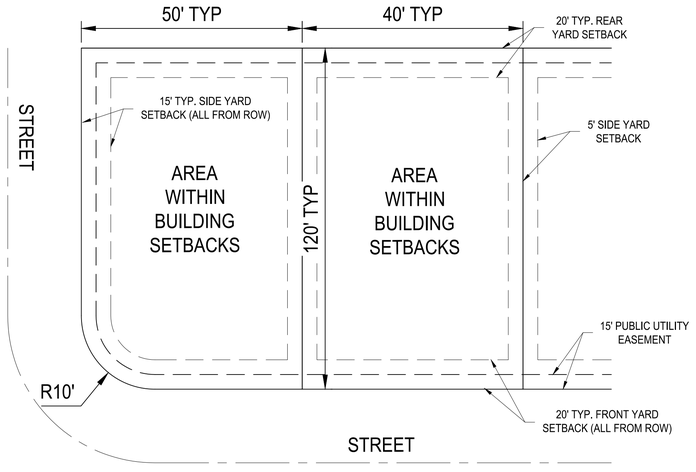
STREET & DRAINAGE DETAILS (SHEET 7 OF 11)

This Document Is Released Under The Authority Of Stacy S. Mulholland, PE Texas Licensed Professional Engineer 146417 For Internal Review Purposes. BGE, Inc. TBPE Registration No. F-1046

SHEET
C06.26



CONCRETE PIPE END TREATMENT
N.T.S.



TYPICAL LOT LAYOUT
N.T.S.

NOTES:
1. TYPICAL SETBACKS AND EASEMENTS APPLY TO ALL LOTS EXCEPT WHERE NOTED OTHERWISE.
2. CORNER LOTS WITH THE REAR YARD ADJACENT TO A FRONT YARD ARE SUBJECT TO A 15-FOOT SIDE BUILDING SETBACK.
3. A 20' P.U.E. WILL BE DEDICATED ADJACENT TO ALL STREET RIGHT OF WAY.
4. THE FRONT BUILDING SETBACK LINE ON ALL PUBLIC ROADS SHALL BE 20 FEET FROM THE EDGE OF THE RIGHT OF WAY.

BOX DATA

SECTION DIMENSIONS					Fill Height	H (Min)	REINFORCING (sq. in. / ft.) (2)						(1) Lift Weight
S (ft.)	H (ft.)	TT (in.)	TB (in.)	TS (in.)	(ft.)	(in.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	(tons)
8	3	8	8	8	< 2	-	0.31	0.35	0.25	0.19	0.19	0.19	0.19	10.4
8	3	8	8	8	2 < 3	55	0.35	0.29	0.28	0.19	-	-	-	10.4
8	3	8	8	8	3 - 5	50	0.28	0.23	0.24	0.19	-	-	-	10.4
8	3	8	8	8	10	45	0.29	0.25	0.26	0.19	-	-	-	10.4
8	3	8	8	8	15	45	0.39	0.33	0.34	0.19	-	-	-	10.4
8	3	8	8	8	20	45	0.51	0.43	0.44	0.19	-	-	-	10.4
8	3	8	8	8	25	45	0.63	0.53	0.54	0.19	-	-	-	10.4
8	4	8	8	8	< 2	-	0.27	0.38	0.29	0.19	0.19	0.19	0.19	11.2
8	4	8	8	8	2 < 3	50	0.31	0.34	0.32	0.19	-	-	-	11.2
8	4	8	8	8	3 - 5	50	0.25	0.27	0.27	0.19	-	-	-	11.2
8	4	8	8	8	10	45	0.26	0.28	0.29	0.19	-	-	-	11.2
8	4	8	8	8	15	41	0.34	0.37	0.38	0.19	-	-	-	11.2
8	4	8	8	8	20	41	0.44	0.48	0.49	0.19	-	-	-	11.2
8	5	8	8	8	< 2	-	0.24	0.40	0.32	0.19	0.19	0.19	0.19	12.0
8	5	8	8	8	2 < 3	50	0.28	0.37	0.35	0.19	-	-	-	12.0
8	5	8	8	8	3 - 5	45	0.23	0.29	0.30	0.19	-	-	-	12.0
8	5	8	8	8	10	45	0.23	0.31	0.32	0.19	-	-	-	12.0
8	5	8	8	8	15	41	0.30	0.41	0.42	0.19	-	-	-	12.0
8	5	8	8	8	20	41	0.39	0.52	0.54	0.19	-	-	-	12.0
8	6	8	8	8	< 2	-	0.22	0.42	0.35	0.19	0.19	0.19	0.19	12.8
8	6	8	8	8	2 < 3	50	0.25	0.40	0.38	0.19	-	-	-	12.8
8	6	8	8	8	3 - 5	50	0.21	0.32	0.33	0.19	-	-	-	12.8
8	6	8	8	8	10	45	0.22	0.33	0.34	0.19	-	-	-	12.8
8	6	8	8	8	15	41	0.28	0.43	0.45	0.19	-	-	-	12.8
8	6	8	8	8	20	41	0.36	0.55	0.57	0.19	-	-	-	12.8
8	7	8	8	8	< 2	-	0.20	0.44	0.37	0.19	0.19	0.19	0.19	13.6
8	7	8	8	8	2 < 3	55	0.23	0.43	0.41	0.19	-	-	-	13.6
8	7	8	8	8	3 - 5	55	0.19	0.34	0.35	0.19	-	-	-	13.6
8	7	8	8	8	10	50	0.20	0.34	0.36	0.19	-	-	-	13.6
8	7	8	8	8	15	41	0.26	0.45	0.47	0.19	-	-	-	13.6
8	7	8	8	8	20	41	0.33	0.57	0.60	0.19	-	-	-	13.6
8	8	8	8	8	< 2	-	0.20	0.45	0.40	0.19	0.19	0.19	0.19	14.4
8	8	8	8	8	2 < 3	65	0.21	0.45	0.44	0.19	-	-	-	14.4
8	8	8	8	8	3 - 5	55	0.19	0.36	0.38	0.19	-	-	-	14.4
8	8	8	8	8	10	55	0.19	0.33	0.38	0.19	-	-	-	14.4
8	8	8	8	8	15	45	0.24	0.46	0.49	0.19	-	-	-	14.4
8	8	8	8	8	20	45	0.31	0.59	0.62	0.19	-	-	-	14.4

(1) For box length = 8'-0"

(2) AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.

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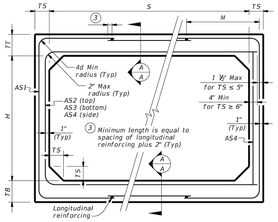
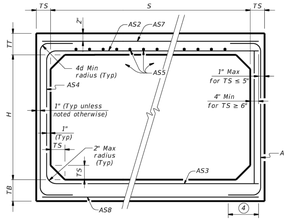
DATE:
FILE:

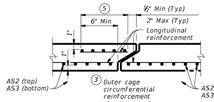


FILL HEIGHT 2 FT AND GREATER



FILL HEIGHT LESS THAN 2 FT

(4) Length is equal to spacing of longitudinal reinforcing plus 2". (10" Min) (Typ)



SECTION A-A
(Showing top and bottom slab joint reinforcement.)

MATERIAL NOTES:
Provide 0.03 sq. in./ft. minimum longitudinal reinforcement at each face in slabs and walls. This minimum requirement may be met by the transverse wires when wire mesh reinforcement is used.
Provide Class H concrete (f'c = 5,000 psi).

GENERAL NOTES:
Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.
See Box Culverts Precast Miscellaneous Details (SCP-MD) standard sheet for details and notes not shown.
In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Submit shop plans for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)".

HL93 LOADING

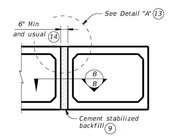
Texas Department of Transportation | Bridge Division Standard

SINGLE BOX CULVERTS
PRECAST
8'-0" SPAN

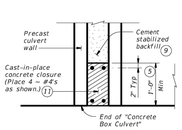
SCP-8

FILE:	scp08ts-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS		DIST	COUNTY		SHEET NO.

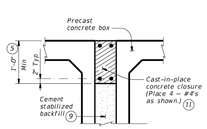
MULTIPLE UNIT PLACEMENT



SECTION B-B

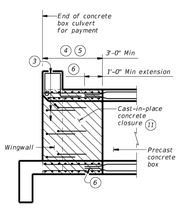


DETAIL "A" (13)

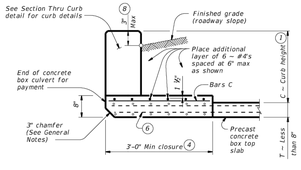


WINGWALL CONNECTION

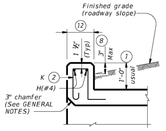
(Also applies to safety end treatment.)



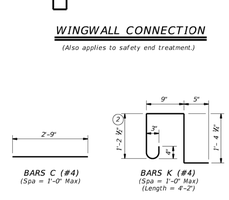
SECTION THRU TOP SLABS LESS THAN 8"



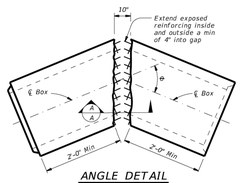
SECTION THRU CURB



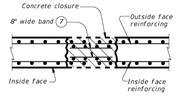
QUANTITIES PER FOOT OF CURB (10)	
Reinforcing Steel	4.12 Lb
Concrete	0.037 CY



ANGLE DETAIL

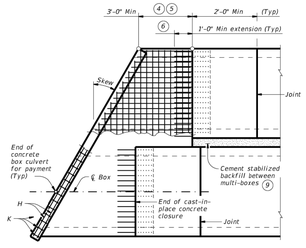


SECTION A-A



PLAN OF SKEWED ENDS

(Showing multi-box placement.)



(1) 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail, bicycle rail, or curbs taller than 1'-0, refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) standard sheet. Refer to the Box Culvert Rail Mounting Details (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.

(2) For curbs less than 1'-0" high, tilt Bars K or reduce bar height as necessary to maintain cover. For curbs less than 2" 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 and spacing as in the precast box section. Provide #4 longitudinal 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 without bridge rail, construct curbs no more than 3" above finished grade.
- For structures with bridge rail, construct curbs flush with finished grade.

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.

(9) Cement stabilized backfill between boxes is considered part of the box culvert for payment.

(10) All 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 ASTM A1064 welded wire 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:
Designed according 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

FILE:	scpmds1-20.dgn	DN: GAF	CK: LMB	DW: BWH/TxDOT	CK: GAF
©TxDOT	February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS		DIST	COUNTY		SHEET NO.

							APR
							DATE
							DESCRIPTION
◁	◁	◁	◁	◁	◁	◁	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
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TBPE Registration No. F-1046

NOT FOR CONSTRUCTION

GUADALUPE BEND PHASE 1

STREET & DRAINAGE DETAILS
(SHEET 8 OF 11)

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SHEET
C06.27

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G:\TX\CIP\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Site\C06.20 STREET AND DRAINAGE DETAILS.dwg Layout: STREET & DRAINAGE DETAILS (SHEET 9 OF 11) Plotted: 3/22/2024 10:47:25 AM By: Lhuck

PRODUCT SPECIFICATIONS

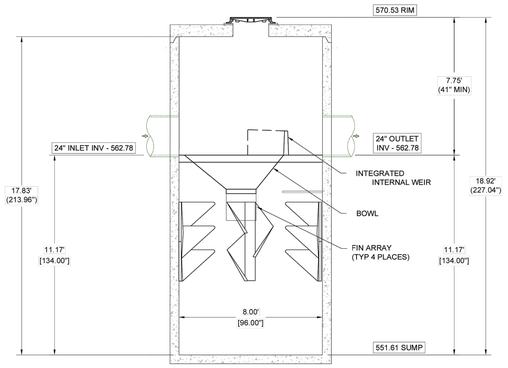
- THE STORMWATER TREATMENT UNIT SHALL BE AN INLINE UNIT CAPABLE OF CONVEYING 100% OF THE DESIGN PEAK FLOW. IF PEAK FLOW RATES EXCEED MAXIMUM HYDRAULIC RATE, THE UNIT SHALL BE INSTALLED OFFLINE.
- THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 80% OF THE SUSPENDED SOLIDS ON AN ANNUAL AGGREGATE REMOVAL BASIS. SAID REMOVAL SHALL BE BASED ON FULL-SCALE THIRD PARTY TESTING USING OK-110 MEDIA GRADATION OR EQUIVALENT AND 300 mg/L INFLUENT CONCENTRATION. SAID FULL SCALE TESTING SHALL HAVE INCLUDED SEDIMENT CAPTURE BASED ON ACTUAL TOTAL MASS COLLECTED BY THE STORMWATER TREATMENT UNIT.

  -OR -

  THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 50% OF TSS USING A MEDIA MIX WITH d_{50}=75 MICRON AND 200 MG/L INFLUENT CONCENTRATION.

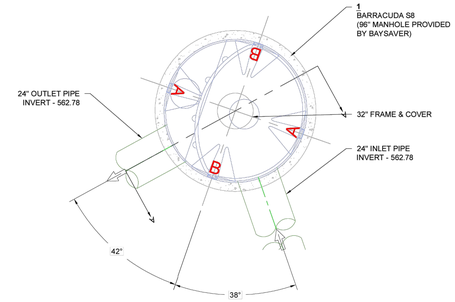
  -OR -

  THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 50% OF TSS PER CURRENT NJDEP/NJCAT HDS PROTOCOL .



SECTION VIEW A-A
SCALE: 1/4" = 1'-0"

BARRACUDA S8	
UNIT ID	1
PEAK FLOW RATE (CFS)	**
TREATMENT FLOW RATE (CFS)	6.08



SITE SPECIFIC PLAN VIEW
SCALE: 1/4" = 1'-0"

GUADALUPE BEND
NEW BRAUNFELS, TX
DATE: 03/02/2023 | DRAWN: PME | PROJECT #: S331593 | CHECKED: KLJ

REV	DATE	BY	DESCRIPTION
1	3/16/23	MCC	PR ADDED 2 BARRACUDAS
2	06/20/2023	CLB	ADDED ANOTHER BARRACUDA
	DATE	DRWN	CHKD DESCRIPTION

Barracuda Max
Stormwater Separator

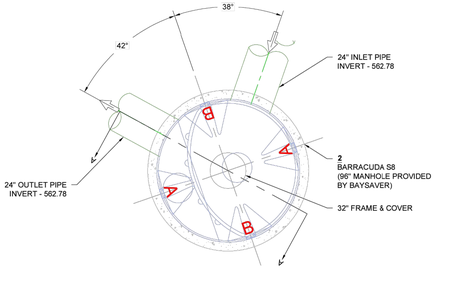
4640 TRUEMAN BLVD
HILLIARD, OH 43026

AS NOTED

2 SHEET OF 4

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL PERSONS AND PROPERTY ON THE CONSTRUCTION SITE AND SHALL ASSUME ALL RESPONSIBILITY FOR COMPLIANCE WITH ALL APPLICABLE SAFETY REGULATIONS. THE DESIGN ENGINEER'S JOB RECORD REVIEW SHALL NOT INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON OR NEAR THE CONSTRUCTION SITE. REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN THE DRAWINGS AND FIELD CONDITIONS PRIOR TO BEGINNING ANY WORK.

BARRACUDA S8	
UNIT ID	2
PEAK FLOW RATE (CFS)	**
TREATMENT FLOW RATE (CFS)	6.08



SITE SPECIFIC PLAN VIEW
SCALE: 1/4" = 1'-0"

NOT FOR CONSTRUCTION

GUADALUPE BEND PHASE 1

STREET & DRAINAGE DETAILS
(SHEET 9 OF 11)

REV	DATE	DESCRIPTION
1		APR

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

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San Antonio, TX 78216
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TBPE Registration No. F-1046

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SHEET
C06.28

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PRODUCT SPECIFICATIONS

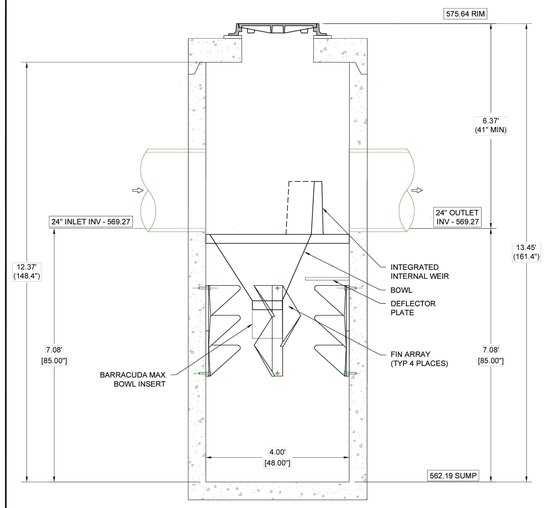
- THE STORMWATER TREATMENT UNIT SHALL BE AN INLINE UNIT CAPABLE OF CONVEYING 100% OF THE DESIGN PEAK FLOW. IF PEAK FLOW RATES EXCEED MAXIMUM HYDRAULIC RATE, THE UNIT SHALL BE INSTALLED OFFLINE.
- THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 80% OF THE SUSPENDED SOLIDS ON AN ANNUAL AGGREGATE REMOVAL BASIS. SAID REMOVAL SHALL BE BASED ON FULL-SCALE THIRD PARTY TESTING USING OK-110 MEDIA GRADATION OR EQUIVALENT AND 300 mg/L INFLUENT CONCENTRATION. SAID FULL SCALE TESTING SHALL HAVE INCLUDED SEDIMENT CAPTURE BASED ON ACTUAL TOTAL MASS COLLECTED BY THE STORMWATER TREATMENT UNIT.

  -OR -

  THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 50% OF TSS USING A MEDIA MIX WITH d_{50}=75 MICRON AND 200 MG/L INFLUENT CONCENTRATION.

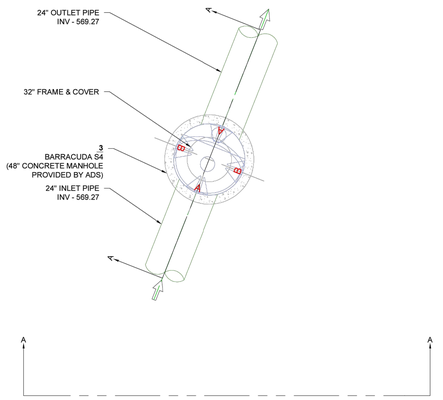
  -OR -

  THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 50% OF TSS PER CURRENT NJDEP/NJCAT HDS PROTOCOL .



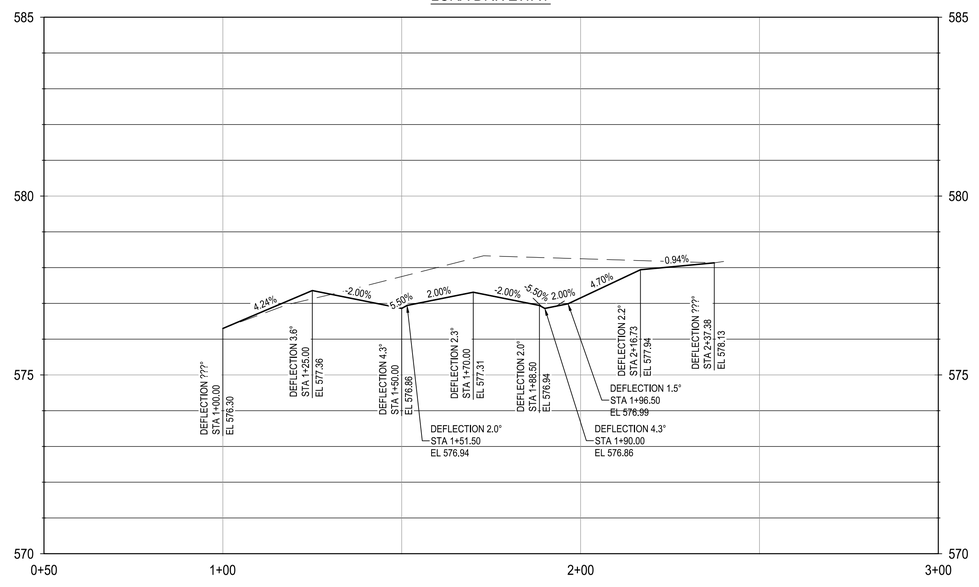
SECTION VIEW A-A
SCALE: 1/2" = 1'-0"

BARRACUDA MAX S4	
UNIT ID	3
PEAK FLOW RATE (CFS)	
TREATMENT FLOW RATE (CFS)	1.52



SITE SPECIFIC PLAN VIEW
SCALE: 1/2" = 1'-0"

LCRA DRIVEWAY



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GUADALUPE BEND PHASE 1

STREET & DRAINAGE DETAILS (SHEET 10 OF 11)

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SHEET C06.29

GUADALUPE BEND
NEW BRAUNFELS, TX
DATE: 03/02/2023 | DRAWN: PME
PROJECT #: S331593 | CHECKED: KLJ

REV	DESCRIPTION	DATE	APR
	9/19/23 ADDED 2 BARRACUDAS	MCC	PR
	03/05/2024 ADDED ANOTHER BARRACUDA	CJB	CHKD

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

Barracuda Max
Stormwater Separator

4640 TRUEMAN BLVD
HILLIARD, OH 43026

AS NOTED

SHEET 4 OF 4

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER AND OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

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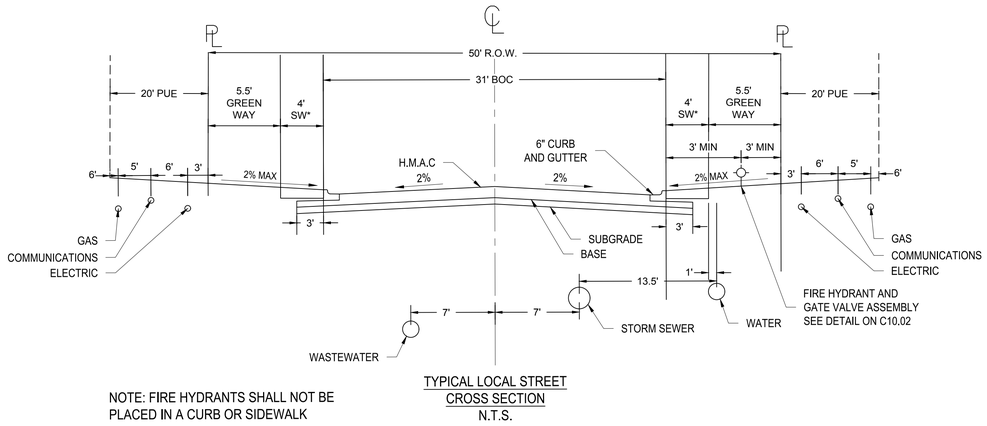
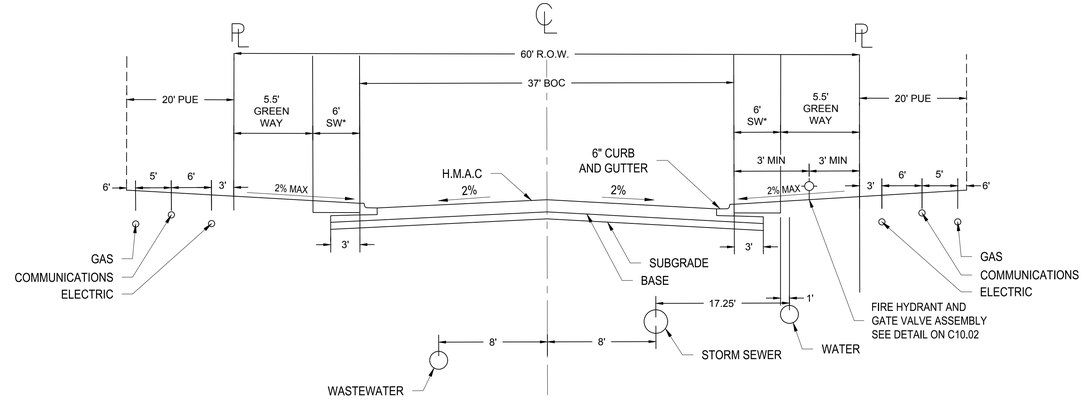
TBPE Registration No. F-1046



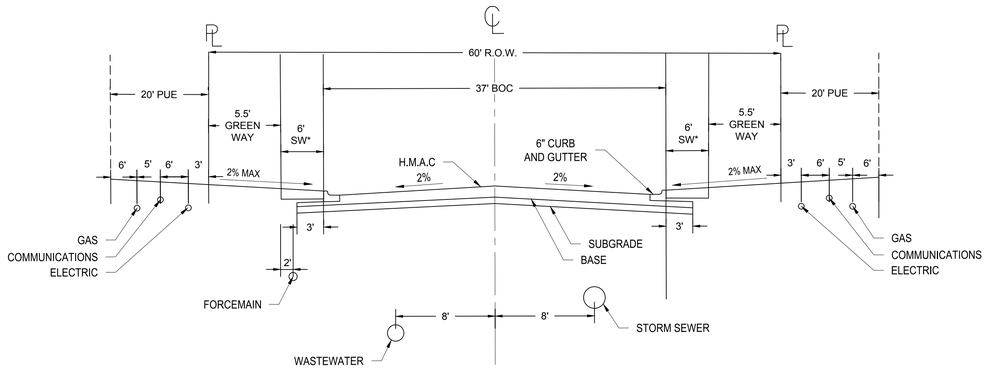
TYPICAL LOCAL STREET
CROSS SECTION
N.T.S.

NOTE: FIRE HYDRANTS SHALL NOT BE PLACED IN A CURB OR SIDEWALK



TYPICAL RESIDENTIAL COLLECTOR
CROSS SECTION
N.T.S.

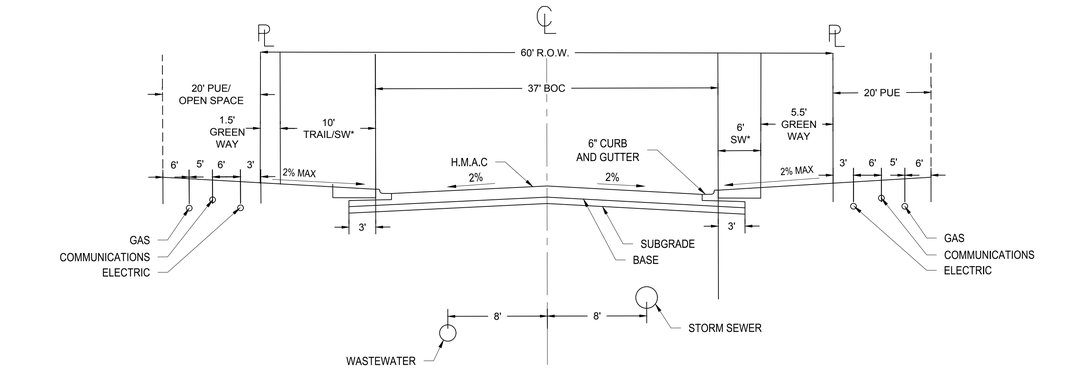
NOTE: FIRE HYDRANTS SHALL NOT BE PLACED IN A CURB OR SIDEWALK



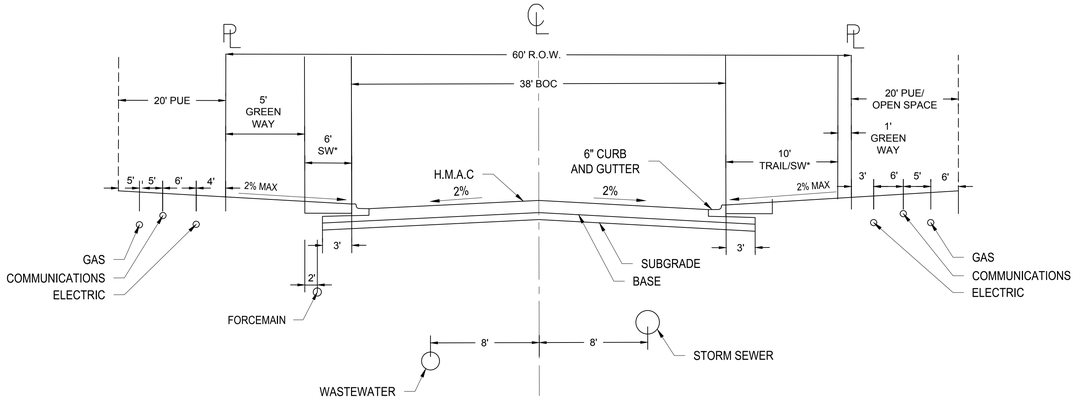
TYPICAL RESIDENTIAL COLLECTOR
CROSS SECTION WITH FORCEMAIN
N.T.S.

NOTE: FORCEMAIN CAN ONLY BE PLACED INSIDE RESIDENTIAL COLLECTOR, MINOR COLLECTOR OR MAJOR COLLECTOR

*SW = SIDEWALK

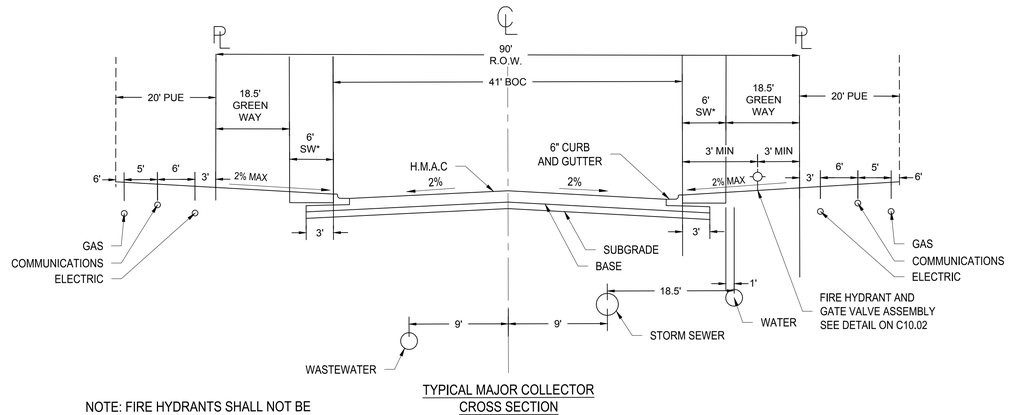


TYPICAL RESIDENTIAL COLLECTOR
CROSS SECTION WITH 10' SIDEWALK
N.T.S.



TYPICAL MINOR COLLECTOR
CROSS SECTION WITH FORCEMAIN
N.T.S.

NOTE: FORCEMAIN CAN ONLY BE PLACED INSIDE RESIDENTIAL COLLECTOR, MINOR COLLECTOR OR MAJOR COLLECTOR



TYPICAL MAJOR COLLECTOR
CROSS SECTION
N.T.S.

NOTE: FIRE HYDRANTS SHALL NOT BE PLACED IN A CURB OR SIDEWALK

NOT FOR CONSTRUCTION

	APR
	DATE
	DESCRIPTION
◁	REV
DESIGNED BY:	SAR
REVIEWED BY:	SSM
DRAWN BY:	SAR

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TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

STREET & DRAINAGE DETAILS
(SHEET 11 OF 11)

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SHEET
C06.30

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FINISHED FLOOR ELEVATIONS

THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND OR FINISHED FLOOR ELEVATION WHICH EVER IS HIGHER, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORM WATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO THE STORM WATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE STRUCTURE.

TRENCH EXCAVATION SAFETY PROTECTION

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

NOTE:
UTILITY SYMBOLS ARE NOT TO SCALE, AND ARE ONLY SHOWN FOR ILLUSTRATION PURPOSES. REFER TO UTILITY DETAIL SHEETS C10.00 - C10.06.

NOTE:
ELECTRIC, GAS, AND COMMUNICATIONS SHOWN FOR REFERENCE ONLY.

NOTE:
*LONG WATER SERVICES SHOULD BE SLEEVED.

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE, 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 GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100LF FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.



0 30' 60' 120'
SCALE: 1" = 60'

LEGEND

- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY
- PUBLIC UTILITY EASEMENT (P.U.E.)
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- FEMA 100 YEAR FLOODPLAIN
- PROPOSED WATER MAIN
- PROPOSED SANITARY SEWER
- PROPOSED STORM DRAIN
- PROPOSED GAS LINE
- PROPOSED ELECTRIC BANK
- PROPOSED COMMUNICATIONS
- SINGLE WATER SERVICE
- DUAL WATER SERVICE
- SINGLE SEWER SERVICE
- DUAL SEWER SERVICE
- PROPOSED FIRE HYDRANT
- PROPOSED STREET LIGHT

UTILITY GENERAL NOTES

1. 2" WATERLINES SHALL BE ASTM D2241, SDR 21 UNLESS OTHERWISE APPROVED. ALL WATERLINES LARGER THAN 8" SHALL BE AWWA C909 PC 235.
2. ALL MAINS SHALL BE FLUSHED, HYDROSTATICALLY TESTED, AND DISINFECTED BY THE CONTRACTOR. SEE "CONNECTION TO EXISTING WATER SYSTEM" NOTE BELOW

   CONTRACTOR TO TIE INTO EXISTING WATER MAIN AFTER ALL NEW MAINS HAVE BEEN DISINFECTED AND PASSED ALL TESTS AND HAVE BEEN APPROVED BY AUQA TEXAS, INC.
   FOR CHLORINATION INJECTION:
   1 ~ 1" CORPORATION STOP C.C. X I.P.
   1 ~ 1" COMP X 1R" CPL. CURB STOP
   1 ~ 1" 1/4" THD SOLID CAP FOR MACHINE CHLORINATION
   1 ~ 1" COPPER TUBING, CUT AS REQ'D
   CONTRACTOR TO PROVIDE A 2" JUMPER CONNECTION TO LOAD NEW MAIN

3. DISINFECTION SHALL BE BY MACHINE CHLORINATION.
4. MOISTURE DENSITY COMPACTION TESTING FREQUENCY - WATER MAIN TRENCHES REQUIRED EVERY 300 LF FOR EACH VERTICAL FOOT OF COMPACTED BACKFILL. SERVICES RANDOMLY SELECTED AS REQUIRED BY GVSUD INSPECTOR.
5. ALL TESTING AND TEST REPORTS SHALL BE COORDINATED WITH GVSUD INSPECTOR BY THE CONTRACTOR,
6. ALL DUCTILE IRON PIPE TO BE AMERICAN, ZINC COATED, AWWA / ANSI C-151.
7. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
8. ALL GARBAGE OR SPOIL MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
10. ALL ITEMS NOT SPECIFICALLY CALLED FOR ON THE PLANS, OR IN THE SPECIFICATIONS, BUT NECESSARY TO REASONABLY CONSTRUCT THE FACILITY OR IMPROVEMENT, SHALL BE CONSIDERED INCIDENTAL TO THE OVERALL PROJECT AND NO SEPARATE PAYMENTS WILL BE MADE FOR THESE ITEMS.
11. DEPTH OF BURY FOR ALL PIPE SHALL BE A MINIMUM OF 4' UNLESS OTHERWISE NOTED OR APPROVED BY GVSUD.
12. CONTRACTOR TO GRADE SITE TO WITHIN ± 0.10' BEFORE THE INSTALLATION OF UTILITIES TO ENSURE PROPER COVER IS ACHIEVED.
13. THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES REGARDING THE LOCATION OF THE EXISTING FACILITIES PRIOR TO CONSTRUCTION.
14. THE CONTRACTOR SHALL EXCAVATE AROUND EXISTING UTILITIES WHICH INTERSECT THE PROPOSED ALIGNMENT OF THE SERVICES AND NOTIFY THE ENGINEER OF POTENTIAL CONFLICTS, PRIOR TO ANY CONSTRUCTION IN THE AREA.
15. ALL DISTURBED AREAS WITHIN THE EASEMENTS SHALL BE HYDRO-MULCHED IN ACCORDANCE WITH TXDOR SPECIFICATIONS.
16. FOR WATER METER SERVICED DETAIL, SEE SHEET C10.00
17. THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5 FEET IN DEPTH LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES FOR CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.
18. SEE SHEET C10.00 THROUGH C10.06 FOR UTILITY DETAILS
19. IF THE MAXIMUM STATIC PRESSURE EXCEEDS 80 PSI, A PRV WILL BE REQUIRED ON THE PROPERTY OWNER'S SIDE OF THE WATER METER
20. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
21. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

							APR
							DATE
							DESCRIPTION
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DESIGNED BY: JDC
REVIEWED BY: SSM
DRAWN BY: JDC

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TBPE Registration No. F-1046

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GUADALUPE BEND PHASE 1

ONSITE UTILITY PLAN (SHEET 1 OF 2)

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Texas Licensed Professional Engineer 146417
For Internal Review Purposes.
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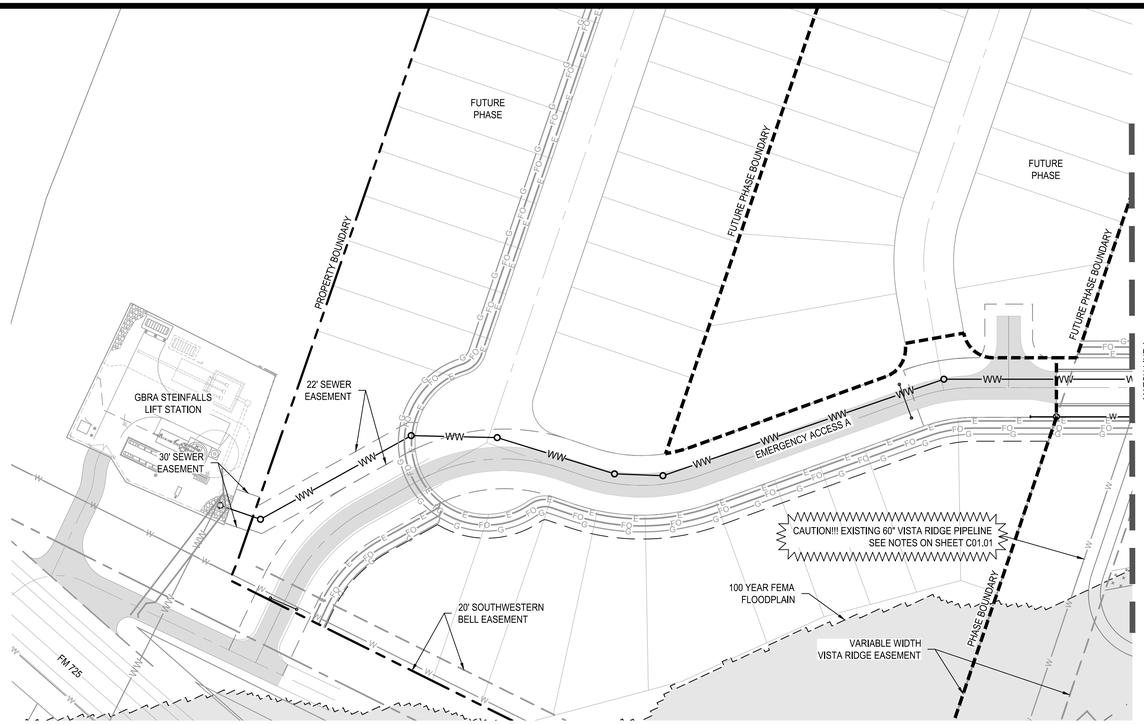
TBPE Registration No. F-1046

SHEET
C07.00

G:\TXC\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C07.00 ONSITE UTILITY PLAN.dwg Layout: ONSITE UTILITY PLAN (SHEET 1 OF 2) Plotted: 3/22/2024 10:47:55 AM By: sdifton



UTILITY GENERAL NOTES

1. 2" WATERLINES SHALL BE ASTM D2241, SDR 21 UNLESS OTHERWISE APPROVED. ALL WATERLINES LARGER THAN 8" SHALL BE AWWA C909 PC 235.
2. ALL MAINS SHALL BE FLUSHED, HYDROSTATICALLY TESTED, AND DISINFECTED BY THE CONTRACTOR. SEE "CONNECTION TO EXISTING WATER SYSTEM" NOTE BELOW

   CONTRACTOR TO TIE INTO EXISTING WATER MAIN AFTER ALL NEW MAINS HAVE BEEN DISINFECTED AND PASSED ALL TESTS AND HAVE BEEN APPROVED BY AUQA TEXAS, INC.
   FOR CHLORINATION INJECTION:
   1 ~ 1" CORPORATION STOP C.C. X I.P.
   1 ~ 1" COMP X 1R' CPL. CURB STOP
   1 ~ 1" 1/4" THD SOLID CAP FOR MACHINE CHLORINATION
   1 ~ 1" COPPER TUBING, CUT AS REQ'D
   CONTRACTOR TO PROVIDE A 2" JUMPER CONNECTION TO LOAD NEW MAIN
3. DISINFECTION SHALL BE BY MACHINE CHLORINATION.
4. MOISTURE DENSITY COMPACTION TESTING FREQUENCY - WATER MAIN TRENCHES REQUIRED EVERY 300 LF FOR EACH VERTICAL FOOT OF COMPACTED BACKFILL. SERVICES RANDOMLY SELECTED AS REQUIRED BY GVSUD INSPECTOR.
5. ALL TESTING AND TEST REPORTS SHALL BE COORDINATED WITH GVSUD INSPECTOR BY THE CONTRACTOR.
6. ALL DUCTILE IRON PIPE TO BE AMERICAN, ZINC COATED, AWWA / ANSI C-151.
7. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
8. ALL GARBAGE OR SPOIL MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
10. ALL ITEMS NOT SPECIFICALLY CALLED FOR ON THE PLANS, OR IN THE SPECIFICATIONS, BUT NECESSARY TO REASONABLY CONSTRUCT THE FACILITY OR IMPROVEMENT, SHALL BE CONSIDERED INCIDENTAL TO THE OVERALL PROJECT AND NO SEPARATE PAYMENTS WILL BE MADE FOR THESE ITEMS.
11. DEPTH OF BURY FOR ALL PIPE SHALL BE A MINIMUM OF 4' UNLESS OTHERWISE NOTED OR APPROVED BY GVSUD.
12. CONTRACTOR TO GRADE SITE TO WITHIN ± 0.10' BEFORE THE INSTALLATION OF UTILITIES TO ENSURE PROPER COVER IS ACHIEVED.
13. THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES REGARDING THE LOCATION OF THE EXISTING FACILITIES PRIOR TO CONSTRUCTION.
14. THE CONTRACTOR SHALL EXCAVATE AROUND EXISTING UTILITIES WHICH INTERSECT THE PROPOSED ALIGNMENT OF THE SERVICES AND NOTIFY THE ENGINEER OF POTENTIAL CONFLICTS, PRIOR TO ANY CONSTRUCTION IN THE AREA.
15. ALL DISTURBED AREAS WITHIN THE EASEMENTS SHALL BE HYDRO-MULCHED IN ACCORDANCE WITH TXDOR SPECIFICATIONS.
16. FOR WATER METER SERVICE DETAIL, SEE SHEET C10.00
17. THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5 FEET IN DEPTH LOCATED IN PUBLIC RIGHT OF WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES FOR CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.
18. SEE SHEET C10.00 THROUGH C10.06 FOR UTILITY DETAILS
19. IF THE MAXIMUM STATIC PRESSURE EXCEEDS 80 PSI, A PRV WILL BE REQUIRED ON THE PROPERTY OWNER'S SIDE OF THE WATER METER
20. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
21. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

FINISHED FLOOR ELEVATIONS

THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND OR FINISHED FLOOR ELEVATION WHICH EVER IS HIGHER, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORM WATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO THE STORM WATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE STRUCTURE.

TRENCH EXCAVATION SAFETY PROTECTION

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

NOTE:
ELECTRIC, GAS, AND COMMUNICATIONS SHOWN FOR REFERENCE ONLY.

NOTE:
UTILITY SYMBOLS ARE NOT TO SCALE, AND ARE ONLY SHOWN FOR ILLUSTRATION PURPOSES. REFER TO UTILITY DETAIL SHEETS C10.00 - C10.06.

NOTE:
*LONG WATER SERVICES SHOULD BE SLEEVED.

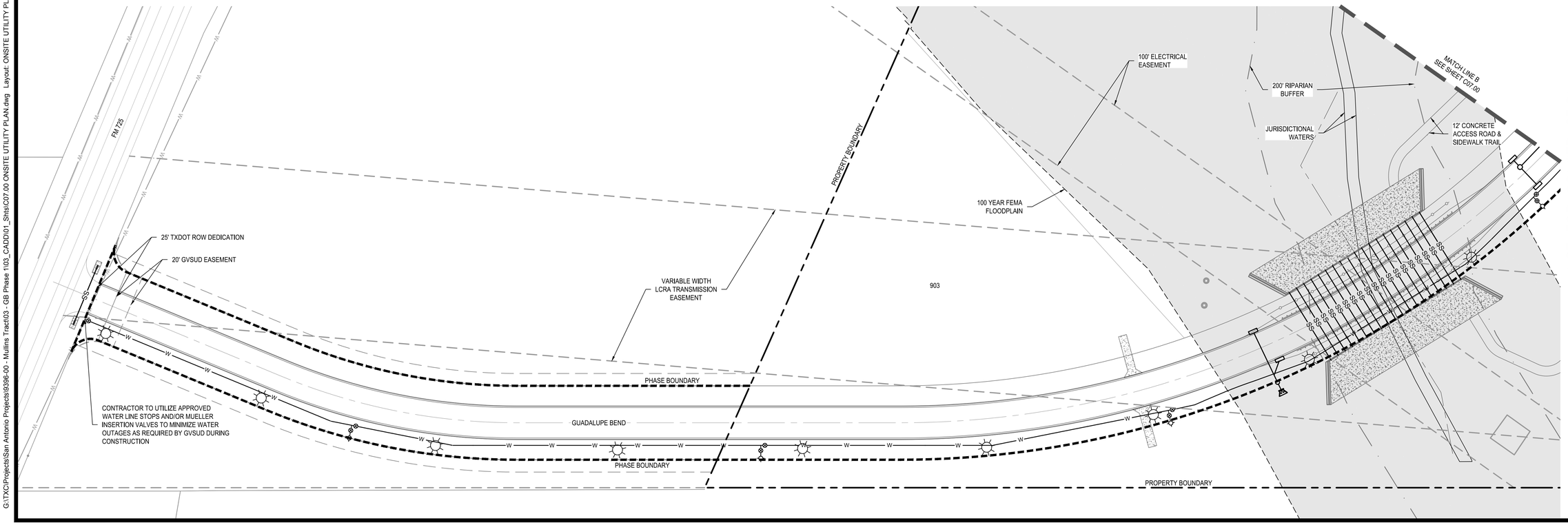
UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. 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 GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUFELS STREET INSPECTOR, AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100LF FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

0 30' 60' 120'
SCALE: 1" = 60'

LEGEND

- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY
- PUBLIC UTILITY EASEMENT (P.U.E.)
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- FEMA 100 YEAR FLOODPLAIN
- PROPOSED WATER MAIN
- PROPOSED SANITARY SEWER
- PROPOSED STORM DRAIN
- PROPOSED GAS LINE
- PROPOSED ELECTRIC BANK
- PROPOSED COMMUNICATIONS
- SINGLE WATER SERVICE
- DUAL WATER SERVICE
- SINGLE SEWER SERVICE
- DUAL SEWER SERVICE
- PROPOSED FIRE HYDRANT
- PROPOSED STREET LIGHT



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DESIGNED BY: JDC
REVIEWED BY: SSM
DRAWN BY: JDC

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TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

ONSITE UTILITY PLAN (SHEET 2 OF 2)

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SHEET
C07.01

G:\TXC\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C07.00 ONSITE UTILITY PLAN.dwg Layout: ONSITE UTILITY PLAN (SHEET 2 OF 2) Plotted: 3/22/2024 10:48:05 AM By: sdifton

G:\TXC\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C08.00 OVERALL WATER DISTRIBUTION PLAN.dwg Layout: WATER DISTRIBUTION PLAN (SHEET 1 OF 2) Plotted: 3/22/2024 10:48:45 AM By: jclifton

UTILITY GENERAL NOTES:

1. ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE AND WILL BE CONFIRMED BY CONTRACTOR PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL PROTECT ALL EXISTING TREES, FENCES, RETAINING WALLS AND STRUCTURES UNLESS OTHERWISE NOTED.
3. GENERALLY, WATER MAIN FITTINGS IDENTIFIED ON THIS DRAWING ARE SHOWN FOR INSTALLATION LOCATION PURPOSES. NOT ALL FITTINGS ARE NOTED, SHOWN, OR INDICATED.
4. REFER TO GENERAL NOTES SHEET OR SPECIFIC DETAIL SHEET IN THIS SET FOR FURTHER INSTRUCTIONS. FOR ANY DISCREPANCIES THE MORE STRINGENT WILL APPLY.
5. REFER TO PLAN AND PROFILE SHEETS IN THIS SET FOR SANITARY SEWER AND STORM SEWER DESIGN INFORMATION.
6. RADIUS WATERLINE PIPE SHALL BE LAID IN 20 FT INCREMENTS AT 1° DEFLECTIONS.
7. COMPACTION OF TRENCH UNDER PROPOSED PAVING SHOULD USE APPROPRIATE REPLACEMENT GRANULAR MATERIAL IF COMPACTION OF TRENCH UNDER PROPOSED PAVING SHOULD USE APPROPRIATE REPLACEMENT GRANULAR MATERIAL IF UNSUITABLE SOIL IS EXCAVATED FROM TRENCH.
8. ALL OTHER UTILITIES SHALL BE INSTALLED BELOW THE WATER LINE WITH AT LEAST 1' SEPARATION.
9. WATER OR SEWER LINE MUST BE ENCASED WHEN CROSSING OPPOSING UTILITY.
10. MOST RECENT DETAILS SHOULD BE USED AND CAN BE FOUND AT GVSUD.ORG
11. DISINFECTION SHALL BE BY MACHINE CHLORINATION
12. MOISTURE DENSITY COMPACTION TESTING FREQUENCY - WATER MAIN TRENCHES REQUIRED EVERY 300 LF FOR EACH VERTICAL FOOT OF COMPACTED BACKFILL. SERVICES RANDOMLY SELECTED AS REQUIRED BY GVSUD INSPECTOR.
13. ALL TESTING AND TEST REPORTS SHALL BE COORDINATED WITH GVSUD INSPECTOR BY THE CONTRACTOR.
14. ALL DUCTILE IRON PIPE TO BE AMERICAN, ZINC COATED, AWWA / ANSI C-151
15. CONTRACTOR TO UTILIZE APPROVED WATERLINE STOPS AND/OR MUELLER INSERTION-VALVES TO MINIMIZE WATER OUTAGES AS REQUIRED BY GVSUD DURING CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

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

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. 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 GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF SAN MARCOS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100LF FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF SAN MARCOS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

NOTE: ALL MAINS SHALL BE FLUSHED, HYDROSTATICALLY TESTED, AND DISINFECTED BY THE CONTRACTOR. SEE "CONNECTION TO EXISTING WATER SYSTEM" NOTE BELOW

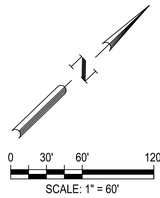
NOTE:
1. SEE SHEET C10.00 FOR UTILITY DETAILS
2. REFER TO GUADALUPE VALLEY ELECTRIC COOPERATIVE ELECTRIC PLANS FOR FULL ELECTRIC LAYOUT.

NOTE:
IF THE MAXIMUM STATIC PRESSURE EXCEEDS 80 PSI, A PRV WILL BE REQUIRED ON THE PROPERTY OWNER'S SIDE OF THE WATER METER.

NOTE:
UTILITY SYMBOLS ARE NOT TO SCALE, AND ARE ONLY SHOWN FOR ILLUSTRATION PURPOSES. REFER TO UTILITY DETAIL SHEETS C10.00 - C10.06.

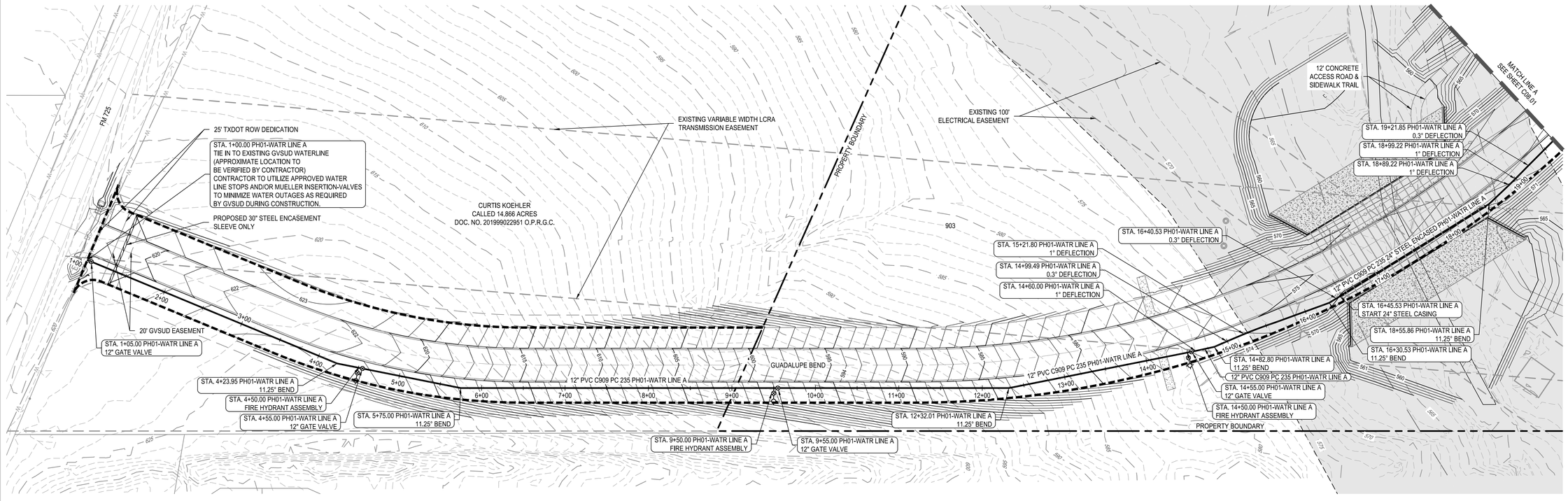
WATER STRUCTURE QUANTITIES	
DISINCFECTION SAMPLE PORT	1
TIE IN TO EXISTING GVSUD LINE	1
FIRE HYDRANT ASSEMBLY	11
12" GATE VALVE	24
8" GATE VALVE	12
2" TEMPORARY BLOW OFF VALVE	4
12" X 12" TEE	2
12" X 8" TEE	3
8" X 8" TEE	2
SINGLE WATER SERVICE	27
DOUBLE WATER SERVICE	38
2-INCH AIR RELEASE VALVE	2
12" GATE VALVE	2

WATER PIPE QUANTITIES	
8" PVC C909 PC 235	1245
8" DI-C151	302
12" PVC C909 PC 235	4103
12" PVC C900 STEEL ENCASED	236
12" DI-C151	139



LEGEND

- PROPERTY BOUNDARY
- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY
- PUBLIC UTILITY EASEMENT (P.U.E.)
- FEMA 100 YEAR FLOODPLAIN
- UNIT BOUNDARY
- PROPOSED WATER MAIN
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- PROPOSED SANITARY SEWER LINE
- PROPOSED STORM DRAIN
- PROPOSED ELECTRIC
- PROPOSED GAS
- WATER MAIN ENCASEMENT
- SINGLE WATER SERVICE
- DUAL WATER SERVICE
- PROP WATER SLEEVE
- EXISTING WATER SLEEVE
- SINGLE SEWER SERVICE
- DUAL SEWER SERVICE
- PROPOSED FIRE HYDRANT
- UTILITY CROSSING



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DESIGNED BY: JDC
REVIEWED BY: SSM
DRAWN BY: JDC

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San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

WATER DISTRIBUTION PLAN (SHEET 1 OF 2)

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Mulholland, PE
Texas Licensed Professional
Engineer 146417
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C08.00

TRENCH EXCAVATION SAFETY PROTECTION

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NOTE: ALL MAINS SHALL BE FLUSHED, HYDROSTATICALLY TESTED, AND DISINFECTED BY THE CONTRACTOR. SEE "CONNECTION TO EXISTING WATER SYSTEM" NOTE BELOW

NOTE:
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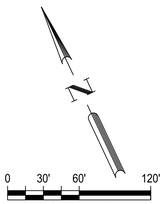

LEGEND

- PROPERTY BOUNDARY
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GUADALUPE BEND PHASE 1

WATER DISTRIBUTION PLAN (SHEET 2 OF 2)

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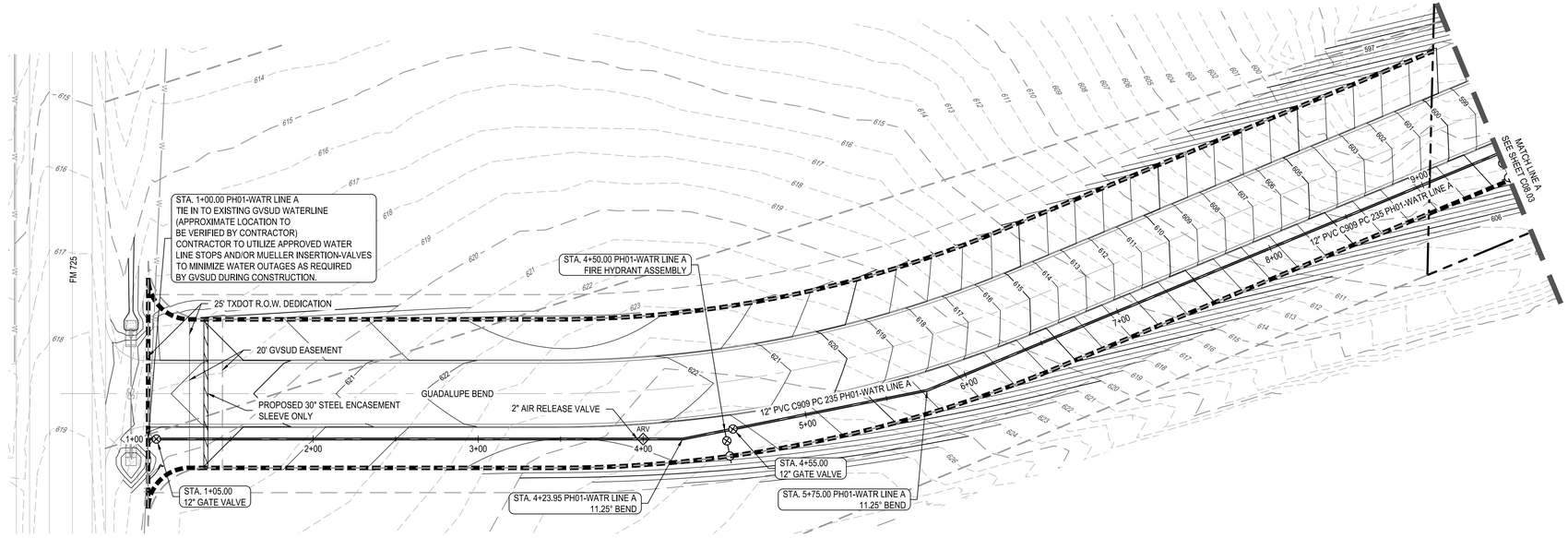
SHEET
C08.01

G:\TX\C\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C08.00 OVERALL WATER DISTRIBUTION PLAN.dwg Layout: WATER DISTRIBUTION PLAN (SHEET 2 OF 2) Plotted: 3/22/2024 10:48:58 AM By: jdifton

NOTE:
IF THE MAXIMUM STATIC PRESSURE EXCEEDS 80 PSI,
A PRV WILL BE REQUIRED ON THE PROPERTY
OWNER'S SIDE OF THE WATER METER.

NOTE:
UTILITY SYMBOLS ARE NOT TO SCALE, AND ARE ONLY SHOWN FOR
ILLUSTRATION PURPOSES. REFER TO UTILITY DETAIL SHEETS C10.00 - C10.06.



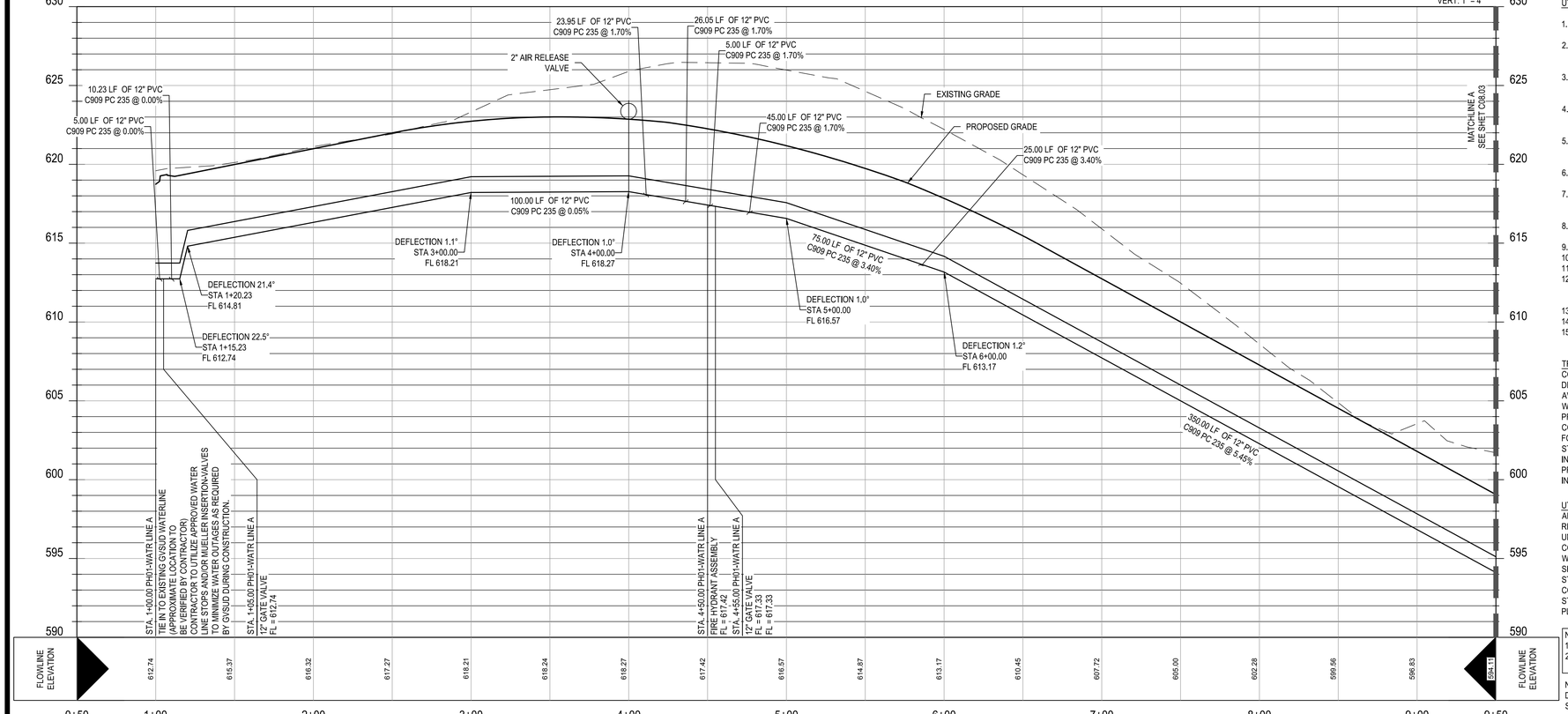
0 30' 60' 120'
SCALE: 1" = 60'

LEGEND

- PROPERTY BOUNDARY
- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY
- PUBLIC UTILITY EASEMENT (P.U.E.)
- FEMA 100 YEAR FLOODPLAIN
- UNIT BOUNDARY
- PROPOSED WATER MAIN
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- PROPOSED SANITARY SEWER LINE
- PROPOSED STORM DRAIN
- PROPOSED ELECTRIC
- PROPOSED GAS
- WATER MAIN ENCASEMENT
- SINGLE WATER SERVICE
- DUAL WATER SERVICE
- PROP WATER SLEEVE
- EXISTING WATER SLEEVE
- SINGLE SEWER SERVICE
- DUAL SEWER SERVICE
- PROPOSED FIRE HYDRANT
- UTILITY CROSSING

PH01-WATR LINE A

SCALE:
HORZ: 1" = 40'
VERT: 1" = 4'



UTILITY GENERAL NOTES:

1. ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE AND WILL BE CONFIRMED BY CONTRACTOR PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL PROTECT ALL EXISTING TREES, FENCES, RETAINING WALLS AND STRUCTURES UNLESS OTHERWISE CONTRACTOR SHALL PROTECT ALL EXISTING TREES, FENCES, RETAINING WALLS AND STRUCTURES UNLESS OTHERWISE NOTED.
3. GENERALLY, WATER MAIN FITTINGS IDENTIFIED ON THIS DRAWING ARE SHOWN FOR INSTALLATION LOCATION PURPOSES. GENERALLY, WATER MAIN FITTINGS IDENTIFIED ON THIS DRAWING ARE SHOWN FOR INSTALLATION LOCATION PURPOSES. NOT ALL FITTINGS ARE NOTED, SHOWN, OR INDICATED.
4. REFER TO GENERAL NOTES SHEET OR SPECIFIC DETAIL SHEET IN THIS SET FOR GVSUD GENERAL NOTES AND FURTHER INSTRUCTIONS. FOR ANY REFER TO GENERAL NOTES SHEET OR SPECIFIC DETAIL SHEET IN THIS SET FOR FURTHER INSTRUCTIONS. FOR ANY DISCREPANCIES THE MORE STRINGENT WILL APPLY.
5. REFER TO PLAN AND PROFILE SHEETS IN THIS SET FOR SANITARY SEWER AND STORM SEWER DESIGN INFORMATION. REFER TO PLAN AND PROFILE SHEETS IN THIS SET FOR SANITARY SEWER AND STORM SEWER DESIGN INFORMATION.
6. RADIUS WATERLINE PIPE SHALL BE LAID IN 20 FT INCREMENTS AT 1 DEFLECTIONS. RADIUS WATERLINE PIPE SHALL BE LAID IN 20 FT INCREMENTS AT 1° DEFLECTIONS.
7. COMPACTION OF TRENCH UNDER PROPOSED PAVING SHOULD USE APPROPRIATE REPLACEMENT GRANULAR MATERIAL IF COMPACTION OF TRENCH UNDER PROPOSED PAVING SHOULD USE APPROPRIATE REPLACEMENT GRANULAR MATERIAL IF UNSUITABLE SOIL IS EXCAVATED FROM TRENCH.
8. ALL OTHER UTILITIES SHALL BE INSTALLED BELOW THE WATER LINE WITH AT LEAST 1' SEPARATION.ALL OTHER UTILITIES SHALL BE INSTALLED BELOW THE WATER LINE WITH AT LEAST 1' SEPARATION.
9. WATER OR SEWER LINE MUST BE ENCASED WHEN CROSSING OPPOSING UTILITY.
10. MOST RECENT DETAILS SHOULD BE USED AND CAN BE FOUND AT GVSUD.ORG
11. DISINFECTION SHALL BE BY MACHINE CHLORINATION
12. MOISTURE DENSITY COMPACTION TESTING FREQUENCY - WATER MAIN TRENCHES REQUIRED EVERY 300 LF FOR EACH VERTICAL FOOT OF COMPACTED BACKFILL. SERVICES RANDOMLY SELECTED AS REQUIRED BY GVSUD INSPECTOR.
13. ALL TESTING AND TEST REPORTS SHALL BE COORDINATED WITH GVSUD INSPECTOR BY THE CONTRACTOR.
14. ALL DUCTILE IRON PIPE TO BE AMERICAN, ZINC COATED, AWWA / ANSI C-151
15. CONTRACTOR TO UTILIZE APPROVED WATERLINE STOPS AND/OR MUELLER INSERTION-VALVES TO MINIMIZE WATER OUTAGES AS REQUIRED BY GVSUD DURING CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

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

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. 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 GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF SAN MARCOS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100LF FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF SAN MARCOS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

NOTE:
1. SEE SHEET C10.00 FOR UTILITY DETAILS
2. REFER TO GUADALUPE VALLEY ELECTRIC COOPERATION PLANS FOR FULL ELECTRIC LAYOUT.

NOTE: ALL MAINS SHALL BE FLUSHED, HYDROSTATICALLY TESTED, AND DISINFECTED BY THE CONTRACTOR. SEE "CONNECTION TO EXISTING WATER SYSTEM" NOTE BELOW

NOT FOR CONSTRUCTION

							APR
							DATE
							DESCRIPTION
◁	◁	◁	◁	◁	◁		REV

DESIGNED BY: JDC
REVIEWED BY: SSM
DRAWN BY: JDC

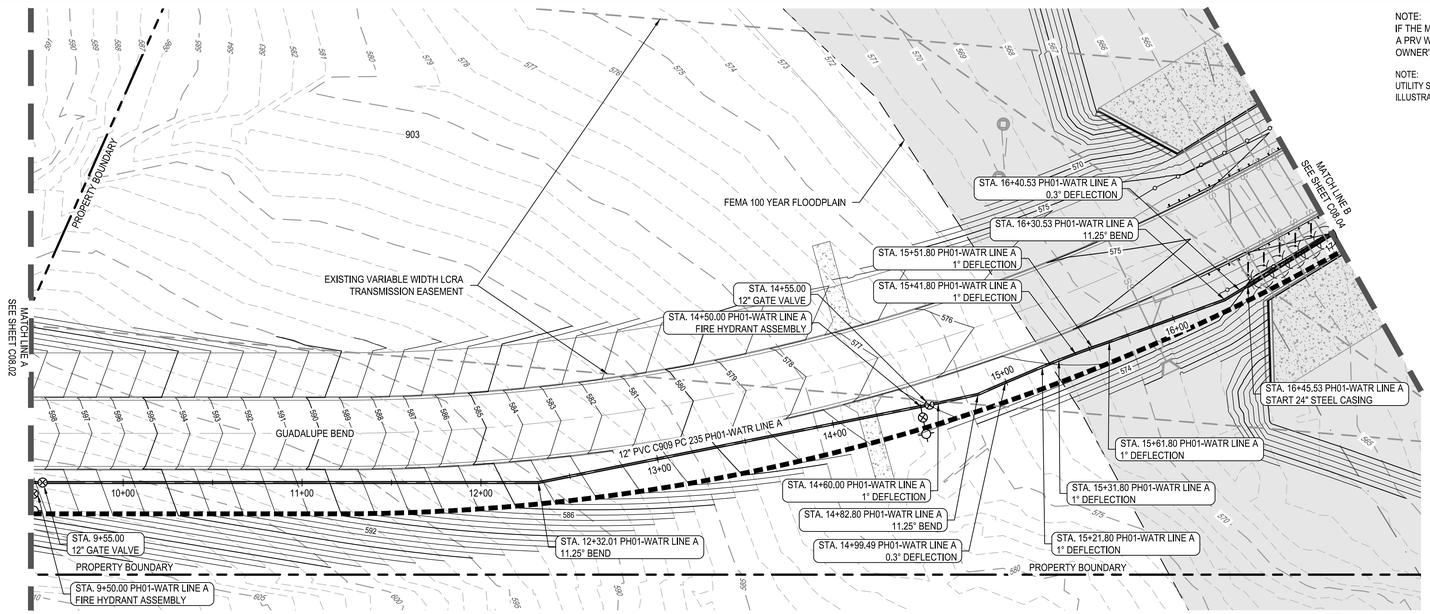
BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1
WATERLINE A PLAN & PROFILE
STA 1+00 TO 9+50

This Document Is Released
Under The Authority Of Stacy S.
Mulholland, PE
Texas Licensed Professional
Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C08.02

G:\TXC\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C08.02 WATERLINE A PLAN AND PROFILE.dwg Layout: WATERLINE A PLAN & PROFILE STA 1+00 TO 9+50 Plotted: 3/22/2024 10:49:33 AM By: Jolfton



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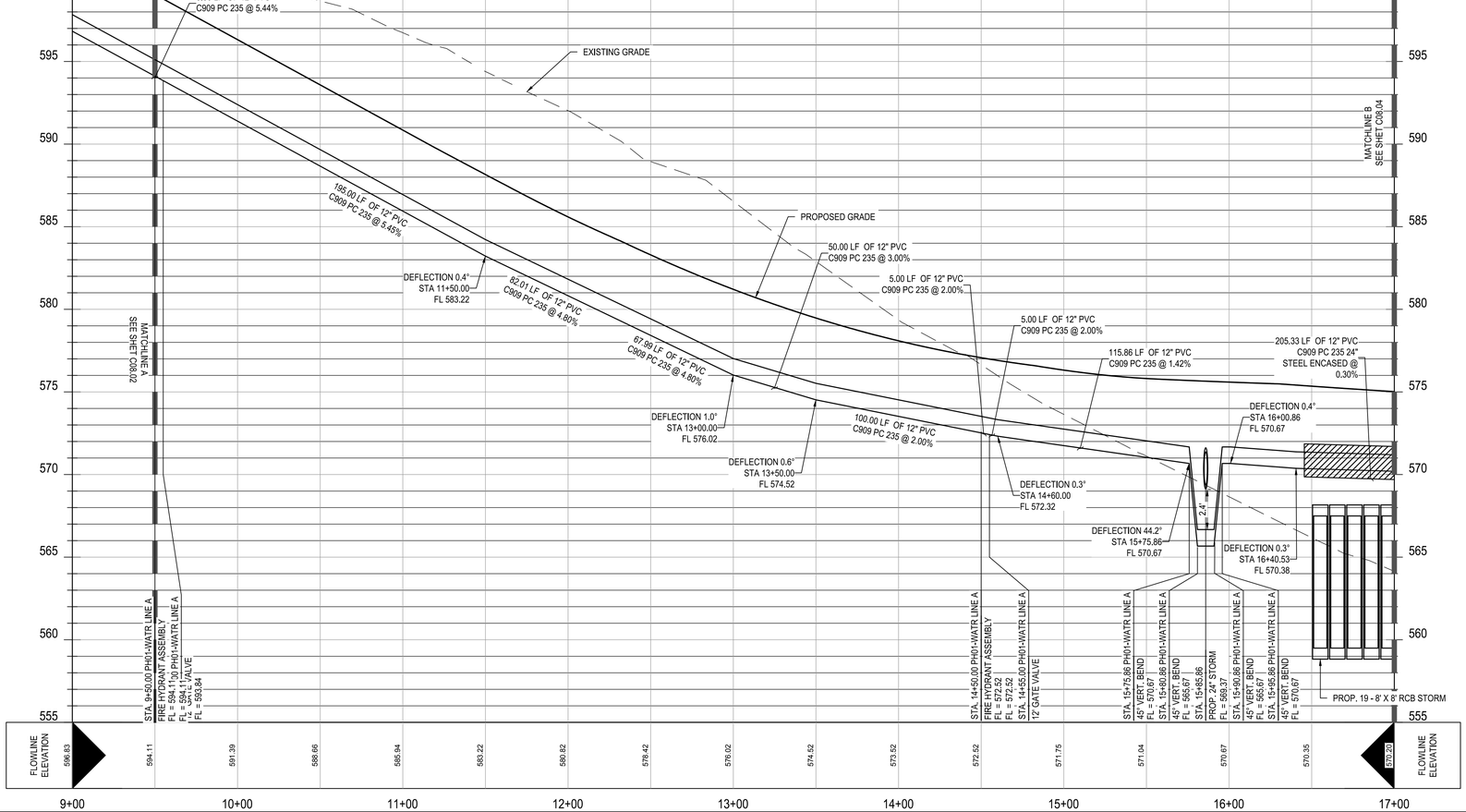

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NOT FOR CONSTRUCTION

							APR
							DATE
							DESCRIPTION
◁	◁	◁	◁	◁	◁		REV

DESIGNED BY: JDC
REVIEWED BY: SSM
DRAWN BY: JDC

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1
WATERLINE A PLAN & PROFILE STA 9+50 TO 17+00

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SHEET
C08.03

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NOTE:
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OWNER'S SIDE OF THE WATER METER.

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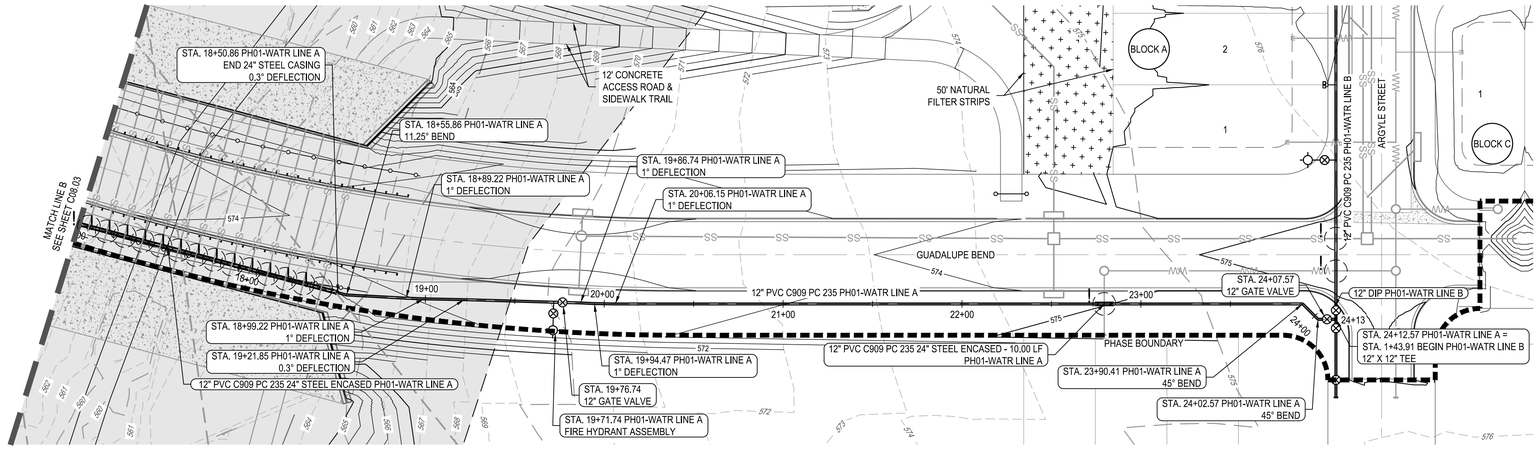

LEGEND

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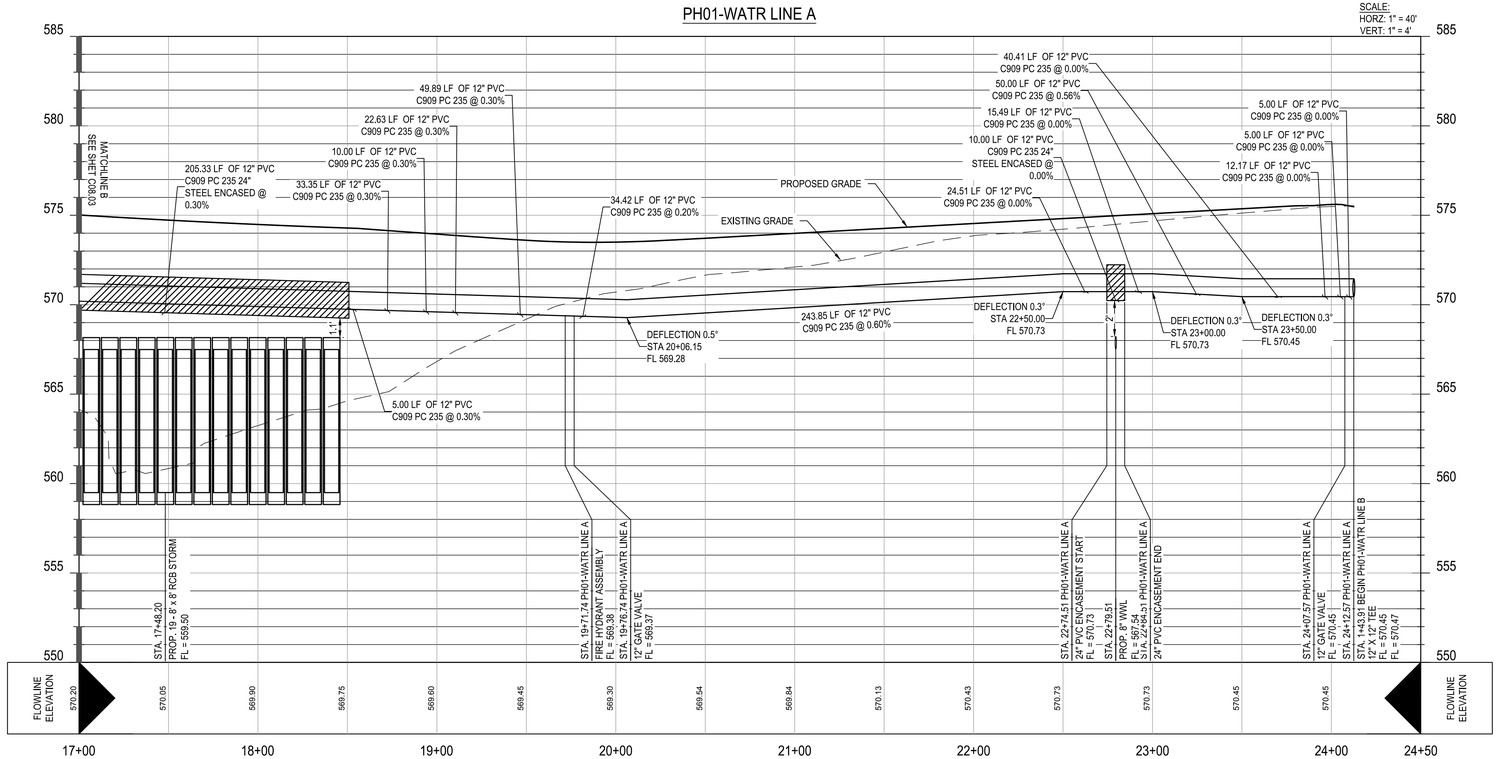

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GUADALUPE BEND PHASE 1
WATERLINE A PLAN & PROFILE STA 17+00 TO END

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SHEET
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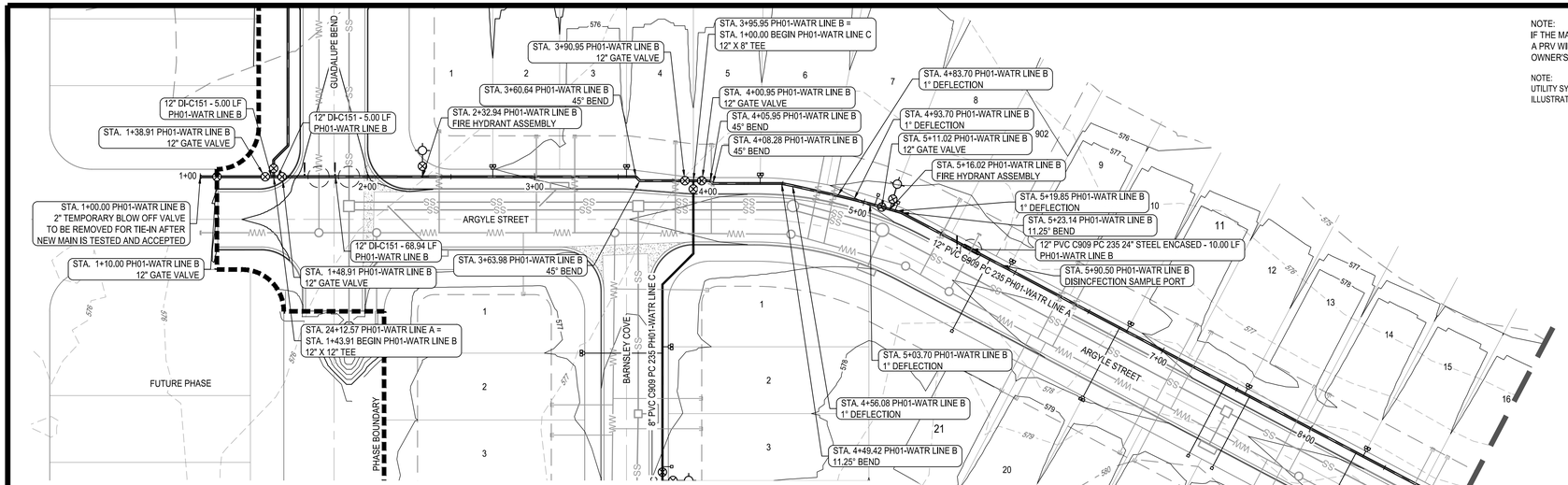

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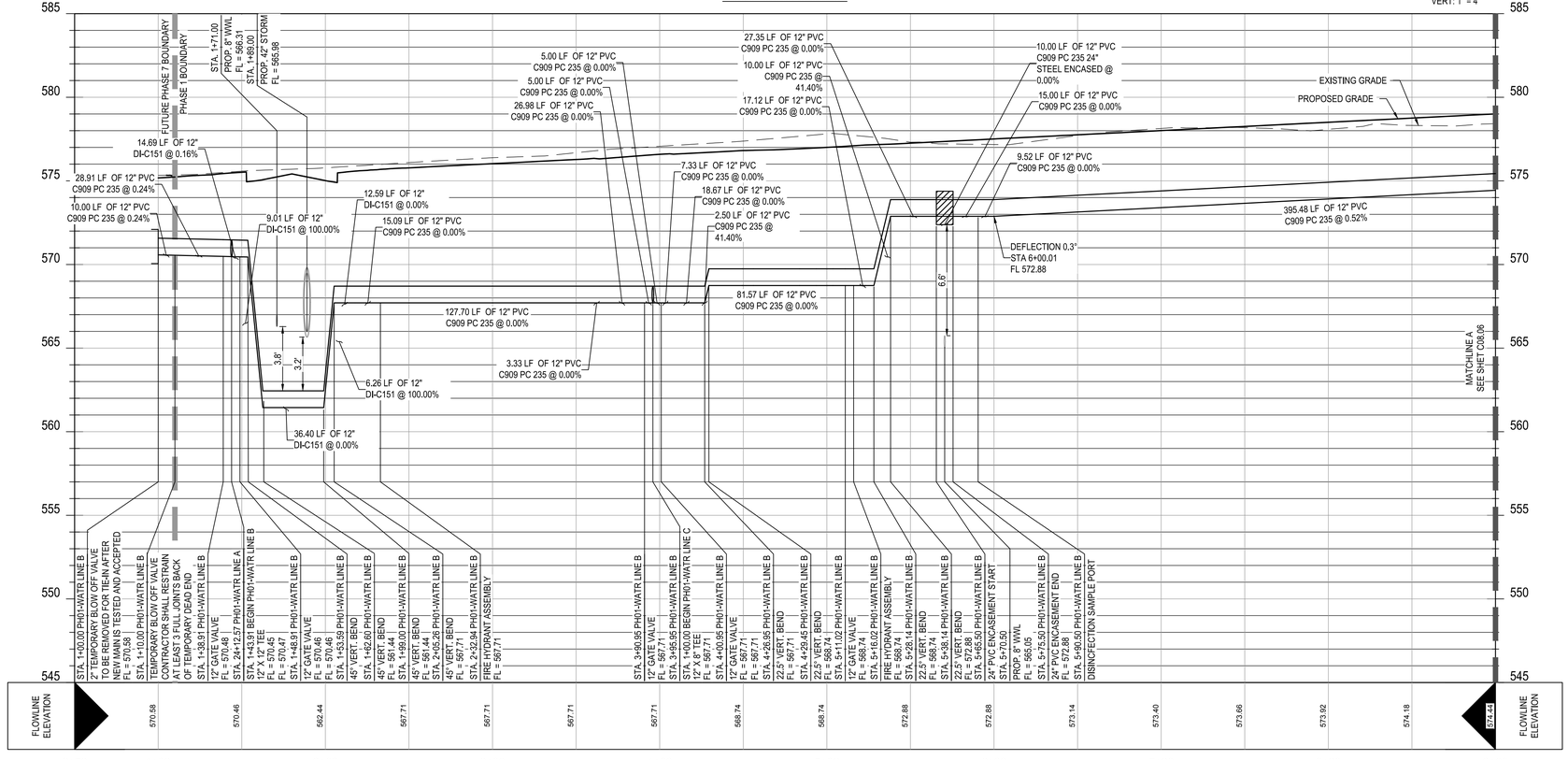
- UNIT BOUNDARY
- PROPOSED WATER MAIN
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- PROPOSED SANITARY SEWER LINE
- PROPOSED STORM DRAIN
- PROPOSED ELECTRIC
- PROPOSED GAS
- WATER MAIN ENCASEMENT
- SINGLE WATER SERVICE
- DUAL WATER SERVICE
- PROP WATER SLEEVE
- EXISTING WATER SLEEVE
- SINGLE SEWER SERVICE
- DUAL SEWER SERVICE
- PROPOSED FIRE HYDRANT
- UTILITY CROSSING

PH01-WATR LINE B

SCALE:
HORZ: 1" = 40'
VERT: 1" = 4'



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3. GENERALLY, WATER MAIN FITTINGS IDENTIFIED ON THIS DRAWING ARE SHOWN FOR INSTALLATION LOCATION PURPOSES. GENERALLY, WATER MAIN FITTINGS IDENTIFIED ON THIS DRAWING ARE SHOWN FOR INSTALLATION LOCATION PURPOSES. NOT ALL FITTINGS ARE NOTED, SHOWN, OR INDICATED.
4. REFER TO GENERAL NOTES SHEET OR SPECIFIC DETAIL SHEET IN THIS SET FOR GVSUD GENERAL NOTES AND FURTHER INSTRUCTIONS. FOR ANY REFER TO GENERAL NOTES SHEET OR SPECIFIC DETAIL SHEET IN THIS SET FOR FURTHER INSTRUCTIONS. FOR ANY DISCREPANCIES THE MORE STRINGENT WILL APPLY.
5. REFER TO PLAN AND PROFILE SHEETS IN THIS SET FOR SANITARY SEWER AND STORM SEWER DESIGN INFORMATION. REFER TO PLAN AND PROFILE SHEETS IN THIS SET FOR SANITARY SEWER AND STORM SEWER DESIGN INFORMATION.
6. RADIUS WATERLINE PIPE SHALL BE LAID IN 20 FT INCREMENTS AT 1 DEFLECTIONS. RADIUS WATERLINE PIPE SHALL BE LAID IN 20 FT INCREMENTS AT 1° DEFLECTIONS.
7. COMPACTION OF TRENCH UNDER PROPOSED PAVING SHOULD USE APPROPRIATE REPLACEMENT GRANULAR MATERIAL IF COMPACTION OF TRENCH UNDER PROPOSED PAVING SHOULD USE APPROPRIATE REPLACEMENT GRANULAR MATERIAL IF UNSUITABLE SOIL IS EXCAVATED FROM TRENCH.
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9. WATER OR SEWER LINE MUST BE ENCASED WHEN CROSSING OPPOSING UTILITY.
10. MOST RECENT DETAILS SHOULD BE USED AND CAN BE FOUND AT GVSUD.ORG
11. DISINFECTION SHALL BE BY MACHINE CHLORINATION
12. MOISTURE DENSITY COMPACTION TESTING FREQUENCY - WATER MAIN TRENCHES REQUIRED EVERY 300 LF FOR EACH VERTICAL FOOT OF COMPACTED BACKFILL. SERVICES RANDOMLY SELECTED AS REQUIRED BY GVSUD INSPECTOR.
13. ALL TESTING AND TEST REPORTS SHALL BE COORDINATED WITH GVSUD INSPECTOR BY THE CONTRACTOR.
14. ALL DUCTILE IRON PIPE TO BE AMERICAN, ZINC COATED, AWWA / ANSI C-151
15. CONTRACTOR TO UTILIZE APPROVED WATERLINE STOPS AND/OR MUELLER INSERTION-VALVES TO MINIMIZE WATER OUTAGES AS REQUIRED BY GVSUD DURING CONSTRUCTION.

TRENCH EXCAVATION SAFETY PROTECTION

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

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. 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 GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY OF SAN MARCOS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100LF FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF SAN MARCOS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

NOTE:
1. SEE SHEET C10.00 FOR UTILITY DETAILS
2. REFER TO GUADALUPE VALLEY ELECTRIC COOPERATION PLANS FOR FULL ELECTRIC LAYOUT.

NOTE: ALL MAINS SHALL BE FLUSHED, HYDROSTATICALLY TESTED, AND DISINFECTED BY THE CONTRACTOR. SEE "CONNECTION TO EXISTING WATER SYSTEM" NOTE BELOW

NOT FOR CONSTRUCTION

GUADALUPE BEND PHASE 1
WATERLINE B PLAN & PROFILE
STA 1+00 TO 9+00

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: JDC
REVIEWED BY: SSM
DRAWN BY: JDC

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.browngay.com
TBPE Registration No. F-1046

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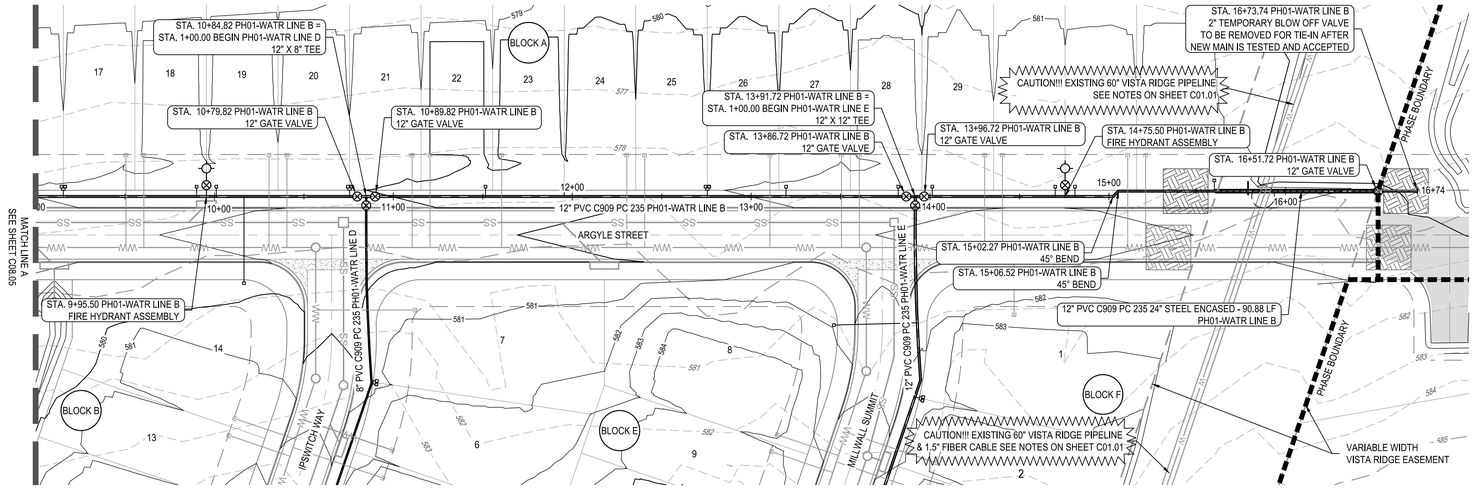
Under The Authority Of Stacy S.
Mulholland, PE
Texas Licensed Professional
Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C08.05

G:\TXC\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C08.05 WATERLINE B PLAN AND PROFILE.dwg Layout: WATERLINE B PLAN & PROFILE STA 9+00 TO END Plotted: 3/22/2024 10:50:38 AM By: Jclifton



NOTE:
IF THE MAXIMUM STATIC PRESSURE EXCEEDS 80 PSI,
A PRV WILL BE REQUIRED ON THE PROPERTY
OWNER'S SIDE OF THE WATER METER.

NOTE:
UTILITY SYMBOLS ARE NOT TO SCALE, AND ARE ONLY SHOWN FOR
ILLUSTRATION PURPOSES. REFER TO UTILITY DETAIL SHEETS C10.00 - C10.06.

N

0 20' 40' 80'

SCALE: 1" = 40'

LEGEND

- PROPERTY BOUNDARY
- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY
- PUBLIC UTILITY EASEMENT (P.U.E.)
- FEMA 100 YEAR FLOODPLAIN
- UNIT BOUNDARY
- PROPOSED WATER MAIN
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PH01-WATR LINE B

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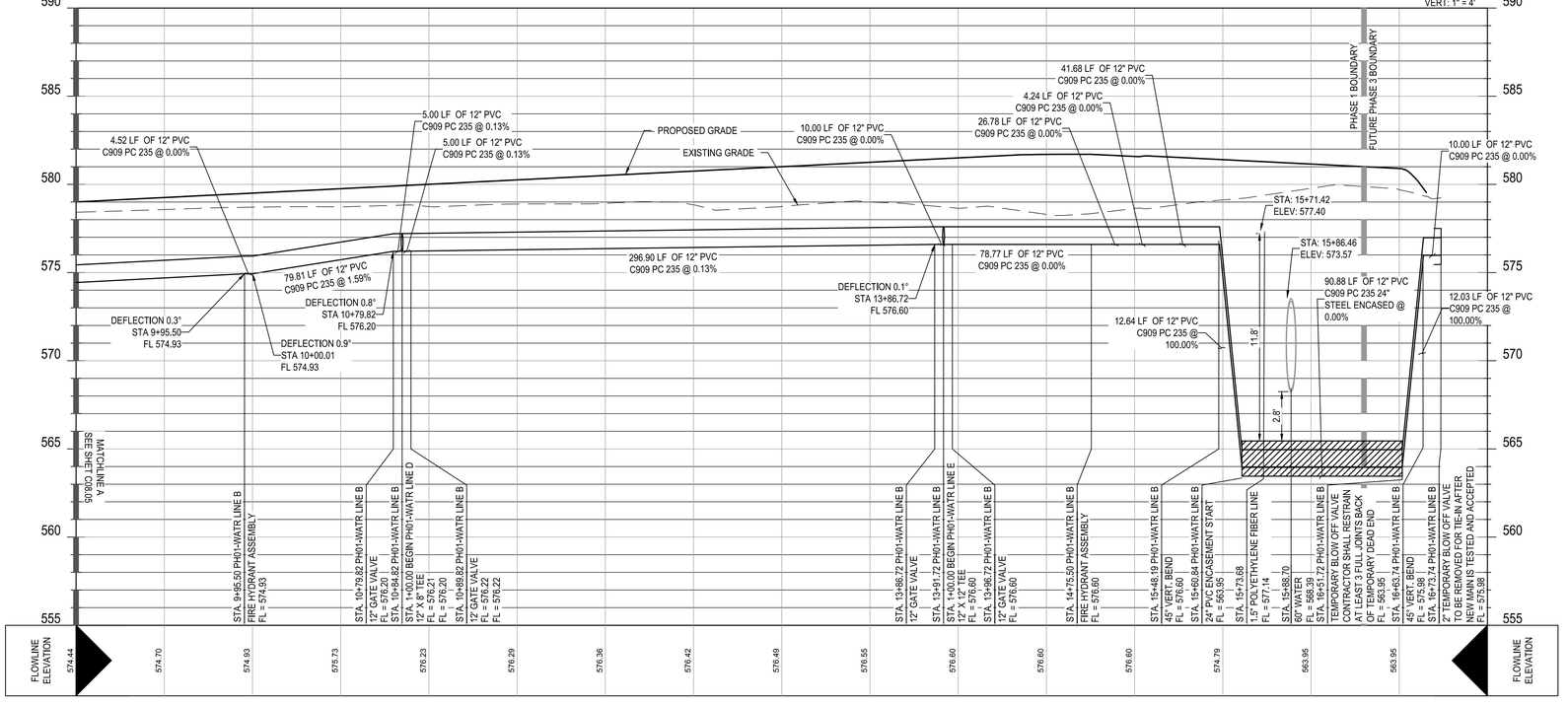

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NOTE:
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NOTE: ALL MAINS SHALL BE FLUSHED, HYDROSTATICALLY TESTED, AND DISINFECTED BY THE CONTRACTOR. SEE "CONNECTION TO EXISTING WATER SYSTEM" NOTE BELOW

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: JDC
REVIEWED BY: SSM
DRAWN BY: JDC

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

NOT FOR CONSTRUCTION

GUADALUPE BEND PHASE 1
WATERLINE B PLAN & PROFILE
STA 9+00 TO END

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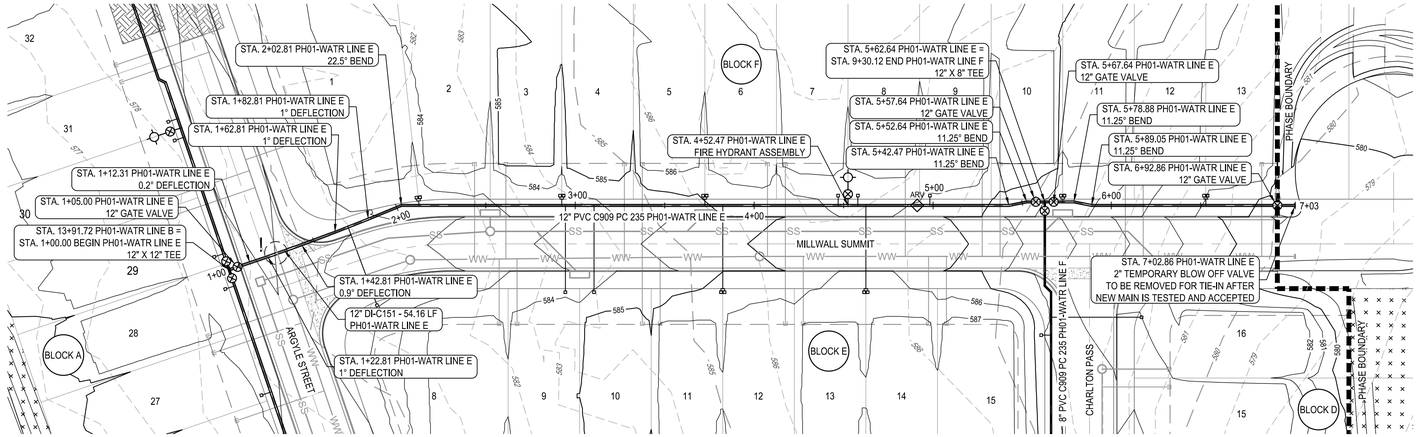
Mulholland, PE
Texas Licensed Professional
Engineer 146417
For Internal Review Purposes.
BGE, Inc.
TBPE Registration No. F-1046

SHEET
C08.06



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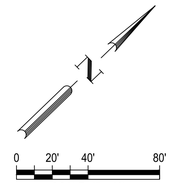

LEGEND

- PROPERTY BOUNDARY
- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY
- PUBLIC UTILITY EASEMENT (P.U.E.)
- FEMA 100 YEAR FLOODPLAIN
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PH01-WATR LINE E

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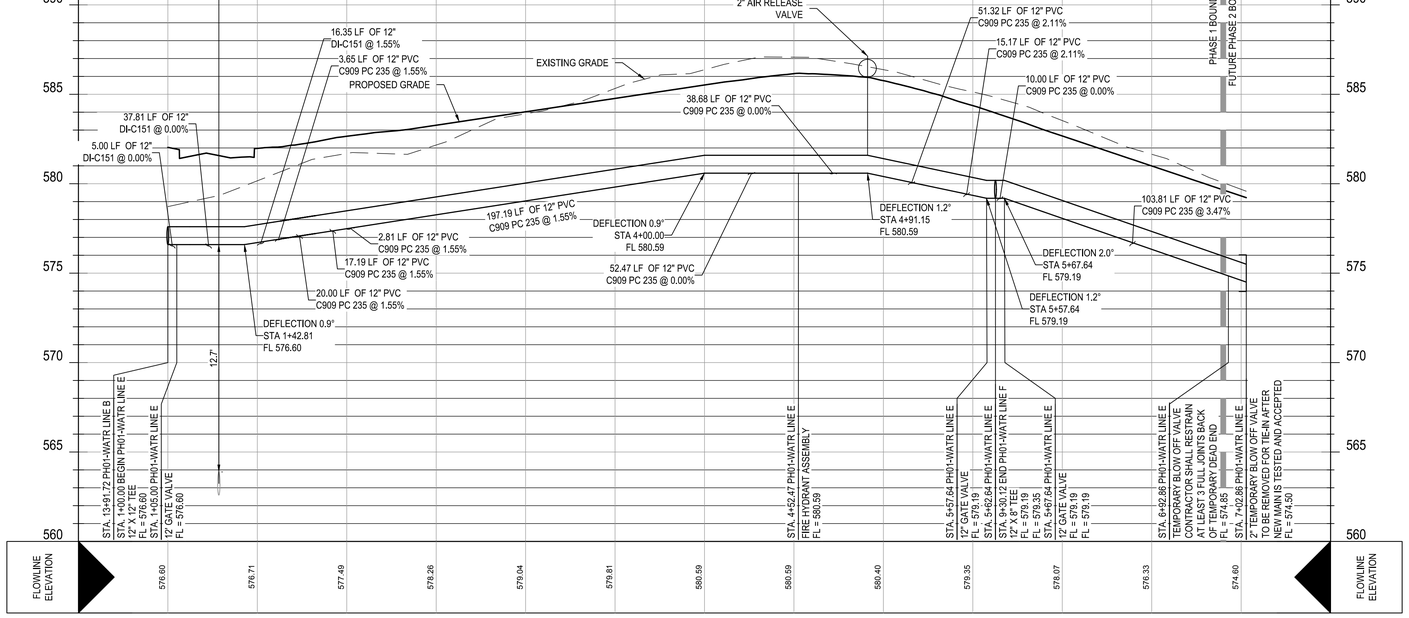

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NOTE:
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NOTE: ALL MAINS SHALL BE FLUSHED, HYDROSTATICALLY TESTED, AND DISINFECTED BY THE CONTRACTOR. SEE "CONNECTION TO EXISTING WATER SYSTEM" NOTE BELOW

NOT FOR CONSTRUCTION

	APR
	DATE
	DESCRIPTION
	REV
DESIGNED BY:	JDC
REVIEWED BY:	SSM
DRAWN BY:	JDC

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

WATERLINE E PLAN & PROFILE

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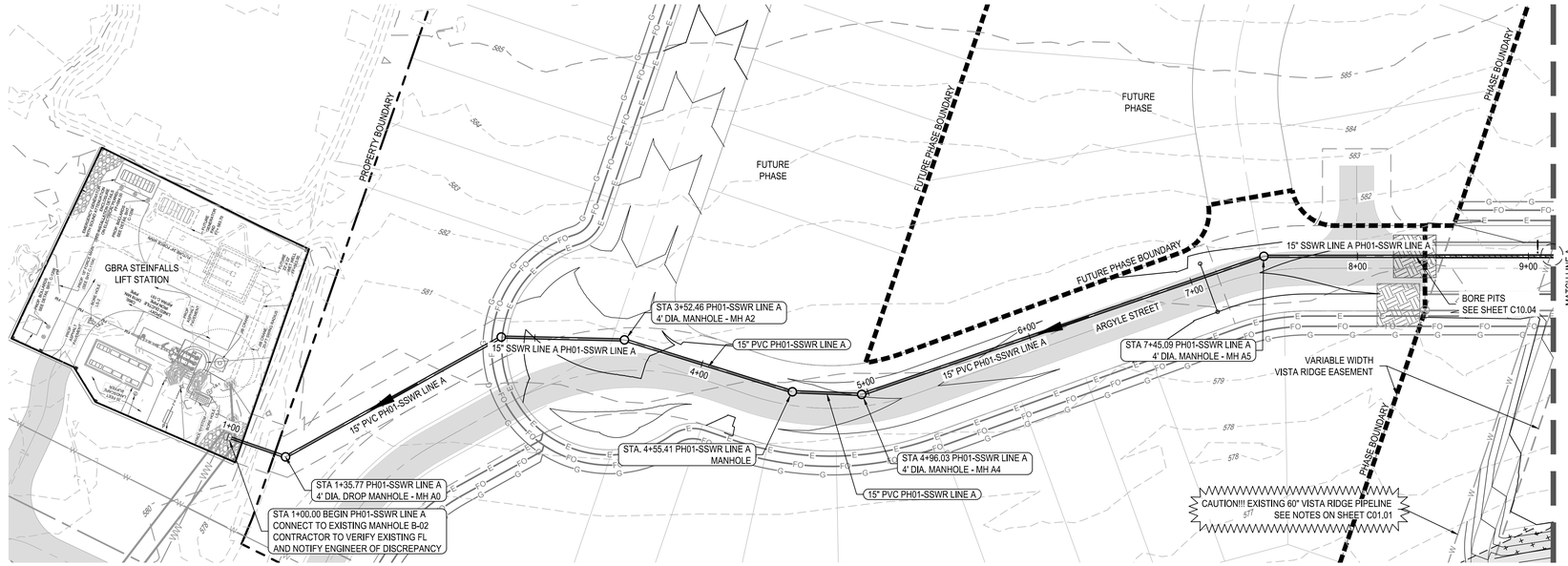
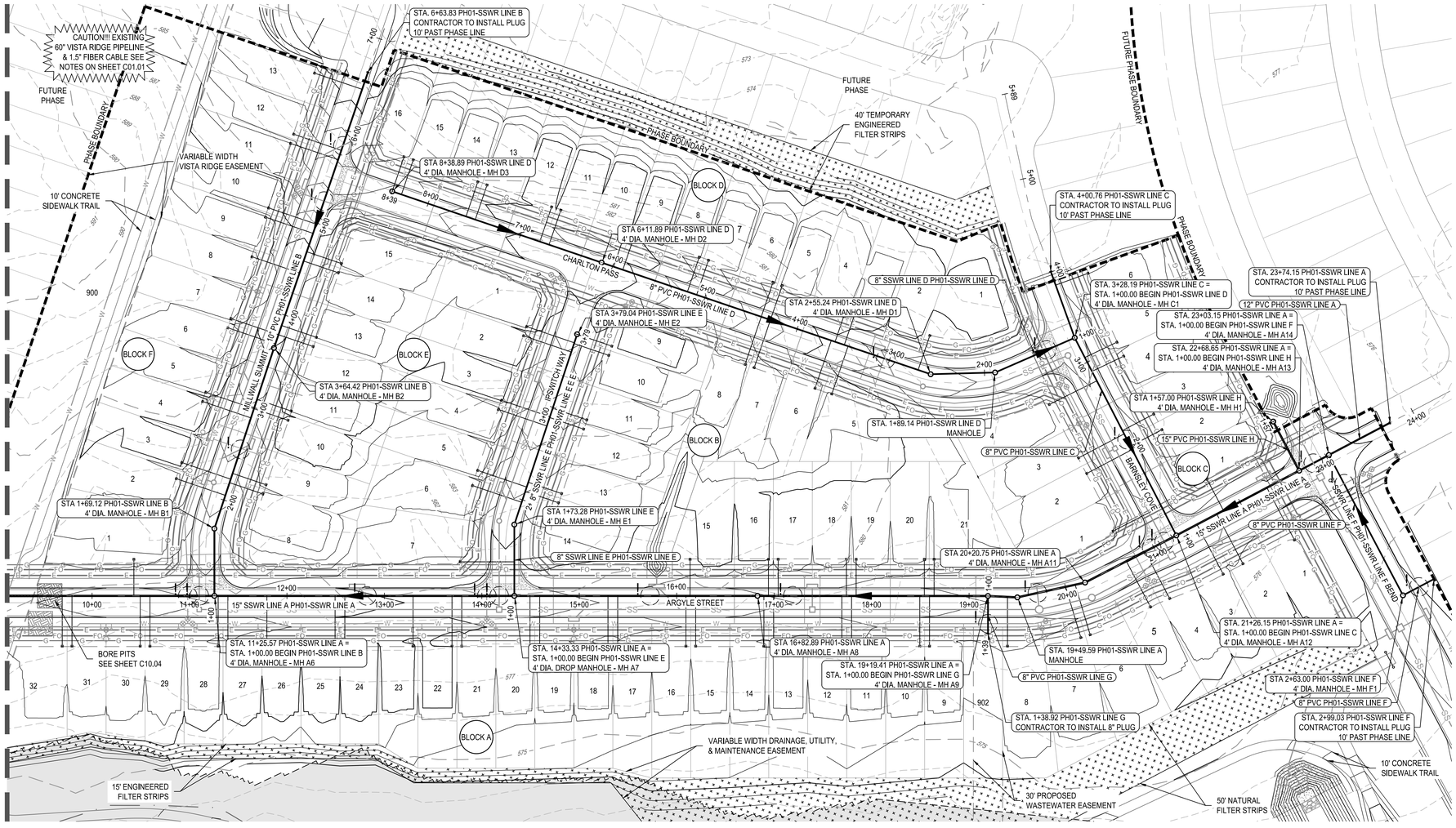
SHEET
C08.07

G:\TX\CI\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C08.07 WATERLINE E PLAN AND PROFILE.dwg Layout: WATERLINE E PLAN & PROFILE Plotted: 3/22/2024 10:51:08 AM By: Jclifton





0 30' 60' 120'

SCALE: 1" = 60'

LEGEND

- WASTEWATER LINE
- PROPOSED NEW MANHOLE
- PROPOSED WATER LINE
- PROPOSED STORM LINE
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- PROPOSED ELECTRIC
- PROPOSED GAS
- PROPOSED SINGLE SEWER SERVICE CONNECTION
- PROPOSED DOUBLE SEWER SERVICE CONNECTION
- PROPOSED SINGLE WATER SERVICE
- PROPOSED DUAL WATER SERVICE
- DIRECTION OF FLOW
- UTILITY CROSSING
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- FEMA 100 YEAR FLOODPLAIN

ALL WASTEWATER SYMBOLS ARE NOT TO SCALE, AND ARE ONLY SHOWN FOR ILLUSTRATION PURPOSED. REFER TO DETAILS SHOWN IN THIS PLAN SET.

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	DATE
	DESCRIPTION
	REV
DESIGNED BY:	JDC
REVIEWED BY:	SSM
DRAWN BY:	JDC

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San Antonio, TX 78216
TEL: 210-581-3600 www.browngay.com
TBPE Registration No. F-1046

NOT FOR CONSTRUCTION

GUADALUPE BEND PHASE 1

SANITARY SEWER COLLECTION PLAN

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SHEET
C09.00

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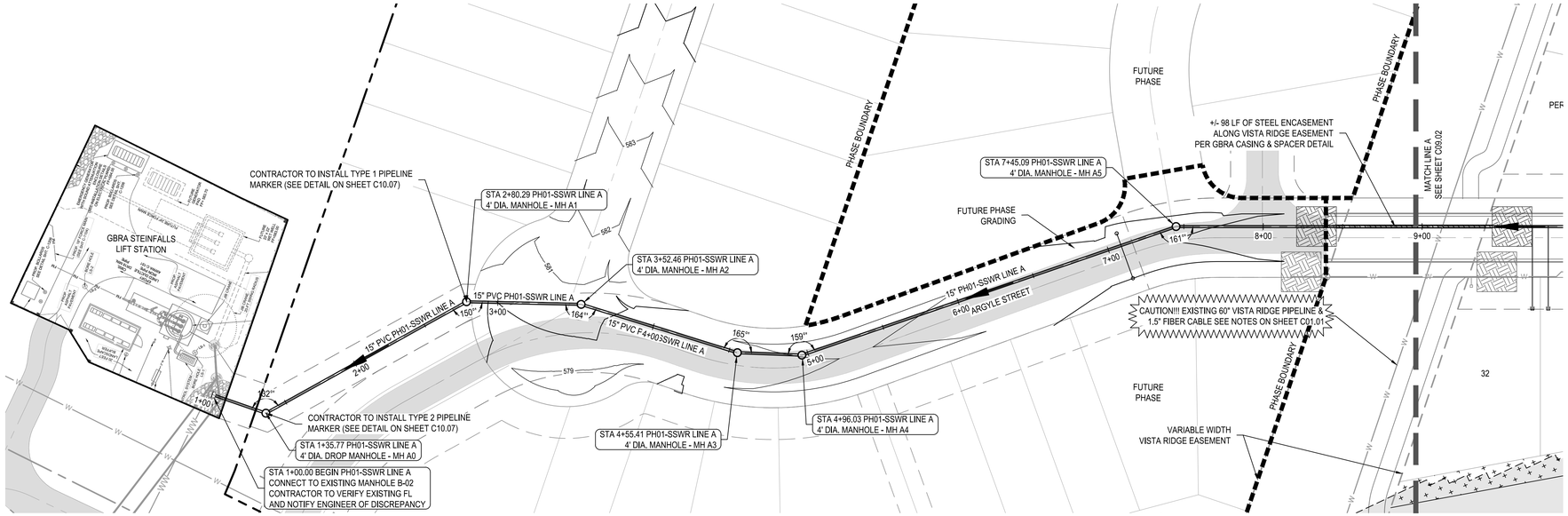

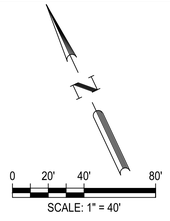

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- WASTEWATER LINE
- PROPOSED NEW MANHOLE
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- PROPOSED STORM LINE
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- EXISTING 5' CONTOUR
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- PROPOSED 5' CONTOUR
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- PROPOSED SINGLE SEWER SERVICE CONNECTION
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- DIRECTION OF FLOW
- UTILITY CROSSING
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- FEMA 100 YEAR FLOODPLAIN

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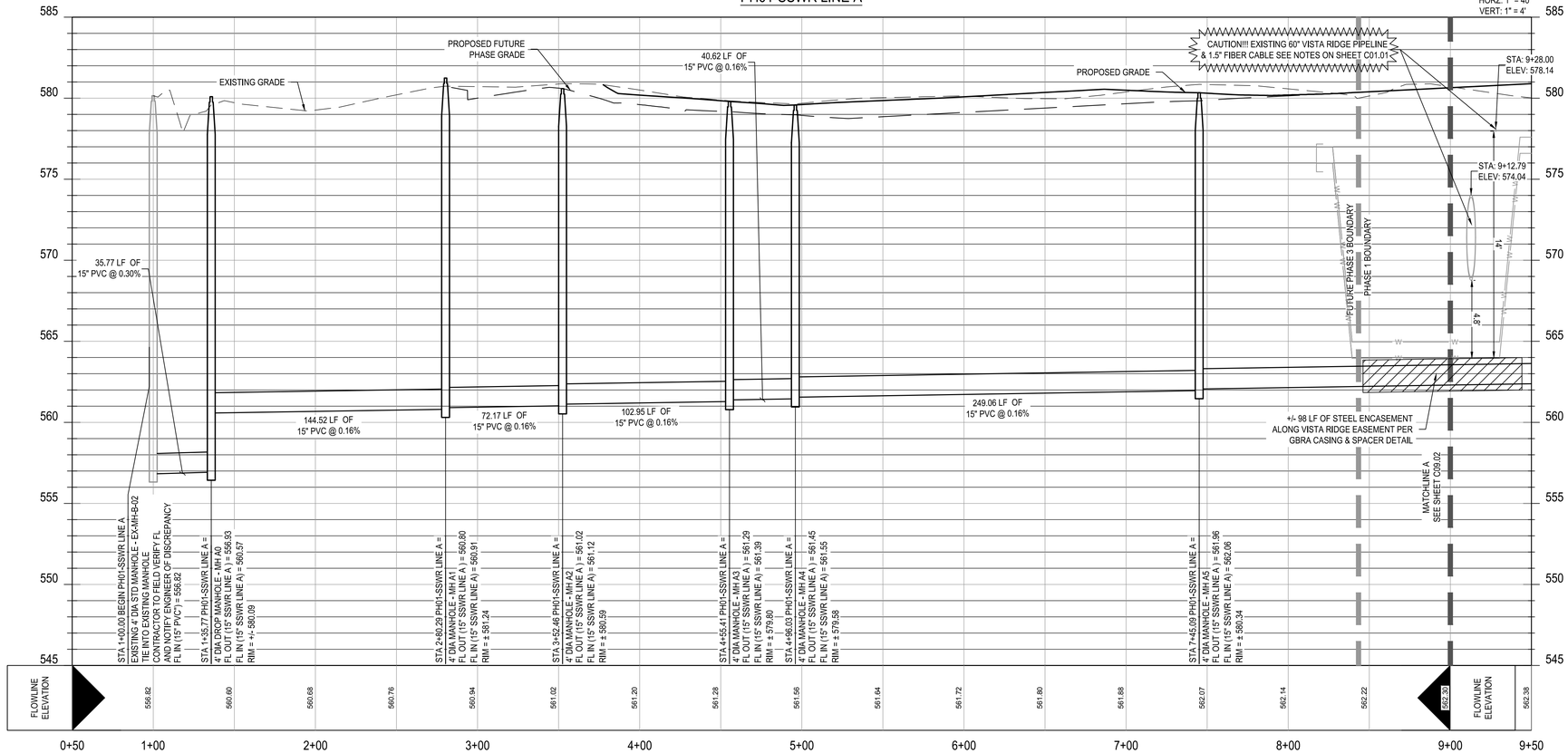

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REVIEWED BY: SSM
DRAWN BY: JDC

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GUADALUPE BEND PHASE 1

SANITARY SEWER A PLAN AND PROFILE
STA 1+00 TO 9+00

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SHEET
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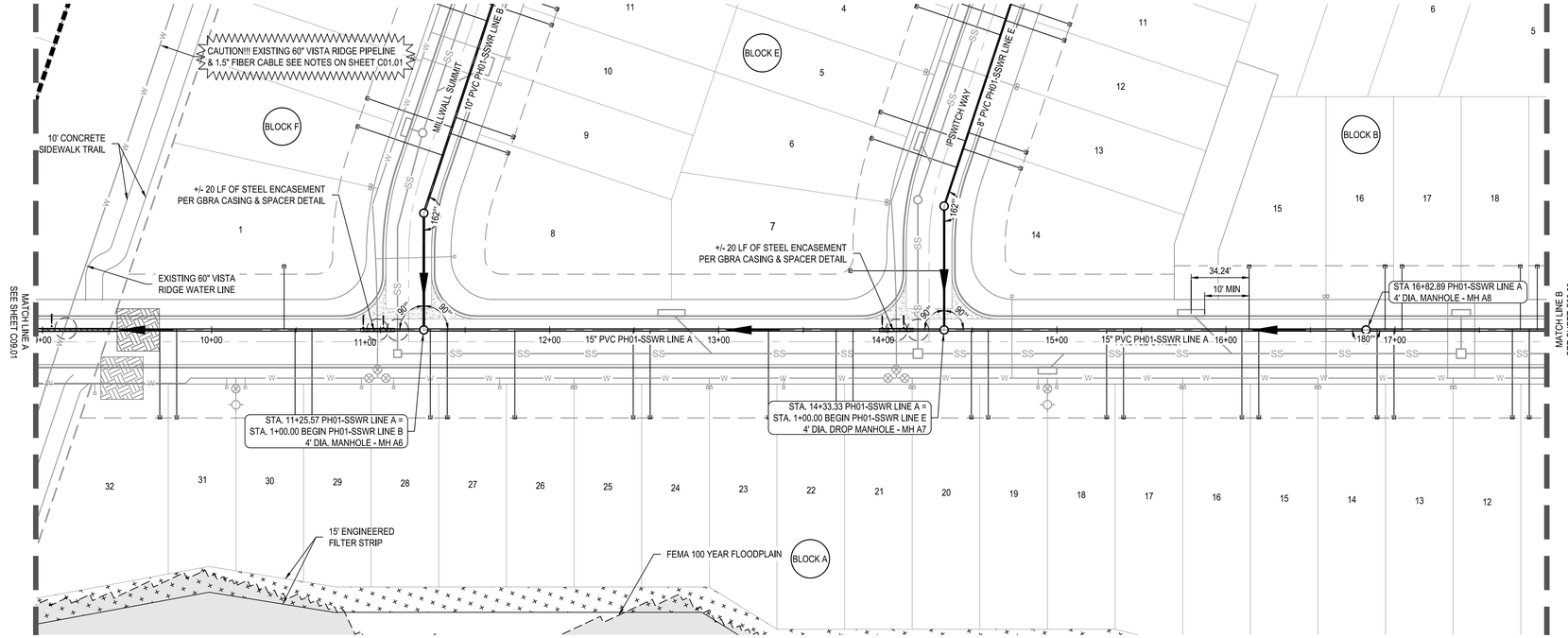

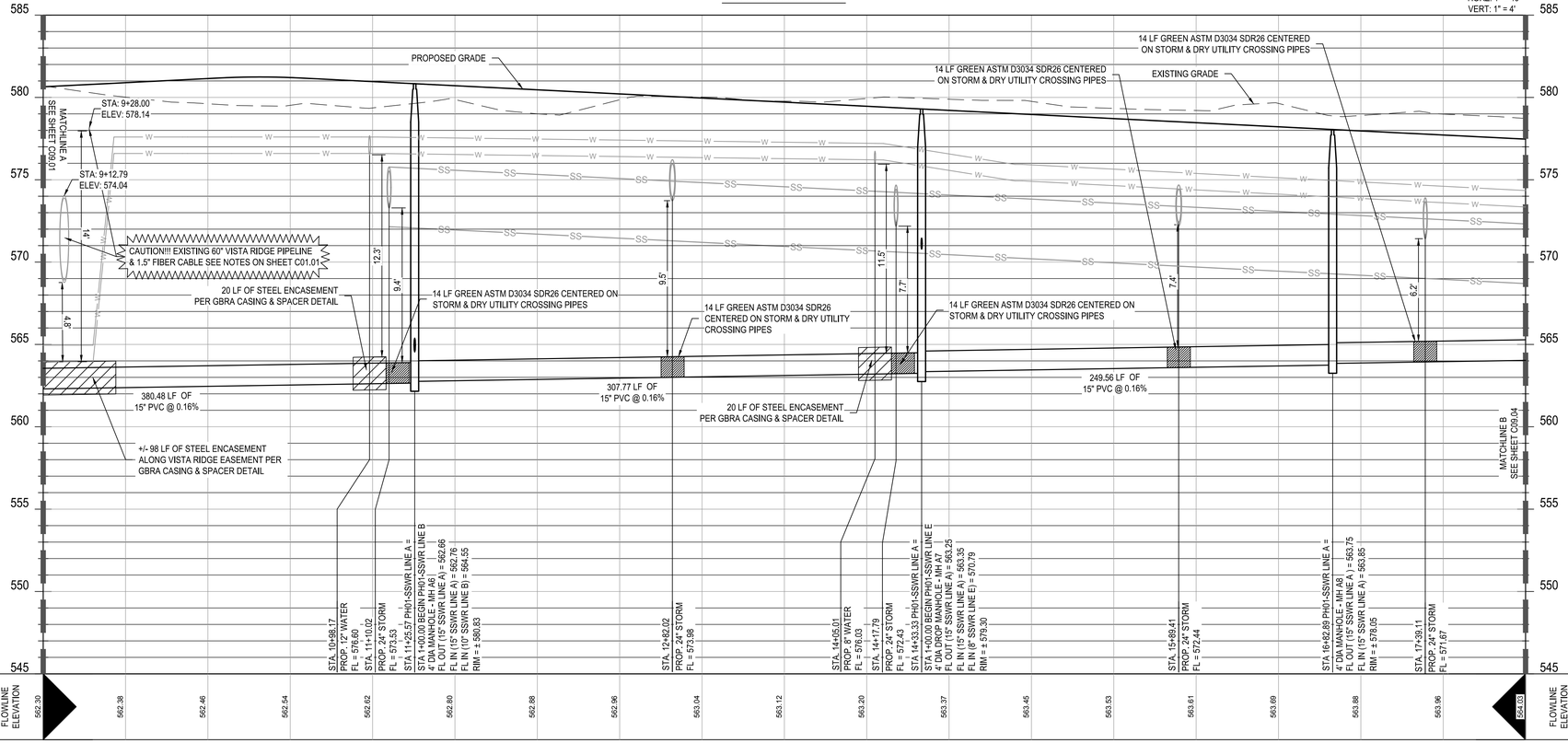

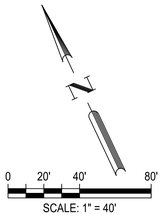

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REVIEWED BY: SSM
DRAWN BY: JDC

BGE, INC.
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GUADALUPE BEND PHASE 1
SANITARY SEWER A PLAN AND PROFILE STA 9+00 TO 18+00

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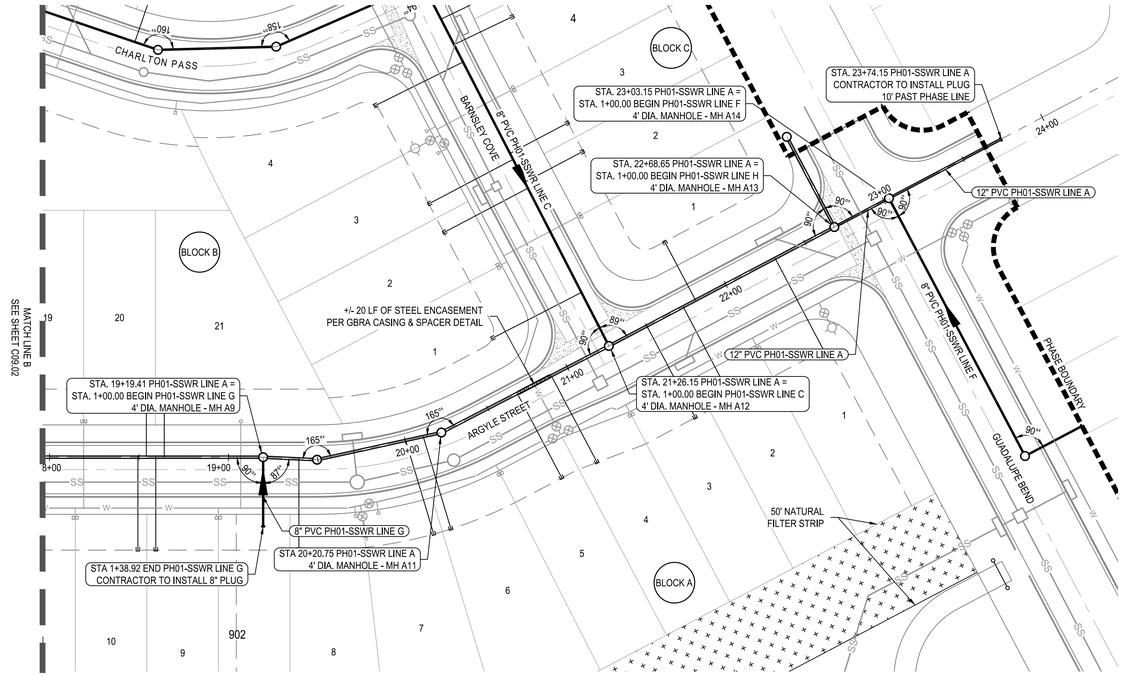

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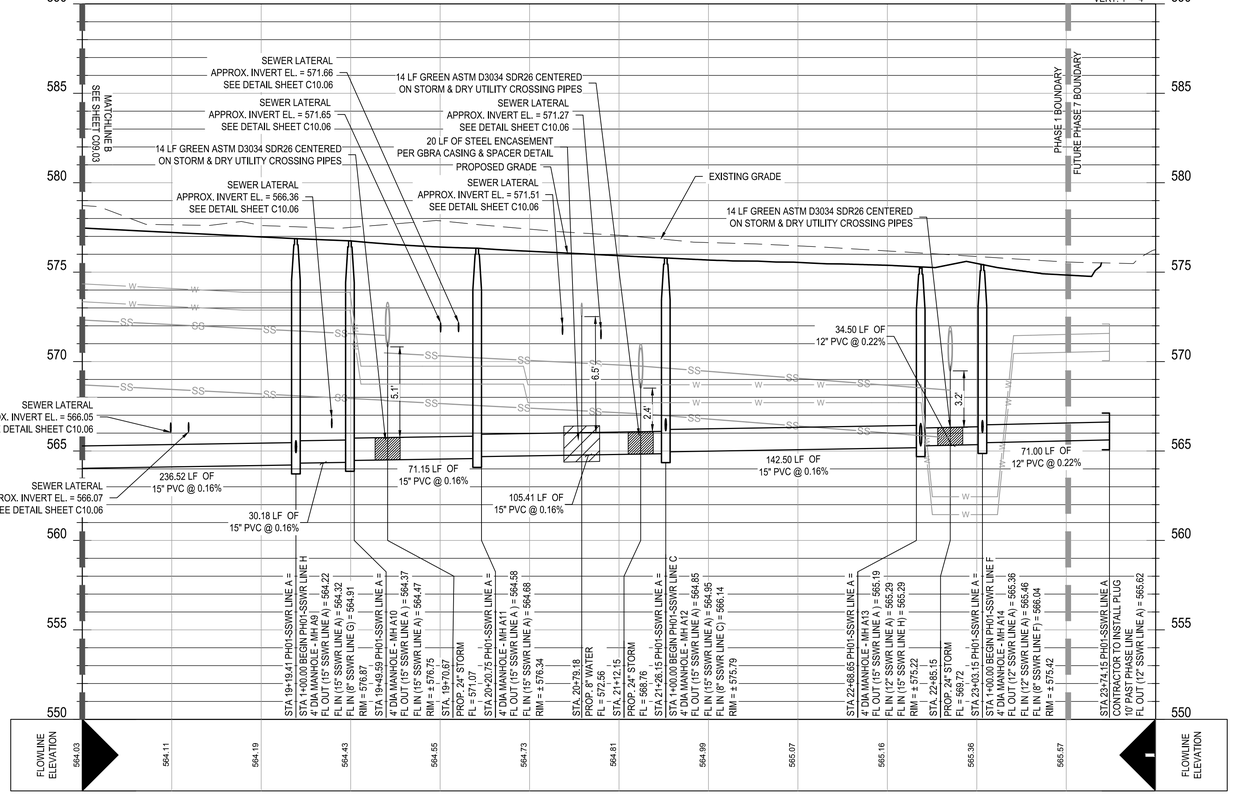

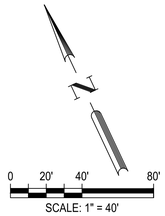

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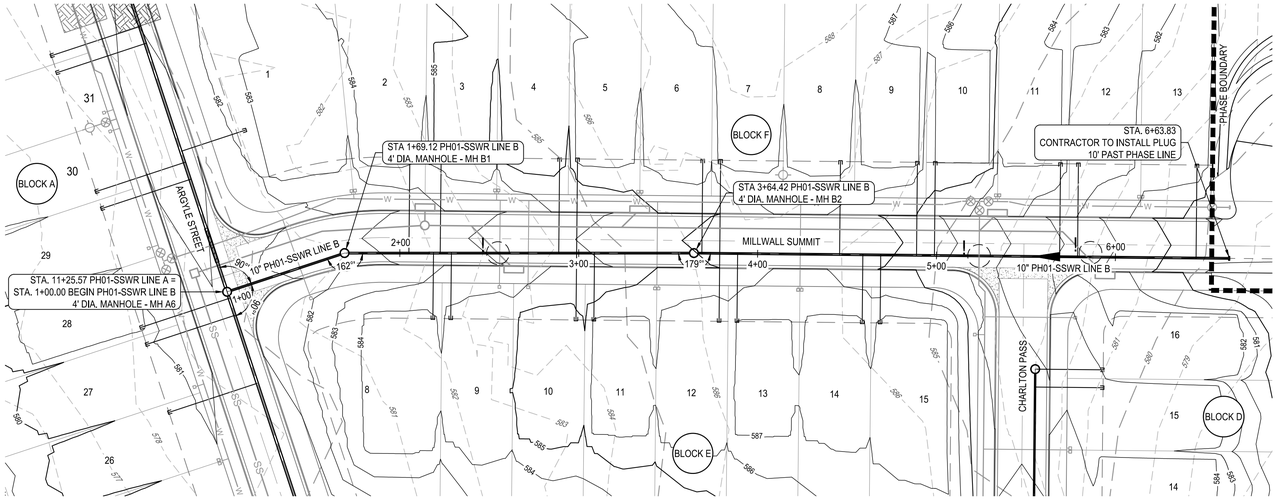
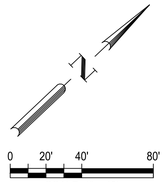
SHEET
C09.03





LEGEND

- WASTEWATER LINE
- PROPOSED NEW MANHOLE
- PROPOSED WATER LINE
- PROPOSED STORM LINE
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- PROPOSED ELECTRIC
- PROPOSED GAS
- PROPOSED SINGLE SEWER SERVICE CONNECTION
- PROPOSED DOUBLE SEWER SERVICE CONNECTION
- PROPOSED SINGLE WATER SERVICE
- PROPOSED DUAL WATER SERVICE
- DIRECTION OF FLOW
- UTILITY CROSSING
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- FEMA 100 YEAR FLOODPLAIN

ALL WASTEWATER SYMBOLS ARE NOT TO SCALE, AND ARE ONLY SHOWN FOR ILLUSTRATION PURPOSED. REFER TO DETAILS SHOWN IN THIS PLAN SET.

PH01-SSWR LINE B

SCALE:
HORZ: 1" = 40'
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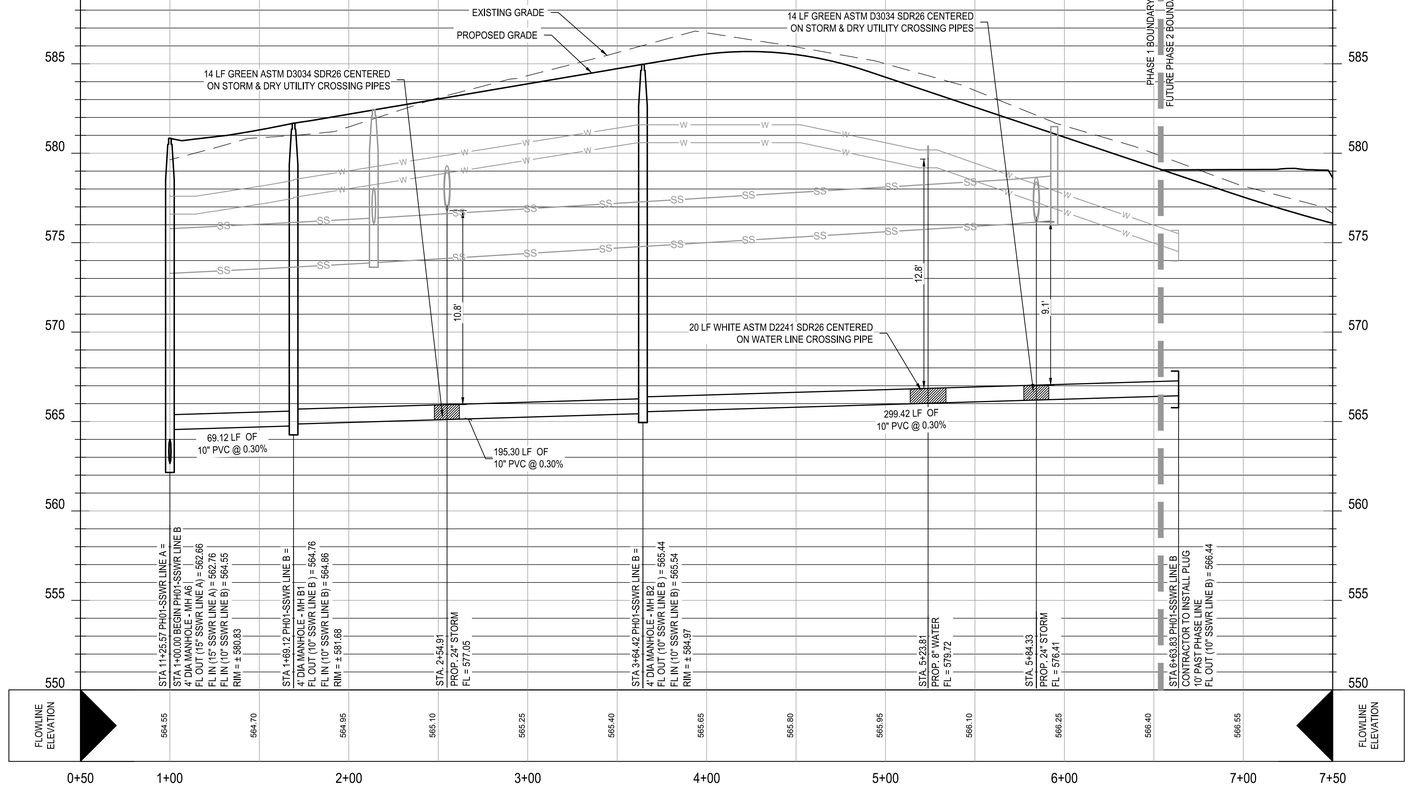

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4. REFER TO PLAN AND PROFILE SHEETS IN THIS SET FOR SANITARY SEWER AND STORM SEWER DESIGN INFORMATION.
5. RADIUS WATERLINE PIPE SHALL BE LAID IN 20 FT INCREMENTS AT 1°DEFLECTIONS.
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7. ALL OTHER UTILITIES SHALL BE INSTALLED BELOW THE WATER LINE WITH AT LEAST 1' SEPARATION.
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NOT FOR CONSTRUCTION

REV	DATE	APR

DESCRIPTION

DESIGNED BY: JDC
REVIEWED BY: SSM
DRAWN BY: JDC

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgetgy.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

SANITARY SEWER B PLAN AND PROFILE

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SHEET
C09.04

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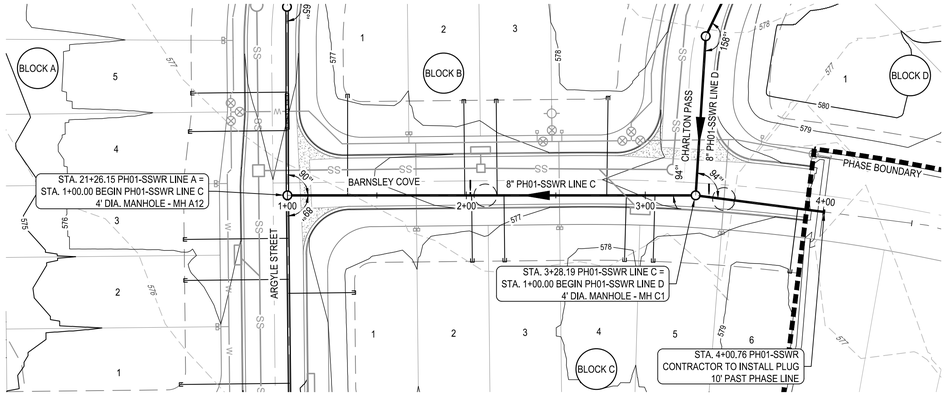

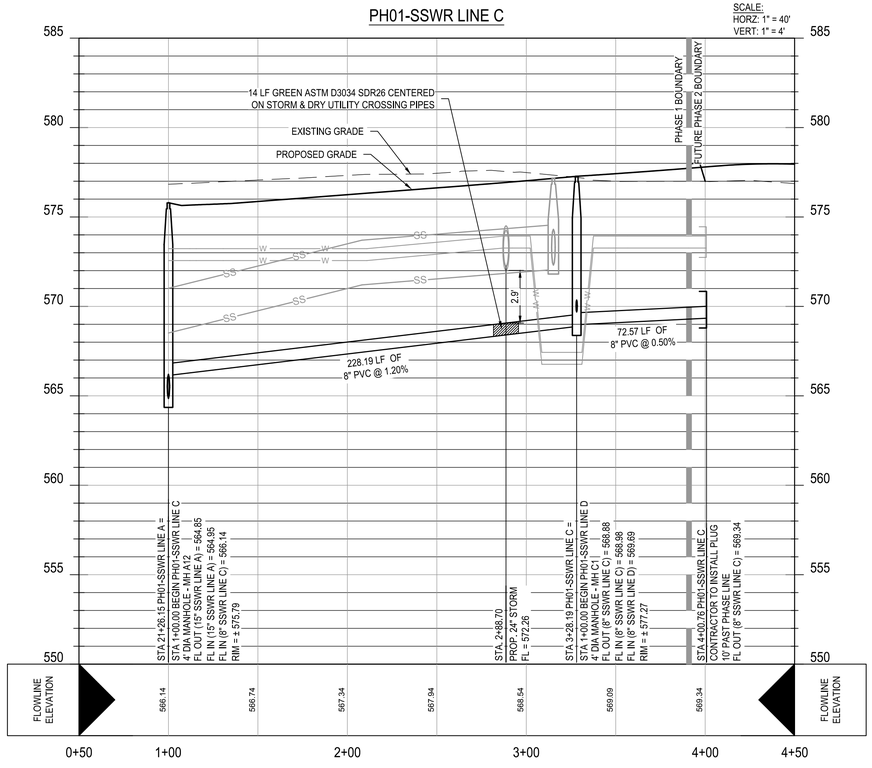

0 20' 40' 80'

SCALE: 1" = 40'

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- PROPOSED WATER LINE
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- UNIT BOUNDARY
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- FEMA 100 YEAR FLOODPLAIN

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NOT FOR CONSTRUCTION

	APR	DATE	DESCRIPTION	REV

DESIGNED BY: JDC
REVIEWED BY: SSM
DRAWN BY: JDC

BGE
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San Antonio, TX 78216
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GUADALUPE BEND PHASE 1

SANITARY SEWER C PLAN AND PROFILE

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SHEET
C09.05

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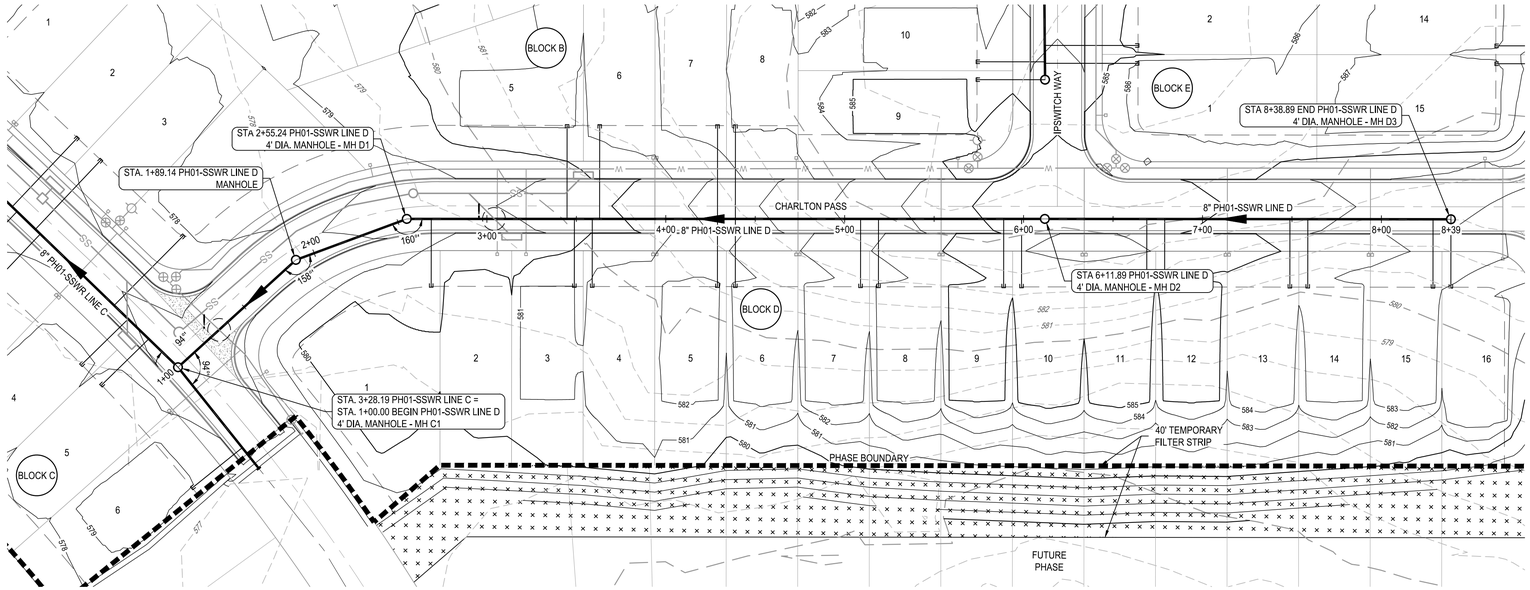

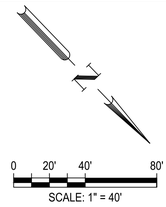

LEGEND

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- PROPOSED SINGLE WATER SERVICE
- PROPOSED DUAL WATER SERVICE
- DIRECTION OF FLOW
- UTILITY CROSSING
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- FEMA 100 YEAR FLOODPLAIN

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PH01-SSWR LINE D

SCALE:
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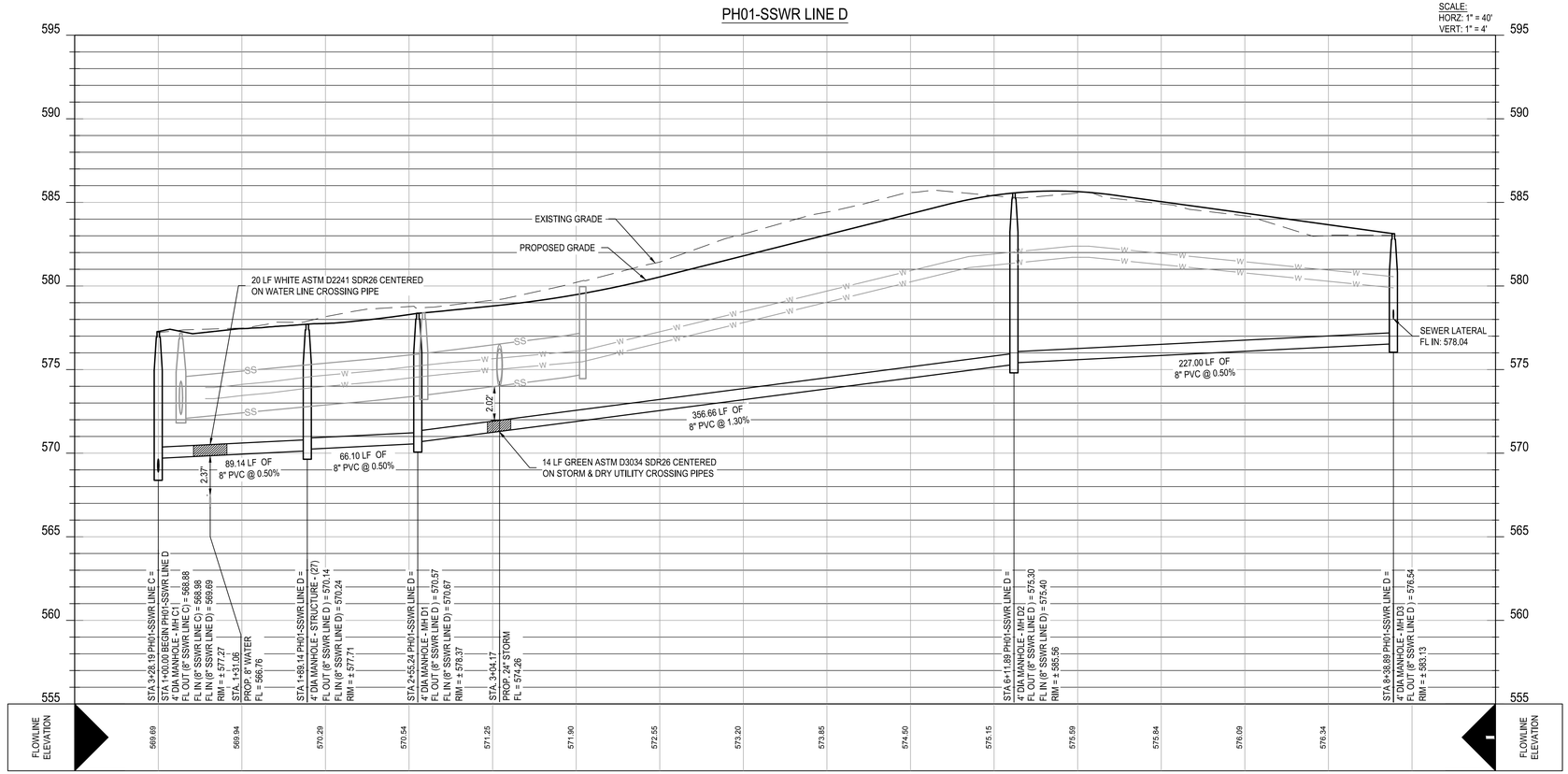

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DESIGNED BY: JDC
REVIEWED BY: SSM
DRAWN BY: JDC

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GUADALUPE BEND PHASE 1

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SHEET
C09.06

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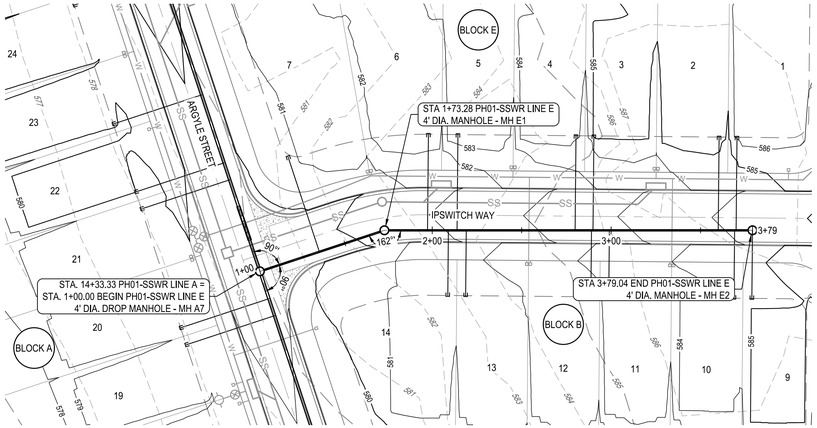

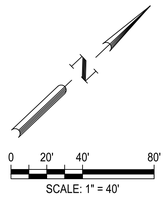

LEGEND

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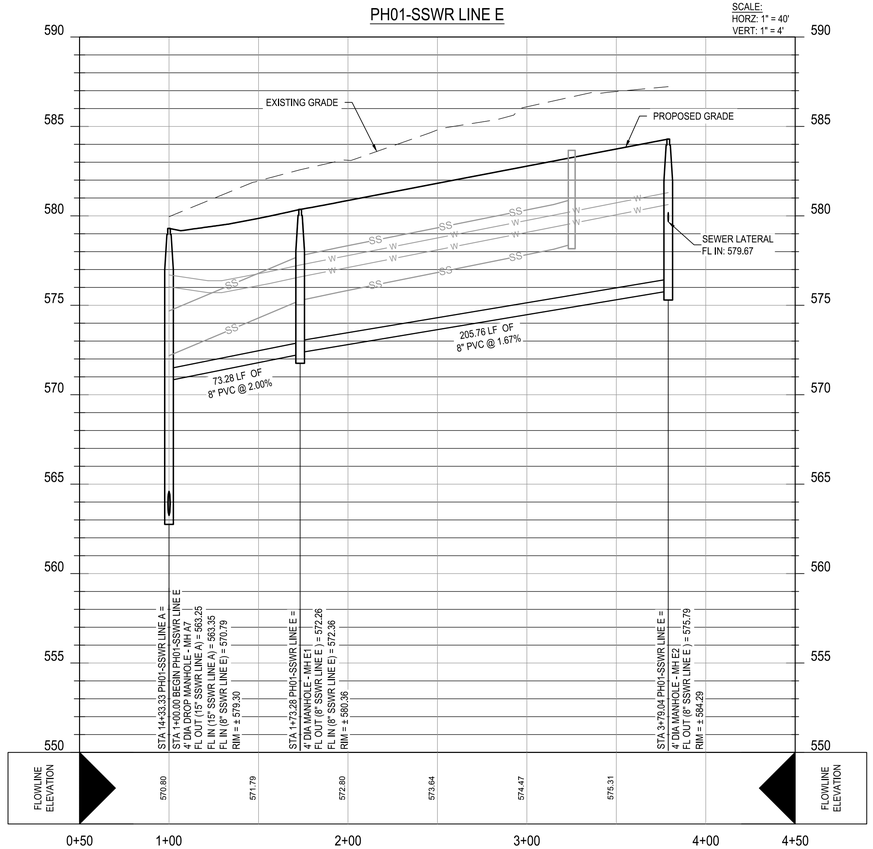

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NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	APR

DESIGNED BY: JDC
REVIEWED BY: SSM
DRAWN BY: JDC

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

SANITARY SEWER E PLAN AND PROFILE

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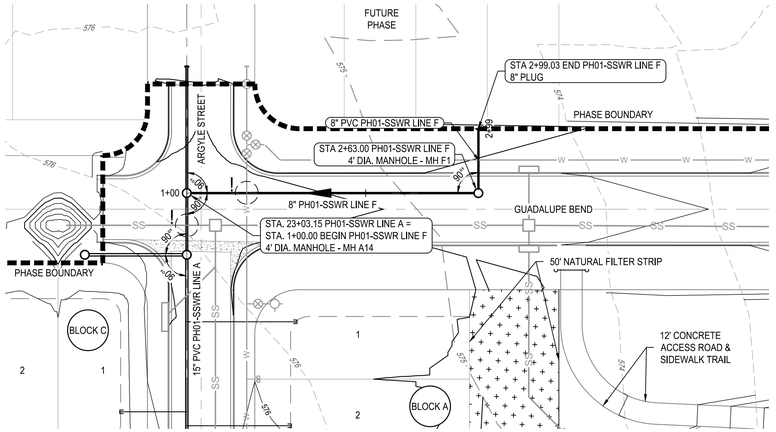

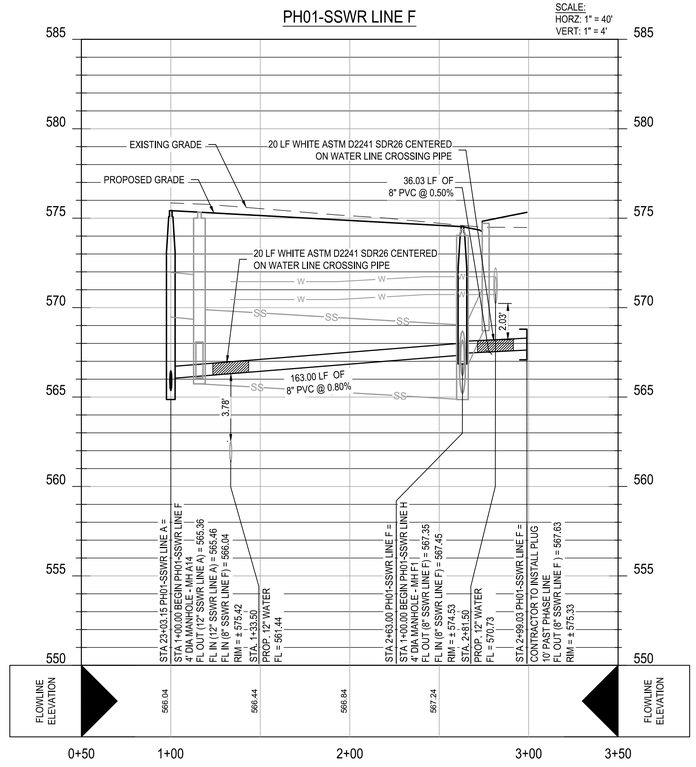

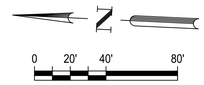

LEGEND

- WASTEWATER LINE
- PROPOSED NEW MANHOLE
- PROPOSED WATER LINE
- PROPOSED STORM LINE
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- PROPOSED ELECTRIC
- PROPOSED GAS
- PROPOSED SINGLE SEWER SERVICE CONNECTION
- PROPOSED DOUBLE SEWER SERVICE CONNECTION
- PROPOSED SINGLE WATER SERVICE
- PROPOSED DUAL WATER SERVICE
- DIRECTION OF FLOW
- UTILITY CROSSING
- UNIT BOUNDARY
- PROPERTY BOUNDARY
- FEMA 100 YEAR FLOODPLAIN

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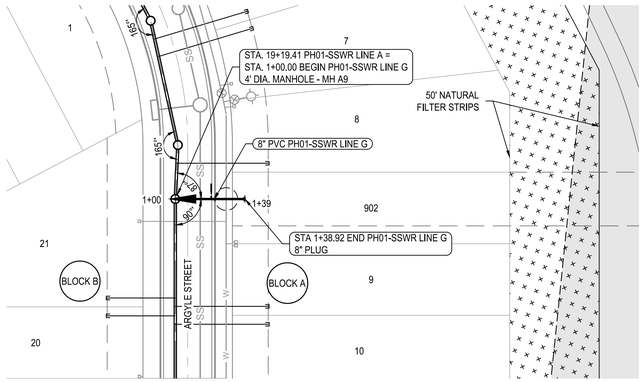

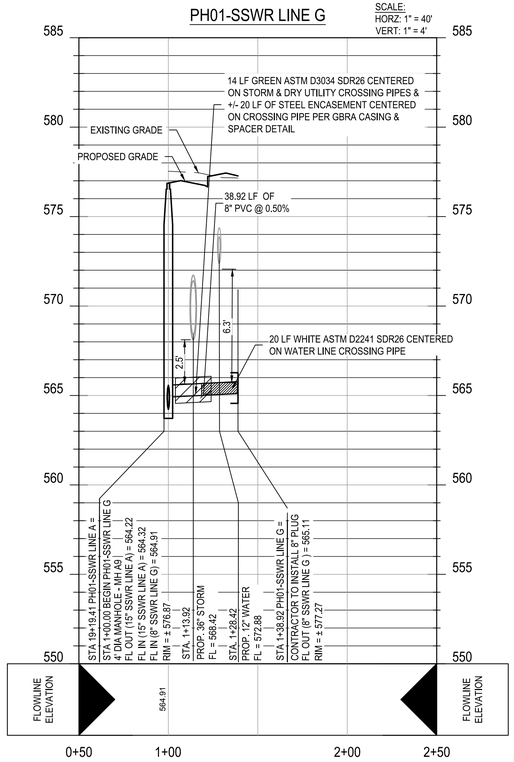

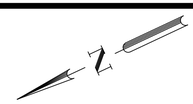

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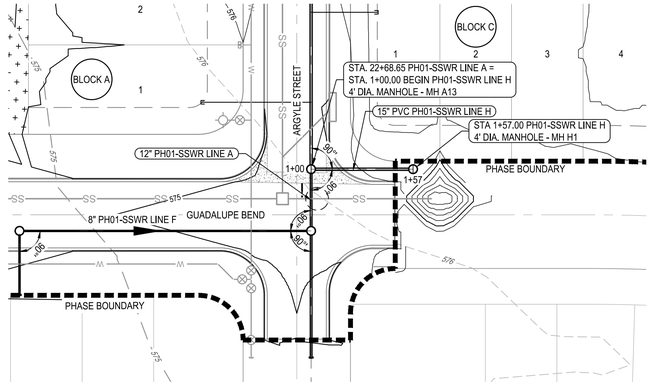

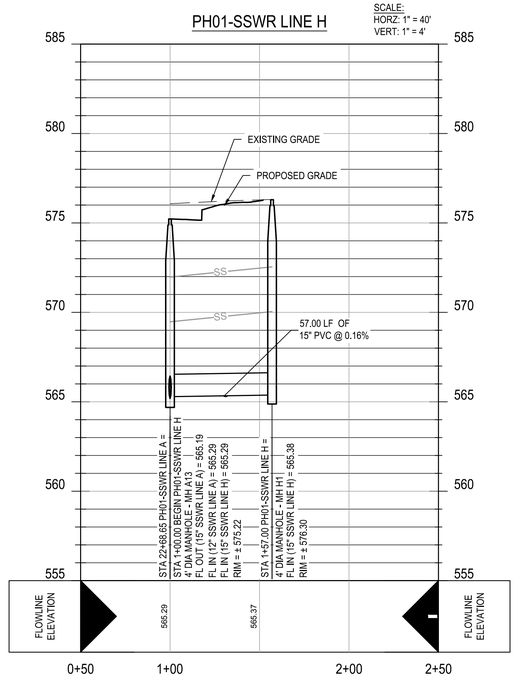

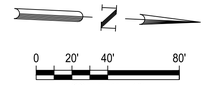

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GUADALUPE BEND PHASE 1

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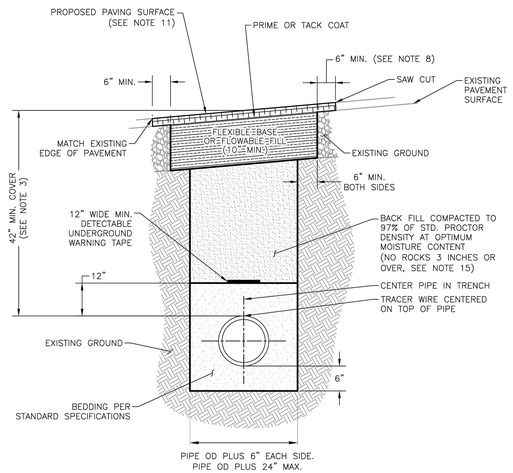
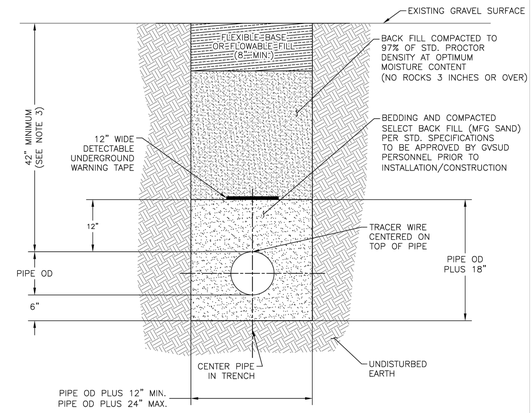


GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	TRENCH DETAIL FOR PAVED AREAS (1 OF 2)	
REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-1

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: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-1

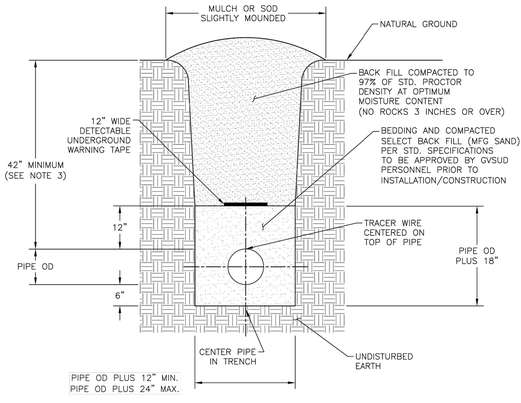


ELEVATION VIEW

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: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-2

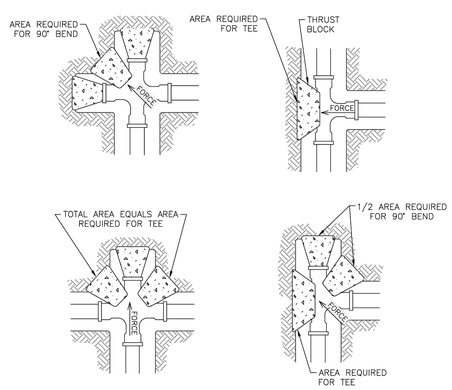


ELEVATION VIEW

NOTES:

1. ALL WASTEWATER PVC PIPING SHALL BE GREEN IN COLOR. NO WATER DESIGNATED PIPE 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 COLOR CODED BLUE.
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. 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: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-3

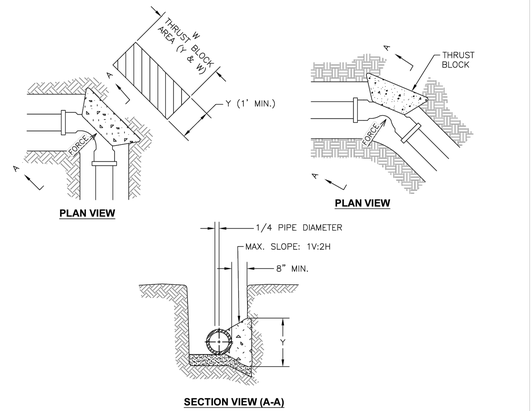


MINIMUM THRUST BLOCK AREA REQUIRED (Y AND W)		
PIPE SIZE	WATER PIPE	
	TEE, DEAD END, 90° BEND	45° AND 22.5° BENDS
4" & LESS	3 SQ. FEET	3 SQ. FEET
6"	4 SQ. FEET	3 SQ. FEET
8"	6 SQ. FEET	3 SQ. FEET
10"	9 SQ. FEET	5 SQ. FEET
12"	13 SQ. FEET	7 SQ. FEET
16"	23 SQ. FEET	12 SQ. FEET
18"	29 SQ. FEET	15 SQ. FEET

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: AUGUST 2023	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. 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 (2 OF 2)	
REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-4

NOT FOR CONSTRUCTION

						APR
						DATE
						DESCRIPTION
						REV
DESIGNED BY: SAR						
REVIEWED BY: SSM						
DRAWN BY: SAR						

BGE

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TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

CIVIL UTILITY DETAILS (SHEET 1 OF 5)

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Texas Licensed Professional Engineer 146417
For Internal Review Purposes.
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TBPE Registration No. F-1046

SHEET
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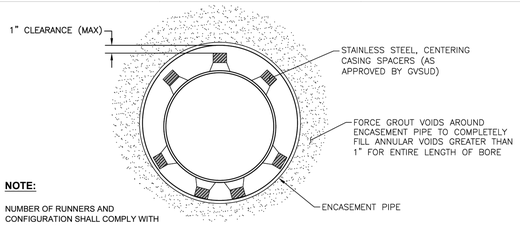
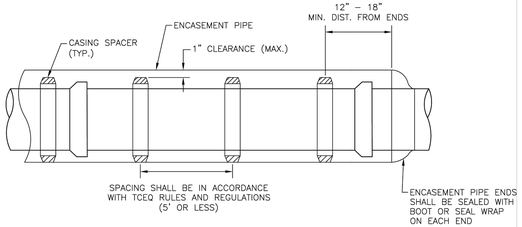


NOTE:

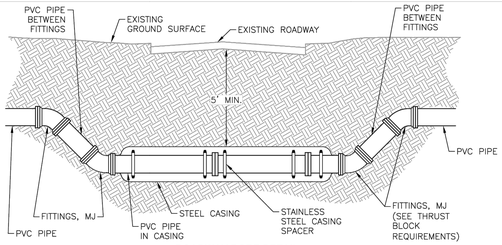
NUMBER OF RUNNERS AND CONFIGURATION SHALL COMPLY WITH TCEQ RULES AND REGULATIONS



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: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-6



ROADWAY BORE DETAIL

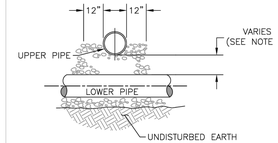
NOTES:

1. ALL PIPE IN ENCASEMENT PIPE SHALL BE RESTRAINED WITH AN APPROVED METHOD FOR ENTIRE LENGTH OF THE ENCASEMENT PIPE PLUS 10 FEET ON EACH SIDE.
2. FOR A PIPE 20 FEET IN LENGTH, A MINIMUM OF 4 SPACERS ARE REQUIRED. FOR A PIPE 13 FEET IN LENGTH, A MINIMUM OF 3 SPACERS ARE REQUIRED.
3. FOR ENCASED PIPE LOCATED IN PROXIMITY TO SANITARY SEWERS, SPACERS SHALL CONFORM TO TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290, SUBCHAPTER D.
4. AT ANY ROADWAY CROSSING THE PIPE SHALL BE STEEL ENCASED AND HAVE A MINIMUM OF 5 FEET OF COVER FROM THE BOTTOM OF THE BASE MATERIAL.
5. FOR ROAD WAY CROSSINGS, THE ENDS OF THE CASING PIPE SHALL EXTEND TO THE RIGHT OF WAY LINES.
6. ALL PIPE FITTINGS, VALVES, AND APPURTENANCES SHALL MATCH OR EXCEED CLASS RATING OF PIPE AS SHOWN ON THE PLANS.
7. SEE ENCASEMENT DETAIL WITH ENCASEMENT SPACER DETAIL W-6.
8. DUCTILE IRON PIPE,AMERICAN ZINC COATED AWWA/ANSI C-151 MAY BE USED IN LIEU OF STEEL CASING WHEN APPROVED BY GVSUD.

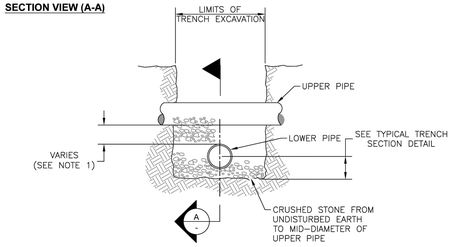
WATER LINE IN ENCASEMENT PIPE

WATER LINE SIZE (INCHES)	NOM. DIA. STEEL (INCHES)	ENCASEMENT PIPE THICKNESS (INCHES)	PIPE WEIGHT (LBS./FT.)
6	18	0.375	70.59
8	24	0.375	94.62
12	24	0.375	94.62
16	30	0.375	118.65
20	36	0.438	166.19
24	42	0.438	194.02
30	48	0.50	259.02
36	54	0.50	291.07

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	INSTALLATION OF PIPE IN STEEL ENCASEMENT UNDER ROADS	
REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-7



SECTION VIEW (A-A)

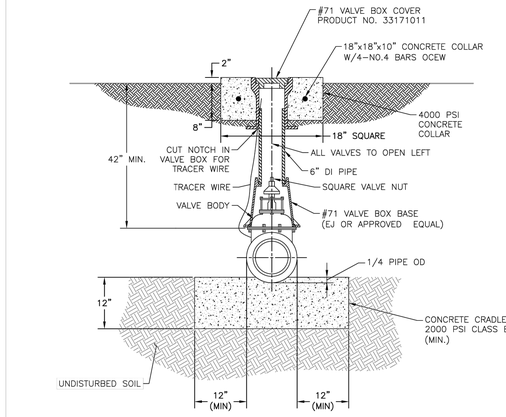


TYPICAL SECTION

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.

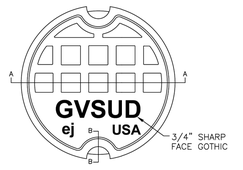
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	UTILITIES CROSSING DETAIL	
REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-10



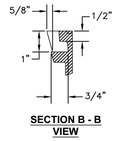
NOTES:

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.

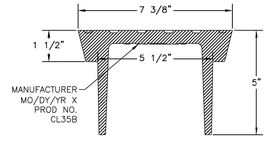
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	NON-RISING STEM VERTICAL GATE VALVE WITH BOX ASSEMBLY	
REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-11



PLAN VIEW



SECTION B - B VIEW

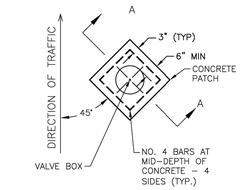


SECTION A - A VIEW

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.

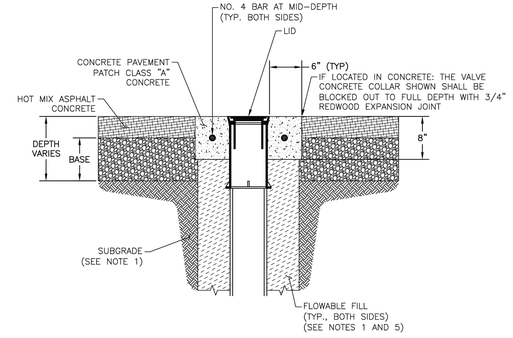
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	VALVE BOX CASTING LID	
REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-12



PLAN VIEW

NOTES:

1. SUBGRADE SHALL BE COMPACTED PER SPECIFICATIONS, SUBGRADE PREPARATION.
2. VALVE BOXES SHALL BE ADJUSTED TO GRADE AFTER FINAL LIFT OF OVERLAY IS IN PLACE.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO BASE OF THE VALVE.
4. CONTRACTOR TO USE VALVE BOX ADJUSTING RISER TO ADJUST VALVE BOX TO GRADE.
5. WHERE CAST IRON CASTINGS ARE TO BE REMOVED IN EXCAVATION GREATER THAN 20 INCHES DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL TO THE UNDERSIDE OF THE CONCRETE PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.
6. REINFORCING STEEL SHALL MEET SPECIFICATIONS FOR REINFORCING STEEL.



SECTION VIEW (A-A)

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	VALVE BOX ADJUSTMENT IN PAVEMENT	
REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-13

NOT FOR CONSTRUCTION

	APR
	DATE
	DESCRIPTION
	REV
DESIGNED BY:	SAR
REVIEWED BY:	SSM
DRAWN BY:	SAR

BGE

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TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

CIVIL UTILITY DETAILS (SHEET 2 OF 5)

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SHEET C10.01

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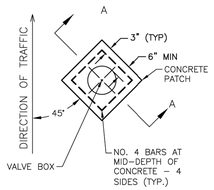
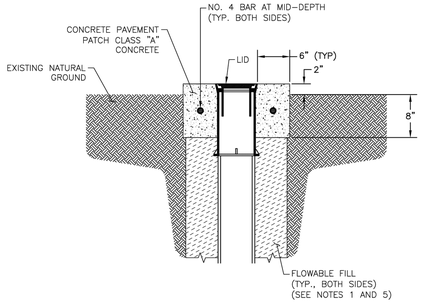


PLAN VIEW

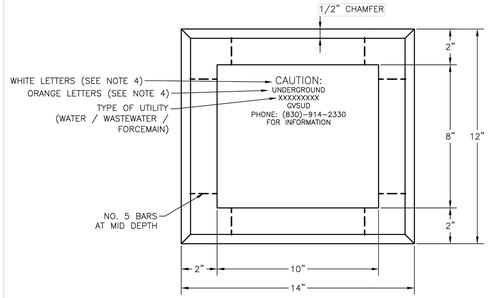
NOTES:

1. SUBGRADE SHALL BE COMPACTED PER SPECIFICATIONS, SUBGRADE PREPARATION.
2. VALVE CASTINGS SHALL BE ADJUSTED TO GRADE AFTER FINAL LIFT OF OVERLAY IS IN PLACE.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO BASE OF THE VALVE.
4. CONTRACTOR TO USE VALVE BOX ADJUSTING RISER TO ADJUST VALVE BOX TO GRADE.
5. WHERE CAST IRON CASTINGS ARE TO BE REMOVED IN EXCAVATION GREATER THAN 20 INCHES DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL TO THE UNDERSIDE OF THE CONCRETE PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.
6. REINFORCING STEEL SHALL MEET SPECIFICATIONS FOR REINFORCING STEEL.



SECTION VIEW (A-A)

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	VALVE BOX ADJUSTMENT OUTSIDE OF PAVEMENT	
REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-14



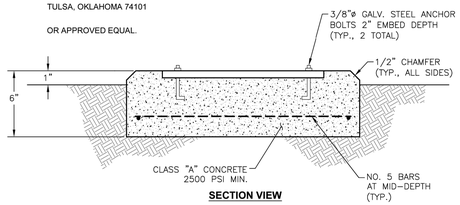
PLAN VIEW

NOTES:

1. MARKERS SHALL BE PLACED AT VALVES, AIR VALVES, AND ACCESS PORTS.
2. PLACE WATER/WASTEWATER LINE MARKERS AT EVERY FENCE, ROAD CROSSING, AND AT 500' INTERVALS ALONG THE PIPELINE.
3. SIGNS SHALL BE 20 GA. WITH BLACK BACKGROUND FINISH.
4. LETTERS USED FOR "CAUTION" SHALL BE WHITE. ALL REMAINING LETTERS SHALL BE ORANGE.
5. MARKERS SHALL BE OBTAINED FROM:

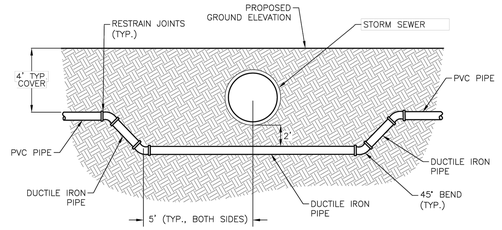
5.1. RURAL WATER SPECIALTY CO.
POST OFFICE BOX 927
TULSA, OKLAHOMA 74101

OR APPROVED EQUAL.



SECTION VIEW

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	UTILITY MARKER DETAIL	
REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-16



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: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-17



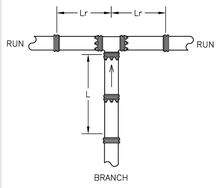
RESTRAINED LENGTH FOR BENDS

PIPE SIZE (INCHES)	BEND ANGLE (DEG)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 PSI
6	90	23
6	45	9
6	22.5	5
6	11.25	2
8	90	30
8	45	12
8	22.5	6
8	11.25	3
12	90	43
12	45	18
12	22.5	8
12	11.25	4
16	90	63
16	45	26
16	22.5	13
16	11.25	7
24	90	85
24	45	35
24	22.5	17
24	11.25	9

NOTES:

1. RESTRAINED LENGTH CALCULATIONS FOR P.V.C PIPE BEDDED IN COMPACTED GRANULAR MATERIAL EXTENDING TO THE TOP OF THE PIPE. NATIVE SOIL MATERIAL IS ASSUMED TO BE INORGANIC CLAY OF HIGH PLASTICITY. DEPTH OF BURY IS ASSUMED TO BE 4 FEET.
2. THESE CALCULATIONS ARE PROVIDED FOR REFERENCE. THE RESTRAINED LENGTH SHALL BE DESIGNED BASED UPON THE CONDITIONS ENCOUNTERED DURING INSTALLATION.
3. CONTRACTOR SHALL RESTRAIN ALL JOINTS WITHIN THE REQUIRED RESTRAINT DISTANCE PLUS THE NEXT JOINT OUTSIDE THE REQUIRED RESTRAINT DISTANCE.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	BEND RESTRAINED LENGTH DESIGN	
REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-18



Lr=LENGTH OF PIPE ALONG THE RUN FREE OF JOINTS.
L=LENGTH TO BE RESTRAINED

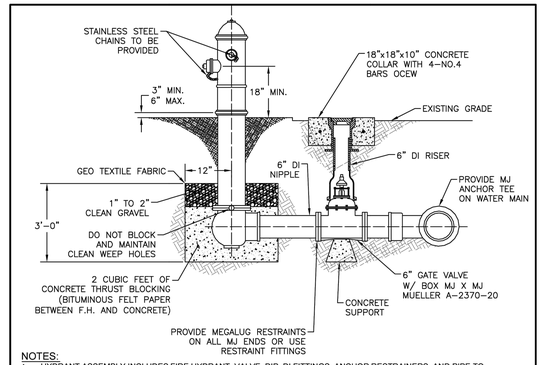
RESTRAINED LENGTH FOR TEES

PIPE SIZE (INCHES)	BRANCH SIZE (INCHES)	LENGTH OF RUN (FEET)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 PSI
6	4	0	42
6	4	5	7
6	4	10	1
6	6	0	59
6	6	5	35
6	6	10	11
8	4	0	42
8	4	5	1
8	6	0	59
8	6	5	28
8	6	10	1
8	8	0	77
8	8	5	53
8	8	10	30
8	8	15	6
12	4	0	42
12	4	5	1
12	6	0	59
12	6	5	13
12	6	10	1
12	8	0	77
12	8	5	42
12	8	10	7
12	8	15	1
12	12	0	109
12	12	5	86
12	12	10	63
12	12	15	39
16	4	0	42
16	4	5	1
16	6	0	59
16	6	5	1
16	8	0	78
16	8	5	39
16	8	10	1
16	12	0	110
16	12	5	84
16	12	10	59
16	12	15	33
16	12	20	7
16	16	0	142
16	16	5	123
16	16	10	104
16	16	15	85
16	16	20	65
24	24	5	169
24	24	10	136
24	24	15	103
24	24	20	70

NOTES:

1. RESTRAINED LENGTH CALCULATIONS FOR P.V.C PIPE BEDDED IN COMPACTED GRANULAR MATERIAL EXTENDING TO THE TOP OF THE PIPE. NATIVE SOIL MATERIAL IS ASSUMED TO BE INORGANIC CLAY OF HIGH PLASTICITY. DEPTH OF BURY IS ASSUMED TO BE 4 FEET.
2. THESE CALCULATIONS ARE PROVIDED FOR REFERENCE. THE RESTRAINED LENGTH SHALL BE DESIGNED BASED UPON THE CONDITIONS ENCOUNTERED DURING INSTALLATION.
3. CONTRACTOR SHALL RESTRAIN ALL JOINTS WITHIN THE REQUIRED RESTRAINT DISTANCE PLUS THE NEXT JOINT OUTSIDE THE REQUIRED RESTRAINT DISTANCE.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	TEE RESTRAINED LENGTH DESIGN	
REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-21



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: NOVEMBER 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-22

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	APR
	DATE
	DESCRIPTION
	REV
DESIGNED BY:	SAR
REVIEWED BY:	SSM
DRAWN BY:	SAR

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San Antonio, TX 78216
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TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

CIVIL UTILITY DETAILS (SHEET 3 OF 5)

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SHEET
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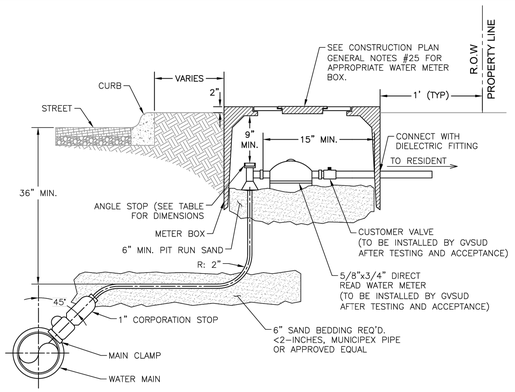
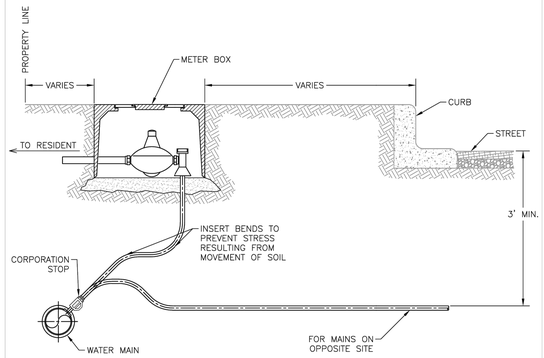


MAIN SIZE	METER SIZE	MAIN SADDLE	CORPORATION	ANGLE STOP
<12"	5/8" OR 3/4"	S-91804 IP	H-15028 IP 1"	B-24258N: 1"x 3/4"
<12"	1"	S-91804 IP	H-15028 IP 1"	B-24258N: 1"X1"

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.

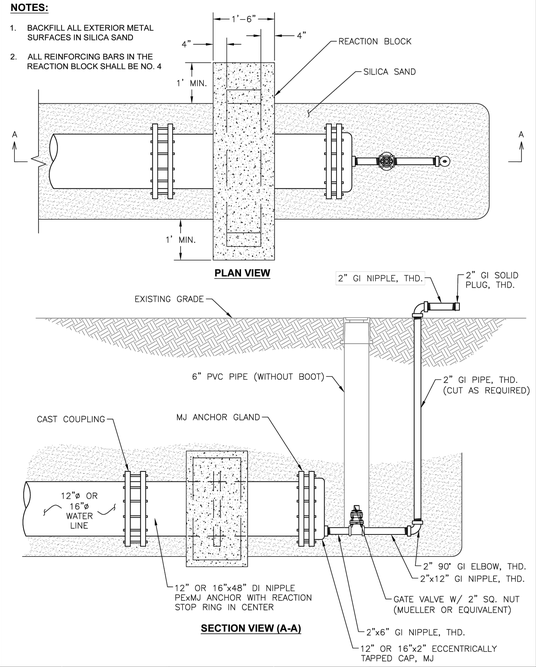
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	STANDARD SERVICE CONNECTION	
REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-23



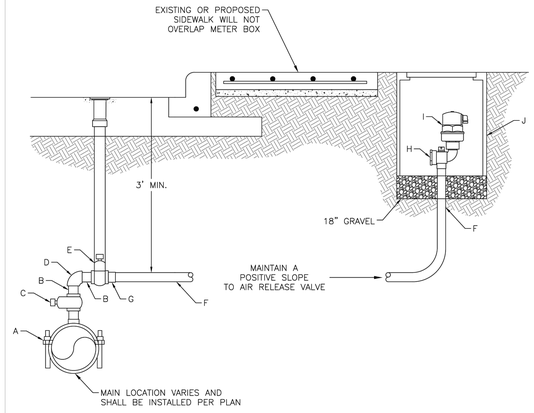
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	TYPICAL SERVICE LOCATION DETAIL	
REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-24

NOTES:

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



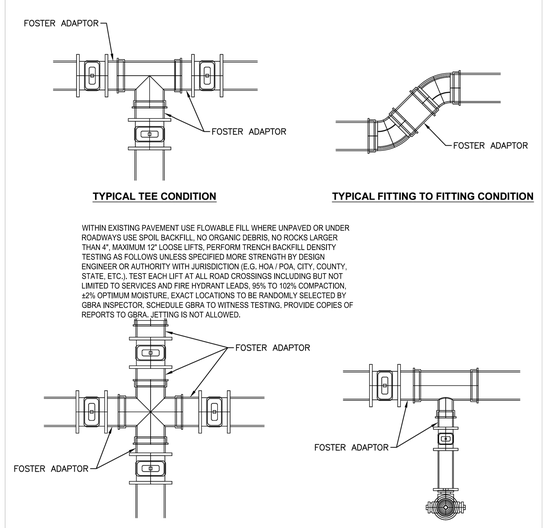
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	2" TEMPORARY BLOW-OFF ASSEMBLY ON 12" TO 16" MAINS	
REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-25



MATERIAL LIST***	
LABEL	**ITEM**
A*	2" TAPPING SADDLE/SLEEVE
B	2" BRASS NIPPLE - THREADED
C**	2" BRASS CORPORATION STOP, MIP X FIP
D	2" BRASS 90° BEND, FIP
E	2" VALVE, RESILIENT WEDGE GATE, IRON BODY. FIP X FIP, WITH VALVE BOX
F	2" MUNICIPEX WATER SERVICE LINE
G	2" BRASS ADAPTER, MIP X CTS COMPRESSION
H	2" BRASS STOP, ANGLED OR STRAIGHT, CTS COMPRESSION X FIP
I	2" AIR RELEASE VALVE
J	DFW38CNP-J26-AF1MS VALVE BOX

* SERVICE SADDLES SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM.
** ALL FITTING CONNECTED TO POLYETHYLENE PIPE WILL REQUIRE A STAINLESS STEEL INSERT.
*** MATERIAL LIST TO BE IN ACCORDANCE WITH GVSUD STANDARD PRODUCT LIST.

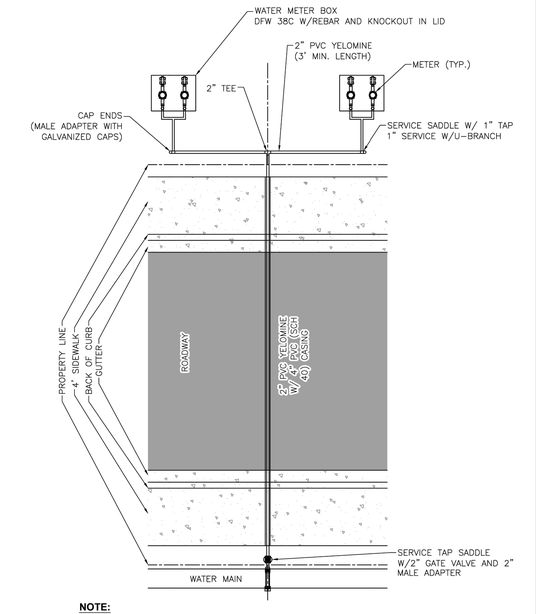
GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	2" AIR RELEASE VALVE	
REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-30



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: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-31



NOTE:

1. MALE ADAPTOR AND TEE SHALL BE HARCO TYPE FITTINGS OR APPROVED EQUAL.

GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	MULTI-DWELLING UNIT WATER SERVICE DETAIL	
REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-32

REV	DATE	DESCRIPTION
		APR

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

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San Antonio, TX 78216
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TBPE Registration No. F-1046

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CIVIL UTILITY DETAILS (SHEET 4 OF 5)

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SHEET C10.03

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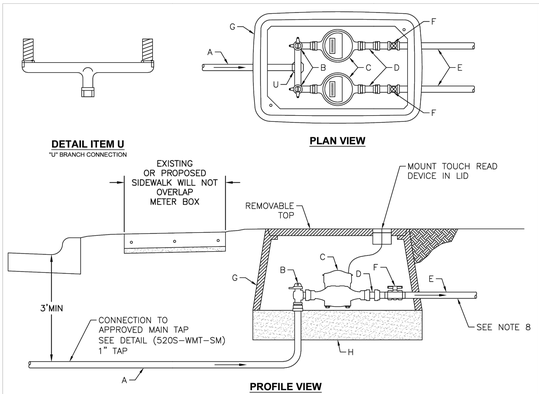
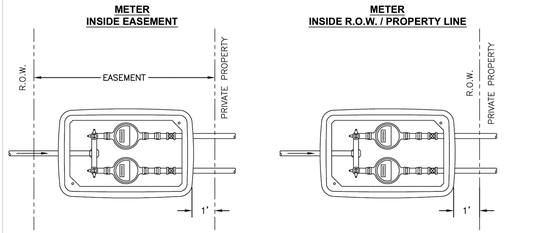




GREEN VALLEY SPECIAL UTILITY DISTRICT	GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	5/8", & 3/4" DUAL METER SERVICE CONNECTIONS (IRRIGATION OR DOMESTIC) (1 OF 2)	
	REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-40

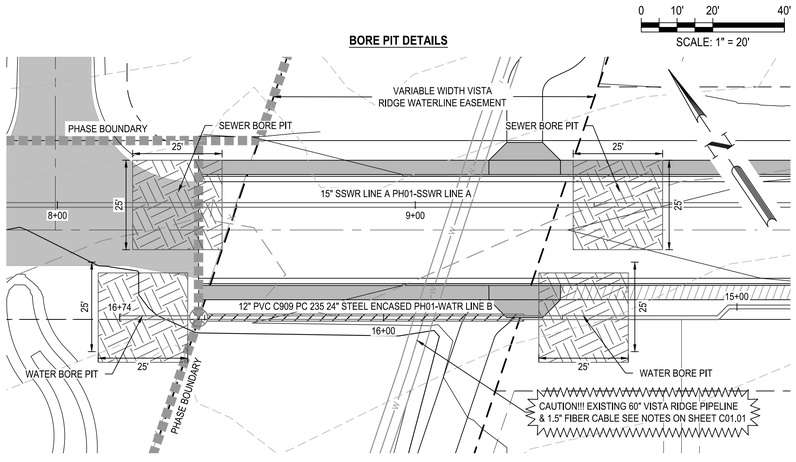
MATERIAL LIST			
LABEL	ITEMS	METER SIZE	
		5/8"	3/4"
A*	TUBING SHALL BE REHAU MUNICIPEX WITH CTS 200 PSI PLASTIC INSERT	1"	1"
B	APPROVED ANGLE METER STOP WITH PADLOCK WING. (FORD TYPE Q COMPRESSION FITTING OR APPROVED EQUIVALENT.)	5/8"	3/4"
C	WATER METER	5/8"	3/4"
D	WATER METER COUPLING - CONNECTION SWIVEL NUT	5/8"	3/4"
E	CUSTOMER YARD PIPE - AS SPECIFIED		
F	CUT-OFF VALVE **		
G	PLASTIC METER BOX AND LID WITH REBAR, ARM, AND KNOCKOUT		
H	6" COMPACTED SAND		
U	"U" BRANCH CONNECTION (COMPRESSION - TYPE FITTING)	1"X3/4"	1"X3/4"

* ALL FITTING CONNECTED TO POLYETHYLENE PIPE WILL REQUIRE A STAINLESS STEEL INSERT.
** TO BE INSTALLED BY GVSUD AFTER TESTING AND ACCEPTANCE

NOTES:

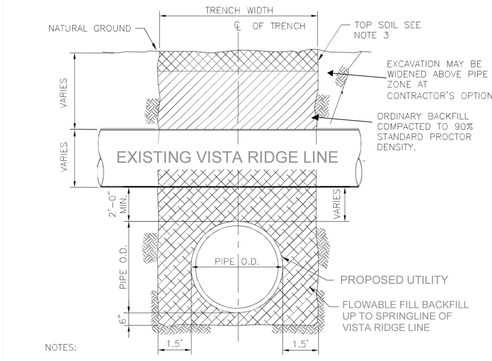
1. REFERENCE GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAIL W-23 FOR METER AND METER BOX DIMENSIONS.
2. TOP OF METER BOX SHALL BE 1" ABOVE GRADE AFTER REVEGETATION OR FLUSH WITH PAVEMENT SURFACE. METER BOX ARE PROHIBITED IN ANY SIDEWALKS, DRIVEWAYS, OR ROADWAYS.
3. FOR PIPES AND FITTINGS OUTSIDE THE METER BOX SHALL BE EMBEDDED AND BACKFILLED, 6" SAND BEDDING MINIMUM, WITHIN THE R.O.W. OR EASEMENT.
4. WATER METER WILL BE HORIZONTALLY CENTERED WITH THE METER BOX.
5. TAP TO CITY WATER LINE SHALL HAVE A 1" CORPORATION STOP AND A 1" TAP TO THE MAIN.
6. CUT-OFF VALVE AND CONNECTION TO YARD PIPING TO BE SUBMITTED FOR APPROVAL.
7. METERS TO BE SUPPLIED BY CONTRACTOR FOR COMMERCIAL ACCOUNTS.
8. ALL PARTS WILL BE PER THE CURRENT GREEN VALLEY SPECIAL UTILITY DISTRICT WATER STANDARDS AND DESIGN CRITERIA.

GREEN VALLEY SPECIAL UTILITY DISTRICT	GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	5/8", & 3/4" DUAL METER SERVICE CONNECTIONS (IRRIGATION OR DOMESTIC) (2 OF 2)	
	REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-40



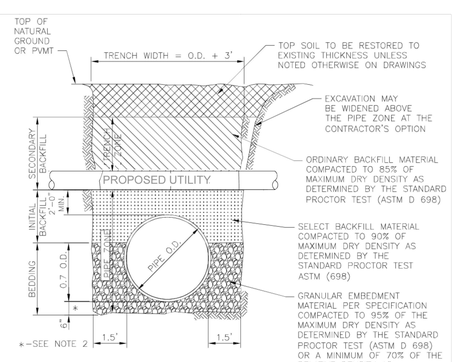
NOTE:
1. INSTALLATION OF UTILITIES WITHIN VISTA RIDGE EASEMENT MUST BE TRENCHLESS. IF BORE PITS ARE NOT SUFFICIENT SIZE, CONTACT ENGINEER IMMEDIATELY.
2. REFER TO VISTA RIDGE EASEMENT NOTES ON C01.01 AND CROSSING EXAMPLES ON C10.04.

EXIHIBIT A - CROSSING EXAMPLES



NOTES:
1. MINIMUM 2' CLEARANCE BETWEEN UTILITY LINE AND PROPOSED PIPELINE.
2. THE CONTRACTOR SHALL CONTACT UTILITY OWNER AT LEAST (7) DAYS PRIOR TO CROSSING THE UTILITY.
3. RESTORE TOP SOIL TO EXISTING DEPTH.

A — PROPOSED UTILITY UNDER VISTA RIDGE
FLOWABLE FILL ENCASEMENT AT CROSSING
NOT TO SCALE



SEE DETAILS FOR TRENCH REQUIREMENT AT ROAD CROSSINGS.

GRANULAR MATERIAL PLACED LOOSE SLIGHTLY ABOVE BOTTOM OF PIPE FOR PURPOSE OF BEDDING PIPE TO LINE AND GRADE.

B — PROPOSED UTILITY OVER VISTA RIDGE
TYPICAL TRENCH SECTION
NOT TO SCALE

APR		
DATE		
DESCRIPTION		
REV		
DESIGNED BY:	SAR	
REVIEWED BY:	SSM	
DRAWN BY:	SAR	

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CIVIL UTILITY DETAILS (SHEET 5 OF 5)

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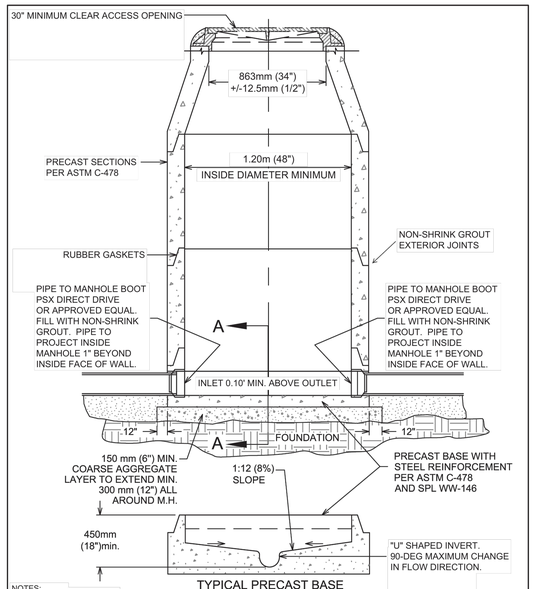
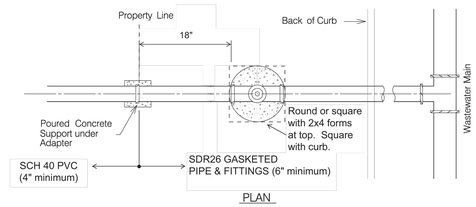


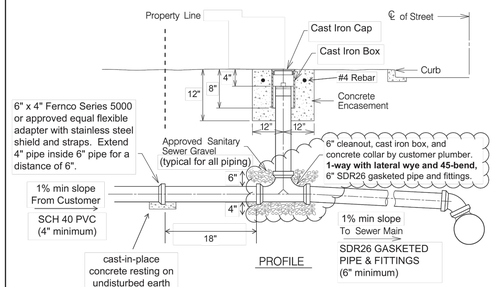
TYPICAL PRECAST BASE

NOTES:
1. MANHOLE BASE SHALL BE BEDDED ON A 6" MINIMUM LAYER OF TXDOT GRADE 4 CRUSHED STONE COARSE AGGREGATE. BASE SHALL BE LEVEL/PLUMB PRIOR TO INSTALLING RISER SECTIONS.
2. SAND BLAST AND LINE ALL INTERIOR SURFACES OF ALL MANHOLES (INCLUDING INVERTS) WITH SEWPERCOAT, REFRATTA HAC 100, OR APPROVED EQUAL CALCIUM ALUMINATE MATERIAL. PROPOSED SUBSTITUTES MUST BE EQUAL IN COMPOSITION AND MANUFACTURER WARRANTY. PRODUCT MUST BE INSTALLED BY A MANUFACTURER CERTIFIED APPLICATOR. MINIMUM 1/2" THICKNESS. SMOOTH TROWEL FINISH. SPRAY CURING COMPOUND.

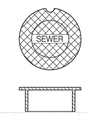
Guadalupe-Blanco River Authority	WASTEWATER MANHOLE ON PRECAST BASE	
	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD	C. LEWIS JAN. 28, 2018



PLAN

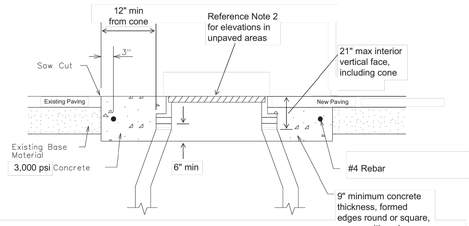


PROFILE



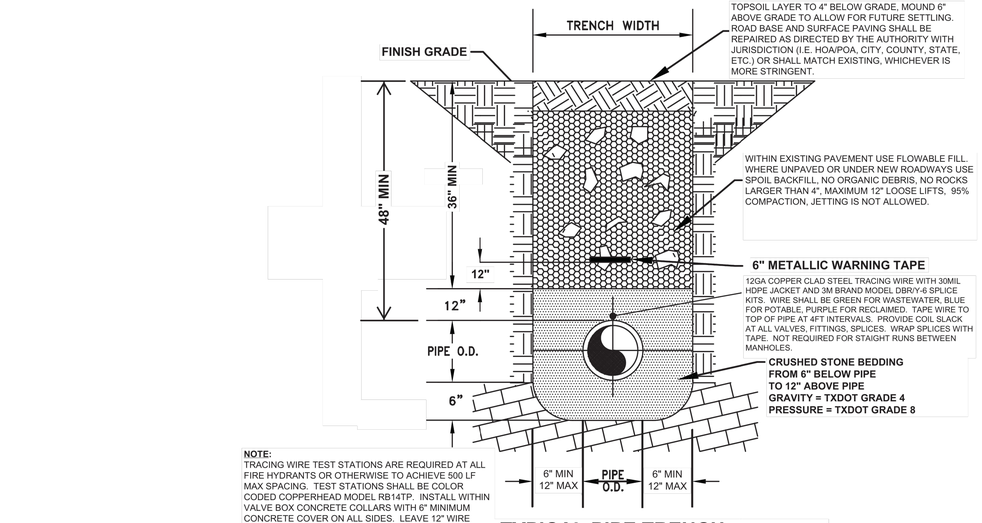
NOTES:
1) Cleanouts are not allowed within driveways.
2) Tapping saddles are not allowed.
3) Cleanout risers shall be installed plumb/level. Top of concrete shall be 2" above finish grade. Vertical and horizontal edges of exposed concrete shall be formed with 3/4" chamfer strips.
4) Customer plumber must install a separate 2-way cleanout (4" minimum size) at customer facility.
5) Use TXDOT Grade 4 crushed stone coarse aggregate bedding for all piping, 4" minimum below pipe, 6" minimum above pipe.
6) Obtain GBRA inspection prior to backfill (830-379-5822). Minimum 48-hours notice is required.

Guadalupe-Blanco River Authority	TYPICAL CLEANOUT DETAIL	APPROVED	REVISED
		C. LEWIS	JAN. 28, 2018
			SHEET



NOTES:
1) Manhole ring concrete encasement is required for all manholes.
2) Manhole rim elevations shown in plan and profile views are approximate. Manholes located in unpaved areas shall be installed with top of concrete encasement 2" above finish grade and covers 2" above top of concrete encasement. Square with curb. All exposed vertical and horizontal concrete edges shall be formed with 3/4" chamfer.
3) Use non-shrink grout for grade ring installation. Grade rings shall be precast concrete.
4) Manhole rings and covers shall be East Jordan Product Number 42432109W01.
5) All manhole rings shall have 30" minimum clear access opening.
6) All manhole covers shall have pick bars.
7) All manhole covers shall be stamped "SANITARY SEWER" only without any city references.
8) All manholes shall have traffic rated bolted and gasketed watertight rings and covers. Bolts, nuts, and flat washers shall be 316SS, apply nickel or aluminum anti-seize compound to threads prior to assembly. Bolts shall include gasket washers. Schedule GBRA to witness final bolting of manholes.
9) Install vented covers where required by TCEQ.

Guadalupe-Blanco River Authority	MANHOLE RING ENCASEMENT DETAIL	APPROVED	REVISED
		C. LEWIS	JAN. 28, 2018
			SHEET

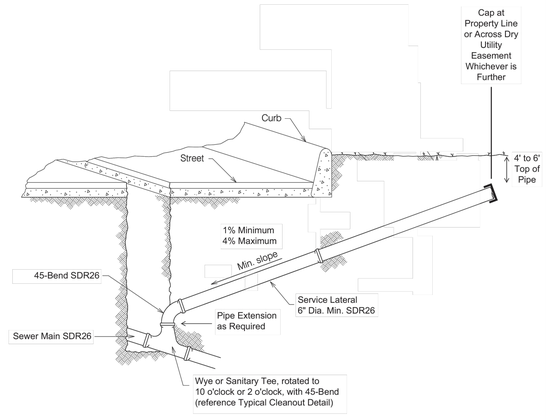


NOTE:
TRACING WIRE TEST STATIONS ARE REQUIRED AT ALL FIRE HYDRANTS OR OTHERWISE TO ACHIEVE 500 LF MAX SPACING. TEST STATIONS SHALL BE COLOR CODED COPPERHEAD MODEL RB14TP. INSTALL WITHIN VALVE BOX CONCRETE COLLARS WITH 6" MINIMUM CONCRETE COVER ON ALL SIDES. LEAVE 12" WIRE SLACK INSIDE TEST STATIONS. NOT REQUIRED FOR STRAIGHT RUNS BETWEEN MANHOLES.

TYPICAL PIPE TRENCH

Guadalupe-Blanco River Authority, 02/05/2018

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



NOTES:
1) Install double services where indicated on design drawings.
2) Cleanout to be installed by customer plumber.
3) Pipe and fittings shall be gasketed. Tees and 90-bends are not allowed.
4) Pressure rated pipe and fittings shall be installed for sewer mains and laterals that cross water lines (use ASTM D2241 SDR26). Center both water and sewer pipe lengths at all crossings. Comply with TCEQ Rules.
5) Tapping saddles are not allowed.

Guadalupe-Blanco River Authority	LATERAL DETAIL	APPROVED	REVISED
		C. LEWIS	JAN. 28, 2018
			SHEET

	APR
	DATE
	DESCRIPTION
	REV
DESIGNED BY:	SAR
REVIEWED BY:	SSM
DRAWN BY:	SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.browngay.com
TBPE Registration No. F-1046

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GUADALUPE BEND PHASE 1

WASTEWATER TYPICAL DETAILS (SHEET 1 OF 3)

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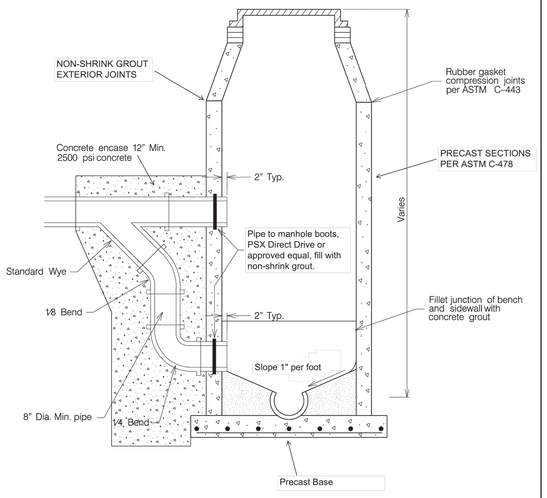
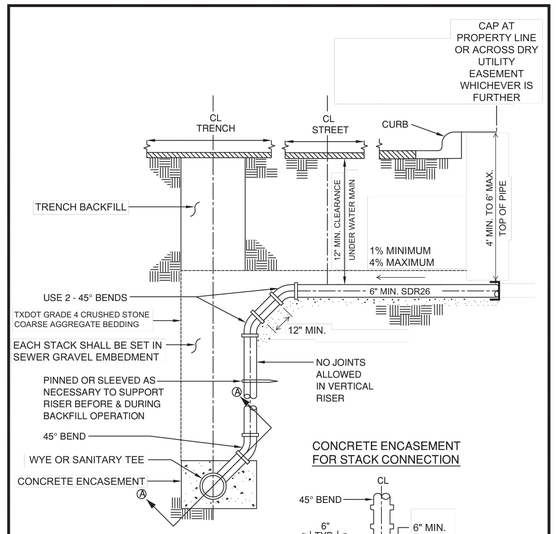
SHEET
C10.05

G:\TXC\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C10.00 CIVIL UTILITY DETAILS.dwg Layout: WASTEWATER TYPICAL DETAILS (SHEET 1 OF 3) Plotted: 3/22/2024 10:59:02 AM By: Jclifton



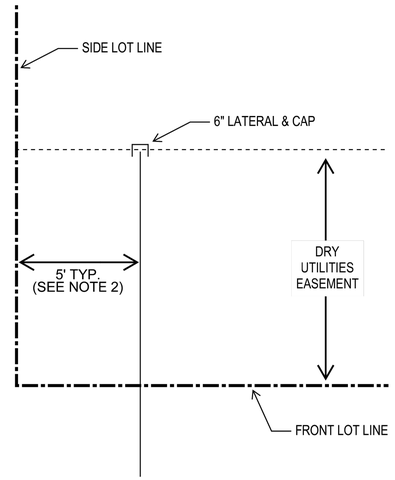
NOTES:
1) A wastewater collection system pipe, including service laterals, entering a manhole more than 24" above the manhole out invert must have an external drop pipe. Internal drops are not allowed.
2) Reference standard precast manhole detail for additional requirements.

Guadalupe-Blanco River Authority	**DROP MANHOLE**	APPROVED	REVISED
		C. LEWIS	JAN. 28, 2018
			SHEET



NOTES:
1) CONCRETE ENCASEMENT SHALL BE PLACED AGAINST UNDISTURBED EARTH TO INCLUDE WYE/TEE AND 45-BEND.
2) TAPPING SADDLES ARE NOT ALLOWED.
3) REFERENCE STANDARD LATERAL DETAIL FOR ADDITIONAL REQUIREMENTS.

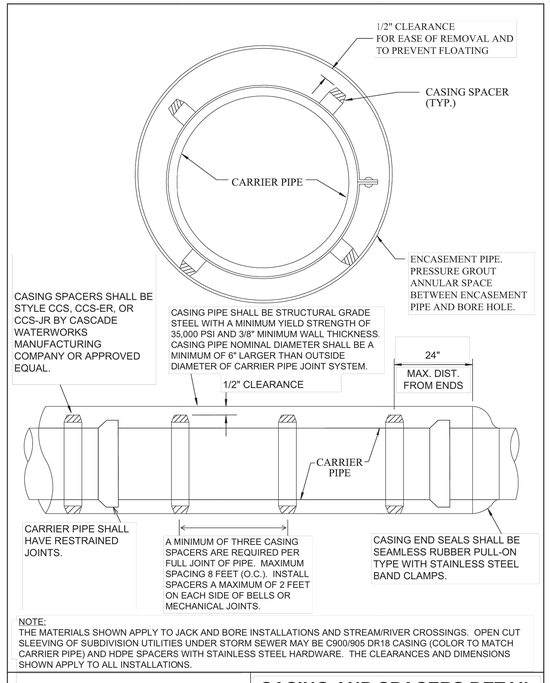
GUADALUPE-BLANCO RIVER AUTHORITY	APPROVED BY: C. LEWIS	STANDARD DRAWING: **WASTEWATER LATERAL VERTICAL STACK DETAIL**			
		UPDATED: JAN. 28, 2018	SCALE:	SHEET:	DRAWING NO.



NOTES:
1. REFERENCE STANDARD LATERAL DETAIL FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE 8 FT WHERE LOT CORNER IS SHARED WITH DRY UTILITIES AND 10 FT WHERE SHARED WITH FIRE HYDRANT OR AIR RELEASE VALVE.

WASTEWATER LATERAL LAYOUT DETAIL (N.T.S.)

GUADALUPE-BLANCO RIVER AUTHORITY, 12/15/2021



NOTE:
THE MATERIALS SHOWN APPLY TO JACK AND BORE INSTALLATIONS AND STREAM/RIVER CROSSINGS. OPEN CUT SLEEVING OF SUBDIVISION UTILITIES UNDER STORM SEWER MAY BE C900/905 DR18 CASING (COLOR TO MATCH CARRIER PIPE) AND HDPE SPACERS WITH STAINLESS STEEL HARDWARE. THE CLEARANCES AND DIMENSIONS SHOWN APPLY TO ALL INSTALLATIONS.

Guadalupe-Blanco River Authority	**CASING AND SPACERS DETAIL**	STANDARD NO.
C. LEWIS	JAN. 28, 2018	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

NOT FOR CONSTRUCTION

	APR
	DATE
	DESCRIPTION
	REV
DESIGNED BY:	SAR
REVIEWED BY:	SSM
DRAWN BY:	SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

WASTEWATER TYPICAL DETAILS (SHEET 2 OF 3)

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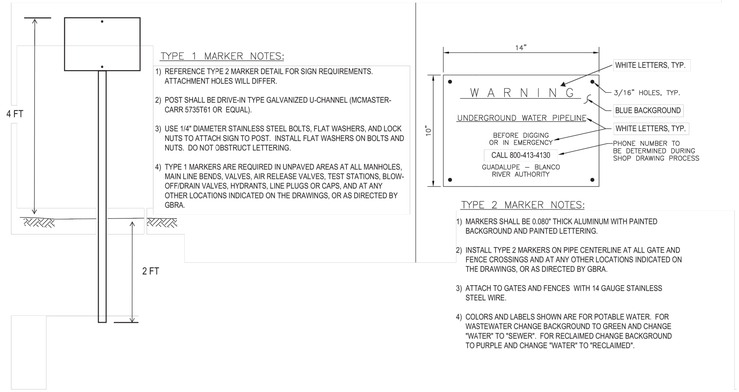

PIPELINE MARKERS

Guadalupe-Blanco River Authority, 01/30/2018

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	APR

DESIGNED BY: LNH
REVIEWED BY: SSM
DRAWN BY: LNH

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San Antonio, TX 78216
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TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

WASTEWATER TYPICAL DETAILS (SHEET 3 OF 3)

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SHEET
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NOTES:

1. SIGN PLACEMENT AND STRIPING PLACEMENT PER TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
2. ALL SIGNS SHALL CONFORM TO THE 2011 TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), REVISION 1, NOVEMBER 2012.
3. PAVEMENT MARKINGS TO BE HOT APPLIED THERMOPLASTIC PER TxDOT SPEC. DMS-8220.
4. CONTRACTOR SHALL INSTALL TEMPORARY STREET END MARKERS AND PLACE AT THE END OF EACH PHASE UNTIL PROJECT COMPLETION.
5. POSTED SPEED ALONG THIS PORTION OF LOCAL STREETS SHALL BE 20 MPH.

LEGEND

- PROPOSED STOP SIGN; R1-1 36" X 36" (SEE SHEET C12.00 FOR SIGN MOUNTING DETAILS)
- PROPOSED STREET SIGN; D3-1 (SEE SHEET C12.00 FOR SIGN MOUNTING DETAILS)
- PROPOSED 24" WHITE SOLID STOP BAR (SEE SHEET C12.00-C12.01 FOR DETAILS)
- PROPOSED TYPE III STREET END BARRICADE (SEE SHEET C12.00)
- PROPOSED SPEED LIMIT SIGN; R2-1 24" X 30" (SEE SHEET C12.00 FOR SIGN MOUNTING DETAILS)
- PROPOSED PEDESTRIAN CROSSING SIGN; W11-2 30" X 30" (SEE SHEET C12.00 FOR SIGN MOUNTING DETAILS)
- PROPOSED END OF ROADWAY MARKERS; OM4-3 (SEE SHEET C12.01 FOR SIGN MOUNTING DETAILS)

- 100 YEAR FEMA FLOODPLAIN
- RIPARIAN BUFFER
- PHASE BOUNDARY
- PROPERTY BOUNDARY
- CONTRACTOR SIDEWALK
- HOMEBUILDER SIDEWALK
- STREET LIGHT (SEE SHEET C06.21 FOR DETAILS)
- ADA RAMP (SEE SHEET C06.21 FOR DETAILS)
- PEDESTRIAN CROSSING (SEE SHEET C12.02)
- RAISED REFLECTIVE HYDRANT MARKER
- JURISDICTIONAL WATERS
- EASEMENT
- SIDEWALK TRAIL

0 30' 60' 120'
SCALE: 1" = 60'

END OF ROADWAY MARKER
PROPOSED TYPE III STREET END BARRICADE
CHARLTON PASS
MILLWALL SUMMIT
FUTURE PHASE
PHASE BOUNDARY
40' TEMPORARY ENGINEERED FILTER STRIP
4' SW
BLOCK F
BLOCK E
BLOCK D
BLOCK C
BLOCK B
BLOCK A
IPSWITCH WAY
BARNSLEY COVE
GUADALUPE BEND
ARGYLE STREET
6' SW
5' SW
10' CONCRETE SIDEWALK TRAIL
W11-2 (30"X30")
20' CHIP SEAL ROAD
CAUTION!!! EXISTING 60" VISTA RIDGE PIPELINE & 1.5" FIBER CABLE SEE NOTES ON SHEET C01.01
VARIABLE WIDTH WATERLINE EASEMENT
15' ENGINEERED FILTER STRIP
200' RIPARIAN BUFFER
JURISDICTIONAL WATERS
30' PROPOSED WASTEWATER EASEMENT
50' NATURAL FILTER STRIP
100 YEAR FEMA FLOODPLAIN
SEE SHEET C11.02 MATCH LINE A
SEE SHEET C11.01 MATCH LINE B
SEE SHEET C11.01 MATCH LINE B

NOT FOR CONSTRUCTION

GUADALUPE BEND PHASE 1
SIGNING, STRIPING AND LIGHTING PLAN (SHEET 1 OF 3)

REV	DESCRIPTION	DATE	APR

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.browngay.com
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TBPE Registration No. F-1046

SHEET
C11.00

G:\TX\C\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C11.00 TRAFFIC CONTROL PLAN.dwg Layout: SIGNING STRIPING AND LIGHTING PLAN (SHEET 1 OF 3) Plotted: 3/22/2024 10:59:42 AM By: Lhuck

G:\TXCI\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C11.00 TRAFFIC CONTROL PLAN.dwg Layout: SIGNING STRIPING AND LIGHTING PLAN (SHEET 2 OF 3) Plotted: 3/22/2024 10:59:49 AM By: Lhuck

LEGEND

- PROPOSED STOP SIGN; R1-1 36" X 36" (SEE SHEET C12.00 FOR SIGN MOUNTING DETAILS)
- GOLDILOCKS LN — PROPOSED STREET SIGN; D3-1 (SEE SHEET C12.00 FOR SIGN MOUNTING DETAILS)
- PROPOSED 24" WHITE SOLID STOP BAR (SEE SHEET C12.00-C12.01 FOR DETAILS)
- PROPOSED TYPE III STREET END BARRICADE (SEE SHEET C12.00)
- SPEED LIMIT 25 / R2-1 — PROPOSED SPEED LIMIT SIGN; R2-1 24" X 30" (SEE SHEET C12.00 FOR SIGN MOUNTING DETAILS)
- W11-2 (30"X30") — PROPOSED PEDESTRIAN CROSSING SIGN; W11-2 30" X 30" (SEE SHEET C12.00 FOR SIGN MOUNTING DETAILS)
- PROPOSED END OF ROADWAY MARKERS; OM4-3 (SEE SHEET C12.01 FOR SIGN MOUNTING DETAILS)

- 100 YEAR FEMA FLOODPLAIN
- RIPARIAN BUFFER
- PHASE BOUNDARY
- PROPERTY BOUNDARY
- CONTRACTOR SIDEWALK
- HOMEBUILDER SIDEWALK
- STREET LIGHT (SEE SHEET C06.21 FOR DETAILS)
- ADA RAMP (SEE SHEET C06.21 FOR DETAILS)
- PEDESTRIAN CROSSING (SEE SHEET C12.02)
- RAISED REFLECTIVE HYDRANT MARKER
- JURISDICTIONAL WATERS
- EASEMENT
- SIDEWALK TRAIL

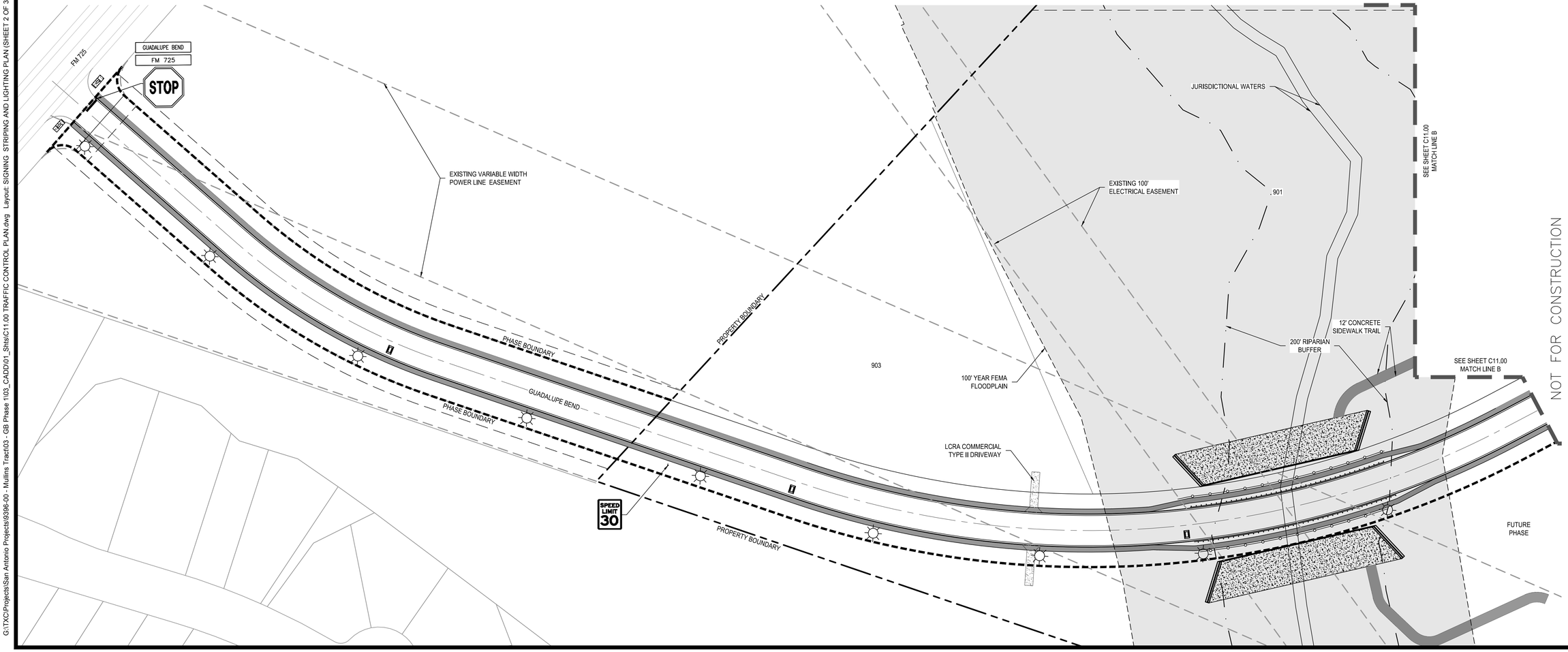
N

0 30' 60' 120'

SCALE: 1" = 60'

NOTES:

1. SIGN PLACEMENT AND STRIPING PLACEMENT PER TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
2. ALL SIGNS SHALL CONFORM TO THE 2011 TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), REVISION 1, NOVEMBER 2012.
3. PAVEMENT MARKINGS TO BE HOT APPLIED THERMOPLASTIC PER TxDOT SPEC. DMS-8220.
4. CONTRACTOR SHALL INSTALL TEMPORARY STREET END MARKERS AND PLACE AT THE END OF EACH PHASE UNTIL PROJECT COMPLETION.
5. POSTED SPEED ALONG THIS PORTION OF LOCAL STREETS SHALL BE 25 MPH.
6. COUNTY WILL INSTALL SIGNAGE AND INVOICE THE OWNER. CONTRACTOR TO INSTALL ALL PAVEMENT MARKINGS AND HYDRANT MARKERS.



	APR	DATE	DESCRIPTION	REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
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GUADALUPE BEND PHASE 1

SIGNING, STRIPING AND LIGHTING PLAN (SHEET 2 OF 3)

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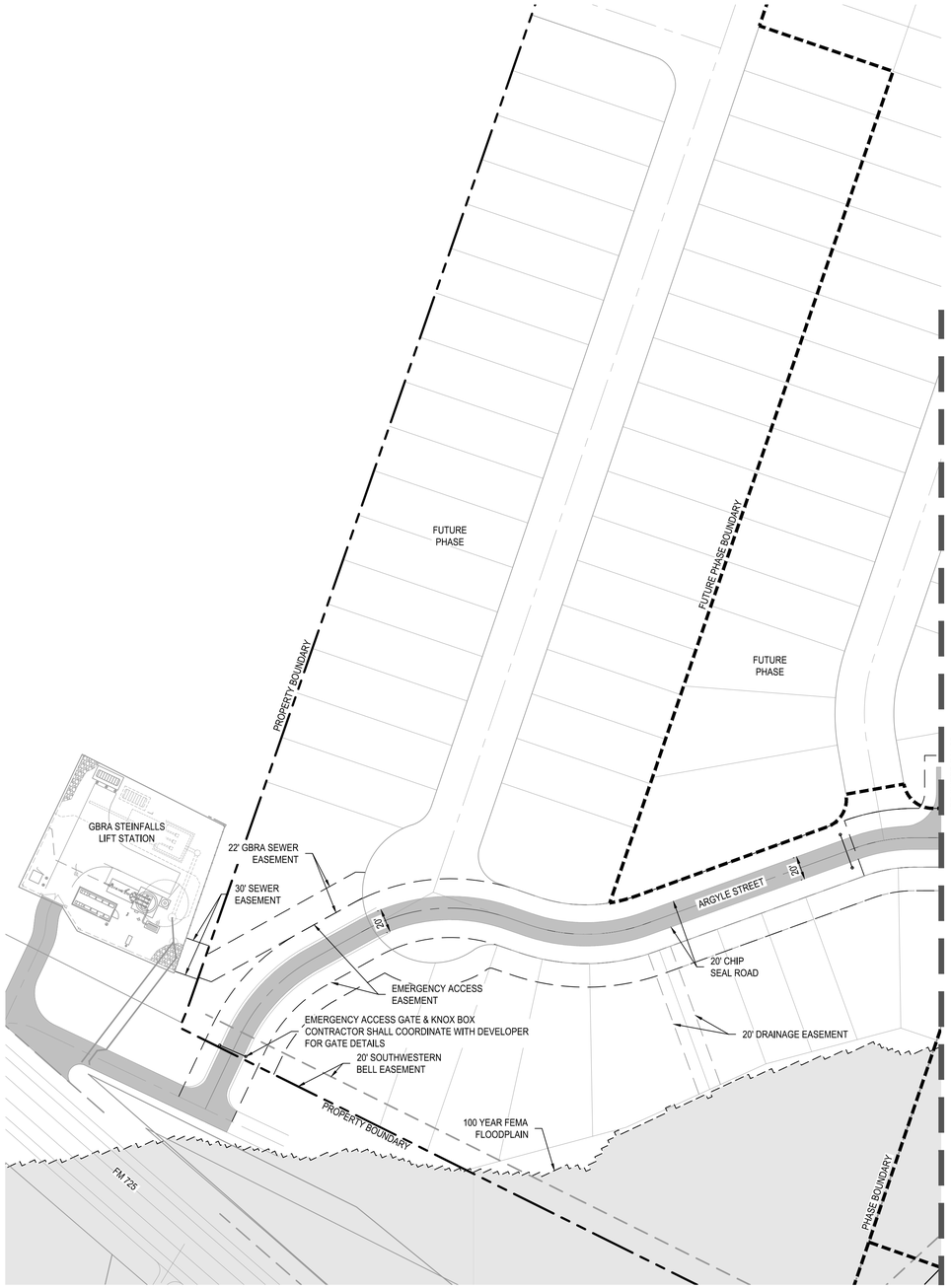
SHEET
C11.01



0 30' 60' 120'

SCALE: 1" = 60'

LEGEND

- PROPOSED STOP SIGN; R1-1 30" X 30" (SEE SHEET C12.00 FOR SIGN MOUNTING DETAILS)
- GOLDILOCKS LN — PROPOSED STREET SIGN; D3-1 (SEE SHEET C12.00 FOR SIGN MOUNTING DETAILS)
- PROPOSED 24" WHITE SOLID STOP BAR (SEE SHEET C12.00-C12.01 FOR DETAILS)
- PROPOSED TYPE III STREET END BARRICADE (SEE SHEET C12.00)
- SPEED LIMIT 25 R2-1 — PROPOSED SPEED LIMIT SIGN; R2-1 24" X 30" (SEE SHEET C12.00 FOR SIGN MOUNTING DETAILS)
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- PROPOSED END OF ROADWAY MARKER SIGN; OM4-3 (SEE SHEET C12.01 FOR SIGN MOUNTING DETAILS)
- PHASE BOUNDARY
- PROPERTY BOUNDARY
- CONTRACTOR SIDEWALK
- HOMEBUILDER SIDEWALK
- STREET LIGHT (SEE SHEET C06.21 FOR DETAILS)
- ADA RAMP (SEE SHEET C06.21 FOR DETAILS)
- PEDESTRIAN CROSSING (SEE SHEET C12.02)
- RAISED REFLECTIVE HYDRANT MARKER
- JURISDICTIONAL WATERS
- EASEMENT
- SIDEWALK TRAIL
- RIPARIAN BUFFER
- 100 YEAR FEMA FLOODPLAIN

NOT FOR CONSTRUCTION

NOTES:

1. SIGN PLACEMENT AND STRIPING PLACEMENT PER TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
2. ALL SIGNS SHALL CONFORM TO THE 2011 TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), REVISION 1, NOVEMBER 2012.
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4. CONTRACTOR SHALL INSTALL TEMPORARY STREET END MARKERS AND PLACE AT THE END OF EACH PHASE UNTIL PROJECT COMPLETION.
5. POSTED SPEED ALONG THIS PORTION OF LOCAL STREETS SHALL BE 25 MPH.
6. COUNTY WILL INSTALL SIGNAGE AND INVOICE THE OWNER. CONTRACTOR TO INSTALL ALL PAVEMENT MARKINGS AND HYDRANT MARKERS.

							APR
							DATE
							DESCRIPTION
1	2	3	4	5	6		REV

DESIGNED BY: SAR
REVIEWED BY: SSM
DRAWN BY: SAR

BGE, INC.
7330 San Pedro, Suite 202
San Antonio, TX 78216
TEL: 210-581-3600 www.bgeinc.com
TBPE Registration No. F-1046

GUADALUPE BEND PHASE 1

SIGNING, STRIPING AND LIGHTING PLAN (SHEET 3 OF 3)

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SHEET
C11.02

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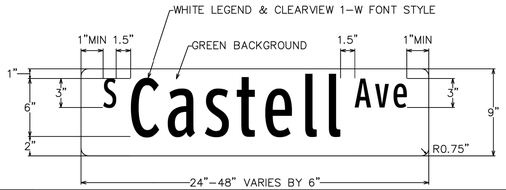
G:\TXDOT\Projects\San Antonio Projects\9396-00 - Mullins Tract\03 - GB Phase 1\03_CADD\01_Shts\C12.00 TRAFFIC CONTROL DETAILS.dwg Layout: TRAFFIC CONTROL DETAILS (SHEET 1 OF 3) Plotted: 3/22/2024 11:00:33 AM By: Lhuck

STREET SIGN DETAIL - GROUND MOUNT



Height	9"
Length	24" min 48" max 6" increments in length
Thickness	0.080"
Substrate	Flat aluminum sheeting with ¾" radius circular fillets at corners conforming to the requirements of ASTM B 209, Alloys 6061–T–6, or 5052–H38.
Sign Face Materials	Green film over High Intensity Prismatic sheeting
Legend	Legends shall be Clearview 1–W font style. Reduced spacing between the letters or words should not be used as a means of reducing the overall size of a street name sign unless approved by the City Traffic Engineer.
Color	White legend on green background

Notes:

1. Street name signs shall be double sided when center mounted on top of sign post. Only one street name sign should be installed on top of sign post with STOP or YIELD sign.
2. When two sets of street name signs are required (e.g. at "T" intersections), one double-sided street name sign shall be mounted on sign post. The sign assembly shall meet minimum height requirements as required in the Texas Manual on Uniform Traffic Control Devices (TMUTCD). When required, DEAD END (W14-1a) or NO OUTLET (W14-2a) signs shall also be mounted on the sign post.
3. Street name signs greater than 36" long and center mounted on top of sign post shall be mounted on post top bracket with 12" slot. All other street name signs center mounted on top of sign post shall be mounted on post top bracket with 5 ¾" slot.
4. Street name signs mounted on sign post shall be mounted with double-sided round pole brackets. Two holes should be punched in the center of the 9" street name sign blank 1" from edge of the blank with 7"spacing between holes.
5. The lettering for names of streets shall be composed of a combination of lower-case letters with initial upper-case letters. Acceptable abbreviations per TMUTCD may be used except for the street name itself.
6. Red background (red film over High Intensity Prismatic) should be used for private street name signs.

Street Sign Detail - Ground Mount		
ISSUE DATE: February 2013	DWG. NO:ST-024	SCALE: N.T.S.
DRAWN BY: RAS	CONTACT: GF	SHEET: 1 OF 1

City of New Braunfels

ENGINEERING DIVISION
424 S. CASTELL AVE.
NEW BRAUNFELS, TEXAS 78130
PHONE: 830.221.4020
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P:\2010 ENGINEERING-AUTOCAD\DETAILS\NB-PUBLIC WORKS DETAILS\NB-UNAPPROVED DETAILS-2013\ST-2013.024 STREET SIGN DETAIL - GROUND MOUNT.DWG

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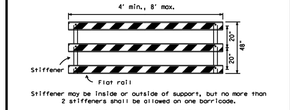
TYPE 3 BARRICADES

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

Barricades shall NOT be used as a sign support.



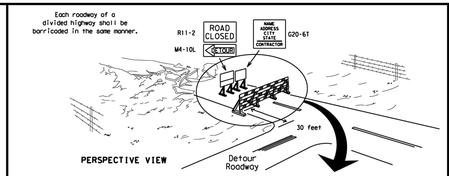
TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



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

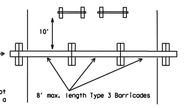
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES

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



PERSPECTIVE VIEW

The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.
Barricade striping should slant downward in the direction of detour.



PLAN VIEW

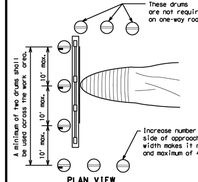
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



PERSPECTIVE VIEW

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

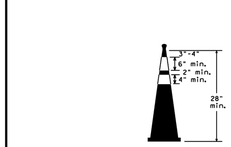


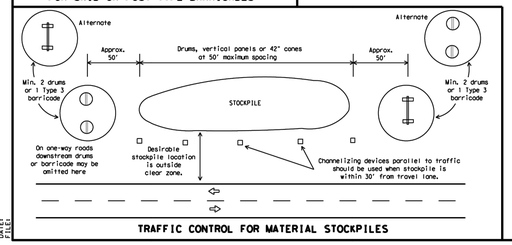
PLAN VIEW

LEGEND

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

CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS





TRAFFIC CONTROL FOR MATERIAL STOCKPILES

28" Cones shall have a minimum weight of 9 1/2 lbs.
42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

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

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BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(10)-21

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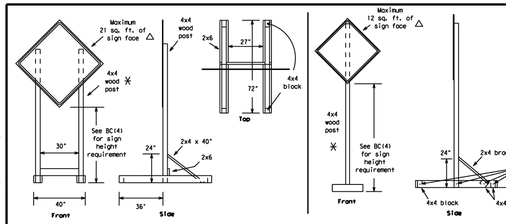
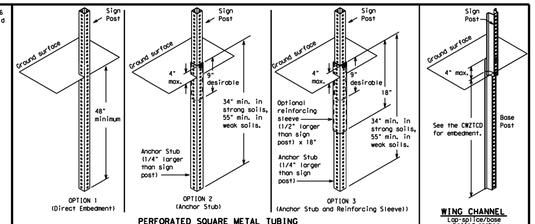


SKID MOUNTED WOOD SIGN SUPPORTS

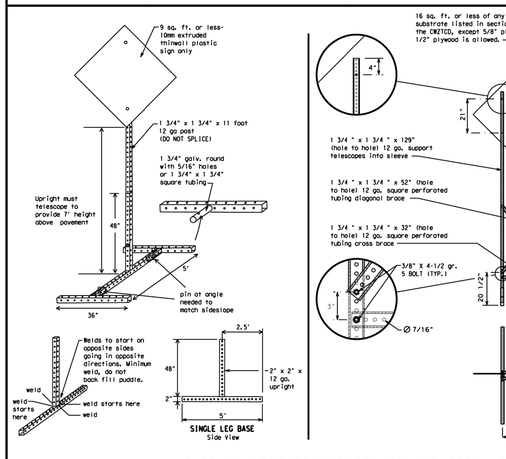
LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS □



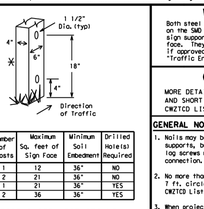
PERFORATED SQUARE METAL TUBING

GROUND MOUNTED SIGN SUPPORTS

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



SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS



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

WOOD POST SYSTEM FOR GROUND MOUNTED SIGN SUPPORTS

WEDGE ANCHORS

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

OTHER DESIGNS

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

GENERAL NOTES

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

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

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

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

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Texas Department of Transportation | Traffic Operations Division Standard

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC(5)-13

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GUADALUPE BEND PHASE 1

TRAFFIC CONTROL DETAILS (SHEET 1 OF 3)

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SHEET
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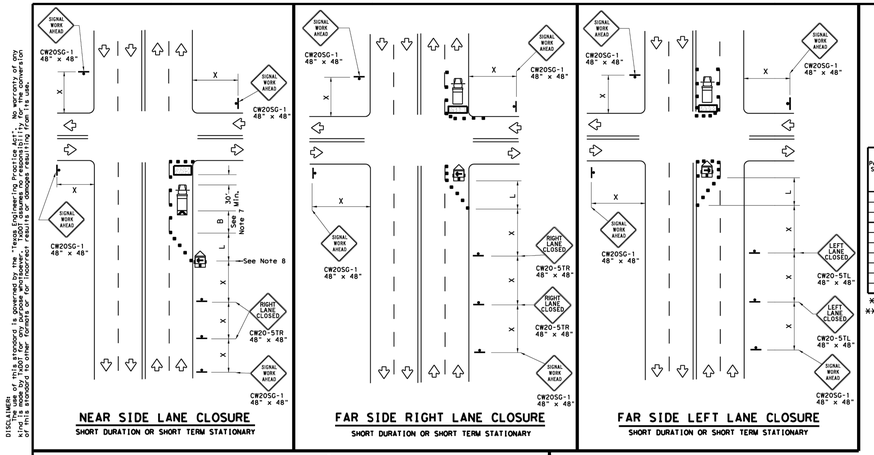


NEAR SIDE LANE CLOSURE
SHORT DURATION OR SHORT TERM STATIONARY

FAR SIDE RIGHT LANE CLOSURE
SHORT DURATION OR SHORT TERM STATIONARY

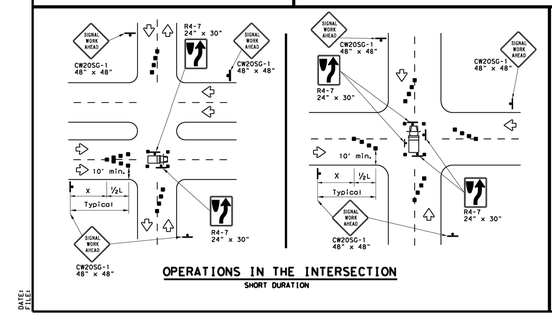
FAR SIDE LEFT LANE CLOSURE
SHORT DURATION OR SHORT TERM STATIONARY

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	L=WS²/60	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45		450'	495'	540'	45'	90'	320'	195'
50	L=WS	500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

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

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



OPERATIONS IN THE INTERSECTION
SHORT DURATION

GENERAL NOTES

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

SHEET 1 OF 2

Texas Department of Transportation | Traffic Operations Division Standard

TRAFFIC SIGNAL WORK TYPICAL DETAILS

WZ(BTS-1)-13

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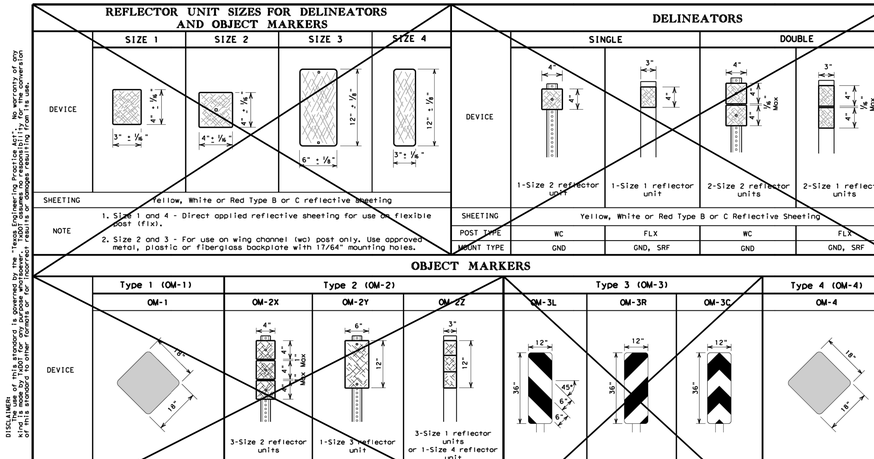

REFLECTOR UNIT SIZES FOR DELINEATORS AND OBJECT MARKERS

DELINEATORS

D & OM DESCRIPTIVE CODES

INSTL DEL ASSM (D-XX)SZ X (XXX)XXX(XX)

NUMBER OF REFLECTORS
S - Single
D - Double

COLOR OF REFLECTORS
W - White
Y - Yellow
R - Red

REFLECTOR UNIT SIZE
1 or 2

TYPE OF POST OR DELINEATOR
WC - Wing Channel Post
FLX - Flexible Post
BRF - Barrier Reflector

TYPE OF MOUNT
GND - Embedded (driveable or set in concrete)
CTB - Concrete Barrier Mount
GF1 or GF2 - Guard Fence Attachment
SRF - Surface Mount

DIRECTION
If Required
BI - Bi-Directional
BR - Bi-Directional with red on back

INSTL OM ASSM (OM-XX) (XXX)XXX(XX)

TYPE OF OBJECT MARKER
1, 2, 3, or 4

NUMBER OF REFLECTORS OR DIRECTION
X - 3-Size 2 reflector units (Type 2 only)
Y - 1-Size 3 reflector unit (Type 2 only)
Z - 3-Size 1 or 1-Size 4 reflector unit(s) (Type 2 only)
L - Left Side (Type 3 Object Marker only)
R - Right Side (Type 3 Object Marker only)
C - Center (Type 3 Object Marker only)

TYPE OF POST
WC - Wing Channel Post
FLX - Flexible Post
TWT - Thin Walled Tubing

TYPE OF MOUNT
GND - Embedded (driveable)
SRF - Surface Mount
WAS - Wedge Anchor Steel
WAP - Wedge Anchor Plastic

DIRECTION
If Required
BI - Bi-Directional

OBJECT MARKERS

DEPARTMENTAL MATERIAL SPECIFICATIONS	
FLEXIBLE DELINEATOR & OBJECT MARKER POSTS (EMBEDDED & SURFACE MOUNT TYPES)	DMS-4400
SIGN FACE MATERIALS	DMS-8300
DELINEATORS, OBJECT MARKERS AND BARRIER REFLECTORS	DMS-8600

BARRIER REFLECTORS (BRF)

CHEVRONS

ONE DIRECTION LARGE ARROW

NOTE:
Delineator and object marker backplates and sign substrates shall be 0.080" Aluminum sign blank to conform to ASTM B-209 Alloy 6061-T6 or approved alternative.

Texas Department of Transportation | Traffic Operations Division Standard

DELINEATOR & OBJECT MARKER MATERIAL DESCRIPTION

D & OM(1)-15

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REVIEWED BY: SSM
DRAWN BY: SAR

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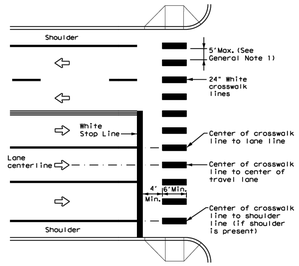


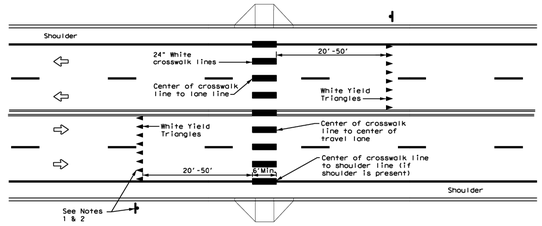
HIGH-VISIBILITY LONGITUDINAL CROSSWALK AT CONTROLLED APPROACH

GENERAL NOTES

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

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

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



UNSIGNALIZED MID BLOCK HIGH-VISIBILITY LONGITUDINAL CROSSWALK

NOTES

1. Use yield triangles with "Yield Here to Pedestrians" signs at unsignalized mid block crosswalks.
2. Use stop bars with "Stop Here on Red" signs at mid block crosswalks controlled by traffic signals or pedestrian hybrid beacons.

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CROSSWALK PAVEMENT MARKINGS

PM(4)-20

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