CIVIL CONSTRUCTION DOCUMENTS FOR

VISTA MHC - SUBDIVISION

BEXAR COUNTY, TEXAS

OWNER/DEVELOPER:

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

SURVEYOR:

UP ENGINEERING a Bowman company
111 TOWER DR, SUITE 325
SAN ANTONIO, TEXAS 78232
(210) 774-5504
CONTACT: RICHARD L. NEUBAEUER, RPLS.

ENGINEER:

UP ENGINEERING a Bowman company
111 TOWER DR, SUITE 325
SAN ANTONIO, TEXAS 78232
(210) 774-5504
CONTACT: RYAN R. PLAGENS, P.E.

GEOTECH:

InTEC
12028 RADIUM ST, SAN ANTONIO, TEXAS 78216
(210) 525-9033
CONTACT: VINH QUOC LE, M.S., P.E.

ADDRESS:

HIGDON ROAD, SAN ANTONIO, TEXAS 78223

FLOODPLAIN INFORMATION:

FIRM #48029, PANELS 0585 H, 0595 F, 0605 F AND 0615 F, 09/29/2010.

WATERSHED:

THIS SITE IS LOCATED IN THE CALAVERAS CREEK-SAN ANTONIO RIVER WATERSHED.

BENCHMARK:

TBM 1: COTTON SPINDLE IN POWER POLE
NORTHING:13663722.7500
EASTING:2167640.7690
ELEVATION: 567.36

TBM 2: COTTON SPINDLE IN POWER POLE
NORTHING:13663742.1900
EASTING:2167390.8540
ELEVATION: 572.91

SURVEY BASIS:

BEARINGS SHOWN HEREON ARE BASED ON ACTUAL GPS OBSERVATIONS, TEXAS STATE PLANE COORDINATES, NAD 83, SOUTH CENTRAL ZONE, GRID.

LEGAL DESCRIPTION:

LOT 1, C.B. 5701, 52.348 ACRES, VISTA MHC SUBDIVISION, RECORDED IN VOLUME , PAGE , DEED AND PLAT RECORDS OF BEXAR COUNTY, TEXAS.

UTILITY PROVIDERS:

GAS: CPS ENERGY
145 NAVARRO
SAN ANTONIO, TX 78205
(210) 353-2376

ELECTRIC: CPS ENERGY
145 NAVARRO
SAN ANTONIO, TX 78205
(210) 353-2376

CABLE: TIME WARNER CABLE
1900 BLUE CREST LANE
SAN ANTONIO, TX 78247
(210) 244-0500

WASTEWATER: PRIVATE

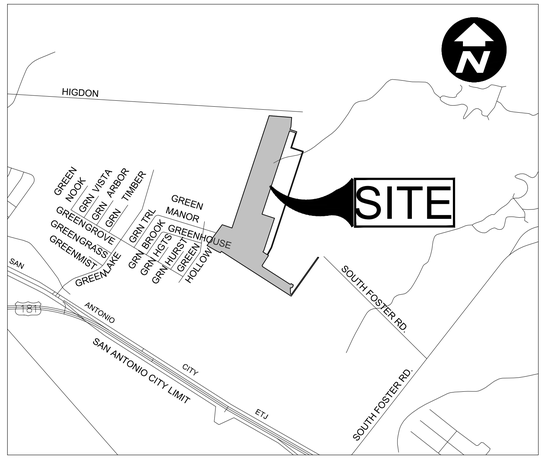
WATER: SAN ANTONIO WATER SYSTEM
2800 U.S HWY 281 NORTH
SAN ANTONIO, TX 78212
(210) 233-2010

LAND USE SUMMARY:

ZONING: OCL
PROPOSED SITE USE: MANUFACTURED HOUSING
LOT SIZE: 52.348ACRES

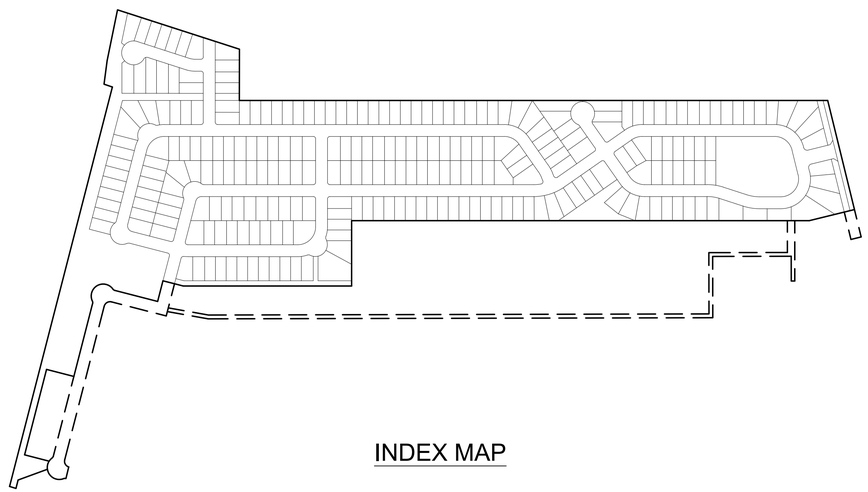
NOTES:

1. RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/ HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY OR COUNTY ENGINEERS.
2. BY THE ACT OF SUBMITTING A BID FOR THE PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS AND SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS AND MATERIAL SUPPLIERS KNOWLEDGE ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.
3. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION AND/OR A FIELD SURVEY, AND MAY NOT MATCH LOCATIONS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT THE "ONE CALL" SYSTEM @ 811, OR THE OWNER OF EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF UTILITY CROSSING PRIOR TO BEGINNING CONSTRUCTION.
4. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. (OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, FOUNTAINHEAD TOWER, SUITE 605, 8200 W. INTERSTATE 10, SAN ANTONIO, TEXAS 78230).
5. CONTRACTOR SHALL RESTORE ALL SIGNS AND PAVEMENT MARKINGS TO EXISTING CONDITIONS FOLLOWING THE COMPLETION OF EACH PHASE OF CONSTRUCTION. CONTRACTORS SHALL REFER TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) FOR SIGN AND MARKING DIMENSIONS AND COLORS.



VICINITY MAP
NOT TO SCALE

SUBMITTAL DATE:
APRIL 16, 2025



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PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

COVER SHEET

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C1.0

Date: Apr 16, 2025, @ 11am User ID: LJ Ramonez
File: G:_Projects\437 – Higdon Rd Engineering\437.11\ACAD\Sheets\C1.0 COVER SHEET.dwg

GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION JUNE 2008, BEXAR COUNTY CONSTRUCTION SPECIFICATIONS, OR LATEST ADOPTED VERSION UNLESS OTHERWISE NOTED.
2. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
3. THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES OR DRIVEWAYS. (NO SEPARATE PAY ITEM).
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". IF APPLICABLE, THE COUNTY'S CONSTRUCTION INSPECTOR AND TRAFFIC CONTROL REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF, IN THE OPINION OF THE TRAFFIC CONTROL 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.
6. IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC CONTROL REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
7. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181 C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
8. CONTRACTOR SHALL NOTIFY THE BEXAR COUNTY INSPECTOR (FOR WORK IN THE RIGHT OF WAY) AND THE GEOTECHNICAL ENGINEER RESPONSIBLE FOR TESTING TWENTY FOUR (24) HOURS PRIOR TO BACKFILL OF ANY UTILITY TRENCHES TO SCHEDULE FOR DENSITY TEST AS REQUIRED.
9. CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
10. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO EXCAVATION OPERATION:

SAN ANTONIO WATER SYSTEM (SAWS)	210-233-2009
WATER & SEWER EMERGENCIES	210-704-7297
STORM DRAINAGE (CITY OF SAN ANTONIO	210-207-8022
SIGNAL OPERATIONS (CITY OF SAN ANTONIO)	210-207-8022
TEXAS STATE WIDE ONE CALL LOCATOR	811
CPS ENERGY (GAS & ELECTRIC)	210-353-2000
CPS ELECTRIC/GAS ISSUES OR EMERGENCIES	210-353-4357
TIME WARNER	210-244-0500
AT&T	972-742-5892

11. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR THE MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND HE SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.
12. ALL UNUSABLE MATERIAL TO BE REMOVED AND SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE PROJECT. NO FILL MATERIAL SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE. USABLE MATERIAL SHALL BE PLACED AND COMPACTED AS SHOWN ON THE SWPPP SHEET AND/OR GRADING PLAN. ANY EXCESS MATERIAL THAT REMAINS AFTER PLACEMENT SHALL BE STOCKPILED ON THE ADJACENT ACREAGE WITHIN THE LIMITS OF CONSTRUCTION OR AS DIRECTED BY THE OWNER.
13. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
14. THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND / OR TRACKED CONSTRUCTION MATERIALS AND / OR DEBRIS.
15. IF THE CONTRACTOR ENCOUNTERS ANY ARCHAEOLOGICAL DEPOSITS DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR MUST STOP EXCAVATION IMMEDIATELY, CONTACT THE CITY INSPECTOR, AND CALL THE CITY HISTORIC PRESERVATION OFFICE AT 210-215-9274 FOR AN ARCHAEOLOGICAL INVESTIGATION. THE CONTRACTOR CANNOT BEGIN EXCAVATION AGAIN WITHOUT WRITTEN PERMISSION FROM THE CITY.

    IF MORE THAN THREE (3) DAYS ARE REQUIRED FOR INVESTIGATION (NOT INCLUDING HOLIDAY AND WEEKENDS) AND IF THE CONTRACTOR IS UNABLE TO WORK IN OTHER AREAS, THEN THE CONTRACTOR WILL BE ALLOWED TO NEGOTIATE FOR ADDITIONAL CONSTRUCTION TIME UPON WRITTEN REQUEST WITHIN TEN (10) DAYS AFTER THE FIRST NOTICE TO THE CITY OF ARCHAEOLOGICAL INVESTIGATION FOR EACH EVENT.

    IF THE TIME REQUIRED FOR INVESTIGATION IS LESS THAN OR EQUAL TO THREE (3) DAYS FOR EACH EVENT, CONTRACT DURATION WILL NOT BE EXTENDED.
16. IF SUSPECTED CONTAMINATION IS ENCOUNTERED DURING CONSTRUCTION OPERATIONS, THE ENGINEER AND DEVELOPER SHALL BE NOTIFIED IMMEDIATELY WHEN CONTAMINATED SOILS AND / OR GROUNDWATER ARE ENCOUNTERED AT LOCATIONS NOT IDENTIFIED IN THE PLANS. THE NOTIFICATION SHOULD INCLUDE THE STATION NUMBER, TYPE OF CONTAMINATED MEDIA, EVIDENCE OF CONTAMINATION AND MEASURES TAKEN TO CONTAIN THE CONTAMINATED MEDIA AND PREVENT PUBLIC ACCESS. THE CONTAMINATED SOIL AND / OR GROUNDWATER SHALL NOT BE REMOVED FROM THE LOCATION WITHOUT PRIOR ENGINEER OR BEXAR COUNTY APPROVAL. THE CONTRACTOR MUST STOP THE EXCAVATION IMMEDIATELY AND CONTACT THE ENGINEER AND OWNER (AND COUNTY IF APPLICABLE). THE CONTRACTOR CANNOT BEGIN EXCAVATION ACTIVITIES WITHOUT WRITTEN PERMISSION FROM THE OWNER.
17. CONTRACTOR SHALL NOTIFY THE ENGINEER, PRIOR TO CONSTRUCTION, OF ANY ALTERNATE PIPE MATERIALS BEING CONSIDERED. IF PLASTIC PIPE IS PROPOSED, THE INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321, USING CLASS I OR CLASS II SOILS FOR BACKFILL, AND A SUITABLE GEOTEXTILE FILTER MEDIA

UTILITY GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL COMPLY TO ALL APPLICABLE CITY OF SAN ANTONIO RULES AND REQUIREMENTS FOR STREETS, SIDEWALKS, ALLEYS AND ROADWAY DESIGN (LATEST EDITIONS), THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (LATEST EDITIONS), THE SAN ANTONIO WATER SYSTEM (SAWS) SPECIFICATIONS FOR WATER WORKS CONSTRUCTION (LATEST EDITION), BEXAR COUNTY PUBLIC WORKS, AND OTHER CODES AS ADOPTED BY THE MUNICIPALITY UNLESS OTHERWISE NOTED.
2. 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. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS IMMEDIATELY. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OF NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING AND MAINTAINING ALL PERMITS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
4. CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY FOR WATER AND WASTER WATER MAIN TESTING.
5. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON PLANS OR NOT.
6. ALL UTILITIES SHALL BE INSTALLED PRIOR TO PAVEMENT CONSTRUCTION.
7. THE CONTRACTOR SHALL INSTALL ANY BENDS, FITTINGS, ETC. IN THE WATER & SEWER MAIN AS REQUIRED TO AVOID CONFLICTS WITH OTHER UTILITIES. (NO SEPARATE PAY).
8. NO WATER JETTING TO BACKFILL TRENCHES WILL BE ALLOWED ON THIS PROJECT.
9. POLYVINYL CHLORIDE (PVC) SEWER PIPE SHALL BE SDR 26. FITTINGS AND JOINTS SHALL CONFORM TO COMPATIBLE SDR 26 PIPE. SOLVENT CEMENTS JOINTS SHALL NOT BE USED.
10. WHEN SEWER LINES ARE INSTALLED IN THE VICINITY OF WATER MAINS, SUCH INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ).
11. ALL UNUSABLE MATERIAL TO BE REMOVED AND SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE PROJECT. NO FILL MATERIAL SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE. USABLE MATERIAL SHALL BE PLACED AND COMPACTED AS SHOWN ON THE SWPPP SHEET AND/OR GRADING PLAN. ANY EXCESS MATERIAL THAT REMAINS AFTER PLACEMENT SHALL BE STOCKPILED ON THE ADJACENT ACREAGE WITHIN THE LIMITS OF CONSTRUCTION OR AS DIRECTED BY THE OWNER.
12. WHETHER SHOWN ON THE PLANS OR NOT, ALL CLEANOUT TOPS AND MANHOLES SHALL BE INSTALLED AT LEAST 3" ABOVE FINISHED GRADE OUTSIDE PAVEMENT AND FLUSH WITH FINISHED GRADE WITHIN THE PAVEMENT AREAS. TOPS WITHIN PAVEMENT SHALL BE TRAFFIC RATED.
13. PRIVATE SANITARY SEWER SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE FOR PRIVATE MAINS, EXCEPT WHERE SPECIFIED, AND THE SAN ANTONIO WATER SYSTEM PLUMBING SPECIFICATIONS FOR PUBLIC MAINS.
14. THRUST BLOCKING SHALL BE INSTALLED IN ACCORDANCE WITH SAN ANTONIO WATER SYSTEM SPECIFICATIONS.
15. UTILITY CONTRACTOR SHALL COORDINATE WITH CPS ENERGY FOR THE GAS AND ELECTRICAL SERVICE.
16. DOMESTIC WATER SHALL BE PVC C900 FOR PIPES < 12" OR C905 FOR PIPES ≥ 12" OR COPPER TUBING AS SPECIFIED IN THE SAWS STANDARD SPECIFICATIONS - ITEM #824.
17. PRIVATE SEWER MAIN CLEANOUTS SHALL BE INSTALLED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE (EVERY 100').
18. FIRE LINE SHALL BE PVC C900, CLASS 200 AND SHALL COMPLY WITH AWWA STANDARDS AND SHALL WITHSTAND A WORKING PRESSURE OF NOT LESS THAN 200 P.S.I.
19. CONTRACTOR SHALL MAINTAIN "AS-BUILT" DRAWINGS THROUGHOUT THE COURSE OF CONSTRUCTION & SHALL SUBMIT SAME TO THE ENGINEER FOR APPROVAL PRIOR TO FINAL ACCEPTANCE BY OWNER.
20. ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT 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 THEMAXIMUM 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, TEX114-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 OWNER AND ENGINEER WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.
21. COMPACTION TESTING WITHIN PUBLIC RIGHT-OF-WAY SHALL CONFORM TO BEXAR COUNTY SPECIFICATIONS AND REQUIREMENTS.
22. ALL PLUMBING MUST BE INSTALLED IN A MANNER CONFORMING TO THE CURRENT ADOPTED INTERNATIONAL PLUMBING CODE, INTERNATIONAL ENERGY CONSERVATION CODE (IF APPLICABLE), AND ANY LOCAL AMENDMENTS AS ADOPTED BY BEXAR COUNTY. ALL REQUIREMENTS OF THE AFOREMENTIONED CODES MUST BE ADHERED TO WHETHER SPECIFICALLY MENTIONED OR NOT AND FIELD VERIFIED BY INSPECTION.
23. CONTRACTOR SHALL COORDINATE WITH THE DEVELOPER'S PREFERRED TESTING LAB/GEOTECHNICAL ENGINEER REGARDING SOIL DENSITY, CONCRETE, ASPHALT, AND UTILITY TRENCH TESTING.

FIRE PREVENTION NOTES

1. THE CONTRACTOR SHALL PROVIDE COMPACTED FLEXIBLE BASE PAVEMENT PRIOR TO CONSTRUCTION OF COMBUSTIBLE MATERIALS AS AN "ALL WEATHER DRIVING SURFACE".
2. FIRE HYDRANTS MUST HAVE A 5" STORZ ADAPTER WITH A BLIND CAP AFFIXED TO THE STEAMER OUTLET. THE 2.5" DISCHARGES MUST NH THREAD. EACH HYDRANT MUST BE IDENTIFIED WITH A BLUE REFLECTOR AFFIXED TO THE ROADWAY IN LINE WITH THE HYDRANT INSTALLATION.

CITY PUBLIC SERVICE (CPS) NOTES

1. CONTRACTOR SHALL REFERENCE FINAL CPS DESIGN AND RECORDED PLAT FOR LOCATION OF CPS INFRASTRUCTURE AND APPURTENANCES, EASEMENTS AND UTILITY CROSSINGS.
2. CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ANY REQUIRED CPS UTILITY CROSSINGS BASED ON THE FINAL CPS DESIGN.
3. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL REQUIRED CPS PRE-CONSTRUCTION MEETINGS AND ALL INSPECTIONS FOR UTILITY CROSSINGS.
4. PROPOSED STREET LIGHTS SHALL BE LOCATED BETWEEN THE BACK OF CURB AND APPARENT STREET R.O.W. AND INSTALLED PER THE CPS DESIGN.

TRENCH EXCAVATION SAFETY PROTECTION

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

GRADING AND DRAINAGE NOTES

1. CONTRACTOR TO VERIFY ELEVATIONS PRIOR TO CONSTRUCTION. EXISTING CONTOURS BASED ON SURVEY TOPOGRAPHIC DATA.
2. ALL GRADES AND CONTOURS SHOWN ARE FINAL, TOP OF FINISHED SURFACE ELEVATIONS, CONTRACTOR SHALL SUBTRACT PAVEMENT, BASE, TOPSOIL, MULCH, ...ETC. TO OBTAIN PROPER SUBGRADE ELEVATIONS.
3. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER. MINIMUM SLOPE 0.50%.
4. NO ABRUPT CHANGE OF GRADE SHALL OCCUR.
5. ALL DISTURBED AREAS SHALL BE REVEGETATED BY HYDROMULCHING, BY THE CONTRACTOR, IN ACCORDANCE WITH PROJECT SPECIFICATIONS, AND ARCHITECTURAL LANDSCAPING PLANS.
6. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLAN OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
7. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT WHERE NOT SPECIFICALLY COVERED IN THE PROJECT SPECIFICATIONS SHALL CONFORM TO ALL APPLICABLE CITY OF SAN ANTONIO SPECIFICATIONS FOR CONSTRUCTION, TXDOT STANDARD SPECIFICATIONS, AND BEXAR COUNTY PUBLIC WORKS STANDARD SPECIFICATIONS.
8. THE MATERIALS USED FOR SITE FILL SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH, AND SHALL NOT CONTAIN ROCKS OR LUMPS HAVING A DIAMETER OF MORE THAN SIX INCHES (6"), WHETHER OBTAINED ONSITE OR BROUGHT FROM OFFSITE.
9. WHEN FILL MATERIAL INCLUDES ROCK, THE MAXIMUM ROCK SIZE SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER. NO LARGE ROCKS SHALL BE ALLOWED TO NEST AND ALL VOIDS MUST BE FILLED WITH SMALL STONES OR SOIL AND ADEQUATELY COMPACTED. NO LARGE ROCKS WILL BE PERMITTED WITHIN EIGHTEEN INCHES (18") OF THE FINISHED GRADE.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ORIGINAL, OR BETTER CONDITION ANY DAMAGES DONE TO EXISTING SIGNS, UTILITIES, PAVEMENT, CURBS, SIDEWALKS OR DRIVEWAYS (NO SEPARATE ITEM).
11. DUE TO FEDERAL REGULATION TITLE 49, PART 192.181, CPS ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVE THAT ARE IN THE PROJECT AREA.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH NECESSARY UTILITY COMPANIES FOR PROVIDING TEMPORARY UTILITY SERVICES DURING CONSTRUCTION.
13. CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS FOR UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON PLANS OR NOT.
14. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS, OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
15. THE CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT AT NEW PAVEMENT AND CURB JUNCTURES. NO JAGGED OR IRREGULAR CUTS IN PAVEMENT WILL BE ACCEPTED.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING AND MAINTAINING ALL PERMITS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
17. ALL EXCAVATION IS UNCLASSIFIED.
18. SEE CIVIL COVER SHEET FOR PROJECT BENCHMARK.
19. CONTRACTOR TO RAISE/LOWER ALL UTILITY BOXES, COVERS, GRATES, VALVES BOXES, MANHOLES, CLEANOUTS, ETC., TO MATCH PROPOSED FINISHED GRADE ELEVATIONS.
20. ALL DISTURBED AREAS WHICH ARE NOT TO BE PAVED SHALL BE COVERED WITH 6" MIN. CLEAN TOPSOIL UNLESS OTHERWISE NOTED (NO SEPARATE PAY ITEM). CUT OR FILL SHALL BE ADJUSTED TO ALLOW FOR TOPSOIL IN ORDER TO MAINTAIN PROPOSED ELEVATIONS. AREAS FOR LANDSCAPING SHOULD BE IN ACCORDANCE WITH THE LANDSCAPE ARCHITECTS PLANS. NO ADDITIONAL FILL SHOULD BE IMPORTED TO SATISFY THIS REQUIREMENT.
21. PROVIDE THE REQUIRED MINIMUM DENSITY AND MOISTURE CONTENT OF COMPACTED FILL IN ACCORDANCE WITH THE SOILS REPORT AND THE REQUIREMENTS OF THE PROFESSIONAL ENGINEER (GEOTECH AND CIVIL).
22. A TESTING LABORATORY SHALL BE EMPLOYED BY THE DEVELOPER TO CHECK THE SUITABILITY OF MATERIAL SELECTED FOR CONTROLLED FILLS, TO TEST AND DETERMINE IF THE REQUIRED IS BEING OBTAINED, AND TO TEST COMPACTION OF EXPOSED SUBGRADES, WHEN COMPACTION TESTS DOES NOT MEET GEOTECH REQUIREMENTS, FILL AND BACKFILL SHALL BE DRIED OUT OR MOISTENED AS NECESSARY, SCARIFIED, AND RECOMPACTED AT NO ADDITIONAL COSTS TO OWNER

DEMOLITION NOTES

1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE BEXAR COUNTY AND CITY OF SAN ANTONIO STANDARDS AND SPECIFICATIONS.
2. ALL FILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR METHOD (ASTM D-698).
3. CURB RAMPS ARE TO BE CONSTRUCTED ON ALL PERMANENT CURB RETURNS AT THE INTERSECTION OF ALL STREETS OR AS DIRECTED BY THE BEXAR COUNTY INSPECTOR.
4. ALL CONSTRUCTION BARRICADING TO BE IN ACCORDANCE WITH CURRENT "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
5. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIG TEST" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN PER THE APPROPRIATE REMEDIAL ACTION AGREED UPON BY THE ENGINEER.
6. DISPOSAL OF ALL DEMOLISHED MATERIAL IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL MUNICIPAL REQUIREMENTS.
7. WHERE A STATE OR LOCAL MUNICIPAL STANDARD DETAIL DUPLICATES A DETAIL SHOWN IN THE PLANS, THE MORE STRINGENT DETAIL, AS DETERMINED BY THE REVIEWING AGENCY, SHALL APPLY.
8. ALL ITEMS NOT SPECIFICALLY CALLED OUT TO BE REMOVED SHALL REMAIN. ANY ITEM TO REMAIN WHICH IS REMOVED SHALL BE REPLACED AT THE CONTRACTORS EXPENSE. (NO SEPARATE PAY).
9. CONTRACTOR WILL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY DEMOLITION PERMITS FOR THE PROJECT AND COORDINATION WITH THE RESPECTIVE UTILITY COMPANIES FOR REMOVAL OF THEIR INDIVIDUAL SERVICES.
10. CONTRACTOR SHALL IMMEDIATELY CONTACT THE ENGINEER REGARDING QUESTIONS ON THE DEMOLITION PLAN.
11. DEMOLITION CONTRACTOR SHALL CLEARLY MARK ALL EXISTING UTILITY SERVICES WHERE THEY CROSS PROPERTY LINES. THIS INFORMATION WILL BE USED BY UTILITY COMPANIES AND CONTRACTORS TO TIE INTO FOR THE PROPOSED UTILITY SERVICES.
12. CONTRACTOR SHALL VERIFY WHICH TREES ARE TO BE SAVED & PROTECTED PRIOR TO COMMENCING CONSTRUCTION, DURABLE FENCE PROTECTION BARRIERS SHALL BE INSTALLED AROUND ALL TREES TO BE SAVED WITH FENCE PLACEMENT A MINIMUM OF 10 FEET FROM TREES TRUNKS. (IF APPLICABLE)
13. CONTRACTOR SHALL NOT DISTURB AREAS AROUND EXISTING TREES TO BE SAVED. (IF APPLICABLE)
14. CONTRACTOR SHALL COMPENSATE OWNER FOR DAMAGE OF TREES THAT WERE TO REMAIN. (IF APPLICABLE)

UP ENGINEERING
a Bowman company
111 TOWER DR., SUITE 325
SAN ANTONIO, TEXAS 78232 (210) 714-6504
WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 22, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

GENERAL NOTES

BY	DESCRIPTION	DATE	REV

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

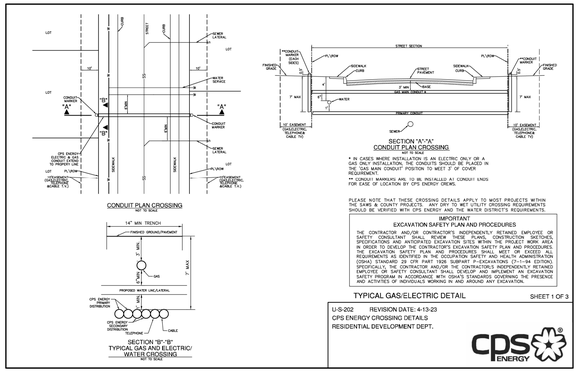
SHEET
C1.1

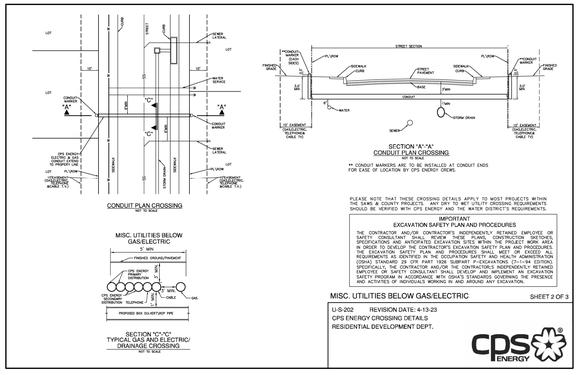
Date: Apr 22, 2025, 11:13am User ID: LJ Barrones
File: U:_Projects\437 - Higdon Rd Empower\437.1\ACAD\Sheets\C1.0 COVER SHEET.dwg

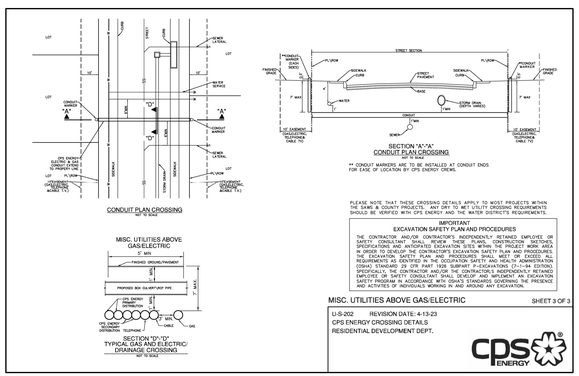
UTILITY CONSTRUCTION LAYOUT

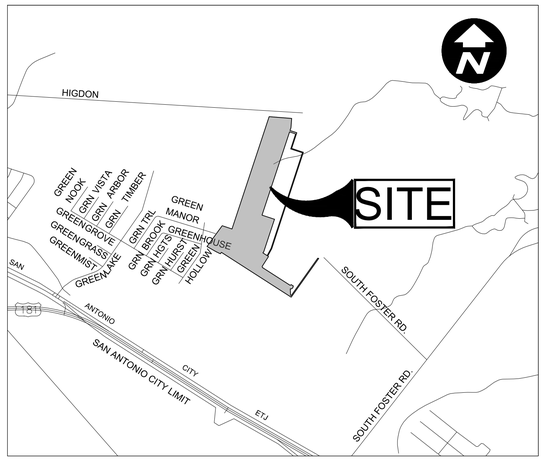
VISTA MHC - SUBDIVISION

BEXAR COUNTY, TEXAS







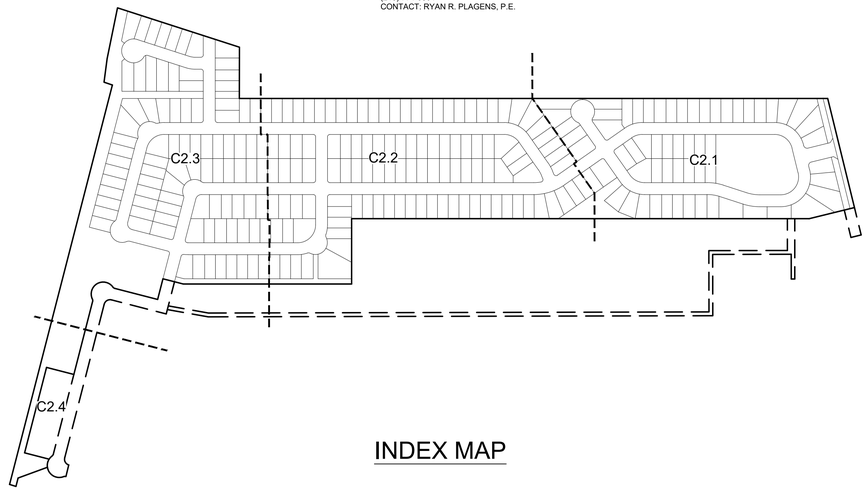


VICINITY MAP
NOT TO SCALE

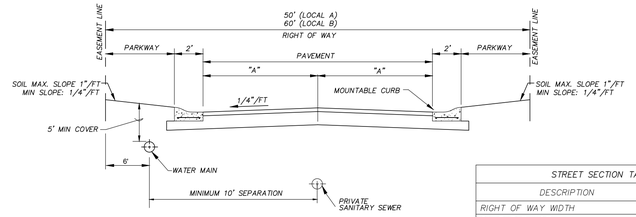
SUBMITTAL DATE:
APRIL 16, 2025

OWNER/DEVELOPER: SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

ENGINEER: UP ENGINEERING a Bowman company
111 TOWER DR, SUITE 325
SAN ANTONIO, TEXAS 78232
(210) 774-5504
CONTACT: RYAN R. PLAGENS, P.E.



INDEX MAP



STANDARD PRIVATE DRIVE SECTION
UTILITIES NTS

STREET SECTION TABLE		
DESCRIPTION	LOCAL A	LOCAL B
RIGHT OF WAY WIDTH	50'	60'
PAVEMENT WIDTH	26'	36'
LENGTH – "A"	13'	18'
PARKWAY WIDTH	10'	10'

NOTE:

1. A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY ROW.

GENERAL NOTES:

1. LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND DRAINAGE STRUCTURES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF ALL UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON THE PLANS OR NOT. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES.

2. ALL SUITABLE SPOIL AND MATERIAL FROM THIS PROJECT SHALL BE UTILIZED AS FILL AS NEEDED (REF. GENERAL NOTES PAGE FOR FILL MATERIAL DETAILS). UNSUITABLE MATERIAL THAT CANNOT BE USED MUST BE REMOVED AT NO ADDITIONAL EXPENSE.

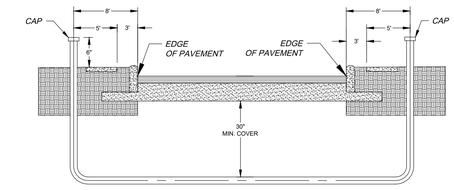
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING AND MAINTAINING ALL PERMITS, APPROVALS REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT (REF. GENERAL NOTES SHEET FOR ADDITIONAL DETAILS).

4. CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY FOR WATER AND WASTE WATER MAIN TESTING.

5. 6" PVC SCHEDULE 80 WILL BE REQUIRED FOR CPS UTILITY CROSSINGS WHEN STREET OR DRAIN CONSTRUCTION PRECEDES DRY UTILITY INSTALLATION.

6. 4" PVC SCHEDULE 40 WILL BE REQUIRED FOR UNDERGROUND TELEPHONE AND CABLE TV IF NOTE 4 ABOVE APPLIES.

7. PVC CONDUIT WITH 90° SWEEPS TO 6" ABOVE GRADE WITH CAP.



TYPICAL OWNER CONDUIT DETAIL
UTILITIES

UP ENGINEERING
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111 TOWER DR, SUITE 325
SAN ANTONIO, TEXAS 78232
(210) 774-5504
WWW.UPENGINEERING.COM - TBPE F-14309

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PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

UTILITY COVER

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C2.0

Date: Apr 16, 2025, 8:17am User ID: LJ Ramones
File: G:_Projects\437 – Weston Rd Empower\437.1\ACAD\Sheets\C2.0 UTILITY COVER.dwg

LEGEND

	FIRE HYDRANT	ESMT.	EASEMENT
	EXISTING FIRE HYDRANT	1937/550	VOLUME/PAGE
P8"W	WATER MAIN	O.P.R.B.C.T.	OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY TEXAS
E8"W	EXISTING WATER MAIN	D.P.R.	DEED AND PLAT RECORDS OF BEXAR COUNTY TEXAS
	DUAL WATER SERVICE		POWER POLE
	SINGLE WATER SERVICE		EXISTING POWER POLE
P8"SS	PRIVATE SANITARY SEWER PIPE		ELECTRIC TRANSFORMER
P12"SS	SANITARY SEWER PIPE	T	TELEPHONE PEDESTAL
E8"SS	EXISTING SANITARY SEWER PIPE	CTV	CABLE T.V. PEDESTAL
SS	EXISTING SANITARY SEWER MANHOLE		ELECTRIC RISER POLE
SS	PROPOSED SANITARY SEWER MANHOLE		EXISTING STREET LIGHT
	FLOW DIRECTION		PROPOSED STREET LIGHT (100 WATT UG)
	SANITARY SEWER LATERAL	250W	PROPOSED STREET LIGHT (250 WATT UG)
	EXIST. SANITARY SEWER LATERAL	R.O.W.	RIGHT-OF-WAY
6" FM	6" SANITARY SEWER FORCE MAIN		BLOWOFF
OE	EXIST. OVERHEAD ELECTRIC		
E.G.T.C.	ELECTRIC, GAS, TELEPHONE AND CABLE TV		
VNAE	VEHICLE NON-ACCESS EASEMENT		
BSL	BUILDING SETBACK LINE		

LOT 1, BLOCK 113
C.B. 4007
HIDGON OAKS SUBDIVISON

RED JASPER AVENUE
RIO GRANDE WAY
CYPRESS CREEK DR
STREETLIGHT (100w)
3-4" UTILITY SLEEVES FOR OWNER

MATCH LINE "A" SEE SHEET C2.2

UNPLATTED
THE REMAINING PORTION OF A 32.557 ACRE TRACT
EMPOWER PROJECT FOSTER, LLC

UNPLATTED
THE REMAINING PORTION OF A 20.051 ACRE TRACT
EMPOWER PROJECT FOSTER, LLC

UNPLATTED
THE REMAINING PORTION OF A 10.103 ACRE TRACT
EMPOWER PROJECT FOSTER, LLC

KEYNOTES	
1	19' STREET R.O.W. DEDICATION
2	25' PRIVATE DRAINAGE EASEMENT
3	60' G.E.T.TV., PUBLIC WATER, PRIVATE SEWER, ACESS & PRIVATE DRAINAGE EASEMENT
4	50' G.E.T.TV., PUBLIC WATER, PRIVATE SEWER, ACESS & PRIVATE DRAINAGE EASEMENT
5	16' SANITARY SEWER EASEMENT OFF-LOT
6	30' PRIVATE DRAINAGE EASEMENT
7	55' PRIVATE DRAINAGE EASEMENT
8	VARIABLE WIDTH PRIVATE DRAINAGE EASEMENT
9	VARIABLE WIDTH PRIVATE DRAINAGE EASEMENT
10	28' G.E.T.TV.E.
11	50' PUBLIC WATER & PRIVATE SEWER EASEMENT - OFF-LOT
12	20' PRIVATE DRAINAGE EASEMENT
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17	12' SANITARY SEWER FORCE MAIN EASEMENT
18	22' PRIVATE DRAINAGE EASEMENT

EXISTING EASEMENT KEYNOTES	
1	12' GAS, ELEC. & TEL. EASEMENT VOL. 7100, PG. 83 D.P.R.
2	16' O.H. ELEC. & GAS EASEMENT VOL. 7100, PG. 83 D.P.R.
3	13' DRAINAGE R.O.W. VOL. 8100, PG. 243 D.P.R.
4	30' B.S.L. VOL. 7100, PG. 83 D.P.R.
5	5' REAR/SIDE BSL VOL. 20003, PG. 1185 D.P.R.
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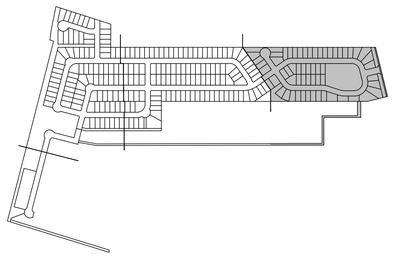

NOTES:

1. ALL WATER LINES ON THE CUSTOMER'S SIDE OF THE METER ARE PRIVATE AND SUBJECT TO THE CURRENT ADOPTED VERSION OF THE INTERNATIONAL PLUMBING CODE BY BEXAR COUNTY AND INSTALLATION PER THE CURRENT ADOPTED INTERNATIONAL PLUMBING CODE.
2. ALL PLUMBING MUST BE INSTALLED IN A MANNER CONFORMING TO THE 2021 INTERNATIONAL PLUMBING CODE, INTERNATIONAL FUEL GAS CODE, INTERNATIONAL ENERGY CONSERVATION CODE (OR LATEST ADOPTED VERSION), AND LOCAL AMENDMENTS AS ADOPTED BY THE BEXAR COUNTY. ALL REQUIREMENTS OF THE AFOREMENTIONED CODES MUST BE ADHERED TO WHETHER SPECIFICALLY MENTIONED OR NOT AND FIELD VERIFIED BY INSPECTION.

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

UP ENGINEERING
a Bowman company
111 TOWER DR., SUITE 125
SAN ANTONIO, TEXAS 78232 (210) 764-5504
WWW.UPENGINEERING.COM - TBPE F-14309

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PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

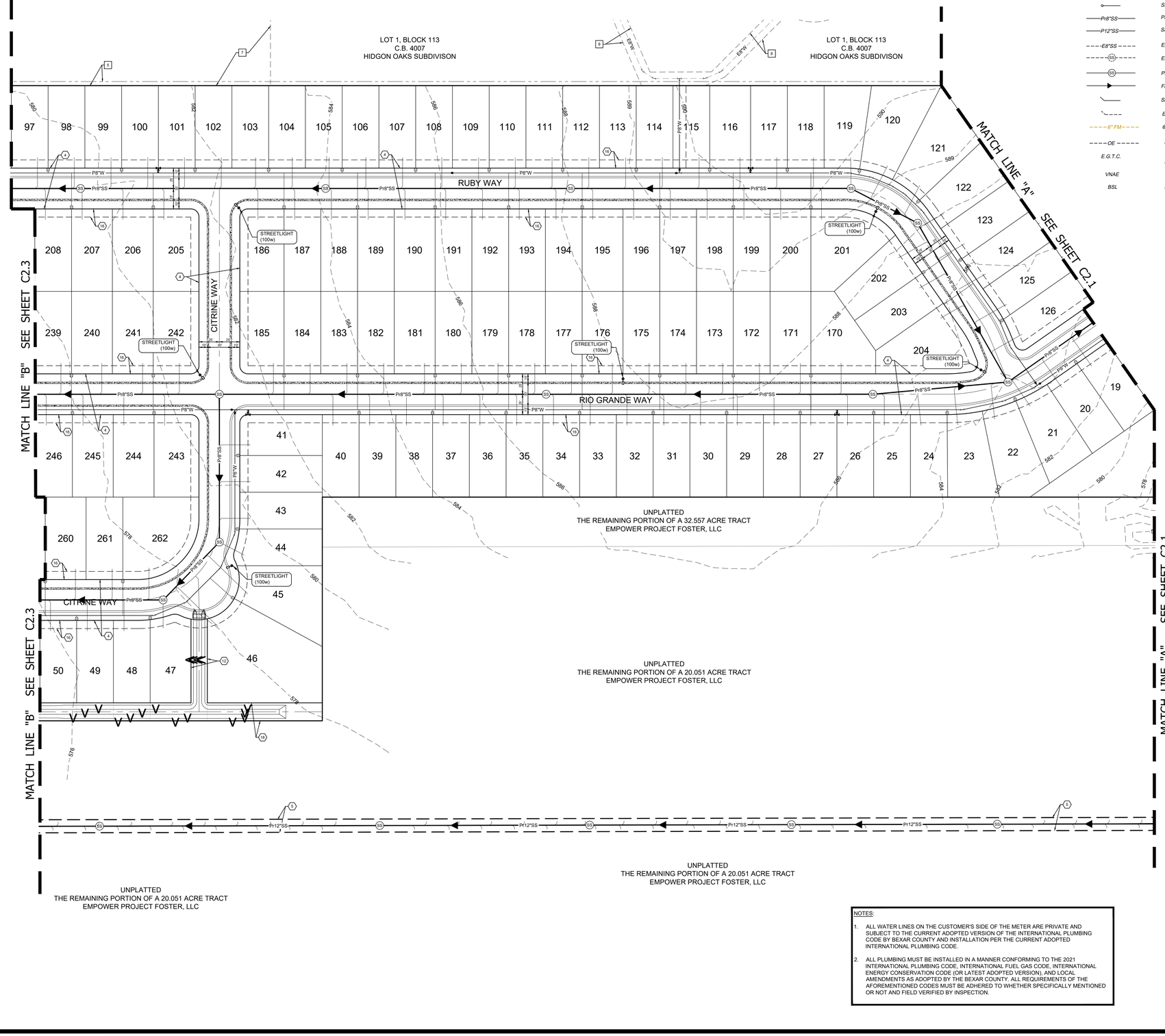
UTILITY OVERALL

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C2.1

Date: Apr 16, 2025, 8:54am User ID: LJ Espinosa
File: U:__Projects\437 – Higdon Rd Empower\437-1\ACAD\Sheets\C2.1 UTILITY OVERALL.dwg



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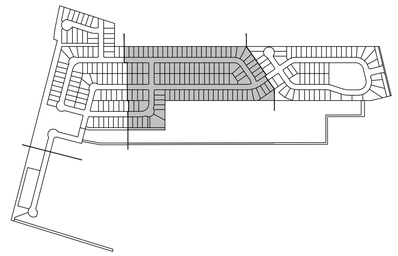


0 30' 60' 120'
SCALE: 1" = 60'

UP ENGINEERING
a Bowman company
111 TOWER DR., SUITE 125
SAN ANTONIO, TEXAS 78232 (210) 774-5504
WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

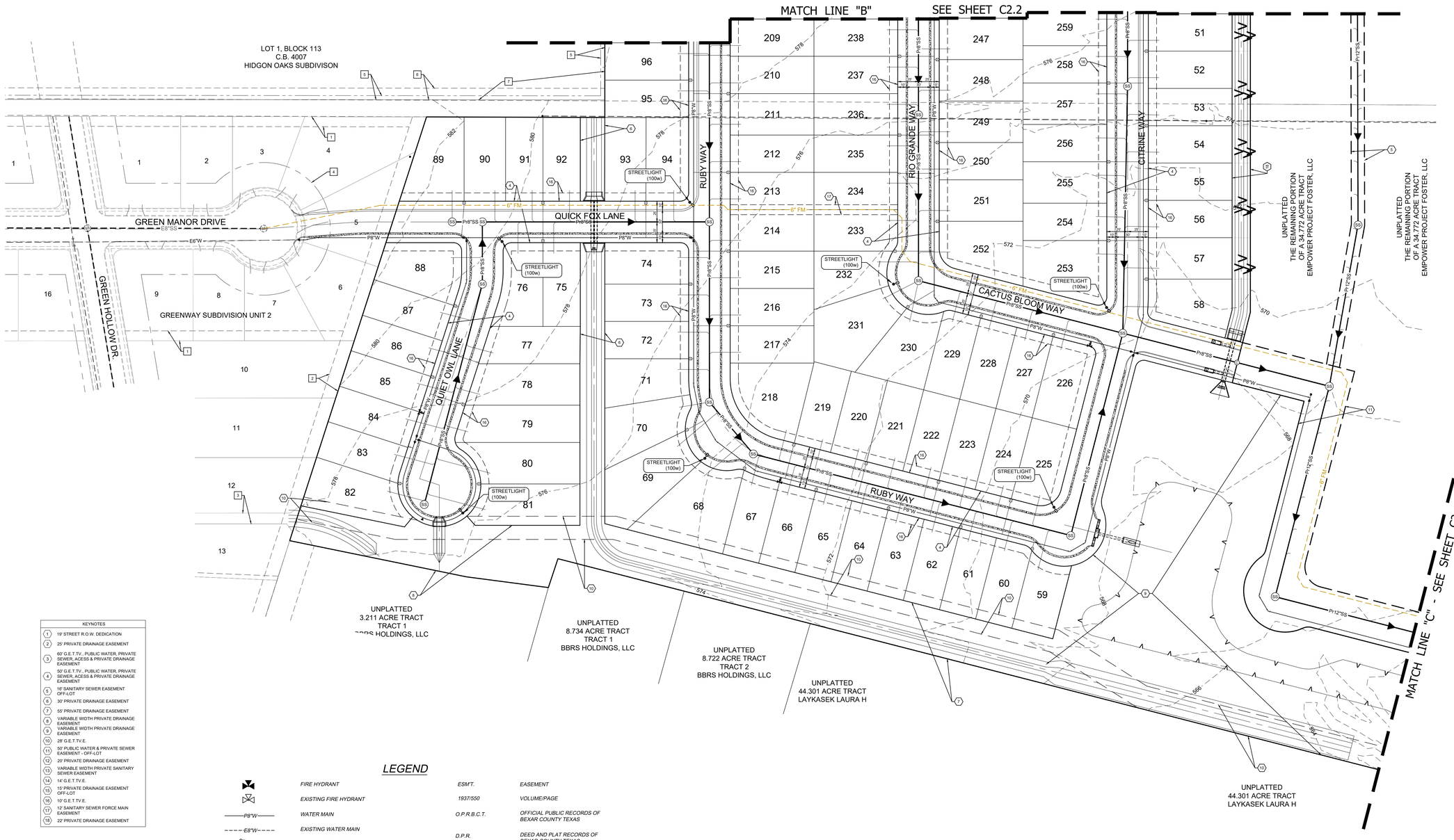
UTILITY OVERALL

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C2.2

Date: Apr 16, 2025, 9:54am User ID: Liz Romines
File: G:_Projects\1437 – Higdon Rd Empower\1437(1AOA0)\Sheets\C2.1 UTILITY OVERALL.dwg



KEYNOTES	
1	19' STREET R.O.W. DEDICATION
2	25' PRIVATE DRAINAGE EASEMENT
3	60' G.E.T.TV., PUBLIC WATER, PRIVATE SEWER, ACESS & PRIVATE DRAINAGE EASEMENT
4	50' G.E.T.TV., PUBLIC WATER, PRIVATE SEWER, ACESS & PRIVATE DRAINAGE EASEMENT
5	16' SANITARY SEWER EASEMENT OFF-LOT
6	30' PRIVATE DRAINAGE EASEMENT
7	55' PRIVATE DRAINAGE EASEMENT
8	VARIABLE WIDTH PRIVATE DRAINAGE EASEMENT
9	VARIABLE WIDTH PRIVATE DRAINAGE EASEMENT
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15	15' PRIVATE DRAINAGE EASEMENT OFF-LOT
16	10' G.E.T.TV.E.
17	12' SANITARY SEWER FORCE MAIN EASEMENT
18	22' PRIVATE DRAINAGE EASEMENT

EXISTING EASEMENT KEYNOTES	
1	12' GAS, ELEC. & TEL. EASEMENT VOL. 7100, PG. 83 D.P.R.
2	16' O.H. ELEC. & GAS EASEMENT VOL. 7100, PG. 83 D.P.R.
3	13' DRAINAGE R.O.W. VOL. 8100, PG. 243 D.P.R.
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6	14' E.G.T. & CA. T.V. ESMT. VOL. 20003, PG. 1185 D.P.R.
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LEGEND

	FIRE HYDRANT	ESMT.	EASEMENT
	EXISTING FIRE HYDRANT	1937/550	VOLUME/PAGE
P8"W	WATER MAIN	O.P.R.B.C.T.	OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY TEXAS
E8"W	EXISTING WATER MAIN	D.P.R.	DEED AND PLAT RECORDS OF BEXAR COUNTY TEXAS
	DUAL WATER SERVICE		
	SINGLE WATER SERVICE		POWER POLE
P8"SS	PRIVATE SANITARY SEWER PIPE		EXISTING POWER POLE
P12"SS	SANITARY SEWER PIPE		ELECTRIC TRANSFORMER
E8"SS	EXISTING SANITARY SEWER PIPE	T	TELEPHONE PEDESTAL
SS	EXISTING SANITARY SEWER MANHOLE	CTV	CABLE T.V. PEDESTAL
SS	PROPOSED SANITARY SEWER MANHOLE		ELECTRIC RISER POLE
	FLOW DIRECTION		EXISTING STREET LIGHT
	SANITARY SEWER LATERAL		PROPOSED STREET LIGHT (100 WATT UG)
	EXIST. SANITARY SEWER LATERAL	250W	PROPOSED STREET LIGHT (250 WATT UG)
6" FM	6" SANITARY SEWER FORCE MAIN	R.O.W.	RIGHT-OF-WAY
OE	EXIST. OVERHEAD ELECTRIC		BLOWOFF
E.G.T.C.	ELECTRIC, GAS, TELEPHONE AND CABLE TV		
VNAE	VEHICLE NON-ACCESS EASEMENT		
BSL	BUILDING SETBACK LINE		

NOTES:

1. ALL WATER LINES ON THE CUSTOMER'S SIDE OF THE METER ARE PRIVATE AND SUBJECT TO THE CURRENT ADOPTED VERSION OF THE INTERNATIONAL PLUMBING CODE BY BEXAR COUNTY AND INSTALLATION PER THE CURRENT ADOPTED INTERNATIONAL PLUMBING CODE.
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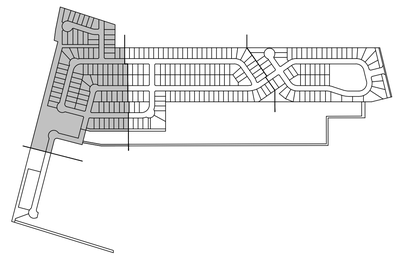

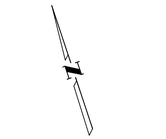

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SCALE: 1" = 60'

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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS, P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

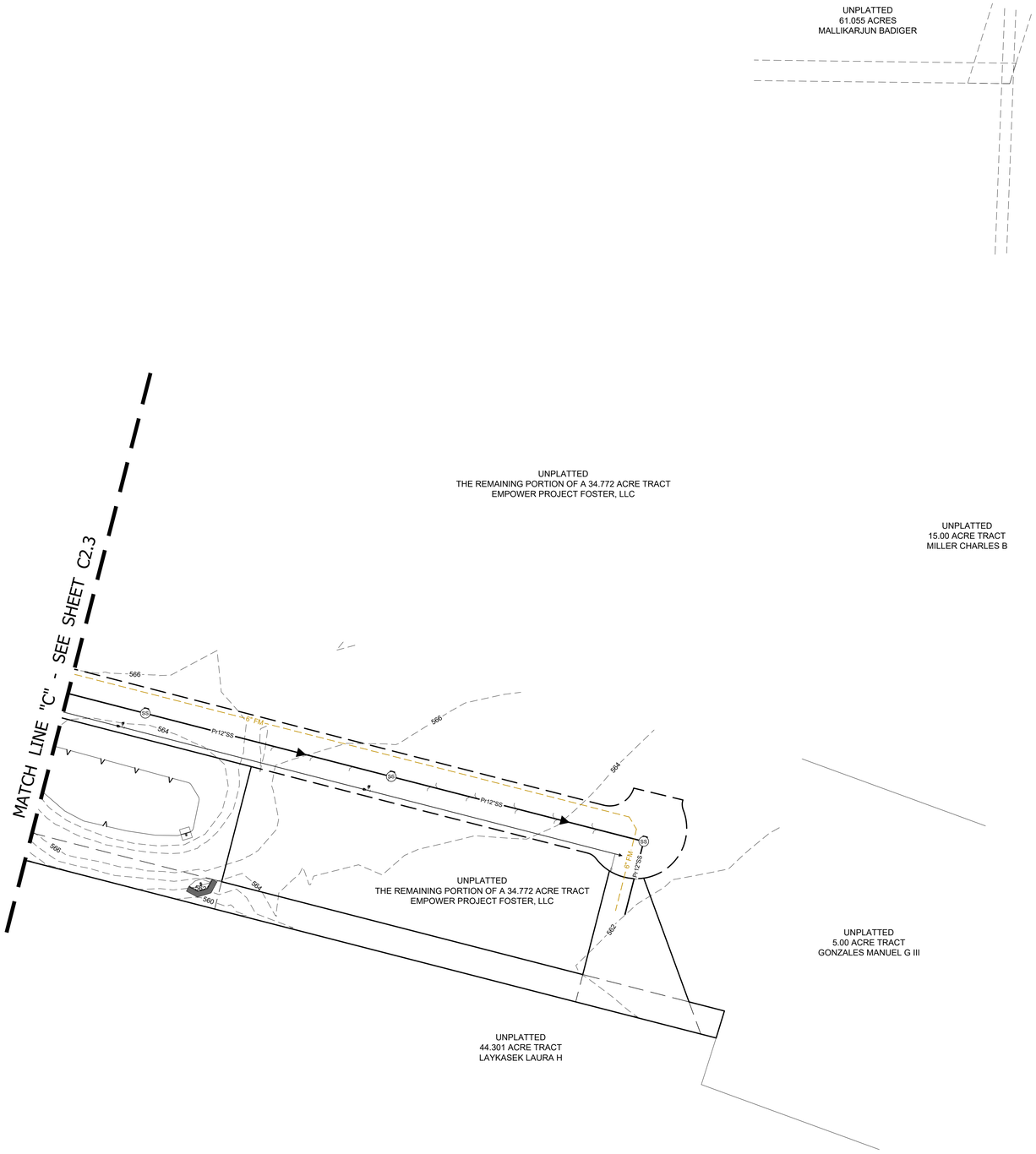
UTILITY OVERALL

BY	DESCRIPTION	DATE	REV

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C2.3

Date: Apr 16, 2025, 8:54am User ID: LJ Ramonas
File: U:\...Projects\437 – Higdon Rd Empower\437.1\4D4D\Sheets\C2.1 UTILITY OVERALL.dwg



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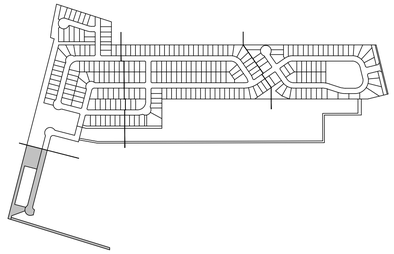

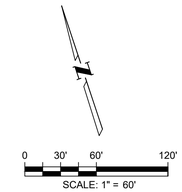

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PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

UTILITY OVERALL

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C2.4

Date: Apr 16, 2025, 9:54am User ID: Lil Ramones
File: G:\...\Projects\437 – Higbee Rd Empower\437\1\ACAD\Sheets\C2.1 UTILITY OVERALL.dwg

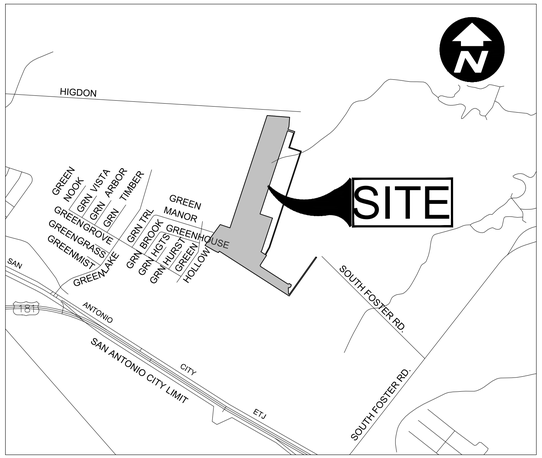
PRIVATE SANITARY SEWER CONSTRUCTION DOCUMENTS FOR

VISTA MHC - SUBDIVISION

BEXAR COUNTY, TEXAS

WASTERWATER NOTES FOR MAINS INSTALLED PER SAWS SPECIFICATIONS:

1. AFTER ALL SANITARY SEWER CONSTRUCTION HAS BEEN COMPLETED, FINAL STABILIZATION OF THE CONSTRUCTION AREA ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES SHALL BE COMPLETED BY EVENLY DISTRIBUTING SEEDING AND WATERING TO A MINIMUM OF 70% OF THE NATIVE BACKGROUND VEGETATIVE COVER.
2. ALL PUBLIC WASTEWATER MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FEBRUARY 2017 SAWS SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION.
3. ALL WASTEWATER PRECAST MANHOLES SHALL BE PROVIDED BY SUPPLIERS APPROVED BY SAWS.
4. CONTRACTOR SHALL PROVIDE MANUFACTURED STUB OUT CAP & PLUG TO MEET 30 TAC 213.5(3)(G) STANDARDS AND TO MEET ASTM D3034 SPECIFICATIONS UNLESS OTHERWISE NOTED.
5. ALL RESIDENTIAL SEWER SERVICE LATERALS ARE 6" DIA.
6. ALL RESIDENTIAL SEWER SERVICE LATERALS SHALL BE EXTENDED TO THE 10' G.E.T.TV.E. AND CAPPED AND SEALED.
7. LATERALS TO LOTS THAT SLOPE AWAY FROM STREET SHALL BE SLOPED FROM THE TEE OR STACK AT 2% TO THE PROPERTY LINE.
8. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATE INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
9. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE ENGINEER MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDON. THE ENGINEER FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE ENGINEER HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.
10. CONTRACTORS TO CALL UTILITY COMPANIES AND VERIFY THE LOCATIONS OF UTILITIES PRIOR TO BEGINNING ANY CONSTRUCTION.
11. ALL PIPE TO BE SDR 26 PVC PER ASTM D3034 SPECIFICATIONS UNLESS OTHERWISE NOTED. PIPE JOINTS TO BE SDR 26 PER ASTM D3139 SPECIFICATIONS.
12. ALL SANITARY SEWER LINES WHICH CROSS WATERLINES ARE TO HAVE A MINIMUM OF A SINGLE LENGTH OF SDR 26 (ASTM D2241-09), PRESSURE RATED (150 PSI) PIPE, CENTERED ON THE WATERLINE SUCH THAT EACH SEWER LINE JOINT IS A MINIMUM OF NINE FEET FROM THE WATERLINE.
13. CONTRACTOR TO VERIFY TOP OF MANHOLE ELEVATION WITH FINISHED PAVEMENT ELEVATION AND ADJUST AS NECESSARY.
14. CONTRACTOR TO PROVIDE MANUFACTURED STUB OUT CAP & PLUG TO MEET 30 TAC 213.5(3)(G) STANDARDS AND TO MEET ASTM D3034 SPECIFICATION.
15. A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY ROW.
16. CONTRACTOR TO REFER TO SAWS STANDARD DETAILS FOR ALL SAWS APPURTENANCES AND STRUCTURES FOR PUBLIC MAINS.

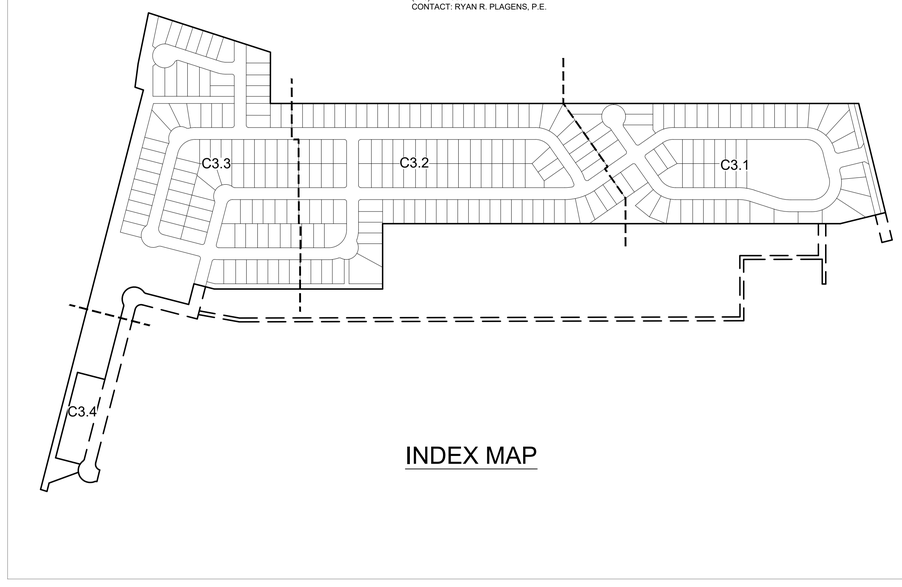


VICINITY MAP
NOT TO SCALE

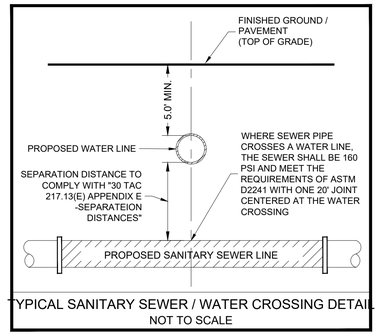
SUBMITTAL DATE:
APRIL 11, 2025

OWNER/DEVELOPER: SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

ENGINEER: UP ENGINEERING a Bowman company
111 TOWER DR, SUITE 325
SAN ANTONIO, TEXAS 78232
(210) 774-5504
CONTACT: RYAN R. PLAGENS, P.E.



INDEX MAP



TYPICAL SANITARY SEWER / WATER CROSSING DETAIL
NOT TO SCALE

Sheet List Table	
Sheet Number	Sheet Title
C3.0	PRIVATE SANITARY SEWER COVER
C3.1	PRIVATE SANITARY SEWER OVERALL
C3.2	PRIVATE SANITARY SEWER OVERALL
C3.3	PRIVATE SANITARY SEWER OVERALL
C3.4	PRIVATE SANITARY SEWER OVERALL
C3.5	PRIVATE SANITARY SEWER LINE "A" PLAN & PROFILE
C3.6	PRIVATE SANITARY SEWER LINE "A" PLAN & PROFILE
C3.7	PRIVATE SANITARY SEWER LINE "A" PLAN & PROFILE
C3.8	PRIVATE SANITARY SEWER LINE "A" PLAN & PROFILE
C3.9	PRIVATE SANITARY SEWER LINE "B" PLAN & PROFILE
C3.10	PRIVATE SANITARY SEWER LINE "C" PLAN & PROFILE
C3.11	PRIVATE SANITARY SEWER LINE "C" PLAN & PROFILE
C3.12	PRIVATE SANITARY SEWER LINE "D" PLAN & PROFILE
C3.13	PRIVATE SANITARY SEWER LINE "E" PLAN & PROFILE
C3.14	PRIVATE SANITARY SEWER LINE "F" PLAN & PROFILE
C3.15	PRIVATE SANITARY SEWER LINE "F" PLAN & PROFILE
C3.16	PRIVATE SANITARY SEWER LINE "G" & LINE "H" PLAN & PROFILE
C3.17	PRIVATE SANITARY SEWER LINE "J" PLAN & PROFILE
C3.18	PRIVATE SANITARY SEWER DETAILS
C3.19	PRIVATE SANITARY SEWER DETAILS
C3.20	FORCE MAIN
C3.21	FORCE MAIN
C3.22	FORCE MAIN

NOTES:

1. ALL WASTEWATER PIPE TO BE PVC SDR 26 UNLESS SPECIFIED OTHERWISE.
2. ALL GRAVITY SEWER AND FORCE MAINS SHALL BE TESTED IN ACCORDANCE WITH TAC 217.57 AND 217.68.
3. ALL GRAVITY LINES ARE TO BE INSTALLED FROM DOWNSTREAM TO UPSTREAM.
4. REPAIR ASPHALT AS REQUIRED FOR INSTALLATION OF WATER & WASTEWATER LINES.
5. CONTRACTOR SHALL FURNISH & INSTALL ALL MATERIALS AND APPURTENANCES AS CALLED OUT ON PLANS.
6. REFERENCE GENERAL NOTES SHEETS FOR ADDITIONAL UTILITY NOTES.
7. LIMITS OF CONSTRUCTION ARE SHOWN ON THE EROSION & SEDIMENTATION CONTROL PLAN.
8. CONTRACTOR TO COORDINATE WITH CPS ELECTRIC AND GAS ON ELECTRICAL SERVICE CONNECTION AND INSTALLATION OF RISER POLES AND TRANSFORMER PADS.
9. INSTALL CLEANOUTS EVERY 100 FEET ALONG SANITARY SEWER LINES PER APPLICABLE CODE REQUIREMENTS. CLEANOUTS IN PAVEMENT SHALL HAVE TRAFFIC RATED COVERS. MATCH TOP TO PROPOSED GRADES.
10. CONTRACTOR SHALL COORDINATE WITH THE COUNTY FIRE MARSHAL PRIOR TO INSTALLING FIRE LANE STRIPING AND EXACT LOCATION OF FIRE LANE SIGNS.
11. SEE LANDSCAPE ARCHITECT PLANS FOR IRRIGATION PLANS AND DETAILS.
12. ALL WATER LINES ON THE CUSTOMER'S SIDE OF THE METER ARE PRIVATE AND SUBJECT TO BEXAR COUNTY REQUIREMENTS AND INSTALLATION PER THE CURRENT ADOPTED INTERNATIONAL PLUMBING CODE.
13. ALL PRIVATE SEWER LINES AND LATERALS ARE SUBJECT TO BEXAR COUNTY REQUIREMENTS AND INSTALLATION PER THE CURRENT ADOPTED INTERNATIONAL PLUMBING CODE. ANY PUBLIC SEWER MAINS ARE SUBJECT TO SAWS STANDARD SPECIFICATIONS FOR CONSTRUCTION.
14. ALL PLUMBING MUST BE INSTALLED IN A MANNER CONFORMING TO THE CURRENT ADOPTED VERSION OF THE INTERNATIONAL PLUMBING CODE, INTERNATIONAL ENERGY CONSERVATION CODE (IF APPLICABLE), AND LOCAL AMENDMENTS BY BEXAR COUNTY. ALL REQUIREMENTS OF THE AFOREMENTIONED CODES MUST BE ADHERED TO WHETHER SPECIFICALLY MENTIONED OR NOT AND FIELD VERIFIED BY INSPECTION/OBSERVATION.

CAUTION:
CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.

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PRIVATE SANITARY SEWER COVER

REV	DATE	DESCRIPTION	BY

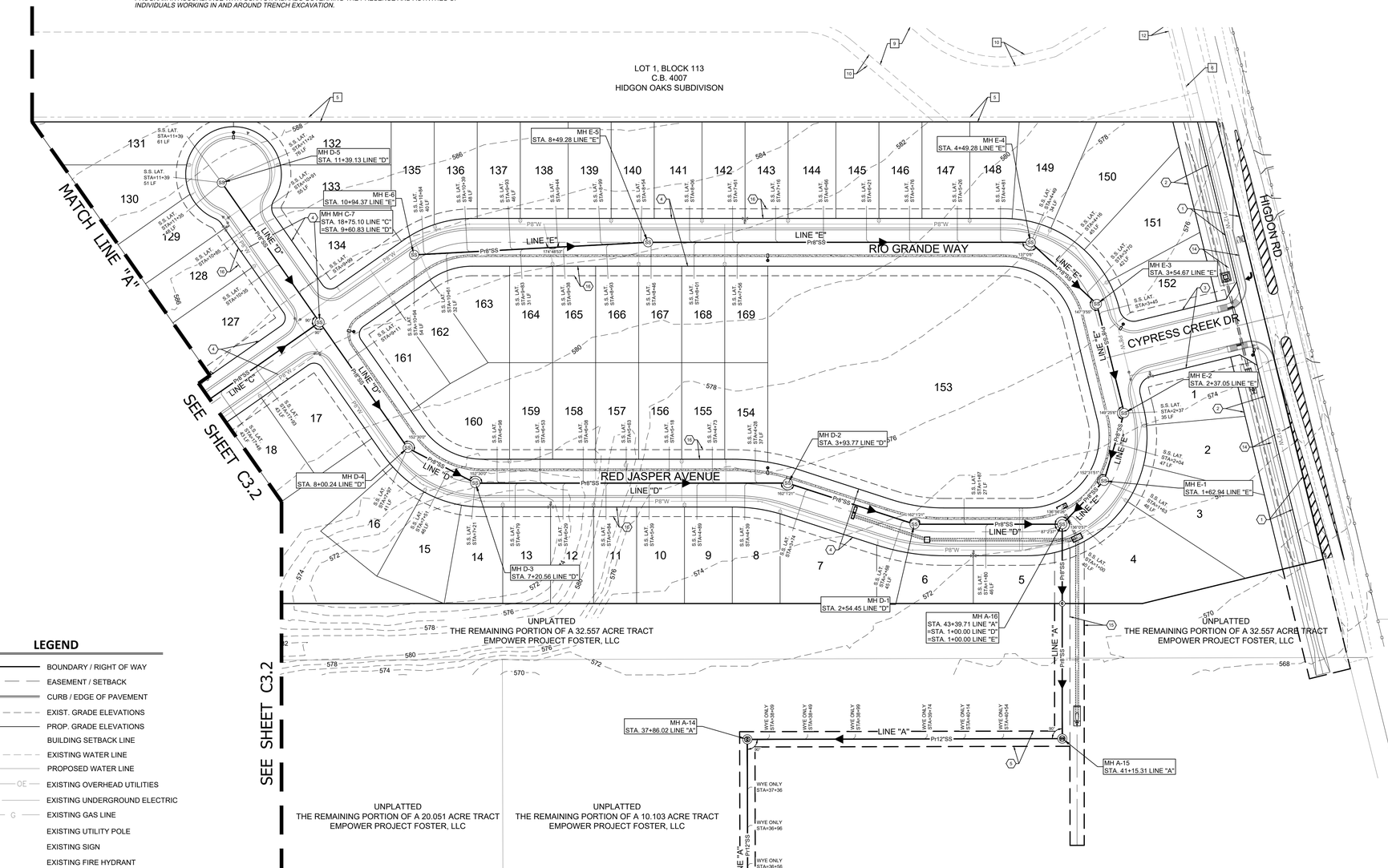
DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.0

Date: Apr 16, 2025, 8:12am User ID: Li Fonseca
File: L:_Projects\437 – Higdon Rd Empower\437\1\ACAD\Sheets\C3.0 SEWER COVER.dwg

TRENCH EXCAVATION SAFETY PROTECTION

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



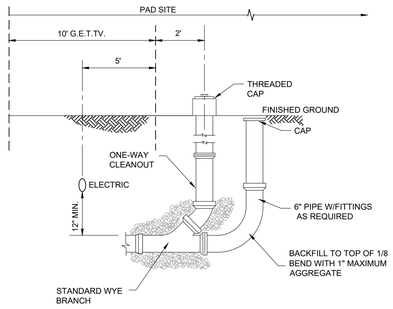
KEYNOTES	
1	19' STREET R.O.W. DEDICATION
2	25' PRIVATE DRAINAGE EASEMENT
3	60' G.E.T.TV., PUBLIC WATER, PRIVATE SEWER, ACESS & PRIVATE DRAINAGE EASEMENT
4	50' G.E.T.TV., PUBLIC WATER, PRIVATE SEWER, ACESS & PRIVATE DRAINAGE EASEMENT
5	16' SANITARY SEWER EASEMENT OFF-LOT
6	30' PRIVATE DRAINAGE EASEMENT
7	55' PRIVATE DRAINAGE EASEMENT
8	VARIABLE WIDTH PRIVATE DRAINAGE EASEMENT
9	VARIABLE WIDTH PRIVATE DRAINAGE EASEMENT
10	28' G.E.T.TV.E.
11	50' PUBLIC WATER & PRIVATE SEWER EASEMENT - OFF-LOT
12	20' PRIVATE DRAINAGE EASEMENT
13	VARIABLE WIDTH PRIVATE SANITARY SEWER EASEMENT
14	14' G.E.T.TV.E.
15	15' PRIVATE DRAINAGE EASEMENT OFF-LOT
16	10' G.E.T.TV.E.
17	12' SANITARY SEWER FORCE MAIN EASEMENT
18	22' PRIVATE DRAINAGE EASEMENT

EXISTING EASEMENT KEYNOTES	
1	12' GAS, ELEC. & TEL. EASEMENT VOL. 7100, PG. 83 D.P.R.
2	16' O.H. ELEC. & GAS EASEMENT VOL. 7100, PG. 83 D.P.R.
3	13' DRAINAGE R.O.W. VOL. 8100, PG. 243 D.P.R.
4	30' B.S.L. VOL. 7100, PG. 83 D.P.R.
5	5' REAR/SIDE BSL VOL. 20003, PG. 1185 D.P.R.
6	14' E.G.T. & CA. T.V. ESMT. VOL. 20003, PG. 1185 D.P.R.
7	PARK/OPEN SPACE/ PRIVATE DRAINAGE EASEMENT VOL. 20003, PG. 1185 D.P.R.
8	10' PUBLIC WATER EASEMENT VOL. 20003, PG. 1185 D.P.R.
9	50' PEDESTRIAN, SIGNAGE, SHARED CROSS ACCESS, DRAINAGE, G.E.T.CA., PUBLIC WATER & SEWER EASEMENT VOL. 20003, PG. 1185 D.P.R.
10	10' G.E.T. & CA. T.V. EASEMENT VOL. 20003, PG. 1185 D.P.R.
11	10' FRONT BSL VOL. 20003, PG. 1185 D.P.R.

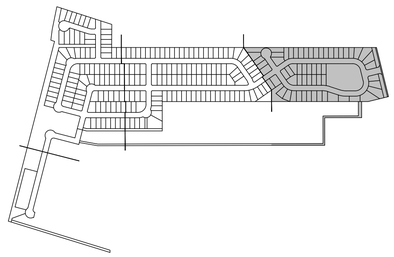
LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- EXIST. GRADE ELEVATIONS
- PROP. GRADE ELEVATIONS
- BSL — BUILDING SETBACK LINE
- E8"W — EXISTING WATER LINE
- P8"W — PROPOSED WATER LINE
- OE — EXISTING OVERHEAD UTILITIES
- UE — EXISTING UNDERGROUND ELECTRIC
- G — EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LATERAL
- P8"SS — PROPOSED SANITARY SEWER LINE
- E12"SS — EXISTING SANITARY SEWER LINE

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



SEWER LATERAL CLEANOUT DETAIL
NOT TO SCALE



UP ENGINEERING
a Bowman company
111 TOWER DR. SUITE 325
SAN ANTONIO, TEXAS 78232 (210) 744-5504
WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

PRIVATE SANITARY SEWER OVERALL

REV	DATE	DESCRIPTION	BY

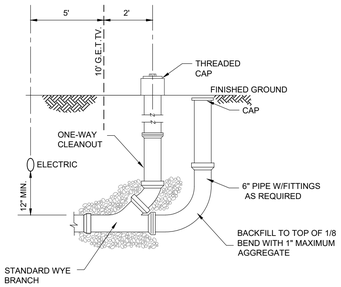
DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.1

Date: Apr 16, 2025, 8:56am User ID: Lj Ramones
File: U:_Projects\437--Higdon Rd Empower\437-1\ACAD\Sheets\C3.1 SEWER OVERALL.dwg

TRENCH EXCAVATION SAFETY PROTECTION

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



SEWER LATERAL CLEANOUT DETAIL

NOT TO SCALE

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- (102) PROP. GRADE ELEVATIONS
- BSL BUILDING SETBACK LINE
- E8"W EXISTING WATER LINE
- P8"W PROPOSED WATER LINE
- OE OVERHEAD UTILITIES
- UE UNDERGROUND ELECTRIC
- G GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- SS PROPOSED SANITARY SEWER MANHOLE
- C PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LATERAL
- P8"SS PROPOSED SANITARY SEWER LINE
- E12"SS EXISTING SANITARY SEWER LINE

LOT 1, BLOCK 113
C.B. 4007
HIDGON OAKS SUBDIVISON

LOT 1, BLOCK 113
C.B. 4007
HIDGON OAKS SUBDIVISON

RUBY WAY

RIO GRANDE WAY

CITRINE WAY

CITRINE WAY

MH F-4
STA. 11+00.00 LINE "F"

MH F-6
STA. 17+00.00 LINE "F"

MH F-7
STA. 20+43.31 LINE "F"

MH F-8
STA. 21+35.22 LINE "F"

MH MH C-3
STA. 6+41.61 LINE "C"
=STA. 11+68.09 LINE "B"

MH C-4
STA. 10+41.61 LINE "C"

MH C-5
STA. 14+41.61 LINE "C"

MH MH C-6
STA. 23+59.04 LINE "F"
=STA. 23+59.04 LINE "F"

MH B-4
STA. 8+88.13 LINE "B"

MH B-5
STA. 9+86.99 LINE "B"

MH A-7
STA. 17+50.00 LINE "A"

MH A-8
STA. 20+93.02 LINE "A"

MH A-9
STA. 23+50.00 LINE "A"

MH A-10
STA. 25+97.02 LINE "A"

MH A-11
STA. 28+49.02 LINE "A"

SEE SHEET C3.1

SEE SHEET C3.3

MATCH LINE "B"

MATCH LINE "A"

UNPLATTED
THE REMAINING PORTION OF A 32.557 ACRE TRACT
EMPOWER PROJECT FOSTER, LLC

UNPLATTED
THE REMAINING PORTION OF A 20.051 ACRE TRACT
EMPOWER PROJECT FOSTER, LLC

UNPLATTED
THE REMAINING PORTION OF A 20.051 ACRE TRACT
EMPOWER PROJECT FOSTER, LLC

UNPLATTED
THE REMAINING PORTION OF A 20.051 ACRE TRACT
EMPOWER PROJECT FOSTER, LLC

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

KEYNOTES	
1	19' STREET R.O.W. DEDICATION
2	25' PRIVATE DRAINAGE EASEMENT
3	60' G.E.T.TV., PUBLIC WATER, PRIVATE SEWER, ACESS & PRIVATE DRAINAGE EASEMENT
4	50' G.E.T.TV., PUBLIC WATER, PRIVATE SEWER, ACESS & PRIVATE DRAINAGE EASEMENT
5	16' SANITARY SEWER EASEMENT OFF-LOT
6	30' PRIVATE DRAINAGE EASEMENT
7	55' PRIVATE DRAINAGE EASEMENT
8	VARIABLE WIDTH PRIVATE DRAINAGE EASEMENT
9	VARIABLE WIDTH PRIVATE DRAINAGE EASEMENT
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14	14' G.E.T.TV.E.
15	15' PRIVATE DRAINAGE EASEMENT OFF-LOT
16	10' G.E.T.TV.E.
17	12' SANITARY SEWER FORCE MAIN EASEMENT
18	22' PRIVATE DRAINAGE EASEMENT

EXISTING EASEMENT KEYNOTES	
1	12' GAS, ELEC. & TEL. EASEMENT VOL. 7100, PG. 83 D.P.R.
2	16' O.H. ELEC. & GAS EASEMENT VOL. 7100, PG. 83 D.P.R.
3	13' DRAINAGE R.O.W. VOL. 8100, PG. 243 D.P.R.
4	30' B.S.L. VOL. 7100, PG. 83 D.P.R.
5	5' REAR/SIDE BSL VOL. 20003, PG. 1185 D.P.R.
6	14' E.G.T. & CA, T.V. ESMT., VOL. 20003, PG. 1185 D.P.R.
7	PARK/OPEN SPACE/ PRIVATE DRAINAGE EASEMENT VOL. 20003, PG. 1185 D.P.R.
8	16' PUBLIC WATER EASEMENT VOL. 20003, PG. 1185 D.P.R.
9	50' PEDESTRIAN, SIGNAGE, SHARED CROSS ACCESS, DRAINAGE, G.E.T.CA., PUBLIC WATER & SEWER EASEMENT VOL. 20003, PG. 1185 D.P.R.
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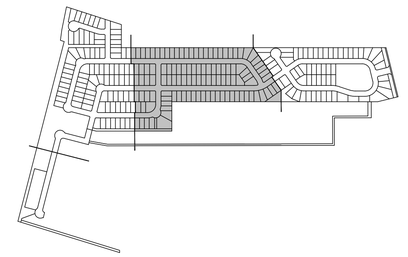
11	10' FRONT BSL VOL. 20003, PG. 1185 D.P.R.



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SAN ANTONIO, TEXAS 78232 | 210.744.5504
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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS, P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

PRIVATE SANITARY SEWER OVERALL

BY	DESCRIPTION	REV	DATE

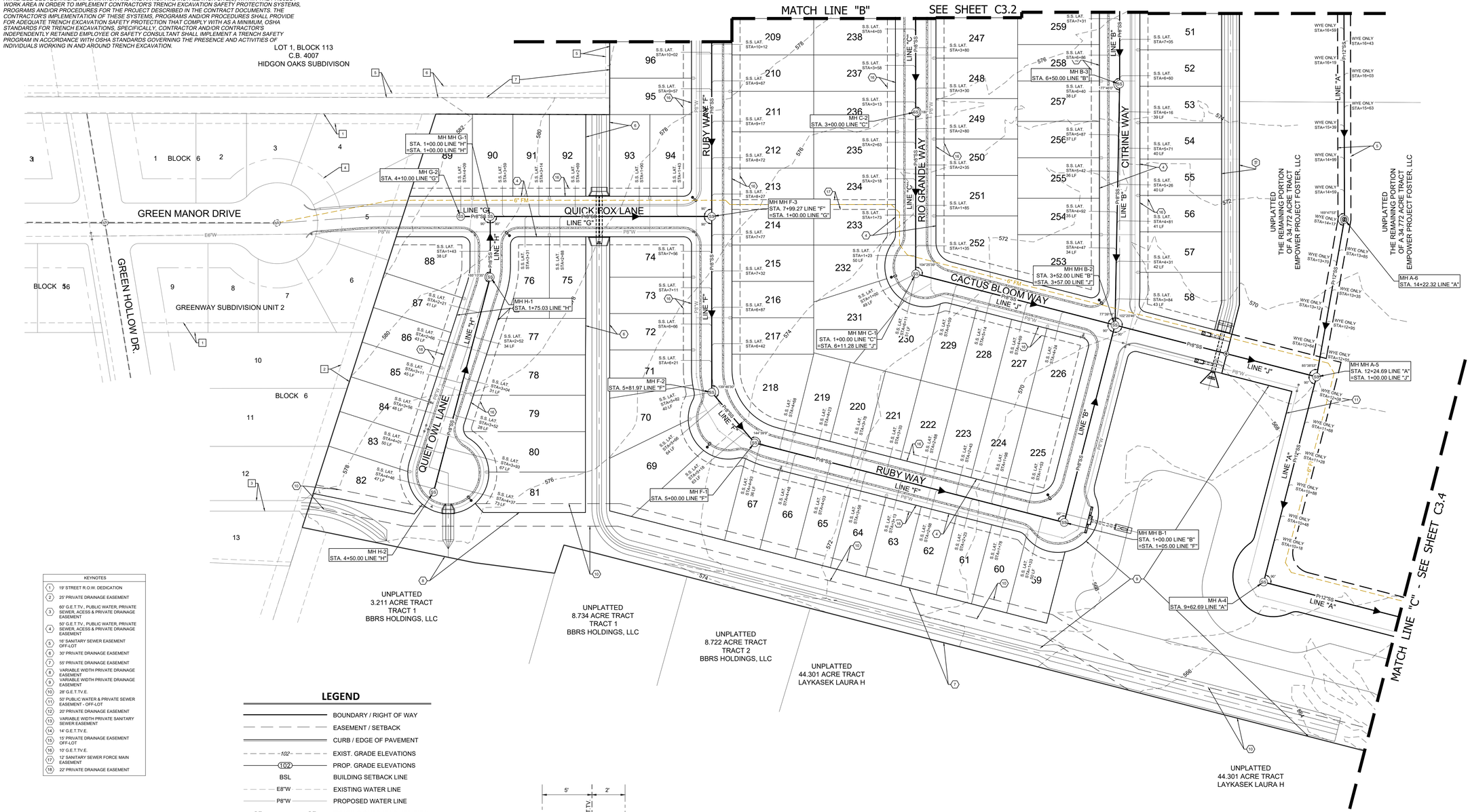
DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.2

Date: Apr 16, 2025, 9:56am User ID: Liz Romeres
File: c:\...Projects\1437 – Hylton Rd Empower\1437\1A\04\Sheets\C3.1 SEWER OVERALL.dwg

TRENCH EXCAVATION SAFETY PROTECTION

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

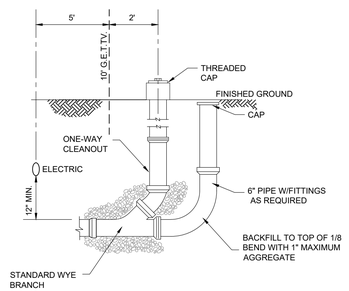


KEYNOTES	
1	19' STREET R.O.W. DEDICATION
2	25' PRIVATE DRAINAGE EASEMENT
3	60' G.E.T.TV., PUBLIC WATER, PRIVATE SEWER, ACESS & PRIVATE DRAINAGE EASEMENT
4	50' G.E.T.TV., PUBLIC WATER, PRIVATE SEWER, ACESS & PRIVATE DRAINAGE EASEMENT
5	16' SANITARY SEWER EASEMENT OFF-LOT
6	30' PRIVATE DRAINAGE EASEMENT
7	55' PRIVATE DRAINAGE EASEMENT
8	VARIABLE WIDTH PRIVATE DRAINAGE EASEMENT
9	VARIABLE WIDTH PRIVATE DRAINAGE EASEMENT
10	28' G.E.T.TV.E.
11	50' PUBLIC WATER & PRIVATE SEWER EASEMENT - OFF-LOT
12	20' PRIVATE DRAINAGE EASEMENT
13	VARIABLE WIDTH PRIVATE SANITARY SEWER EASEMENT
14	14' G.E.T.TV.E.
15	15' PRIVATE DRAINAGE EASEMENT OFF-LOT
16	10' G.E.T.TV.E.
17	12' SANITARY SEWER FORCE MAIN EASEMENT
18	22' PRIVATE DRAINAGE EASEMENT

EXISTING EASEMENT KEYNOTES	
1	12' GAS, ELEC. & TEL. EASEMENT VOL. 7100, PG. 83 D.P.R.
2	16' O.H. ELEC. & GAS EASEMENT VOL. 7100, PG. 83 D.P.R.
3	13' DRAINAGE R.O.W. VOL. 8100, PG. 243 D.P.R.
4	30' B.S.L. VOL. 7100, PG. 83 D.P.R.
5	5' REAR/SIDE BSL VOL. 20003, PG. 1185 D.P.R.
6	14' E.G.T. & CA. T.V. ESMT. VOL. 20003, PG. 1185 D.P.R.
7	PARK/OPEN SPACE/ PRIVATE DRAINAGE EASEMENT VOL. 20003, PG. 1185 D.P.R.
8	16' PUBLIC WATER EASEMENT VOL. 20003, PG. 1185 D.P.R.
9	50' PEDESTRIAN, SIGNAGE, SHARED CROSS ACCESS, DRAINAGE, G.E.T.CA., PUBLIC WATER & SEWER EASEMENT VOL. 20003, PG. 1185 D.P.R.
10	10' G.E.T., & CA. T.V. EASEMENT VOL. 20003, PG. 1185 D.P.R.
11	10' FRONT BSL VOL. 20003, PG. 1185 D.P.R.

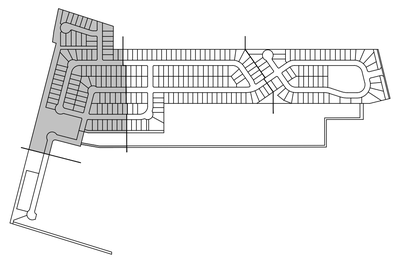
LEGEND

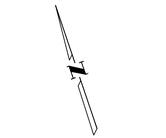
- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- EXIST. GRADE ELEVATIONS
- PROP. GRADE ELEVATIONS
- BSL — BUILDING SETBACK LINE
- E8"W — EXISTING WATER LINE
- P8"W — PROPOSED WATER LINE
- OE — EXISTING OVERHEAD UTILITIES
- UE — EXISTING UNDERGROUND ELECTRIC
- G — EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LATERAL
- P8"SS — PROPOSED SANITARY SEWER LINE
- E12"SS — EXISTING SANITARY SEWER LINE



SEWER LATERAL CLEANOUT DETAIL

NOT TO SCALE





0 30' 60' 120'

SCALE: 1" = 60'

UP ENGINEERING
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111 TOWER DR., SUITE 125
SAN ANTONIO, TEXAS 78232 | 210.744.5504
WWW.UPENGINEERING.COM | TBPE F-14309

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RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

PRIVATE SANITARY SEWER OVERALL

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET

C3.3

Date: Apr 16, 2025, 8:56am User ID: Liz Romones
File: G:\...Projects\1437 – Higdon Rd Empower\1437.1\ACAD\Sheets\C3.1 SEWER OVERALL.dwg

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- EXIST. GRADE ELEVATIONS (-102-)
- PROP. GRADE ELEVATIONS (102)
- BSL — BUILDING SETBACK LINE
- E8"W — EXISTING WATER LINE
- P8"W — PROPOSED WATER LINE
- OE — EXISTING OVERHEAD UTILITIES
- UE — EXISTING UNDERGROUND ELECTRIC
- G — EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- SS — PROPOSED SANITARY SEWER MANHOLE
- C — PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LATERAL
- P8"SS — PROPOSED SANITARY SEWER LINE
- E12"SS — EXISTING SANITARY SEWER LINE

TRENCH EXCAVATION SAFETY PROTECTION

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KEYNOTES	
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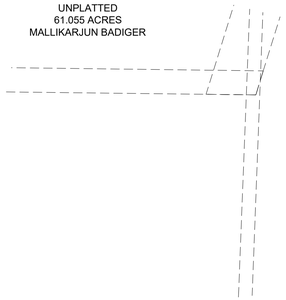
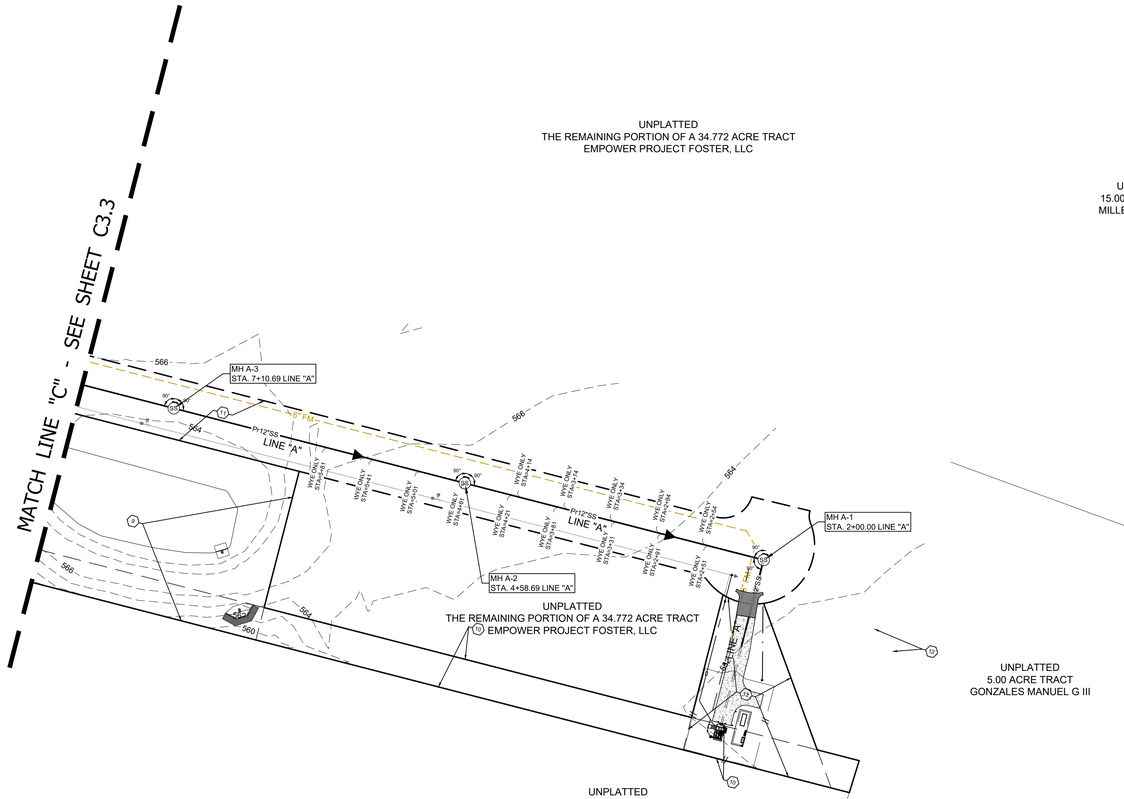
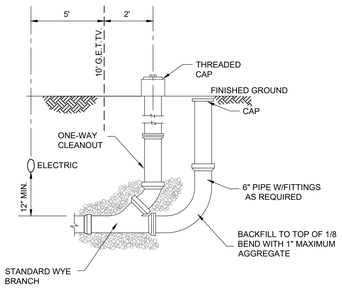
8	16' PUBLIC WATER EASEMENT VOL. 20003, PG. 1185 D.P.R.
9	50' PEDESTRIAN, SIGNAGE, SHARED CROSS ACCESS, DRAINAGE, G.E.T.CA., PUBLIC WATER & SEWER EASEMENT VOL. 20003, PG. 1185 D.P.R.
10	10' G.E.T. & CA. T.V. EASEMENT VOL. 20003, PG. 1185 D.P.R.
11	10' FRONT BSL VOL. 20003, PG. 1185 D.P.R.

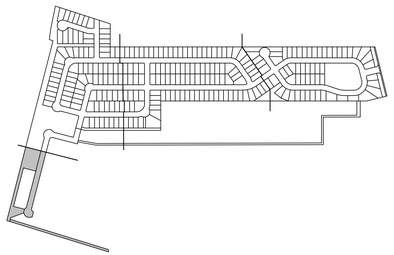






SEWER LATERAL CLEANOUT DETAIL

NOT TO SCALE



0 30' 60' 120'

SCALE: 1" = 60'

Date: Apr 16, 2025, 8:46am User ID: LJ Ramones
File: U:_Projects\437 – Higdon Rd Enclaves\437.11\ACAD\Sheets\C3.1 SEWER OVERALL.dwg

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PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

PRIVATE SANITARY SEWER OVERALL

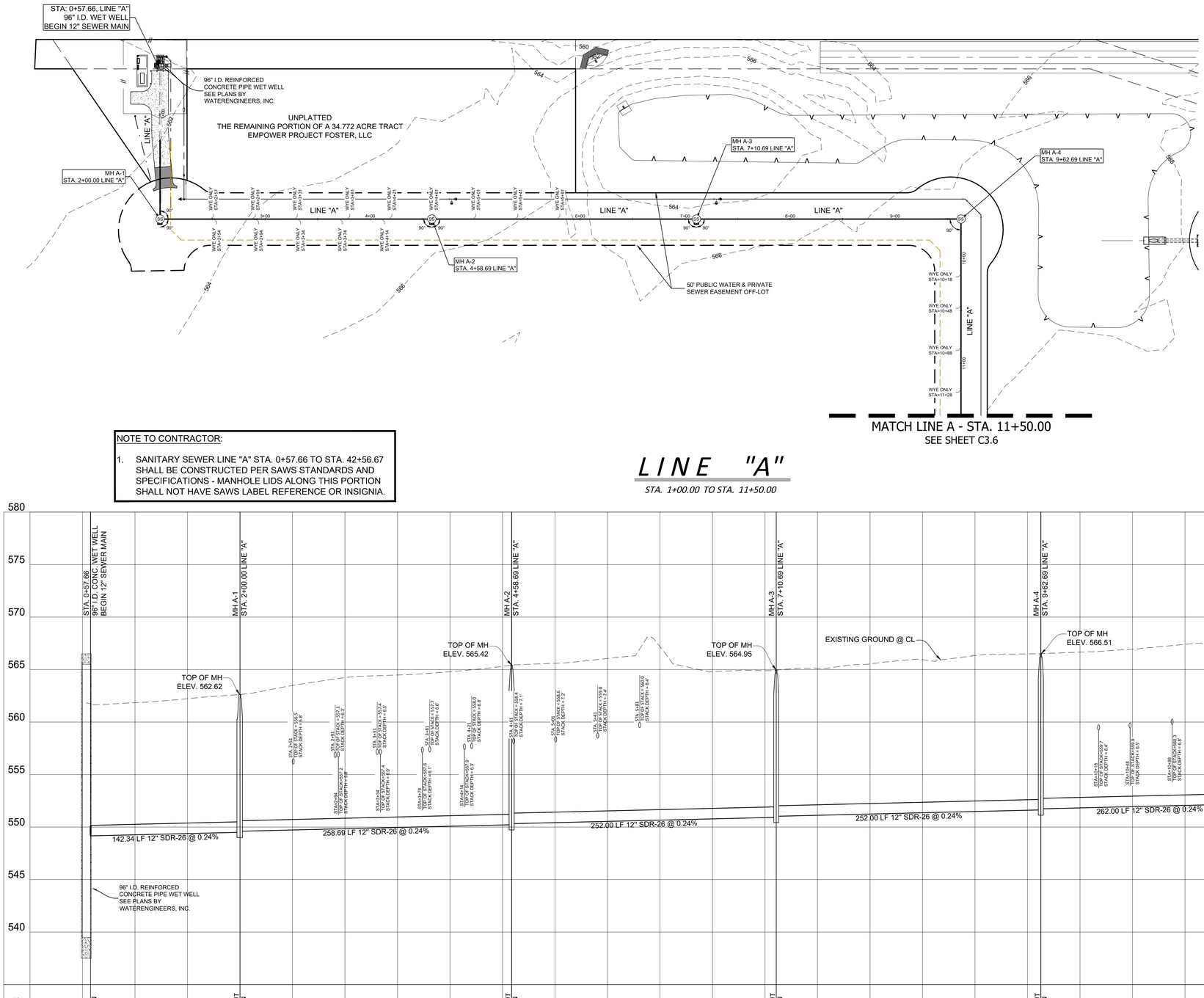
REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.4

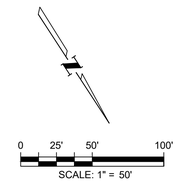
TRENCH EXCAVATION SAFETY PROTECTION

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



LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- T102 PROP. GRADE ELEVATIONS
- BSL BUILDING SETBACK LINE
- E8"W EXISTING WATER LINE
- P8"W PROPOSED WATER LINE
- OE EXISTING OVERHEAD UTILITIES
- UE EXISTING UNDERGROUND ELECTRIC
- G EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- SS PROPOSED SANITARY SEWER MANHOLE
- C PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LATERAL
- P8"SS PROPOSED SANITARY SEWER LINE
- E12"SS EXISTING SANITARY SEWER LINE



NOTE TO CONTRACTOR:

1. SANITARY SEWER LINE "A" STA. 0+57.66 TO STA. 42+56.67 SHALL BE CONSTRUCTED PER SAWS STANDARDS AND SPECIFICATIONS - MANHOLE LIDS ALONG THIS PORTION SHALL NOT HAVE SAWS LABEL REFERENCE OR INSIGNIA.

LINE "A"

STA. 1+00.00 TO STA. 11+50.00

SCALE:
HORIZ.1"=50'
VERT. 1"=5'

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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

PRIVATE SANITARY SEWER LINE "A" PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.5

Date: Apr 16, 2025, 8:12am User ID: LJ Ramirez
File: G:_Projects\437-1\ACAD\Sheets\C3.6 LINE "A" SEWER P&P.dwg

TRENCH EXCAVATION SAFETY PROTECTION

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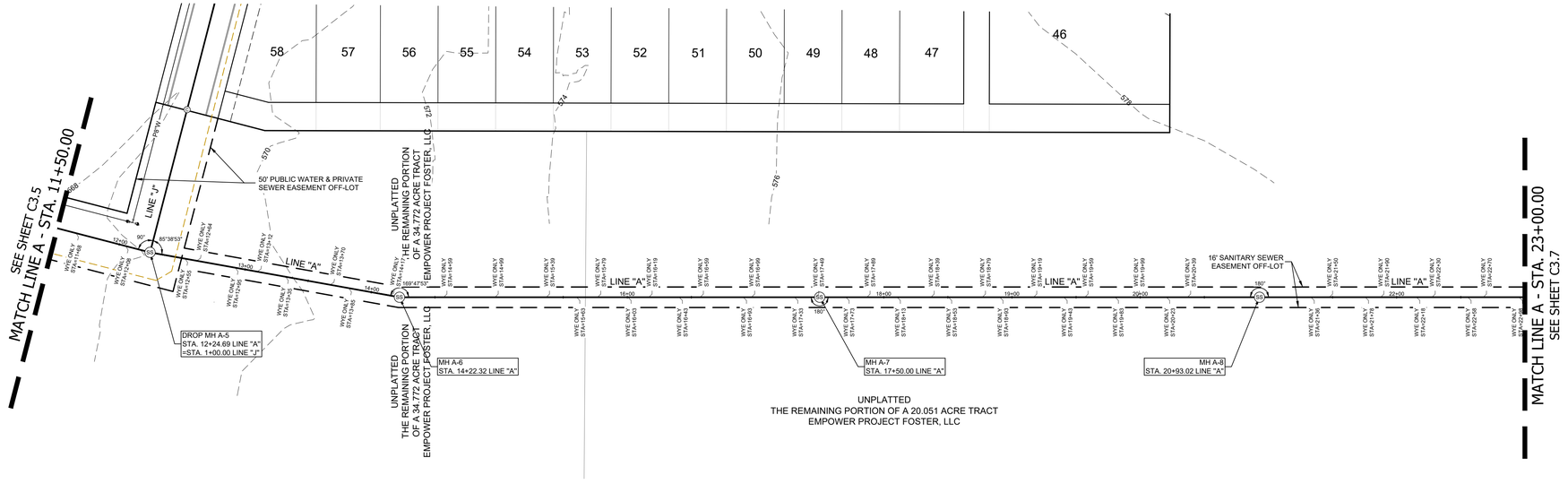


LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- EXIST. GRADE ELEVATIONS
- PROP. GRADE ELEVATIONS
- BSL — BUILDING SETBACK LINE
- E8"W — EXISTING WATER LINE
- P8"W — PROPOSED WATER LINE
- OE — EXISTING OVERHEAD UTILITIES
- UE — EXISTING UNDERGROUND ELECTRIC
- G — EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LATERAL
- P8"SS — PROPOSED SANITARY SEWER LINE
- E12"SS — EXISTING SANITARY SEWER LINE

0 25' 50' 100'
SCALE: 1" = 50'

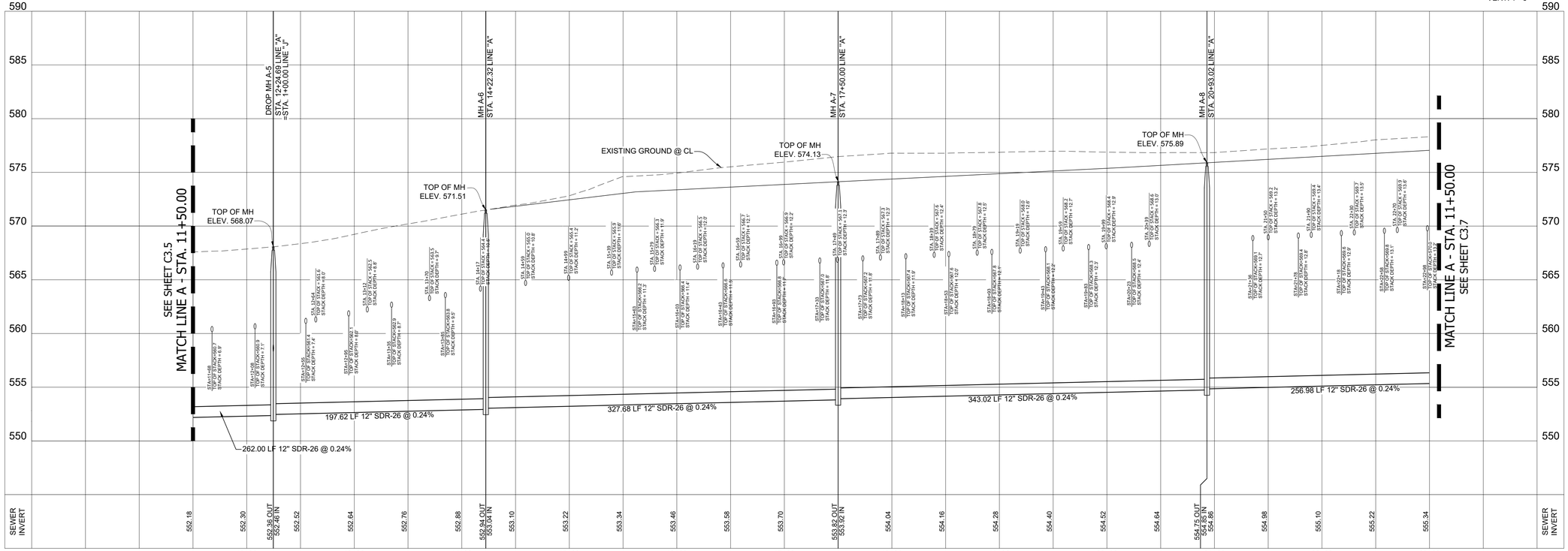
NOTE TO CONTRACTOR:

1. SANITARY SEWER LINE "A" STA. 0+57.66 TO STA. 42+56.67 SHALL BE CONSTRUCTED PER SAWS STANDARDS AND SPECIFICATIONS - MANHOLE LIDS ALONG THIS PORTION SHALL NOT HAVE SAWS LABEL REFERENCE OR INSIGNIA.

LINE "A"

STA. 11+50.00 TO STA. 23+00.00

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

PRIVATE SANITARY SEWER LINE "A" PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.6

Date: Apr 16, 2025, 8:23am User ID: LJ Barrientes
File: U:_Projects\437 - Higdon Rd Empower\437.1\ACAD\Sheets\C3.6 LINE "A" SEWER P&P.dwg

TRENCH EXCAVATION SAFETY PROTECTION

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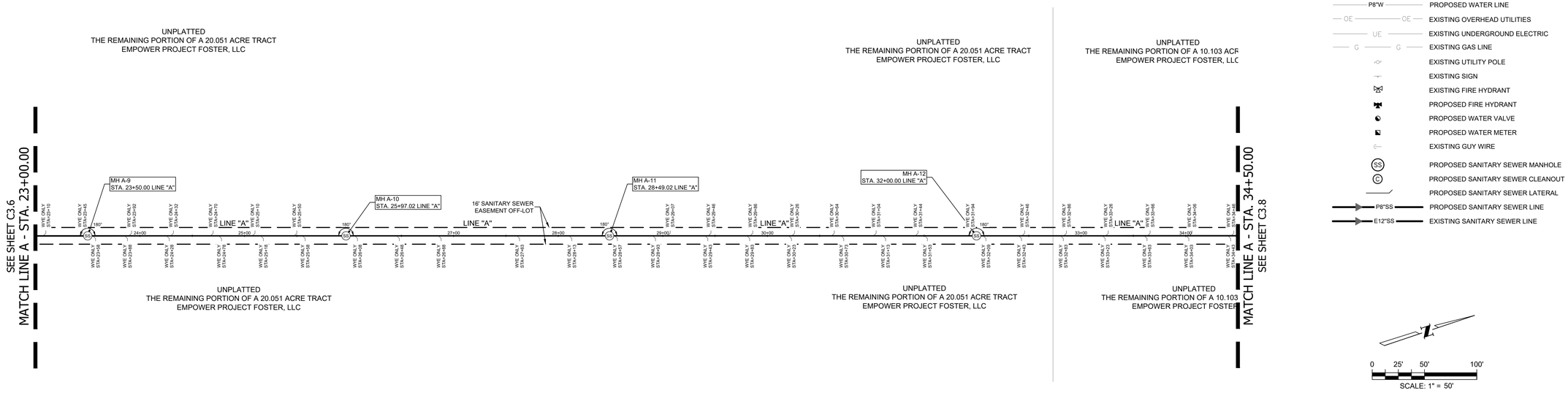

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- EXIST. GRADE ELEVATIONS
- PROP. GRADE ELEVATIONS
- BUILDING SETBACK LINE
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING OVERHEAD UTILITIES
- EXISTING UNDERGROUND ELECTRIC
- EXISTING GAS LINE
- EXISTING UTILITY POLE
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- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LATERAL
- PROPOSED SANITARY SEWER LINE
- EXISTING SANITARY SEWER LINE

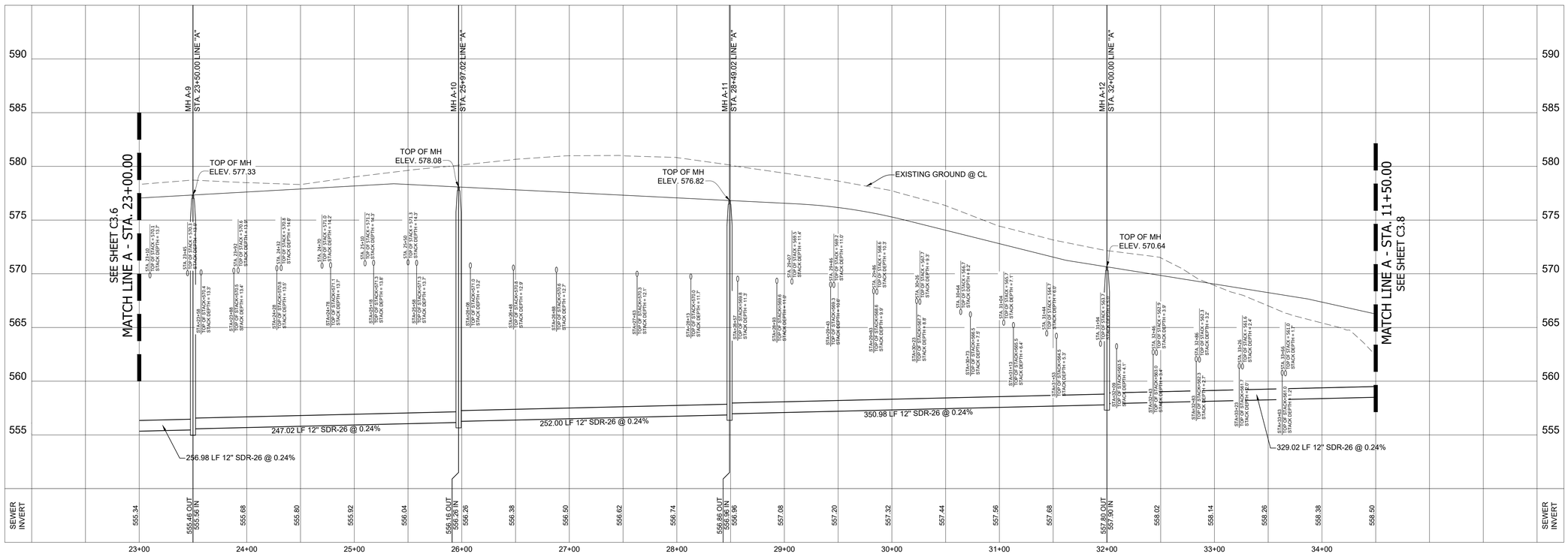
NOTE TO CONTRACTOR:

1. SANITARY SEWER LINE "A" STA. 0+57.66 TO STA. 42+56.67 SHALL BE CONSTRUCTED PER SAWS STANDARDS AND SPECIFICATIONS - MANHOLE LIDS ALONG THIS PORTION SHALL NOT HAVE SAWS LABEL REFERENCE OR INSIGNIA.

LINE "A"

STA. 23+00.00 TO STA. 34+50.00

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



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RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

PRIVATE SANITARY SEWER LINE "A" PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.7

Date: Apr 16, 2025, 8:23am User ID: LJ Barrientes
File: U:_Projects\437 - Higdon Rd Empower\437.1\4CAD\Sheets\C3.6 LINE "A" SEWER P&P.dwg

TRENCH EXCAVATION SAFETY PROTECTION

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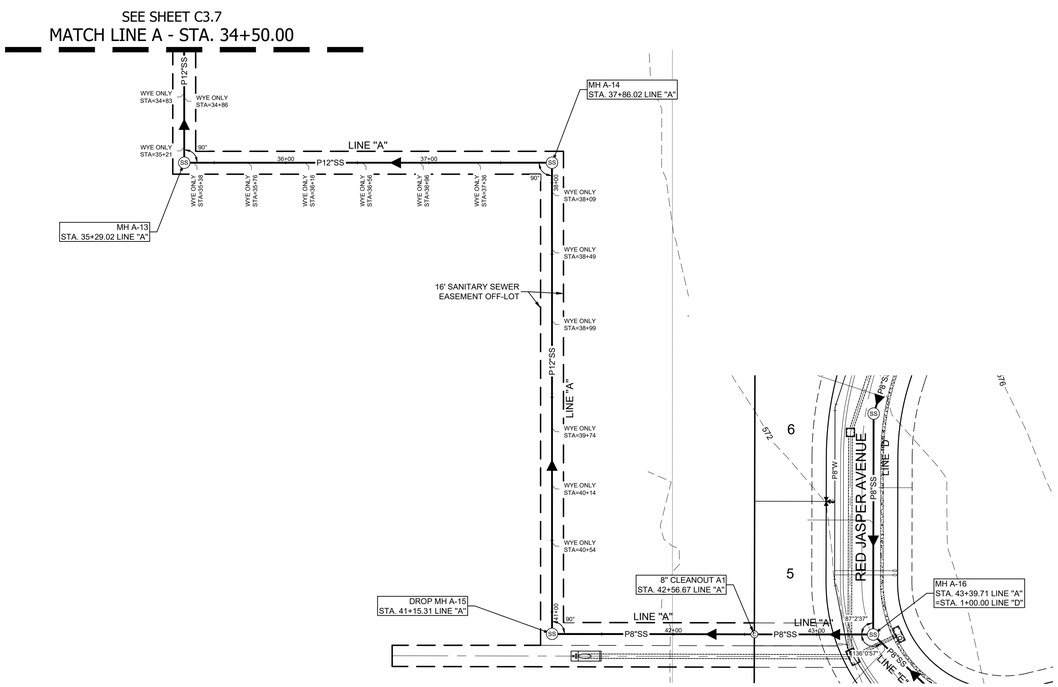
SEE SHEET C3.7
MATCH LINE A - STA. 34+50.00
MH A-14
STA. 37+86.02 LINE "A"
MH A-13
STA. 35+29.02 LINE "A"
LINE "A"
P12"SS
WYE ONLY STA=34+83
WYE ONLY STA=34+86
WYE ONLY STA=35+21
WYE ONLY STA=35+71
WYE ONLY STA=36+08
WYE ONLY STA=36+58
WYE ONLY STA=37+08
WYE ONLY STA=37+58
WYE ONLY STA=38+09
WYE ONLY STA=38+49
WYE ONLY STA=38+99
WYE ONLY STA=39+74
WYE ONLY STA=40+14
WYE ONLY STA=40+54
16' SANITARY SEWER EASEMENT OFF-LOT
DROP MH A-15
STA. 41+15.31 LINE "A"
8" CLEANOUT A1
STA. 42+56.67 LINE "A"
MH A-16
STA. 43+39.71 LINE "A"
=STA. 1+00.00 LINE "D"
RED JASPER AVENUE
P8"SS
LINE "D"
LINE "E"
LINE "F"
P8"SS
P12"SS
5
6
572
P12"SS
P8"SS
P8"SS
P8

TRENCH EXCAVATION SAFETY PROTECTION

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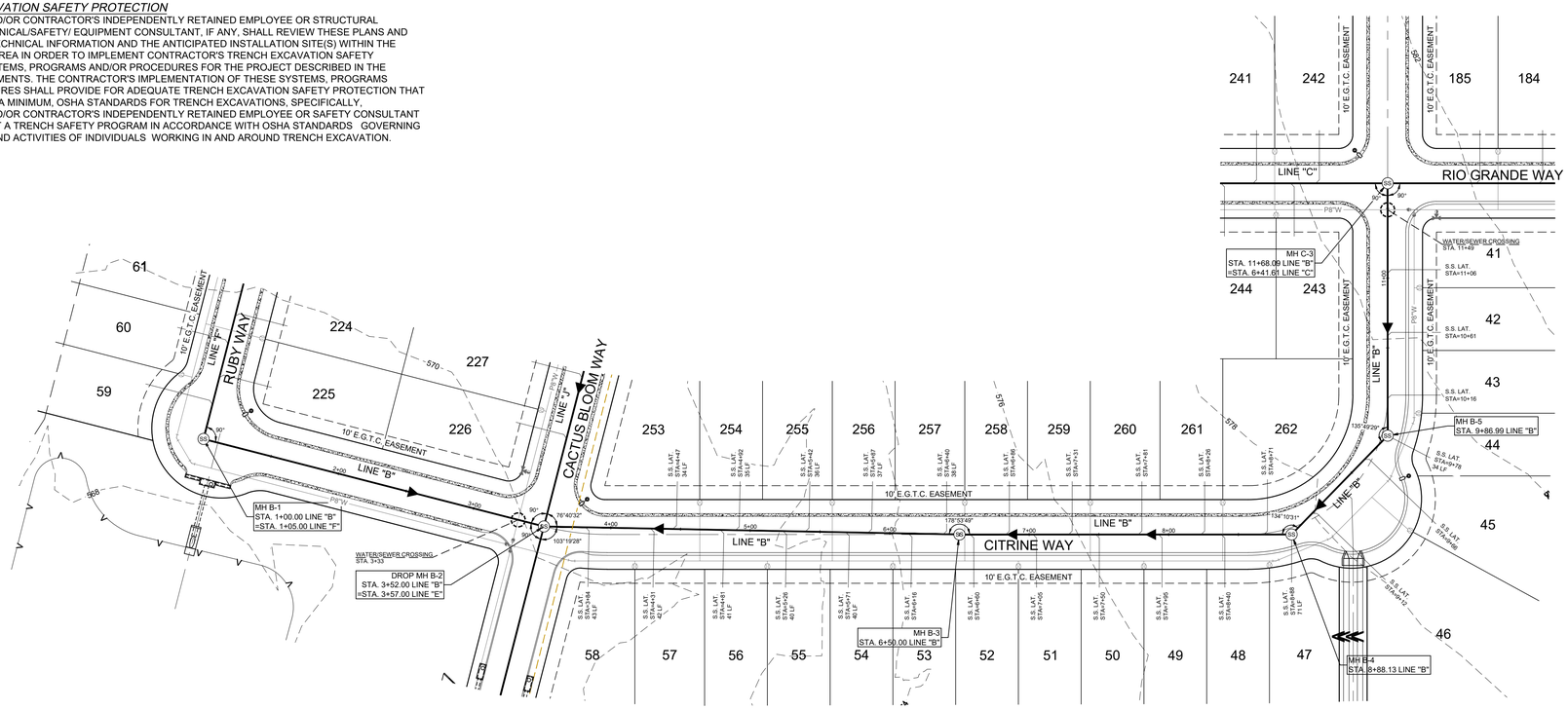
RUBY WAY
CACTUS BLOOM WAY
CITRINE WAY
RIO GRANDE WAY
LINE "B"
LINE "C"
LINE "F"
LINE "J"
10' E.G.T.C. EASEMENT
MH B-1
STA. 1+00.00 LINE "B"
=STA. 1+05.00 LINE "F"
DROP MH B-2
STA. 3+52.00 LINE "B"
=STA. 3+57.00 LINE "E"
MH B-3
STA. 6+50.00 LINE "B"
MH B-4
STA. 8+88.13 LINE "B"
MH B-5
STA. 9+86.99 LINE "B"
MH C-3
STA. 11+68.09 LINE "B"
=STA. 6+41.61 LINE "C"
WATER/SEWER CROSSING
STA. 3+33
WATER/SEWER CROSSING
STA. 11+49
S.S. LAT.
S.S. LAT. STA=11+06
S.S. LAT. STA=10+61
S.S. LAT. STA=10+16
S.S. LAT. STA=9+78
S.S. LAT. STA=9+36
S.S. LAT. STA=8+93
S.S. LAT. STA=8+40
S.S. LAT. STA=7+95
S.S. LAT. STA=7+50
S.S. LAT. STA=7+05
S.S. LAT. STA=6+61
S.S. LAT. STA=6+16
S.S. LAT. STA=5+71
S.S. LAT. STA=5+26
S.S. LAT. STA=4+81
S.S. LAT. STA=4+31
S.S. LAT. STA=3+84
S.S. LAT. STA=3+40
S.S. LAT. STA=2+95
S.S. LAT. STA=2+50
S.S. LAT. STA=2+05
S.S. LAT. STA=1+61
S.S. LAT. STA=1+16
S.S. LAT. STA=0+71
S.S. LAT. STA=0+26
S.S. LAT. STA=-0+19
S.S. LAT. STA=-0+64
S.S. LAT. STA=-1+09
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S.S. LAT. STA=-12+79
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S.S. LAT. STA=-14+14
S.S. LAT. STA=-14+59
S.S. LAT. STA=-15+04
S.S. LAT. STA=-15+49
S.S. LAT. STA=-15+94
S.S. LAT. STA=-16+39
S.S. LAT. STA=-16+84
S.S. LAT. STA=-17+29
S.S. LAT. STA=-17+74
S.S. LAT. STA=-18+19
S.S. LAT. STA=-18+64
S.S. LAT. STA=-19+09
S.S. LAT. STA=-19+54
S.S. LAT. STA=-19+99
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S.S. LAT. STA=-20+89
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S.S. LAT. STA=-21+79
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S.S. LAT. STA=-22+69
S.S. LAT. STA=-23+14
S.S. LAT. STA=-23+59
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S.S. LAT. STA=-24+49
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S.S. LAT. STA=-25+39
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S.S. LAT. STA=-26+29
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S.S. LAT. STA=-30+79
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S.S. LAT. STA=-31+69
S.S. LAT. STA=-32+14
S.S. LAT. STA=-32+59
S.S. LAT. STA=-33+04
S.S. LAT. STA=-33+49
S.S. LAT. STA=-33+94
S.S. LAT. STA=-34+39
S.S. LAT. STA=-34+84
S.S. LAT. STA=-35+29
S.S. LAT. STA=-35+74
S.S. LAT. STA=-36+19
S.S. LAT. STA=-36+64
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S.S. LAT. STA=-408+79
S.S. LAT. STA=-409+24
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TRENCH EXCAVATION SAFETY PROTECTION

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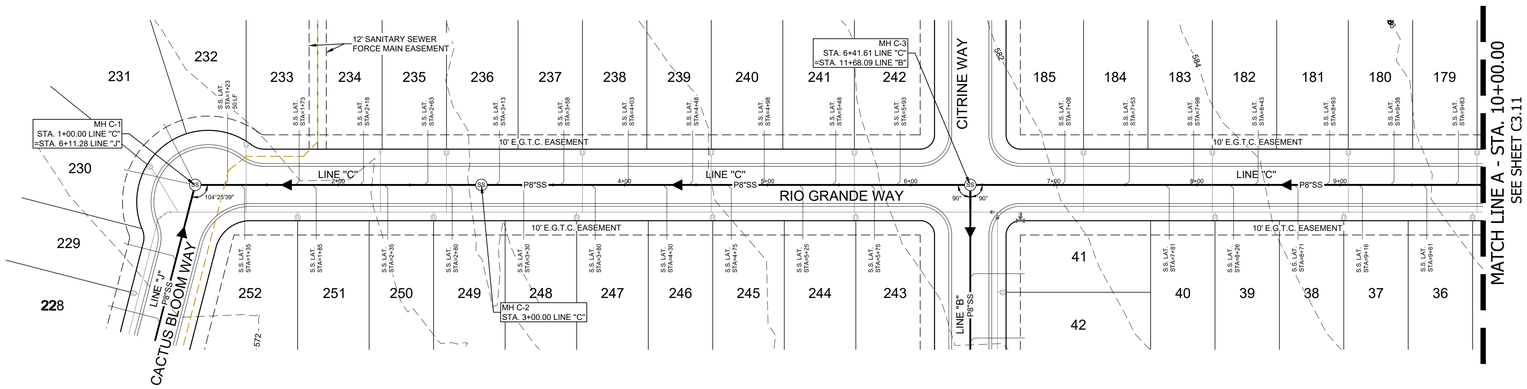


LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- EXIST. GRADE ELEVATIONS
- PROP. GRADE ELEVATIONS
- BUILDING SETBACK LINE
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING OVERHEAD UTILITIES
- EXISTING UNDERGROUND ELECTRIC
- EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LINE
- EXISTING SANITARY SEWER LINE

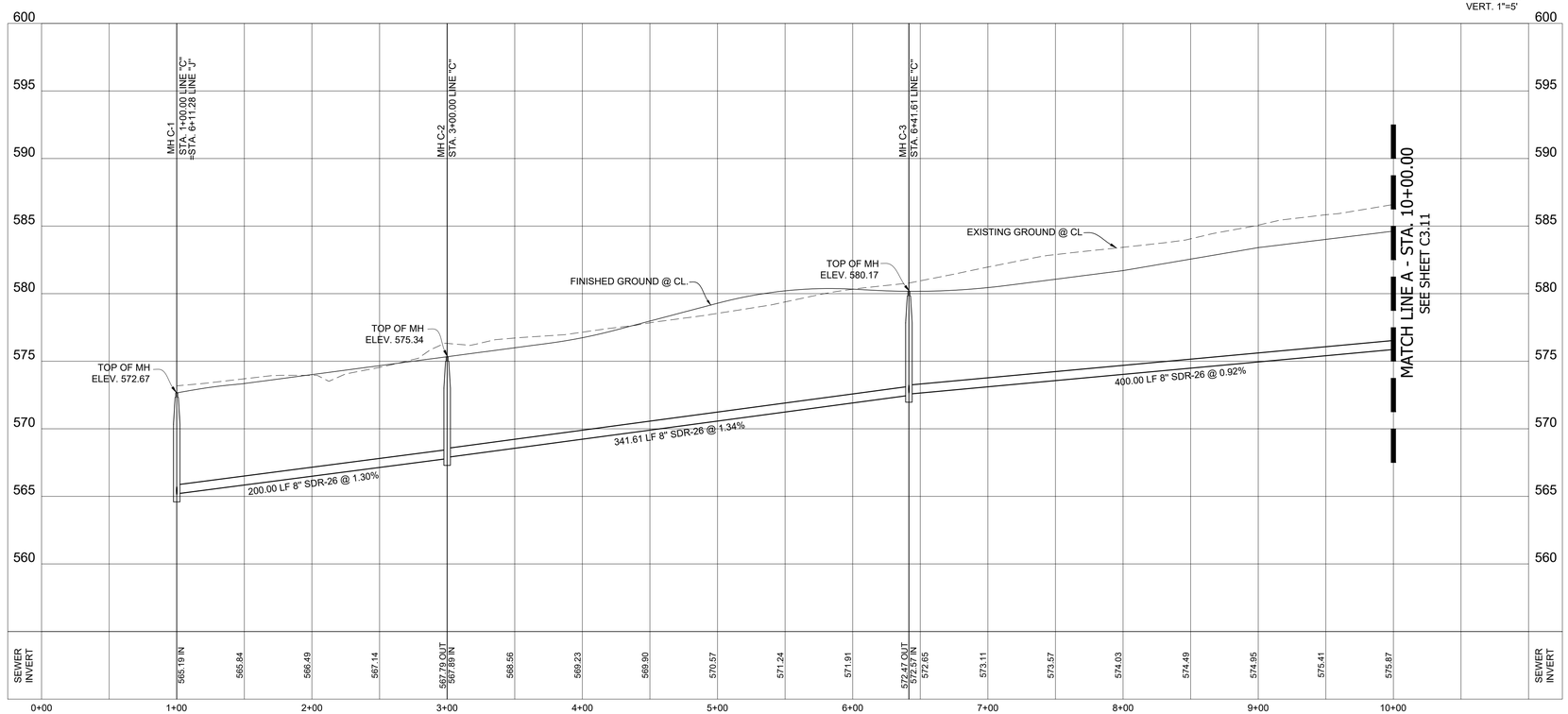
0 25' 50' 100'

SCALE: 1" = 50'

LINE "C"

STA. 1+00.00 TO STA. 10+00.00

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



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WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

PRIVATE SANITARY SEWER LINE "C" PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.10

Date: Apr 16, 2025, 8:13am User ID: LJ Palmores
File: U:_Projects\437-Higdon Rd Emperor\437\1\ACAD\Sheets\C3.11-C3.12 LINE "C" SEWER P&P.dwg

TRENCH EXCAVATION SAFETY PROTECTION

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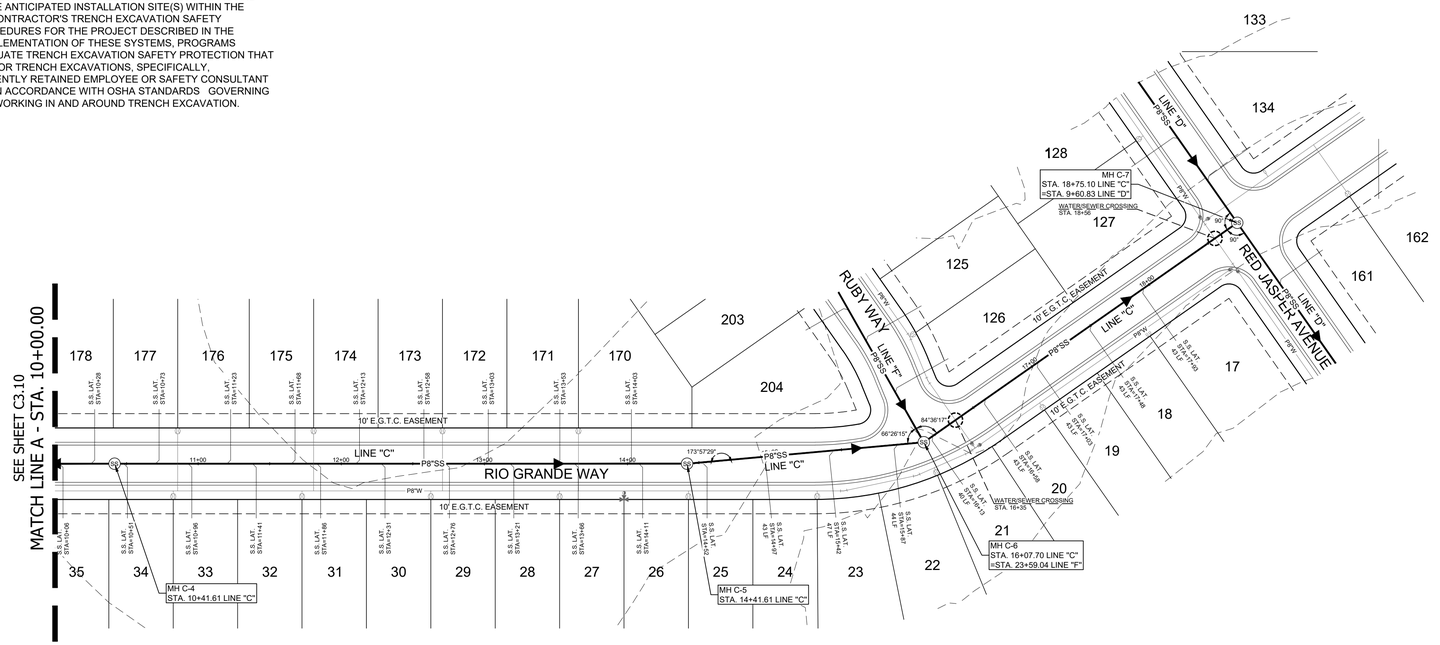
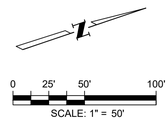


LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- EXIST. GRADE ELEVATIONS
- PROP. GRADE ELEVATIONS
- BSL — BUILDING SETBACK LINE
- E8"W — EXISTING WATER LINE
- P8"W — PROPOSED WATER LINE
- OE — EXISTING OVERHEAD UTILITIES
- UE — EXISTING UNDERGROUND ELECTRIC
- G — EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LATERAL
- P8"SS — PROPOSED SANITARY SEWER LINE
- E12"SS — EXISTING SANITARY SEWER LINE



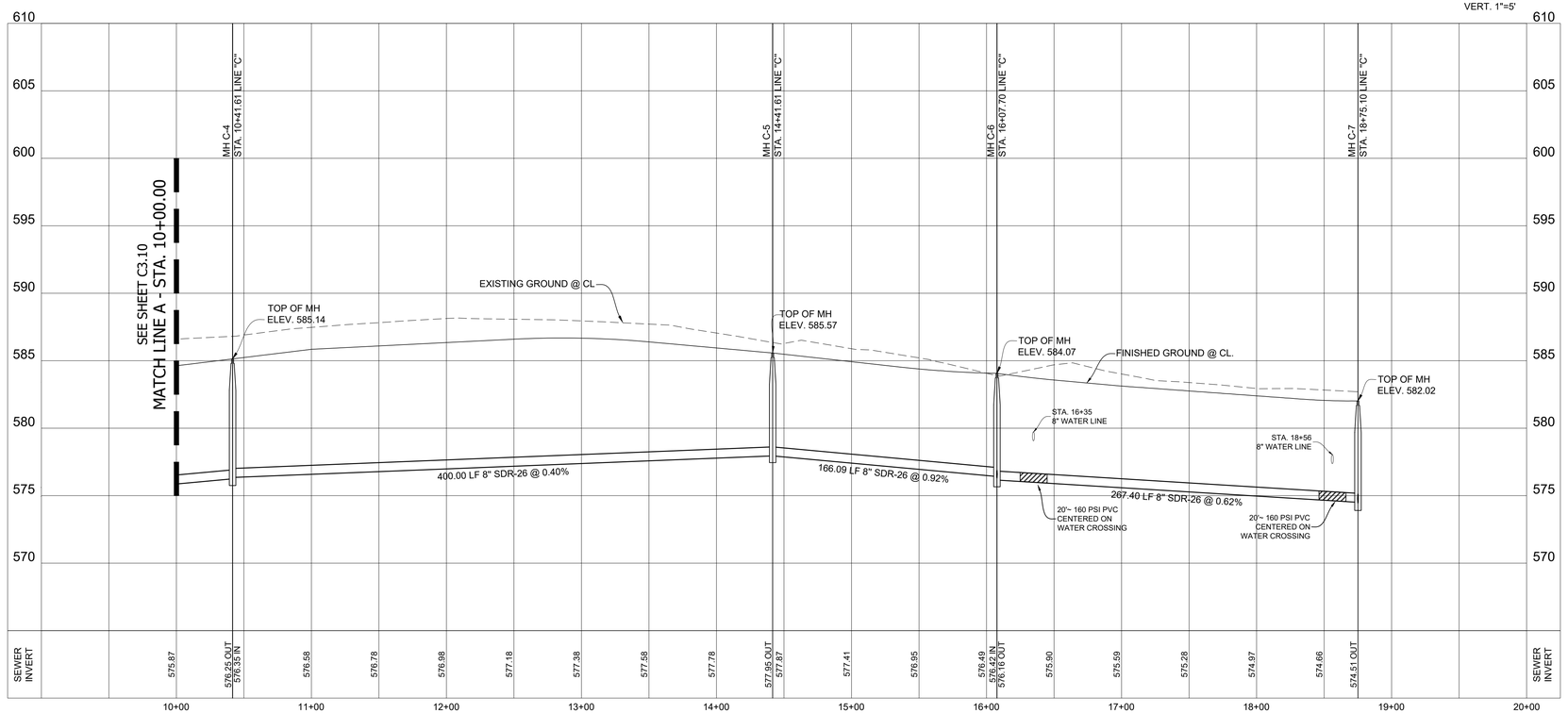
0 25' 50' 100'

SCALE: 1" = 50'

LINE "C"

STA. 10+00.00 TO STA. 18+75.21

SCALE:
HORIZ. 1"=50'
VERT. 1"=5'



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SAN ANTONIO, TEXAS 78232 (210) 744-5504
WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

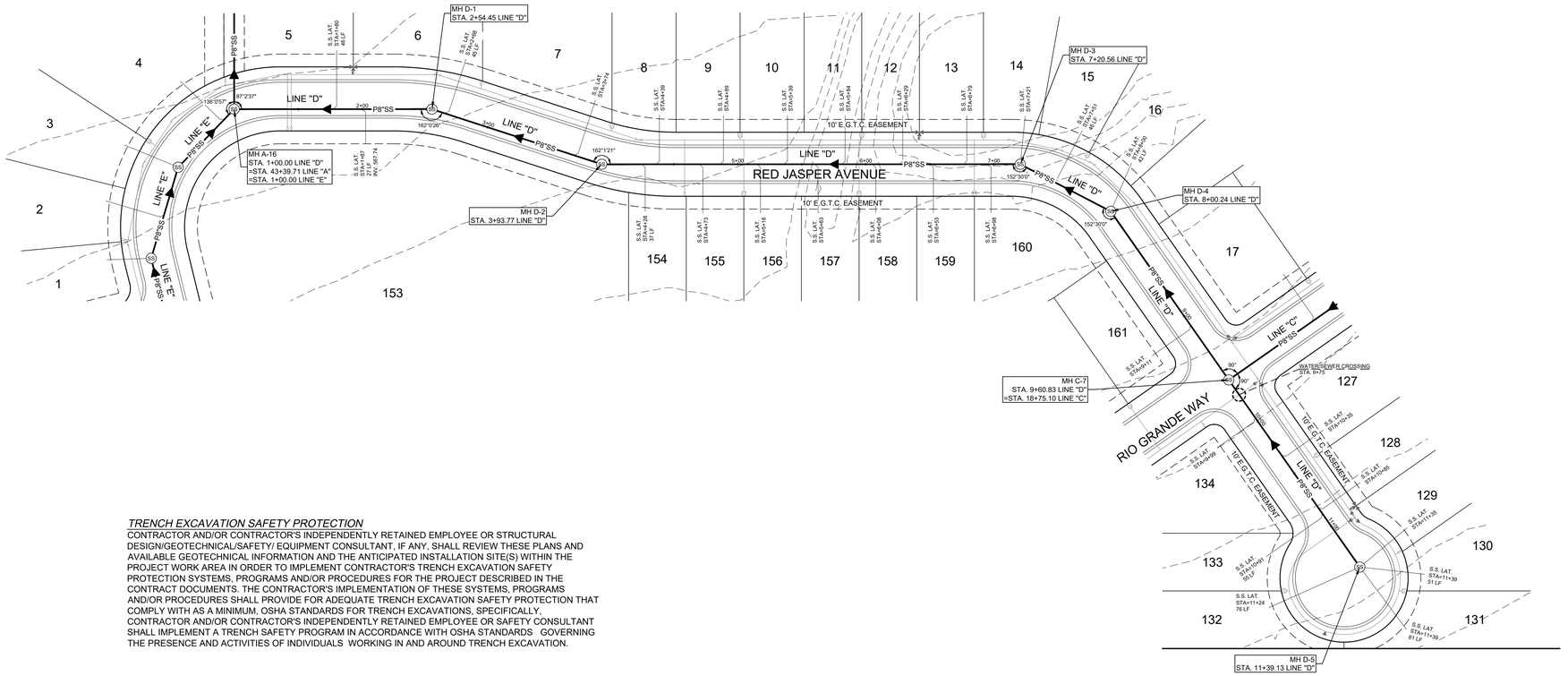
PRIVATE SANITARY SEWER LINE "C" PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.11

Date: Apr 16, 2025, 8:13am User ID: LJ Espinoza
File: U:__Projects\437 - Higdon Rd Empower\437\1\ACAD\Sheets\C3.11-C3.12 LINE "C" "D" SEWER P&P.dwg



LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- (102) PROP. GRADE ELEVATIONS
- BSL BUILDING SETBACK LINE
- E8"W EXISTING WATER LINE
- P8"W PROPOSED WATER LINE
- OE OE EXISTING OVERHEAD UTILITIES
- UE EXISTING UNDERGROUND ELECTRIC
- G G EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- (SS) PROPOSED SANITARY SEWER MANHOLE
- (C) PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LATERAL
- P8"SS PROPOSED SANITARY SEWER LINE
- E12"SS EXISTING SANITARY SEWER LINE

0 25' 50' 100'
SCALE: 1" = 50'

TRENCH EXCAVATION SAFETY PROTECTION

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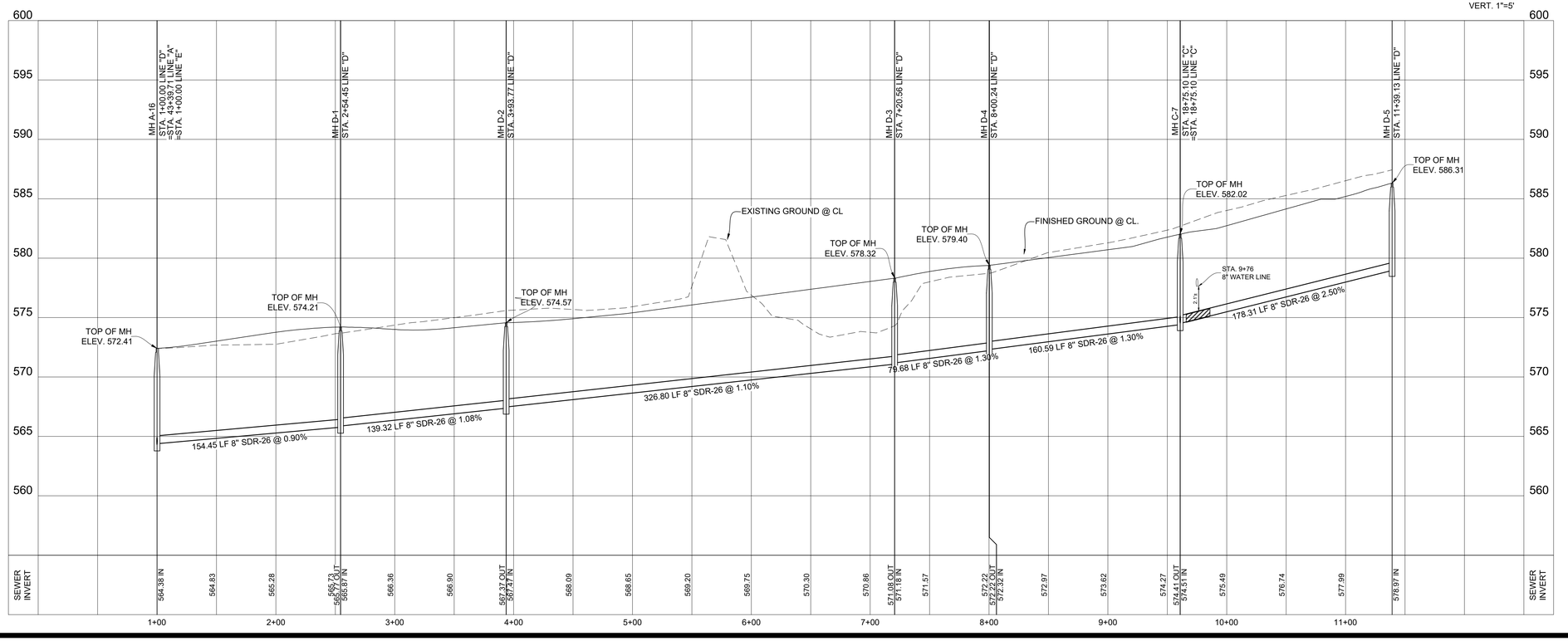
LINE "D"

STA. 1+00.00 TO STA. 11+40.61

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



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PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

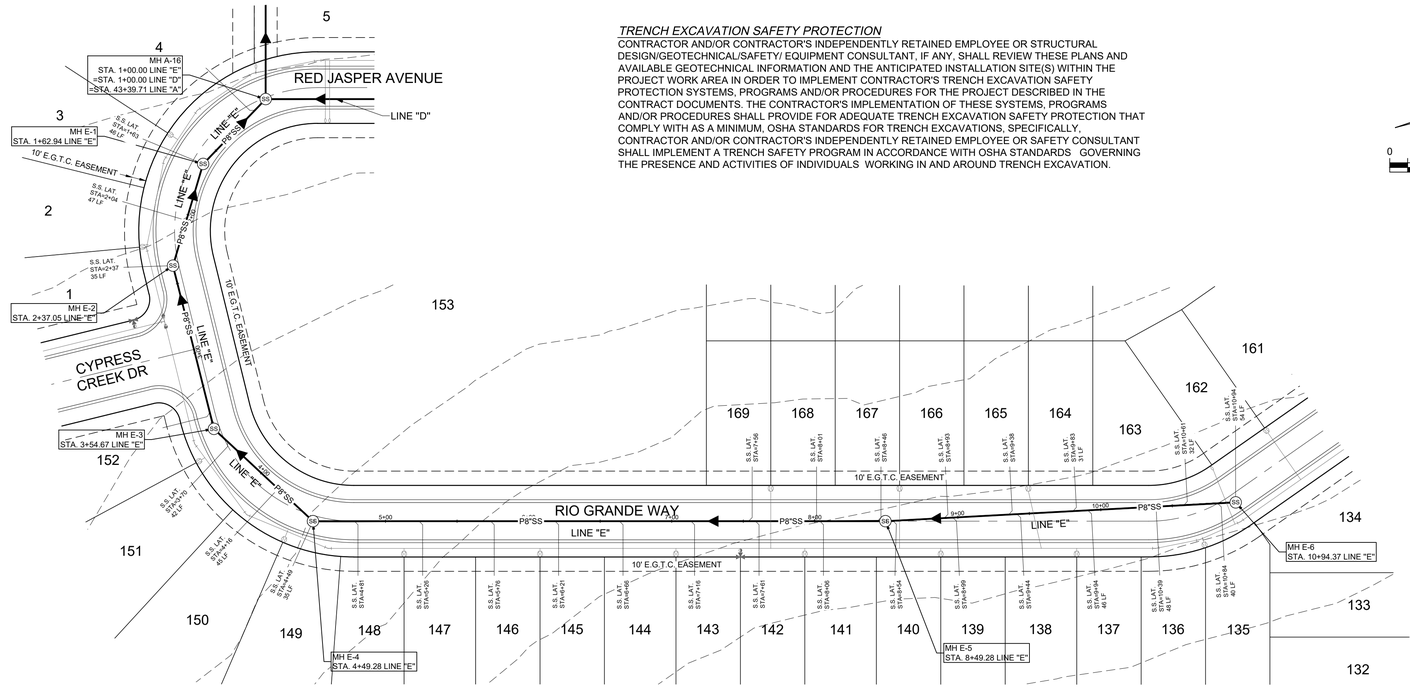
PRIVATE SANITARY SEWER LINE "D" PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.12

Date: Apr 16, 2025, 8:13am User ID: LJ Ramones
File: U:_Projects\437 – Wigton Rd Empower\437-1\ACAD\Sheets\C3.13 LINE "D" SEWER P&P.dwg



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0 25' 50' 100'

SCALE: 1" = 50'

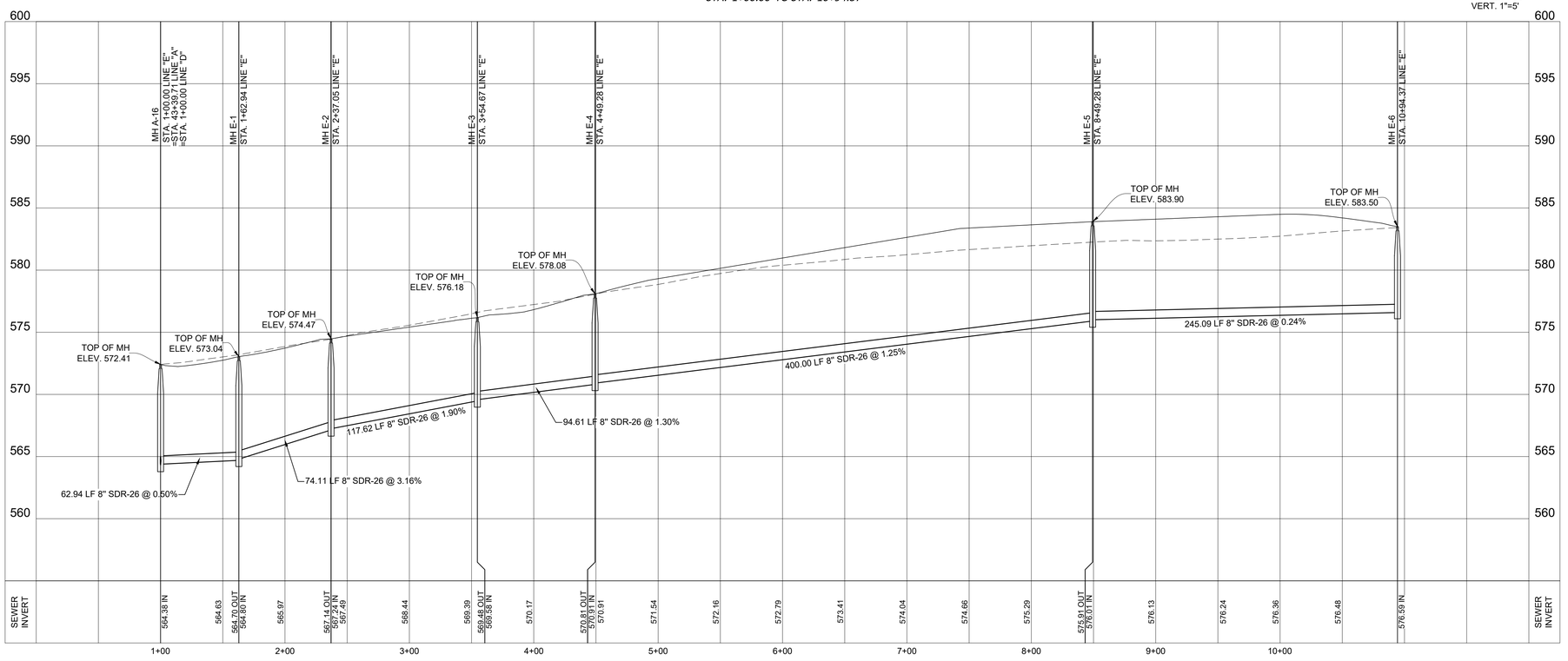
LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- (102) PROP. GRADE ELEVATIONS
- BSL BUILDING SETBACK LINE
- E8"W EXISTING WATER LINE
- P8"W PROPOSED WATER LINE
- OE OE EXISTING OVERHEAD UTILITIES
- UE EXISTING UNDERGROUND ELECTRIC
- G G EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- SS PROPOSED SANITARY SEWER MANHOLE
- C PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LATERAL
- P8"SS PROPOSED SANITARY SEWER LINE
- E12"SS EXISTING SANITARY SEWER LINE

LINE "E"

STA. 1+00.00 TO STA. 10+94.37

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



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PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

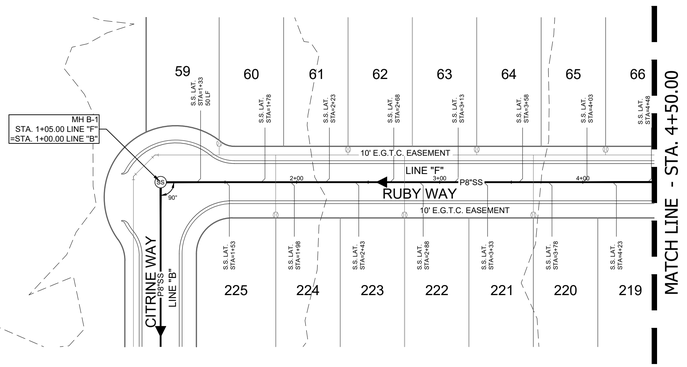
PRIVATE SANITARY SEWER LINE "E" PLAN & PROFILE

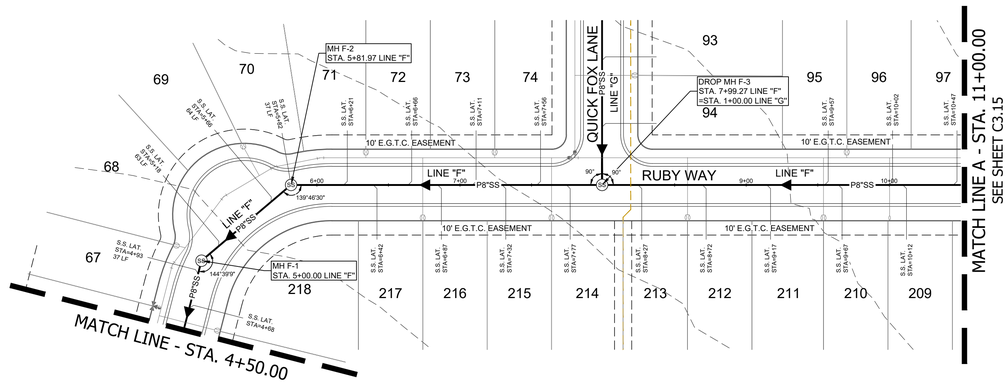
REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.13

Date: Apr 16, 2025, 8:13am User ID: Lil Ramones
File: G:_Projects\437-1\ACAD\Sheets\C3.14 LINE "E" SEWER P&P.dwg





LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- 102 PROP. GRADE ELEVATIONS
- BSL BUILDING SETBACK LINE
- E8"W EXISTING WATER LINE
- P8"W PROPOSED WATER LINE
- OE OVERHEAD EXISTING UTILITIES
- UE EXISTING UNDERGROUND ELECTRIC
- G EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- SS PROPOSED SANITARY SEWER MANHOLE
- C PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LATERAL
- P8"SS PROPOSED SANITARY SEWER LINE
- E12"SS EXISTING SANITARY SEWER LINE

0 25' 50' 100'
SCALE: 1" = 50'

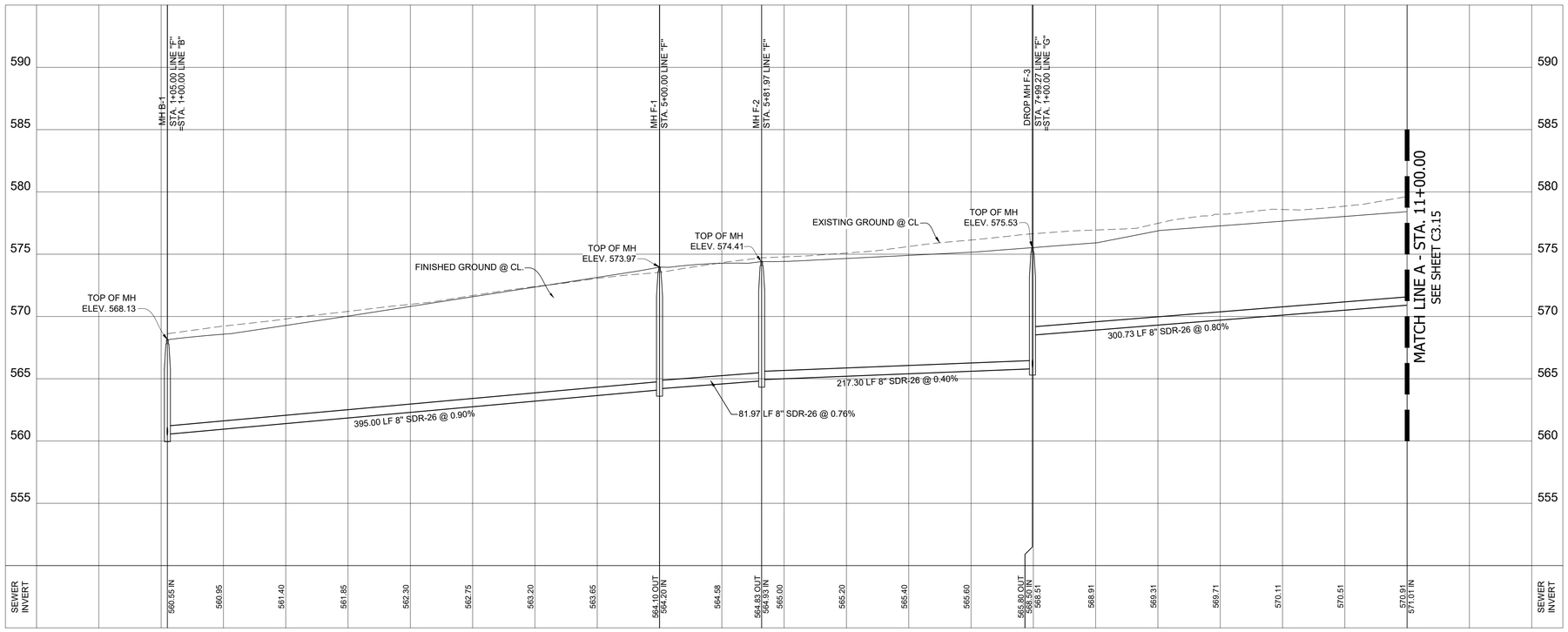
TRENCH EXCAVATION SAFETY PROTECTION

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

LINE "F"

STA. 1+05.00 TO STA. 11+00.00

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



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PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

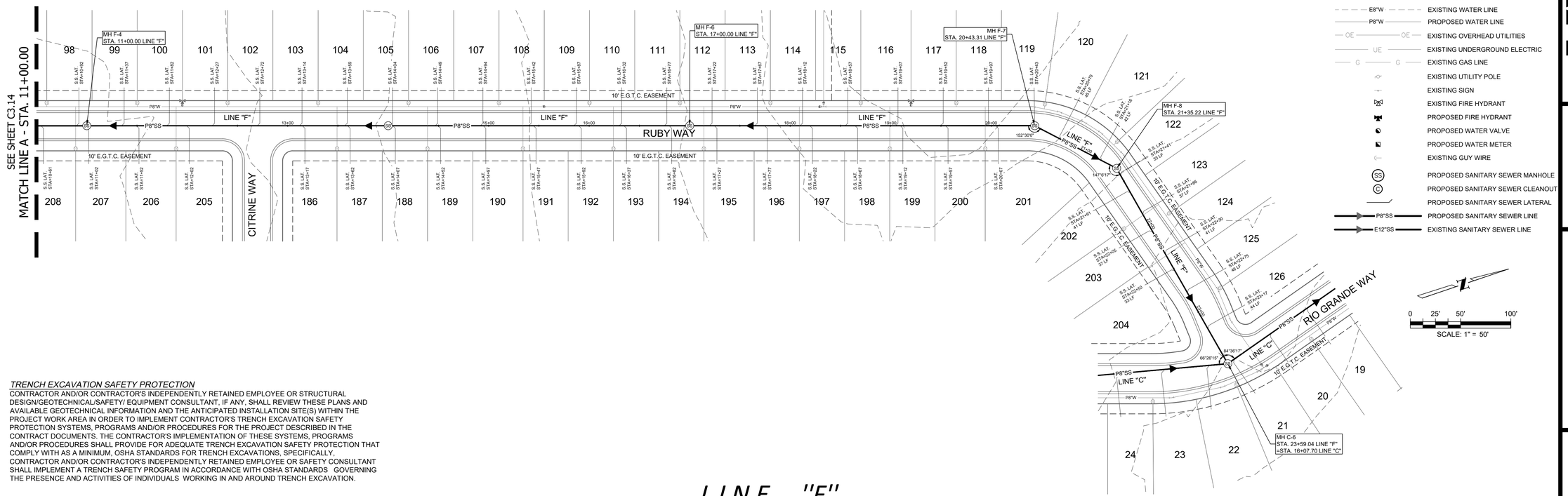
PRIVATE SANITARY SEWER LINE "F" PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.14

Date: Apr 16, 2025, @ 1:5pm User ID: LJ Ramzine
File: U:__Projects\437 – Higdon Rd Empower\437.1\ACAD\Sheets\C3.15 LINE "F" SEWER P&P.dwg



LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- 102 PROP. GRADE ELEVATIONS
- BSL BUILDING SETBACK LINE
- E8"W EXISTING WATER LINE
- P8"W PROPOSED WATER LINE
- OE EXISTING OVERHEAD UTILITIES
- UE EXISTING UNDERGROUND ELECTRIC
- G EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- SS PROPOSED SANITARY SEWER MANHOLE
- C PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LATERAL
- P8"SS PROPOSED SANITARY SEWER LINE
- E12"SS EXISTING SANITARY SEWER LINE

TRENCH EXCAVATION SAFETY PROTECTION

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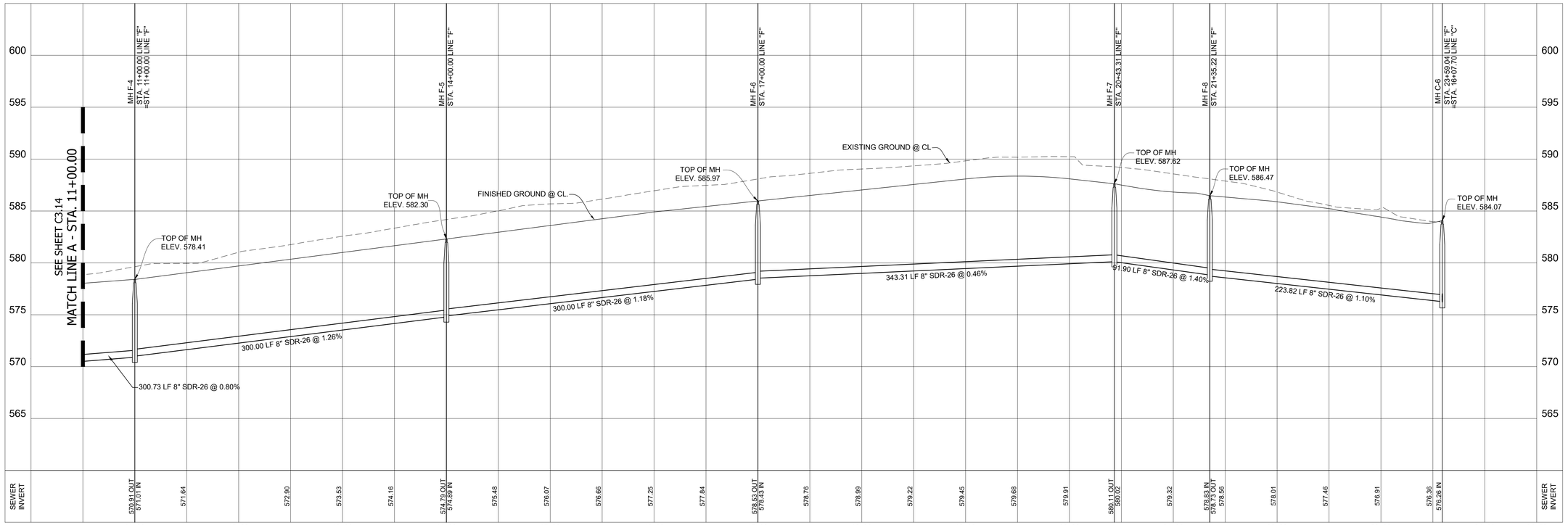
LINE "F"

STA. 11+00.00 TO STA. 23+59.04

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR MS,38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

PRIVATE SANITARY SEWER LINE "F" PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

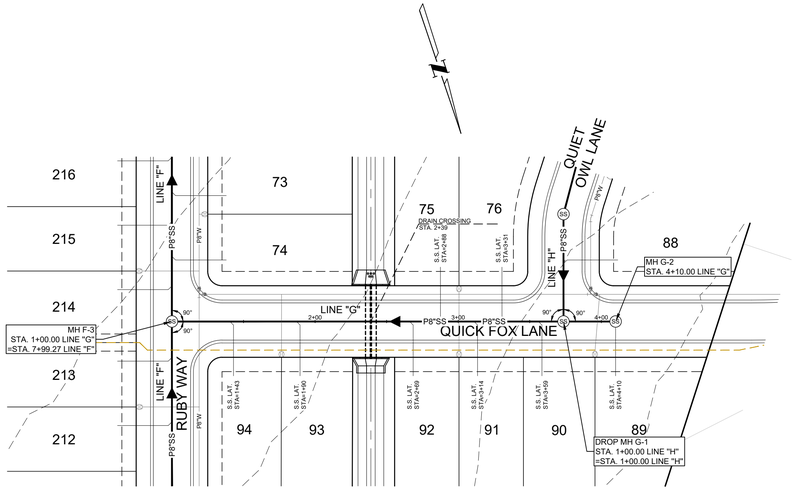
DESIGNED BY:
DRAFTED BY:
CHECKED BY:

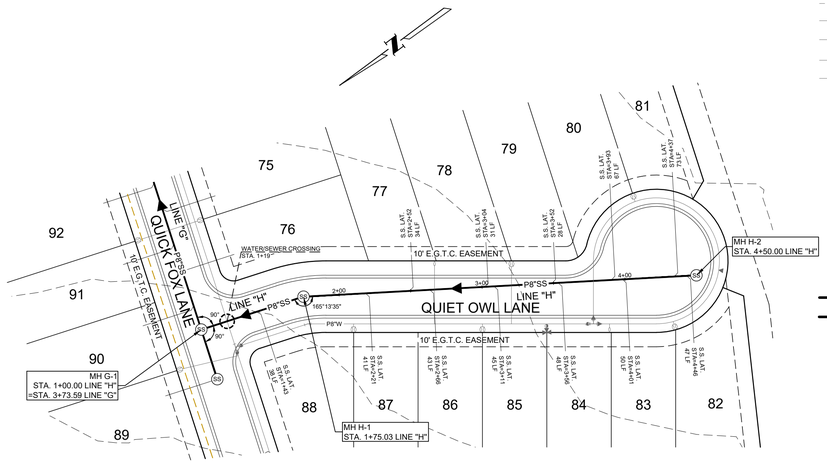
SHEET
C3.15

Date: Apr 16, 2025, 8:13am User ID: LJ Ramirez
File: U:\...\Projects\437 – Higdon Rd Empower\437.11\ACAD\Sheets\C3.15 LINE "F" SEWER P&P.dwg

TRENCH EXCAVATION SAFETY PROTECTION

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





LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- T102 PROP. GRADE ELEVATIONS
- BSL BUILDING SETBACK LINE
- E8"W EXISTING WATER LINE
- P8"W PROPOSED WATER LINE
- OE OVERHEAD UTILITIES — EXISTING
- UE EXISTING UNDERGROUND ELECTRIC
- G GAS LINE — EXISTING
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- SS PROPOSED SANITARY SEWER MANHOLE
- C PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LATERAL
- P8"SS PROPOSED SANITARY SEWER LINE
- E12"SS EXISTING SANITARY SEWER LINE

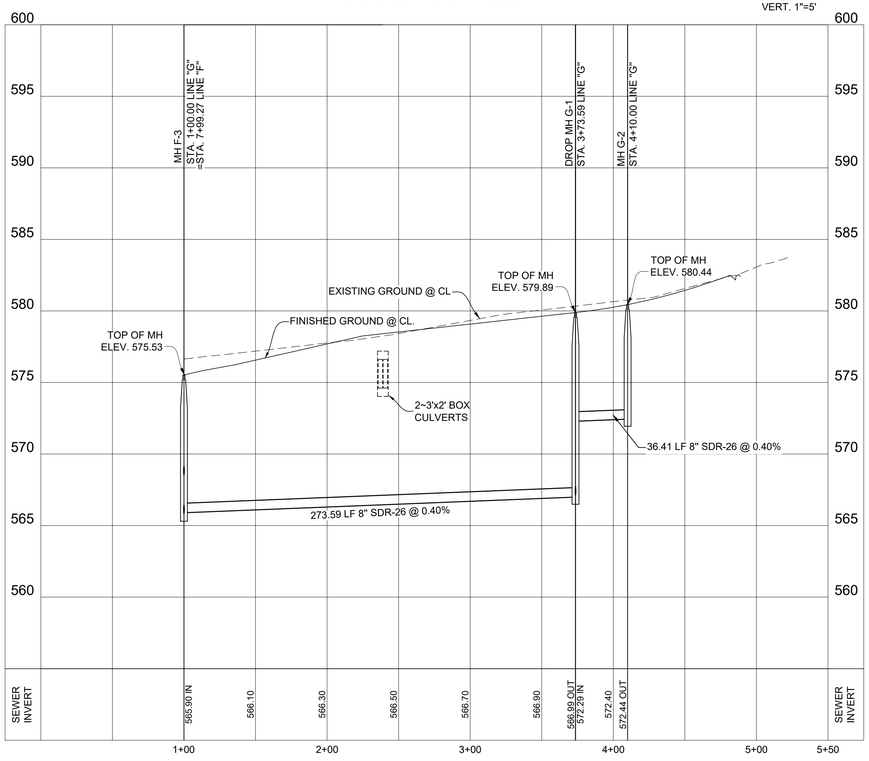
0 25' 50' 100'

SCALE: 1" = 50'

LINE "G"

STA. 1+00.00 TO STA. 4+10.00

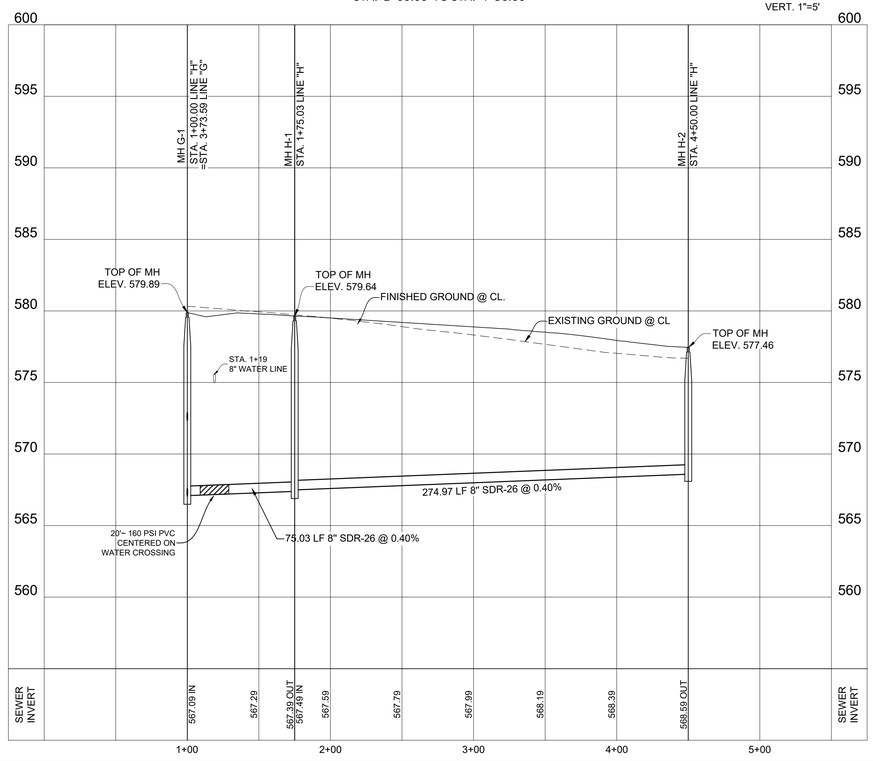
SCALE:
HORIZ.1"=50'
VERT. 1"=5'



LINE "H"

STA. 1+00.00 TO STA. 4+50.00

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

PRIVATE SANITARY SEWER LINE "G" & LINE "H" PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.16

Date: Apr 16, 2025, 8:14am User ID: Lj Palmores
File: U:_Projects\437 – Wigton Rd Empower\437-1\ACAD\Sheets\C3.16 LINE "G" SEWER P&P.dwg

TRENCH EXCAVATION SAFETY PROTECTION

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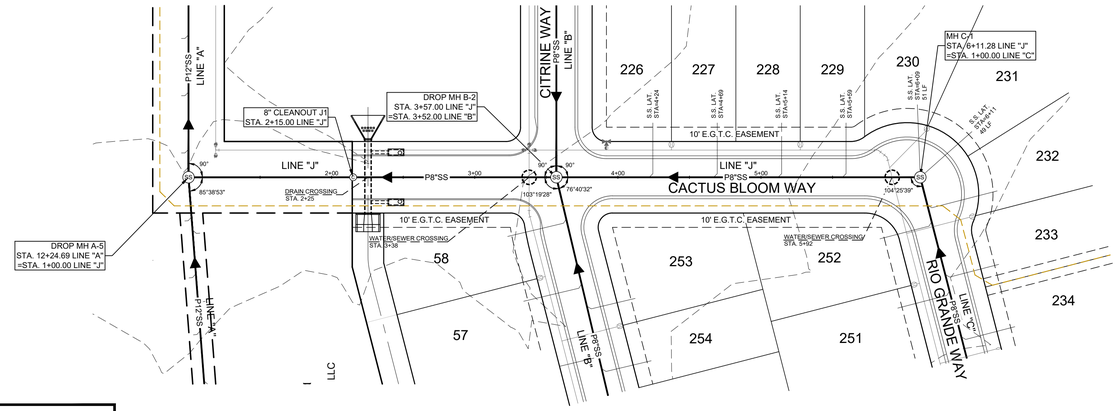
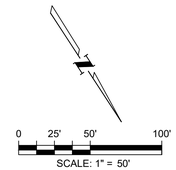


NOTES:

1. SANITARY SEWER LINE "J" STA. 1+00.00 TO STA. 2+15.00 SHALL BE CONSTRUCTED PER SAWS STANDARDS AND SPECIFICATIONS - MANHOLE LIDS ALONG THIS PORTION SHALL NOT HAVE SAWS LABEL REFERENCE OR INSIGNIA.

LEGEND

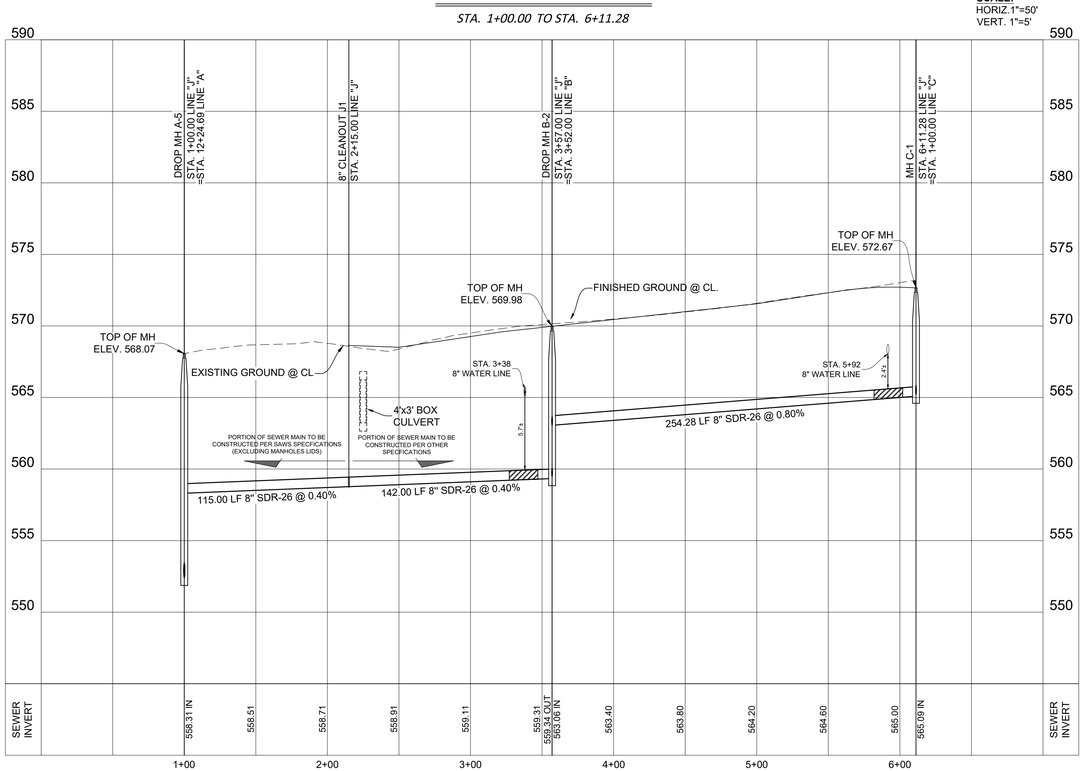
- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- (102) PROP. GRADE ELEVATIONS
- BSL BUILDING SETBACK LINE
- E8"W EXISTING WATER LINE
- P8"W PROPOSED WATER LINE
- OE OE EXISTING OVERHEAD UTILITIES
- UE EXISTING UNDERGROUND ELECTRIC
- G G EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- (SS) PROPOSED SANITARY SEWER MANHOLE
- (C) PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LATERAL
- P8"SS PROPOSED SANITARY SEWER LINE
- E12"SS EXISTING SANITARY SEWER LINE



LINE "J"

STA. 1+00.00 TO STA. 6+11.28

SCALE:
HORIZ. 1"=50'
VERT. 1"=5'



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RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

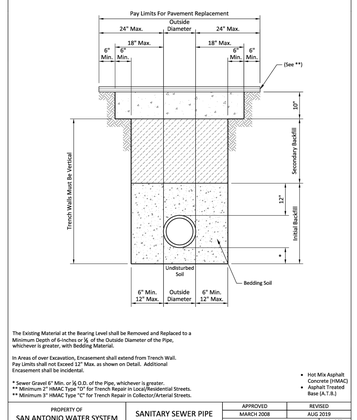
PRIVATE SANITARY SEWER LINE "J"
PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.17

Date: Apr 16, 2025, 8:14am User ID: LJ Espinoza
File: U:_Projects\437 – Higdon Rd Empower\437.1\ACAD\Sheets\c3.16 LINE "J" SEWER P&P.dwg



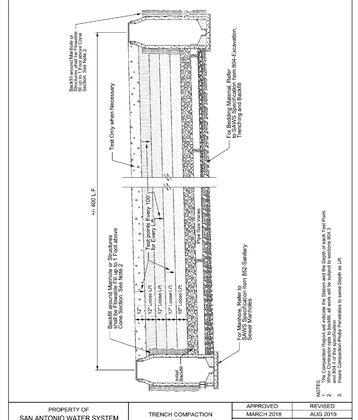
The Existing Material at the Bearing Level shall be Removed and Replaced to a Minimum Depth of 6-inches or ¼ of the Outside Diameter of the Pipe, whichever is greater, with Bedding Material.

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

* Sewer Gravel 6" Min. or ¼ O.D. of the Pipe, whichever is greater.
** Minimum 2" HMAC Type "D" for Trench Repair in Local/Residential Streets.
** Minimum 3" HMAC Type "C" for Trench Repair in Collector/Arterial Streets.

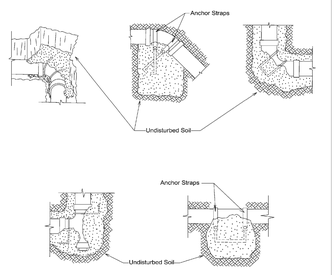
- Hot Mix Asphalt Concrete (HMAC)
- Asphalt Treated Base (A.T.B.)

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	SANITARY SEWER PIPE LAID IN TRENCH	MARCH 2008	AUG 2019
		DD-804-01	SHEET 1 OF 1



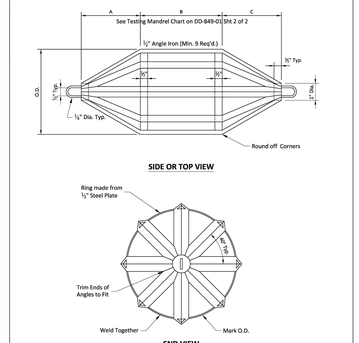
NOTES:
1. Prior to Construction Report will indicate the Station and the Depth of each Test Point. If the Contractor starts to backfill, all work will be subject to sections Bid-3 thru Bid-5 of Specification Item 804.
2. Trench Compaction Density Tolerance is none lower at Lift.

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TRENCH COMPACTION DETAIL	MARCH 2018	AUG 2019
		DD 804-02	SHEET 1 OF 1



Note:
All concrete used for thrust blocking shall have a minimum concrete strength of 3,000 psi

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL THRUST BLOCKS (SEWER ONLY)	March 2008	AUG 2019
		DD-839-03	SHEET 1 OF 1



Note:
All Mandrels must be Approved by SAWS Construction Inspection Dept. and Stamped before Use.

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	GO, NO GO DEFLECTION TESTING MANDREL	March 2008	December 2019
		DD-849-01	SHEET 2 OF 2

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

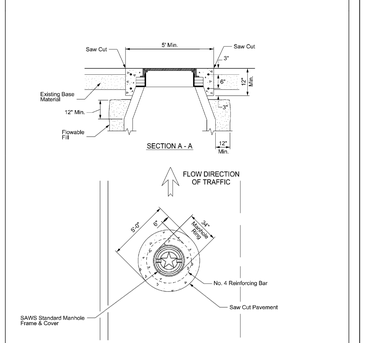
*Minimum Length

CHART

Notes:
PVC Pipes and Fittings 6" to 15" in Diameter shall Conform to ASTM D-2241
PVC Pipes and Fittings 18" to 27" in Diameter shall Conform to ASTM F-679

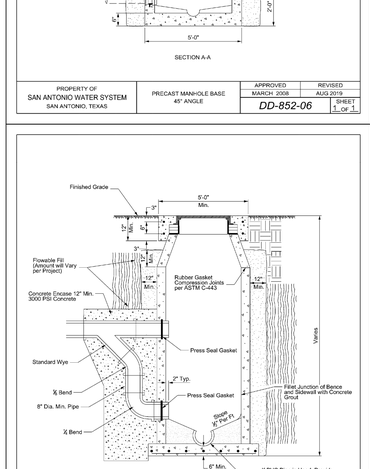
This information is provided as a reference. All deflection testing shall be done in accordance with TCEQ Capter 217.

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	GO, NO GO DEFLECTION TESTING MANDREL CHART	March 2008	December 2019
		DD-849-01	SHEET 2 OF 2

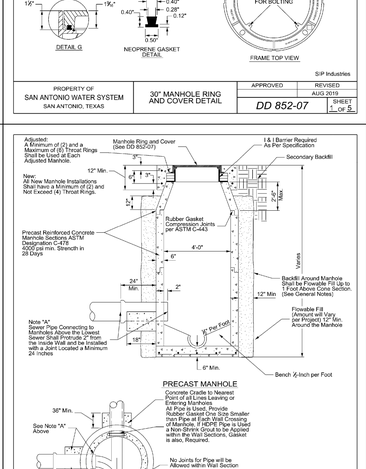


NOTE:
1. The Concrete Shall be 4000 PSI Minimum and Reinforced with No. 4 Bars as Shown.
2. The Concrete Shall Extend to Edge of Saw Cut Pavement.
3. Manhole Ring Encasement is Required on all Manholes.
4. Manhole Lid shall Open in the Direction of Traffic or Downstream in Parkway

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	MANHOLE RING ENCASEMENT DETAIL	AUGUST 2009	AUG 2019
		DD 852-03	SHEET 1 OF 2

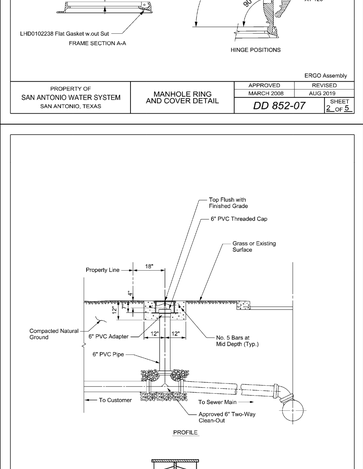


PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	PRECAST MANHOLE BASE 48" SHALE	MARCH 2008	AUG 2019
		DD-852-06	SHEET 1 OF 1



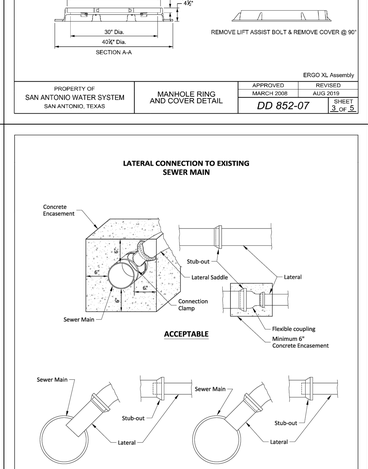
S/P Industries

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	30" MANHOLE RING AND COVER DETAIL		AUG 2019
		DD 852-07	SHEET 1 OF 5



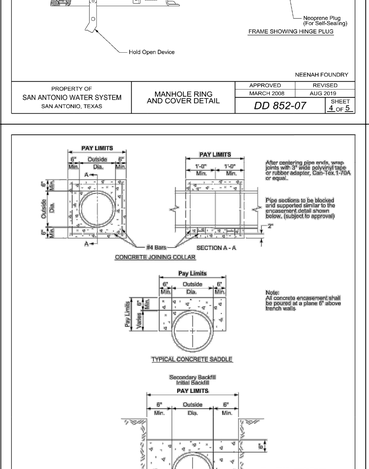
ERGO Assembly

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	MANHOLE RING AND COVER DETAIL	MARCH 2008	AUG 2019
		DD 852-07	SHEET 2 OF 5



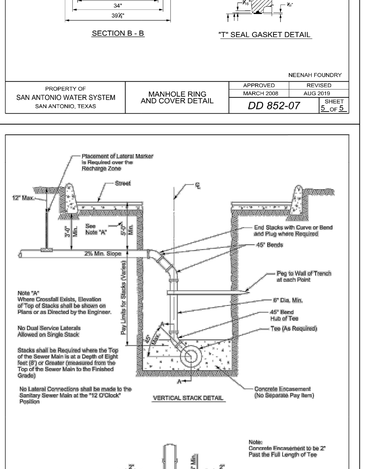
ERGO XL Assembly

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	MANHOLE RING AND COVER DETAIL	MARCH 2008	AUG 2019
		DD 852-07	SHEET 3 OF 5



NEENAH FOUNDRY

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	MANHOLE RING AND COVER DETAIL	MARCH 2008	AUG 2019
		DD 852-07	SHEET 4 OF 5



NEENAH FOUNDRY

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	MANHOLE RING AND COVER DETAIL	MARCH 2008	AUG 2019
		DD 852-07	SHEET 5 OF 5

NOTE: Price for Drop Fittings and Encasement to be Included with the Price of Manhole.

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	DROP MANHOLE DETAIL	MARCH 2008	AUG 2019
		DD-852-08	SHEET 1 OF 1

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	STANDARD PRECAST MANHOLE	MAY 2013	AUG 2019
		DD-852-01	SHEET 2 OF 3

FOR NEW DEVELOPMENT
CLEAN-OUTS MAY NOT BE PLACED IN STREETS, ALLEYS, OR DRIVEWAYS OR PARKING LOTS, AND MUST BE LOCATED A MINIMUM OF 6' FROM ALL PAVED AREAS.

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL CLEANOUT DETAIL	MARCH 2008	AUG 2019
		DD-854-02	SHEET 1 OF 3

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

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	LATERAL CONNECTION	March 2008	December 2018
		DD-854-03	SHEET 1 OF 1

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL CONCRETE DETAILS	MARCH 2008	AUG 2019
		DD 858-02	SHEET 1 OF 1

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL VERTICAL STACK DETAIL	MARCH 2008	AUG 2019
		DD 860-01	SHEET 1 OF 1

NOTE TO CONTRACTOR:

1. PRIVATE WASTEWATER MANHOLES SHOULD NOT INCLUDE REFERENCES TO "SAN ANTONIO WATER SYSTEMS"

DETAILS FOR USE WITH PUBLIC SEWER CONSTRUCTION ON LINES BELOW:

SANITARY SEWER LINE "A" STA. 0+57.66 TO STA. 42+56.67
SANITARY SEWER LINE "J" STA. 1+00.00 TO STA. 2+15.00
FORCE MAIN STA. 1+00.00 TO STA. 25+51.36

UP ENGINEERING
a Bowman company
111 TOWER DR., SUITE 125
SAN ANTONIO, TEXAS 78216-6504
WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES
PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 22, 2025

SAN ANTONIO LD, LLC
4058 N. COLLEGE AVE. STE 300, BOX 9
FAYETTEVILLE, AR. 72703

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

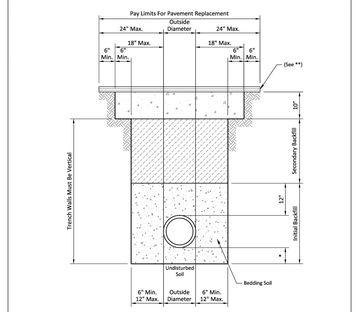
PRIVATE SANITARY SEWER DETAILS

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.18

Date: Apr 22, 2025, 11:32am User ID: LJ Ramones
File: U:_Projects\1437 – Higdon Rd Empower\1437-1\ACAD\Sheets\c3.0 SEWER COVER.dwg



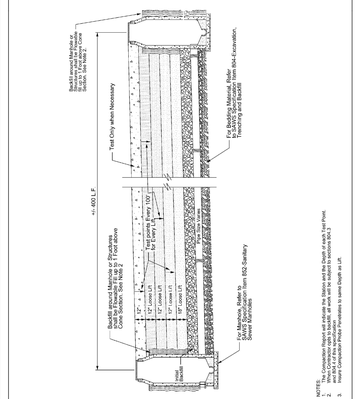
The Existing Material at the Bearing Level shall be Removed and Replaced to a Minimum Depth of 6-inches or ¼ of the Outside Diameter of the Pipe, whichever is greater, with Bedding Material.

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

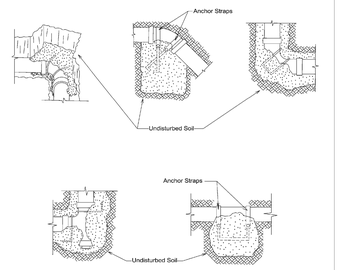
* Sewer Gravel 6" Min. or ¼ O.D. of the Pipe, whichever is greater.
** Minimum 2" HMAC Type "D" for Trench Repair in Local/Residential Streets.
** Minimum 3" HMAC Type "C" for Trench Repair in Collector/Arterial Streets.

- Hot Mix Asphalt Concrete (HMAC)
- Asphalt Treated Base (A.T.B.)

SANITARY SEWER PIPE LAID IN TRENCH	APPROVED	REVISED
	MARCH 2008	AUG 2019
DD-804-01		SHEET 1 OF 1

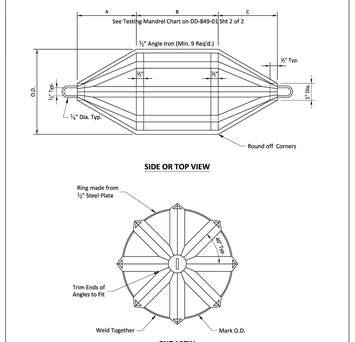


TRENCH COMPACTION DETAIL	APPROVED	REVISED
	MARCH 2018	AUG 2019
DD 804-02		SHEET 1 OF 1



Note:
All concrete used for thrust blocking shall have a minimum concrete strength of 3,000 psi

TYPICAL THRUST BLOCKS (SEWER ONLY)	APPROVED	REVISED
	March 2008	AUG 2019
DD-839-03		SHEET 1 OF 1



Note:
All Mandrels must be Approved by SAWS Construction Inspection Dept. and Stamped before Use.

GO, NO GO DEFLECTION TESTING MANDREL	APPROVED	REVISED
	March 2008	December 2019
DD-849-01		SHEET 1 OF 2

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

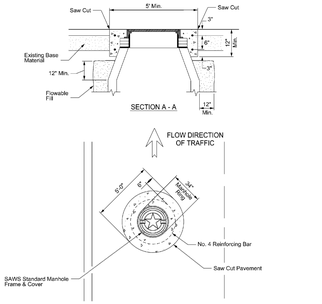
*Minimum Length

CHART

Notes:
PVC Pipes and Fittings 6" to 15" in Diameter shall Conform to ASTM D-2241
PVC Pipes and Fittings 18" to 27" in Diameter shall Conform to ASTM F-679

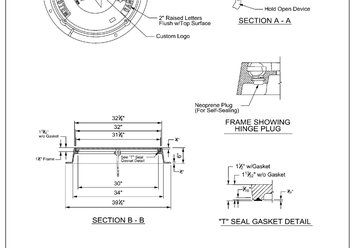
This information is provided as a reference. All deflection testing shall be done in accordance with TCEQ Capter 217.

GO, NO GO DEFLECTION TESTING MANDREL CHART	APPROVED	REVISED
	March 2008	December 2019
DD-849-01		SHEET 2 OF 2

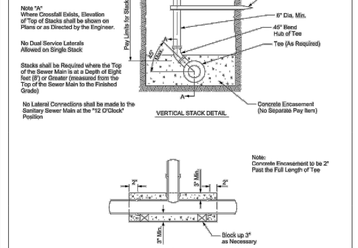


NOTE:
1. The Concrete Shall be 4000 PSI Minimum and Reinforced with No. 4 Bars as Shown.
2. The Concrete Shall Extend to Edge of Saw Cut Pavement.
3. Manhole Ring Encasement is Required on all Manholes.
4. Manhole Lid shall Open in the Direction of Traffic or Downstream in Parkway

MANHOLE RING ENCASEMENT DETAIL	APPROVED	REVISED
	AUGUST 2009	AUG 2019
DD 852-03		SHEET 1 OF 2

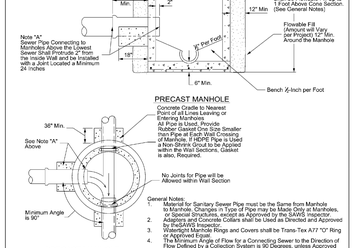


PRECAST MANHOLE BASE 45° ANGLE	APPROVED	REVISED
	MARCH 2008	AUG 2019
DD-852-06		SHEET 1 OF 1



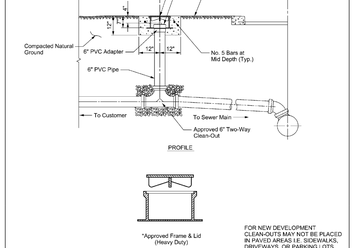
NOTE: Price for Drop Fittings and Encasement to be Included with the Price of Manhole.

DROP MANHOLE DETAIL	APPROVED	REVISED
	MARCH 2008	AUG 2019
DD-852-08		SHEET 1 OF 1



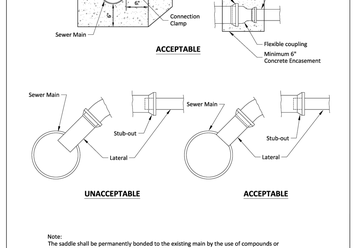
S/P Industries

30" MANHOLE RING AND COVER DETAIL	APPROVED	REVISED
	MAY 2013	AUG 2019
DD 852-07		SHEET 1 OF 5



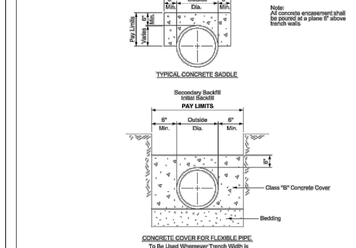
ERGO Assembly

SAN ANTONIO WATER SYSTEM	APPROVED	REVISED
SAN ANTONIO, TEXAS	MARCH 2008	AUG 2019
DD 852-07		SHEET 2 OF 5



ERGO XL Assembly

SAN ANTONIO WATER SYSTEM	APPROVED	REVISED
SAN ANTONIO, TEXAS	MARCH 2008	AUG 2019
DD 852-07		SHEET 3 OF 5



NEENAH FOUNDRY

SAN ANTONIO WATER SYSTEM	APPROVED	REVISED
SAN ANTONIO, TEXAS	MARCH 2008	AUG 2019
DD 852-07		SHEET 4 OF 5

NEENAH FOUNDRY

MANHOLE RING AND COVER DETAIL	APPROVED	REVISED
	MARCH 2008	AUG 2019
DD 852-07		SHEET 5 OF 5

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

STANDARD PRECAST MANHOLE	APPROVED	REVISED
	MAY 2013	AUG 2019
DD-852-01		SHEET 1 OF 2

FOR NEW DEVELOPMENT
CLEAN-OUTS MAY NOT BE PLACED IN PAVED AREAS I.E. SIDEWALKS, DRIVEWAYS, OR PARKING LOTS, AND MUST BE LOCATED A MINIMUM OF 6' FROM ALL PAVED AREAS.

TYPICAL CLEANOUT DETAIL	APPROVED	REVISED
	MARCH 2008	AUG 2019
DD-854-02		SHEET 3 OF 3

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

LATERAL CONNECTION	APPROVED	REVISED
	March 2008	December 2018
DD-854-03		SHEET 3 OF 3

To Be Used Whenever Trench Width is Greater Than Two Feet (2') Plus O.D.

PROPERTY OF SAN ANTONIO WATER SYSTEM	TYPICAL CONCRETE DETAILS	APPROVED	REVISED
SAN ANTONIO, TEXAS		MARCH 2008	AUG 2019
	DD 858-02		SHEET 1 OF 1

DETAILS FOR USE WITH PRIVATE SEWER CONSTRUCTION ON LINES BELOW:

SANITARY SEWER LINE "A" STA. 42+56.67 TO STA. 43+37.71
SANITARY SEWER LINE "B" STA. 1+00.00 TO STA. 11+68.09
SANITARY SEWER LINE "C" STA. 1+00.00 TO STA. 18+75.21
SANITARY SEWER LINE "D" STA. 1+00.00 TO STA. 11+39.13
SANITARY SEWER LINE "E" STA. 1+00.00 TO STA. 10+94.37
SANITARY SEWER LINE "F" STA. 1+00.00 TO STA. 23+59.04
SANITARY SEWER LINE "G" STA. 1+00.00 TO STA. 4+10.00
SANITARY SEWER LINE "H" STA. 1+00.00 TO STA. 4+50.00
SANITARY SEWER LINE "J" STA. 2+15.00 TO STA. 6+11.28

NOTES:

1. SANITARY SEWER LINE "J" STA. 1+00.00 TO STA. 2+15.00 SHALL BE CONSTRUCTED PER SAWS STANDARDS AND SPECIFICATIONS - MANHOLE LIDS ALONG THIS PORTION SHALL NOT HAVE SAWS LABEL REFERENCE OR INSIGNIA.

UP ENGINEERING
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111 TOWER DR., SUITE 125
SAN ANTONIO, TEXAS 78232-5504
(210) 545-1122 TEL (210) 545-7846 FAX
WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SAN ANTONIO LD, LLC
4058 N. COLLEGE AVE. STE 300, BOX 9
FAYETTEVILLE, AR. 72703

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

PRIVATE SANITARY SEWER DETAILS

REV	DATE	DESCRIPTION	BY

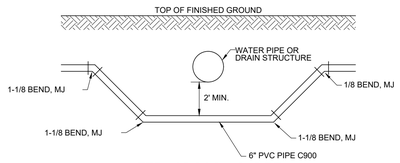
DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.19

Date: Apr 16, 2025, 8:14am User ID: J.J.Ramones
File: c:\...Projects\437 – Higgins Rd Engineer\437.11\ACAD\Sheets\C3.0 SEWER COVER.dwg

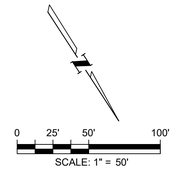
TRENCH EXCAVATION SAFETY PROTECTION

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



WATER CROSSING DETAIL

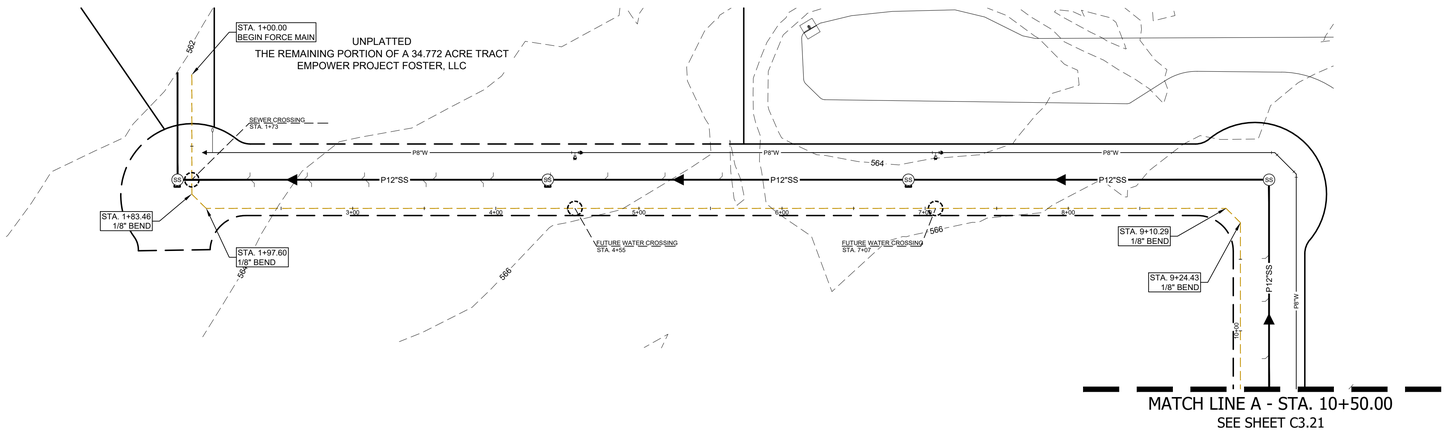
NTS



SCALE: 1" = 50'

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- (102) PROP. GRADE ELEVATIONS
- BSL BUILDING SETBACK LINE
- E8"W EXISTING WATER LINE
- P8"W PROPOSED WATER LINE
- OE OVERHEAD UTILITIES — EXISTING OVERHEAD UTILITIES
- UE EXISTING UNDERGROUND ELECTRIC
- G GAS LINE — EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- SS PROPOSED SANITARY SEWER MANHOLE
- C PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LATERAL
- P8"SS PROPOSED SANITARY SEWER LINE
- E12"SS EXISTING SANITARY SEWER LINE



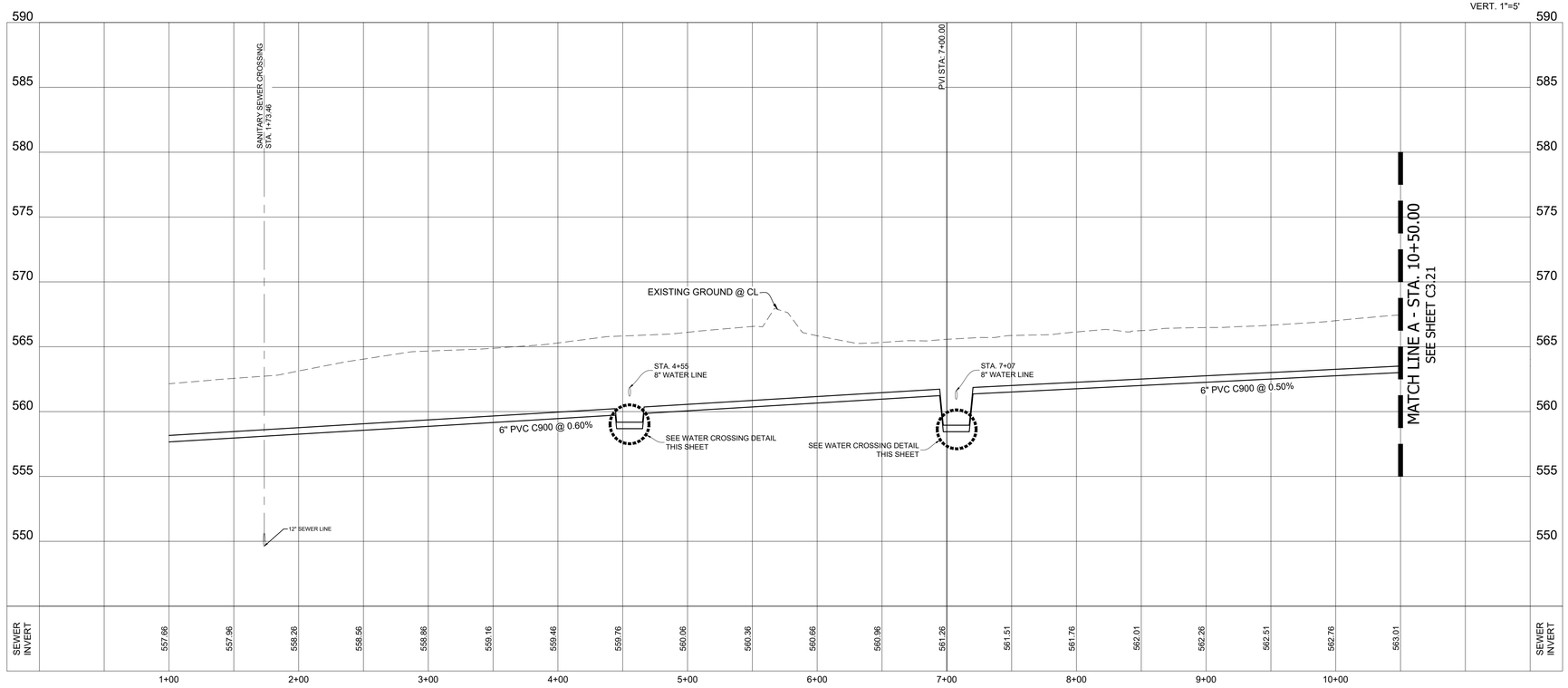
NOTE TO CONTRACTOR:

1. FORCE MAIN TO BE CONSTRUCTED PER SAWS REQUIREMENTS & SPECIFICATIONS

PRIVATE FORCE MAIN

STA. 1+00.00 TO STA. 10+50.00

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



UP ENGINEERING
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SAN ANTONIO, TEXAS 78232 (210) 714-6504
WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - ----
PLAT NO. 25-11800019

PRIVATE FORCE MAIN

REV	DATE	DESCRIPTION	BY

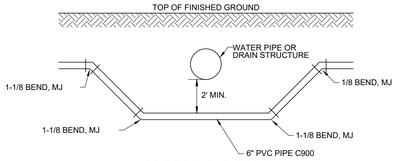
DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.20

Date: Apr 16, 2025, @ 10am User ID: LJ Ramirez
File: U:_Projects\437 – Higdon Rd Empower\437.1\ACAD\Sheets\C3.19 FORCE MAIN P&P.dwg

TRENCH EXCAVATION SAFETY PROTECTION

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

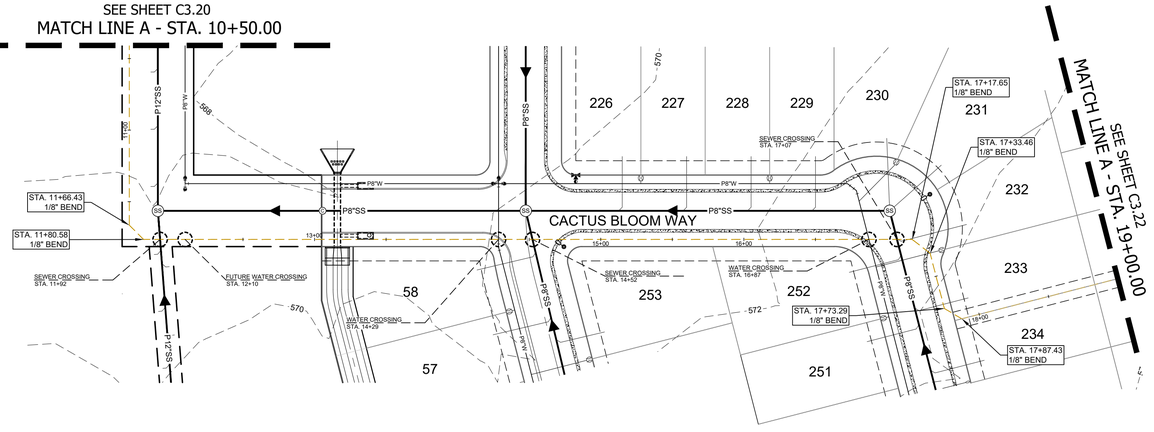


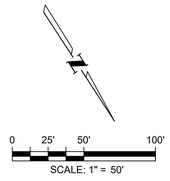
CROSSING DETAIL

NTS

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- EXIST. GRADE ELEVATIONS
- (102) PROP. GRADE ELEVATIONS
- BSL BUILDING SETBACK LINE
- E8"W EXISTING WATER LINE
- P8"W PROPOSED WATER LINE
- OE EXISTING OVERHEAD UTILITIES
- UE EXISTING UNDERGROUND ELECTRIC
- G EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- (SS) PROPOSED SANITARY SEWER MANHOLE
- (C) PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LATERAL
- P8"SS PROPOSED SANITARY SEWER LINE
- E12"SS EXISTING SANITARY SEWER LINE





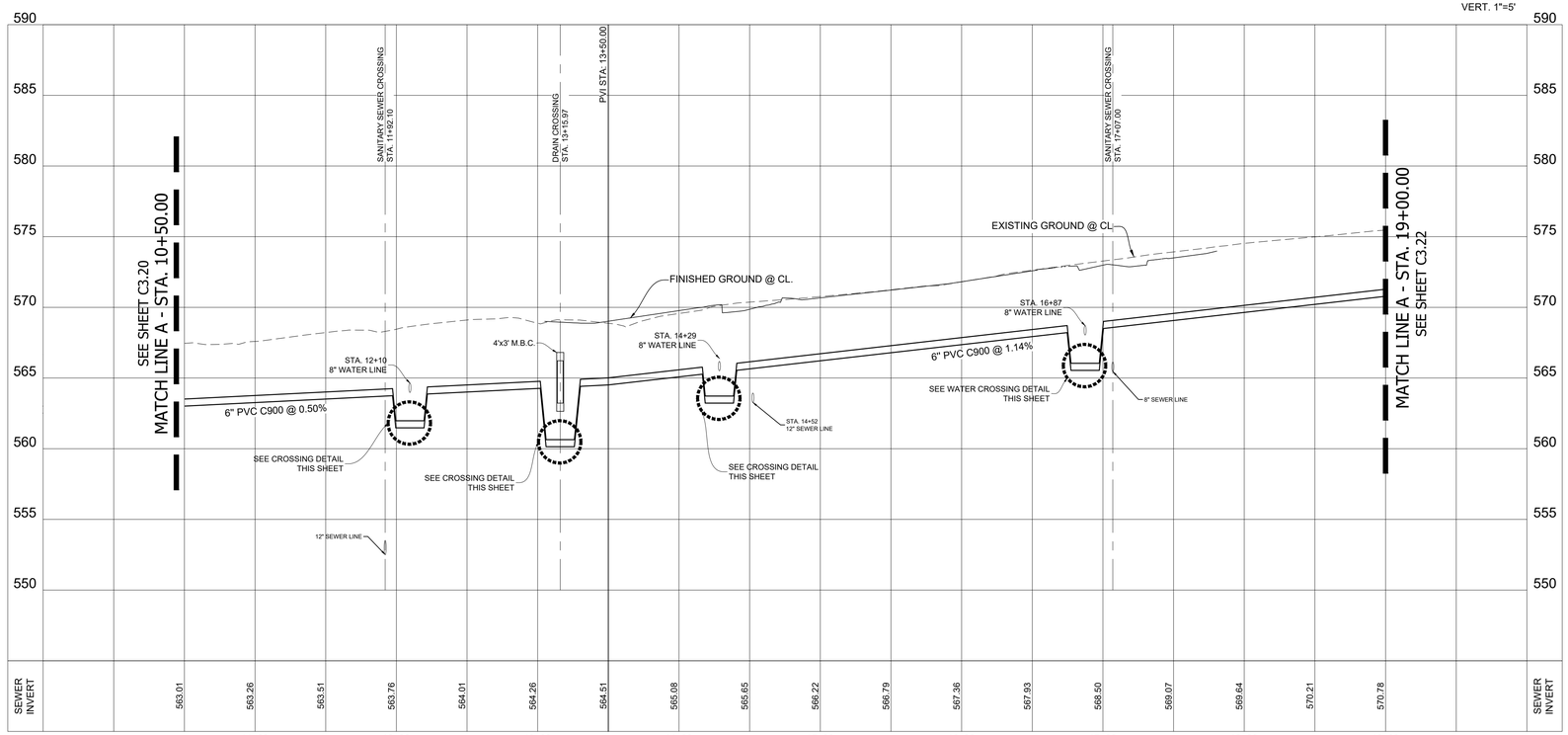
NOTE TO CONTRACTOR:

1. FORCE MAIN TO BE CONSTRUCTED PER SAWS REQUIREMENTS & SPECIFICATIONS

PRIVATE FORCE MAIN

STA. 10+50.00 TO STA. 19+00.00

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



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a Bowman company
111 TOWER DR., SUITE 325
SAN ANTONIO, TEXAS 78232 | 713-714-6504
WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR MS,38673

VISTA MHC - ----
PLAT NO. 25-11800019

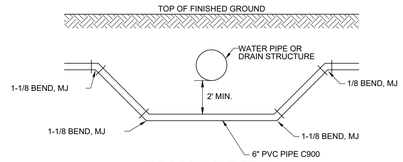
PRIVATE FORCE MAIN

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

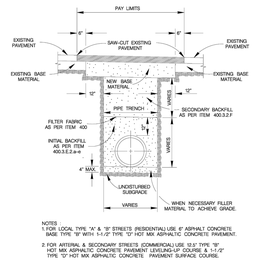
SHEET
C3.21

Date: Apr 16, 2025, 8:14am User ID: LJ Ramones
File: G:\...\Projects\437 – Higgins Rd Empower\437\1\ACAD\Sheets\C3.19 FORCE MAIN P&P.dwg



CROSSING DETAIL

NTS



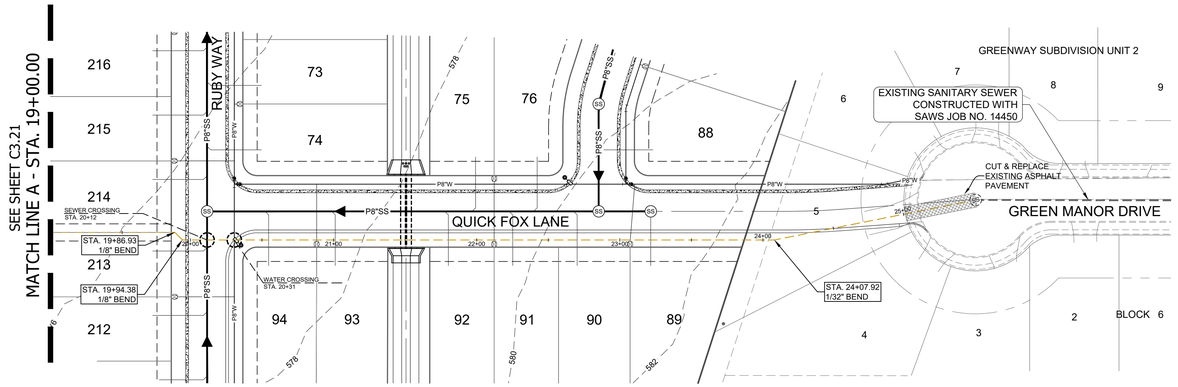
TYPICAL PAVEMENT REPLACEMENT

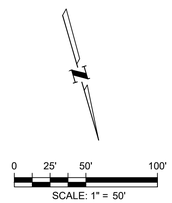
ITEM 01

SCALE : 1"=1'

TRENCH EXCAVATION SAFETY PROTECTION

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

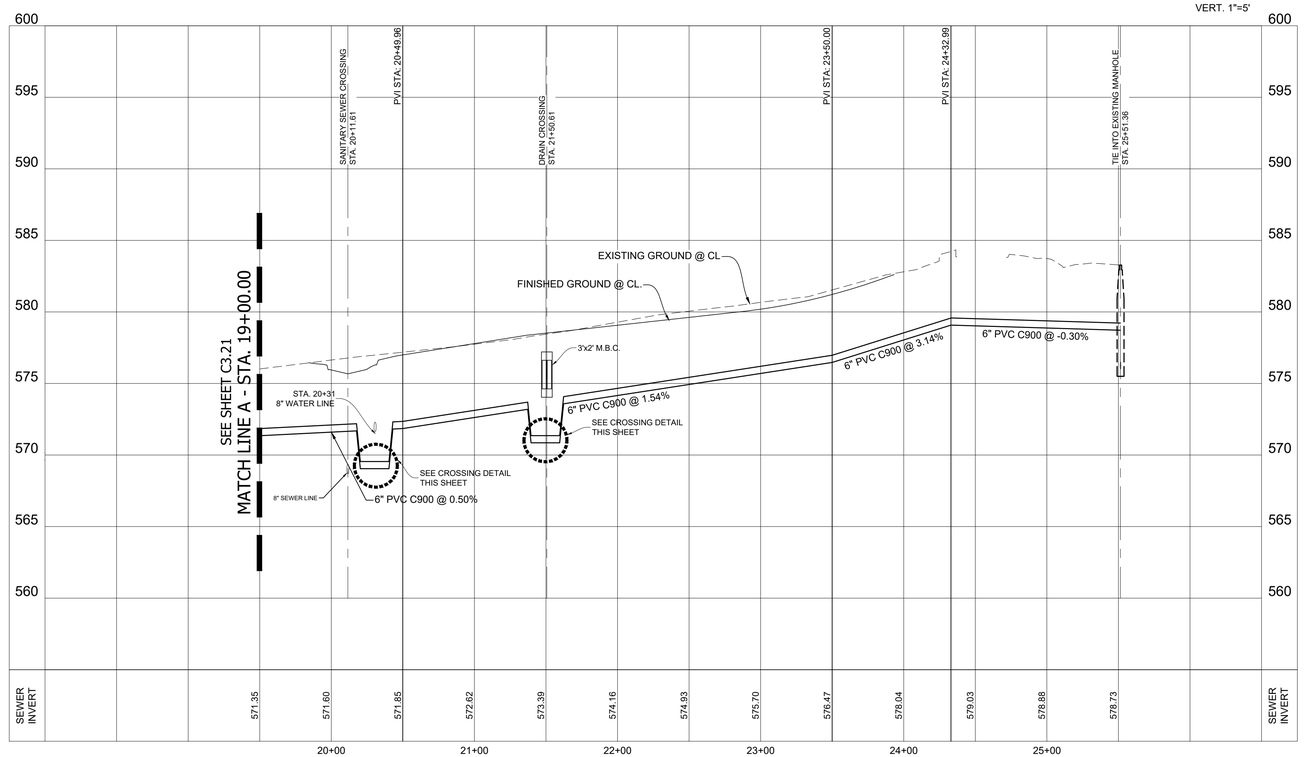




PRIVATE FORCE MAIN

STA. 19+00.00 TO STA. 25+51.36

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- EXIST. GRADE ELEVATIONS
- PROP. GRADE ELEVATIONS
- BUILDING SETBACK LINE
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING OVERHEAD UTILITIES
- EXISTING UNDERGROUND ELECTRIC
- EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED SANITARY SEWER LATERAL
- PROPOSED SANITARY SEWER LINE
- EXISTING SANITARY SEWER LINE

NOTE TO CONTRACTOR:

1. FORCE MAIN TO BE CONSTRUCTED PER SAWS REQUIREMENTS & SPECIFICATIONS

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111 TOWER DR, SUITE 125
SAN ANTONIO, TEXAS 78232 | 210-714-6504
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PRELIMINARY
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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR MS,38673

VISTA MHC - ----
PLAT NO. 25-11800019

PRIVATE FORCE MAIN

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C3.22

Date: Apr 16, 2025, 8:14am User ID: LJ Ramones
File: G:\...\Projects\437 – Higgins Rd Empower\437\1\ACAD\Sheets\C3.19 FORCE MAIN P&P.dwg

WATER CONSTRUCTION DOCUMENTS FOR

VISTA MHC - SUBDIVISION

BEXAR COUNTY, TEXAS

SAWS CONSTRUCTION NOTES

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:

   A. CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 CHAPTER 290.
   B. CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE".
   C. CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION".
   D. CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".
   E. CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).

2. THE CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE APPROVED COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP) FROM THE CONSULTANT AND HAS BEEN NOTIFIED BY SAWS CONSTRUCTION INSPECTION DIVISION TO PROCEED WITH THE WORK AND HAS ARRANGED A MEETING WITH THE INSPECTOR AND CONSULTANT FOR THE WORK REQUIREMENTS. WORK COMPLETED BY THE CONTRACTOR WITHOUT AN APPROVED COUNTER PERMIT AND/OR A GCP WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE OF THE CONTRACTORS AND/OR THE DEVELOPER.

3. THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE, HTTP://WWW.SAWS.ORG/BUSINESS_CENTER/SPECS. UNLESS OTHERWISE NOTED WITHIN THE DESIGN PLANS.

4. THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (210) 233-2973, ON NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING ANY WORK.

5. LOCATION AND DEPTH OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.

6. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES AT LEAST 1-2 WEEKS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR LOCATES REQUESTING PIPE LOCATION MARKERS ON SAWS FACILITIES. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:

   - SAWS UTILITY LOCATES: HTTP://WWW.SAWS.ORG/SERVICE/LOCATES
   - COSA DRAINAGE (210) 207-0724 OR (210) 207-6026
   - COSA TRAFFIC SIGNAL OPERATIONS (210) 206-8480
   - COSA TRAFFIC SIGNAL DAMAGES (210) 207-3951
   - TEXAS STATE WIDE ONE CALL LOCATOR 1-800-545-6005 OR 811

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ITS ORIGINAL OR BETTER CONDITION IF DAMAGES ARE MADE AS A RESULT OF THE PROJECT'S CONSTRUCTION.

8. ALL WORK IN TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) AND/OR BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT REQUIREMENTS.

9. THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.

10. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.

11. HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.

    WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION CONSTRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.

    ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.

12. COMPACTION NOTE (ITEM 804): THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE COMPACTION REQUIREMENTS IN ACCORDANCE WITH THE SPECIFICATION. THE OWNER SHALL HAVE SUCH TESTS AND INSPECTIONS PERFORMED BY AN INDEPENDENT TESTING LABORATORY AND PAY FOR SUCH TESTS (INCLUDING PROCTOR TESTS AND DENSITY TESTS). COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED, OR AS INDICATED BY THE SAWS INSPECTOR AND/OR THE TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

13. A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION INSPECTION DIVISION.

WATER SECTION

1. PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS; THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.

   •FOR WATER MAINS 12" OR HIGHER: SAWS EMERGENCY OPERATIONS CENTER (210) 233-2014

2. ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE WHICH IS KNOWN TO CONTAIN ASBESTOS- CONTAINING MATERIAL (ACM), MAY BE LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THIS PIPE OCCURS. SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".

3. VALVE REMOVAL: WHERE THE CONTRACTOR IS TO ABANDON A WATER MAIN, THE CONTROL VALVE LOCATED ON THE ABANDONING BRANCH WILL BE REMOVED AND REPLACED WITH A CAP/PLUG. (NSPI)

4. SUITABLE ANCHORAGE/THRUST BLOCKING OR JOINT RESTRAINT SHALL BE PROVIDED AT ALL OF THE FOLLOWING MAIN LOCATIONS: DEAD ENDS, PLUGS, CAPS, TEES, CROSSES, VALVES, AND BENDS, IN ACCORDANCE WITH THE STANDARD DRAWINGS DD-839 SERIES AND ITEM NO. 839, IN THE SAWS STANDARD SPECIFICATIONS FOR CONSTRUCTION.

5. ALL VALVES SHALL READ "OPEN RIGHT".

6. PRVS REQUIRED: CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF 565 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW 565 FEET, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE METER, AN APPROVED TYPE PRESSURE REGULATOR IN CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF SAN ANTONIO. NO DUAL SERVICES ALLOWED FOR ANY LOT(S) IF"PRV IS/ARE REQUIRED FOR SUCH LOT(S), ONLY SINGLE SERVICE CONNECTIONS SHALL BE ALLOWED."NOTE: A PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCING VALVE (PRV).

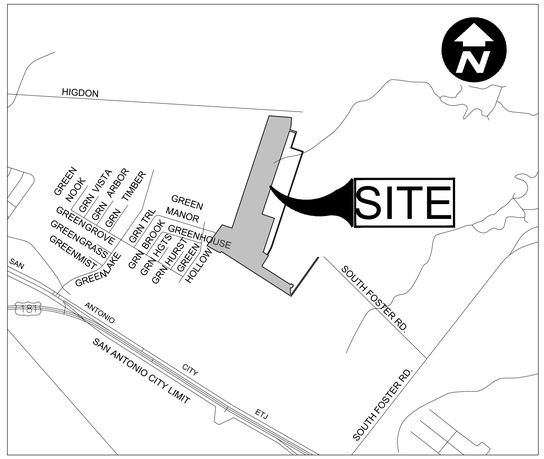
7. PIPE DISINFECTION WITH DRY HTH FOR PROJECTS LESS THAN 800 LINEAR FEET. (ITEM NO. 847.3): MAINS SHALL BE DISINFECTED WITH DRY HTH WHERE SHOWN IN THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE INSPECTOR, AND SHALL NOT EXCEED A TOTAL LENGTH OF 800 FEET. THIS METHOD OF DISINFECTION SHALL SO BE FOLLOWED FOR MAIN REPAIRS. THE CONTRACTOR SHALL UTILIZE ALL APPROPRIATE SAFETY MEASURE TO PROTECT HIS PERSONNEL DURING DISINFECTION OPERATIONS.

8. BACKFLOW PREVENTION DEVICES:

   •ALL IRRIGATION SERVICES WITHIN RESIDENTIAL AREAS ARE REQUIRED TO HAVE BACKFLOW PREVENTION DEVICES.
   •ALL COMMERCIAL BACKFLOW PREVENTION DEVICES MUST BE APPROVED BY SAWS PRIOR TO INSTALLATION.

9. FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, AND SAWS HAS RELEASED THE MAIN FOR TIE-IN AND USE.

10. DIVISION VALVES: DIVISION VALVES SHOWN ON PLANS OR NOT SHOWN ON PLANS BUT FOUND IN THE FIELD SHALL ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF AND ONLY WITH PRIOR WRITTEN APPROVAL OF THE SAWS DIRECTOR OF PRODUCTION AND OPERATIONS AND PROPER COORDINATION WITH ALL SAWS DEPARTMENTS. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE INSPECTOR A MINIMUM OF TWO WEEKS IN ADVANCE TO START THE COORDINATION PROCESS AND WILL BE INFORMED BY THE INSPECTOR WHEN THE DIVISION VALVE WILL BE OPERATED BY THE SAWS DISTRIBUTION AND COLLECTION STAFF. THE DIVISION VALVE CAN ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF MEMBER NOT THE INSPECTOR OR THE CONTRACTOR. OPERATION OF A DIVISION VALVE WITHOUT THE EXPRESS PRIOR WRITTEN APPROVAL OF THE SAWS DISTRIBUTION AND COLLECTION STAFF WILL CONSTITUTE A MATERIAL BREACH OF ANY WRITTEN SAWS CONTRACT OR PERMIT IN ADDITION TO SUBJECTING THE CONTRACTOR TO LIABILITY FOR ANY AND ALL FINES, FEES, OR OTHER DAMAGES, DIRECT OR CONSEQUENTIAL, THAT MAY ARISE FROM OR BE CAUSED BY THE OPERATION OF THE VALVE WITHOUT PRIOR WRITTEN PERMISSION. PLEASE BE INFORMED THAT THE APPROVAL OF THE OPERATION OR OPENING OR CLOSING OF A DIVISION VALVE CAN TAKE SEVERAL WEEKS FOR APPROVAL. DIVISION VALVES WILL ALSO HAVE A VALVE LID LABELED DIVISION VALVE AND A LOCKING MECHANISM INSTALLED WITH A KEY. THE LOCK AND KEY MECHANISM WILL BE PAID FOR BY THE CONTRACTOR BUT WILL BE INSTALLED BY SAWS DISTRIBUTION AND COLLECTION STAFF.

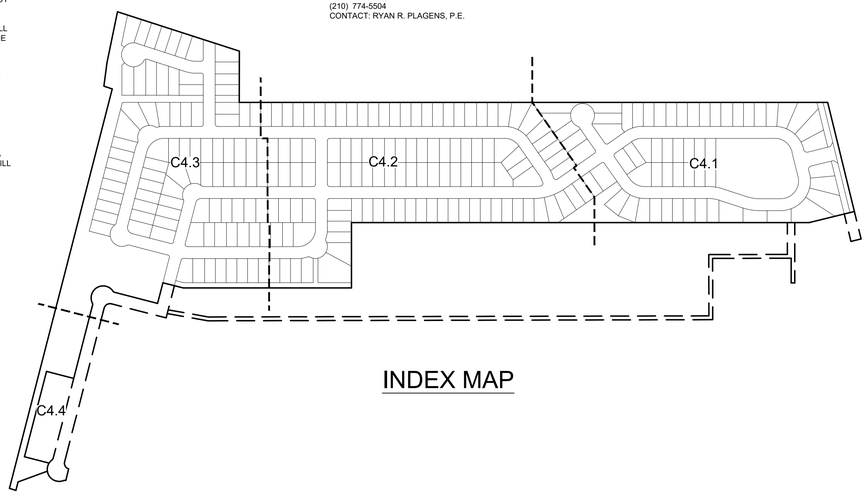


VICINITY MAP
NOT TO SCALE

SUBMITTAL DATE:
APRIL 23, 2025

OWNER/DEVELOPER: SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

ENGINEER: UP ENGINEERING a Bowman company
111 TOWER DR, SUITE 325
SAN ANTONIO, TEXAS 78232
(210) 774-5504
CONTACT: RYAN R. PLAGENS, P.E.



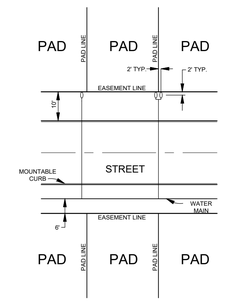
INDEX MAP

WATER QUANTITIES

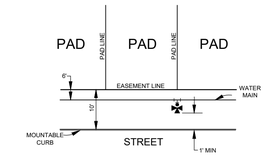
ITEM NO.	DESCRIPTION		QUANTITY		UNIT
1	8" Water Pipe (C900 PVC Class 235)(DR-18)		10,112		L.F.
2	12" Water Pipe (C900 PVC Class 235)(DR-18)		471		L.F.
3	8" Gate Valve w/Valve Box Complete		26		EA.
4	Standard Fire Hydrant, Complete		12		EA.
5	Ductile Iron Fittings		4.6		TONS
6	Irrigation Service Long		1		EA.
7	3/4" Single Short w/ 5/8" Meter		5		EA.
8	3/4" Single Long w/ 5/8" Meter		7		EA.
9	3/4" Single Short w/ 5/8" Meter for Lift Station		1		EA.
10	1" Dual Short w/ 5/8" Meter		74		EA.
11	1" Dual Long w/ 5/8" Meter		51		EA.
12	2" Temporary Blow off Complete		1		EA.
13	2" Permenant Blow off Complete		3		EA.
14	Chlorination		1		EA.
15	Hydrostatic Testing		1		EA.
16	Trench Excavation Protection		10,583		L.F.
ITEM NO.	DESCRIPTION		QUANTITY		UNIT
1	Meter Boxes		264		EA.

NOTE: QUANTITIES PROVIDED FOR SAWS REVIEW ONLY. CONTRACTOR SHALL REFERENCE BID FORM OR BID QUANTITIES.

NOTES:
1. ALL WATER & SEWER LINES ON THE CUSTOMER'S SIDE OF THE METER ARE PRIVATE AND SUBJECT TO THE CITY OF SAN ANTONIO'S PLUMBING INSPECTIONS AND INSTALLATION PER HE CURRENT ADOPTED INTERNATIONAL PLUMBING CODE.



METER BOX DETAIL LOCAL "A"
NOT TO SCALE



FIRE HYDRANT DETAIL ON LOCAL "A"
NOT TO SCALE

SAWS PRESSURE ZONE 750

Developer: SA DEVELOPMENT LLC
Address: PO BOX 189
City: TAYLOR State: MS Zip: 38673
Phone: (601) 260-7298 Fax:
SAWS Block Map: 198-538 Total EDUs: 264 Total Acreage: 52.348
Total Linear Footage of Pipe: 471 L.F. ~ 12" & 10112 L.F. ~ 8" Plat No.: 25-11800019
Number of Lots: 262 SAWS Job No.: ----

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PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

Sheet List Table

Sheet Number	Sheet Title
C4.0	WATER COVER
C4.1	WATER OVERALL
C4.2	WATER OVERALL
C4.3	WATER OVERALL
C4.4	WATER OVERALL
C4.5	WATER DETAILS

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

WATER COVER

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C4.0

Date: Apr. 23, 2025, 11:57am User ID: ryan
File: U:_Projects\1437 – Higdon Rd Empower\1437.01\CAD\Sheets\C4.0 WATER COVER.dwg

SAWS PRESSURE ZONE 750

Developer: SA DEVELOPMENT LLC
Address: PO BOX 189
City: TAYLOR State: MS Zip: 38673
Phone: (601) 260-7298 Fax:
SAWS Block Map: 198-538 Total EDUs: 264 Total Acreage: 52.348
Total Linear Footage of Pipe: 471 L.F. ~ 12" & 10112 L.F. ~ 8" Plat No.: 25-11800019
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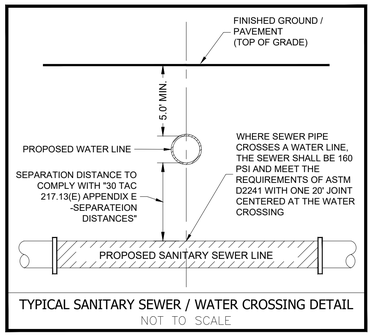

TYPICAL SANITARY SEWER / WATER CROSSING DETAIL
NOT TO SCALE

TRENCH EXCAVATION SAFETY PROTECTION

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

JOINT RESTRAINT NOTE:

CONTRACTOR SHALL INSTALL RETAINER GLANDS OR MEGALUGS AT ALL FITTINGS AND PROVIDE JOINT RESTRAINING HARNESS OR FIELD LOK GASKETS AT ALL JOINTS WITHIN THE LENGTH SHOWN. CONTRACTOR SHALL INSURE THAT ALL TEES, BENDS, VALVES, ETC. HAVE A MINIMUM OF 5 FT OF PIPE WITH NO JOINTS ON EACH SIDE OF THE FITTING. JOINT RESTRAINTS AND RETAINER GLANDS OR MEGALUGS SHALL BE CALCULATED BY SAWS APPROVED PROGRAMS AND VERIFIED BY SAWS INSPECTOR. CONTRACTOR SHALL INSTALL CONCRETE THRUST BLOCKING IN ACCORDANCE WITH SAWS STD. DRAWING 839 IN ADDITION TO JOINT RESTRAINS UNLESS OTHERWISE DIRECTED BY THE SAWS INSPECTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE JOINT RESTRAINTS AND THRUST BLOCKING WITH THE SAWS INSPECTOR.

NOTES:

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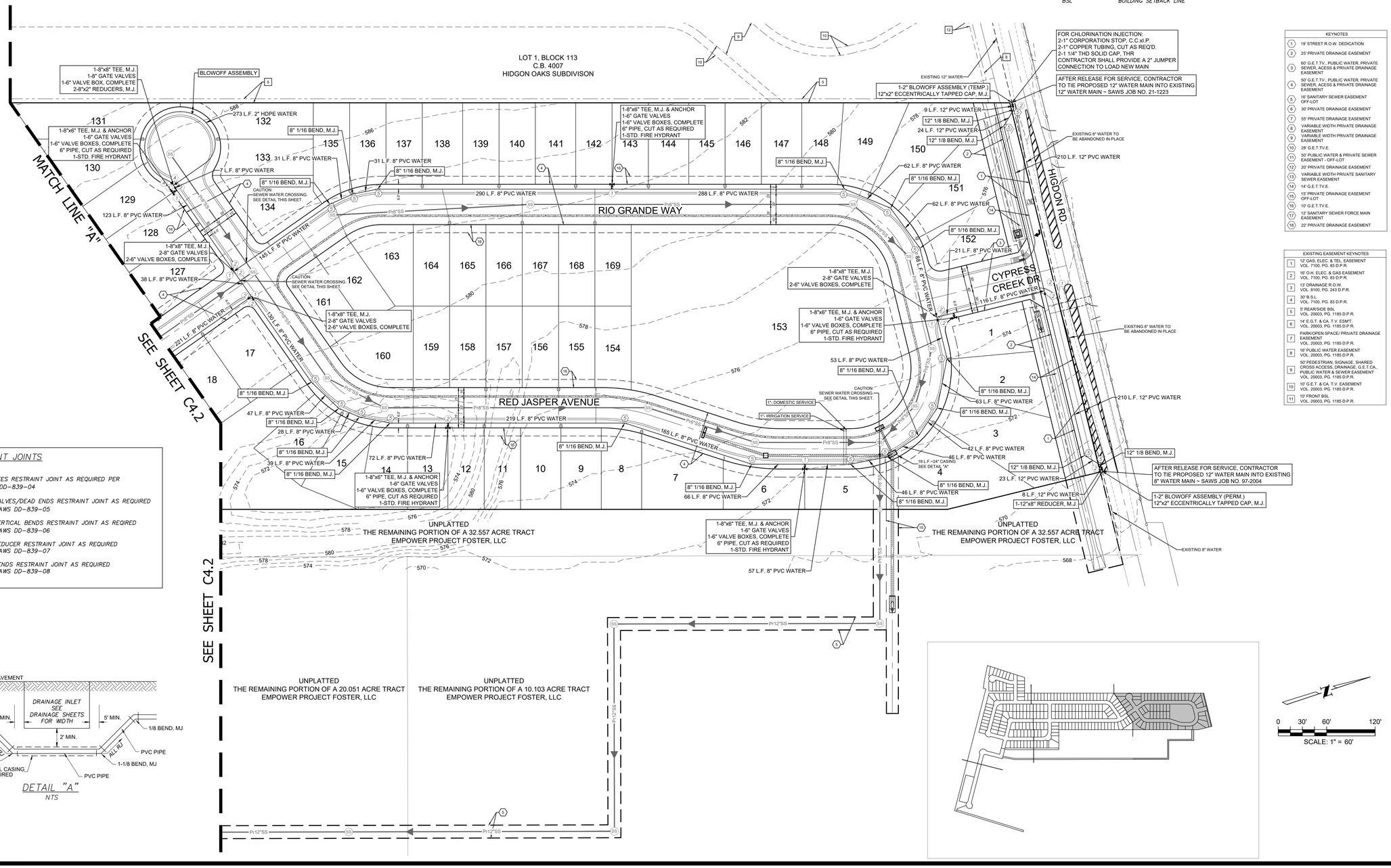
9. CONTRACTOR SHALL OBTAIN RIGHT OF WAY PERMITS AND COORDINATE ALL REQUIRED INSPECTIONS FOR ALL WORK TO BE CONDUCTED IN BEXAR COUNTY RIGHT OF WAY

LEGEND

	FIRE HYDRANT	ESM'T.	EASEMENT
	EXISTING FIRE HYDRANT	1937/550	VOLUME/PAGE
P8"W	WATER MAIN	O.P.R.B.C.T.	OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY TEXAS
E8"W	EXISTING WATER MAIN	D.P.R.	DEED AND PLAT RECORDS OF BEXAR COUNTY TEXAS
	DUAL WATER SERVICE	●	POWER POLE
	SINGLE WATER SERVICE	○	EXISTING POWER POLE
P8"SS	PRIVATE SANITARY SEWER PIPE	■	ELECTRIC TRANSFORMER
E8"SS	EXISTING SANITARY SEWER PIPE	T	TELEPHONE PEDESTAL
	EXISTING SANITARY SEWER MANHOLE	CTV	CABLE T.V. PEDESTAL
	PROPOSED SANITARY SEWER MANHOLE		ELECTRIC RISER POLE
	FLOW DIRECTION		EXISTING STREET LIGHT
	SANITARY SEWER LATERAL		PROPOSED STREET LIGHT (100 WATT UG)
	EXIST. SANITARY SEWER LATERAL	250W	PROPOSED STREET LIGHT (250 WATT UG)
OE	EXIST. OVERHEAD ELECTRIC	R.O.W.	RIGHT-OF-WAY
E.G.T.C.	ELECTRIC, GAS, TELEPHONE AND CABLE TV	○	BLOWOFF
VNAE	VEHICLE NON-ACCESS EASEMENT		
BSL	BUILDING SETBACK LINE		



RESTRAINT JOINTS

1. ALL TEES RESTRAINT JOINT AS REQUIRED PER SAWS DD-839-04
2. ALL VALVES/DEAD ENDS RESTRAINT JOINT AS REQUIRED PER SAWS DD-839-05
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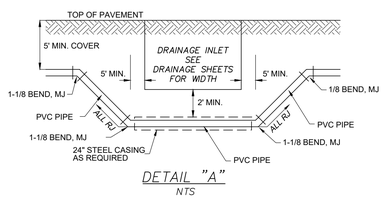

DETAIL "A"
NTS

KEYNOTES	
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6	30' PRIVATE DRAINAGE EASEMENT
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8	VARIABLE WIDTH PRIVATE DRAINAGE EASEMENT
9	VARIABLE WIDTH PRIVATE DRAINAGE EASEMENT
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11	50' PUBLIC WATER & PRIVATE SEWER EASEMENT - OFF-LOT
12	20' PRIVATE DRAINAGE EASEMENT
13	VARIABLE WIDTH PRIVATE SANITARY SEWER EASEMENT
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16	10' G.E.T.TV.E.
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18	22' PRIVATE DRAINAGE EASEMENT

EXISTING EASEMENT KEYNOTES	
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2	16' O.H. ELEC. & GAS EASEMENT VOL. 7100, PG. 83 D.P.R.
3	13' DRAINAGE R.O.W. VOL. 8100, PG. 243 D.P.R.
4	30' B.S.L. VOL. 7100, PG. 83 D.P.R.
5	5' REAR/SIDE BSL VOL. 20003, PG. 1185 D.P.R.
6	14' E.G.T. & CA. T.V. ESMT. VOL. 20003, PG. 1185 D.P.R.
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0 30' 60' 120'
SCALE: 1" = 60'

UP ENGINEERING
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111 TOWER DR., SUITE 125
SAN ANTONIO, TEXAS 78232 (210) 744-5504
WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES
PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

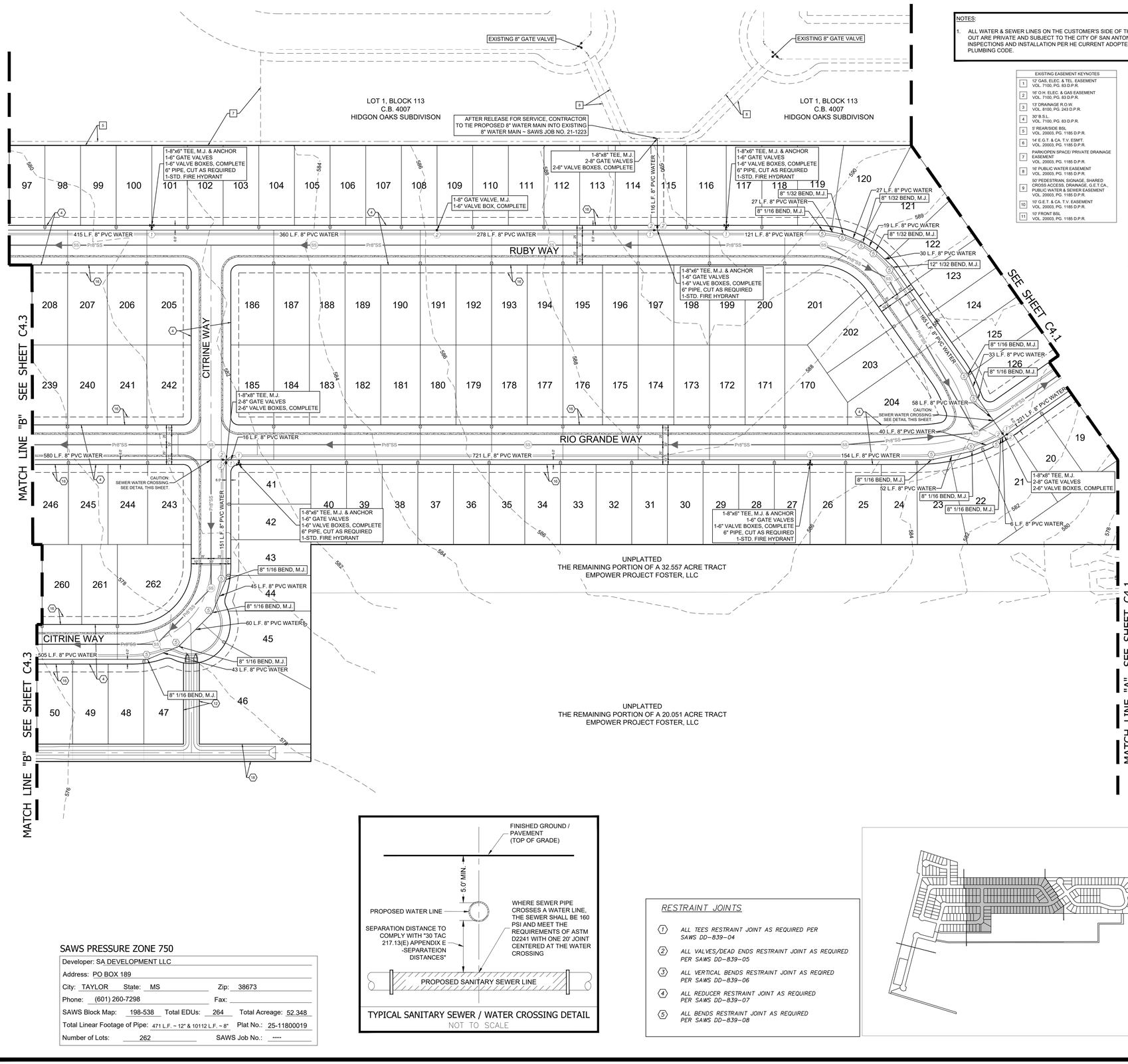
WATER OVERALL

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C4.1

Date: Apr 16, 2025, 9:57am User ID: Liz Bonnewell
File: G:_Projects\437 - Wiglaf Rd Empower\437.1\ACAD\Sheets\C4.1 WATER OVERALL.dwg



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EXISTING EASEMENT KEYNOTES

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KEYNOTES

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SAWS PRESSURE ZONE 750

Developer: SA DEVELOPMENT LLC			
Address: PO BOX 189			
City: TAYLOR	State: MS	Zip: 38673	
Phone: (601) 260-7298		Fax:	
SAWS Block Map: 198-538	Total EDUs: 264	Total Acreage: 52.348	
Total Linear Footage of Pipe: 471 L.F. ~ 12" & 10112 L.F. ~ 8"		Plat No.: 25-11800019	
Number of Lots: 262		SAWS Job No.: ----	

TYPICAL SANITARY SEWER / WATER CROSSING DETAIL
NOT TO SCALE

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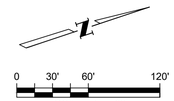

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SAN ANTONIO, TEXAS 78232 (210) 744-5504
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NOT FOR CONSTRUCTION PURPOSES
PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

WATER OVERALL

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C4.2

Date: Apr 16, 2025, 9:57am User ID: Liz Ramones
File: G:_Projects\437 - Higbee Rd Empower\437-1\ACAD\Sheets\C4.1 WATER OVERALL.dwg

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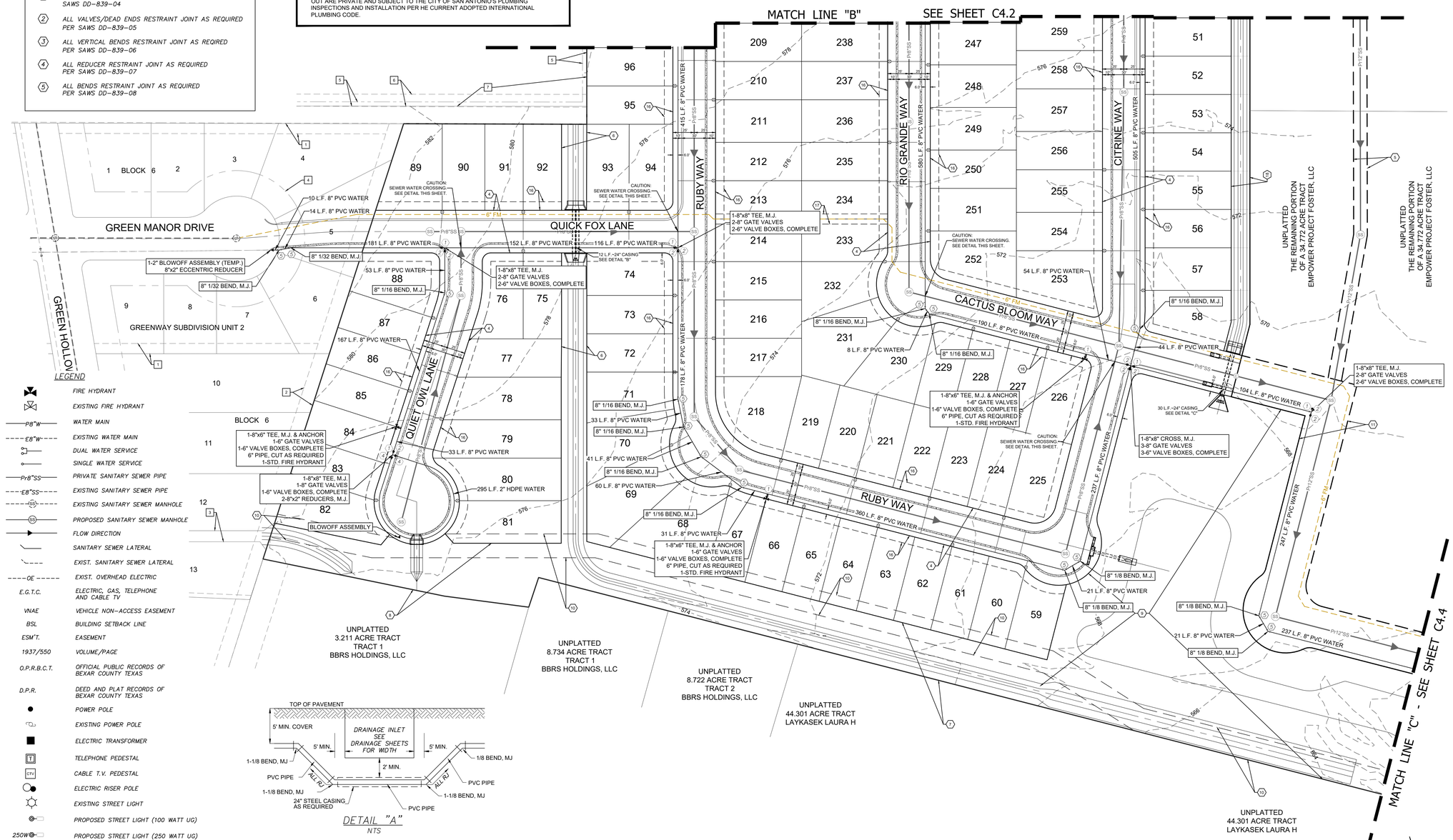

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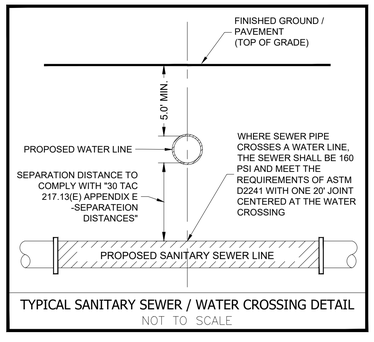

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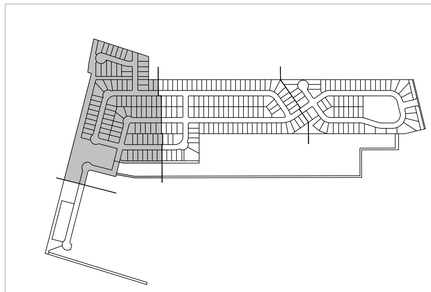
4. ALL PAVEMENT AND CURB REPAIR IS CONSIDERED INCIDENTAL AND SHOULD BE RESTORED TO PREVIOUS CONDITION IF NOT BETTER.
5. CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE RESPECTIVE CITY/COUNTY ROW PERMIT IS REQUIRED BEFORE PERFORMING WORK IN THE ROW.
6. THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE, http://www.saws.org/business_center/specs.
7. ALL WATER LINE JOINTS ARE TO BE RESTRAINED PER MANUFACTURERS RECOMMENDATIONS.
8. THE SIZE AND LOCATION OF UTILITY STRUCTURES (IF SHOWN) MAY BE EXAGGERATED FOR GRAPHICAL CLARITY. THE SURVEY SHOWS FIELD MEASURED SIZES AND DEPTHS AS OBSERVED FROM GROUND LEVEL OPENINGS.
9. CONTRACTOR SHALL OBTAIN RIGHT OF WAY PERMITS AND COORDINATE ALL REQUIRED INSPECTIONS FOR ALL WORK TO BE CONDUCTED IN BEXAR COUNTY RIGHT OF WAY



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

SAWS PRESSURE ZONE 750

Developer: SA DEVELOPMENT LLC
Address: PO BOX 189
City: TAYLOR State: MS Zip: 38673
Phone: (601) 260-7298 Fax:
SAWS Block Map: 198-538 Total EDUs: 264 Total Acreage: 52.348
Total Linear Footage of Pipe: 471 L.F. ~ 12" & 10112 L.F. ~ 8" Plat No.: 25-11800019
Number of Lots: 262 SAWS Job No.: ----

UP ENGINEERING
a Bowman company
111 TOWER DR., SUITE 125
SAN ANTONIO, TEXAS 78232 (210) 744-5504
WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

WATER OVERALL

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C4.3

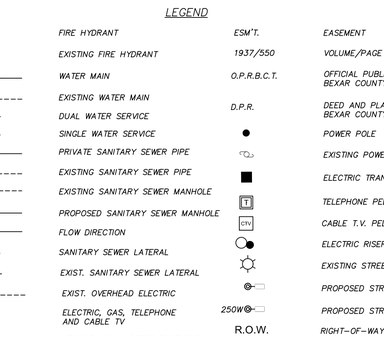
Date: Apr 16, 2025, 8:57am User ID: J.Ramones
File: c:_Projects\437 - Yoakum Rd Empower\437.11\ACAD\Sheets\C4.1 WATER OVERALL.dwg

LEGEND

	FIRE HYDRANT	ESM'T.	EASEMENT
	EXISTING FIRE HYDRANT	1937/550	VOLUME/PAGE
P8"W	WATER MAIN	O.P.R.B.C.T.	OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY TEXAS
E8"W	EXISTING WATER MAIN	D.P.R.	DEED AND PLAT RECORDS OF BEXAR COUNTY TEXAS
	DUAL WATER SERVICE		
	SINGLE WATER SERVICE		POWER POLE
P8"SS	PRIVATE SANITARY SEWER PIPE		EXISTING POWER POLE
E8"SS	EXISTING SANITARY SEWER PIPE		ELECTRIC TRANSFORMER
ESM	EXISTING SANITARY SEWER MANHOLE	T	TELEPHONE PEDESTAL
SM	PROPOSED SANITARY SEWER MANHOLE	CTV	CABLE T.V. PEDESTAL
	FLOW DIRECTION		ELECTRIC RISER POLE
	SANITARY SEWER LATERAL		EXISTING STREET LIGHT
	EXIST. SANITARY SEWER LATERAL		PROPOSED STREET LIGHT (100 WATT UG)
OE	EXIST. OVERHEAD ELECTRIC	250W	PROPOSED STREET LIGHT (250 WATT UG)
E.G.T.C.	ELECTRIC, GAS, TELEPHONE AND CABLE TV	R.O.W.	RIGHT-OF-WAY
VNAE	VEHICLE NON-ACCESS EASEMENT		BLOWOFF
BSL	BUILDING SETBACK LINE		

NOTES:

1. PROPOSED STREET LIGHTS SHALL BE LOCATED BETWEEN THE BACK OF CURB AND STREET R.O.W. AND INSTALLED PER THE CPS DESIGN.
2. ALL 8" AND 12" PIPE TO BE C-900 PVC DR-18, CLASS 235, UNLESS OTHERWISE INDICATED.
3. FIRE HYDRANTS AND VALVE BOXES TO BE RAISED TO PROPOSED TOP OF PARKWAY.
4. ALL PAVEMENT AND CURB REPAIR IS CONSIDERED INCIDENTAL AND SHOULD BE RESTORED TO PREVIOUS CONDITION IF NOT BETTER.
5. CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE RESPECTIVE CITY/COUNTY ROW PERMIT IS REQUIRED BEFORE PERFORMING WORK IN THE ROW.
6. THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE, http://www.saws.org/business_center/specs.
7. ALL WATER LINE JOINTS ARE TO BE RESTRAINED PER MANUFACTURERS RECOMMENDATIONS.
8. THE SIZE AND LOCATION OF UTILITY STRUCTURES (IF SHOWN) MAY BE EXAGGERATED FOR GRAPHICAL CLARITY. THE SURVEY SHOWS FIELD MEASURED SIZES AND DEPTHS AS OBSERVED FROM GROUND LEVEL OPENINGS.
9. CONTRACTOR SHALL OBTAIN RIGHT OF WAY PERMITS AND COORDINATE ALL REQUIRED INSPECTIONS FOR ALL WORK TO BE CONDUCTED IN BEXAR COUNTY RIGHT OF WAY



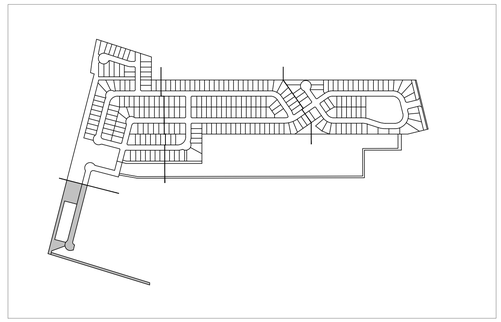
TYPICAL SANITARY SEWER / WATER CROSSING DETAIL
NOT TO SCALE

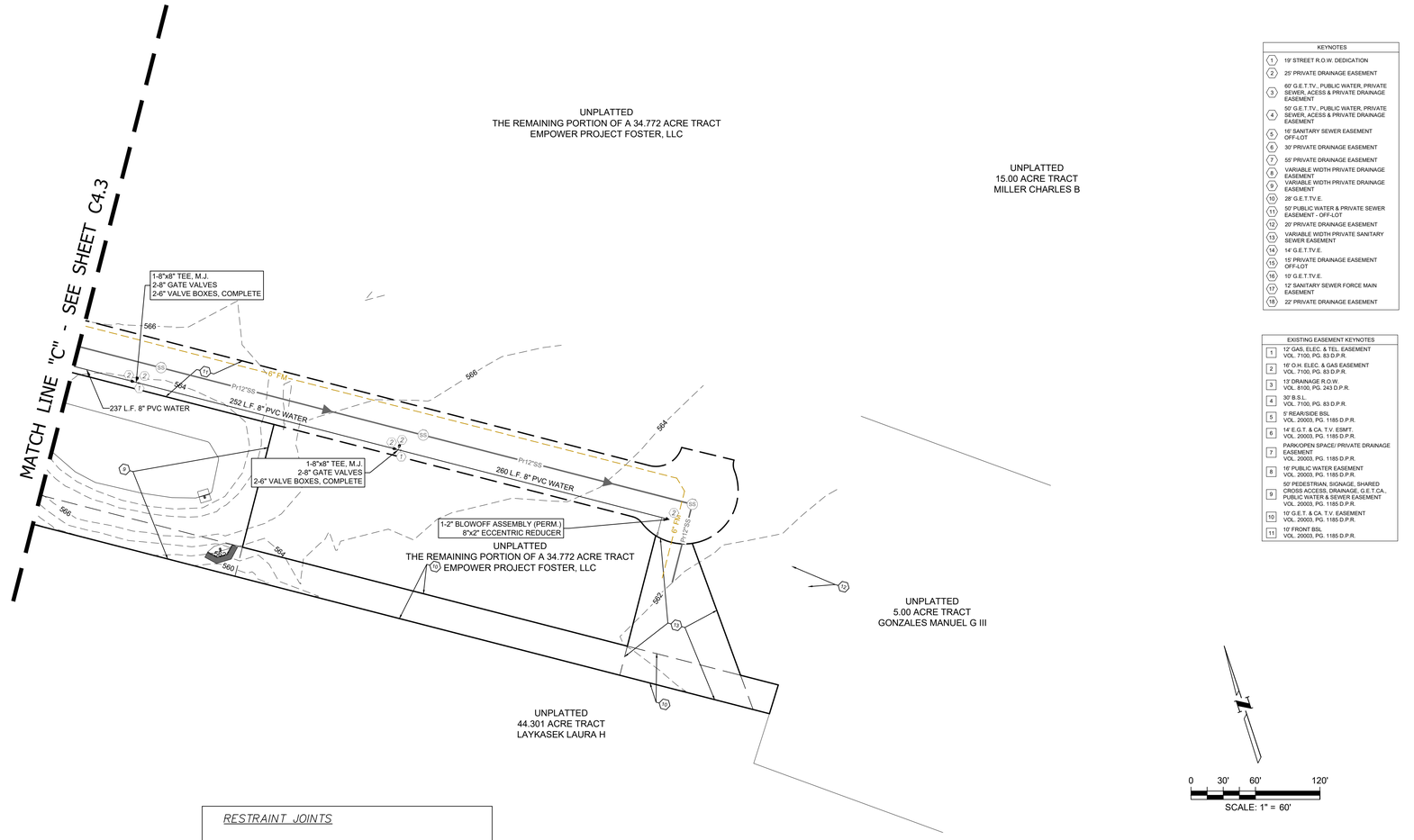
TRENCH EXCAVATION SAFETY PROTECTION

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

JOINT RESTRAINT NOTE:

CONTRACTOR SHALL INSTALL RETAINER GLANDS OR MEGALUGS AT ALL FITTINGS AND PROVIDE JOINT RESTRAINING HARNESS OR FIELD LOK GASKETS AT ALL JOINTS WITHIN THE LENGTH SHOWN. CONTRACTOR SHALL INSURE THAT ALL TEES, BENDS, VALVES, ETC. HAVE A MINIMUM OF 5 FT OF PIPE WITH NO JOINTS ON EACH SIDE OF THE FITTING. JOINT RESTRAINTS AND RETAINER GLANDS OR MEGALUGS SHALL BE CALCULATED BY SAWS APPROVED PROGRAMS AND VERIFIED BY SAWS INSPECTOR. CONTRACTOR SHALL INSTALL CONCRETE THRUST BLOCKING IN ACCORDANCE WITH SAWS STD. DRAWING 839 IN ADDITION TO JOINT RESTRAINS UNLESS OTHERWISE DIRECTED BY THE SAWS INSPECTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE JOINT RESTRAINTS AND THRUST BLOCKING WITH THE SAWS INSPECTOR.





KEYNOTES	
1	19' STREET R.O.W. DEDICATION
2	20' PRIVATE DRAINAGE EASEMENT
3	60' G.E.T.TV., PUBLIC WATER, PRIVATE SEWER, ACESS & PRIVATE DRAINAGE EASEMENT
4	50' G.E.T.TV., PUBLIC WATER, PRIVATE SEWER, ACESS & PRIVATE DRAINAGE EASEMENT
5	16' SANITARY SEWER EASEMENT OFF-LOT
6	30' PRIVATE DRAINAGE EASEMENT
7	55' PRIVATE DRAINAGE EASEMENT
8	VARIABLE WIDTH PRIVATE DRAINAGE EASEMENT
9	VARIABLE WIDTH PRIVATE DRAINAGE EASEMENT
10	28' G.E.T.TV.E.
11	50' PUBLIC WATER & PRIVATE SEWER EASEMENT - OFF-LOT
12	20' PRIVATE DRAINAGE EASEMENT
13	VARIABLE WIDTH PRIVATE SANITARY SEWER EASEMENT
14	14' G.E.T.TV.E.
15	15' PRIVATE DRAINAGE EASEMENT OFF-LOT
16	10' G.E.T.TV.E.
17	12' SANITARY SEWER FORCE MAIN EASEMENT
18	22' PRIVATE DRAINAGE EASEMENT

EXISTING EASEMENT KEYNOTES	
1	12' GAS, ELEC. & TEL. EASEMENT VOL. 7100, PG. 83 D.P.R.
2	16' O.H. ELEC. & GAS EASEMENT VOL. 7100, PG. 83 D.P.R.
3	13' DRAINAGE R.O.W. VOL. 8100, PG. 243 D.P.R.
4	30' B.S.L. VOL. 7100, PG. 83 D.P.R.
5	5' REAR/SIDE BSL VOL. 20003, PG. 1185 D.P.R.
6	14' E.G.T. & CA. T.V. ESMT. VOL. 20003, PG. 1185 D.P.R.
7	PARK/OPEN SPACE/ PRIVATE DRAINAGE EASEMENT VOL. 20003, PG. 1185 D.P.R.
8	16' PUBLIC WATER EASEMENT VOL. 20003, PG. 1185 D.P.R.
9	50' PEDESTRIAN, SIGNAGE, SHARED CROSS ACCESS, DRAINAGE, G.E.T.CA., PUBLIC WATER & SEWER EASEMENT VOL. 20003, PG. 1185 D.P.R.
10	10' G.E.T. & CA. T.V. EASEMENT VOL. 20003, PG. 1185 D.P.R.
11	10' FRONT BSL VOL. 20003, PG. 1185 D.P.R.

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

RESTRAINT JOINTS

1. ALL TEES RESTRAINT JOINT AS REQUIRED PER SAWS DD-839-04
2. ALL VALVES/DEAD ENDS RESTRAINT JOINT AS REQUIRED PER SAWS DD-839-05
3. ALL VERTICAL BENDS RESTRAINT JOINT AS REQIRED PER SAWS DD-839-06
4. ALL REDUCER RESTRAINT JOINT AS REQUIRED PER SAWS DD-839-07
5. ALL BENDS RESTRAINT JOINT AS REQUIRED PER SAWS DD-839-08

NOTES:

1. ALL WATER & SEWER LINES ON THE CUSTOMER'S SIDE OF THE METER OR SAWS CLEAN OUT ARE PRIVATE AND SUBJECT TO THE CITY OF SAN ANTONIO'S PLUMBING INSPECTIONS AND INSTALLATION PER HE CURRENT ADOPTED INTERNATIONAL PLUMBING CODE.

SAWS PRESSURE ZONE 750

Developer: SA DEVELOPMENT LLC
Address: PO BOX 189
City: TAYLOR State: MS Zip: 38673
Phone: (601) 260-7298 Fax:
SAWS Block Map: 198-538 Total EDUs: 264 Total Acreage: 52.348
Total Linear Footage of Pipe: 471 L.F. ~ 12" & 10112 L.F. ~ 8" Plat No.: 25-11800019
Number of Lots: 262 SAWS Job No.: ----

UP ENGINEERING
a Bowman company
111 TOWER DR., SUITE 125
SAN ANTONIO, TEXAS 78232 | TBPE F-14309
WWW.UPENGINEERING.COM

PRELIMINARY
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PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

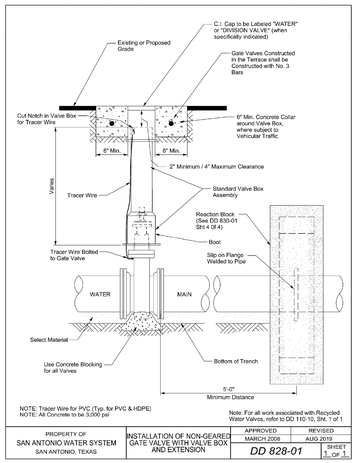
WATER OVERALL

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C4.4

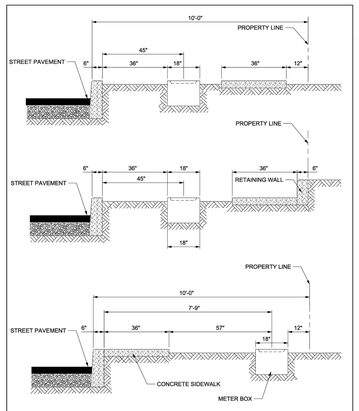
Date: Apr 16, 2025, 9:57am User ID: Lui Ramones
File: G:_Projects\1437 - Hyjon Rd Empower\1437\1A0A0\Sheets\CK1 WATER OVERALL.dwg



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

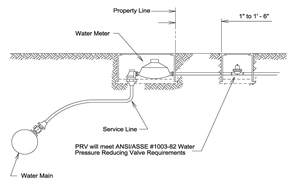
Note: For all work associated with Recycled Water Valves, refer to DD 110-10, SN, 1 of 1

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	INSTALLATION OF NON-GEARED GATE VALVE WITH VALVE BOX AND EXTENSION	APPROVED MARCH 2008	REVISED AUG 2019
		DD 828-01	SHEET 1 OF 1



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

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL METER BOX LOCATION	APPROVED MARCH 2008	REVISED MAY 2013
		DD-833-01	SHEET 1 OF 1

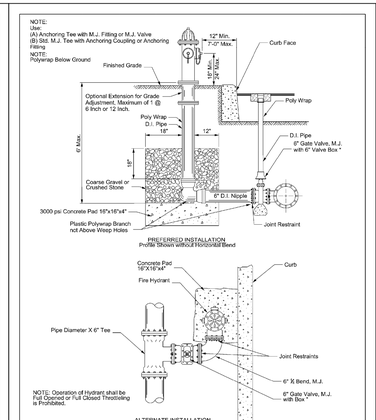


3/4" THRU 2" SERVICE
PRESSURE REDUCING VALVE

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

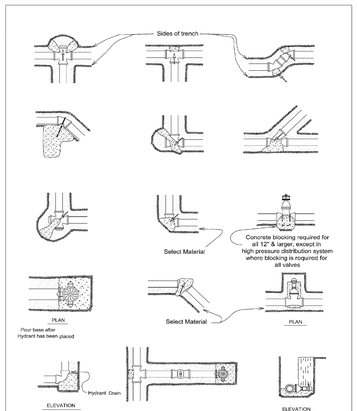
PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	SERVICE INSTALLATION WITH PRESSURE REDUCING VALVE	APPROVED MARCH 2008	REVISED AUG 2019
		DD-833-03	SHEET 1 OF 1

NOTE:
Use
(A) Anchoring Tee with M.J. Fitting or M.J. Valve
(B) Std. M.J. Tee with Anchoring Coupling or Anchoring Fitting
NOTE:
Polywrap Below Ground

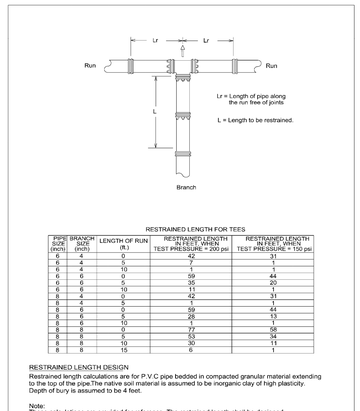


* Resilient Seat

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	FIRE HYDRANT INSTALLATION (JOINT RESTRAINT)	APPROVED MAY 2013	REVISED AUG 2019
		DD-834-01	SHEET 1 OF 3



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



RESTRAINED LENGTH FOR TEES

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

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

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

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	RESTRAINED LENGTHS FOR TEES	APPROVED March 2008	REVISED AUG 2019
		DD-839-04	SHEET 1 OF 2

RESTRAINED LENGTH FOR TEES (Cont'd)

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

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

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

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	RESTRAINED LENGTHS FOR TEES	APPROVED MARCH 2008	REVISED AUG 2019
		DD-839-04	SHEET 2 OF 2

L=LENGTH TO BE RESTRAINED

PIPE SIZE (inch)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 150 psi
6	59	44
8	77	58
10	93	69
12	109	82

RESTRAINED LENGTH DESIGN

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

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

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	RESTRAINED LENGTHS FOR DEAD ENDS / INLINE VALVES	APPROVED MARCH 2008	REVISED AUG 2019
		DD-839-05	SHEET 1 OF 1

L = Length to be restrained on both sides of fitting. When restrained lenghs overlap on the diagonal pipe, all pipe between fittings should be restrained.

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

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

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

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	RESTRAINED LENGTHS VERTICAL OFFSETS	APPROVED MARCH 2008	REVISED AUG 2019
		DD-839-06	SHEET 1 OF 1

PIPE SIZE (inch)	SMALL BOB (inch)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 150 psi
6	4	30	23
8	4	55	42
8	6	32	24
12	4	95	71
12	6	80	60
12	8	58	43

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

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

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

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

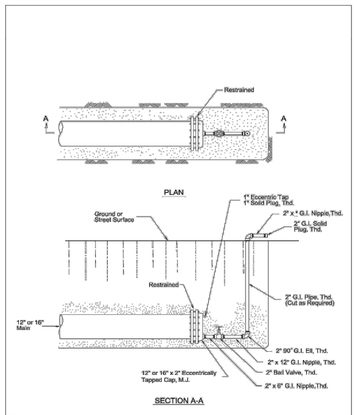
RESTRAINED LENGTH DESIGN
Restrained length calculations are for P.V.C pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

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

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

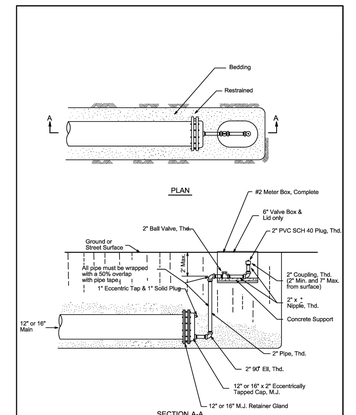
* Cut as required to extend beyond excavation

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



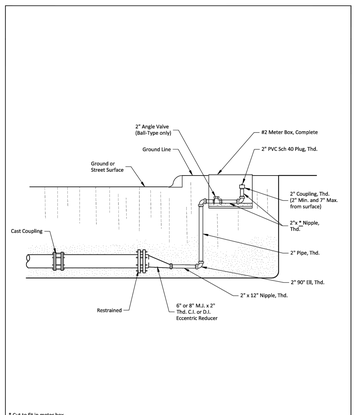
* Cut as required to extend beyond excavation.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	2" TEMPORARY BLOW-OFF ASSEMBLY ON 12" & 16" MAINS	APPROVED March 2008	REVISED AUG 2019
		DD-844-01	SHEET 2 OF 4



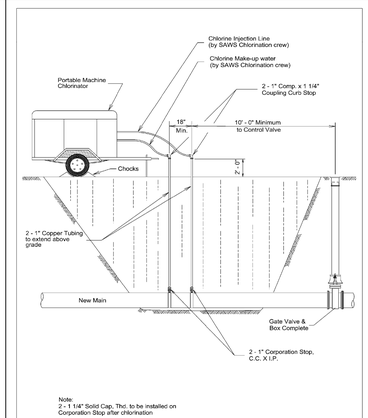
* Cut to fit in meter box.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	2" PERMANENT BLOW-OFF ASSEMBLY ON 12" & 16" MAINS	APPROVED MARCH 2008	REVISED MAY 2013
		DD-844-02	SHEET 1 OF 5



* Cut to fit in meter box

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



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

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	STANDARD CHLORINATION INSTALLATION	APPROVED March 2008	REVISED AUG 2019
		DD-847-01	SHEET 1 OF 1

SAWS PRESSURE ZONE 750

Developer: SA DEVELOPMENT LLC
Address: PO BOX 189
City: TAYLOR State: MS Zip: 38673
Phone: (601) 260-7298 Fax:
SAWS Block Map: 198-538 Total EDUs: 264 Total Acreage: 52.348
Total Linear Footage of Pipe: 471 L.F. ~ 12" & 10112 L.F. ~ 8" Plat No.: 25-11800019
Number of Lots: 262 SAWS Job No.: ----

UP ENGINEERING
a Bowman company
111 TOWER DR, SUITE 125
SAN ANTONIO, TEXAS 78232 (210) 744-5504
WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES
PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

WATER DETAILS

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C4.5

Date: Apr 16, 2025, 8:15am User ID: LJ Ramones
File: G:\...\Projects\437-Higbee Rd Dripower\437\LAD\Sheets\C4.5 WATER COVER.dwg

STREET & DRAIN CONSTRUCTION DOCUMENTS FOR

VISTA MHC - SUBDIVISION

BEXAR COUNTY, TEXAS

GENERAL NOTES

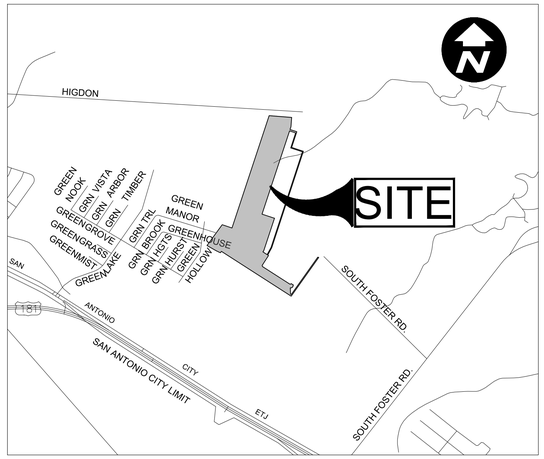
1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION JUNE 2008, OR LATEST.
2. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PAY ITEM TO WHICH IT RELATES.
3. THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES OR DRIVEWAYS. (NO SEPARATE PAY ITEM).
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". THE CITY'S CONSTRUCTION INSPECTOR AND TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF, IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND 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.
6. IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
7. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181 C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
8. CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR TWENTY FOUR (24) HOURS PRIOR TO BACKFILL OF ANY UTILITY TRENCHES TO SCHEDULE FOR DENSITY TEST AS REQUIRED.
9. CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
10. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO EXCAVATION OPERATION:

SAN ANTONIO WATER SYSTEM (SAWS)	210-233-2009
WATER & SEWER EMERGENCIES	210-704-7297
STORM DRAINAGE (CITY OF SAN ANTONIO)	210-207-8022
SIGNAL OPERATIONS (CITY OF SAN ANTONIO)	210-207-8022
TEXAS STATE WIDE ONE CALL LOCATOR	811
CPS ENERGY (GAS & ELECTRIC)	210-353-2000
CPS ELECTRIC/GAS ISSUES OR EMERGENCIES	210-353-4357
TIME WARNER	210-244-0500
AT&T	972-742-5892

11. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR THE MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND HE SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.
12. ALL WASTE MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE PROJECT. NO WASTE MATERIAL SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE.
13. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
14. THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND / OR TRACKED CONSTRUCTION MATERIALS AND / OR DEBRIS.
15. IF THE CONTRACTOR ENCOUNTERS ANY ARCHAEOLOGICAL DEPOSITS DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR MUST STOP EXCAVATION IMMEDIATELY, CONTACT THE CITY INSPECTOR, AND CALL THE CITY HISTORIC PRESERVATION OFFICE AT 210-215-9274 FOR AN ARCHAEOLOGICAL INVESTIGATION. THE CONTRACTOR CANNOT BEGIN EXCAVATION AGAIN WITHOUT WRITTEN PERMISSION FROM THE CITY.

    IF MORE THAN THREE (3) DAYS ARE REQUIRED FOR INVESTIGATION (NOT INCLUDING HOLIDAY AND WEEKENDS) AND IF THE CONTRACTOR IS UNABLE TO WORK IN OTHER AREAS, THEN THE CONTRACTOR WILL BE ALLOWED TO NEGOTIATE FOR ADDITIONAL CONSTRUCTION TIME UPON WRITTEN REQUEST WITHIN TEN (10) DAYS AFTER THE FIRST NOTICE TO THE CITY OF ARCHAEOLOGICAL INVESTIGATION FOR EACH EVENT.

    IF THE TIME REQUIRED FOR INVESTIGATION IS LESS THAN OR EQUAL TO THREE (3) DAYS FOR EACH EVENT, CONTRACT DURATION WILL NOT BE EXTENDED.
16. IF SUSPECTED CONTAMINATION IS ENCOUNTERED DURING CONSTRUCTION OPERATIONS, C.O.S.A. SHALL BE NOTIFIED IMMEDIATELY WHEN CONTAMINATED SOILS AND / OR GROUNDWATER ARE ENCOUNTERED AT LOCATIONS NOT IDENTIFIED IN THE PLANS. THE NOTIFICATION SHOULD INCLUDE THE STATION NUMBER, TYPE OF CONTAMINATED MEDIA, EVIDENCE OF CONTAMINATION AND MEASURES TAKEN TO CONTAIN THE CONTAMINATED MEDIA AND PREVENT PUBLIC ACCESS. THE CONTAMINATED SOIL AND / OR GROUNDWATER SHALL NOT BE REMOVED FROM THE LOCATION WITHOUT PRIOR C.O.S.A. APPROVAL. THE CONTRACTOR MUST STOP THE EXCAVATION IMMEDIATELY AND CONTACT THE C.O.S.A. INSPECTOR. THE CONTRACTOR CANNOT BEGIN EXCAVATION ACTIVITIES WITHOUT WRITTEN PERMISSION FROM THE CITY.

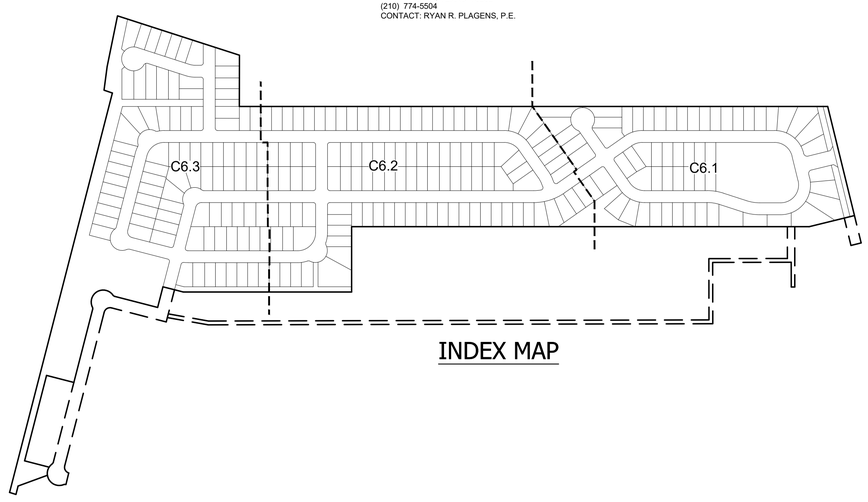


VICINITY MAP
NOT TO SCALE

SUBMITTAL DATE:
APRIL 16, 2025

OWNER/DEVELOPER: SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

ENGINEER: UP ENGINEERING a Bowman company
111 TOWER DR, SUITE 325
SAN ANTONIO, TEXAS 78232
(210) 774-5504
CONTACT: RYAN R. PLAGENS, P.E.



INDEX MAP

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C5.1	SIGN PLAN
C5.2	SIGN PLAN
C5.3	SIGN PLAN
C5.4	TRAFFIC DETAILS
C5.5	CACTUS BLOOM PLAN & PROFILE
C5.6	CITRINE WAY PLAN & PROFILE
C5.7	CITRINE WAY PLAN & PROFILE
C5.8	RIO GRANDE WAY PLAN & PROFILE
C5.9	RIO GRANDE WAY PLAN & PROFILE
C5.10	RIO GRANDE WAY PLAN & PROFILE
C5.11	RED JASPER AVENUE PLAN & PROFILE
C5.12	RED JASPER AVENUE PLAN & PROFILE
C5.13	RUBY WAY PLAN & PROFILE
C5.14	RUBY WAY PLAN & PROFILE
C5.15	RUBY WAY PLAN & PROFILE
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C5.17	QUICK FOX LANE PLAN & PROFILE
C5.18	TYPICAL STREET SECTIONS
C5.19	TYPICAL STREET DETAILS
C5.20	HIGDON TURN LANE
C5.21	HIGDON TURN LANE
C5.22	TURN LANE DETAILS
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C5.24	DRAIN "A" PLAN & PROFILE
C5.25	DRAIN "B" PLAN & PROFILE
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C5.27	DRAIN "D" PLAN & PROFILE
C5.28	DRAIN "E" PLAN & PROFILE
C5.29	DRAIN "E1" PLAN & PROFILE
C5.30	DRAIN "F" PLAN & PROFILE
C5.31	DRAIN "G" PLAN & PROFILE
C5.32	DETENTION POND "A"
C5.33	DETENTION POND "A" DETAILS
C5.34	DRAIN DETAILS
C5.35	DRAIN DETAILS
C5.36	DRAIN DETAILS
C5.37	DRAIN DETAILS

OWNER/DEVELOPER: SA DEVELOPMENT LLC
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TAYLOR, MS 38673

SURVEYOR: UP ENGINEERING a Bowman company
111 TOWER DR, SUITE 325
SAN ANTONIO, TEXAS 78232
(210) 774-5504
CONTACT: RICHARD L. NEUBAEUER, RPLS.

ENGINEER: UP ENGINEERING a Bowman company
111 TOWER DR, SUITE 325
SAN ANTONIO, TEXAS 78232
(210) 774-5504
CONTACT: RYAN R. PLAGENS, P.E.

GEOTECHNICAL ENGINEER: InTEC OF SAN ANTONIO, L.P.
12028 RADIUM
SAN ANTONIO, TX 78216
(210) 525-9033

UP ENGINEERING a Bowman company
111 TOWER DR, SUITE 325
SAN ANTONIO, TEXAS 78232
(210) 774-5504
WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

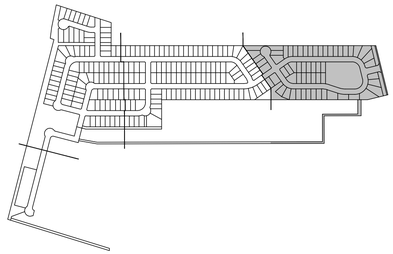
STREET COVER

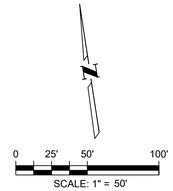
REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.0

Date: Apr 16, 2025, @ 10am User ID: LJ Romrose
File: U:_Projects\437 - Higdon Rd Emplacem\437.1\ACAD\Sheets\C6.0 STREET COVER.dwg





LOT 1, BLOCK 113
C.B. 4007
HIDGON OAKS SUBDIVISON

MATCH LINE "A"

SEE SHEET C5.2

RED JASPER AVENUE

RIO GRANDE WAY

CYPRESS CREEK DR

HIGDON RD.

TYPE II-B-B (BACK-TO-BACK BLUE) RPM AT ROADWAY CL. IN FRONT OF FIRE HYDRANT COSA SPEC. 537.8 - 1 EA.

R1-1 STOP SIGN
SEE CSA PW SPEC. 531.57 & 531.3

D3-9" [229 mm] RIO GRANDE WAY
D3-9" [229 mm] RED JASPER AVENUE
R1-1 STOP SIGN
SEE CSA PW SPEC. 531.57 & 531.3

D3-9" [229 mm] CYPRESS CREEK DR
D3-9" [229 mm] RIO GRANDE WAY
R1-1 STOP SIGN
SEE CSA PW SPEC. 531.57 & 531.3

SPEED LIMIT SIGN

D3-9" [229 mm] CYPRESS CREEK DR
D3-9" [229 mm] HIGDON RD.

D3-9" [229 mm] CYPRESS CREEK DR
D3-9" [229 mm] RED JASPER AVENUE

UNPLATTED
THE REMAINING PORTION OF A 32.557 ACRE TRACT
EMPOWER PROJECT FOSTER, LLC

UNPLATTED
THE REMAINING PORTION OF A 32.557 ACRE TRACT
EMPOWER PROJECT FOSTER, LLC

Date: Apr 16, 2025, 8:15am User ID: LJ Ramones
File: c:_Projects\437 – Higdon Rd Empower\437.11\ACAD\Sheets\C6.1–C6.3 TRAFFIC PLAN.dwg

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WWW.UPENGINEERING.COM | TBPE F-14309
TBPLS F-10193900

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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

SIGN PLAN

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.1

LOT 1, BLOCK 113
C.B. 4007
HIDGON OAKS SUBDIVISON

LOT 1, BLOCK 113
C.B. 4007
HIDGON OAKS SUBDIVISON

0 25' 50' 100'
SCALE: 1" = 50'

97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126

RUBY WAY

MATCH LINE "A"

TYPE II-B-B (BACK-TO-BACK BLUE) RPM AT ROADWAY CL. IN FRONT OF FIRE HYDRANT COSA SPEC. 537.8 - 1 EA.

D3-9" [229 mm] CITRINE WAY
D3-9" [229 mm] RUBY WAY
R1-1 STOP SIGN
SEE CSA PW SPEC. 531.57 & 531.3

TYPE II-B-B (BACK-TO-BACK BLUE) RPM AT ROADWAY CL. IN FRONT OF FIRE HYDRANT COSA SPEC. 537.8 - 1 EA.

208 207 206 205

186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204

SEE SHEET C5.3

CITRINE WAY

239 240 241 242

R1-1 STOP SIGN
SEE CSA PW SPEC. 531.57 & 531.3

185 184 183 182 181 180 179 178 177 176 175 174 173 172 171 170

D3-9" [229 mm] RIO GRANDE WAY
D3-9" [229 mm] RUBY WAY
R1-1 STOP SIGN
SEE CSA PW SPEC. 531.57 & 531.3

TYPE II-B-B (BACK-TO-BACK BLUE) RPM AT ROADWAY CL. IN FRONT OF FIRE HYDRANT COSA SPEC. 537.8 - 1 EA.

TYPE II-B-B (BACK-TO-BACK BLUE) RPM AT ROADWAY CL. IN FRONT OF FIRE HYDRANT COSA SPEC. 537.8 - 1 EA.

RIO GRANDE WAY

MATCH LINE "B"

D3-9" [229 mm] CITRINE WAY
D3-9" [229 mm] RIO GRANDE WAY
R1-1 STOP SIGN
SEE CSA PW SPEC. 531.57 & 531.3

246 245 244 243

42 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19

43

260 261 262

44

45

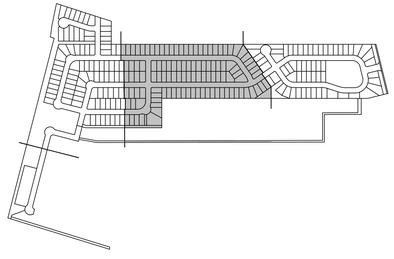
46

50 49 48 47

SEE SHEET C5.1

UNPLATTED
THE REMAINING PORTION OF A 32.557 ACRE TRACT
EMPOWER PROJECT FOSTER, LLC

UNPLATTED
THE REMAINING PORTION OF A 20.051 ACRE TRACT
EMPOWER PROJECT FOSTER, LLC



UP ENGINEERING
a Bowman company
111 TOWER DR., SUITE 325
SAN ANTONIO, TEXAS 78232 | 210-774-5504
WWW.UPENGINEERING.COM | TBPE F-14309

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PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

SIGN PLAN

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.2

Date: Apr 16, 2025, @ 15pm User ID: J.J.Bonnales
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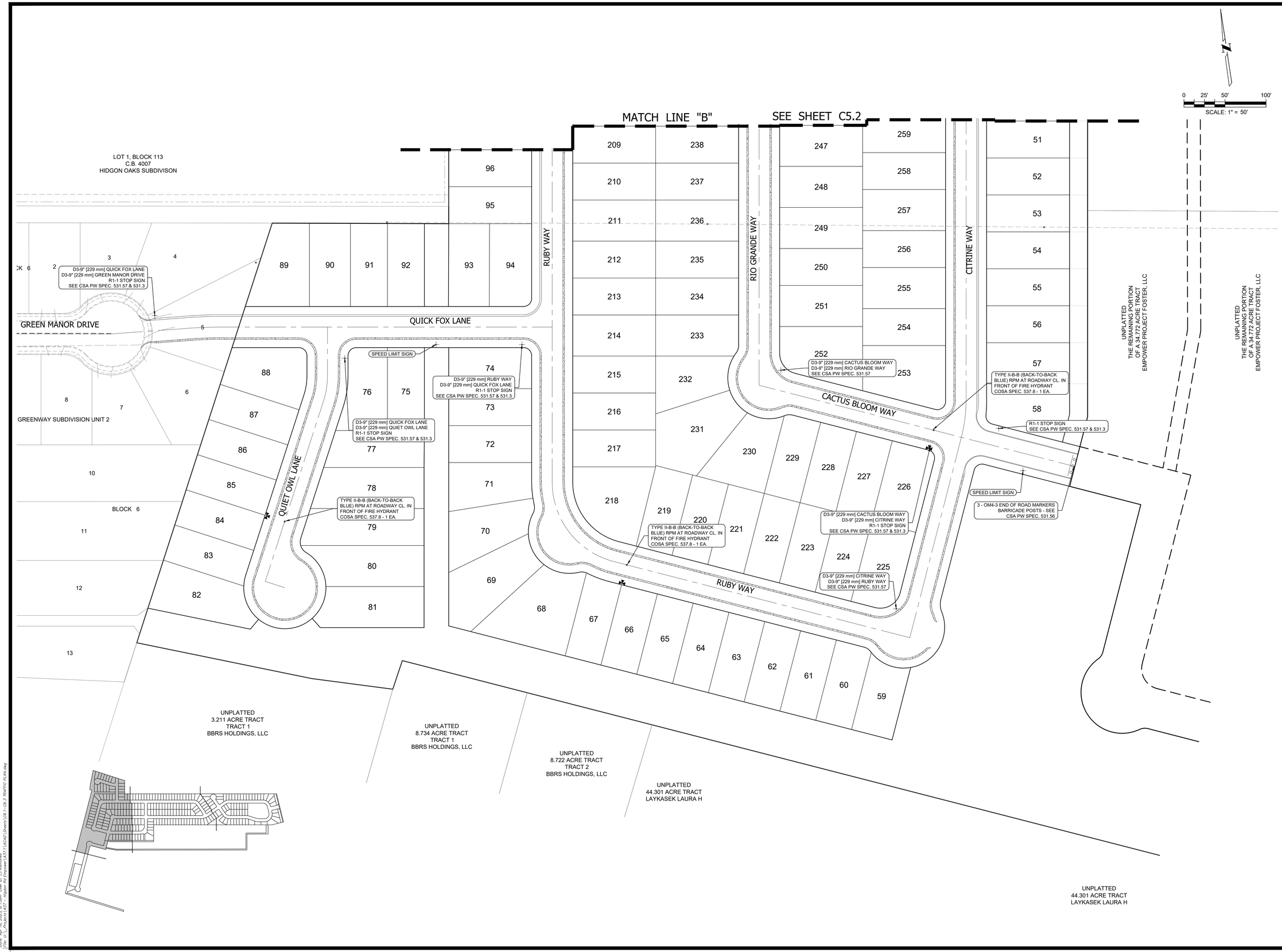

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UP ENGINEERING
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111 TOWER DR, SUITE 125
SAN ANTONIO, TEXAS 78232 | 210-774-5504
WWW.UPENGINEERING.COM | TBPE F-14309
TBPLS 10194000

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P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

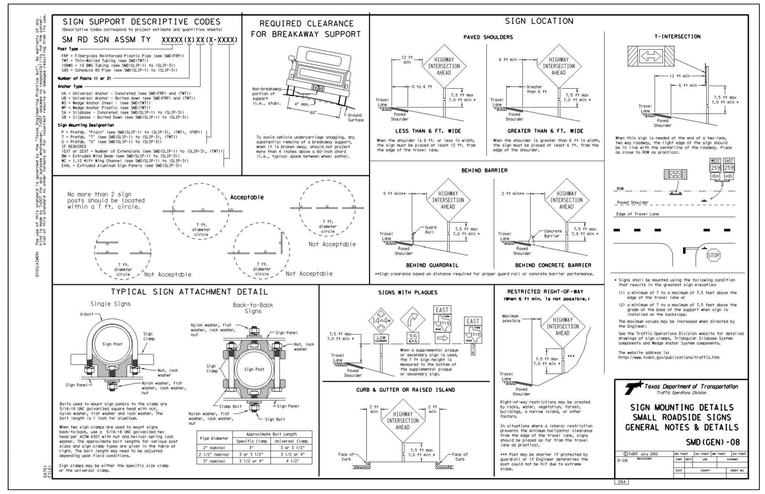
VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

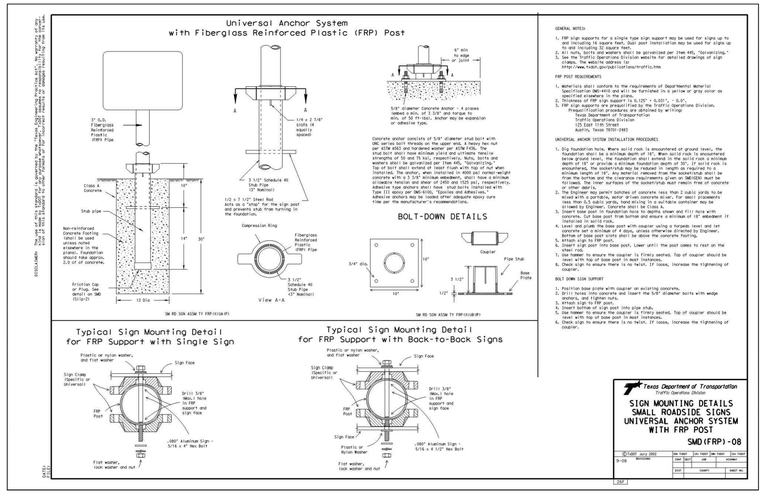
SIGN PLAN

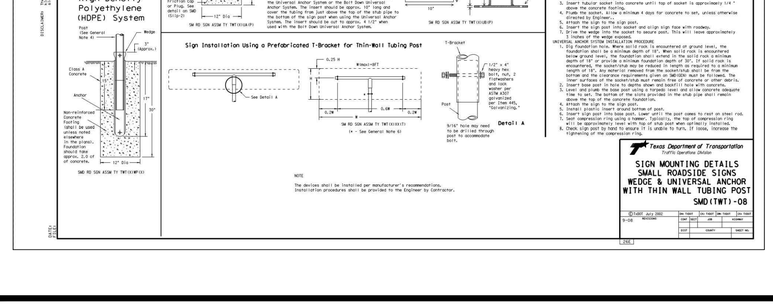
REV	DATE	DESCRIPTION	BY

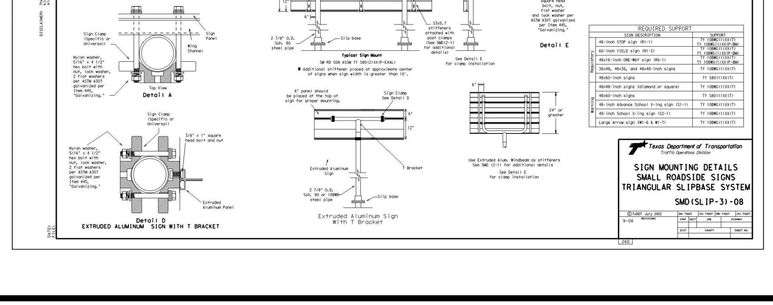
DESIGNED BY:
DRAFTED BY:
CHECKED BY:

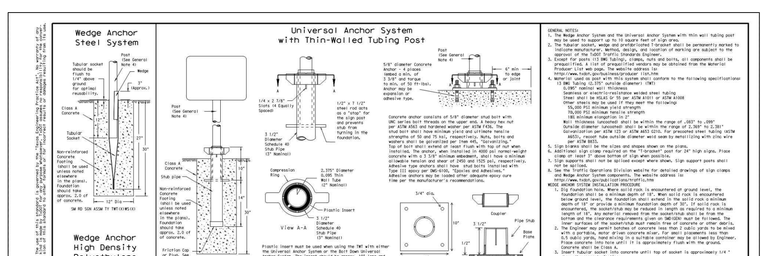
SHEET
C5.3

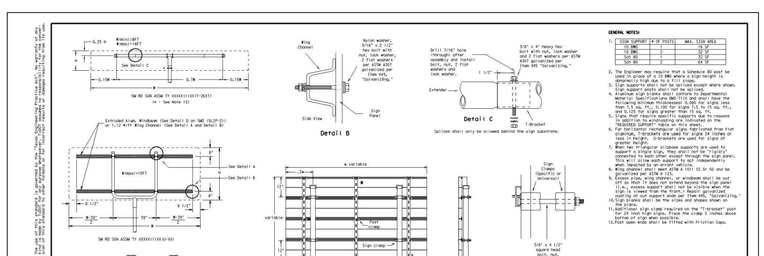


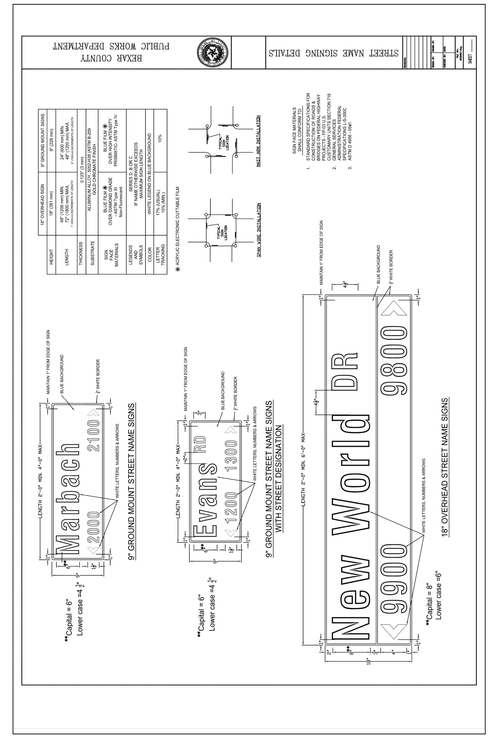


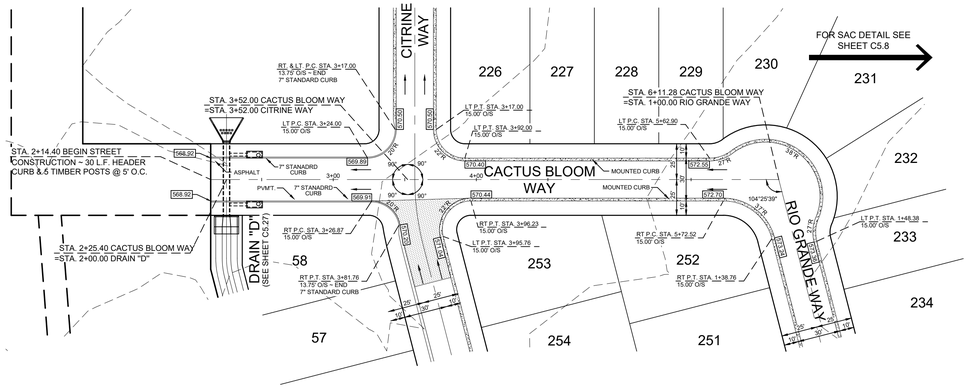


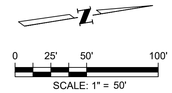







BEXAR COUNTY
PUBLIC WORKS DEPARTMENT
STREET NAME SIGNING DETAILS
SIGN PLATE MATERIALS
1. ALUMINUM SHEET CONFORMING TO ASTM B209 ALLOY 6061-T6 OR ALLOY 5052-H38 WITH A MINIMUM THICKNESS OF 0.080 INCH.
2. ALUMINUM EXTRUSIONS CONFORMING TO ASTM B221 ALLOY 6063-T6.
3. ALL HARDWARE SHALL BE STAINLESS STEEL.
BASE AND INSTALLATION
STEEL POST
STEEL POST
STEEL POST

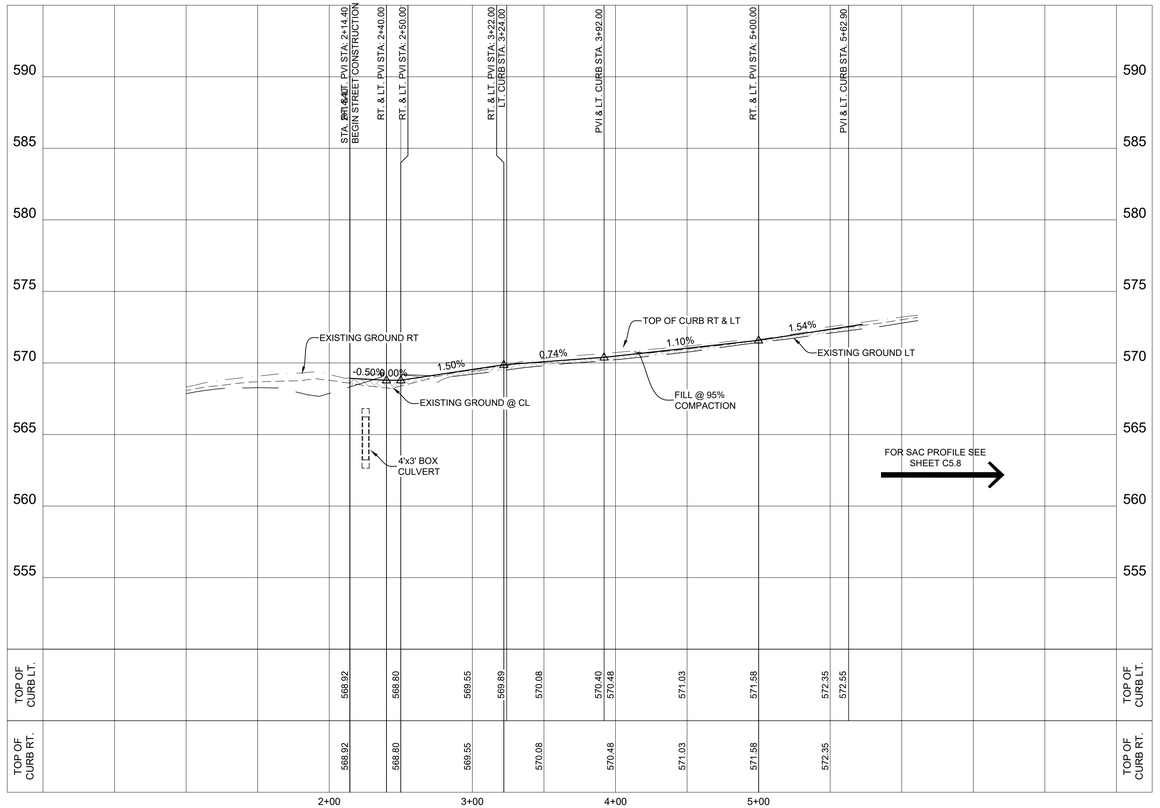




CACTUS BLOOM WAY

STA. 2+26.00 TO STA. 6+11.28

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



LEGEND

	BOUNDARY / RIGHT OF WAY
	EASEMENT / SETBACK
	CURB / EDGE OF PAVEMENT
102	EXIST. GRADE ELEVATIONS
102	PROP. GRADE ELEVATIONS
	DIRECTION OF FLOW
TC	TOP OF CURB ELEVATION
G	GUTTER ELEVATION
FL	FLOW LINE ELEVATION
HP	HIGH POINT ELEVATION
LP	LOW POINT ELEVATION
ME	MATCH EXISTING ELEVATION
ROW	RIGHT OF WAY
BSL	BUILDING SETBACK LINE
FC	FACE OF CURB
LT	LEFT
RT	RIGHT
	WASHOUT CROWN
572.50	TOP OF CURB ELEVATION

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PRELIMINARY
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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS, P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

CACTUS BLOOM PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

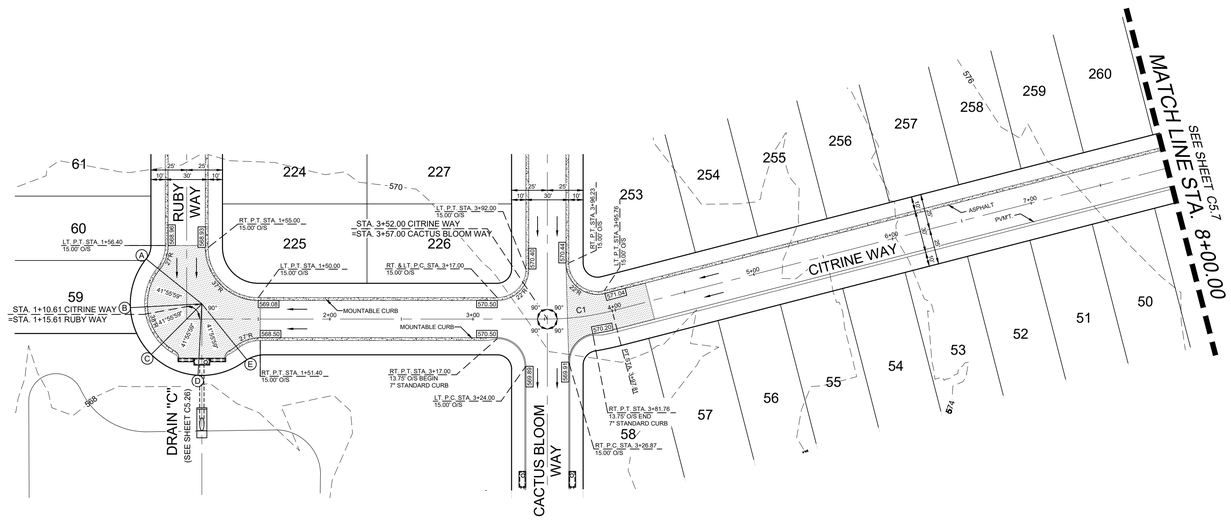
DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.5

Date: Apr 16, 2025, 8:16pm User ID: LJ Ramones
File: G:__Projects\1437 – Ingalls Rd Enclave\1437.11\ACAD\1Sheets\05.5 QUICK FOR & CACTUS BLOOM WAY P&P.dwg

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	CHORD	CHORD BEARING
C1	181.93'	45.81'	14°25'39"	45.69'	N25°30'45"E
C2	100.00'	157.08'	90°00'00"	141.42'	N26°42'04"W

KNUCKLE SAC TABLE		
POINT	TOP OF CURB	GUTTER
STA. 1+51.40	569.80	569.47
A	569.53	569.20
B	569.08	568.75
C	568.89	568.56
D	569.06	568.73
E	569.50	569.17
STA. 1+51.40	569.77	569.44



LEGEND

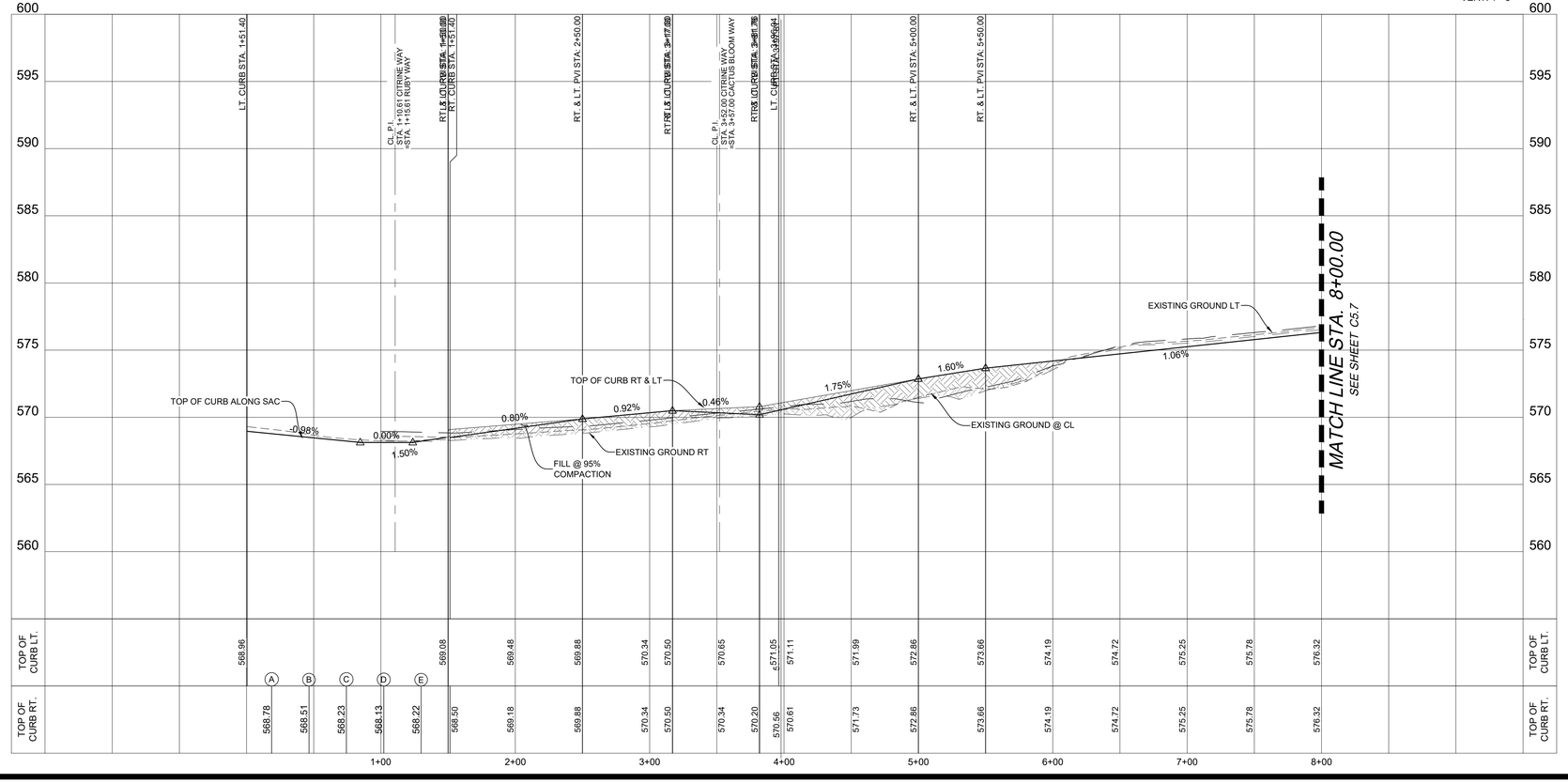
- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- EXIST. GRADE ELEVATIONS
- PROP. GRADE ELEVATIONS
- DIRECTION OF FLOW
- TC — TOP OF CURB ELEVATION
- G — GUTTER ELEVATION
- FL — FLOW LINE ELEVATION
- HP — HIGH POINT ELEVATION
- LP — LOW POINT ELEVATION
- ME — MATCH EXISTING ELEVATION
- ROW — RIGHT OF WAY
- BSL — BUILDING SETBACK LINE
- FC — FACE OF CURB
- LT — LEFT
- RT — RIGHT
- WASHOUT CROWN
- 572.50 — TOP OF CURB ELEVATION

0 25' 50' 100'
SCALE: 1" = 50'

CITRINE WAY

STA. 1+00.00 TO STA. 8+00.00

SCALE:
HORIZ. 1"=50'
VERT. 1"=5'



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PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

CITRINE WAY PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

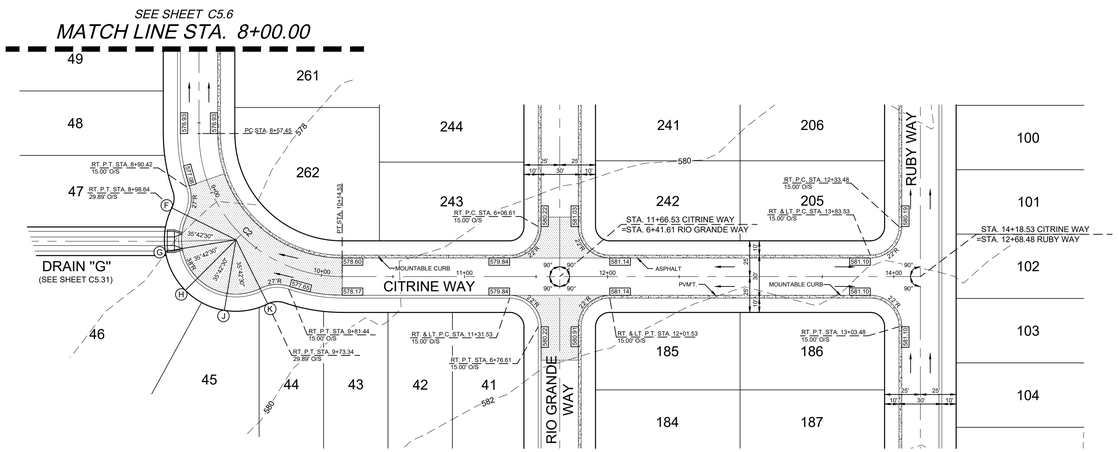
DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.6

Date: Apr 16, 2025, 8:16am User ID: LJ Flamenco
File: G:\...\Projects\437 – Higgins Rd Empower\437(1).ACAD\Sheets\C6.6 – C6.7 CITRINE WAY.dwg

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	CHORD	CHORD BEARING
C1	181.93'	45.81'	14°25'39"	45.69'	N25°30'45"E
C2	100.00'	157.08'	90°00'00"	141.42'	N26°42'04"W

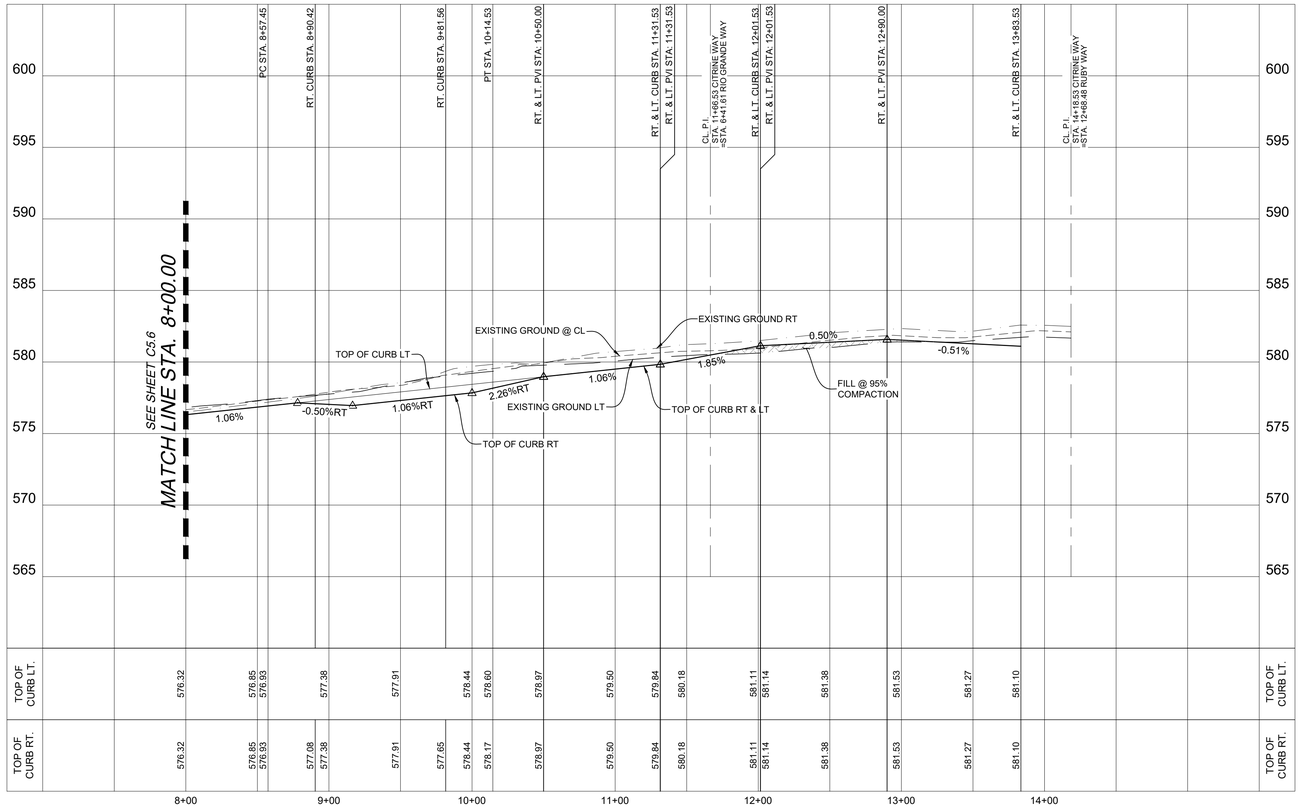
KNUCKLE SAC TABLE		
POINT	TOP OF CURB	GUTTER
F	576.86	576.52
G	576.72	576.39
H	576.95	576.62
J	577.19	576.85
K	577.42	577.09



CITRINE WAY

STA. 8+00.00 TO STA. 11+78.21

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- (102) PROP. GRADE ELEVATIONS
- DIRECTION OF FLOW
- TC TOP OF CURB ELEVATION
- G GUTTER ELEVATION
- FL FLOW LINE ELEVATION
- HP HIGH POINT ELEVATION
- LP LOW POINT ELEVATION
- ME MATCH EXISTING ELEVATION
- ROW RIGHT OF WAY
- BSL BUILDING SETBACK LINE
- FC FACE OF CURB
- LT LEFT
- RT RIGHT
- WASHOUT CROWN
- 572.50 TOP OF CURB ELEVATION

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PRELIMINARY
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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

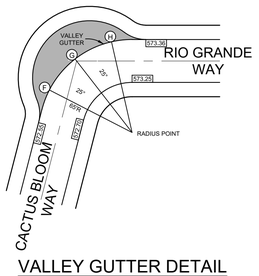
CITRINE WAY PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

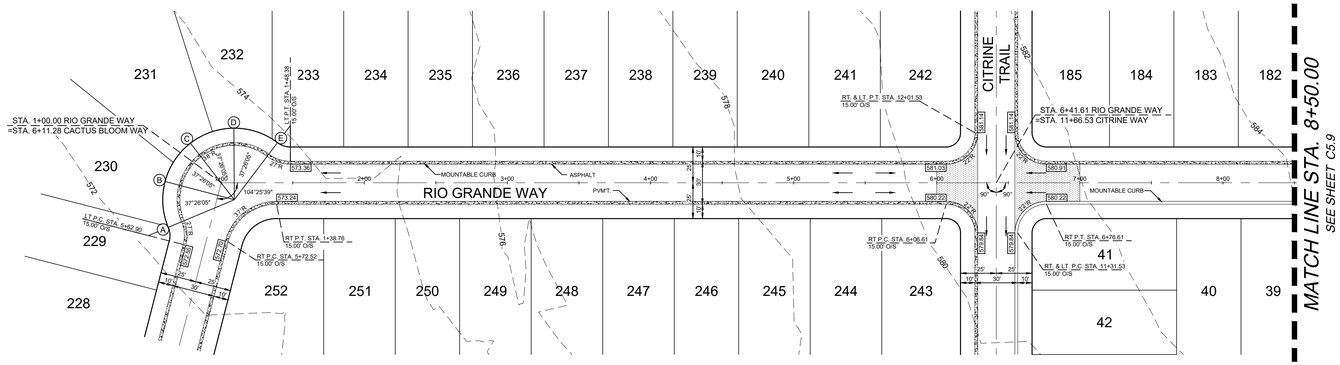
SHEET
C5.7

Date: Apr 16, 2025, 8:16am User ID: LJ Ramones
File: G:__Projects\437 – Ingalls Rd Engineer\437.1\ACAD\1 Sheets\05.6 – C5.7 CITRINE WAY.dwg



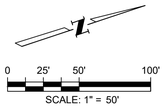
VALLEY GUTTER DETAIL

VALLEY GUTTER TABLE		
POINT	TOP OF CURB	GUTTER
STA. 5+62.90	572.55	572.22
A	572.77	572.44
B	573.03	572.70
C	573.23	572.90
D	573.32	572.99
E	573.31	572.98
F	-	572.42
G	-	572.63
H	-	572.83
STA. 1+48.38	573.36	573.03



LEGEND

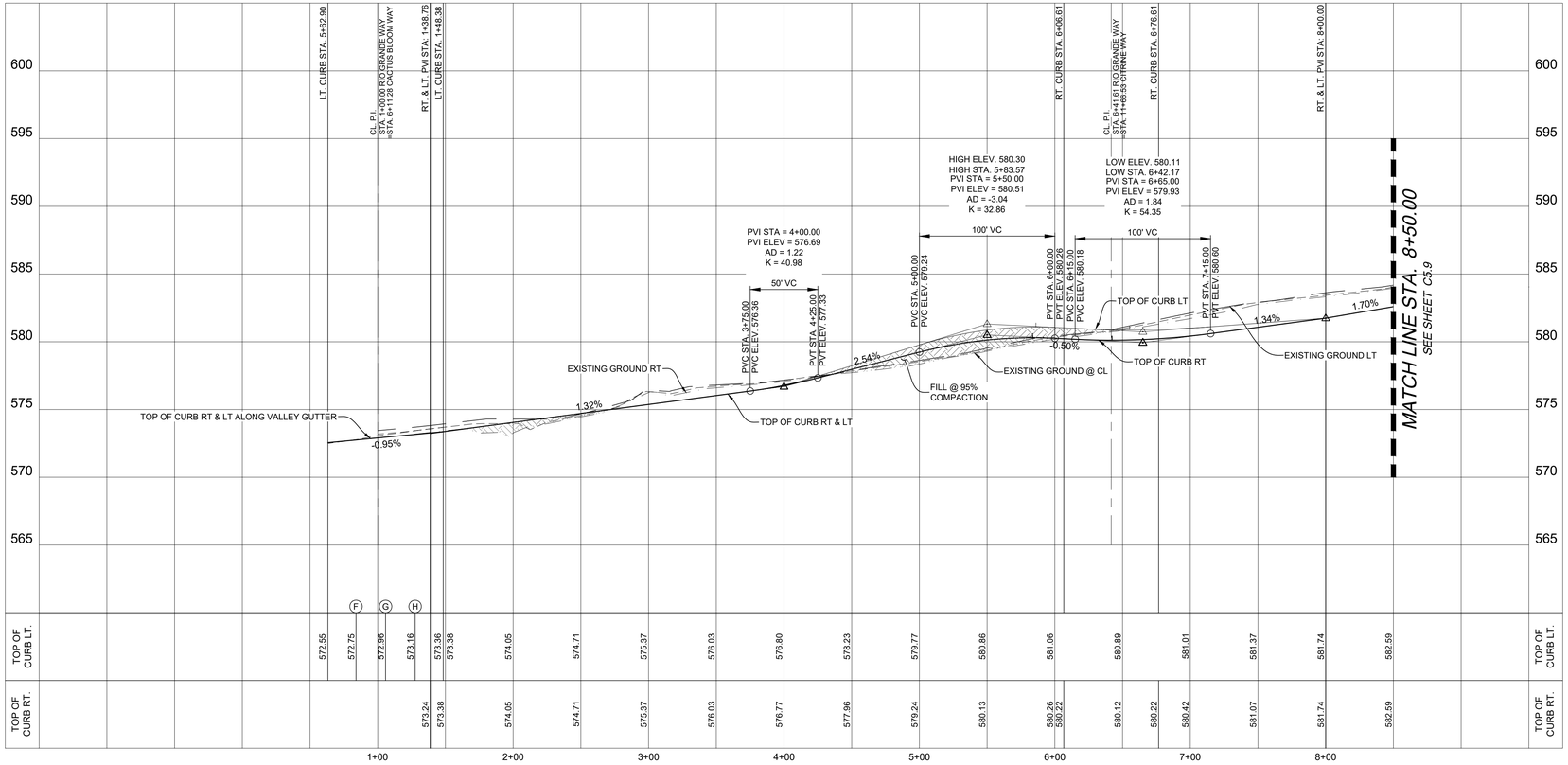
- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- 102 PROP. GRADE ELEVATIONS
- DIRECTION OF FLOW
- TC TOP OF CURB ELEVATION
- G GUTTER ELEVATION
- FL FLOW LINE ELEVATION
- HP HIGH POINT ELEVATION
- LP LOW POINT ELEVATION
- ME MATCH EXISTING ELEVATION
- ROW RIGHT OF WAY
- BSL BUILDING SETBACK LINE
- FC FACE OF CURB
- LT LEFT
- RT RIGHT
- WASHOUT CROWN
- 572.50 TOP OF CURB ELEVATION



RIO GRANDE WAY

STA. 1+00.00 TO STA. 8+50.00

SCALE:
HORIZ. 1"=50'
VERT. 1"=5'



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RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

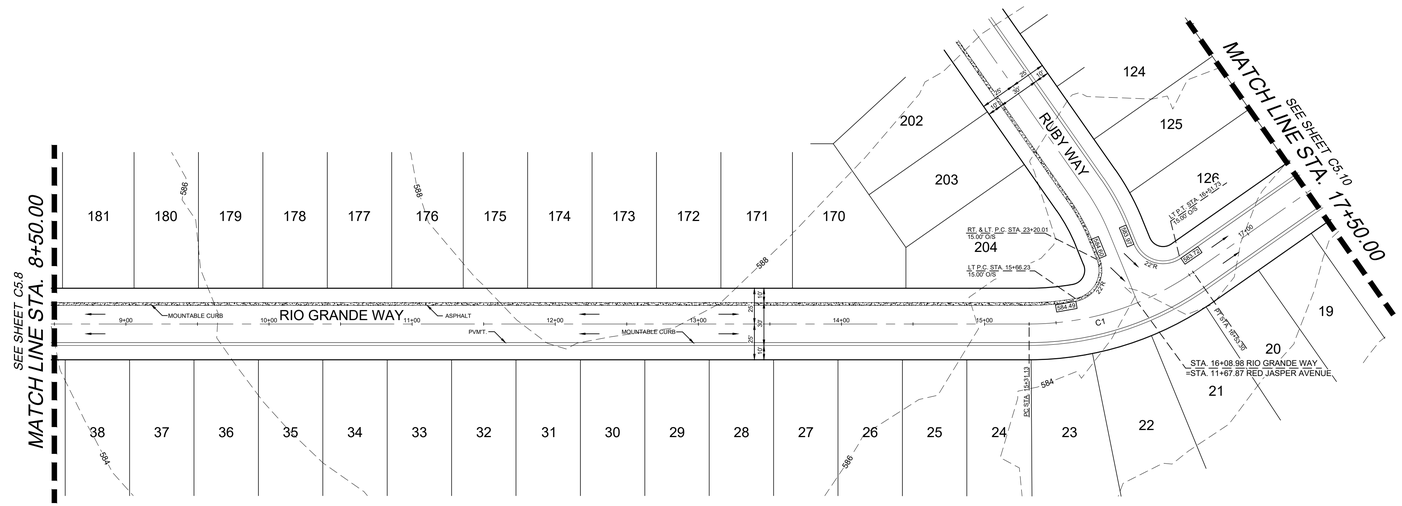
RIO GRANDE WAY PLAN & PROFILE

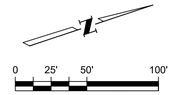
REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.8

Date: Apr 16, 2025, 8:16am User ID: Li Romones
File: U:_Projects\143 – Wigton Rd Empower\143-1\ACAD\Sheets\C5.8–05–10 RIO GRANDE WAY.dwg





LEGEND

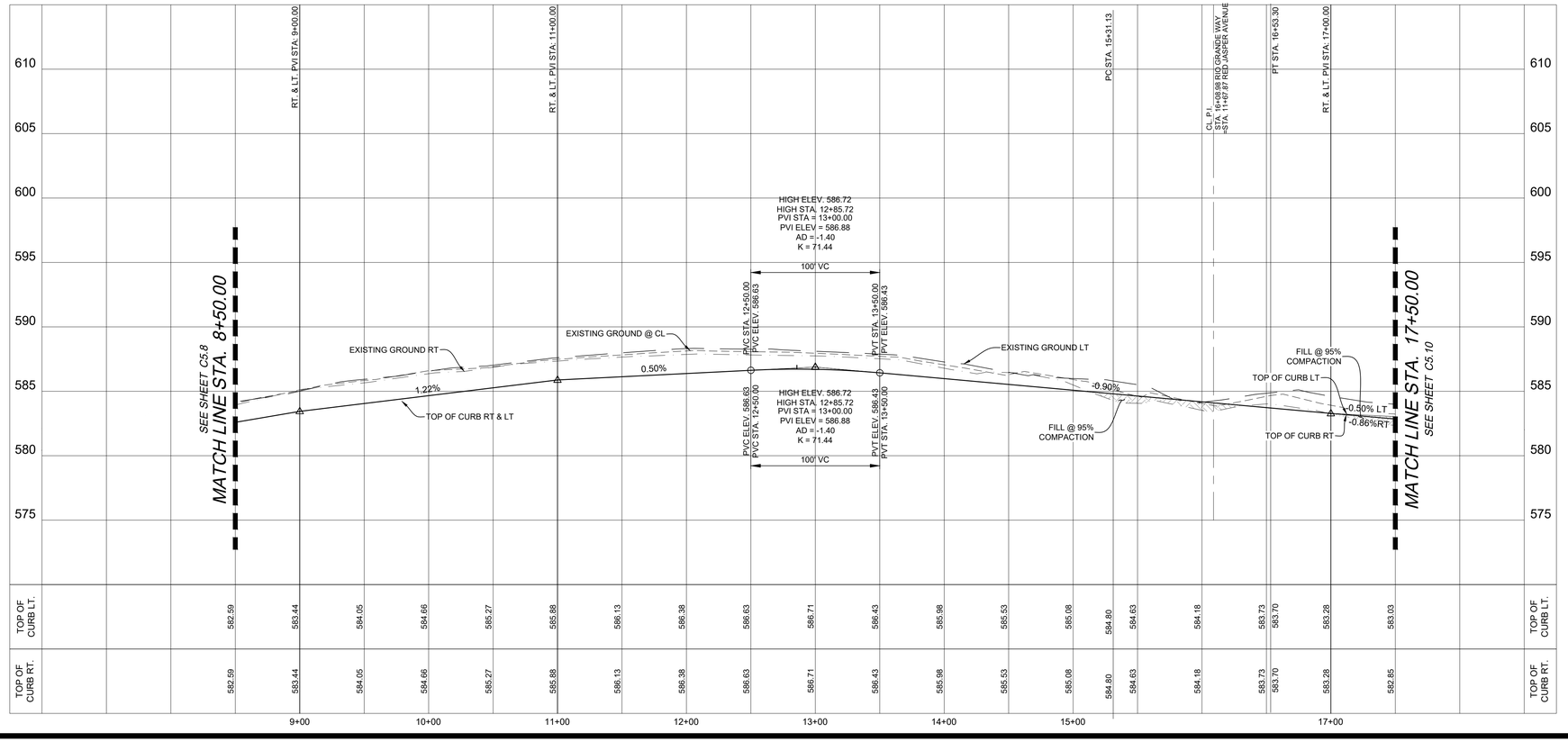
	BOUNDARY / RIGHT OF WAY
	EASEMENT / SETBACK
	CURB / EDGE OF PAVEMENT
102	EXIST. GRADE ELEVATIONS
102	PROP. GRADE ELEVATIONS
	DIRECTION OF FLOW
TC	TOP OF CURB ELEVATION
G	GUTTER ELEVATION
FL	FLOW LINE ELEVATION
HP	HIGH POINT ELEVATION
LP	LOW POINT ELEVATION
ME	MATCH EXISTING ELEVATION
ROW	RIGHT OF WAY
BSL	BUILDING SETBACK LINE
FC	FACE OF CURB
LT	LEFT
RT	RIGHT
	WASHOUT CROWN
572.50	TOP OF CURB ELEVATION

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	CHORD	CHORD BEARING
C1	200.00'	122.17'	35°00'00"	120.28'	N0°47'56"E

RIO GRANDE WAY

STA. 8+50.00 TO STA. 17+50.00

SCALE:
HORIZ. 1"=50'
VERT. 1"=5'



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PRELIMINARY
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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

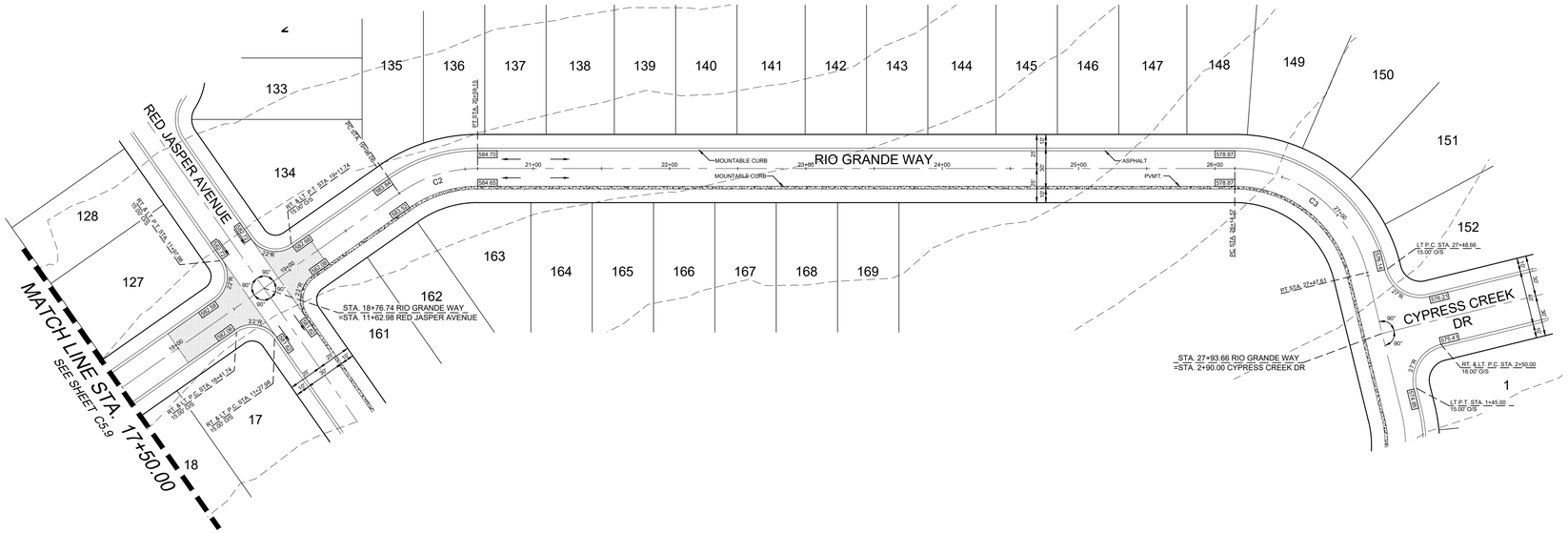
RIO GRANDE WAY PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.9

Date: Apr 16, 2025, 8:16am User ID: Lj Romones
File: U:_Projects\143 – Wigton Rd Empower\143-1\ACAD\Sheets\C5.8-C5-10 RIO GRANDE WAY.dwg



LEGEND

	BOUNDARY / RIGHT OF WAY
	EASEMENT / SETBACK
	CURB / EDGE OF PAVEMENT
102	EXIST. GRADE ELEVATIONS
102	PROP. GRADE ELEVATIONS
	DIRECTION OF FLOW
TC	TOP OF CURB ELEVATION
G	GUTTER ELEVATION
FL	FLOW LINE ELEVATION
HP	HIGH POINT ELEVATION
LP	LOW POINT ELEVATION
ME	MATCH EXISTING ELEVATION
ROW	RIGHT OF WAY
BSL	BUILDING SETBACK LINE
FC	FACE OF CURB
LT	LEFT
RT	RIGHT
	WASHOUT CROWN
572.50	TOP OF CURB ELEVATION

0 25' 50' 100'

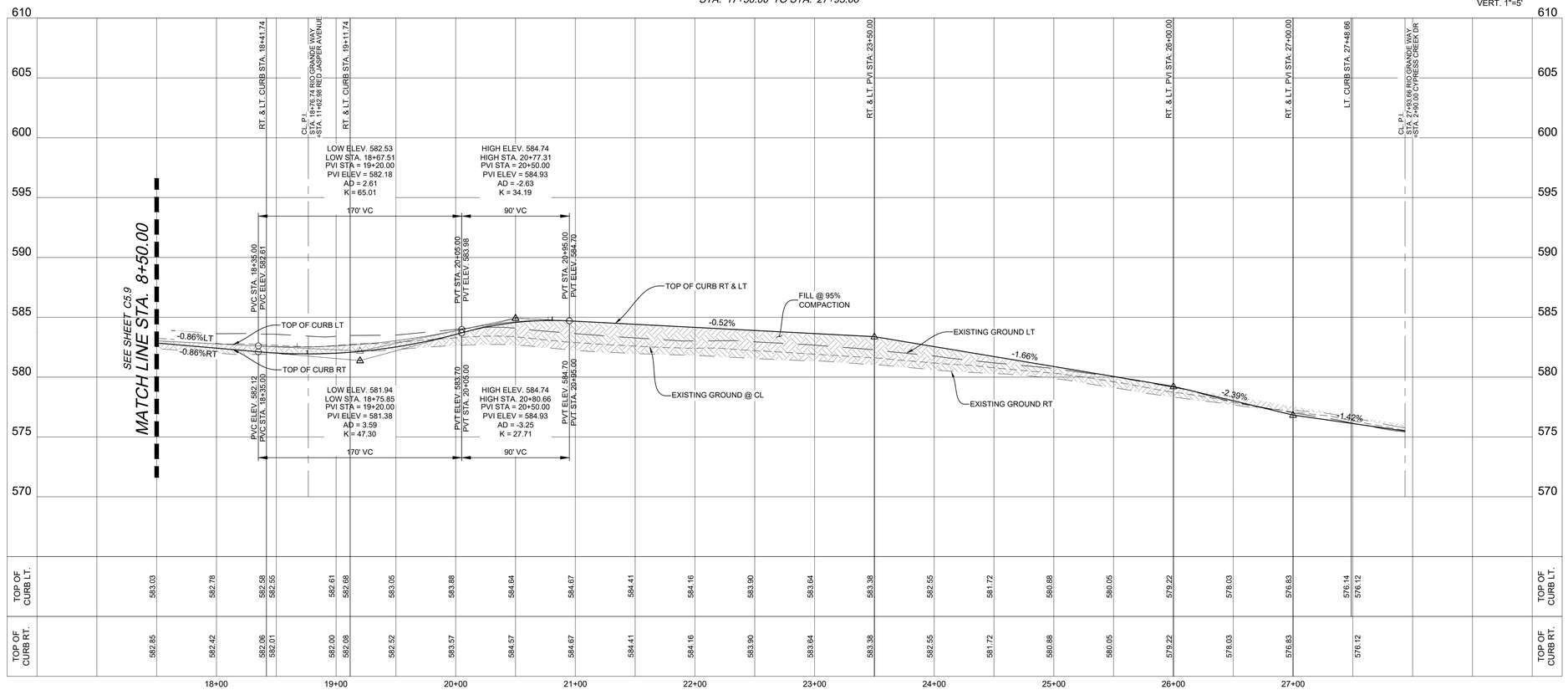
SCALE: 1" = 50'

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	CHORD	CHORD BEARING
C2	100.00'	61.09'	35°00'00"	60.14'	S0°47'56"W
C3	100.00'	133.04'	76°13'36"	123.44'	S56°24'44"W

RIO GRANDE WAY

STA. 17+50.00 TO STA. 27+93.66

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



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PRELIMINARY
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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

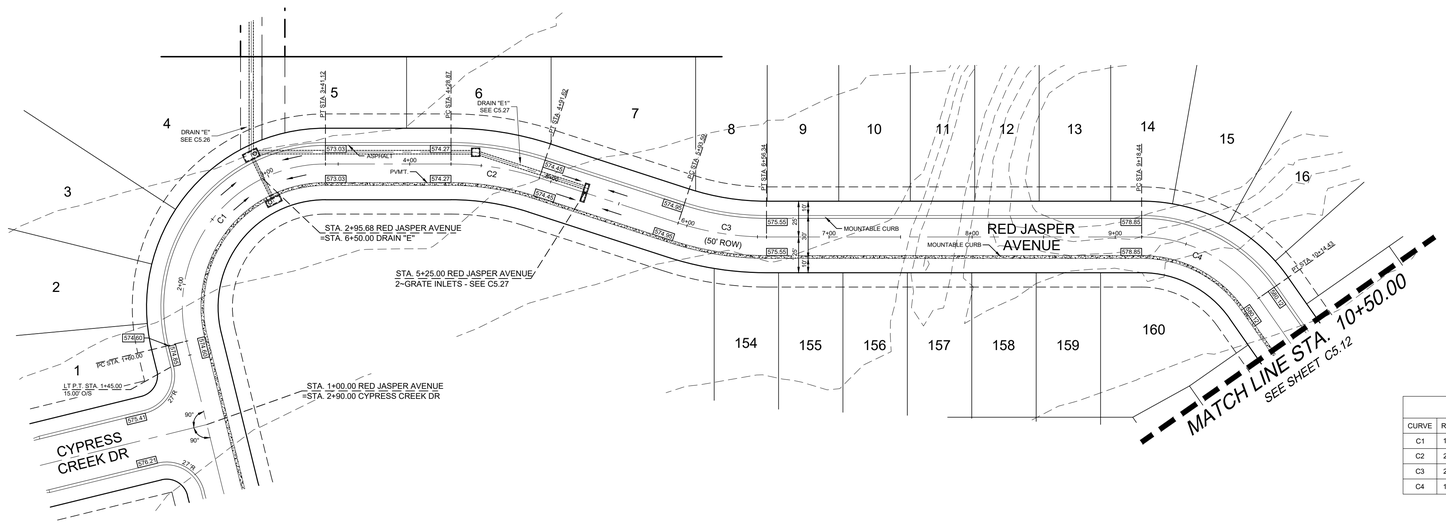
RIO GRANDE WAY PLAN & PROFILE

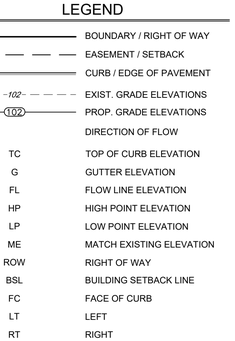
REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

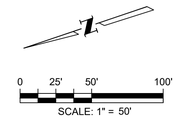
SHEET
C5.10

Date: Apr 16, 2025, 8:16am User ID: Li Espinoza
File: U:__Projects\437 - Higdon Rd Empower\437.1\4DAD\Sheets\C5.8-C5-10 RIO GRANDE WAY.dwg





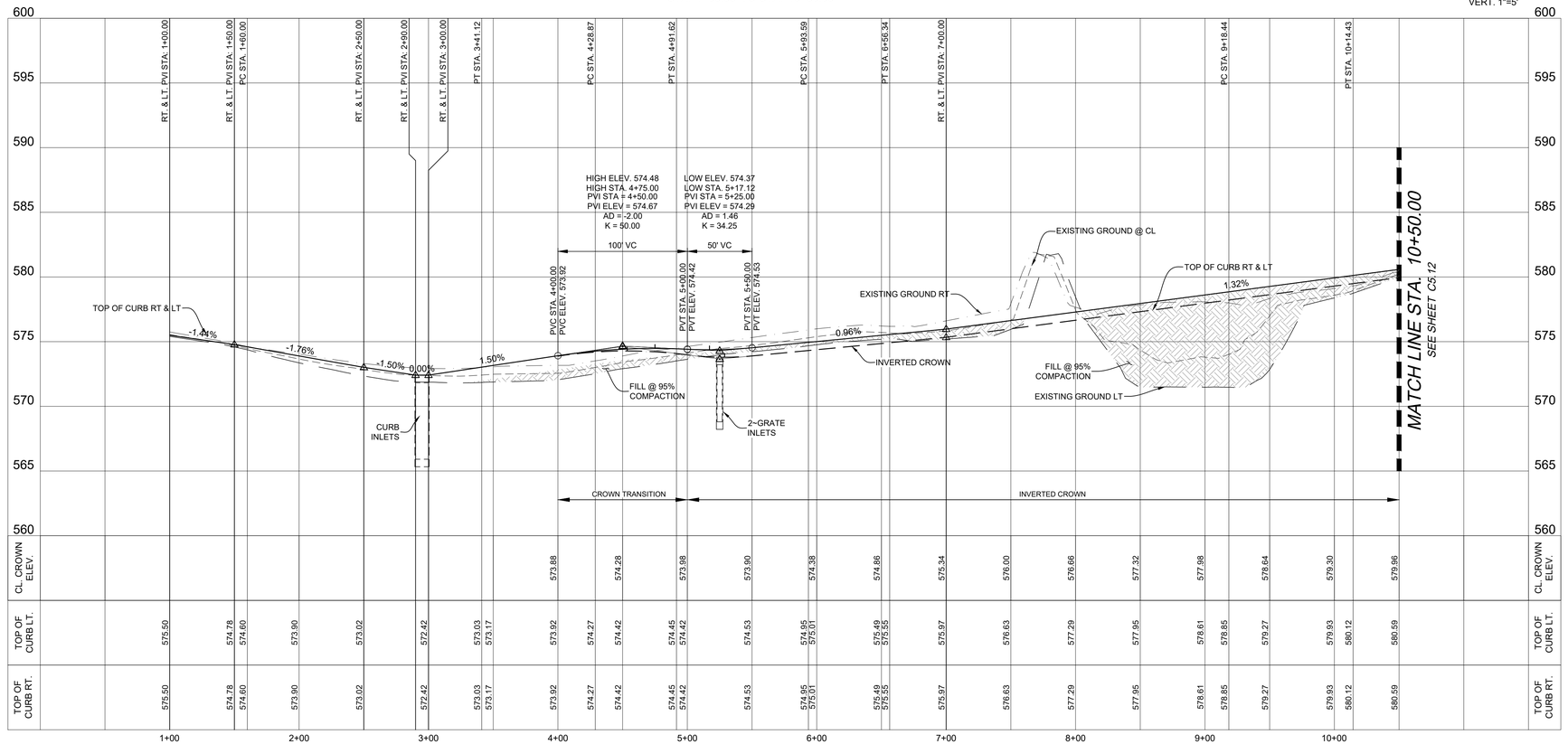
CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	CHORD	CHORD BEARING
C1	100.00'	181.12'	103°46'24"	157.36'	N33°35'16"W
C2	200.00'	62.75'	17°58'39"	62.50'	N27°17'15"E
C3	200.00'	62.75'	17°58'39"	62.50'	S27°17'15"W
C4	100.00'	95.99'	55°00'00"	92.35'	N45°47'56"E



RED JASPER AVENUE

STA. 1+00.00 TO STA. 10+50.00

SCALE:
HORIZ. 1"=50'
VERT. 1"=5'



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PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

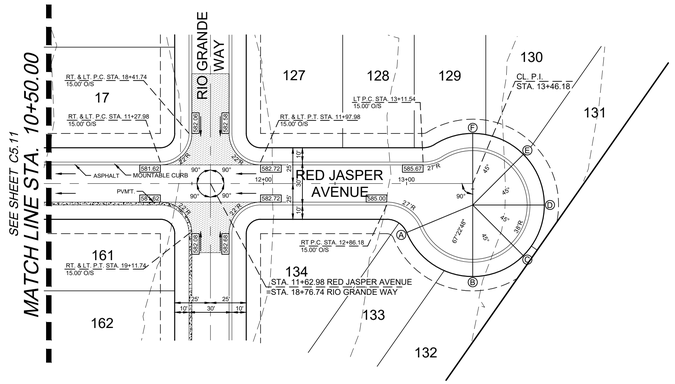
RED JASPER AVENUE PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.11

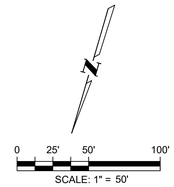
Date: Apr 16, 2025, 8:16am User ID: Li Ramones
File: U:_Projects\437 – Higdon Rd Empower\437.1\4DAD\Sheets\C5.11–C5.12 RED JASPER AVENUE.dwg



KNUCKLE SAC TABLE		
POINT	TOP OF CURB	GUTTER
RT P.C. STA. 12+86.18	585.00	584.67
A	585.69	585.36
B	586.78	586.45
C	587.23	586.90
D	587.35	587.02
E	587.14	586.81
F	586.61	586.28
LT P.C. STA. 13+11.54	585.67	585.34

LEGEND

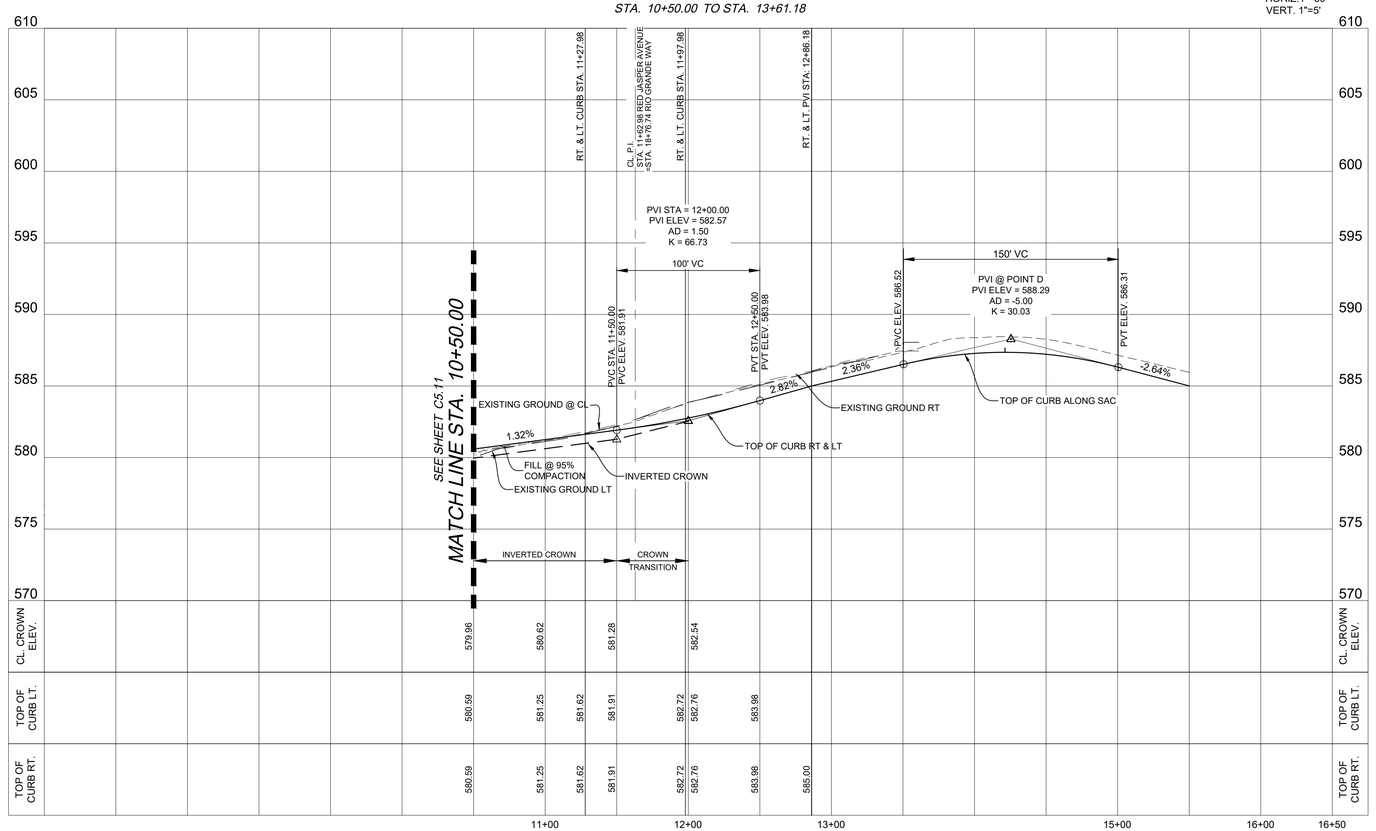
- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- (102) PROP. GRADE ELEVATIONS
- DIRECTION OF FLOW
- TC TOP OF CURB ELEVATION
- G GUTTER ELEVATION
- FL FLOW LINE ELEVATION
- HP HIGH POINT ELEVATION
- LP LOW POINT ELEVATION
- ME MATCH EXISTING ELEVATION
- ROW RIGHT OF WAY
- BSL BUILDING SETBACK LINE
- FC FACE OF CURB
- LT LEFT
- RT RIGHT
- WASHOUT CROWN
- 572.50 TOP OF CURB ELEVATION



RED JASPER AVENUE

STA. 10+50.00 TO STA. 13+61.18

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

RED JASPER AVENUE PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.12

Date: Apr 16, 2025, @:9am User ID: LJ Ramones
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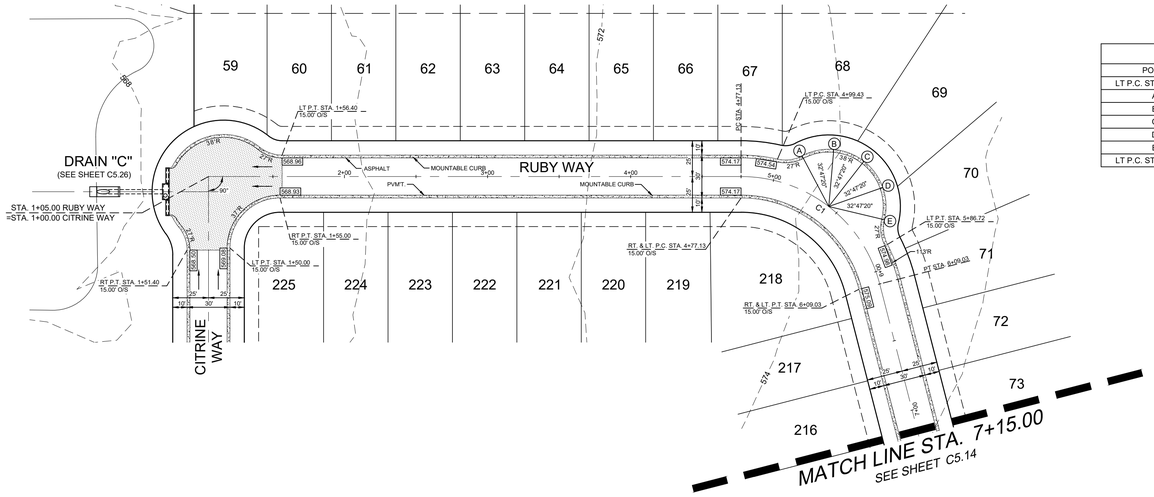
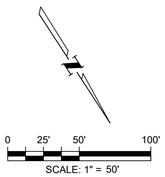


KNUCKLE SAC TABLE		
POINT	TOP OF CURB	GUTTER
LT P.C. STA. 4+99.43	574.54	574.21
A	574.68	574.35
B	574.87	574.54
C	575.00	574.67
D	575.03	574.70
E	574.97	574.64
LT P.C. STA. 5+86.72	574.98	574.65

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- (102) PROP. GRADE ELEVATIONS
- DIRECTION OF FLOW
- TC TOP OF CURB ELEVATION
- G GUTTER ELEVATION
- FL FLOW LINE ELEVATION
- HP HIGH POINT ELEVATION
- LP LOW POINT ELEVATION
- ME MATCH EXISTING ELEVATION
- ROW RIGHT OF WAY
- BSL BUILDING SETBACK LINE
- FC FACE OF CURB
- LT LEFT
- RT RIGHT
- WASHOUT CROWN
- 572.50 TOP OF CURB ELEVATION

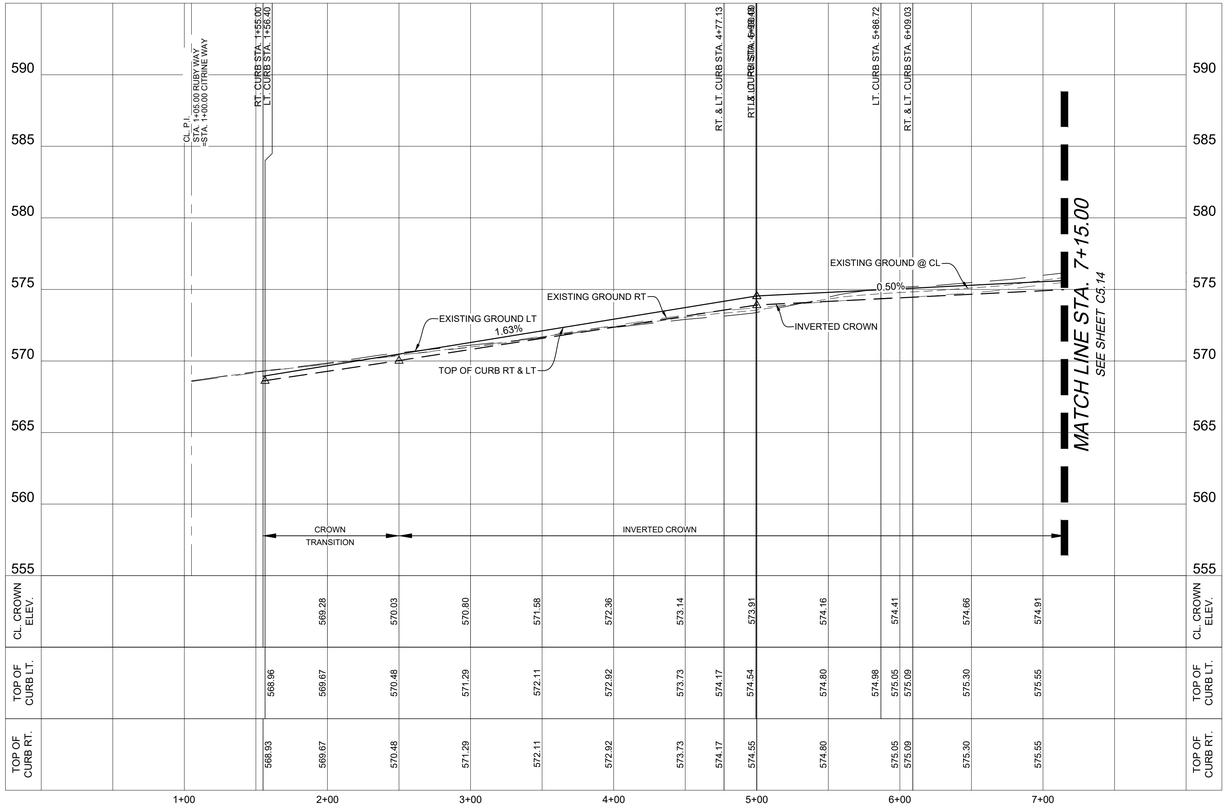
CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	CHORD	CHORD BEARING
C1	100.00'	131.90'	75°34'21"	122.54'	S19°29'15"E



RUBY WAY

STA. 1+00.00 TO STA. 7+15.00

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



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PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - ----
PLAT NO. 25-11800019

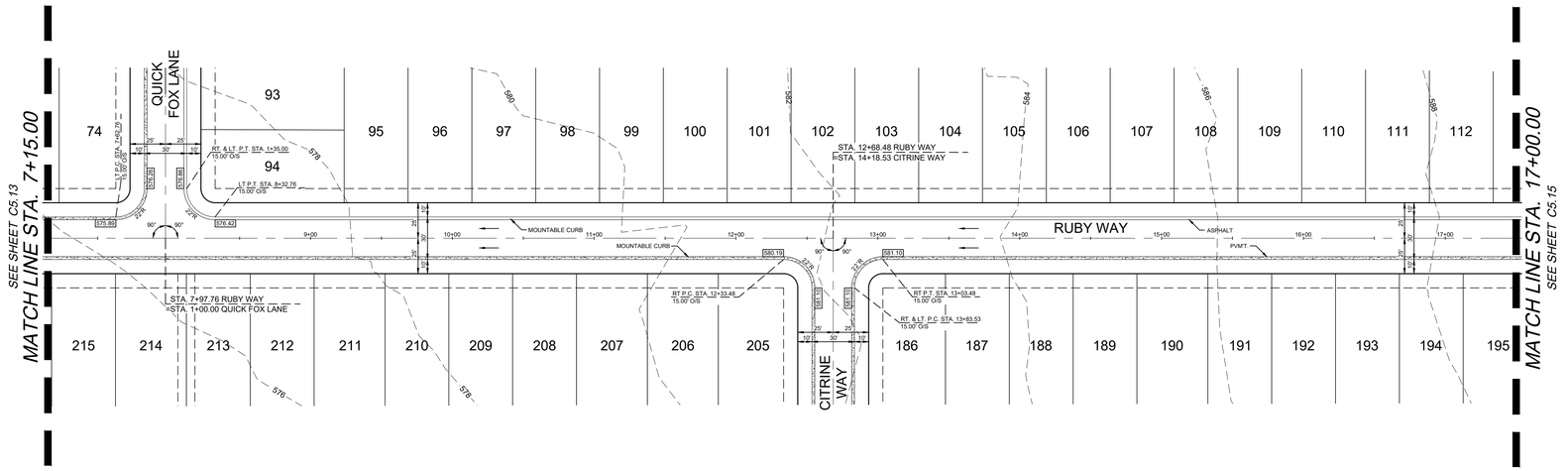
RUBY WAY PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.13

Date: Apr 16, 2025, 8:17am User ID: Lil Ramirez
File: G:_Projects\437 - Higdon Rd Empower\437-1\ACAD\Sheets\C6_13-C6_15 RUBY WAY.dwg



LEGEND

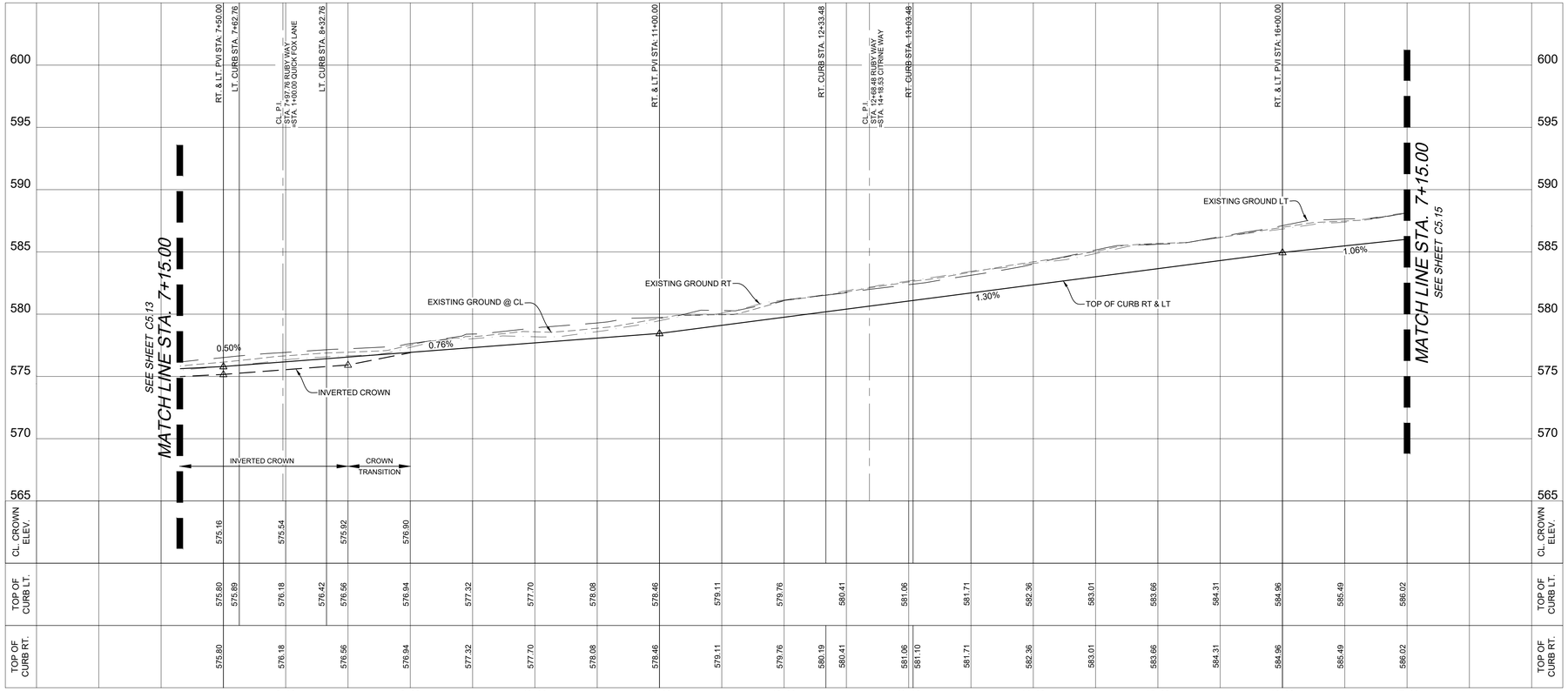
- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- 102 PROP. GRADE ELEVATIONS
- DIRECTION OF FLOW
- TC TOP OF CURB ELEVATION
- G GUTTER ELEVATION
- FL FLOW LINE ELEVATION
- HP HIGH POINT ELEVATION
- LP LOW POINT ELEVATION
- ME MATCH EXISTING ELEVATION
- ROW RIGHT OF WAY
- BSL BUILDING SETBACK LINE
- FC FACE OF CURB
- LT LEFT
- RT RIGHT
- WASHOUT CROWN
- 572.50 TOP OF CURB ELEVATION

0 25' 50' 100'
SCALE: 1" = 50'

RUBY WAY

STA. 7+15.00 TO STA. 17+00.00

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



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PRELIMINARY
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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS, P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - ----
PLAT NO. 25-11800019

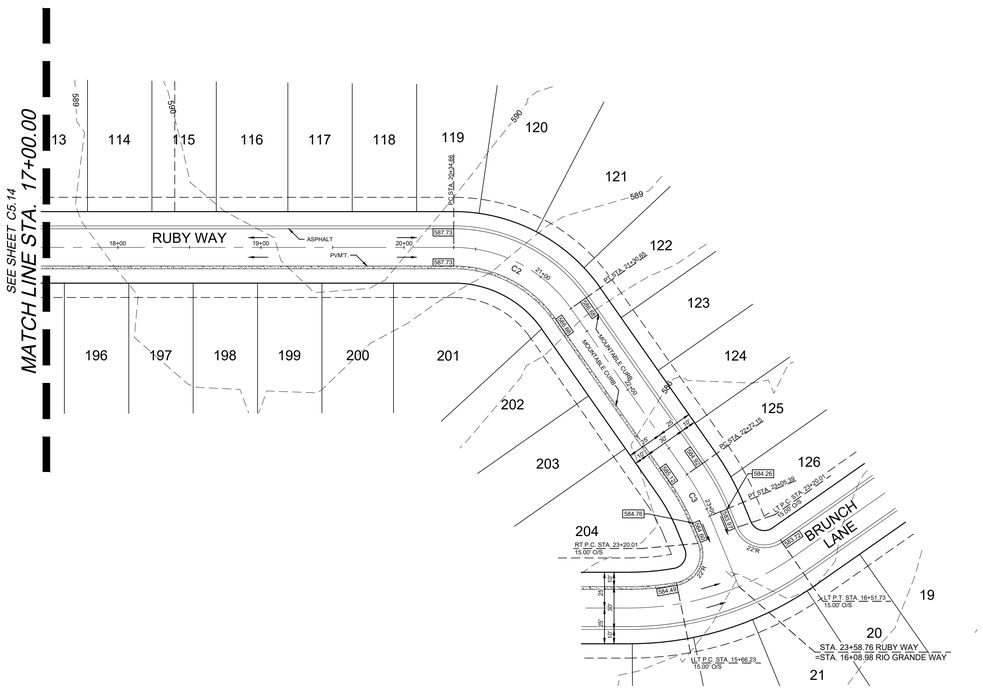
RUBY WAY PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.14

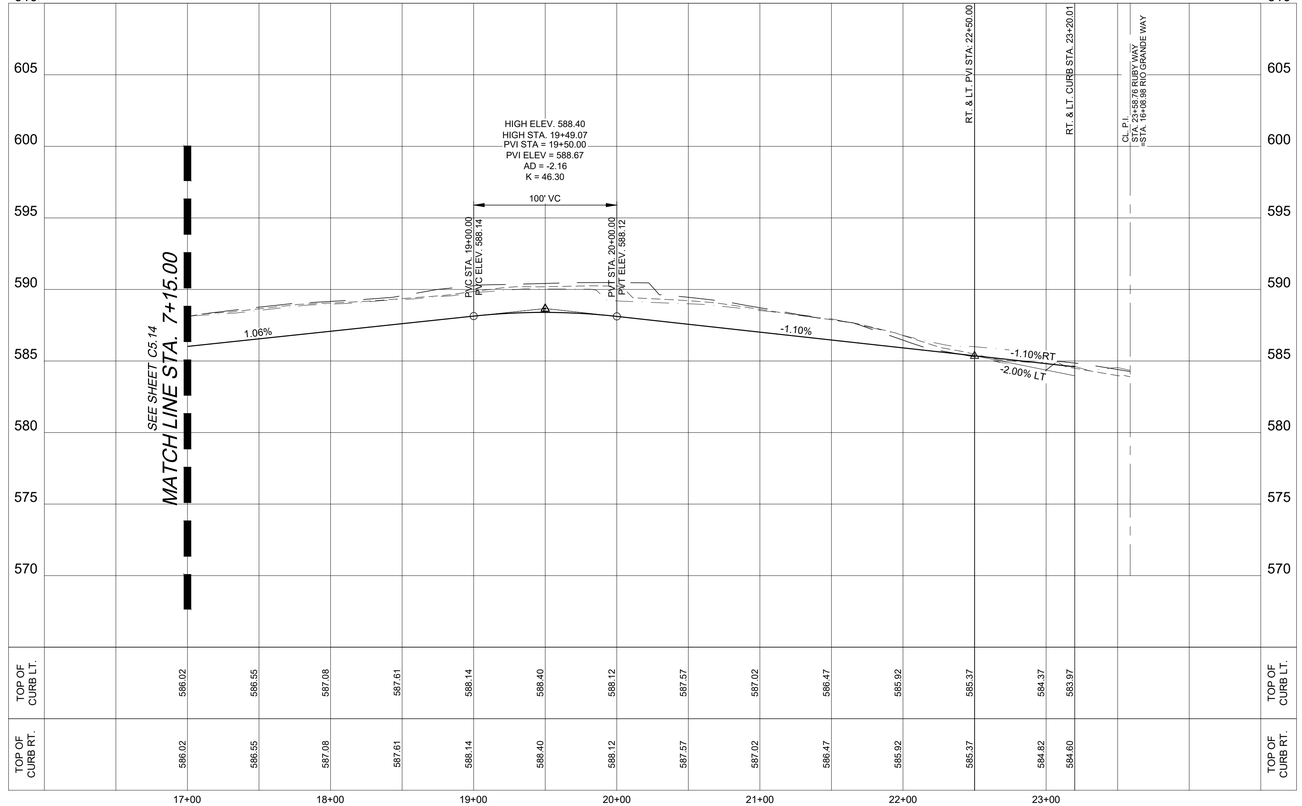
Date: Apr 16, 2025, @ 1:07pm User ID: LJ Reinmiller
File: G:__Projects\1437 – Ingalls Rd Engineer\1437.11\ACAD\1 Sheets\C05.13-C05.15 RUBY WAY.dwg



RUBY WAY

STA. 17+00.00 TO STA. 23+58.76

SCALE:
HORIZ. 1"=50'
VERT. 1"=5'



LEGEND

	BOUNDARY / RIGHT OF WAY
	EASEMENT / SETBACK
	CURB / EDGE OF PAVEMENT
102	EXIST. GRADE ELEVATIONS
102	PROP. GRADE ELEVATIONS
	DIRECTION OF FLOW
TC	TOP OF CURB ELEVATION
G	GUTTER ELEVATION
FL	FLOW LINE ELEVATION
HP	HIGH POINT ELEVATION
LP	LOW POINT ELEVATION
ME	MATCH EXISTING ELEVATION
ROW	RIGHT OF WAY
BSL	BUILDING SETBACK LINE
FC	FACE OF CURB
LT	LEFT
RT	RIGHT
	WASHOUT CROWN
572.50	TOP OF CURB ELEVATION

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	CHORD	CHORD BEARING
C2	100.00'	95.99'	55°00'00"	92.35'	S45°47'56"W
C3	150.00'	33.24'	12°41'52"	33.17'	S79°38'52"W

0 25' 50' 100'
SCALE: 1" = 50'

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PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS,
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - ----
PLAT NO. 25-11800019

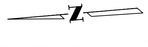
RUBY WAY PLAN & PROFILE

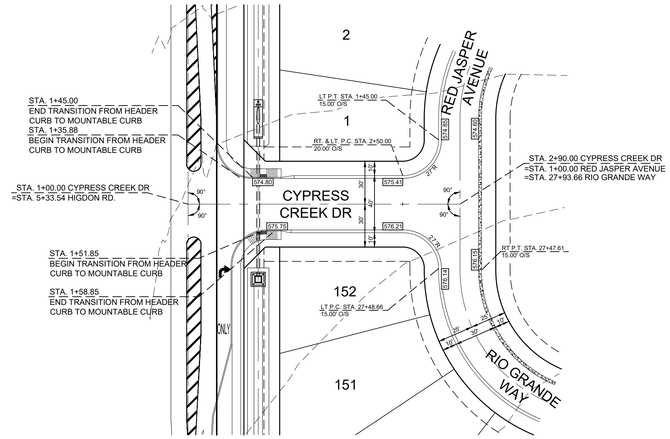
REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

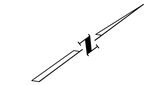
SHEET
C5.15

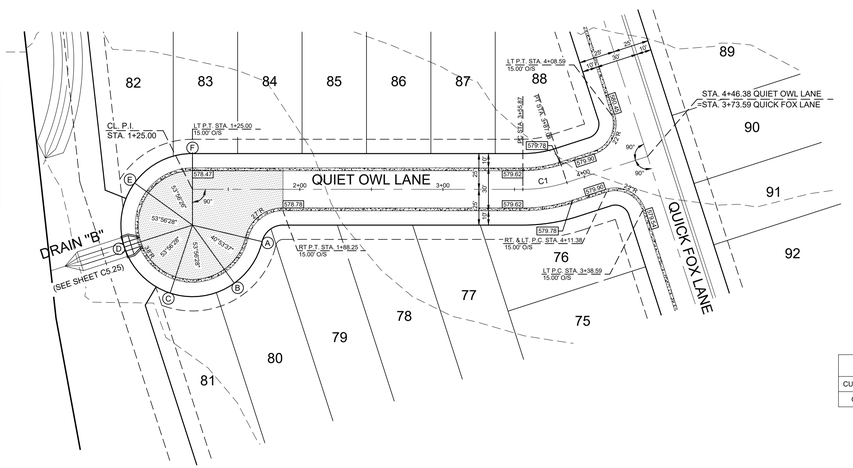
Date: Apr 16, 2025, 8:17am User ID: Liz Barrones
File: G:_Projects\437 - Higdon Rd Engineer\437(1)\ACAD\Sheets\C6.17-C6.15 RUBY WAY.dwg





SAC TABLE		
POINT	TOP OF CURB	GUTTER
RT P.T. STA. 1+88.25	578.78	578.45
A	578.33	578.00
B	578.03	577.70
C	577.65	577.32
D	577.55	577.22
E	577.73	577.40
F	577.92	577.59





CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	CHORD	CHORD BEARING
C1	100.00'	31.21'	17°52'54"	31.08'	N27°14'23"E

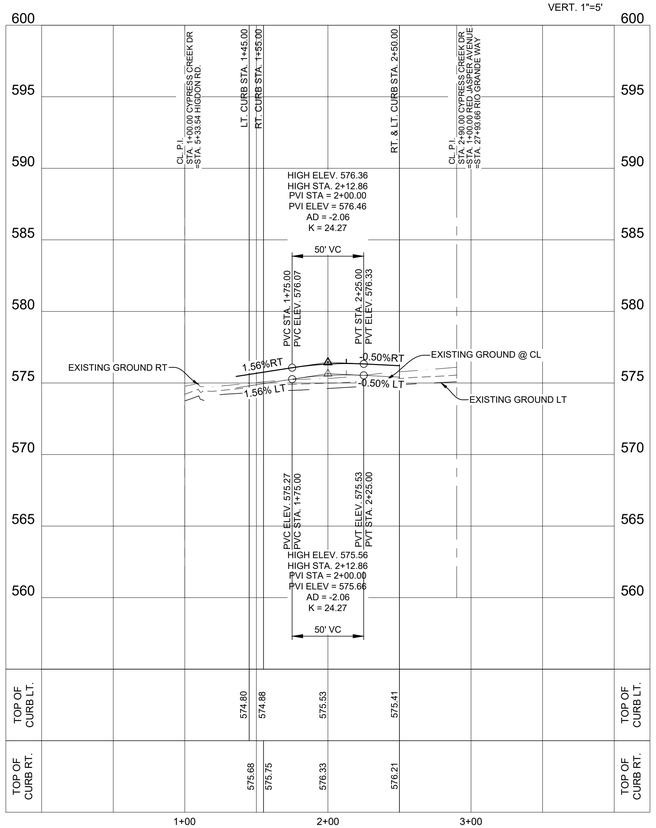
LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- (102) PROP. GRADE ELEVATIONS
- DIRECTION OF FLOW
- TC TOP OF CURB ELEVATION
- G GUTTER ELEVATION
- FL FLOW LINE ELEVATION
- HP HIGH POINT ELEVATION
- LP LOW POINT ELEVATION
- ME MATCH EXISTING ELEVATION
- ROW RIGHT OF WAY
- BSL BUILDING SETBACK LINE
- FC FACE OF CURB
- LT LEFT
- RT RIGHT
- WASHOUT CROWN
- 572.50 TOP OF CURB ELEVATION

CYPRESS CREEK DR

STA. 1+00.00 TO STA. 2+90.00

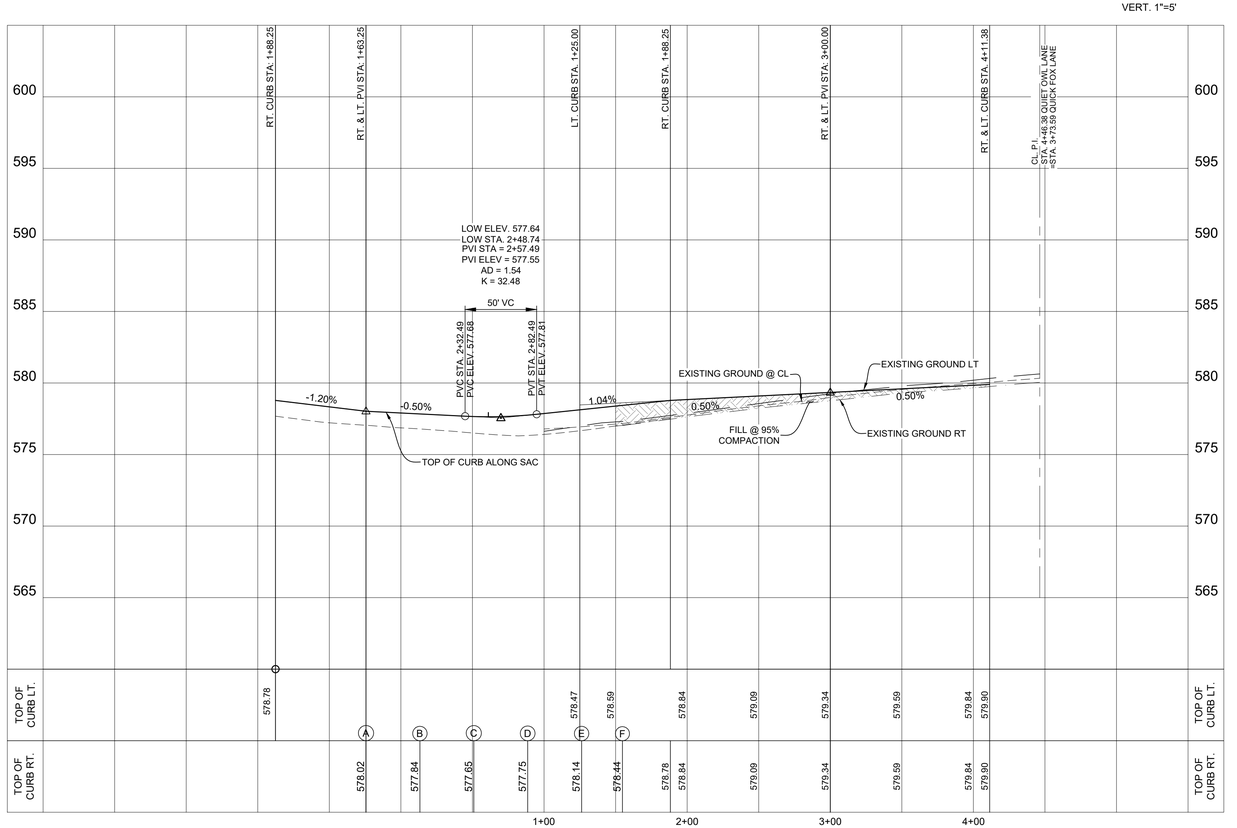
SCALE:
HORIZ. 1"=50'
VERT. 1"=5'



QUIET OWL LANE

STA. 1+00.00 TO STA. 4+46.38

SCALE:
HORIZ. 1"=50'
VERT. 1"=5'



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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

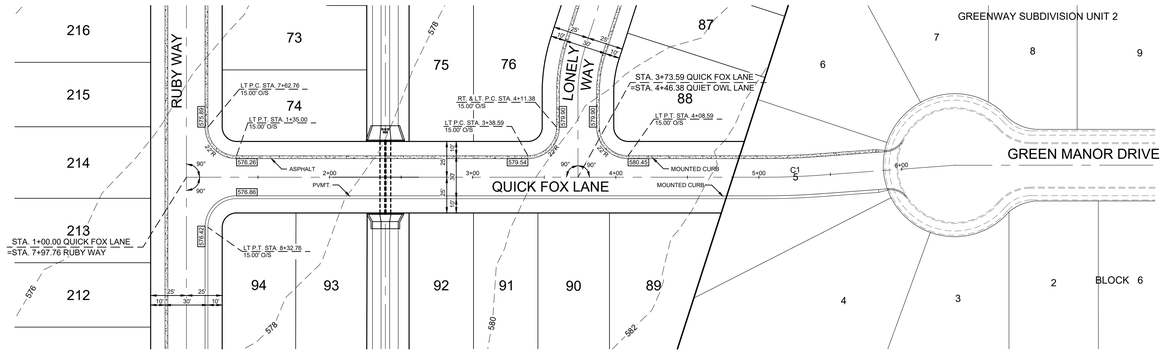
CYPRESS CREEK DR. & QUIET OWL LANE PLAN & PROFILE

REV.	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.16

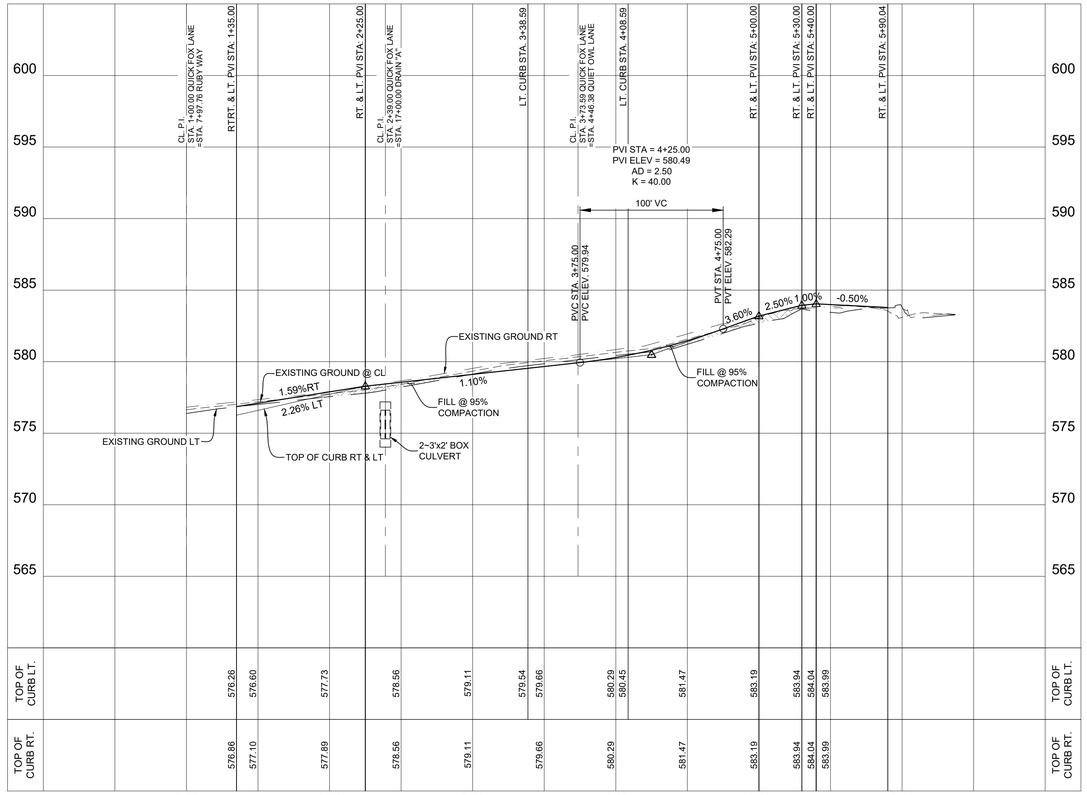
Date: Apr 16, 2025, 8:17pm User ID: LJ Romanow
File: U:_Projects\143 – Higdon Rd Empower\143-1\ACAD\Sheets\C5.16 CYPRESS CREEK & QUITE OWL LANE.dwg



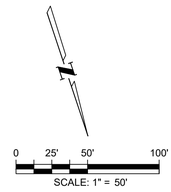
QUICK FOX LANE

STA. 1+00.00 TO STA. 4+81.78

SCALE:
HORIZ. 1"=50'
VERT. 1"=5'



CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	CHORD	CHORD BEARING
C1	500.00'	36.76'	4°12'46"	36.75'	N73°48'27"W



LEGEND

	BOUNDARY / RIGHT OF WAY
	EASEMENT / SETBACK
	CURB / EDGE OF PAVEMENT
102	EXIST. GRADE ELEVATIONS
102	PROP. GRADE ELEVATIONS
	DIRECTION OF FLOW
TC	TOP OF CURB ELEVATION
G	GUTTER ELEVATION
FL	FLOW LINE ELEVATION
HP	HIGH POINT ELEVATION
LP	LOW POINT ELEVATION
ME	MATCH EXISTING ELEVATION
ROW	RIGHT OF WAY
BSL	BUILDING SETBACK LINE
FC	FACE OF CURB
LT	LEFT
RT	RIGHT
	WASHOUT CROWN
572.50	TOP OF CURB ELEVATION

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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS, P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

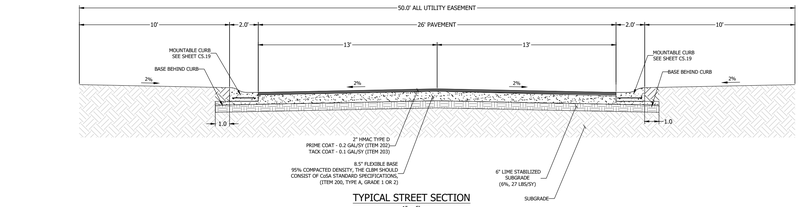
QUICK FOX LANE PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

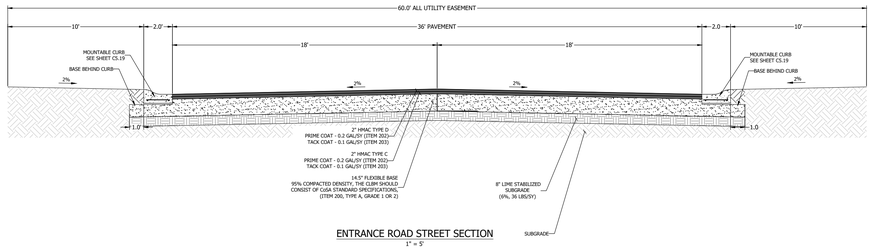
DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.17

Date: Apr 16, 2025, 8:17am User ID: LJ Ramones
File: G:_Projects\437 – Higdon Rd Enclaves\437.11\ACAD\Sheets\C5.17 QUICK FOX P&P.dwg



TYPICAL STREET SECTION
1" = 5'



ENTRANCE ROAD STREET SECTION
1" = 5'

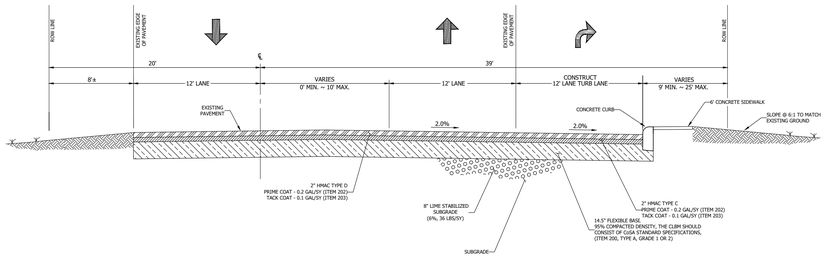
TYPICAL PRIVATE DRIVE STREET SECTIONS

STREET SECTION TABLE		
DESCRIPTION	LOCAL A	LOCAL B
RIGHT OF WAY WIDTH	50'	60'
ASPHALT PAVEMENT WIDTH	26'	36'
PARKWAY	10'	10'
PAVEMENT SECTION	SEE STREET SECTION	SEE STREET SECTION
STRUCTURAL NUMBER	2.55	4.43
HOT MIX ASPHALT CONCRETE TYPE "D" DEPTH	2"	2"
HOT MIX ASPHALT CONCRETE TYPE "C" DEPTH	–	2"
AGGREGATE BASE DEPTH	8.5"	14.5"
BASE DEPTH UNDER CURB	–	–
GEOGRID TENSAR TRIAX TX5	NO	NO
LIME STABILIZED SUBGRADE	6*	8*

*REFERENCE GEOTECHNICAL REPORT FOR SUBGRADE REQUIREMENTS

ALTERNATE STREET SECTION TABLE (CONTRACTOR'S OPTION)		
DESCRIPTION	LOCAL A	LOCAL B
RIGHT OF WAY WIDTH	50'	60'
ASPHALT PAVEMENT WIDTH	26'	36'
PARKWAY	10'	10'
PAVEMENT SECTION	SEE STREET SECTION	SEE STREET SECTION
STRUCTURAL NUMBER	2.55	4.43
HOT MIX ASPHALT CONCRETE TYPE "D" DEPTH	2"	2"
HOT MIX ASPHALT CONCRETE TYPE "C" DEPTH	–	–
AGGREGATE BASE DEPTH	8.5"	14.5"
BASE DEPTH UNDER CURB	–	–
GEOGRID TENSAR TRIAX TX5	NO	NO
CEMENT STABILIZED SUBGRADE	*6"	*8"

*REFERENCE GEOTECHNICAL REPORT FOR SUBGRADE REQUIREMENTS



HIGDON TURN LANE SECTION
SECTION A-A

STREET SECTION TABLE	
DESCRIPTION	LOCAL B
RIGHT OF WAY WIDTH	60'
ASPHALT PAVEMENT WIDTH	36'
PARKWAY	10'
PAVEMENT SECTION	SEE STREET SECTION
STRUCTURAL NUMBER	4.43
HOT MIX ASPHALT CONCRETE TYPE "D" DEPTH	2"
HOT MIX ASPHALT CONCRETE TYPE "C" DEPTH	2"
AGGREGATE BASE DEPTH	14.5"
BASE DEPTH UNDER CURB	–
GEOGRID TENSAR TRIAX TX5	NO
LIME STABILIZED SUBGRADE	8*

*REFERENCE GEOTECHNICAL REPORT FOR SUBGRADE REQUIREMENTS

NOTES:

1. SYMBOL DESIGNATION IS FROM 2011 TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
3. SEE THIS SHEET FOR STANDARD DETAILS AND PAVEMENT SECTIONS.
4. A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY ROW.

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PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS,
P.E. #111640 ON
April 22, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

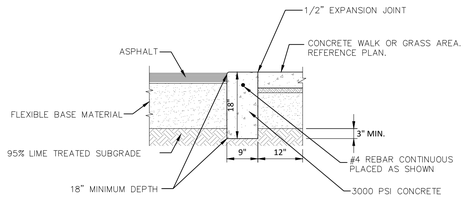
TYPICAL STREET SECTIONS

REV	DATE	DESCRIPTION	BY

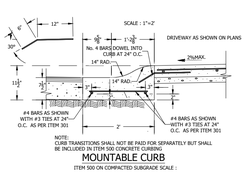
DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.18

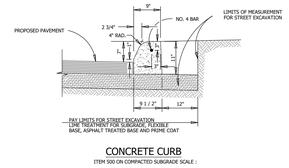
Date: Apr 22, 2025, 11:53am User ID: LJ Simmons
File: I:_Projects\1437 - Higdon Rd Enclave\1437.11\ACAD\Sheets\C5.17 TYPICAL STREET SECTIONS.dwg



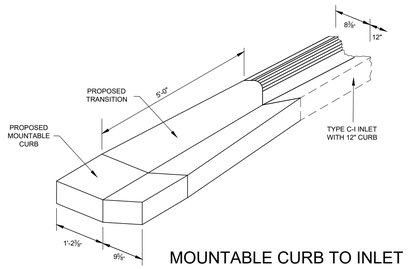
HEADER CURB
NTS



MOUNTABLE CURB
ITEM 500 ON COMPACTED SUBGRADE SCALE :



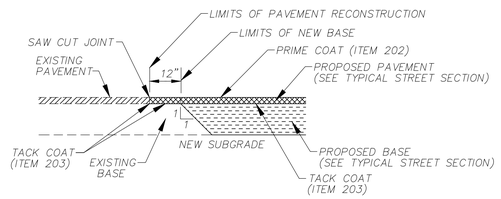
CONCRETE CURB
ITEM 500 ON COMPACTED SUBGRADE SCALE :



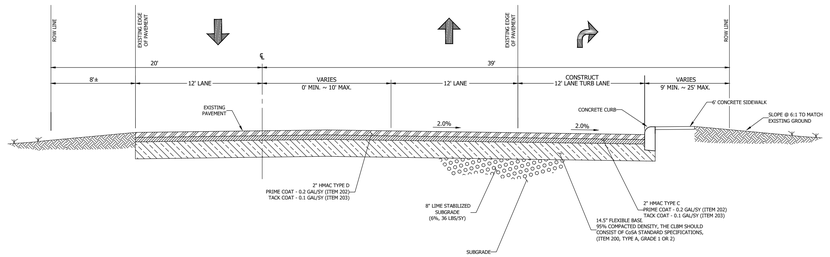
MOUNTABLE CURB TO INLET TRANSITION

NOTE:

1. A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY ROW.



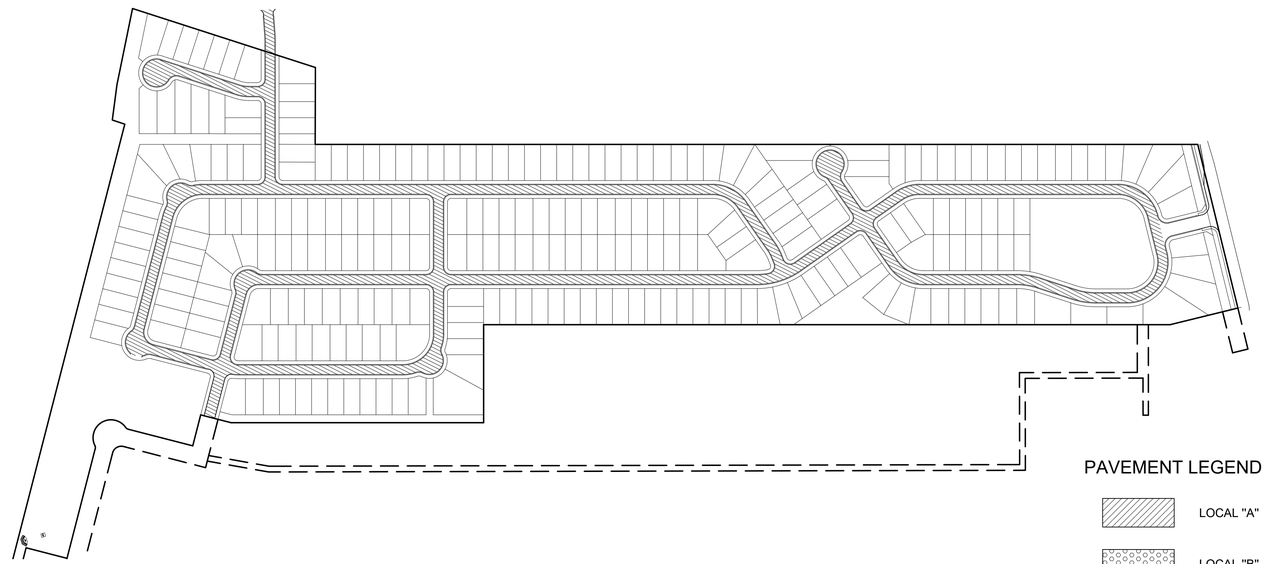
PAVEMENT JUNCTION DETAIL
NTS



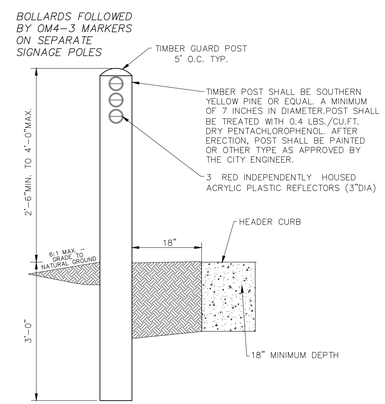
HIGDON TURN LANE SECTION
SECTION A-A

STREET SECTION TABLE	
DESCRIPTION	LOCAL B
RIGHT OF WAY WIDTH	60'
ASPHALT PAVEMENT WIDTH	36'
PARKWAY	10'
PAVEMENT SECTION	SEE STREET SECTION
STRUCTURAL NUMBER	4.43
HOT MIX ASPHALT CONCRETE TYPE "D" DEPTH	2"
HOT MIX ASPHALT CONCRETE TYPE "C" DEPTH	2"
AGGREGATE BASE DEPTH	14.5"
BASE DEPTH UNDER CURB	--
GEOGRID TENSAR TRIAX TX5	NO
LIME STABILIZED SUBGRADE	8*

*REFERENCE GEOTECHNICAL REPORT FOR SUBGRADE REQUIREMENTS



PAVEMENT CONSTRUCTION LOCATION DETAIL
NTS



END OF ROADWAY
NTS

UP ENGINEERING
a Bowman company
111 TOWER DR, SUITE 105
SAN ANTONIO, TEXAS 78216-6504
WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

TYPICAL STREET DETAILS

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.19

Date: Apr 16, 2025, @ 1:7pm User ID: LJ Ramones
File: G:_Projects\437 – Higdon Rd Enclaves\437.11\ACAD\Sheets\C8.17 TYPICAL STREET SECTIONS.dwg

BEXAR COUNTY R.O.W. NOTE:

BEXAR COUNTY PERMIT REQUIRED FOR STREET TIE-IN & INTERSECTION PAVEMENT REPLACEMENT AND/OR ANY WORKING BEING DONE IN BEXAR COUNTY R.O.W.

CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT PREPARED BY INTEGRATED TESTING AND ENGINEERING COMPANY OF SAN ANTONIO, L.P., PROJECT NO. S2231108, DATED JULY 2, 2023, PROJECT NO. S231108-A1, DATED FEBRUARY 2, 2025, AND PROJECT NO. S223108-A2, DATED FEBRUARY 27, 2025, AND FOR PAVEMENT RECOMMENDATIONS.

GEOTECHNICAL ENGINEERS NOTES

SUBGRADE NOTES

1. CUT AND FILL DATA ARE NOT AVAILABLE AT THIS TIME
2. BASED ON THE THICKNESS OF THE CLAYS ENCOUNTERED IN THE BORINGS, WE ANTICIPATE THE FINAL PAVEMENT SUBGRADE PLASTICITY INDEX VALUES TO BE GREATER THAN 20.
3. THE SUBGRADE SHOULD BE PROOF ROLLED TO IDENTIFY SOFT AREAS
4. SUBGRADE TREATMENT IS REQUIRED. THE SUBGRADE MAY BE TREATED USING LIME OR CEMENT. AN APPLICATION RATE OF (6%) 36 LBS PER SQ YARD FOR 8 INCH DEPTH IS RECOMMENDED.
   A. THE PAVEMENT SUBGRADE SOILS SHOULD BE TESTED FOR SOLUBLE SULFATE CONTENT. IF ELEVATED SULFATE LEVELS ARE ENCOUNTERED, ALTERNATE METHODS OF TREATMENT MAY BE NECESSARY.
5. IF FILL IS USED TO RAISE THE GRADE, APPROVED FILL MATERIAL UNDERNEATH THE PAVEMENT SHOULD BE USED. THE FILL SHOULD BE FREE OF DELETERIOUS MATERIAL WITH THE MINIMUM CBR VALUE OF 2.0 AND MAXIMUM PLASTICITY INDEX VALUE OF 50. THE LIME APPLICATION RATE SHOULD BE RE-EVALUATED FOR THE FILL MATERIAL. THE MATERIAL SHOULD BE PLACED AS PER APPLICABLE CITY OR COUNTY GUIDELINES.

GENERAL NOTES

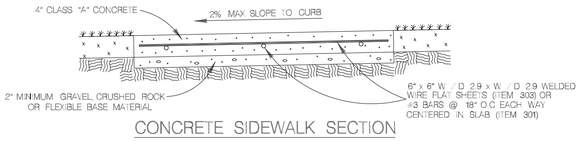
1. INPUT PARAMETERS ARE SHOWN IN SUMMARY TABLE NO. 1 (REPORT S231108-A2). PLEASE CALL InTEC TO PROVIDE PAVEMENT RECOMMENDATIONS, IF NEEDED FOR DIFFERENT INPUT VALUES.
2. IF REPETITIVE TRUCK OR HEAVY TRUCK TRAFFIC IS ANTICIPATED, PLEASE CONTACT US FOR REVISED PAVEMENT RECOMMENDATIONS.
3. PAVEMENT SECTION RECOMMENDATIONS ARE BASED ON A CBR VALUE OF 2.0. THE PAVEMENT RECOMMENDATIONS PRESENTED ABOVE ARE NOT BASED ON THE SHRINK/ SWELL CHARACTERISTICS OF THE UNDERLYING SOILS. THE PAVEMENT CAN EXPERIENCE CRACKING AND DEFORMATION DUE TO SHRINKAGE AND SWELLING CHARACTERISTICS OF THE SOILS AS DESCRIBED IN THE VERTICAL MOVEMENTS SECTION OF THIS REPORT. USE OF GEOGRID HELPS REDUCE CRACKING DUE TO SHRINK/ SWELL CHARACTERISTICS OF THE UNDERLYING CLAYS.
4. SIGNIFICANT PAVEMENT DISTRESS HAS BEEN OBSERVED DURING CONSTRUCTION PHASE WITH THE COMBINATION OF CONSTRUCTION TRAFFIC AND IRRIGATION WATER/ RAIN-WATER GETTING UNDERNEATH THE ASPHALT.
5. IF WATER IS ALLOWED TO GET UNDERNEATH THE ASPHALT OR IF MOISTURE CONTENT TO THE BASE OR SUBGRADE CHANGES SIGNIFICANTLY, THEN PAVEMENT DISTRESS WILL OCCUR. EXTERIOR MOISTURE BARRIER, SUCH AS CURBS EXTENDING A MINIMUM OF 6 INCHES INTO SUBGRADE, WILL HELP REDUCE MOISTURE GETTING UNDERNEATH THE PAVEMENT.

SUBGRADE VERIFICATION

1. AT THE TIME OF CONSTRUCTION, THE FINAL PAVEMENT SUBGRADE SHOULD BE OBSERVED AND VERIFIED BY A REPRESENTATIVE OF InTec.

NOTES:

1. SYMBOL DESIGNATION IS FROM 2011 TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
3. SEE THIS SHEET FOR STANDARD DETAILS AND PAVEMENT SECTIONS.
4. A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY ROW.



CONCRETE SIDEWALK SECTION

ITEM 502

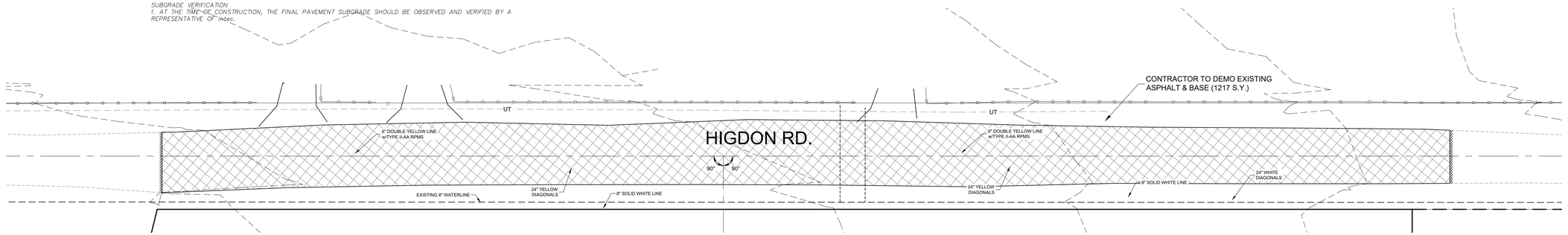
SCALE: 1" = 2'

CAUTION:

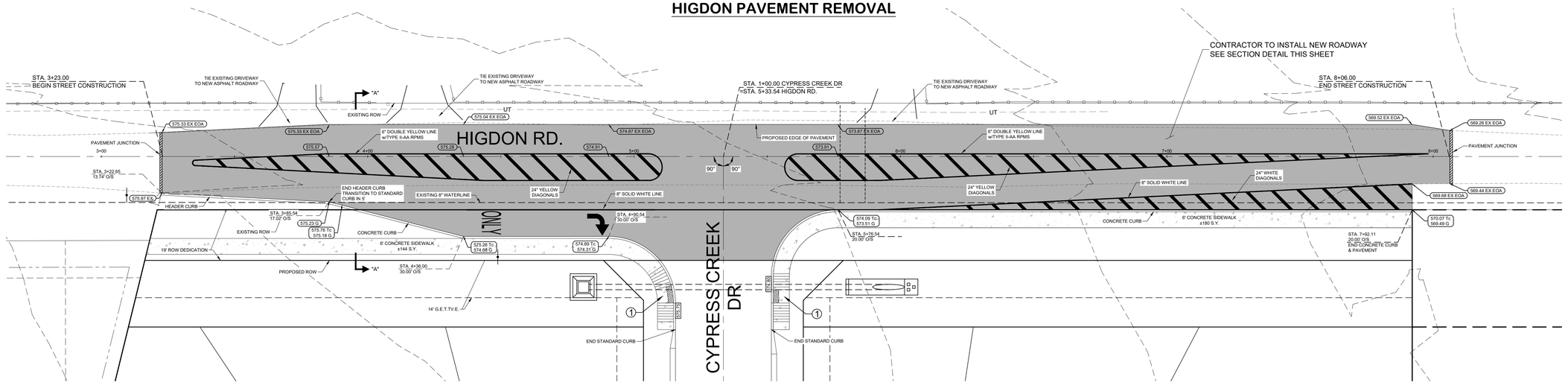
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL EXISTING PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS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

NOTES:

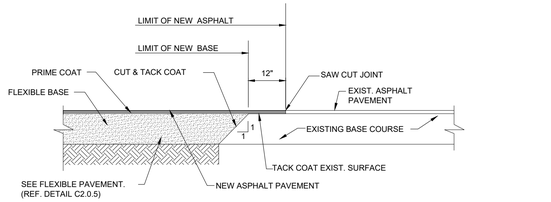
1. CONTRACTOR TO PROVIDE TRAFFIC CONTROL PLAN.
2. USE THERMO-PLASTIC PAVEMENT MARKINGS FOR ALL PAVEMENT MARKINGS



HIGDON PAVEMENT REMOVAL

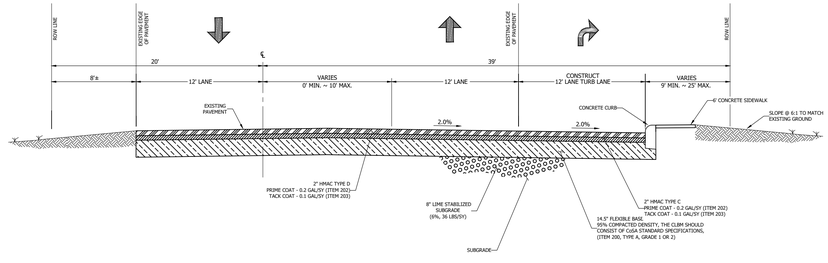


HIGDON RD.



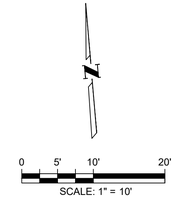
ASPHALT PAVEMENT JUNCTION DETAIL

NOT TO SCALE



HIGDON TURN LANE SECTION

SECTION A-A



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SAN ANTONIO, TEXAS 78232 | 210-714-5504
WWW.UPENGINEERING.COM | TBPE F-14309

PRELIMINARY

NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 22, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

HIGDON TURN LANE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET

C5.20

Date: Apr 23, 2025, 11:32am User ID: Li Ramones
File: G:\...\Projects\437 - Higdon Rd Emspear\437.11\ACAD\ Sheets\ Ck\ 18 TURN LANE.dwg

BEXAR COUNTY R.O.W. NOTE:

BEXAR COUNTY PERMIT REQUIRED FOR STREET TIE-IN & INTERSECTION PAVEMENT REPLACEMENT AND/OR ANY WORKING BEING DONE IN BEXAR COUNTY R.O.W.

CAUTION:

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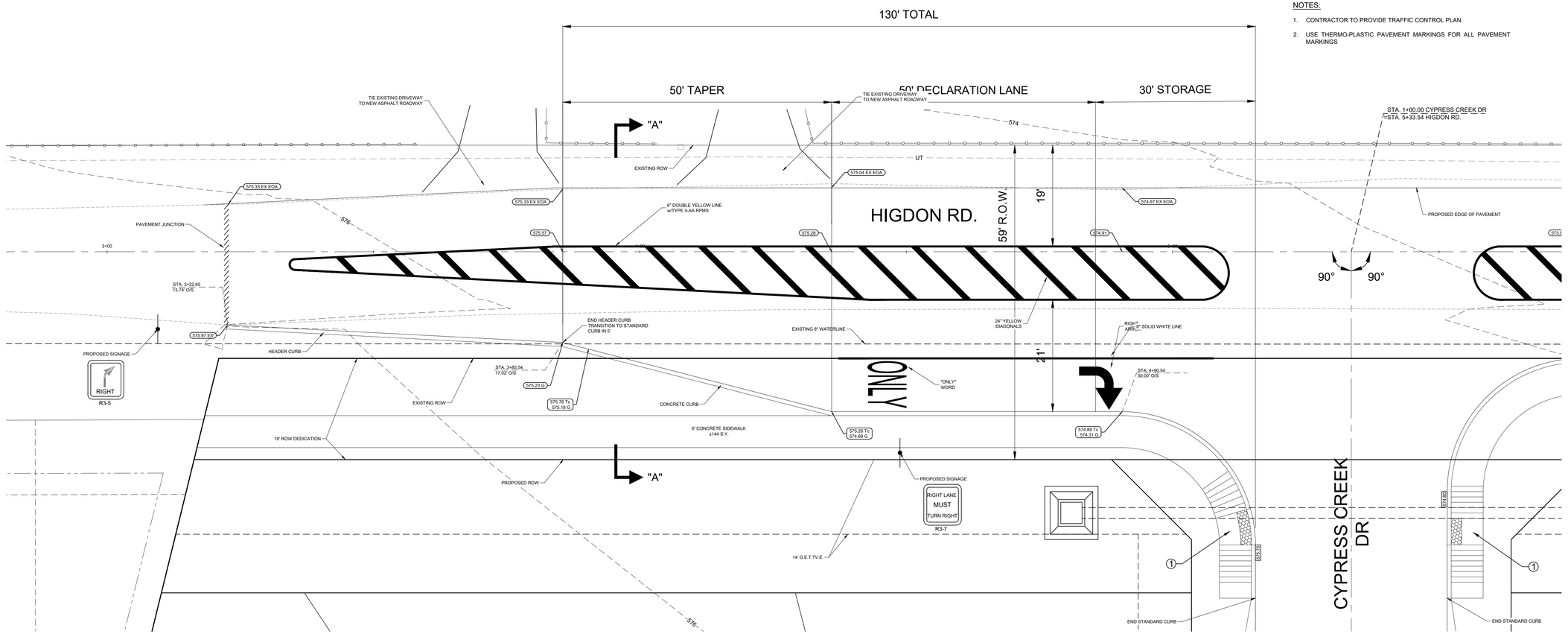
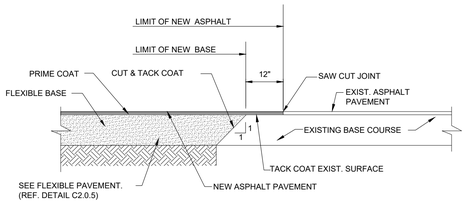
NOTES:

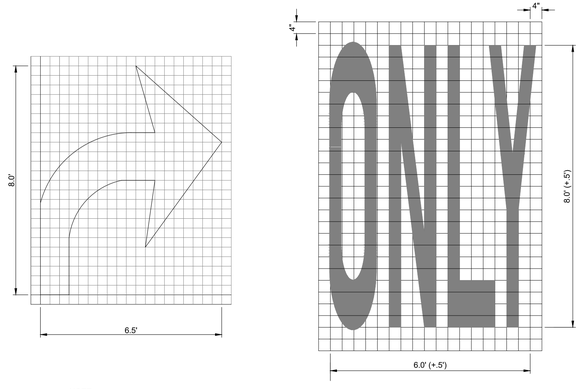
1. CONTRACTOR TO PROVIDE TRAFFIC CONTROL PLAN.
2. USE THERMO-PLASTIC PAVEMENT MARKINGS FOR ALL PAVEMENT MARKINGS





ASPHALT PAVEMENT JUNCTION DETAIL

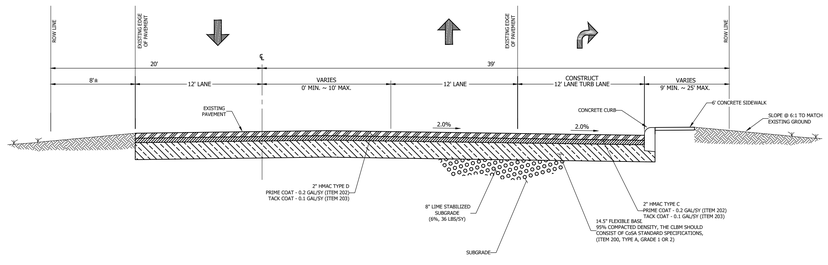
NOT TO SCALE



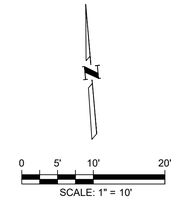
NOTE:
PAVEMENT MARKING TO BE PAINTED SOLID WHITE WITH REFLECTIVE THERMOPLASTIC TRAFFIC PAINT AS PER DIMENSIONS ABOVE.

STANDARD PAVEMENT MARKING "TEXT" DETAIL

NOT TO SCALE



HIGDON TURN LANE SECTION



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SAN ANTONIO, TEXAS 78232 TBPE F-14309
WWW.UPENGINEERING.COM

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

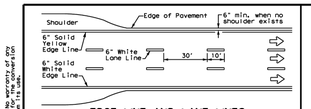
HIGDON TURN LANE

REV	DATE	DESCRIPTION	BY

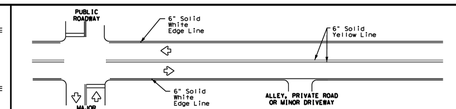
DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.21

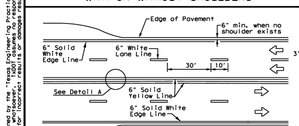
Date: Apr 16, 2025, 8:17pm User ID: Li Raposas
File: U:__Projects\437 – Higdon Rd Empower\437-1\ACAD\Sheets\C5.18 TURN LANE.dwg



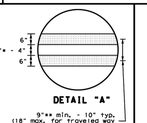
EDGE LINE AND LANE LINES
ONE-WAY ROADWAY
WITH OR WITHOUT SHOULDERS



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

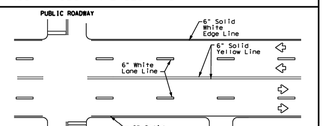


CENTERLINE AND LANE LINES
FOUR LANE TWO-WAY ROADWAY
WITH OR WITHOUT SHOULDERS

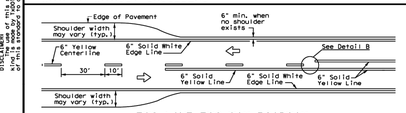


DETAIL "A"
9"** min. - 10" typ.
(18' max. for traveled way greater than 48' only)

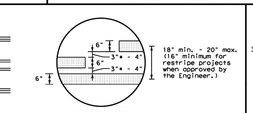
* 2' minimum for restripe projects when approved by the Engineer.
** 6' minimum for restripe projects when approved by the Engineer.



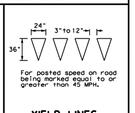
TYPICAL MULTI-LANE, TWO-WAY PAVEMENT
MARKINGS THROUGH INTERSECTIONS



TWO LANE TWO-WAY ROADWAY
WITH OR WITHOUT SHOULDERS

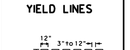


DETAIL "B"
* 2" minimum for restripe projects when approved by the Engineer.

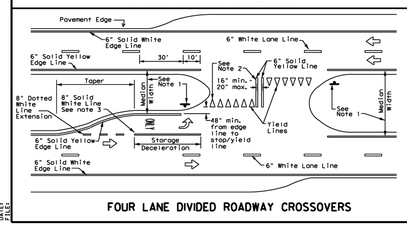


For posted speed on road being marked equal to or greater than 45 MPH.

YIELD LINES



For posted speed on road being marked equal to or less than 40 MPH.



FOUR LANE DIVIDED ROADWAY CROSSOVERS

NOTES

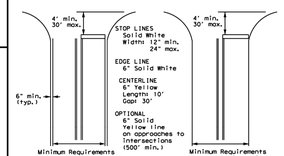
1. Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections. Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling width to determine if signs are required. Yield signs are the typical intersection control. Stop signs and stop bars are optional as determined by the Engineer.
2. Install median striping (double yellow centerlines and stop lines/yield lines) when a 50' or greater median centerline can be placed. Stop lines shall only be used with stop signs. Yield lines shall only be used with yield signs.
3. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.

GENERAL NOTES

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

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
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.



NOTE: Traveled way is exclusive of shoulder widths. Refer to General Note 2 for additional details.

GUIDE FOR PLACEMENT OF STOP LINES,
EDGE LINE & CENTERLINE
Based on Traveled Way and Pavement Widths
for Undivided Roadways

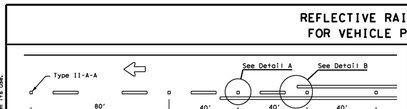
Texas Department of Transportation — Traffic Safety Division Standard

TYPICAL STANDARD
PAVEMENT MARKINGS
PM(1)-22

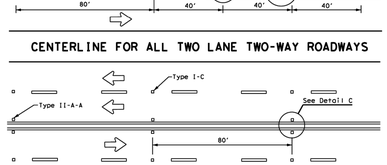
FILE:	pm1-22.dgn	DN:	CK:	DW:	CK:
☑ TxDOT December 2022		CONT	SECT	JOB	HIGHWAY
REVISIONS					
11-18 8-00 5-10		DIST	COUNTY		SHEET NO.
8-95 3-03 12-22					
5-00 2-12					

224

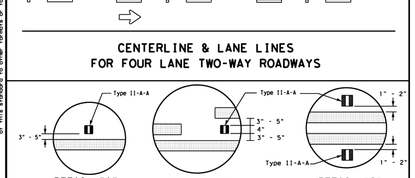
REFLECTIVE RAISED PAVEMENT MARKERS
FOR VEHICLE POSITIONING GUIDANCE



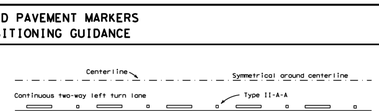
CENTERLINE FOR ALL TWO LANE TWO-WAY ROADWAYS



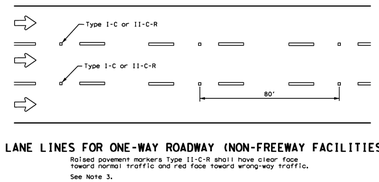
CENTERLINE & LANE LINES
FOR FOUR LANE TWO-WAY ROADWAYS



DETAIL "A" DETAIL "B" DETAIL "C"

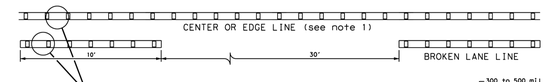


CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



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

Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.
See Note 3.



6" EDGE LINE, 6" CENTERLINE OR 6" LANE LINE

REFLECTORIZED PROFILE
PATTERN DETAIL
USING REFLECTIVE PROFILE PAVEMENT MARKERS

A quick field check for the thickness of base line and profile marking is approximately equal to a stack of 5 quarters to a maximum height of 7 quarters.

NOTES

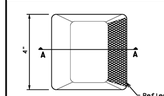
1. Edge lines should typically be 6" wide and the materials shall be specified in the plans.
2. Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

GENERAL NOTES

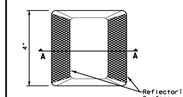
1. All raised pavement markers placed along broken lines shall be placed in line with and midway between the stripes.
2. On concrete pavements, the raised pavement markers should be placed to one side of the longitudinal joints.
3. Use raised pavement marker Type I-C with undivided roadways, flush medians, and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.

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

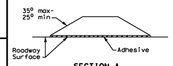
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)



Type II (Top View)



SECTION A

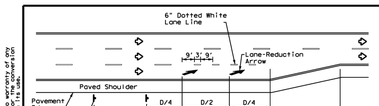
RAISED PAVEMENT MARKERS

Texas Department of Transportation — Traffic Safety Division Standard

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

FILE:	pm2-22.dgn	DN:	CK:	DW:	CK:
☑ TxDOT December 2022		CONT	SECT	JOB	HIGHWAY
REVISIONS					
4-97 8-00 5-10		DIST	COUNTY		SHEET NO.
9-92 2-10 12-22					
5-00 2-12					

225



LANE REDUCTION

NOTES

1. Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows are as shown in the Standard Highway Sign Designs for Texas.
2. On divided highways, an additional RIGHT LANE ENDS (W9-1R) sign may be installed in the median aligned with the W9-1R sign on the right side of the highway.
3. Lane reduction arrows are required for speeds of 45 mph or greater. An optional third lane reduction arrow may be added for added driver reinforcement. If used, the optional third lane reduction arrow should be centered between the first and last lane reduction arrows.
4. For lane reductions on Freeways and Expressways, signing shall conform to the TxDOT Freeway Signing Handbook.

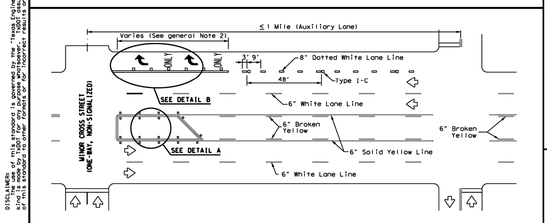
ADVANCED WARNING SIGN DISTANCE (D)		
Posted Speed	D (ft)	L (ft)
30 MPH	460	$L=\frac{WS^2}{60}$
35 MPH	565	
40 MPH	670	
45 MPH	775	
50 MPH	885	L=WS
55 MPH	990	
60 MPH	1,100	
65 MPH	1,200	
70 MPH	1,250	
75 MPH	1,350	

GENERAL NOTES

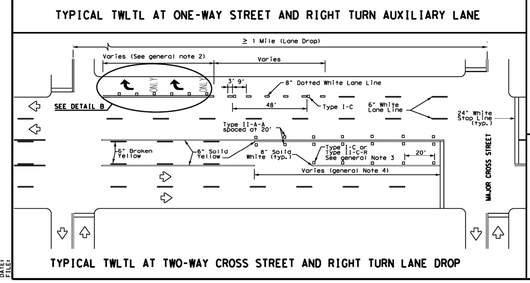
1. Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn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

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

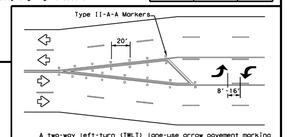
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE

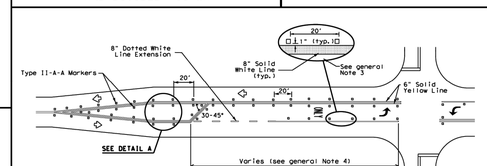


TYPICAL TWLTL AT TWO-WAY CROSS STREET AND RIGHT TURN LANE DROP

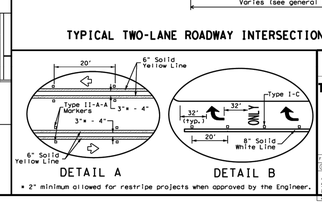


A two-way left-turn (TWLT) lane-use arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or dedicated turn bay is not required unless stated elsewhere in the plans.

TYPICAL TRANSITION FOR TWLTL
AND DIVIDED HIGHWAY



TYPICAL TWO-LANE ROADWAY INTERSECTION WITH LEFT TURN BAYS



DETAIL A DETAIL B

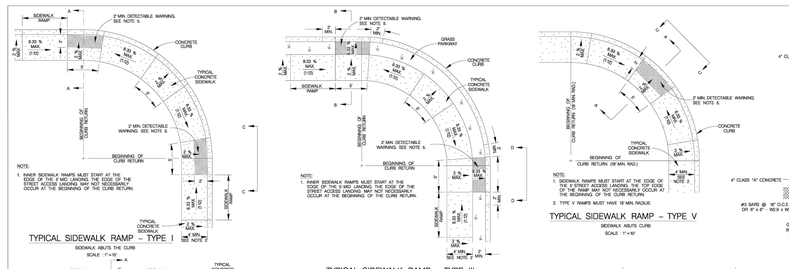
* 2" minimum allowed for restripe projects when approved by the Engineer.

Texas Department of Transportation — Traffic Safety Division Standard

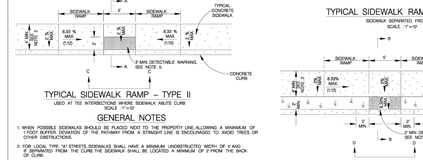
TWO-WAY LEFT TURN LANES,
RURAL LEFT TURN BAYS,
AND LANE REDUCTION
PAVEMENT MARKINGS
PM(3)-22

FILE:	pm3-22.dgn	DN:	CK:	DW:	CK:
☑ TxDOT December 2022		CONT	SECT	JOB	HIGHWAY
REVISIONS					
4-98 3-03 12-22		DIST	COUNTY		SHEET NO.
5-00 2-12					

226



TYPICAL SIDEWALK RAMP – TYPE I

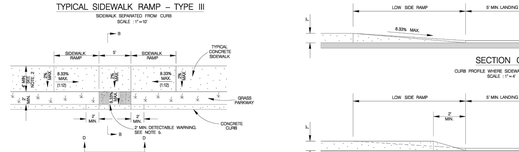


TYPICAL SIDEWALK RAMP – TYPE II

USED AT TEE INTERSECTIONS WHERE SIDEWALK ABUTS CURB

TYPICAL SIDEWALK RAMP – TYPE III

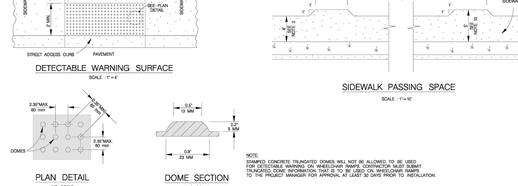
SIDEWALK SEPARATED FROM CURB



TYPICAL SIDEWALK RAMP – TYPE IV

USED AT TEE INTERSECTIONS WHERE SIDEWALK IS SEPARATED FROM CURB

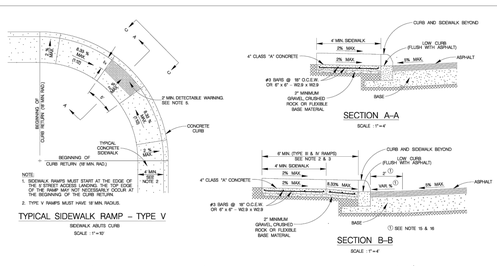
DETECTABLE WARNING SURFACE



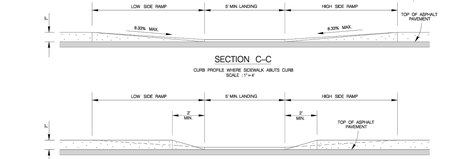
PLAN DETAIL
NO SCALE

DOME SECTION
NO SCALE

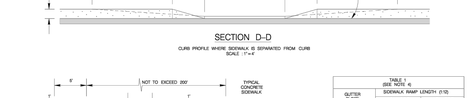
NOTE:
STAMPED CONCRETE TRUNCATED DOMES WILL NOT BE ALLOWED TO BE USED ON WHEELCHAIR RAMPS UNLESS THE MANUFACTURER PROVIDES THE CORRECT TRUNCATED DOME INFORMATION THAT IS TO BE USED ON WHEELCHAIR RAMPS TO THE PROJECT MANAGER FOR APPROVAL AT LEAST 30 DAYS PRIOR TO INSTALLATION.



SECTION A-A

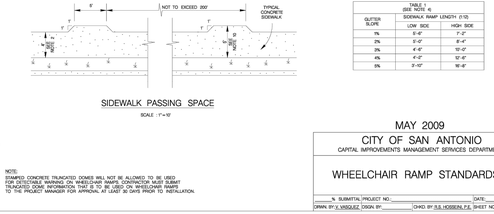


SECTION B-B



SECTION C-C

CURB PROFILE WHERE SIDEWALK ABUTS CURB



SECTION D-D

CURB PROFILE WHERE SIDEWALK IS SEPARATED FROM CURB

SIDEWALK PASSING SPACE

TABLE 1 (SEE NOTE 6)		
GUTTER SLOPE	SIDEWALK RAMP LENGTH (1:12)	
	LOW SIDE	HIGH SIDE
1%	5'-6"	7'-2"
2%	5'-0"	8'-4"
3%	4'-6"	10'-0"
4%	4'-2"	12'-0"
5%	3'-10"	16'-8"

MAY 2009
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

WHEELCHAIR RAMP STANDARDS

NO.	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.22

UP ENGINEERING
a Bowman company
111 TOWER DR, SUITE 125
SAN ANTONIO, TEXAS 78216-6504
WWW.UPENGINEERING.COM - TBPE F-14289

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES
PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS, P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

TURN LANE DETAILS

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by the Texas Department of Transportation for any purpose whatsoever. The Texas Department of Transportation assumes no responsibility for the accuracy or for incorrect results or damages resulting from its use.

DATE:
FILE:

Date: Apr 16, 2025, 8:17am User ID: Li Ramones
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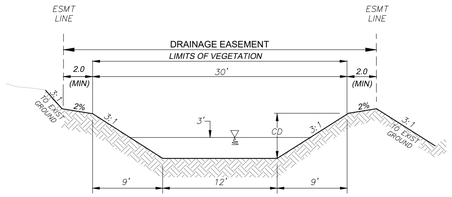
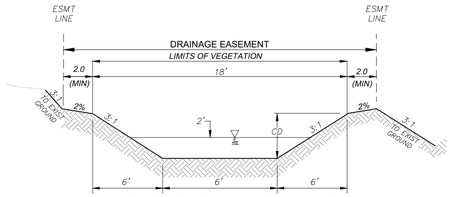


DETAIL "A-A" EARTHEN CHANNEL

N.T.S.

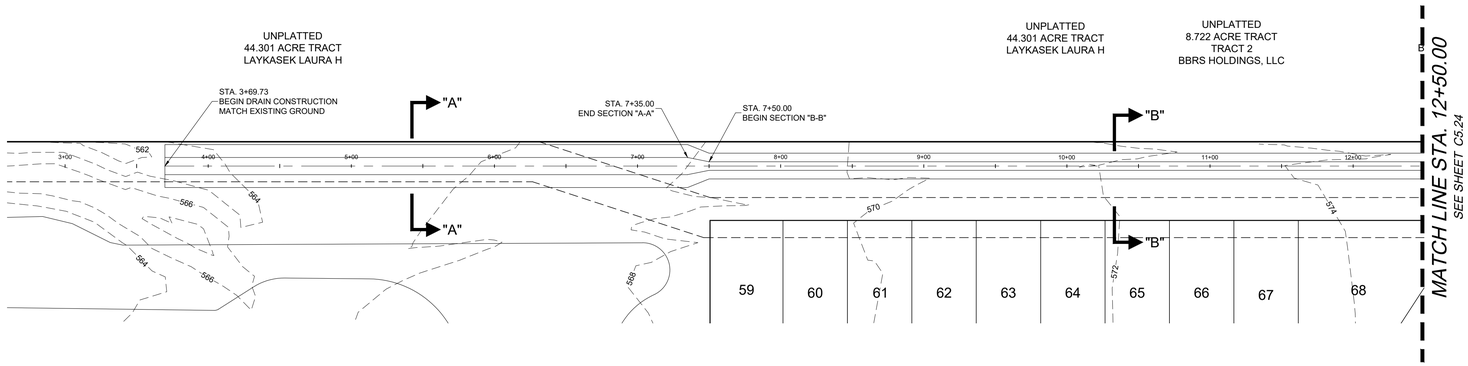
STA 3+69.73 TO STA 7+50.00

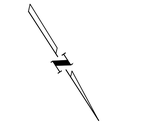


DETAIL "B-B" EARTHEN CHANNEL

N.T.S.

STA 7+50.00 TO STA 16+64.25





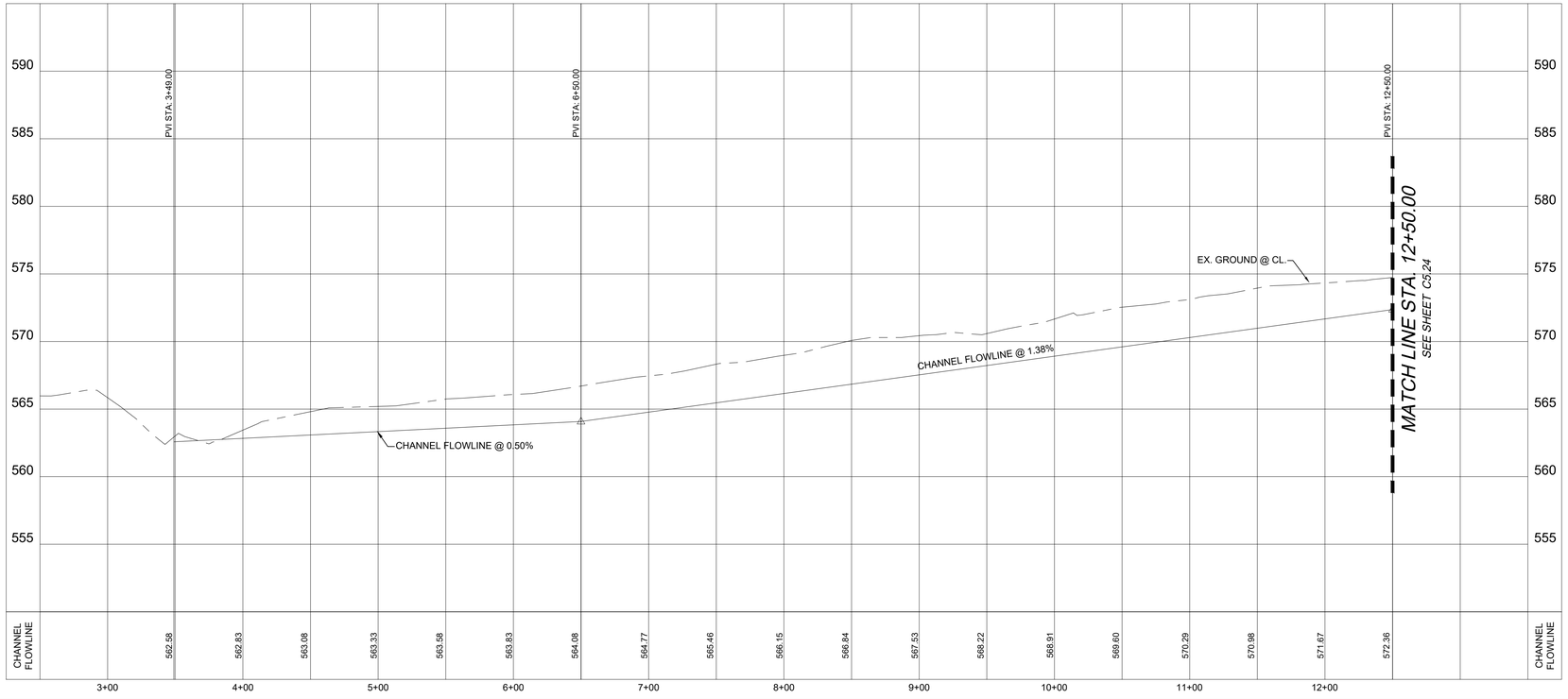
NOTES:

1. ALL CONCRETE LINING SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI IN 28 DAYS. CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 6" WITH #4 BARS @ 12" O.C.E.W. UNLESS OTHERWISE SPECIFIED.
2. IMPROVED EARTHEN CHANNELS AND DETENTION PONDS WILL BE VEGETATED BY HYDROMULCH OR STABILIZATION USING A COMBINATION OF HYDROMULCHING AND STRAW MATTING. EIGHTY FIVE PERCENT (85%) OF THE CHANNEL SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE FINAL ACCEPTANCE.
3. ALL ITEMS ARE TO BE FURNISHED & INSTALLED BY THE CONTRACTOR. REFERENCE CONSTRUCTION DETAIL SHEETS FOR ADDITIONAL INFORMATION.
4. ON ALL GRAVITY LINES, CONTRACTOR MUST START AT DOWNSTREAM AND AND PROCEED UPSTREAM TAKING CARE TO EXPOSE ALL EXISTING UTILITIES AND STRUCTURES WHICH MAY CONFLICT WITH THE PROPOSED LINE. ANY OTHER SEQUENCE OF CONSTRUCTION WILL BE AT THE CONTRACTOR'S RISK.

DRAIN "A"

STA. 3+50.00 TO STA. 12+50.00

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



UP ENGINEERING
a Bowman company
111 TOWER DR, SUITE 125
SAN ANTONIO, TEXAS 78232 | 713.744.6504
WWW.UPENGINEERING.COM | TBPE F-14309

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NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

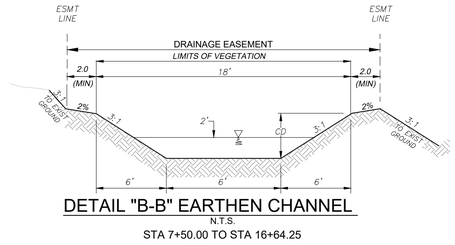
DRAIN "A" PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.23

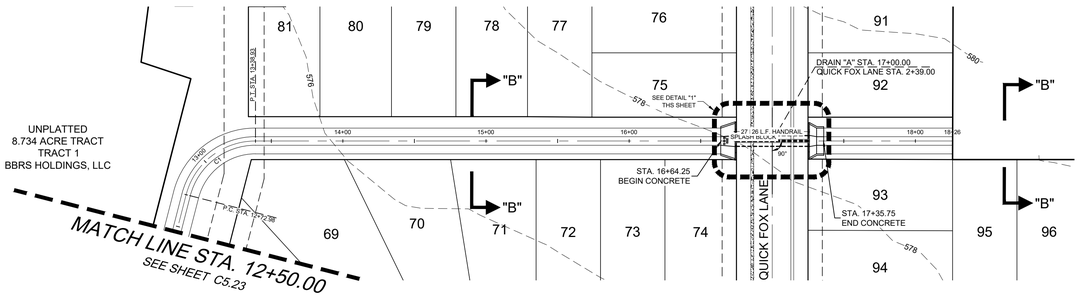
Date: Apr 16, 2025, 8:18am User ID: LJ Palmores
File: U:_Projects\437-1\ACAD\Sheets\C5.18 DRAIN-A.dwg



DETAIL "B-B" EARTHEN CHANNEL

N.T.S.

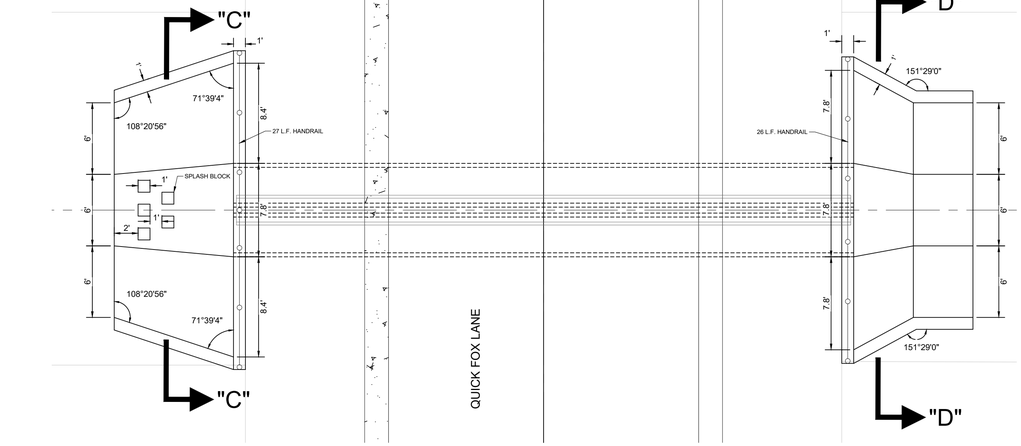
STA 7+50.00 TO STA 16+64.25



CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	CHORD	CHORD BEARING
C1	50.00'	65.95'	75°34'21"	61.27'	S19°29'15"E

NOTES:

1. ALL CONCRETE LINING SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI IN 28 DAYS. CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 6" WITH #4 BARS @ 12" O.C.E.W. UNLESS OTHERWISE SPECIFIED.
2. IMPROVED EARTHEN CHANNELS AND DETENTION PONDS WILL BE VEGETATED BY HYDROMULCH OR STABILIZATION USING A COMBINATION OF HYDROMULCHING AND STRAW MATTING. EIGHTY FIVE PERCENT (85%) OF THE CHANNEL SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE FINAL ACCEPTANCE.
3. ALL ITEMS ARE TO BE FURNISHED & INSTALLED BY THE CONTRACTOR. REFERENCE CONSTRUCTION DETAIL SHEETS FOR ADDITIONAL INFORMATION.
4. ON ALL GRAVITY LINES, CONTRACTOR MUST START AT DOWNSTREAM AND AND PROCEED UPSTREAM TAKING CARE TO EXPOSE ALL EXISTING UTILITIES AND STRUCTURES WHICH MAY CONFLICT WITH THE PROPOSED LINE. ANY OTHER SEQUENCE OF CONSTRUCTION WILL BE AT THE CONTRACTOR'S RISK.



DETAIL "1"

N.T.S.

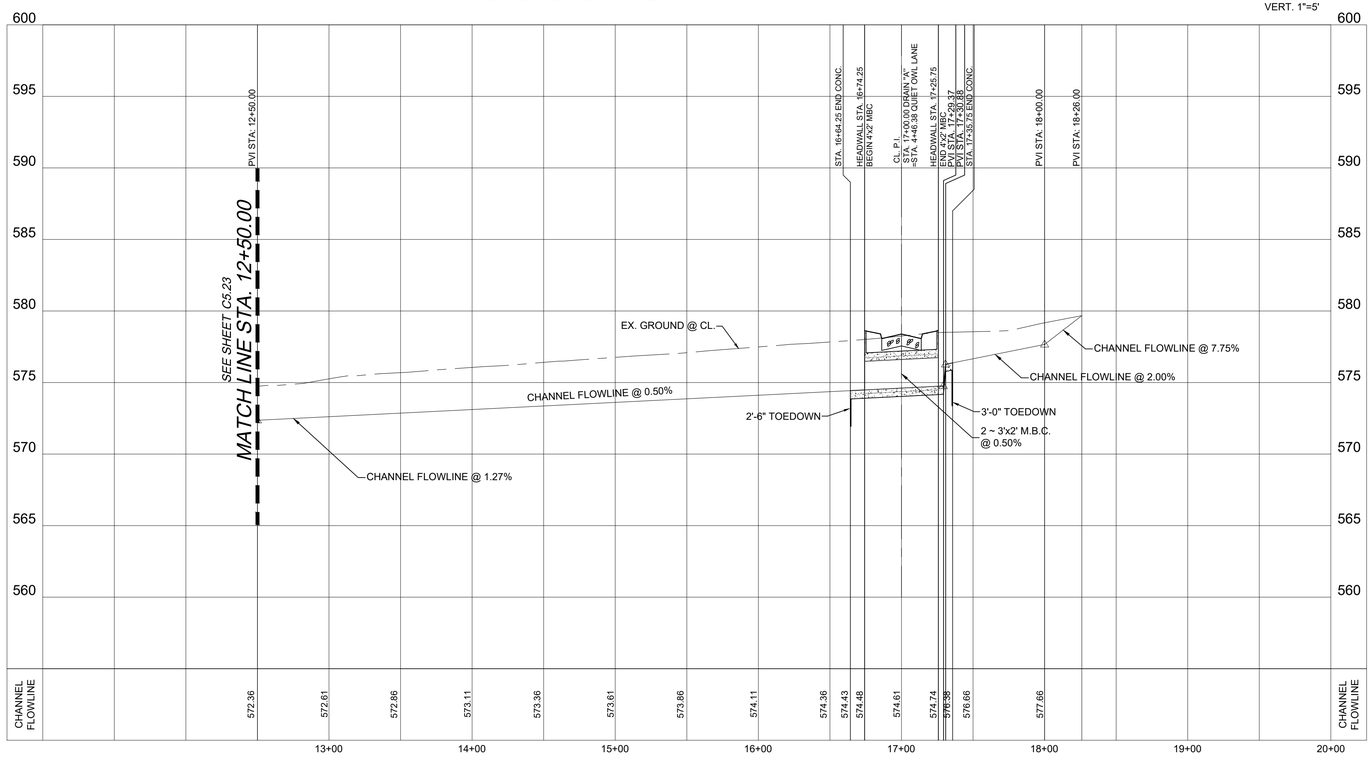
0 25' 50' 100'

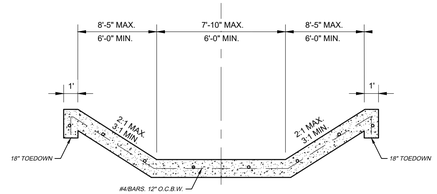
SCALE: 1" = 50'

DRAIN "A"

STA. 12+50.00 TO STA. 18+26.00

SCALE:
HORIZ.1"=50'
VERT. 1"=5'





SECTION "C-C"

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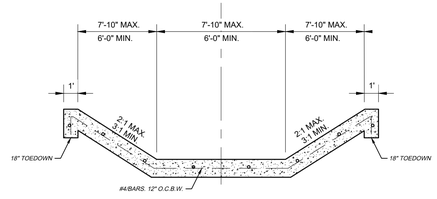
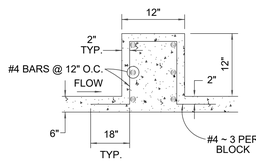


SECTION "C-C"



SPLASH BLOCK DETAIL

N.T.S.

UP ENGINEERING
a Bowman company
111 TOWER DR. SUITE 325
SAN ANTONIO, TEXAS 78232 | 210.774.4504
WWW.UPENGINEERING.COM - TBPE F-14399

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

DRAIN "A" PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.24

Date: Apr 16, 2025, @ 10am User ID: LJ Ramirez
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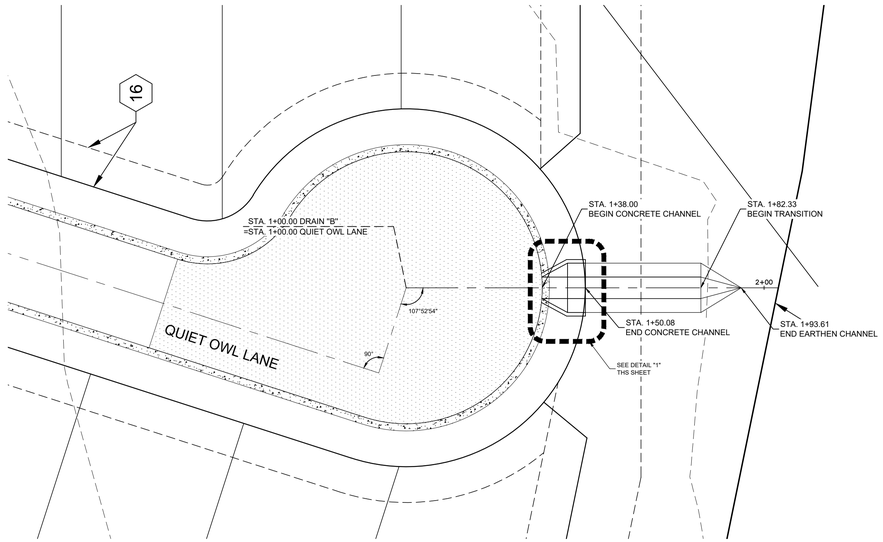
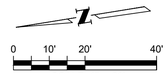
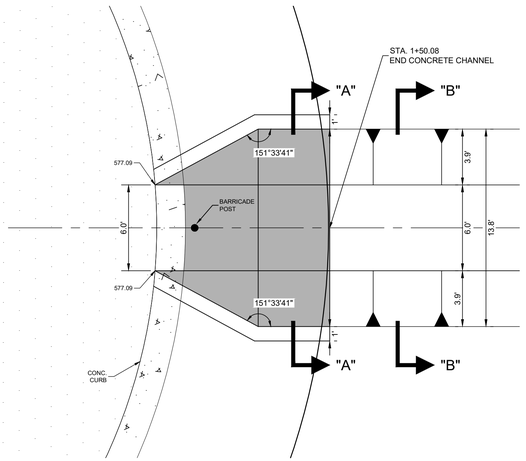






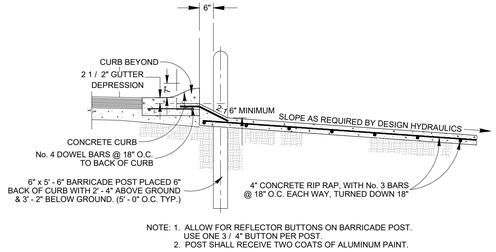
DETAIL "1"
N.T.S.

NOTES:

1. IMPROVED EARTHEN CHANNELS AND DETENTION PONDS SHALL BE VEGETATED BY HYDROMULCH OR STABILIZATION USING A COMBINATION OF HYDROMULCHING AND STRAW MATTING. EIGHTY-FIVE PERCENT OF THE CHANNEL OR POND SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE FINAL ACCEPTANCE.
2. ALL ITEMS ARE TO BE FURNISHED & INSTALLED BY CONTRACTOR. REFERENCE CONSTRUCTION DETAILS SHEETS FOR ADDITIONAL INFORMATION.
3. ALL STORM DRAINAGE PIPE WITHIN PUBLIC ROW SHALL BE MIN 24" RCP (REINFORCED CONCRETE PIPE)
4. REFERENCE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.
5. CONCRETE SHALL BE A MINIMUM OF 6" THICK AT 3000 PSI IN 28 DAYS WITH #4 BARS @ 12" O.C.E.W. UNLESS OTHERWISE SPECIFIED.
6. CONTRACTOR SHALL GROUT TO DRAIN AT ALL CURB INLETS AND JUNCTION BOXES. REFERENCE CONCRETE COLLAR DETAIL SHEET #####.

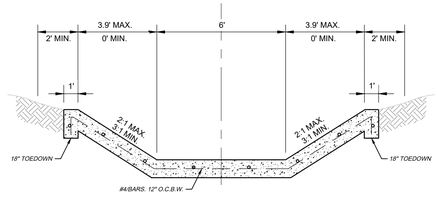
DRAIN "B"

STA. 1+00.00 TO STA. 1+94.65

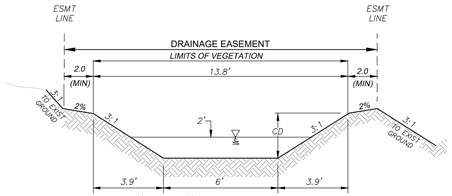


NOTE: 1. ALLOW FOR REFLECTOR BUTTONS ON BARRICADE POST. USE ONE 3 / 4" BUTTON PER POST.
2. POST SHALL RECEIVE TWO COATS OF ALUMINUM PAINT.

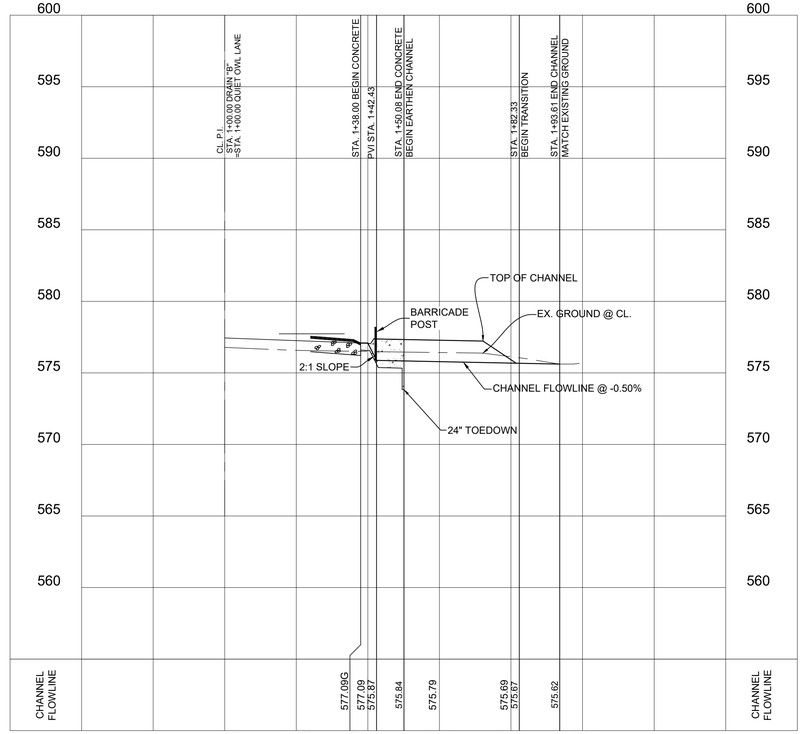
ELEVATED SIDEWALK & DROP CURB
DETAILS FOR DRAINAGE CHANNELS

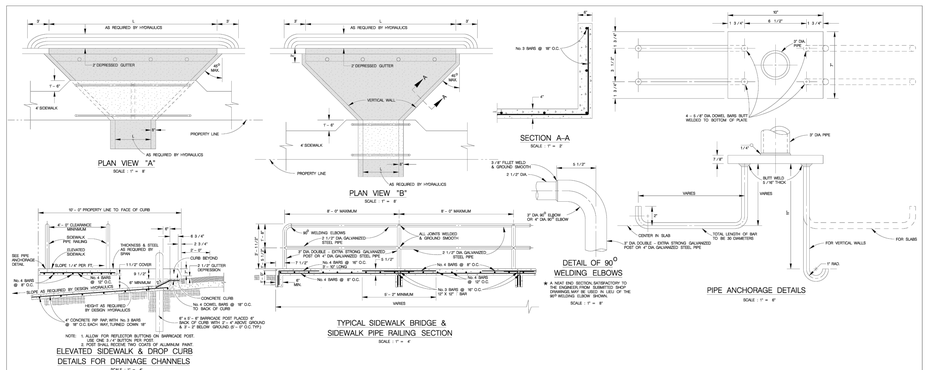


SECTION "A–A"
N.T.S.
STA 1+38.00 TO STA 1+50.08



SECTION "B–B" EARTHEN CHANNEL
N.T.S.
STA 1+50.08 TO STA 1+93.61





JANUARY 2005
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

ELEVATED SIDEWALK & RETARD STANDARDS

% SUBMITTAL	PROJECT NO.:		DATE:
DRWN BY: V. VASQUEZ	DESGN BY:	CHKD. BY:	SHEET NO.: OF

UP ENGINEERING
a Bowman company
111 TOWER DR., SUITE 325
SAN ANTONIO, TEXAS 78232 (210) 744-5504
WWW.UPENGINEERING.COM TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

YELLOWSTONE FUND I, LLC
12500 SAN PEDRO AVE., STE. 530
SAN ANTONIO, TEXAS XXXXX

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

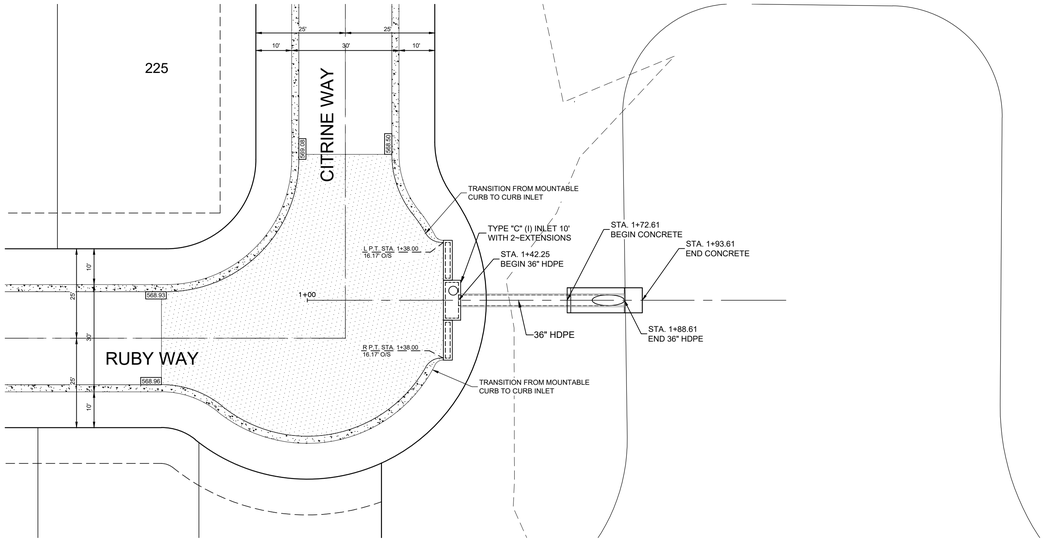
DRAIN B PLAN & PROFILE

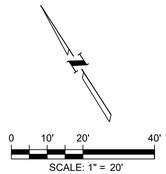
BY	DESCRIPTION	REV	DATE

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.25

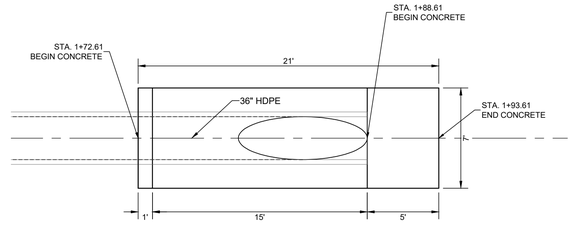
Date: Apr 16, 2025, 8:23am User ID: Lil Romeros
File: \\...\Projects\1437 – Higdon Rd Empower\1437\1A\04\Sheets\Civ 19 DRAIN–B.dwg





NOTES:

1. IMPROVED EARTHEN CHANNELS AND DETENTION PONDS SHALL BE VEGETATED BY HYDROMULCH OR STABILIZATION USING A COMBINATION OF HYDROMULCHING AND STRAW MATTING. EIGHTY-FIVE PERCENT OF THE CHANNEL OR POND SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE FINAL ACCEPTANCE.
2. ALL ITEMS ARE TO BE FURNISHED & INSTALLED BY CONTRACTOR. REFERENCE CONSTRUCTION DETAILS SHEETS FOR ADDITIONAL INFORMATION.
3. ALL STORM DRAINAGE PIPE WITHIN PUBLIC ROW SHALL BE MIN 24" RCP (REINFORCED CONCRETE PIPE)
4. REFERENCE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.
5. CONCRETE SHALL BE A MINIMUM OF 6" THICKNESS AT 3000 PSI IN 28 DAYS WITH #4 BARS @ 12" O.C.E.W. UNLESS OTHERWISE SPECIFIED.
6. CONTRACTOR SHALL GROUT TO DRAIN AT ALL CURB INLETS AND JUNCTION BOXES. REFERENCE CONCRETE COLLAR DETAIL SHEET #####.
7. HDPE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321.

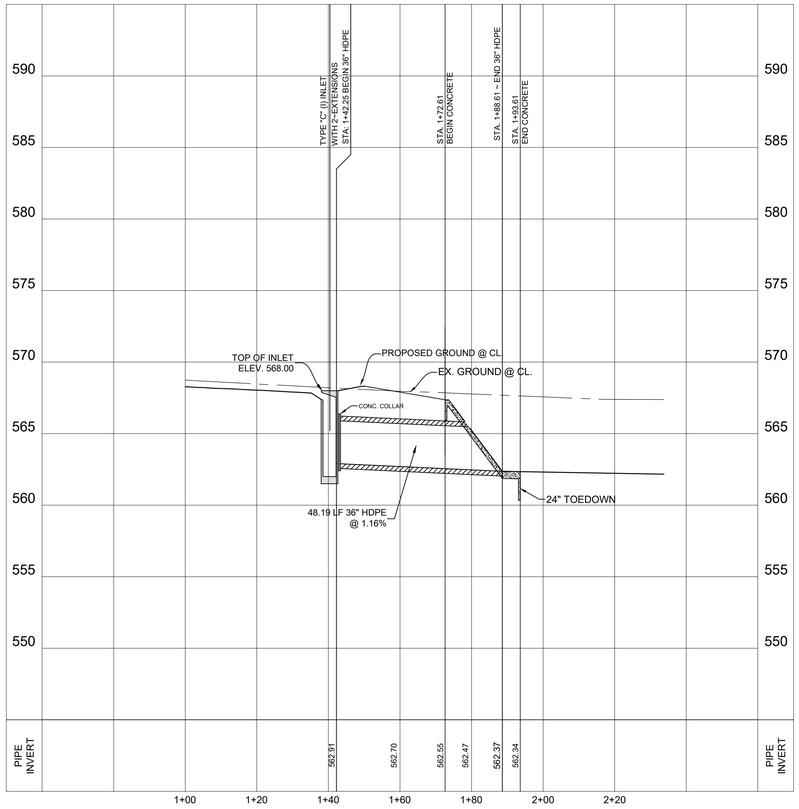


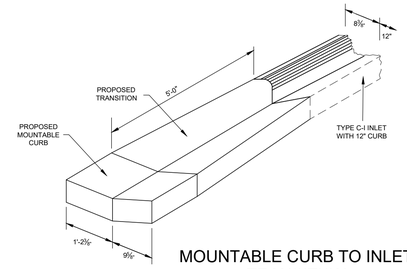
DETAIL "1"
N.T.S.

DRAIN "C"

STA. 1+00.00 TO STA. 2+87.00

SCALE:
HORIZ.1"=20'
VERT. 1"=5'





MOUNTABLE CURB TO INLET TRANSITION
NOT TO SCALE

UP ENGINEERING
a Bowman company
111 TOWER DR. SUITE 325
SAN ANTONIO, TEXAS 78232 TEL: 210-744-5504
WWW.UPENGINEERING.COM TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

YELLOWSTONE FUND I, LLC
12500 SAN PEDRO AVE., STE. 530
SAN ANTONIO, TEXAS XXXXX

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

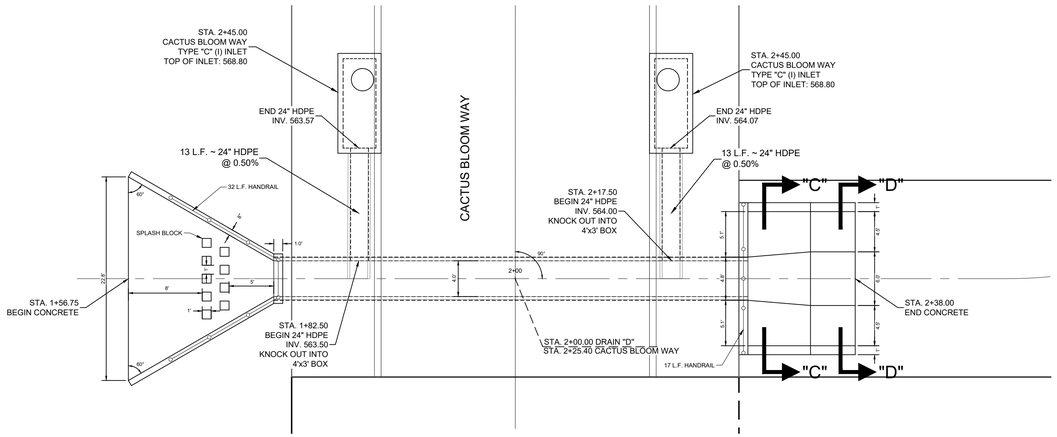
DRAIN B PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.26

Date: Apr 16, 2025, 8:34am User ID: Lj Ramones
File: U:_Projects\437 - Wigton Rd Emp\civil\437-1\ACAD\Sheets\C5.20 DRAIN-C.dwg

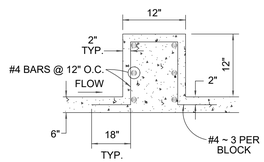


DETAIL "1"
N.T.S.

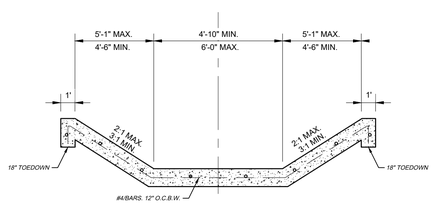
CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	CHORD	CHORD BEARING
C1	50.00'	12.59'	14°25'39"	12.56'	N25°30'45"E

NOTES:

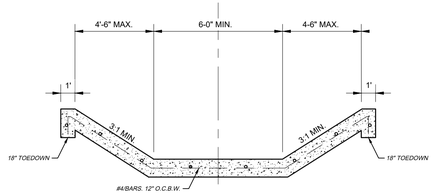
1. ALL CONCRETE LINING SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3,00 PSI IN 28 DAYS. CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 6" WITH #4 BARS @ 12" O.C.E.W. UNLESS OTHERWISE SPECIFIED.
2. IMPROVED EARTHEN CHANNELS AND DETENTION PONDS WILL BE VEGETATED BY HYDROMULCHING OR STABILIZATION USING A COMBINATION OF HYDROMULCHING AND STRAW MATTING . EIGHTY FIVE PERCENT (85%) OF THE CHANNEL SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE FINAL ACCEPTANCE.
3. ALL ITEMS ARE TO BE FURNISHED & INSTALLED BY THE CONTRACTOR. REFERENCE CONSTRUCTION DETAIL SHEETS FOR ADDITIONAL INFORMATION.
4. ON ALL GRAVITY LINES, CONTRACTOR MUST START AT DOWNSTREAM AND AND PROCEED UPSTREAM TAKING CARE TO EXPOSE ALL EXISTING UTILITIES AND STRUCTURES WHICH MAY CONFLICT WITH THE PROPOSED LINE. ANY OTHER SEQUENCE OF CONSTRUCTION WILL BE AT THE CONTRACTOR'S RISK.



SPLASH BLOCK DETAIL
N.T.S.



SECTION "C-C"
N.T.S.



SECTION "D-D"
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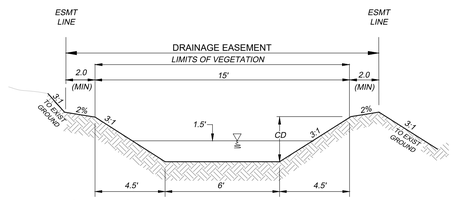
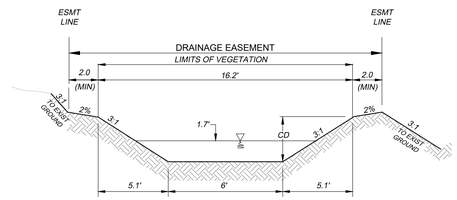


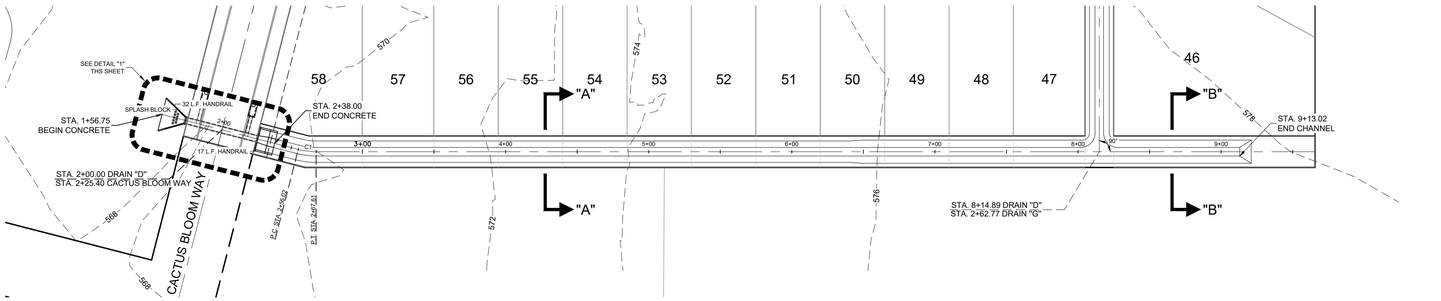
SECTION "A-A" EARTHEN CHANNEL
N.T.S.

STA 2+38.00 TO STA 6+50.00



SECTION "B-B" EARTHEN CHANNEL
N.T.S.

STA 6+50.00 TO STA 9+13.02

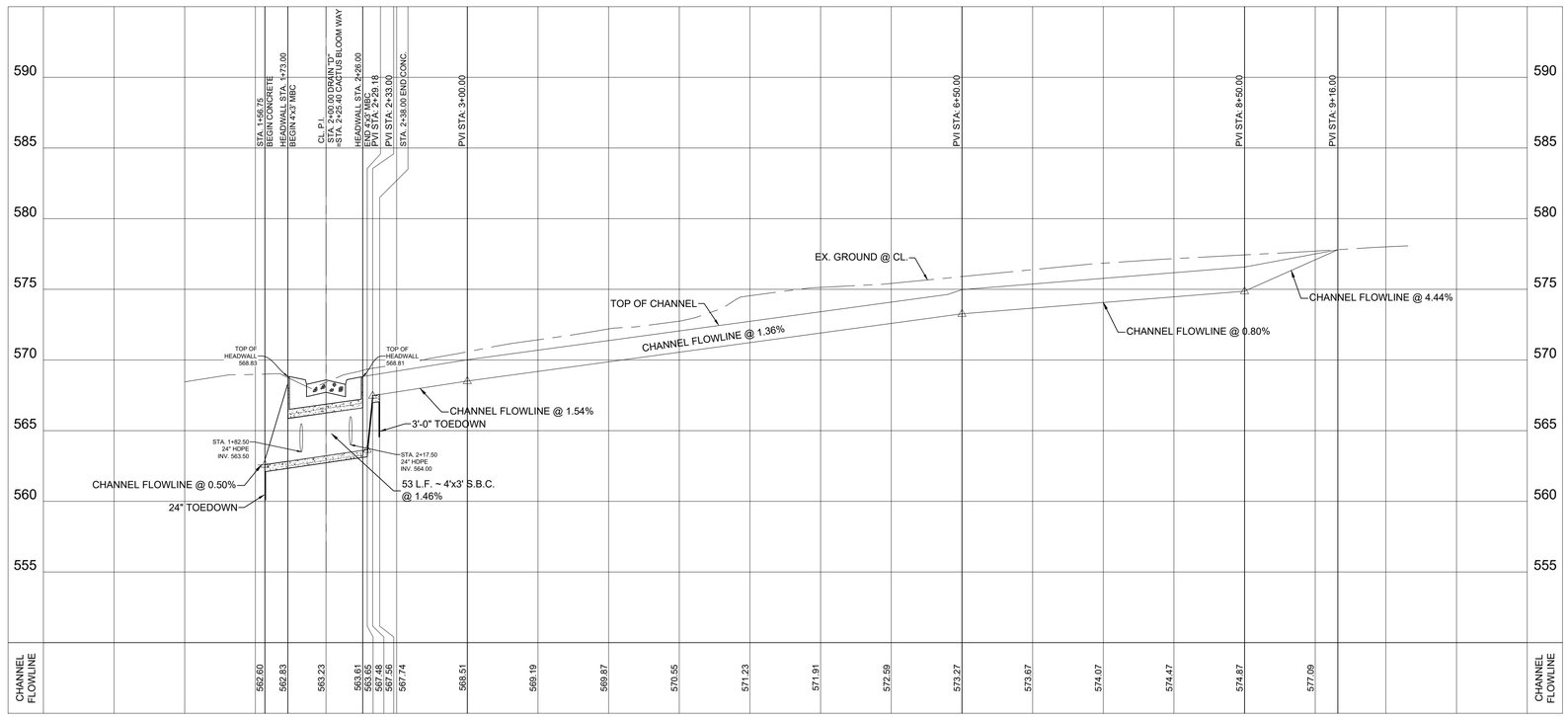


0 25' 50' 100'
SCALE: 1" = 50'

DRAIN "D"

STA. 1+51.71 TO STA. 9+16.00

SCALE:
HORIZ. 1"=50'
VERT. 1"=5'



UP ENGINEERING
a Bowman company
111 TOWER DR., SUITE 325
SAN ANTONIO, TEXAS 78216-4504
WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

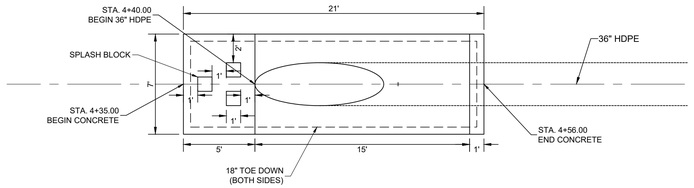
DRAIN "D" PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

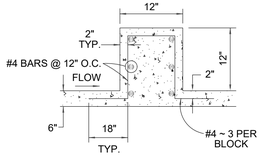
SHEET
C5.27

Date: Apr 16, 2025, 8:18am User ID: Li Espinoza
File: U:_Projects\437 – Higdon Rd Empower\437-1\ACAD\Sheets\C5.21 DRAIN-D.dwg



DETAIL "1"

N.T.S.



SPLASH BLOCK DETAIL

N.T.S.

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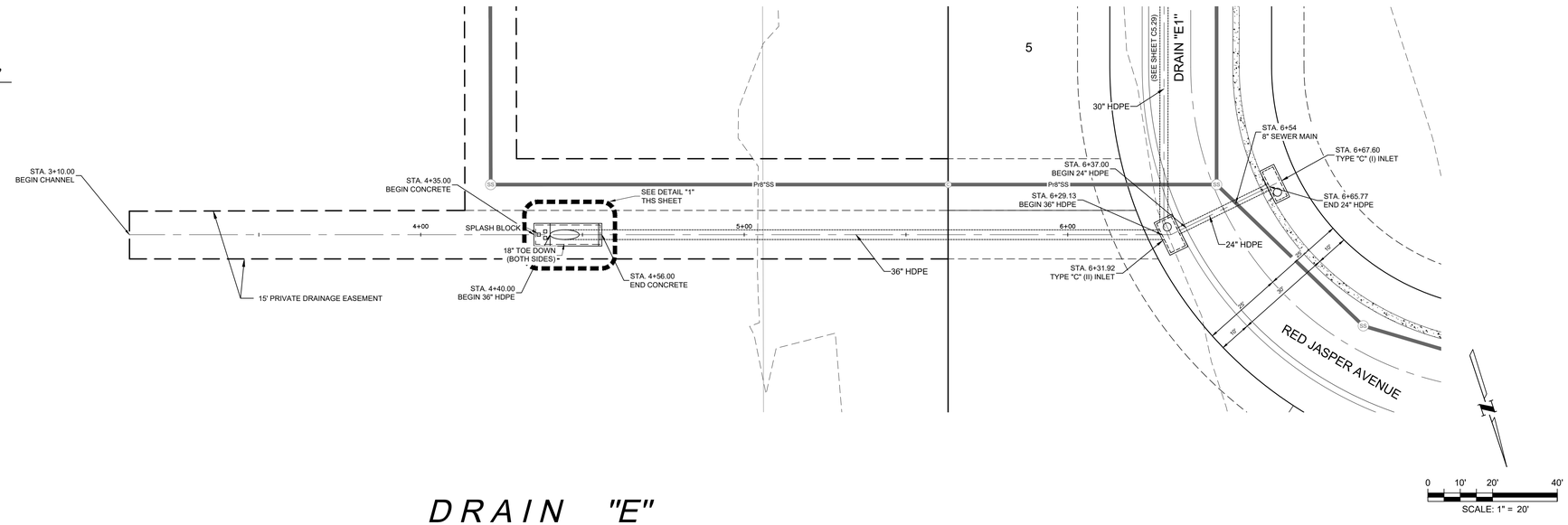
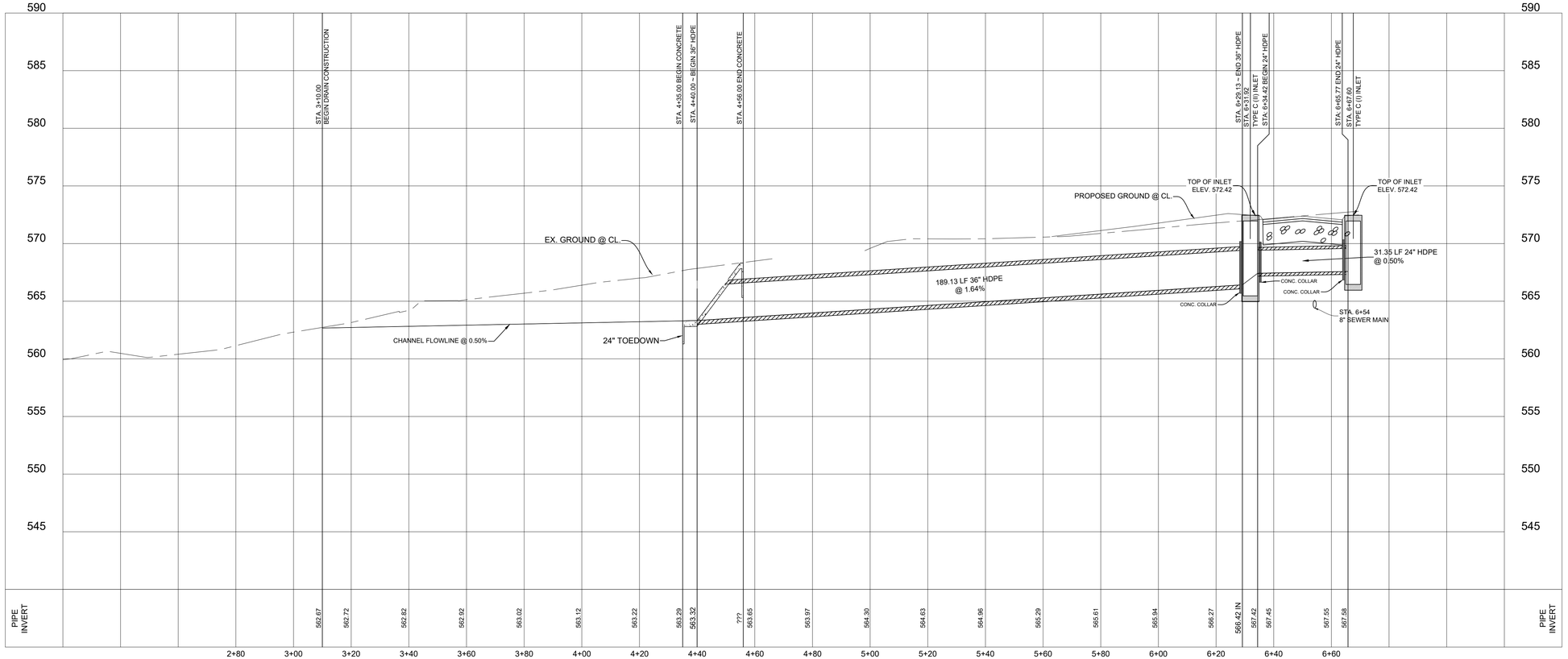
7. HDPE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321.



DRAIN "E"

STA. 2+50.00 TO STA. 6+67.60



UP ENGINEERING
a Bowman company
111 TOWER DR, SUITE 325
SAN ANTONIO, TEXAS 78232 | 210.774.6504
WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC SUBDIVISION
PLAT NO. 25-11800019

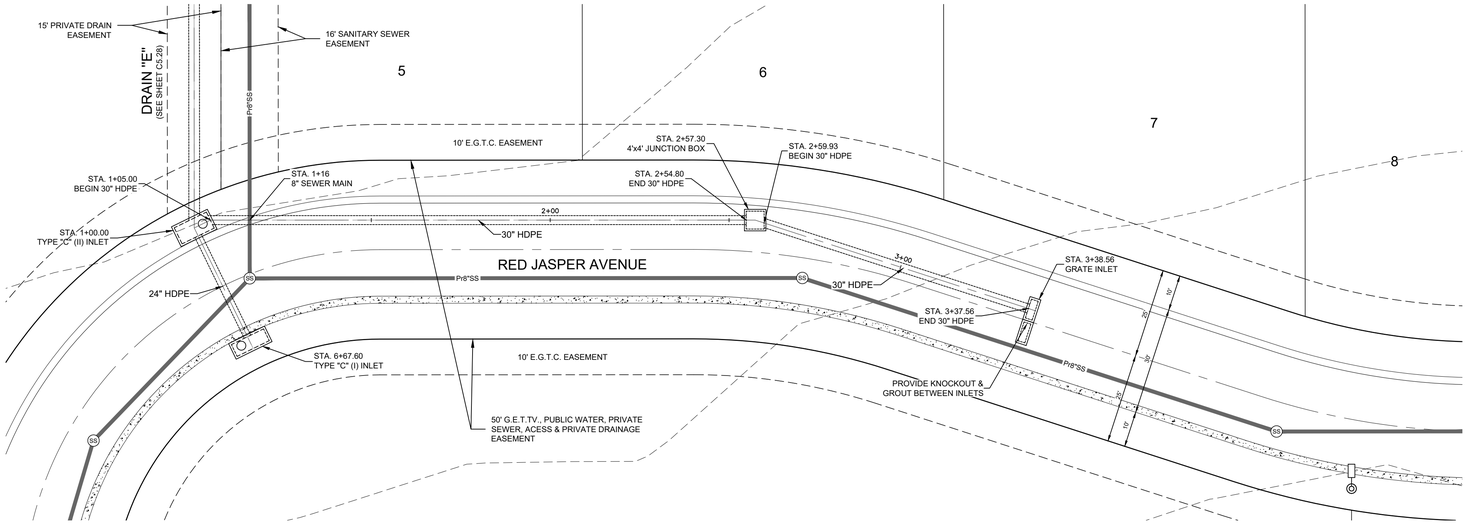
DRAIN "E" PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.28

Date: Apr 16, 2025, 8:18am User ID: Liz Romeres
File: I:_Projects\1437 – Higdon Rd Empower\1437\1\ACAD\Sheets\C5.22 DRAIN-E.dwg



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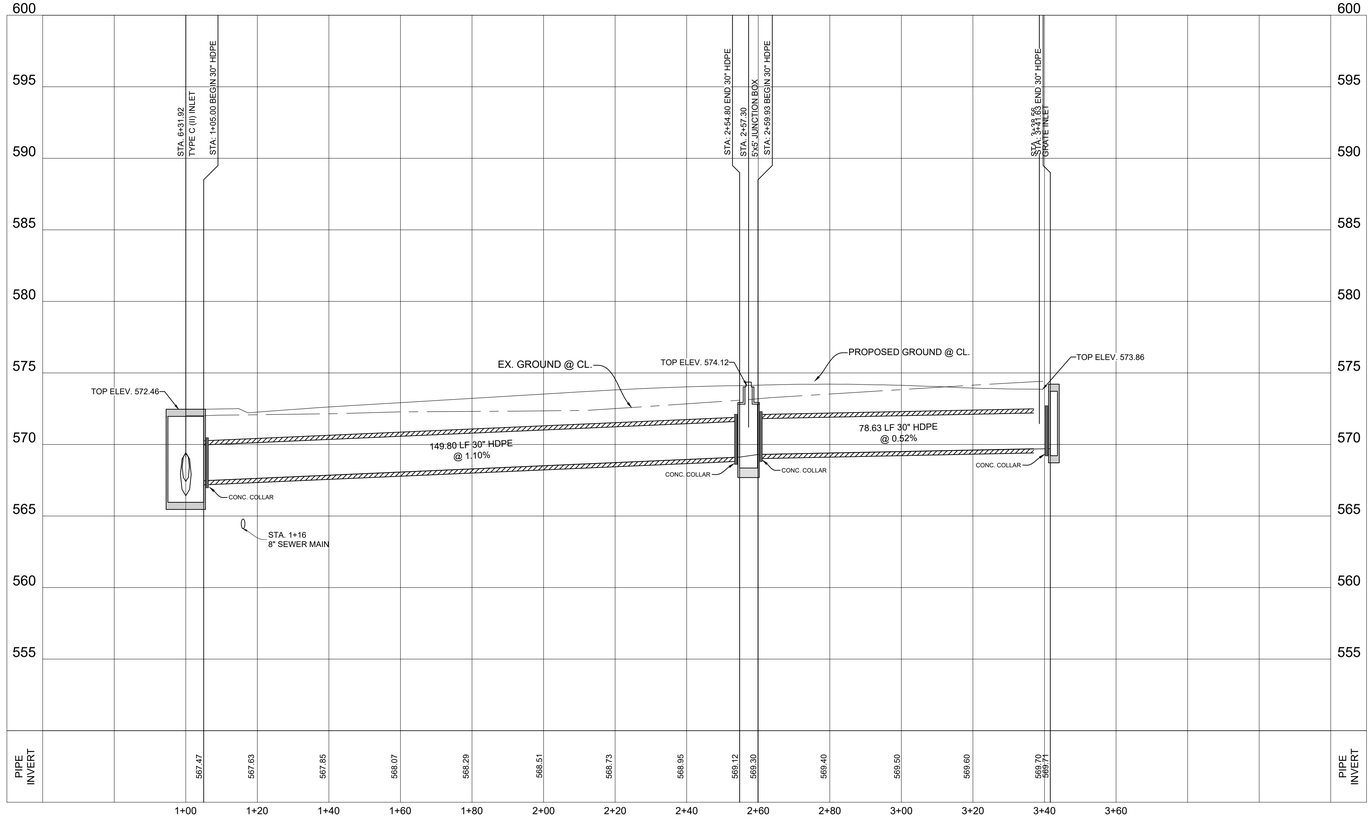
6. CONTRACTOR SHALL GROUT TO DRAIN AT ALL CURB INLETS AND JUNCTION BOXES. REFERENCE CONCRETE COLLAR DETAIL SHEET #####.
7. HDPE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321.

DRAIN "E1"

STA. 1+00.00 TO STA. 3+42.63

SCALE:
HORIZ.1"=20'
VERT. 1"=5'



UP ENGINEERING
a Bowman company
111 TOWER DR, SUITE 325
SAN ANTONIO, TEXAS 78232 | 210-764-6504
WWW.UPENGINEERING.COM | TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC SUBDIVSION
PLAT NO. 25-11800019

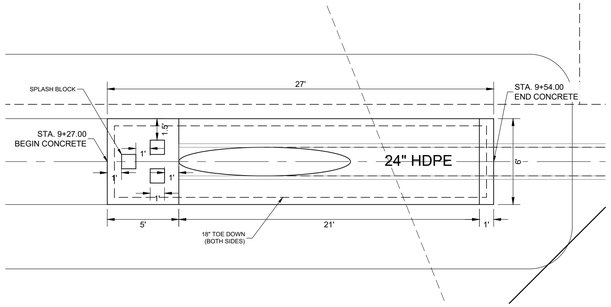
DRAIN "E1" PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

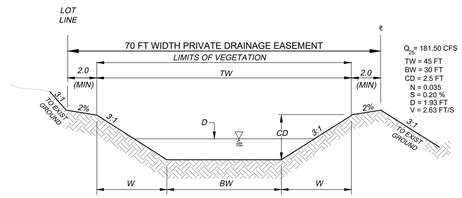
SHEET
C5.29

Date: Apr 16, 2025, 8:18am User ID: Liz Bonnoies
File: c:\...\Projects\1437 – Hygate Rd Engineering\1437(1.4)(A0)\Sheets\C5.22 DRAIN–E1.dwg



DETAIL "1"

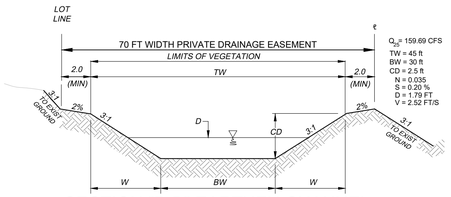
N.T.S.



SECTION "A-A" EARTHEN CHANNEL

N.T.S.

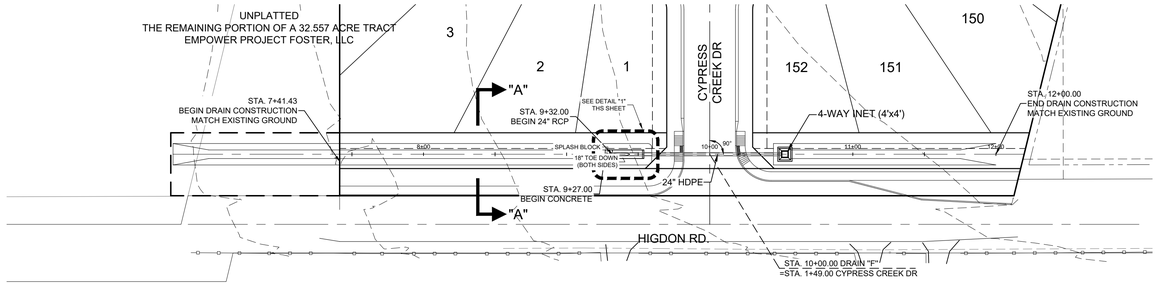
STA 7+41.43 TO STA 9+27.00

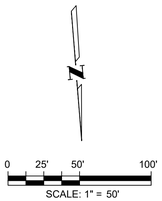


SECTION "B-B" EARTHEN CHANNEL

N.T.S.

STA 10+57.53 TO STA 12+00.00



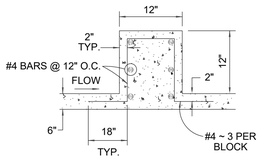


0 25' 50' 100'

SCALE: 1" = 50'

NOTES:

1. IMPROVED EARTHEN CHANNELS AND DETENTION PONDS SHALL BE VEGETATED BY HYDROMULCH OR STABILIZATION USING A COMBINATION OF HYDROMULCHING AND STRAW MATTING. EIGHTY-FIVE PERCENT OF THE CHANNEL OR POND SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE FINAL ACCEPTANCE.
2. ALL ITEMS ARE TO BE FURNISHED & INSTALLED BY CONTRACTOR. REFERENCE CONSTRUCTION DETAILS SHEETS FOR ADDITIONAL INFORMATION.
3. ALL STORM DRAINAGE PIPE WITHIN PUBLIC ROW SHALL BE MIN 24" RCP (REINFORCED CONCRETE PIPE)
4. REFERENCE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.
5. CONCRETE SHALL HAVE A MINIMUM THICKNESS OF 6" AT 3000 PSI IN 28 DAYS WITH #4 BARS @ 12" O.C.E.W. UNLESS OTHERWISE SPECIFIED.
6. CONTRACTOR SHALL GROUT TO DRAIN AT ALL CURB INLETS AND JUNCTION BOXES. REFERENCE CONCRETE COLLAR DETAIL SHEET #####.
7. HDPE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321.



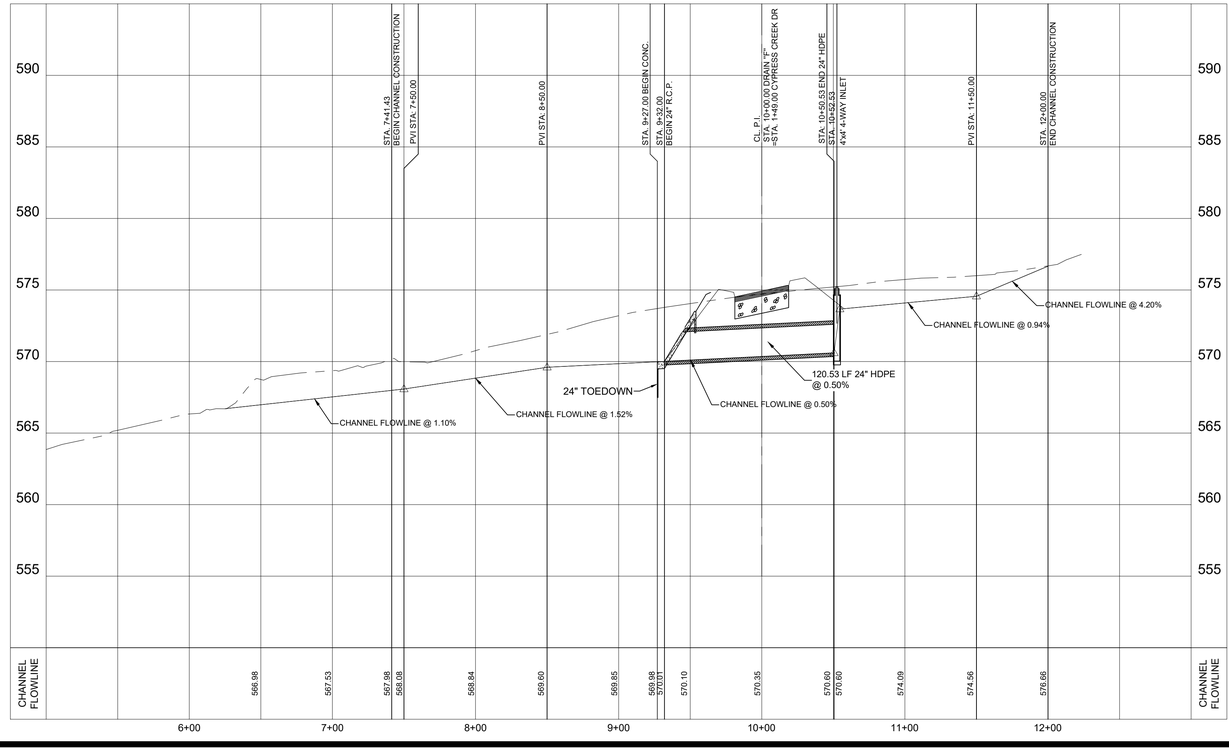
SPLASH BLOCK DETAIL

N.T.S.

DRAIN "F"

STA. 6+25.00 TO STA. 12+00.00

SCALE:
HORIZ.1"=50'
VERT. 1"=5'



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SAN ANTONIO, TEXAS 78232 | 713.744.6504
WWW.UPENGINEERING.COM | TBPE F-14399

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

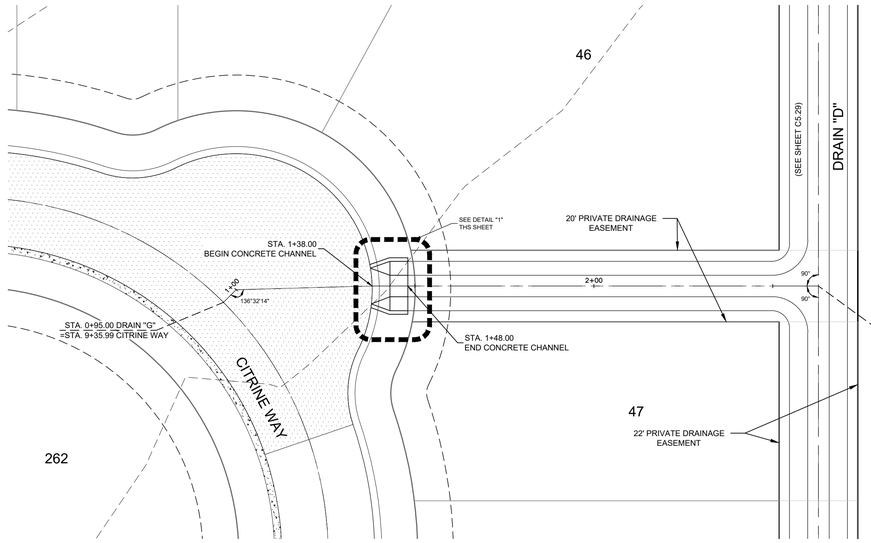
DRAIN "F" PLAN & PROFILE

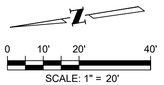
REV	DATE	DESCRIPTION	BY

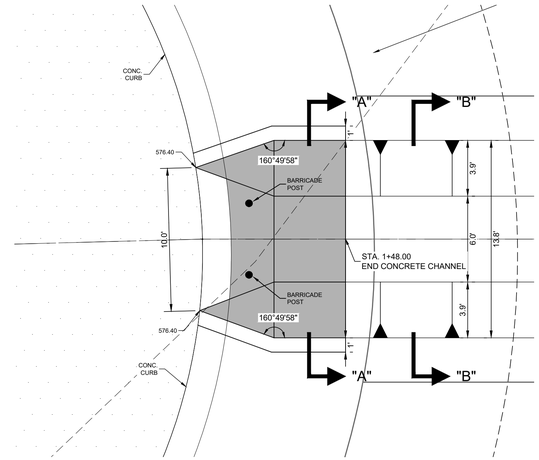
DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.30

Date: Apr 16, 2025, 8:18am User ID: Lil Ramones
File: G:_Projects\437 – Higdon Rd Empower\437\1\ACAD\Sheets\C6_23 DRAIN–F.dwg







DETAIL "1"
N.T.S.

NOTES:

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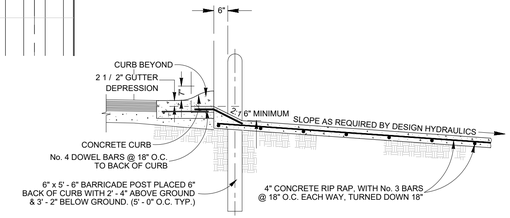
6. CONTRACTOR SHALL GROUT TO DRAIN AT ALL CURB INLETS AND JUNCTION BOXES. REFERENCE CONCRETE COLLAR DETAIL SHEET #####.

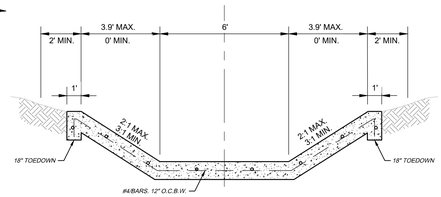
DRAIN "G"

STA. 1+00.00 TO STA. 2+62.77

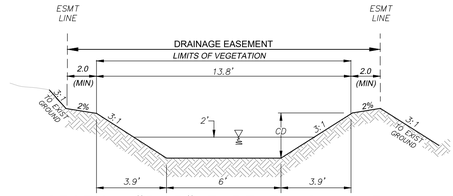


1. ALLOW FOR REFLECTOR BUTTONS ON BARRICADE POST. USE ONE 3 / 4" BUTTON PER POST.
2. POST SHALL RECEIVE TWO COATS OF ALUMINUM PAINT.

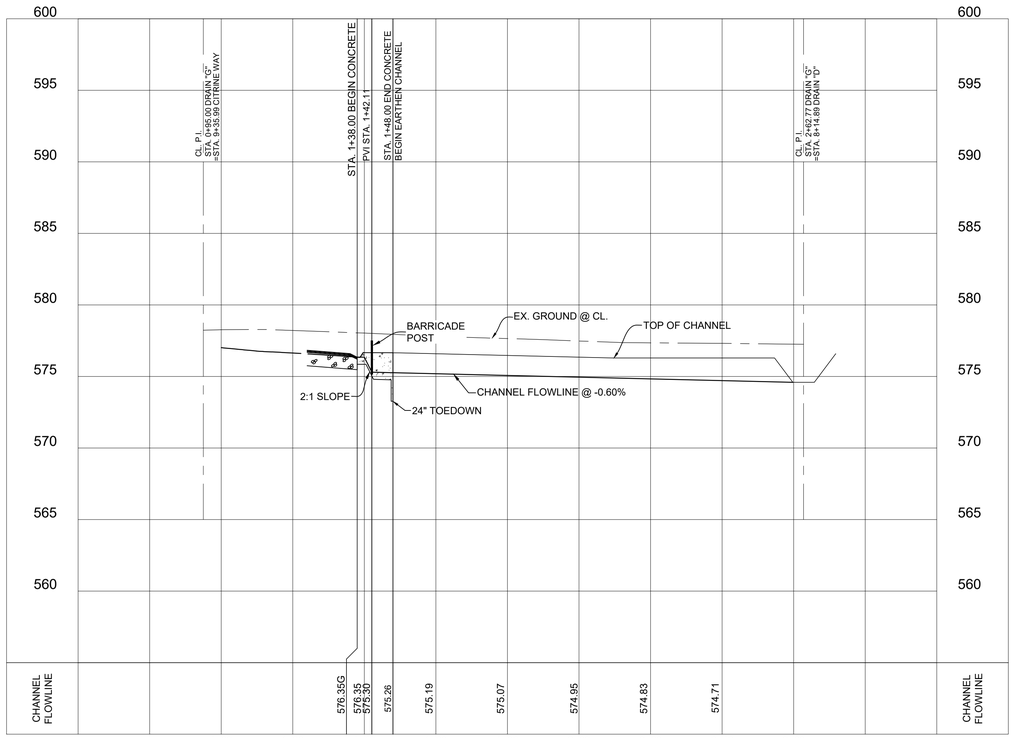
DROP CURB
DETAILS FOR DRAINAGE CHANNELS

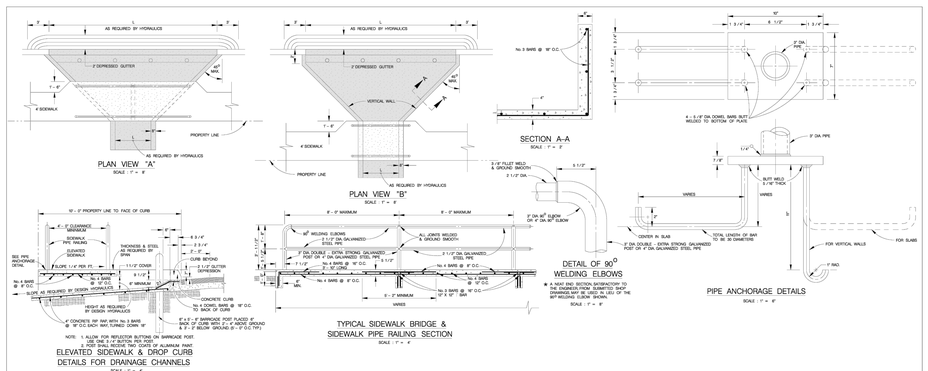


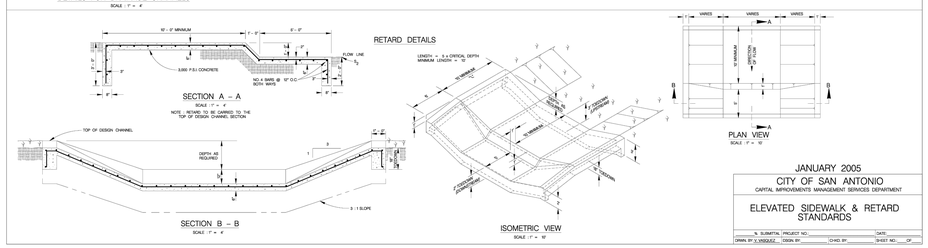
SECTION "A–A"
N.T.S.
STA 1+38.00 TO STA 1+48.00



SECTION "B–B" EARTHEN CHANNEL
N.T.S.
STA 1+48.00 TO STA 2+62.77







JANUARY 2005
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

ELEVATED SIDEWALK & RETARD STANDARDS

% SUBMITTAL | PROJECT NO.: | DATE:
DRAWN BY: V. VASQUEZ | DESIGN BY: | CHKD. BY: | SHEET NO.: | OF

UP ENGINEERING
a Bowman company
111 TOWER DR., SUITE 325
SAN ANTONIO, TEXAS 78216 | 210-764-6504
WWW.UPENGINEERING.COM | TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

YELLOWSTONE FUND I, LLC
12500 SAN PEDRO AVE., STE. 530
SAN ANTONIO, TEXAS XXXXX

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

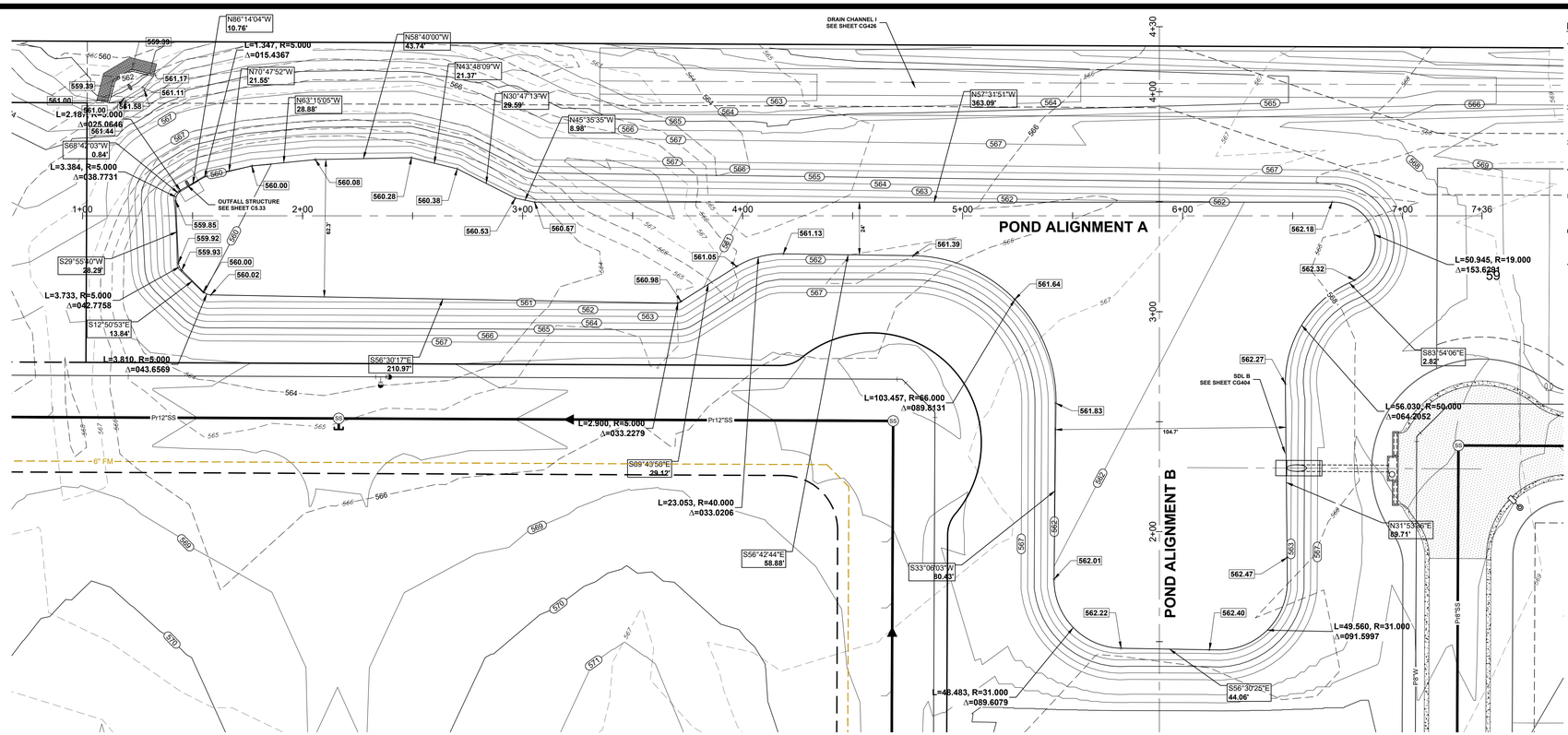
DRAIN B PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.31

Date: Apr 16, 2025, 8:24am User ID: Lil Ramones
File: G:_Projects\437 – Higbon Rd Elmgreen\437-1\CAD\Sheets\C6.24 DRAIN–G.dwg



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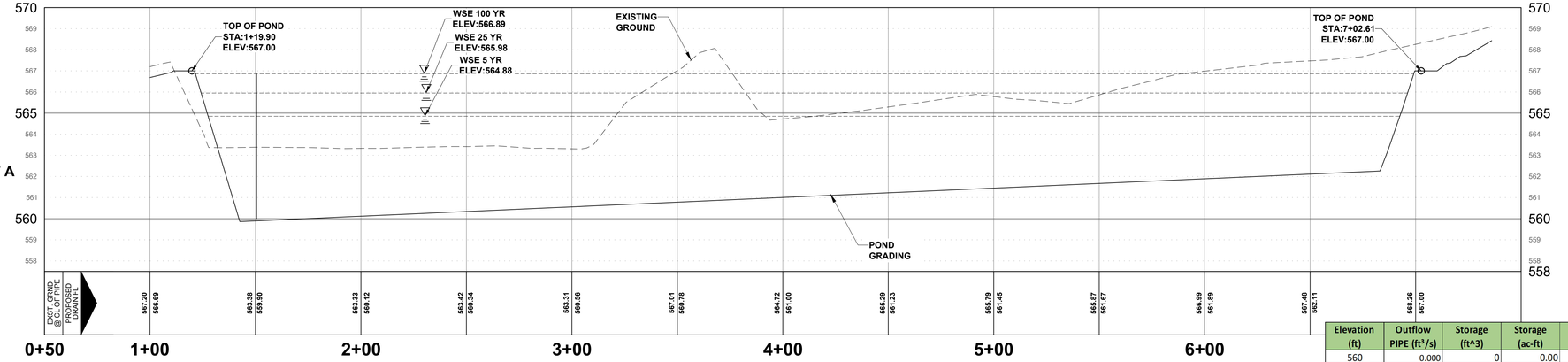
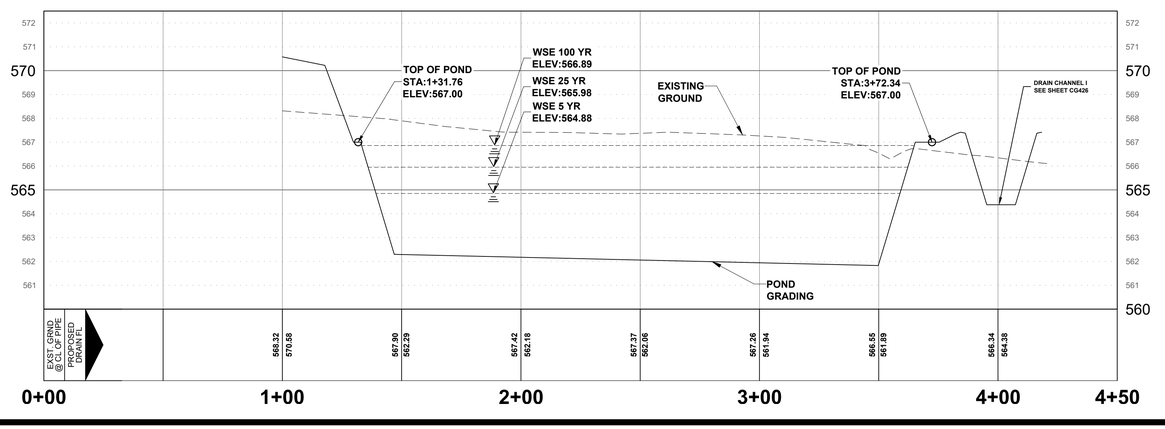
7. HDPE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321.

0 10' 20' 40'
SCALE: 1" = 20'



Elevation (ft)	Outflow PIPE (ft³/s)	Storage (ft^3)	Storage (ac-ft)	Area (ft^2)	Area (ac)
560	0.000	0	0.00	1376	0.03
560.5	0.000	2,451	0.06	8426	0.19
561	0.000	8,098	0.19	14165	0.33
561.5	2.500	16,155	0.37	18063	0.41
562.0	3.540	27,725	0.64	28215	0.65
562.5	4.330	46,198	1.06	45677	1.05
563	5.000	69,587	1.60	47879	1.10
563.5	5.590	94,079	2.16	50089	1.15
564	6.130	119,679	2.75	52312	1.20
564.5	6.620	146,395	3.36	54550	1.25
565	7.080	174,233	4.00	56802	1.30
565.5	7.510	203,200	4.66	59067	1.36
566	7.910	233,303	5.36	61346	1.41
566.5	8.300	264,549	6.07	63639	1.46
567	8.670	296,947	6.82	65951	1.51



DETENTION SUMMARY TABLE POND PACK PEAK FLOWS		
	EXISTING SHED	ULTIMATE BASIN SHED
Q5 CFS	200.85	200.73
Q25 CFS	275.06	273.21
Q100 CFS	341.09	337.55

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WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

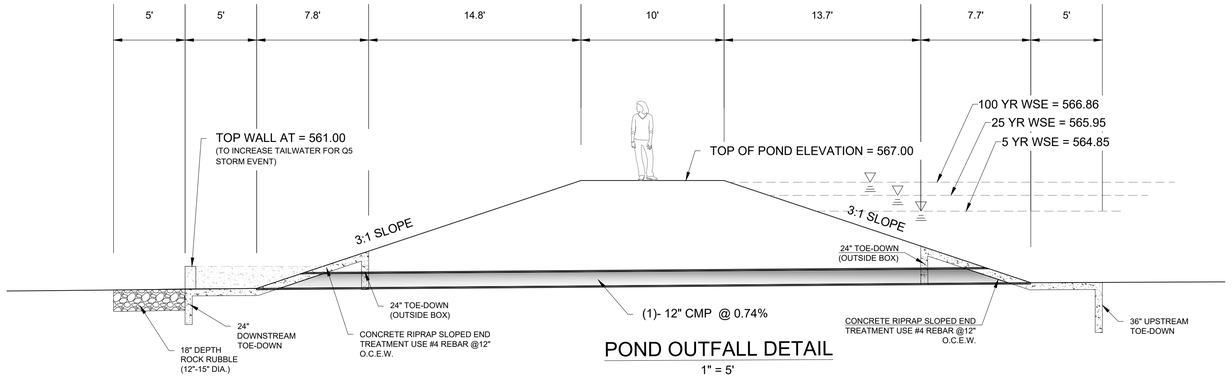
DETENTION POND "A"

BY	DESCRIPTION	REV	DATE

DESIGNED BY: JOS/NC
DRAFTED BY: JOS/NC
CHECKED BY: NC

SHEET
C5.32

Date: Apr 16, 2025, 8:19am User ID: LJ Ramones
File: G:_Projects\437 – Higdon Rd Emperor\437\1\ACAD\Sheets\C6.25 POND.dwg



POND OUTFALL DETAIL

1" = 5'

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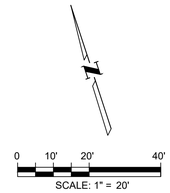
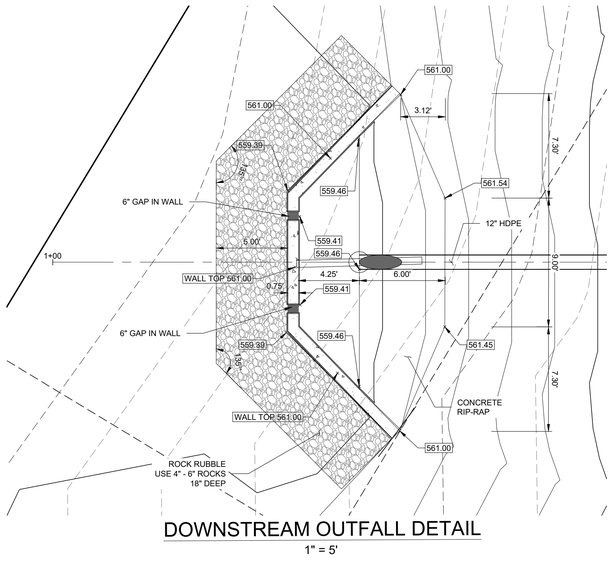
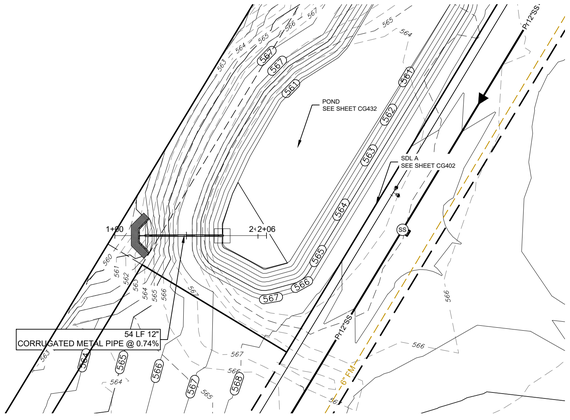
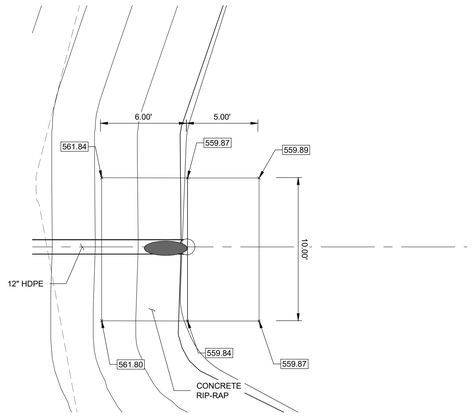




DOWNSTREAM OUTFALL DETAIL

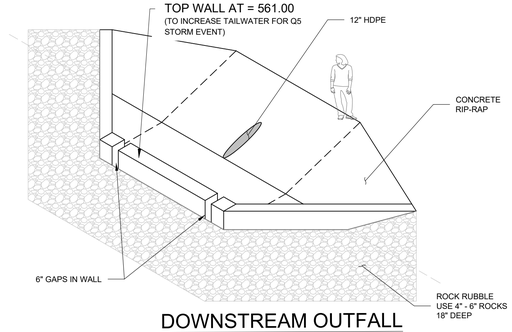
1" = 5'





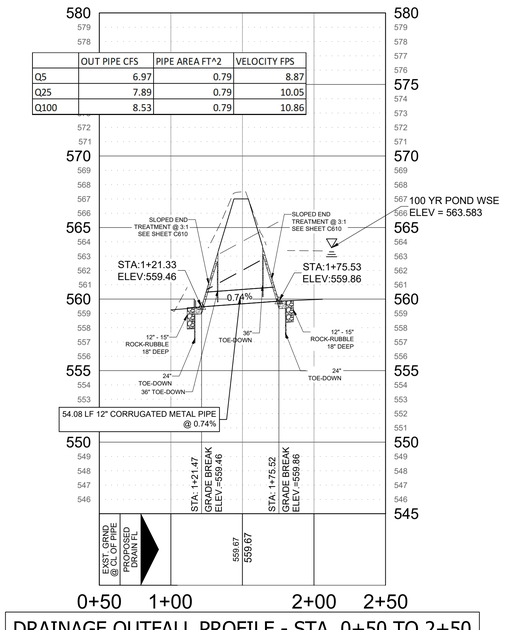
UPSTREAM OUTFALL DETAIL

1" = 5'



DOWNSTREAM OUTFALL ISOMETRIC DETAIL

NTS



	OUT PIPE CFS	PIPE AREA FT^2	VELOCITY FPS
Q5	6.97	0.79	8.87
Q25	7.89	0.79	10.05
Q100	8.53	0.79	10.86

5'
2.5'
0
VERT. SCALE

SCALE:
1"=5' VERT.
1"=50' HORIZ.

DRAINAGE OUTFALL PROFILE - STA. 0+50 TO 2+50

HORIZONTAL SCALE: 1" = 5'
VERTICAL SCALE: 1" = 0'

Elevation (ft)	Outflow PIPE (ft³/s)	Storage (ft^3)	Storage (ac-ft)	Area (ft^2)	Area (ac)
560	0.000	0	0.00	1376	0.03
560.5	0.000	2,451	0.06	8426	0.19
561	0.000	8,098	0.19	14165	0.33
561.5	2.500	16,155	0.37	18063	0.41
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565.5	7.510	203,200	4.66	59067	1.36
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WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

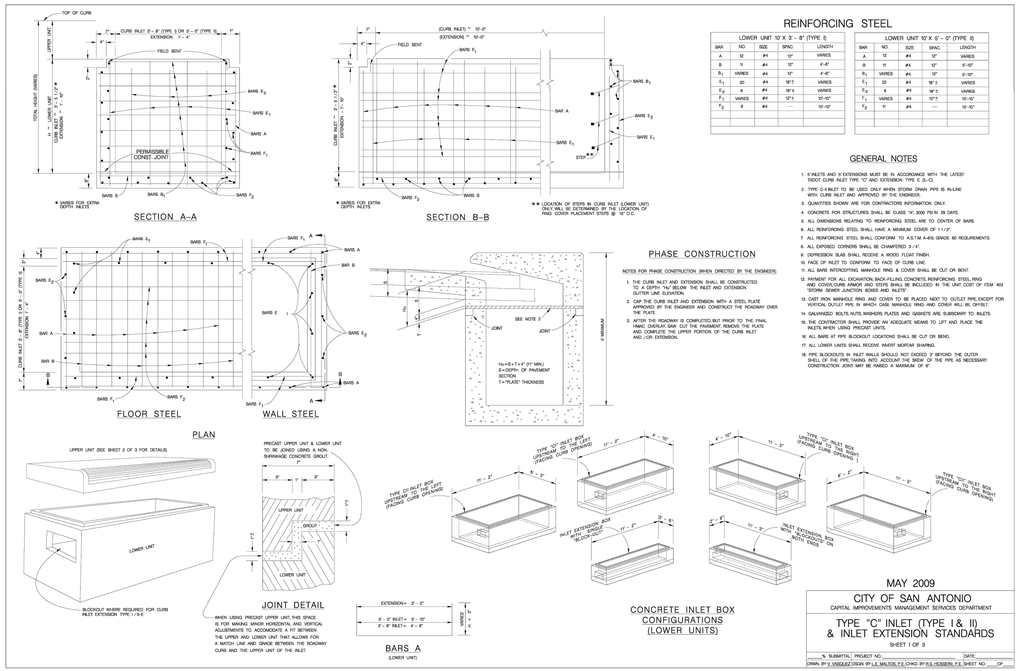
DETENTION POND "A" DETAILS

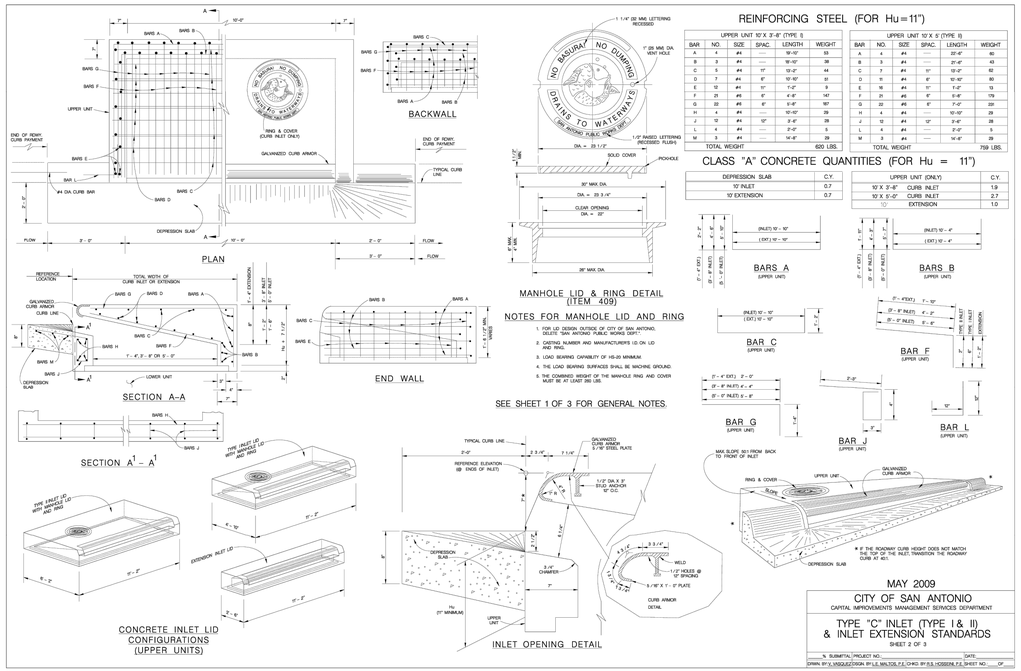
REV	DATE	DESCRIPTION	BY

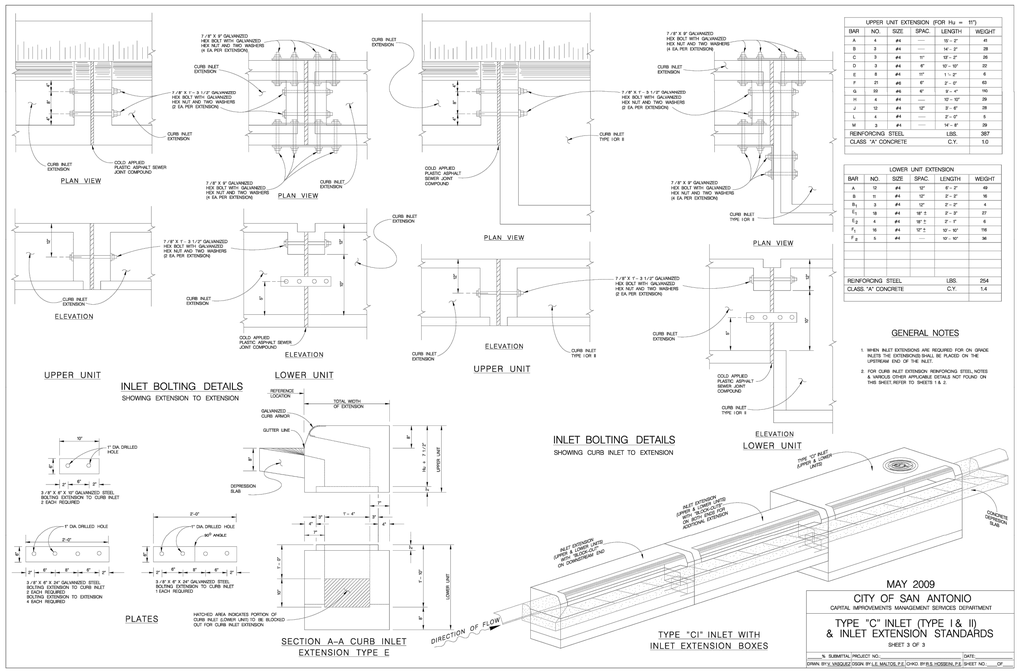
DESIGNED BY: JOS/NC
DRAFTED BY: JOS/NC
CHECKED BY: NC

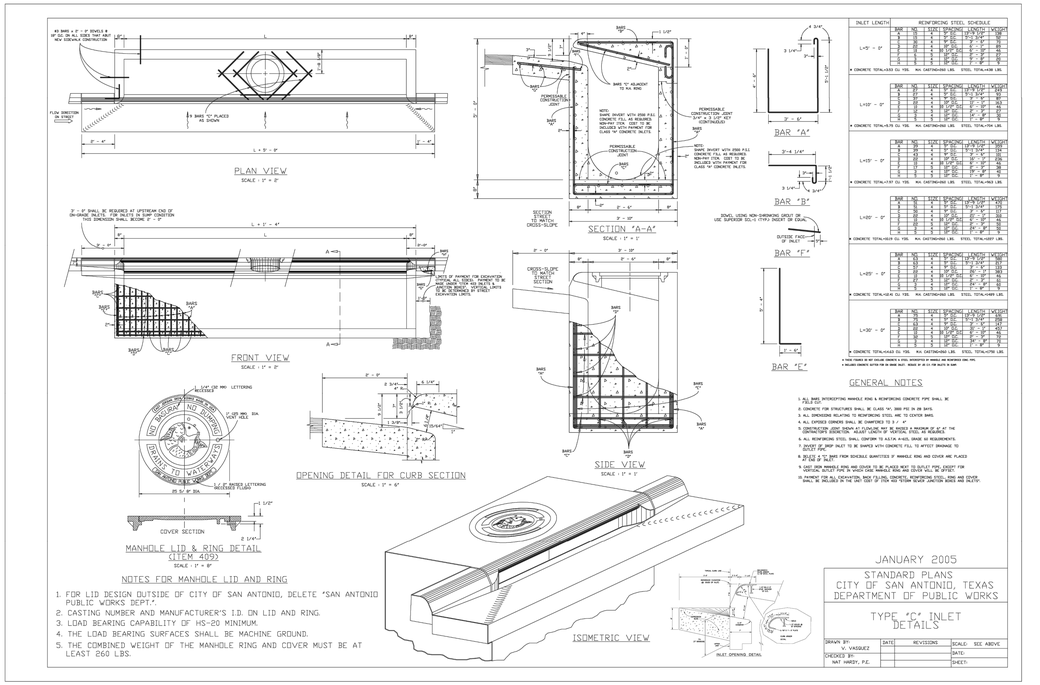
SHEET
C5.33

Date: Apr 16, 2025, 8:19am User ID: LJ Bonnoure
File: (c:\...\Projects\437 – Wyatt Rd Empower\437.11\CAD\Sheets\06.26 POND OUTFALL.dwg









UP ENGINEERING
a Bowman company
111 TOWER DR, SUITE 125
SAN ANTONIO, TEXAS 78216-6504
WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES
PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

DRAIN DETAILS

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.34

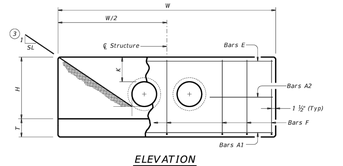
Date: Apr 16, 2025, 8:19am User ID: LJ Ramones
File: G:_Projects\437 – Higdon Rd Emporium\437-1\ACAD\Sheets\C6.27 DRAIN DETAILS.dwg

TABLE OF VARIABLE DIMENSIONS AND QUANTITIES FOR ONE HEADWALL (3)

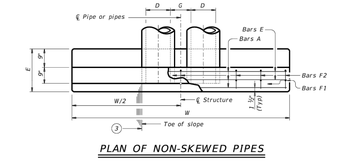
Slope (S:1)	Pipe (D)	Values for One Pipe: W	Reinf (Lbs) (1)	Conc (CY) (2)	Values To Be Added For Each Addt'l Pipe: W	Reinf (Lbs) (1)	Conc (CY) (2)
4:1	12"	9'-0"	122	1.1	1'-9"	15	0.2
	15"	10'-3"	136	1.3	2'-2"	16	0.2
	18"	11'-6"	163	1.5	2'-8"	19	0.3
	21"	12'-9"	200	1.8	3'-1"	31	0.4
	24"	14'-0"	217	2.1	3'-7"	34	0.4
	27"	15'-3"	254	2.4	3'-11"	37	0.5
	30"	16'-6"	272	2.7	4'-4"	40	0.6
	33"	17'-9"	314	3.1	4'-8"	43	0.6
	36"	19'-0"	371	3.9	5'-1"	46	0.8
	42"	21'-6"	442	4.9	5'-10"	52	1.0
	48"	25'-0"	569	6.4	6'-7"	59	1.3
	54"	27'-6"	703	7.5	7'-6"	82	1.6
	60"	30'-0"	794	8.8	8'-3"	90	1.8
	66"	32'-6"	894	10.2	8'-9"	96	2.0
	72"	35'-0"	1,055	11.7	9'-4"	103	2.3
3:1	12"	13'-0"	175	1.6	1'-9"	14	0.2
	15"	14'-9"	193	1.9	2'-2"	17	0.2
	18"	16'-6"	228	2.2	2'-8"	19	0.3
	21"	18'-3"	299	2.6	3'-1"	31	0.4
	24"	20'-0"	323	3.0	3'-7"	33	0.4
	27"	21'-9"	371	3.5	3'-11"	37	0.5
	30"	23'-6"	415	4.0	4'-4"	40	0.5
	33"	25'-3"	469	4.6	4'-8"	43	0.6
	36"	27'-0"	556	5.7	5'-1"	46	0.8
	42"	30'-6"	675	7.1	5'-10"	52	1.0
	48"	35'-6"	837	9.2	6'-7"	59	1.3
	54"	39'-0"	1,015	11.0	7'-6"	84	1.6
	60"	42'-6"	1,171	12.9	8'-3"	91	1.8
	66"	46'-0"	1,298	14.9	8'-9"	98	2.0
	72"	49'-6"	1,561	17.1	9'-4"	103	2.3
2:1	12"	17'-0"	229	2.0	1'-9"	15	0.2
	15"	19'-3"	266	2.4	2'-2"	17	0.2
	18"	21'-6"	308	2.9	2'-8"	19	0.3
	21"	23'-9"	382	3.5	3'-1"	31	0.3
	24"	26'-0"	430	3.9	3'-7"	34	0.4
	27"	28'-3"	486	4.7	3'-11"	37	0.5
	30"	30'-6"	539	5.2	4'-4"	40	0.6
	33"	32'-9"	603	6.0	4'-8"	42	0.6
	36"	35'-0"	738	7.5	5'-1"	46	0.8
	42"	39'-6"	881	9.3	5'-10"	52	1.0
	48"	46'-0"	1,102	12.1	6'-7"	61	1.3
	54"	50'-6"	1,364	14.4	7'-6"	84	1.6
	60"	55'-0"	1,547	16.9	8'-3"	91	1.8
	66"	59'-6"	1,741	19.5	8'-9"	98	2.0
	72"	64'-0"	2,071	22.4	9'-4"	102	2.3
1:1	12"	25'-0"	336	3.0	1'-9"	14	0.2
	15"	28'-3"	384	3.6	2'-2"	17	0.2
	18"	31'-6"	452	4.2	2'-8"	19	0.3
	21"	34'-9"	581	5.1	3'-1"	31	0.4
	24"	38'-0"	644	5.8	3'-7"	34	0.4
	27"	41'-3"	737	6.9	3'-11"	37	0.5
	30"	44'-6"	807	7.7	4'-4"	39	0.6
	33"	47'-9"	912	8.9	4'-8"	44	0.6
	36"	51'-0"	1,108	11.0	5'-1"	48	0.8
	42"	57'-6"	1,318	13.7	5'-10"	54	1.0
	48"	67'-0"	1,682	17.9	6'-7"	59	1.3
	54"	73'-6"	2,072	21.3	7'-6"	83	1.6
	60"	80'-0"	2,351	24.9	8'-3"	89	1.8
	66"	86'-6"	2,643	28.9	8'-9"	96	2.0
	72"	93'-0"	3,121	33.1	9'-4"	101	2.3

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility and shall not be liable for any damages resulting from the reuse of this standard or any derivative thereof.

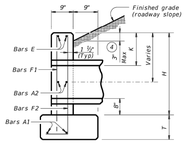
DATE:
FILE:



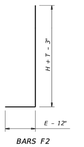
ELEVATION



PLAN OF NON-SKEWED PIPES



SECTION AT CENTER OF PIPE



BARS F2

MATERIAL NOTES:
Provide Grade 60 reinforcing steel.
Provide Class C concrete (f'c = 3,600 psi).

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
Do not mount bridge rails of any type directly to these culvert headwalls.
This standard may not be used for wall heights, H, exceeding the values shown.

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

(1) Total quantities include one 3'-1" lap for bars over 60' in length.

(2) Quantities shown are for concrete pipe and will increase slightly for metal pipe installations.

(3) Indicated slope is perpendicular to centerline pipe or pipes.

(4) For vehicle safety, construct curbs no more than 3" above finished grade. Reduce curb heights, if necessary, to meet these requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

(5) Dimensions shown are actual and maximum.

(6) Quantities shown are for one structure end only (one headwall).

TABLE OF CONSTANT DIMENSIONS

Dia of Pipe (D)	G	K (5)	H	T	E
12"	0'-9"	1'-0"	2'-8"	0'-9"	1'-9"
15"	0'-11"	1'-0"	2'-11"	0'-9"	1'-9"
18"	1'-2"	1'-0"	3'-2"	0'-9"	1'-9"
21"	1'-4"	1'-0"	3'-5"	0'-9"	2'-0"
24"	1'-7"	1'-0"	3'-8"	0'-9"	2'-0"
27"	1'-8"	1'-0"	3'-11"	0'-9"	2'-3"
30"	1'-10"	1'-0"	4'-2"	0'-9"	2'-3"
33"	1'-11"	1'-0"	4'-5"	0'-9"	2'-6"
36"	2'-1"	1'-0"	4'-8"	1'-0"	2'-6"
42"	2'-4"	1'-0"	5'-2"	1'-0"	2'-9"
48"	2'-7"	1'-3"	5'-11"	1'-0"	3'-0"
54"	3'-0"	1'-3"	6'-5"	1'-0"	3'-3"
60"	3'-3"	1'-3"	6'-11"	1'-0"	3'-6"
66"	3'-3"	1'-3"	7'-5"	1'-0"	3'-9"
72"	3'-4"	1'-3"	7'-11"	1'-0"	4'-0"

TABLE OF REINFORCING STEEL (6)

Bar	Size	Spa	No.
A1	#5	~	2
A2	#5	1'-6"	~
E	#5	~	2
F	#5	1'-0"	~

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

Maximum Wingwall Height He	Dimensions W	X	Y	Z	Variable Reinforcing Bars A1 Size	Bars A1 Spa	Bars A2 Size	Bars A2 Spa	Estimated Quantities (3) per ft of Wing Length (2-wings) Reinf (Lbs/Ft)	Conc (CY/Ft)
2'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	33.73	0.248
3'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.07	0.261
3'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.74	0.273
4'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	38.41	0.285
4'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	41.75	0.330
5'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.09	0.343
5'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.75	0.355
6'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	46.42	0.367
7'-0"	3'-8"	1'-9"	1'-3"	7"	#4	1'-0"	#4	1'-0"	52.77	0.414
8'-0"	4'-3"	2'-0"	1'-6"	8"	#5	1'-0"	#4	1'-0"	60.19	0.486
9'-0"	4'-8"	2'-3"	1'-9"	8"	#4	6"	#4	6"	81.49	0.535
10'-0"	5'-2"	2'-6"	2'-0"	8"	#5	6"	#4	6"	97.25	0.584
11'-0"	5'-8"	2'-9"	2'-3"	8"	#6	6"	#5	6"	133.65	0.634
12'-0"	6'-2"	3'-0"	2'-6"	9"	#7	6"	#5	6"	162.29	0.721
13'-0"	6'-8"	3'-3"	2'-9"	11"	#7	6"	#5	6"	178.80	0.856
14'-0"	7'-2"	3'-6"	3'-0"	1'-0"	#8	6"	#5	6"	216.78	0.959
15'-0"	7'-8"	4'-0"	3'-0"	1'-1"	#9	6"	#6	6"	283.06	1.068
16'-0"	8'-2"	4'-6"	3'-0"	1'-3"	#9	6"	#6	6"	297.02	1.234

TABLE OF WINGWALL REINFORCING (2-wings)

Bar	Size	No.	Spa
D	#5	~	1'-0"
E	#4	~	1'-0"
F	#4	~	1'-0"
G	#6	4	~
W	#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'-0"
Q	#4	1	~
Reinf (Lb/Ft)			2.45
Conc (CY/Ft)			0.037

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

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

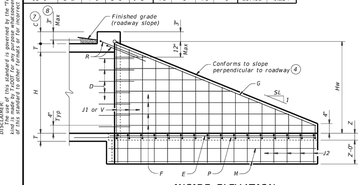
For cast-in-place culverts:
Ltw = (N) (S) + (N + 1) (U)

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

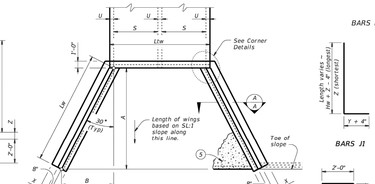
Total wingwall area (two wings – SF) = (He + 0.333') (Lw)

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

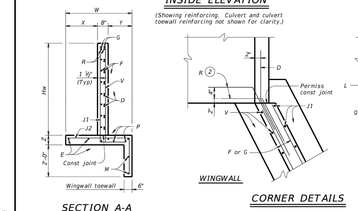
See applicable box culvert standard sheet for H, S, T, and U values.



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



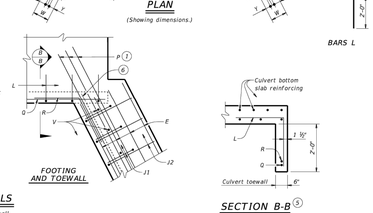
PLAN
(Showing dimensions.)



SECTION A-A

WINGWALL

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



FOOTING AND TOEWALL

SECTION B-B (5)

(1) Extend Bars P 3'-0" minimum into bottom slab of box culvert.

(2) Adjust as necessary to maintain 1 ¼" clear cover and 4" minimum between bars.

(3) Quantities shown are based on an average wing height for two wings (one structure end). To determine total quantities for two wings, multiply the tabulated values by Lw.

(4) Recommended values of 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.

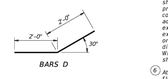
(7) 0° Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'-0, refer to the Extended Curb Details (ECD) standard sheet. For structures with bridge rail, refer to the Bridge Railing Mounting Details for T631 to T631LS Rails (T631C-M) 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.

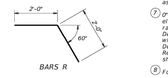
Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

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.

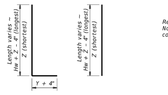
GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
When structure is founded on solid rock, depth of toewalls for culverts and wingwalls may be reduced or eliminated as directed by the Engineer.
See Box Culvert Supplement (BCS) standard sheet for additional dimensions and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



BARS D

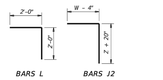


BARS R



BARS J1

BARS V



BARS L

BARS J2

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

Texas Department of Transportation — Bridge Division Standard

CONCRETE HEADWALLS WITH PARALLEL WINGS FOR NON-SKEWED PIPE CULVERTS

CH-PW-0

FILE: CD-CH-PW0-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

Texas Department of Transportation — Bridge Division Standard

CONCRETE WINGWALLS WITH FLARED WINGS FOR 0° SKEW BOX CULVERTS

FW-0

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

UP ENGINEERING
a Bowman company
111 TOWER DR, SUITE 105
SAN ANTONIO, TEXAS 78232-3504
WWW.UPENGINEERING.COM - TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

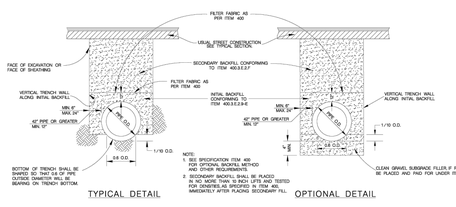
VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

DRAIN DETAILS

REV	DATE	DESCRIPTION	BY

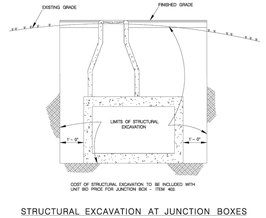
DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.35

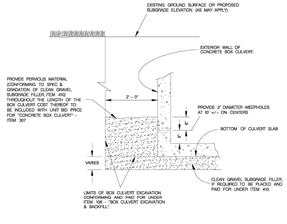


TYPICAL DETAIL — OPTIONAL DETAIL

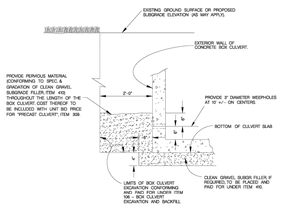
PIPE BEDDING & BACKFILL DETAILS



STRUCTURAL EXCAVATION AT JUNCTION BOXES
NO SCALE

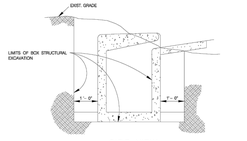


CAST-IN-PLACE BOX CULVERT

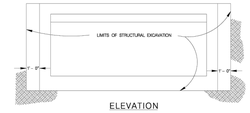


PRECAST BOX CULVERT

CONCRETE BOX CULVERT



SIDE VIEW



ELEVATION

COST OF STRUCTURAL EXCAVATION TO BE INCLUDED WITH UNIT BID PRICE FOR INLETS – ITEM 465

STRUCTURAL EXCAVATIONS AT DRAINAGE INLETS
NO SCALE

MAY 2009

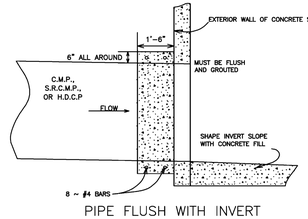
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

PIPE BEDDING & MISCELLANEOUS DRAINAGE DETAILS

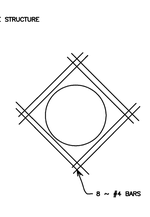
% SUBMITTAL	PROJECT NO.	DATE:
DRAWN BY:	DSGN BY:	CHKD BY:

SHEET NO. ____ OF ____

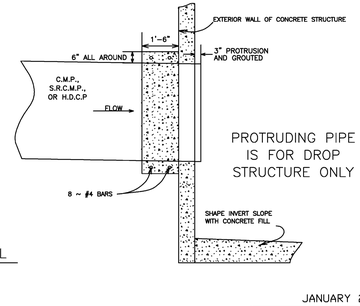
1. CONCRETE FOR STRUCTURE SHALL BE CLASS "A," 3,000 P.S.I. AT 28 DAYS.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
3. REINFORCING STEEL SHALL BE NEW BILLET STEEL, INTERMEDIATE GRADE, ASTM. A-15. THE DEFORMATION SHALL CONFORM TO ASTM. A-305.
4. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
5. ALL BARS INTERCEPTING MANHOLE OPENING AND REINFORCED CONCRETE PIPE SHALL BE FIELD-CUT.
6. WHERE LAPPING OF BARS IS REQUIRED, A MINIMUM LAP OF 33 DIAMETERS SHALL BE USED.
7. INVERT OF JUNCTION BOX TO BE SHAPED WITH CONCRETE FILL (3,000 P.S.I. MIN.) TO EFFECT DRAINAGE TO OUTLET PIPE. COST SUBSIDIARY TO CLASS "A" CONCRETE (JUNCTION BOXES).



PIPE FLUSH WITH INVERT



CONCRETE COLLAR DETAIL
(NOT TO SCALE)



JANUARY 2006

STANDARD PLANS
CITY OF SAN ANTONIO, TEXAS
DEVELOPMENT SERVICES

CONCRETE COLLAR DETAIL

DRAWN BY: ANDREW WINTER, P.E.	DATE	REVISIONS	SCALE: SEE ABOVE
CHECKED BY: SAM BENT, P.E.			DATE: 29 JANUARY 2006
			SHEET: 1 OF 1

Date: Apr 16, 2025, 8:19am User ID: J.J.Ramones
File: U:_Projects\437-1\ACAD\Sheets\C6_27 DRAIN DETAILS.dwg

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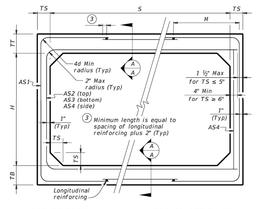
BOX DATA

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)
4	2	7.5	6	5	< 2	–	0.18	0.27	0.15	0.12	0.18	0.18	0.14	4.5
4	2	5	5	5	2 < 3	38	0.18	0.19	0.17	0.12	–	–	–	3.6
4	2	5	5	5	3 - 5	38	0.13	0.13	0.13	0.12	–	–	–	3.6
4	2	5	5	5	10	38	0.12	0.12	0.12	0.12	–	–	–	3.6
4	2	5	5	5	15	38	0.14	0.16	0.16	0.12	–	–	–	3.6
4	2	5	5	5	20	38	0.18	0.20	0.21	0.12	–	–	–	3.6
4	2	5	5	5	25	38	0.23	0.25	0.25	0.12	–	–	–	3.6
4	2	5	5	5	30	38	0.28	0.30	0.30	0.12	–	–	–	3.6
4	3	7.5	6	5	< 2	–	0.18	0.31	0.18	0.12	0.18	0.18	0.14	5.0
4	3	5	5	5	2 < 3	38	0.15	0.23	0.20	0.12	–	–	–	4.1
4	3	5	5	5	3 - 5	38	0.12	0.16	0.16	0.12	–	–	–	4.1
4	3	5	5	5	10	38	0.12	0.14	0.14	0.12	–	–	–	4.1
4	3	5	5	5	15	38	0.12	0.18	0.18	0.12	–	–	–	4.1
4	3	5	5	5	20	38	0.14	0.23	0.24	0.12	–	–	–	4.1
4	3	5	5	5	25	38	0.17	0.29	0.29	0.12	–	–	–	4.1
4	3	5	5	5	30	38	0.21	0.35	0.35	0.12	–	–	–	4.1
4	4	7.5	6	5	< 2	–	0.18	0.33	0.20	0.12	0.18	0.18	0.14	5.5
4	4	5	5	5	2 < 3	38	0.12	0.26	0.23	0.12	–	–	–	4.6
4	4	5	5	5	3 - 5	38	0.12	0.18	0.18	0.12	–	–	–	4.6
4	4	5	5	5	10	38	0.12	0.15	0.15	0.12	–	–	–	4.6
4	4	5	5	5	15	38	0.12	0.19	0.20	0.12	–	–	–	4.6
4	4	5	5	5	20	38	0.12	0.25	0.25	0.12	–	–	–	4.6
4	4	5	5	5	25	38	0.14	0.31	0.31	0.12	–	–	–	4.6
4	4	5	5	5	30	38	0.17	0.37	0.37	0.12	–	–	–	4.6

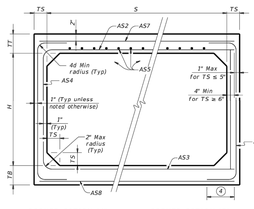
(1) For box length = 8'-0"

(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.



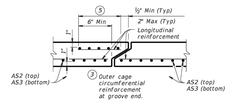
CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT 2 FT AND GREATER



CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT



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
4'-0" SPAN

SCP-4

FILE: CD-SCP(4-20).dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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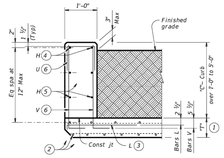
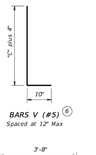


TYPICAL SECTION

Used for curbs over 1'-0" to 5'-0"



BARS V (#5) 6
Spaced at 12" Max

BARS L (#5) 3
Spaced at 12" Max

OPTIONAL BARS L (#5) 3 7
Spaced at 12" Max

BARS U (#4) 6
Spaced at 12" Max

TABLE OF ESTIMATED CURB QUANTITIES (9)

Curb Height "C"	Conc (CY/LF)	Reinf Steel (Lb/LF)
1'-0"	0.037	10.4
1'-6"	0.056	14.5
2'-0"	0.074	15.6
2'-6"	0.093	18.0
3'-0"	0.111	19.0
3'-6"	0.130	21.3
4'-0"	0.148	22.4
4'-6"	0.167	24.8
5'-0"	0.185	25.9

(1) "T" is equal to the culvert top slab thickness. For precast boxes with slabs less than 8" thick, see SCP-MD standard for additional details.

(2) Adjust normal culvert slab bars as necessary to clear obstructions.

(3) Place bars L as shown. Tilt hook as necessary to maintain cover.

(4) Place normal culvert curb bars H(#4) as shown. Adjust as necessary to clear obstructions.

(5) Additional bars H(#4) as required to maintain 12" Max spacing.

(6) Replace normal culvert curb bars K with one bar U and two bars V as shown spaced at 12" Max. Adjust length of bars V as necessary to maintain clear cover.

(7) Optional bars L are to be used only for precast box culverts with 3'-0" closure pour.

(8) Quantities shown are for Contractor's information only. Quantities are per linear foot of curb length. For value in table, round calculated TS to next intermediate values of curb height, "C". Quantity includes bars K (when applicable).

CONSTRUCTION NOTES:
Adjust reinforcing steel as necessary to provide 1 ½" cover. For vehicle safety, top of the curb must not project more than 3" above the finished grade.

MATERIAL NOTES:
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
Provide Class "C" concrete (f'c = 3,600 psi) minimum for curbs.
Provide bar laps, where required, as follows:
• Uncoated or galvanized – #4 = 1'-8" Min

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
Extended curb details have sufficient strength to allow for Future retrofit of Type T631 or T631LS railing. These details are suitable for use with PR11, PR22 and PR3 type rails. These details are not suitable for the mounting of other rail types. For new construction using T631 or T631LS railing, use the T631-CM standard.
This Curb is considered as part of the Box Culvert for payment.

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

Texas Department of Transportation | Bridge Division Standard

EXTENDED CURB DETAILS
FOR BOX CULVERTS WITH CURBS OVER 1'-0" TO 5'-0" TALL

ECD

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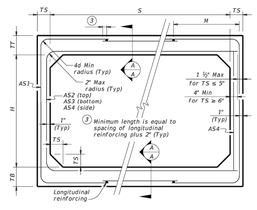
BOX DATA

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)
3	2	7	6	4	< 2	–	0.17	0.25	0.16	0.10	0.17	0.17	0.14	3.3
3	2	4	4	4	2 < 3	31	0.13	0.19	0.18	0.10	–	–	–	2.4
3	2	4	4	4	3 - 5	31	0.10	0.11	0.12	0.10	–	–	–	2.4
3	2	4	4	4	10	31	0.10	0.10	0.10	0.10	–	–	–	2.4
3	2	4	4	4	15	31	0.10	0.13	0.13	0.10	–	–	–	2.4
3	2	4	4	4	20	31	0.11	0.17	0.17	0.10	–	–	–	2.4
3	2	4	4	4	25	31	0.14	0.21	0.21	0.10	–	–	–	2.4
3	2	4	4	4	30	31	0.17	0.25	0.25	0.10	–	–	–	2.4
3	2	4	4	4	35	31	0.20	0.29	0.30	0.10	–	–	–	2.4
3	3	7	6	4	< 2	–	0.17	0.27	0.17	0.10	0.17	0.17	0.14	3.7
3	3	4	4	4	2 < 3	31	0.10	0.22	0.21	0.10	–	–	–	2.8
3	3	4	4	4	3 - 5	31	0.10	0.14	0.14	0.10	–	–	–	2.8
3	3	5	5	4	10	31	0.11	0.11	0.11	0.10	–	–	–	2.8
3	3	4	4	4	15	31	0.10	0.14	0.15	0.10	–	–	–	2.8
3	3	4	4	4	20	31	0.10	0.18	0.19	0.10	–	–	–	2.8
3	3	4	4	4	25	31	0.10	0.23	0.23	0.10	–	–	–	2.8
3	3	4	4	4	30	31	0.12	0.27	0.28	0.10	–	–	–	2.8
3	3	4	4	4	35	31	0.14	0.32	0.32	0.10	–	–	–	2.8

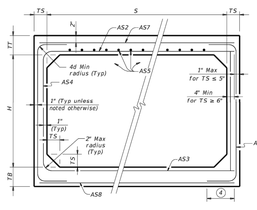
(1) For box length = 8'-0"

(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.



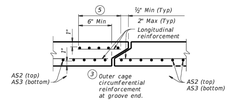
CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT 2 FT AND GREATER



CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT



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
3'-0" SPAN

SCP-3

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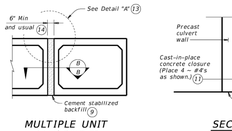


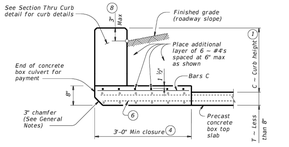
MULTIPLE UNIT PLACEMENT

SECTION B-B

DETAIL "A" 13

WINGWALL CONNECTION

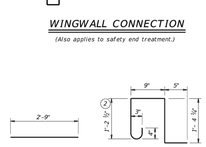
(Also applies to safety end treatment.)



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



(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 3" high, Bars K may be omitted.

(3) Extend curb, wingwall, or safety end treatment reinforcing into concrete closure. Bend or trim, as necessary, any reinforcing that does not fit into closure area.

(4) Provide a 3'-0" Min cast-in-place concrete closure. Break back boxes in the field or cast boxes short. Provide bands of reinforcing in the closure that are the same size 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.

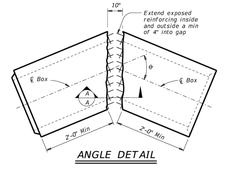
(10) All curb concrete and reinforcing is considered part of the box culvert for payment.

(11) Any additional concrete and reinforcing required for the closures will be considered subsidiary to the box culvert for payment.

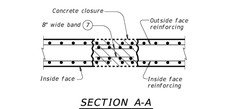
(12) 1'-0" typical. 2'-3" when the Box Culvert Rail Mounting Details (RAC) standard sheet is referred to elsewhere in the plans.

(13) For multiple unit placement with overlay, with 1 to 2 course surface treatment, or with top slab as the final riding surface, provide wall closure as shown in Detail "A".

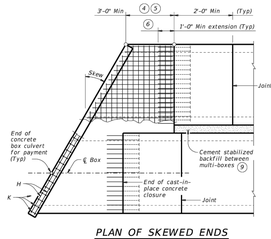
(14) This dimension may be increased with approval of the Engineer to allow the precast boxes to be tunneled or jacked in accordance with Item 476, "Jacking, Boring, or Tunneling Pipe or Box" No payment will be made for any additional material in the gap between adjacent boxes.



ANGLE DETAIL



SECTION A-A



PLAN OF SKEWED ENDS

(Showing multi-box placement.)

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.

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Texas Department of Transportation | Bridge Division Standard

BOX CULVERTS PRECAST MISCELLANEOUS DETAILS

SCP-MD

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a Bowman company
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SAN ANTONIO, TEXAS 78232 | 713.714.6504
WWW.UPENGINEERING.COM | TBPE F-14309

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS, P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

DRAIN DETAILS

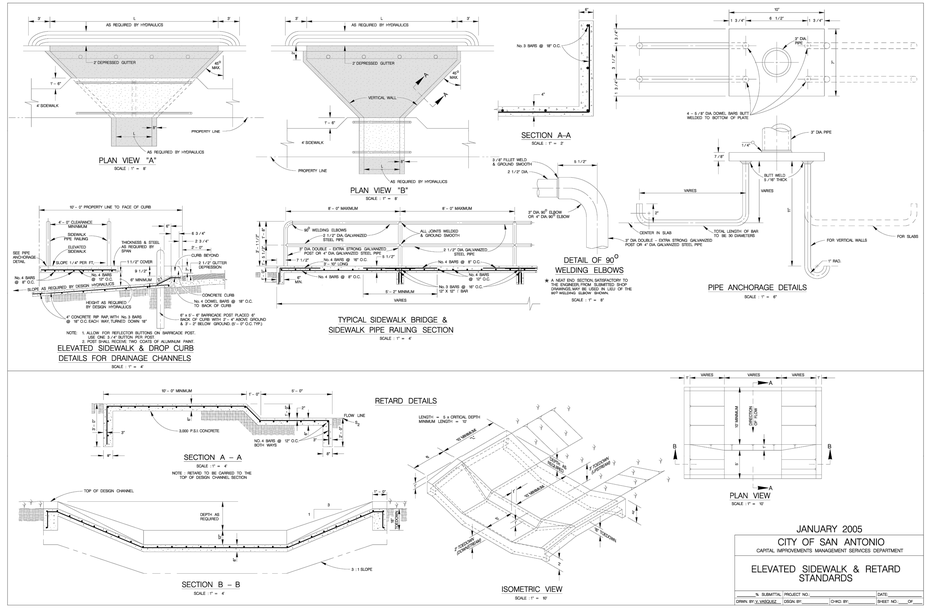
REV	DATE	DESCRIPTION	BY

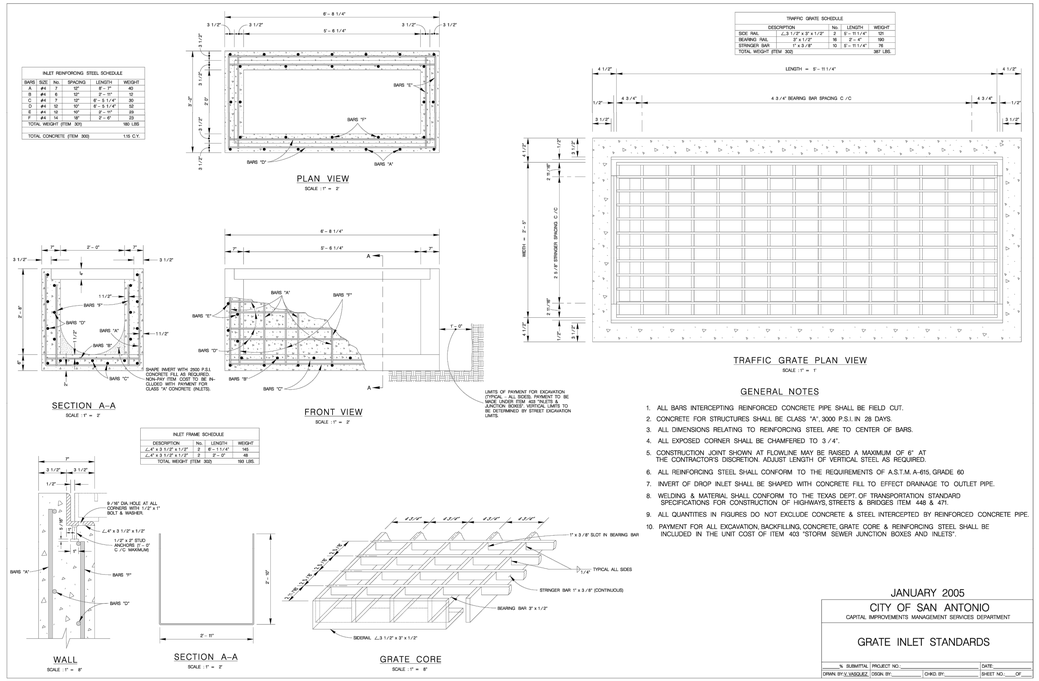
DESIGNED BY:
DRAFTED BY:
CHECKED BY:

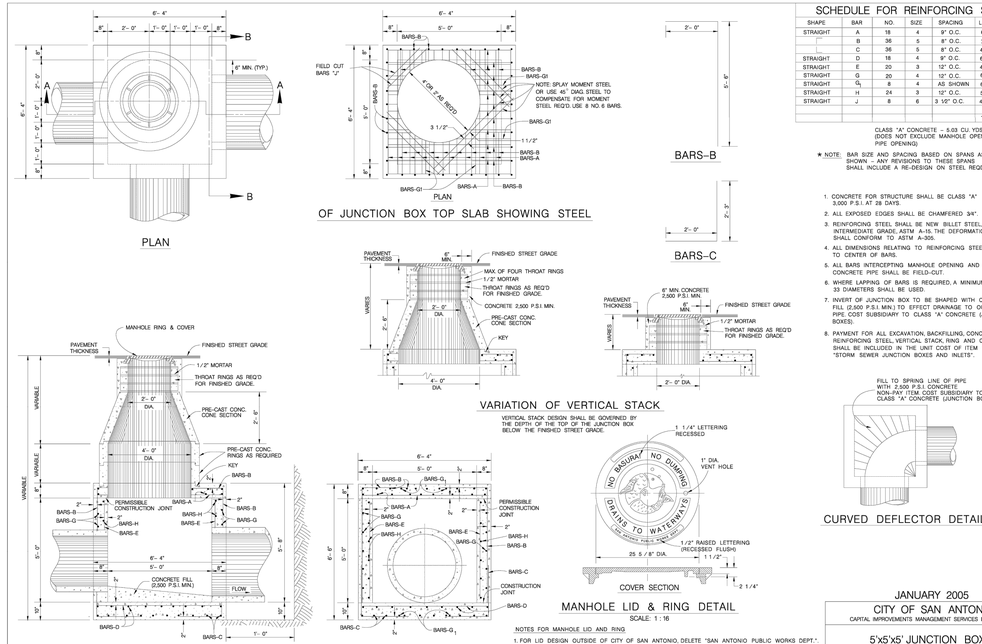
SHEET

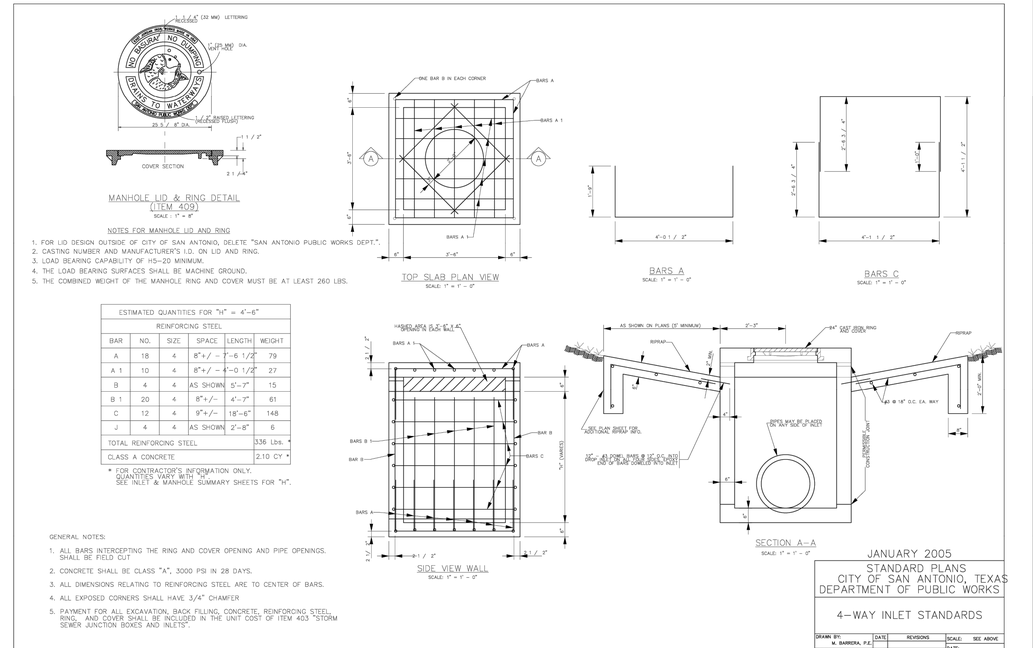
C5.36

Date: Apr 16, 2025, 8:19am User ID: Li Ramones
File: \\...\Projects\437 – Hyden Rd Engineer\437\(ACAD)\Sheets\C6.27 DRAIN DETAILS.dwg









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PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES
PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS, P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

DRAIN DETAILS

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C5.34

Date: Apr 16, 2025, 8:19am User ID: LJ Ramones
File: U:_Projects\437-1\ACAD\Sheets\Cit_27 DRAIN DETAILS.dwg

LOT 1, BLOCK 113
C.B. 4007
HIDGON OAKS SUBDIVISON

MATCH LINE "A"

SEE SHEET C6.1

RED JASPER AVENUE

RIO GRANDE WAY

CYPRESS CREEK DR

HIGDON RD.

UNPLATTED
THE REMAINING PORTION OF A 32.557 ACRE TRACT
EMPOWER PROJECT FOSTER, LLC

UNPLATTED
THE REMAINING PORTION OF A 20.051 ACRE TRACT
EMPOWER PROJECT FOSTER, LLC

UNPLATTED
THE REMAINING PORTION OF A 10.103 ACRE TRACT
EMPOWER PROJECT FOSTER, LLC

MOBILE HOME PAD

PRIVATE DRIVE

TYPE 'A' LOT GRADING

TYPE 'B' LOT GRADING

TYPE 'C' LOT GRADING

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- EXIST. GRADE ELEVATIONS
- PROP. GRADE ELEVATIONS

A DRAINS TO FRONT

B DRAINS 1/2 TO FRONT & 1/2 TO REAR

C DRAINS TO REAR

0 25' 50' 100'
SCALE: 1" = 50'

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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS,
P.E. #111640 ON
April 22, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

GRADING PLAN

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C6.0

Date: Apr 22, 2025, 11:33am User ID: Li Ramones
File: c:\...\Projects\437 – Higdon Rd Empower\437-11\ACAD\Sheets\C7.0 GRADING PLAN.dwg

LOT 1, BLOCK 113
C.B. 4007
HIDGON OAKS SUBDIVISON

LOT 1, BLOCK 113
C.B. 4007
HIDGON OAKS SUBDIVISON

RUBY WAY

RIO GRANDE WAY

CITRINE WAY

SEE SHEET C6.2

MATCH LINE "A"

MATCH LINE "B"

SEE SHEET C6.0

UNPLATTED
THE REMAINING PORTION OF A 32.557 ACRE TRACT
EMPOWER PROJECT FOSTER, LLC

UNPLATTED
THE REMAINING PORTION OF A 20.051 ACRE TRACT
EMPOWER PROJECT FOSTER, LLC

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- (102) PROP. GRADE ELEVATIONS

A DRAINS TO FRONT

B DRAINS 1/2 TO FRONT & 1/2 TO REAR

C DRAINS TO REAR

SCALE: 1" = 50'

PRIVATE DRIVE
MOBILE HOME PAD
TYPE 'A' LOT GRADING

PRIVATE DRIVE
MOBILE HOME PAD
TYPE 'B' LOT GRADING

PRIVATE DRIVE
MOBILE HOME PAD
TYPE 'C' LOT GRADING

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April 22, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

GRADING PLAN

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C6.1

Date: Apr 22, 2025, 11:13am User ID: LJ Ramirez
File: U:_Projects\437 – Higbon Rd Empower\437-11\ACAD\Sheets\C7.0 GRADING PLAN.dwg

MATCH LINE "B"

SEE SHEET C6.1

LOT 1, BLOCK 113
C.B. 4007
HIDGON OAKS SUBDIVISON

BLOCK 6

GREEN MANOR DRIVE

GREENWAY SUBDIVISION UNIT 2

BLOCK 6

QUICK FOX LANE

QUIET OWL LANE

RUBY WAY

RIO GRANDE WAY

CITRINE WAY

CACTUS BLOOM WAY

RUBY WAY

CITRINE WAY

UNPLATTED
THE REMAINING PORTION
OF A 34.772 ACRE TRACT
EMPOWER PROJECT FOSTER, LLC

UNPLATTED
THE REMAINING PORTION

UNPLATTED
3.211 ACRE TRACT
TRACT 1
BBRS HOLDINGS, LLC

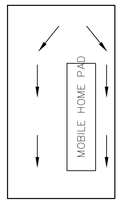
UNPLATTED
8.734 ACRE TRACT
TRACT 1
BBRS HOLDINGS, LLC

UNPLATTED
8.722 ACRE TRACT
TRACT 2
BBRS HOLDINGS, LLC

UNPLATTED
44.301 ACRE TRACT
LAYKASEK LAURA H

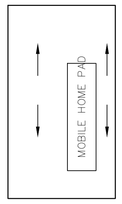
UNPLATTED
44.301 ACRE TRACT
LAYKASEK LAURA H

MATCH LINE "C" - SEE SHEET C6.3



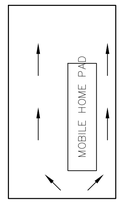
PRIVATE DRIVE

TYPE 'A' LOT
GRADING



PRIVATE DRIVE

TYPE 'B' LOT
GRADING



PRIVATE DRIVE

TYPE 'C' LOT
GRADING

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- EXIST. GRADE ELEVATIONS
- PROP. GRADE ELEVATIONS

A DRAINS TO FRONT

B DRAINS 1/2 TO FRONT & 1/2 TO REAR

C DRAINS TO REAR

0 25' 50' 100'

SCALE: 1" = 50'

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PRELIMINARY

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P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

GRADING PLAN

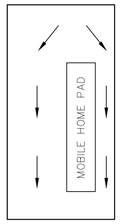
REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET

C6.2

Date: Apr 16, 2025, 8:19am User ID: LuFlamenco
File: G:_Projects\437 – Higbee Rd Empower\437-1\ACAD\Sheets\C7.0 GRADING PLAN.dwg



PRIVATE DRIVE

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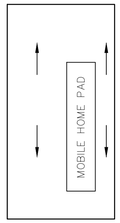

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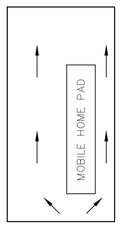
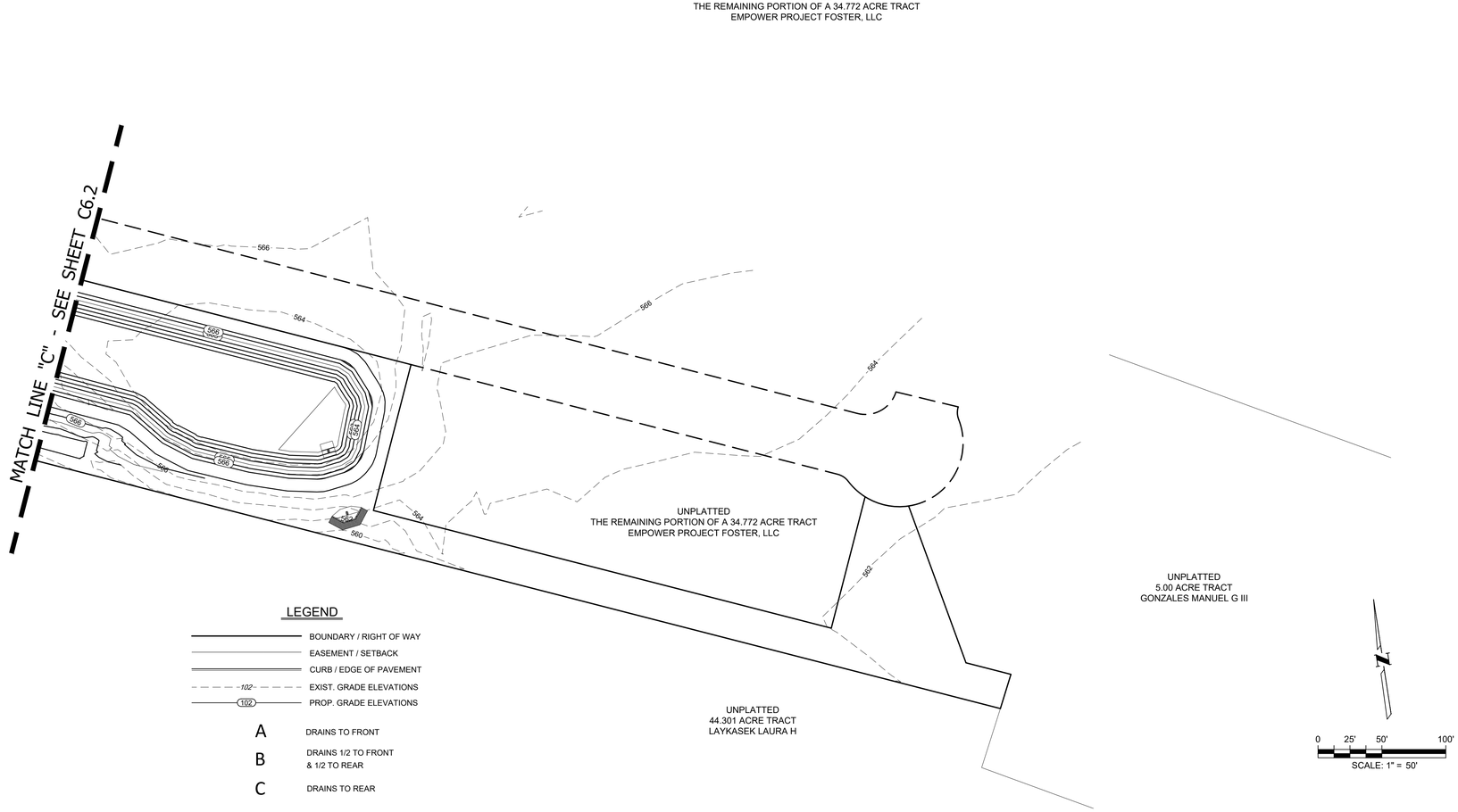
TYPE 'B' LOT GRADING



PRIVATE DRIVE

TYPE 'C' LOT GRADING



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P.E. #111640 ON
April 16, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

GRADING PLAN

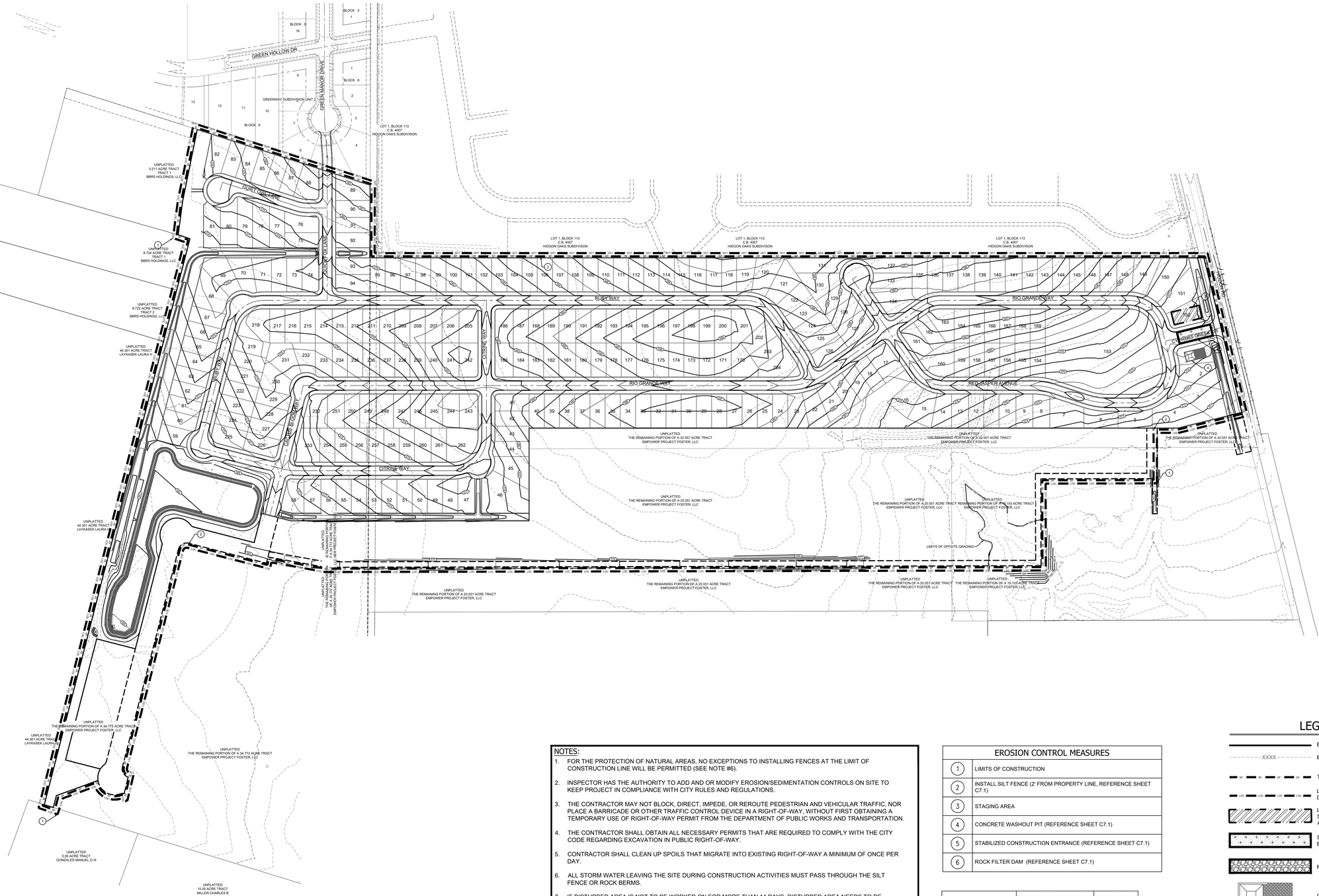
REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET

C6.3

Date: Apr 16, 2025, 8:20am User ID: LJ Ramirez
File: U:__Projects\437 – Higdon Rd Empower\437.1\ACAD\Sheets\C7.0 GRADING PLAN.dwg



NOTES:

1. FOR THE PROTECTION OF NATURAL AREAS, NO EXCEPTIONS TO INSTALLING FENCES AT THE LIMIT OF CONSTRUCTION LINE WILL BE PERMITTED (SEE NOTE #6).
2. INSPECTOR HAS THE AUTHORITY TO ADD AND OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH CITY RULES AND REGULATIONS.
3. THE CONTRACTOR MAY NOT BLOCK, DIRECT, IMPEDE, OR REROUTE PEDESTRIAN AND VEHICULAR TRAFFIC, NOR PLACE A BARRICADE OR OTHER TRAFFIC CONTROL DEVICE IN A RIGHT-OF-WAY, WITHOUT FIRST OBTAINING A TEMPORARY USE OF RIGHT-OF-WAY PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION.
4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS THAT ARE REQUIRED TO COMPLY WITH THE CITY CODE REGARDING EXCAVATION IN PUBLIC RIGHT-OF-WAY.
5. CONTRACTOR SHALL CLEAN UP SPOILS THAT MIGRATE INTO EXISTING RIGHT-OF-WAY A MINIMUM OF ONCE PER DAY.
6. ALL STORM WATER LEAVING THE SITE DURING CONSTRUCTION ACTIVITIES MUST PASS THROUGH THE SILT FENCE OR ROCK BERMS.
7. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING.
9. CONTRACTOR IS RESPONSIBLE FOR THE TIMELY REMOVAL OF TEMPORARY BMP'S ONCE CONSTRUCTION IS COMPLETE.
10. NO MORE THAN 10 ACRES SHALL BE DISTURBED AT ONCE UNLESS PROPER MEASURES ARE TAKEN TO MEET TCEQ NPDES REQUIREMENTS.
11. CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND INSPECTION OF ALL BMPs. CONTRACTOR SHALL REFERENCE THE SWPPP BOOKLET AND RESPECTIVE NOI PERMIT FOR FURTHER DETAILS.

EROSION CONTROL MEASURES	
1	LIMITS OF CONSTRUCTION
2	INSTALL SILT FENCE (2' FROM PROPERTY LINE, REFERENCE SHEET C7.1)
3	STAGING AREA
4	CONCRETE WASHOUT PIT (REFERENCE SHEET C7.1)
5	STABILIZED CONSTRUCTION ENTRANCE (REFERENCE SHEET C7.1)
6	ROCK FILTER DAM (REFERENCE SHEET C7.1)

AREA DISTURBED (ACRES)	AREA UNDISTURBED (ACRES)	TOTAL AREA (ACRES)
73.86	0.00	73.86

SEQUENCE OF CONSTRUCTION ACTIVITIES

* INSTALLATION OF TEMPORARY BEST MANAGEMENT PRACTICES (0.00 ACRES)
* SITE CLEARING (0.00 ACRES)
* MASS GRADING (0.00 ACRES)
* FINAL SITE GRADING (0.00 ACRES)
* FINAL PAVING OF DRIVE LANES (0.00 ACRES)

LEGEND

- BOUNDARY / RIGHT OF WAY
- XXXX EXIST. GRADE ELEVATIONS
- TEMPORARY SILT FENCE
- LIMITS OF CONSTRUCTION / DISTURBANCE
- LIMITS OF TEMPORARY PARKING, STORAGE, SPOILS, AND STAGING AREA.
- STABILIZED CONSTRUCTION ENTRANCE
- ROCK FILTER DAM
- CONCRETE WASHOUT

0 70' 140' 280'
SCALE: 1" = 70'

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PRELIMINARY
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PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS,
P.E. #111640 ON
April 23, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

STORMWATER POLLUTION PREVENTION PLAN

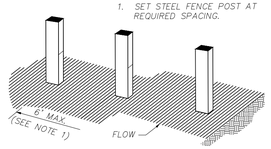
REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

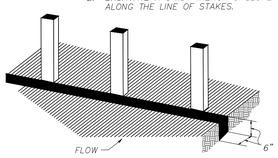
SHEET
C7.0

Date: Apr 23, 2025, 12:49pm User ID: LJ Barrones
File: U:_Projects\437 - Higdon Rd Empower\437-1\ACAD\Sheets\C8.0 SWPPP PLAN.dwg

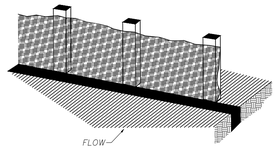
1. SET STEEL FENCE POST AT REQUIRED SPACING.



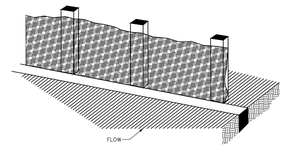
2. EXCAVATE A 6"x6" TRENCH UPSLOPE ALONG THE LINE OF STAKES.



3. STAKE FILTER MATERIAL TO STAKES AND EXTEND IT INTO THE TRENCH.

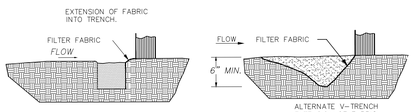


4. BACKFILL AND COMPACT THE EXCAVATED SOIL INTO TRENCH.

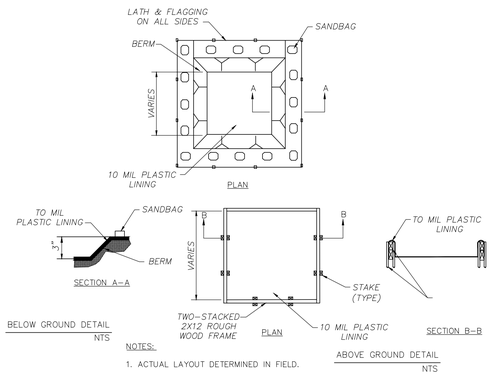


GENERAL NOTES:

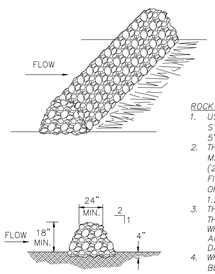
1. STEEL POSTS TO BE SET AT 3-FOOT MAXIMUM SPACING WITH MINIMUM EMBEDMENT OF 1-FOOT. IF FACTORY PREASSEMBLE FENCE WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO 8 FEET MAXIMUM.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHOULD BE OVERLAPPED 3 FEET AND SECURELY FASTENED WHEN ENDS OF FABRIC MEET.



1 SILT FENCE
N.T.S.



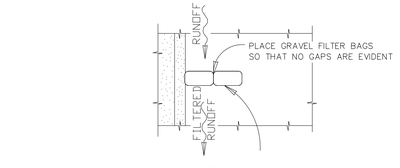
4 CONCRETE WASHOUT AREA



5 ROCK FILTER DAM
NTS

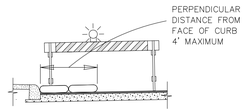
ROCK BERM NOTES:

1. USE ONLY OPEN GRADED ROCK 100 to 200 mm (4 to 8") DIAMETER FOR STREAM FLOW CONDITIONS. USE OPEN GRADED ROCK 75 to 125 mm (3 to 5") DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 25 mm (1") OPENING AND MINIMUM WIRE DIAMETER OF 12.9 mm (20 GAUGE). ROCK BERMS IN CHANNEL APPLICATIONS SHALL BE ANCHORED FIRMLY INTO THE SUBSTRATE A MINIMUM OF 150 mm (6") WITH T-POSTS OR WITH 15M OR 20M (#5 OR #6) REBAR, WITH MAXIMUM SPACING APART OF 1.2 m (48") ON CENTER.
3. THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN 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 150 mm (6"), WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SEVERE-SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 150 mm (6").
6. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.



3 / 4" GRAVEL CONTAINED IN PERVIOUS BURLAP BAGS OR SYNTHETIC NET BAGS (1 / 8" MESH) APPROX. 24" LONG, 12" WIDE AND 6" HIGH

PLAN
SCALE : 1" = 5'

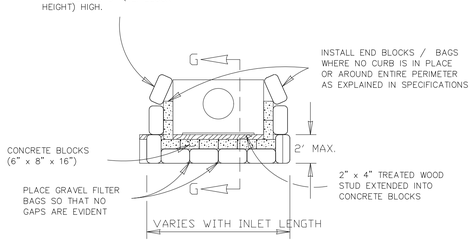


ELEVATION
SCALE : 1" = 5'

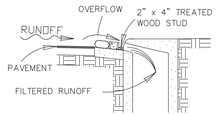
NOTE:
STRADDLE GRAVEL FILTER BAGS WITH TYPE 1 BARRICADES MOUNTED WITH TYPE "A" FLASHING WARNING LIGHT. SEE BARRICADE CONSTRUCTION SIGN DETAILS. PLACE FLASHING LIGHTS AWAY FROM GUTTER, FLUSH WITH OUTSIDE EDGE OF BAG CONFIGURATION.

GRAVEL FILTER BAGS

3 / 4" GRAVEL CONTAINED IN PERVIOUS SYNTHETIC NET BAGS (1 / 8" MESH) APPROX. 24" LONG, 12" WIDE AND 6" (I.E. BLOCK HEIGHT) HIGH.



PLAN
SCALE : 1" = 5'

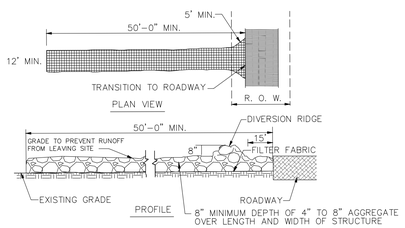


SECTION G-G
SCALE : 1" = 5'

NOTE:
GRAVEL FILTERS CAN BE USED ON PAVEMENT OR BARE GROUND.

CURB INLET GRAVEL FILTER

2 CURB INLET PROTECTION
N.T.S.



2 STABILIZED CONSTRUCTION EXIT
N.T.S.

SEDIMENTATION AND EROSION CONTROLS

A. DESIGN CRITERIA

(1) Fences are to be constructed along level contours.

(2) The ends of the fence shall be turned upstream to prevent bypass of stormwater.

(3) 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 one foot.

(4) 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 cannot be trenched in (e.g. pavement), weight fabric flap with washed gravel on uphill side to prevent flow under fence.

(5) 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.

(6) Silt fence should be securely fastened to each steel support post or to woven wire. Which is in turn attached to the steel fence post. There shall be a 6" double overlap, securely fastened where ends of fabric meet.

(7) Inspection shall be made weekly or after each rainfall. Repair or replacement shall be made promptly as needed.

(8) Accumulated silt shall be removed when it reaches a depth of 6 inches. The silt shall be disposed of in an approved site and in such a manner as to not contribute to the additional siltation.

B. TEMPORARY DIVERSION DIKE

(1) Maximum depth of flow at the dike shall be 1 foot.

(2) Side slopes of the diversion dike shall be 3:1 or flatter.

(3) Minimum width of the embankment at the top shall be 2 feet.

(4) Minimum embankment height shall be 18 inches as measured from the toe of slope on the upgrade side of the berm.

(5) The dikes shall remain in place until all disturbed areas which are protected by the dike are permanently stabilized unless other controls are put into place to protect the site.

(6) Compacted earth dikes require stabilization immediately upon placement so as not to contribute to the problem they are addressing.

(7) All diversion dikes shall have positive drainage to an outlet.

(8) Dikes must be inspected on a regular basis to determine if silt is building up behind the dike, or if erosion is occurring on the face of the dike. Silt shall be removed in a timely manner. If erosion is occurring on the face of the dike, the slopes of the face shall be stabilized.

C. INTERCEPTOR SWALE

(1) Maximum depth of flow in the swale shall be 1 foot.

(2) The minimum bottom width of the swale shall be 2 feet.

(3) Side slopes of the swale shall be 3:1 or flatter.

(4) Minimum design channel freeboard shall be 6 inches.

(5) Swales must maintain positive grade to an acceptable outlet.

(6) Interceptor swales must be stabilized immediately upon excavation so as not to contribute to the erosion problem they are addressing.

(7) All trees, brush, stumps, obstructions and other material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.

(8) All earth removed and not needed in construction shall be disposed of in an approved spoils site.

(9) Inspection must be made after each rain event to locate and repair any damage to the channel or to clear debris or other obstructions so as not to diminish flow capacity. Damages which result from normal construction activities shall be repaired at the end of each work day.

D. HAY BALE DIKE

(1) Each hay bale shall be placed into an excavated trench having a depth of 4 inches and a width just wide enough to accommodate the bales themselves.

(2) Hay bales shall be installed in such a way that there is no space between to allow for any kind of seepage.

(3) Individual bales shall be held in place by no less than two wood or steel stakes driven a minimum distance of 6 inches into undisturbed ground, with the first stake driven at an angle toward the previously installed bale.

(4) The ends of the dike shall be turned upgrade to prevent bypass of stormwater.

(5) Inspection shall be weekly or after each rainfall event and repair or replacement shall be made promptly as needed by the contractor.

(6) When silt reaches a depth of 6 inches, it shall be removed and disposed of in an approved sit.

(7) Hay bales shall be replaced if there are signs of degradation such as straw located downstream from the bales, structural deficiencies due to rotting straw in the bale or other signs of deterioration. Sediment should be removed from behind the bales when it reaches a depth of approximately 6 inches. If the bales become clogged, they should be replaced immediately.

E. SANDBAG BERM

(1) Minimum height shall be 18 inches.

(2) Minimum width of the berm shall be 18 inches at the top and 48 inches measured at the bottom.

(3) Maximum side slopes shall be 2:1.

(4) The ends of the berm shall be turned upgrade or shall tie into natural grades to prevent bypass of stormwater.

(5) Sandbags should be stacked in at least three rows abutting each other, and in staggered arrangement.

(6) Inspections should be made on a daily basis and after each rain event. The sandbags shall be reshaped or replaced as needed during the inspection. Silt should be removed when it reaches a depth of six (6) inches.

F. STONE OUTLET SEDIMENT TRAP

(1) Minimum width of the embankment at the top shall be 3 feet perpendicular to the flow.

(2) Minimum embankment slope shall be 3:1.

(3) Maximum embankment height shall be 2 feet as measured from the toe of slope to the crest of the stone outlet. The height of the compacted earth embankment shall be one foot higher than the crest of the outlet.

(4) Sediment shall be removed and the area directly behind the berm shall be regraded to its original dimensions at such point when the capacity of impoundment has been reduced to one-half of its original storage capacity.

(5) The stone outlet structure should be inspected frequently and after each major rain event to check for clogging of the void spaces between stones. If the aggregate appears to be silted in such that efficiency is diminished, the stone should be replaced.

G. SEDIMENT BASIN

(1) Maximum drainage area contributing to the basin shall be 100 acres.

(2) Deposited sediment shall be removed when the storage capacity of the basin has been depleted by one-half.

(3) Minimum width of the embankment at the top shall be 8 feet.

(4) Minimum embankment slope shall be 3:1.

(5) Sediment shall be removed and the basin shall be regraded to its original dimensions. The removed sediment shall be stockpiled or redistributed in areas which are protected from erosion.

(6) The basin outlet structure and emergency spillway (if present) should be checked frequently and after each major rain event to check for damage.

H. STABILIZED CONSTRUCTION EXIT

(1) Stone size – 3 to 5 inches crushed rock.

(2) Length – as effective, but not less than 50 feet, unless depth of lot is less than 150 feet from edge of pavement where length must only be 30 feet.

(3) Thickness – not less than 8 inches.

(4) Width – not less than full width of all points of ingress or egress.

(5) Washing – when necessary, 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 which drains into an approved trap or sediment basin. All sediment shall be prevented from entering any storm drain, ditch or watercourse using approved methods.

(6) Maintenance – the entrance shall be maintained in condition which will prevent tracking or flowing of sediment onto public roadways. This may require periodic top dressing with additional stone as conditions demand, and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public roadway, must be removed immediately.

(7) Drainage – entrance must be properly graded or incorporate a drainage swale to prevent runoff from leaving the construction site.

ADDITIONAL NOTES:

(1) Upon completion of construction all disturbed areas shall be revegetated to 70% of existing conditions in accordance with the SWPPP and TPDES requirements.

(2) This project will not use any off-site material, waste/borrow/fill, or equipment storage areas.

(3) This site is not located adjacent to any surface waters.

(4) This site will not have any locations where storm water discharges directly to a surface water body.

UP ENGINEERING
a Bowman company
111 TOWER DR. SUITE. 325
SAN ANTONIO, TX 78232 TEL: 210.764.4004
WWW.UPENGINEERING.COM TBPE F-14309
TBPLS F-10120600

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF
RYAN R. FLAGENS, P.E. 143160
ON April 23, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

STORMWATER POLLUTION PREVENTION PLAN DETAILS

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
C7.1

Date: Apr 16, 2025, 8:20am User ID: LJ Ramones
File: G:\...\Projects\SA Development\2511\CAD\1 Sheets\C7.0 SWPPP Plan.dwg

CIVIL CONSTRUCTION DOCUMENTS FOR

VISTA MHC OFFSITE SEWER

San Antonio ETJ

Bexar County, Texas

OWNER/DEVELOPER:

EMPOWER COMMUNITIES, LLC
2121 BISCAYNE BOULEVARD, UNIT 1188
MIAMI, FL 33137

SURVEYOR:

UP ENGINEERING + SURVEYING
11903 JONES MALTSBERGER ROAD, SUITE 102
SAN ANTONIO, TEXAS 78216
(210) 774-5504
CONTACT: ADRIAN REYES, R.P.L.S.

ENGINEER:

UP ENGINEERING + SURVEYING
11903 JONES MALTSBERGER ROAD, SUITE 102
SAN ANTONIO, TEXAS 78216
(210) 774-5504
CONTACT: NATASHA F. UHLRICH, P.E.

GEOTECH:

ADDRESS:

HIGDON ROAD, SAN ANTONIO, TEXAS 78223

FLOODPLAIN INFORMATION:

FIRM #48029, PANELS 0585 H, 0595 F, 0605 F AND 0615 F, 09/29/2010.

WATERSHED:

THIS SITE IS LOCATED IN THE CALAVERAS CREEK-SAN ANTONIO RIVER WATERSHED.

BENCHMARK:

TBM 1: COTTON SPINDLE IN POWER POLE
NORTHING: 13663722.7500
EASTING: 2167640.7690
ELEVATION: 567.36

TBM 2: COTTON SPINDLE IN POWER POLE
NORTHING: 13663742.1900
EASTING: 2167390.8540
ELEVATION: 572.91

SURVEY BASIS:

BEARINGS SHOWN HEREON ARE BASED ON ACTUAL GPS OBSERVATIONS, TEXAS STATE PLANE COORDINATES, NAD 83, SOUTH CENTRAL ZONE, GRID.

LEGAL DESCRIPTION:

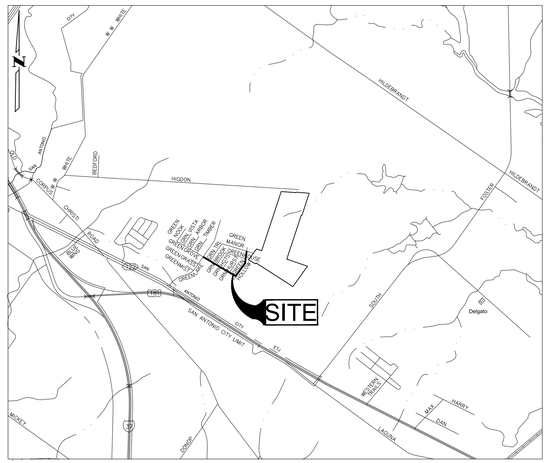
LOT XX, C.B. 5701, 97.99 ACRES, PROJECT FOSTER SUBDIVISION, RECORDED IN VOLUME , PAGE , DEED AND PLAT RECORDS OF BEXAR COUNTY, TEXAS.

UTILITY PROVIDERS:

GAS:	CPS ENERGY 145 NAVARRO SAN ANTONIO, TX 78205 (210) 353-2376	**CABLE:**	TIME WARNER CABLE 1900 BLUE CREST LANE SAN ANTONIO, TX 78247 (210) 244-0500
ELECTRIC:	CPS ENERGY 145 NAVARRO SAN ANTONIO, TX 78205 (210) 353-2376	**WATER & WASTEWATER:**	SAN ANTONIO WATER SYSTEM 2800 U.S HWY 281 NORTH SAN ANTONIO, TX 78212 (210) 233-2010

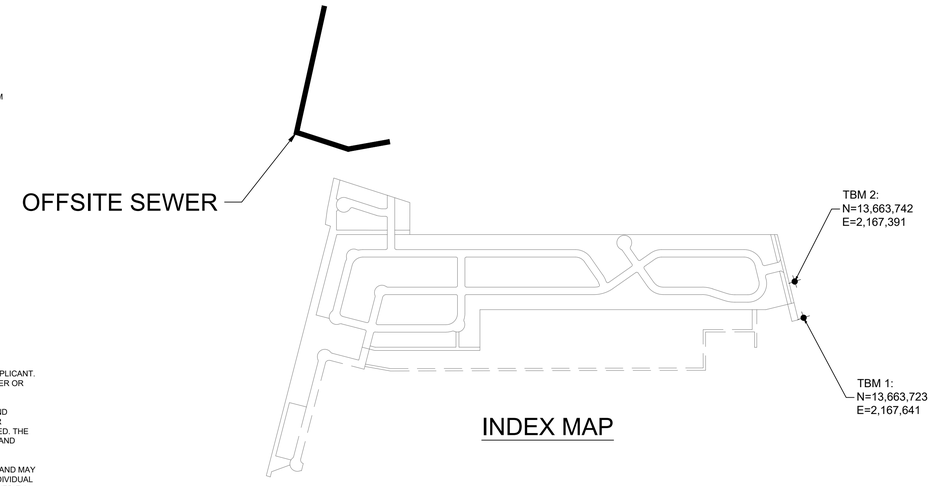
LAND USE SUMMARY:

ZONING:	OCL
PROPOSED SITE USE:	MANUFACTURED HOUSING
LOT SIZE:	97.99 ACRES



VICINITY MAP
NOT TO SCALE

SUBMITTAL DATE:
June 1, 2023



INDEX MAP

NOTES:

1. RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/ HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.
2. BY THE ACT OF SUBMITTING A BID FOR THE PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS AND SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS AND MATERIAL SUPPLIERS KNOWLEDGE ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.
3. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION AND/OR A FIELD SURVEY, AND MAY NOT MATCH LOCATIONS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT THE "ONE CALL" SYSTEM @ 811, OR THE OWNER OF EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF UTILITY CROSSING PRIOR TO BEGINNING CONSTRUCTION.
4. ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. (OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, FOUNTAINHEAD TOWER, SUITE 605, 8200 W. INTERSTATE 10, SAN ANTONIO, TEXAS 78230).
5. CONTRACTOR SHALL RESTORE ALL SIGNS AND PAVEMENT MARKINGS TO EXISTING CONDITIONS FOLLOWING THE COMPLETION OF EACH PHASE OF CONSTRUCTION. CONTRACTORS SHALL REFER TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) FOR SIGN AND MARKING DIMENSIONS AND COLORS.

LOWER EAST WATERSHED - DOS RIOS/ LEON CREEK

Developer:	EMPOWER COMMUNITIES, LLC.		
Address:	2900 NE 7TH AVE., UNIT 2705		
City:	MIAMI	State: FLORIDA	Zip: 33137
Phone:		Fax:	
SAWS Block Map:	196536	Total EDUs: 48	Total Acreage: N/A
Total Linear Footage of Pipe:	12" HDPE: 2,591 LF	Plat No.:	23-11800137
Number of Lots:	48	SAWS Job No.:	TBD

UP ENGINEERING + SURVEYING
11903 JONES MALTSBERGER, SUITE 102
SAN ANTONIO, TX 78216 TEL 210-774-5504
WWW.UPENGINEERING.COM TBPE F-17992
TBPELS F-10194605

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS
P.E. #111640 ON
April 23, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

SEWER OFFSITE COVER

REV	DATE	DESCRIPTION	BY

DESIGNED BY:	xxx
DRAFTED BY:	XXX
CHECKED BY:	XXX

SHEET
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01 OF 5

Date: Apr 16, 2025, 8:20pm User ID: LJ Ramones
File: G:_Projects\437-Higdon Rd Empower\437-1\ACAD\Sheets\C4.0 SEWER OFFSITE COVER.dwg

GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE BEXAR COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION JUNE 2008, OR LATEST.
2. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PAY ITEM TO WHICH IT RELATES.
3. THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES OR DRIVEWAYS. (NO SEPARATE PAY ITEM).
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". THE CITY'S CONSTRUCTION INSPECTOR AND TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF, IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND 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.
6. IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
7. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181 C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
8. CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR TWENTY FOUR (24) HOURS PRIOR TO BACKFILL OF ANY UTILITY TRENCHES TO SCHEDULE FOR DENSITY TEST AS REQUIRED.
9. CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
10. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO EXCAVATION OPERATION:

SAN ANTONIO WATER SYSTEM (SAWS)	210-233-2009
WATER & SEWER EMERGENCIES	210-704-7297
STORM DRAINAGE (BEXAR COUNTY)	210-335-6663
SIGNAL OPERATIONS (CITY OF SAN ANTONIO)	210-207-8022
TEXAS STATE WIDE ONE CALL LOCATOR	811
CPS ENERGY (GAS & ELECTRIC)	210-353-2000
CPS ELECTRIC/GAS ISSUES OR EMERGENCIES	210-353-4357
TIME WARNER	210-244-0500
AT&T	972-742-5892

11. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR THE MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND HE SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.
12. ALL WASTE MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE PROJECT. NO WASTE MATERIAL SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE.
13. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
14. THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND / OR TRACKED CONSTRUCTION MATERIALS AND / OR DEBRIS.
15. IF THE CONTRACTOR ENCOUNTERS ANY ARCHAEOLOGICAL DEPOSITS DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR MUST STOP EXCAVATION IMMEDIATELY, CONTACT THE CITY INSPECTOR, AND CALL THE CITY HISTORIC PRESERVATION OFFICE AT 210-215-9274 FOR AN ARCHAEOLOGICAL INVESTIGATION. THE CONTRACTOR CANNOT BEGIN EXCAVATION AGAIN WITHOUT WRITTEN PERMISSION FROM THE CITY.

    IF MORE THAN THREE (3) DAYS ARE REQUIRED FOR INVESTIGATION (NOT INCLUDING HOLIDAY AND WEEKENDS) AND IF THE CONTRACTOR IS UNABLE TO WORK IN OTHER AREAS, THEN THE CONTRACTOR WILL BE ALLOWED TO NEGOTIATE FOR ADDITIONAL CONSTRUCTION TIME UPON WRITTEN REQUEST WITHIN TEN (10) DAYS AFTER THE FIRST NOTICE TO THE CITY OF ARCHAEOLOGICAL INVESTIGATION FOR EACH EVENT.

    IF THE TIME REQUIRED FOR INVESTIGATION IS LESS THAN OR EQUAL TO THREE (3) DAYS FOR EACH EVENT, CONTRACT DURATION WILL NOT BE EXTENDED.
16. IF SUSPECTED CONTAMINATION IS ENCOUNTERED DURING CONSTRUCTION OPERATIONS, C.O.S.A. SHALL BE NOTIFIED IMMEDIATELY WHEN CONTAMINATED SOILS AND / OR GROUNDWATER ARE ENCOUNTERED AT LOCATIONS NOT IDENTIFIED IN THE PLANS. THE NOTIFICATION SHOULD INCLUDE THE STATION NUMBER, TYPE OF CONTAMINATED MEDIA, EVIDENCE OF CONTAMINATION AND MEASURES TAKEN TO CONTAIN THE CONTAMINATED MEDIA AND PREVENT PUBLIC ACCESS. THE CONTAMINATED SOIL AND / OR GROUNDWATER SHALL NOT BE REMOVED FROM THE LOCATION WITHOUT PRIOR C.O.S.A. APPROVAL. THE CONTRACTOR MUST STOP THE EXCAVATION IMMEDIATELY AND CONTACT THE C.O.S.A. INSPECTOR. THE CONTRACTOR CANNOT BEGIN EXCAVATION ACTIVITIES WITHOUT WRITTEN PERMISSION FROM THE CITY.

UTILITY GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL COMPLY TO ALL APPLICABLE BEXAR COUNTY RULES AND REQUIREMENTS FOR STREETS, SIDEWALKS, ALLEYS AND ROADWAY DESIGN (LATEST EDITIONS), THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (LATEST EDITIONS), THE SAN ANTONIO WATER SYSTEM (SAWS) SPECIFICATIONS FOR WATER WORKS CONSTRUCTION (LATEST EDITION).
2. 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. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS IMMEDIATELY. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OF NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
4. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON PLANS OR NOT.
5. ALL UTILITIES SHALL BE INSTALLED PRIOR TO PAVEMENT CONSTRUCTION.
6. ALL UTILITY CONNECTIONS SHALL BE COORDINATED WITH THE MECHANICAL AND ELECTRICAL PLANS. NOTIFY ENGINEER OF ANY CONFLICTS PRIOR TO CONSTRUCTION.
7. THE CONTRACTOR SHALL INSTALL ANY BENDS, FITTINGS, ETC. IN THE WATER & SEWER MAIN AS REQUIRED TO AVOID CONFLICTS WITH OTHER UTILITIES. (NO SEPARATE PAY).
8. NO WATER JETTING TO BACKFILL TRENCHES WILL BE ALLOWED ON THIS PROJECT.
9. POLYVINYL CHLORIDE (PVC) SEWER PIPE SHALL BE SDR 26. FITTINGS AND JOINTS SHALL CONFORM TO COMPATIBLE SDR 26 PIPE. SOLVENT CEMENTS JOINTS SHALL NOT BE USED.
10. WHEN SEWER LINES ARE INSTALLED IN THE VICINITY OF WATER MAINS, SUCH INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ).
11. ALL SPOIL AND OTHER UNSUITABLE MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.
12. ALL SERVICES ARE BROUGHT TO WITHIN 5 FEET OF THE BUILDING UNLESS OTHERWISE NOTED. REFERENCE MEP PLANS FOR UTILITY CONNECTIONS AT THE BUILDING.
13. WHETHER SHOWN ON THE PLANS OR NOT ALL CLEANOUT TOPS AND MANHOLES SHALL BE INSTALLED AT LEAST 3" ABOVE FINISHED GRADE OUTSIDE PAVEMENT AND FLUSH WITH FINISHED GRADE WITHIN THE PAVEMENT AREAS. TOPS WITHIN PAVEMENT SHALL BE TRAFFIC RATED.
14. SANITARY SEWER SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE AND THE SAN ANTONIO WATER SYSTEM PLUMBING SPECIFICATIONS, AND AS DIRECTED BY THE PLUMBING INSPECTOR.
15. THRUST BLOCKING SHALL BE INSTALLED IN ACCORDANCE WITH SAN ANTONIO WATER SYSTEM SPECIFICATIONS.
16. UTILITY CONTRACTOR SHALL COORDINATE WITH CPS ENERGY FOR THE GAS AND ELECTRICAL SERVICE.
17. IF APPLICABLE, FIRE LINE SHALL BE INSTALLED BY A LICENSED FIRE SPRINKLER CONTRACTOR.
18. DOMESTIC WATER SHALL BE PVC C900 FOR PIPES < 12" OR C905 FOR PIPES ≥ 12" OR COPPER TUBING AS SPECIFIED IN THE SAWS STANDARD SPECIFICATIONS - ITEM #824.
19. CLEANOUTS SHALL BE TWO-WAYS AND INSTALLED IN ACCORDANCE WITH COSA PLUMBING CODE (EVERY 100') & AS DIRECTED BY PLUMBING INSPECTOR.
20. FIRE LINE SHALL BE PVC C900, CLASS 200 AND SHALL COMPLY WITH AWWA STANDARDS AND SHALL WITHSTAND A WORKING PRESSURE OF NOT LESS THAN 200 P.S.I.
21. CONTRACTOR SHALL MAINTAIN "AS-BUILT" DRAWINGS THROUGHOUT THE COURSE OF CONSTRUCTION & SHALL SUBMIT SAME TO THE ENGINEER FOR APPROVAL PRIOR TO FINAL ACCEPTANCE BY OWNER.

GRADING AND DRAINAGE NOTES

1. CONTRACTOR TO VERIFY ELEVATIONS PRIOR TO CONSTRUCTION. EXISTING CONTOURS BASED ON SURVEY TOPOGRAPHIC DATA.
2. ALL GRADES AND CONTOURS SHOWN ARE FINAL, TOP OF FINISHED SURFACE ELEVATIONS, CONTRACTOR SHALL SUBTRACT PAVEMENT, BASE, TOPSOIL, MULCH, ...ETC. TO OBTAIN PROPER SUBGRADE ELEVATIONS.
3. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NO TO ALLOW ANY PONDING OF WATER. MINIMUM SLOPE 0.50%.
4. NO ABRUPT CHANGE OF GRADE SHALL OCCUR.
5. ALL DISTURBED AREAS SHALL BE REVEGETATED, BY THE CONTRACTOR, IN ACCORDANCE WITH PROJECT SPECIFICATIONS, AND ARCHITECTURAL LANDSCAPING PLANS.
6. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLAN OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
7. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT WHERE NOT SPECIFICALLY COVERED IN THE PROJECT SPECIFICATIONS SHALL CONFORM TO ALL APPLICABLE BEXAR COUNTY SPECIFICATIONS FOR CONSTRUCTION AND PUBLIC WORKS STANDARD SPECIFICATIONS AND TXDOT STANDARD SPECIFICATIONS.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ORIGINAL, OR BETTER CONDITION ANY DAMAGES DONE TO EXISTING SIGNS, UTILITIES, PAVEMENT, CURBS, SIDEWALKS OR DRIVEWAYS (NO SEPARATE ITEM).
9. DUE TO FEDERAL REGULATION TITLE 49, PART 192.181, CPS ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVE THAT ARE IN THE PROJECT AREA.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH NECESSARY UTILITY COMPANIES FOR PROVIDING TEMPORARY UTILITY SERVICES DURING CONSTRUCTION.
11. CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS FOR UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON PLANS OR NOT.
12. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS, OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.

GRADING AND DRAINAGE NOTES CONTINUED

13. THE CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT AT NEW PAVEMENT AND CURB JUNCTURES. NO JAGGED OR IRREGULAR CUTS IN PAVEMENT WILL BE ACCEPTED.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
15. ALL EXCAVATION IN UNCLASSIFIED.
16. ALL ON-SITE CURBS ARE 6" HIGH UNLESS OTHERWISE SPECIFIED.
17. SEE CIVIL COVER SHEET FOR PROJECT BENCHMARK.
18. CONTRACTOR TO RAISE/LOWER ALL UTILITY BOXES, COVERS, GRATES, VALVES BOXES, MANHOLES, CLEANOUTS, ETC., TO MATCH PROPOSED FINISHED GRADE ELEVATIONS.
19. ALL DISTURBED AREAS WHICH ARE NOT TO BE PAVED SHALL BE COVERED WITH 6" MIN. CLEAN TOPSOIL UNLESS OTHERWISE NOTED. CUT OR FILL SHALL BE ADJUSTED TO ALLOW FOR TOPSOIL IN ORDER TO MAINTAIN PROPOSED ELEVATIONS. AREAS FOR LANDSCAPING SHOULD BE IN ACCORDANCE WITH THE LANDSCAPE ARCHITECTS PLANS.
20. PROVIDE THE REQUIRED MINIMUM DENSITY AND MOISTURE CONTENT OF COMPACTED FILL IN ACCORDANCE WITH THE SOILS REPORT AND THE REQUIREMENTS OF THE PROFESSIONAL ENGINEER (GEOTECH AND CIVIL).
21. A TESTING LABORATORY SHALL BE EMPLOYED BY THE CONTRACTOR TO CHECK THE SUITABILITY OF MATERIAL SELECTED FOR CONTROLLED FILLS, TO TEST AND DETERMINE IF THE REQUIRED IS BEING OBTAINED, AND TO TEST COMPACTION OF EXPOSED SUBGRADES, WHEN COMPACTION TESTS DOES NOT MEET GEOTECH REQUIREMENTS, FILL AND BACKFILL SHALL BE DRIED OUT OR MOISTENED AS NECESSARY, SCARIFIED, AND RECOMPACTED AT NO ADDITIONAL COSTS TO OWNER.

TRENCH EXCAVATION SAFETY PROTECTION

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

DEMOLITION NOTES

1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE CITY OF SAN ANTONIO STANDARDS AND SPECIFICATIONS.
2. ALL FILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR METHOD (ASTM D-698).
3. CURB RAMPS ARE TO BE CONSTRUCTED ON ALL PERMANENT CURB RETURNS AT THE INTERSECTION OF ALL STREETS OR AS DIRECTED BY THE CITY OF SAN ANTONIO INSPECTOR.
4. ALL CONSTRUCTION BARRICADING TO BE IN ACCORDANCE WITH CURRENT "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
5. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIG TEST" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN PER THE APPROPRIATE REMEDIAL ACTION AGREED UPON BY THE ENGINEER.
6. DISPOSAL OF ALL DEMOLISHED MATERIAL IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL MUNICIPAL REQUIREMENTS.
7. WHERE A STATE OR LOCAL MUNICIPAL STANDARD DETAIL DUPLICATES A DETAIL SHOWN IN THE PLANS, THE MORE STRINGENT DETAIL, AS DETERMINED BY THE REVIEWING AGENCY, SHALL APPLY.
8. ALL ITEMS NOT SPECIFICALLY CALLED OUT TO BE REMOVED SHALL REMAIN. ANY ITEM TO REMAIN WHICH IS REMOVED SHALL BE REPLACED AT THE CONTRACTORS EXPENSE. (NO SEPARATE PAY).
9. CONTRACTOR WILL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY DEMOLITION PERMITS FOR THE PROJECT AND COORDINATION WITH THE RESPECTIVE UTILITY COMPANIES FOR REMOVAL OF THEIR INDIVIDUAL SERVICES.
10. CONTRACTOR SHALL IMMEDIATELY CONTACT THE ENGINEER REGARDING QUESTIONS ON THE DEMOLITION PLAN.
11. DEMOLITION CONTRACTOR SHALL CLEARLY MARK ALL EXISTING UTILITY SERVICES WHERE THEY CROSS PROPERTY LINES. THIS INFORMATION WILL BE USED BY UTILITY COMPANIES AND CONTRACTORS TO TIE INTO FOR THE PROPOSED UTILITY SERVICES.
12. CONTRACTOR SHALL VERIFY WHICH TREES ARE TO BE SAVED & PROTECTED PRIOR TO COMMENCING CONSTRUCTION, DURABLE FENCE PROTECTION BARRIERS SHALL BE INSTALLED AROUND ALL TREES TO BE SAVED WITH FENCE PLACEMENT A MINIMUM OF 10 FEET FROM TREES TRUNKS. (IF APPLICABLE)
13. CONTRACTOR SHALL NOT DISTURB AREAS AROUND EXISTING TREES TO BE SAVED. (IF APPLICABLE)
14. CONTRACTOR SHALL COMPENSATE OWNER FOR DAMAGE OF TREES THAT WERE TO REMAIN. (IF APPLICABLE)

SEWER NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO SANITARY SEWER OVERFLOW (SSO) OCCURS AS A RESULT OF THEIR WORK. ALL CONTRACTOR PERSONNEL RESPONSIBLE FOR SSO PREVENTION AND CONTROL SHALL BE TRAINED ON PROPER RESPONSE. SHOULD AN SSO OCCUR, THE CONTRACTOR SHALL:

A. IDENTIFY THE SOURCE OF THE SSO AND NOTIFY SAWS EMERGENCY OPERATIONS CENTER (EOC) IMMEDIATELY AT (210) 233-2014. PROVIDE THE ADDRESS OF THE SPILL AND AN ESTIMATED VOLUME OR FLOW.
B. ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.
C. CONTAIN SEWAGE FROM THE SSO TO THE EXTENT OF PREVENTING A POSSIBLE CONTAMINATION OF WATERWAYS.
D. CLEAN UP SPILL SITE (RETURN CONTAINED SEWAGE TO THE COLLECTION SYSTEM IF POSSIBLE) AND PROPERLY DISPOSE OF CONTAMINATED SOIL/MATERIALS.
E. CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS.
F. MEET ALL POST-SSO REQUIREMENTS AS PER THE EPA CONSENT DECREE, INCLUDING LINE CLEANING AND TELEVISING THE AFFECTED SEWER MAINS (AT SAWS DIRECTION) WITHIN 24 HOURS.

SHOULD THE CONTRACTOR FAIL TO ADDRESS AN SSO IMMEDIATELY AND TO SAWS SATISFACTION, THEY WILL BE RESPONSIBLE FOR ALL COSTS INCURRED BY SAWS, INCLUDING ANY FINES FROM EPA, TCEQ AND/OR ANY OTHER FEDERAL, STATE OR LOCAL AGENCIES. NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TCEQ AND SAWS.

2. IF BYPASS PUMPING IS REQUIRED, THE CONTRACTOR SHALL PERFORM SUCH WORK IN ACCORDANCE WITH SAWS STANDARD SPECIFICATION FOR WATER AND SANITARY SEWER CONSTRUCTION, ITEM NO. 864, "BYPASS PUMPING".
3. PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING FORCE MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (210) 233-2973 AT LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS; THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.

SAWS CONSTRUCTION NOTES

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS PROJECT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:

   A. CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 CHAPTER 290.
   B. CURRENT TXDOT "STANDARD SPECIFICATION FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE"
   C. CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION"
   D. CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION"
   E. CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
2. THE CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE APPROVED COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP) FROM THE CONSULTANT AND HAS BEEN NOTIFIED BY SAWS CONSTRUCTION INSPECTION DIVISION TO PROCEED WITH THE WORK AND HAS ARRANGED A MEETING WITH THE INSPECTOR AND CONSULTANT FOR THE WORK REQUIREMENTS. WORK COMPLETED BY THE CONTRACTOR WITHOUT AND APPROVED COUNTER PERMIT AND/OR A GCP WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE OF THE CONTRACTOR AND/OR THE DEVELOPER.
3. THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE, HTTP//WWW.SAWS.ORG/BUSINESS_CENTER/SPECS. UNLESS OTHERWISE NOTED WITHIN THE DESIGN PLANS.
4. THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (210) 233-2973, ON NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING ANY WORK.
5. LOCATION AND DEPTH OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.

THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF THE UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES AT LEAST 1-2 WEEKS PRIOR TO CONSTRUCTION WETHER SHOWN ON PLANS OR NOT. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR LOCATES REQUESTING PIPE LOCATION MARKERS ON SAWS FACILITIES. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:

SAWS UTILITY LOCATES: HTTP//WWW.SAWS.ORG/SERVICE/LOCATES

COSA DRAINAGE	210-207-0724 OR (210) 207-6026
COSA TRAFFIC SIGNAL OPERATIONS	(210)-206-8480
COSA TRAFFIC SIGNAL DAMAGES	(210)-207-3951
TEXAS STATE WIDE ONE CALL LOCATOR	1-800-545-6005 OR 811

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, DRIVEWAYS, LANDSCAPING AND STRUCTURES TO ITS ORIGINAL OR BETTER CONDITION IF DAMAGES ARE MADE AS A RESULT OF THE PROJECT'S CONSTRUCTION.
7. ALL WORK IN TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) AND/OR BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT REQUIREMENTS.
8. THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
9. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
10. HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS. REQUESTS SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG. WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION CONSTRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG. ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.
11. COMPACTION NOTE (ITEM 804): THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE COMPACTION REQUIREMENTS ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS PREFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED, OR AS INDICATED BY THE SAWS INSPECTOR AND/OR THE TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.
12. A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION INSPECTION DIVISION.

SEWER NOTES CONTINUED

4. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241,TAC 217.53 AND TCEQ 290.44(E)(4)(B). CON

WASTEWATER SHEET NOTES

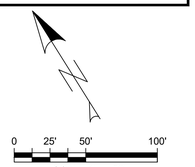
1. EXISTING CONDITIONS SURVEY WAS PREPARED BY UP ENGINEERING + SURVEYING, INC. IN MAY, OF 2023.
2. REFERENCE COVER SHEET FOR ADDITIONAL SITE INFORMATION.
3. REFERENCE SHEET C001, GENERAL NOTES FOR ADDITIONAL SITE NOTES.
4. LIMITS OF CONSTRUCTION ARE SHOWN ON THE EROSION & SEDIMENTATION CONTROL PLAN, REFERENCE SHEET C200.
5. REFERENCE SHEET CU100 FOR OVERALL UTILITY LAYOUT.
6. LOCATION OF EXISTING UTILITIES, SOME OF WHICH MAY NOT BE SHOWN, COULD IMPACT CONSTRUCTION MEANS AND METHODS. CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO AND DURING CONSTRUCTION, AND SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES. THE CONTRACTOR TO CONTACT THE AREA "ONE CALL" SYSTEM @ 811, OR THE OWNER OF EACH INDIVIDUAL UTILITY FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS.
7. CONTRACTOR SHALL EXPOSE ALL EXISTING UTILITIES CROSSING PROPOSED GRAVITY LINES AND INSURE THERE WILL BE NO CONFLICT PRIOR TO BEGINNING CONSTRUCTION. ADDITIONALLY, CONTRACTOR TO PLAN UTILITY INSTALLATIONS IN A MANNER TO AVOID CONFLICTS WITH PROPOSED GRAVITY LINES.
8. THE SIZE AND LOCATION OF UTILITY STRUCTURES (IF SHOWN) MAY BE EXAGGERATED FOR GRAPHICAL CLARITY. THE SURVEY SHOWS FIELD MEASURED SIZES AND DEPTHS AS OBSERVED FROM GROUND LEVEL OPENINGS.
9. ON ALL GRAVITY LINES, CONTRACTOR MUST START AT DOWNSTREAM END AND PROCEED UPSTREAM TAKING CARE TO EXPOSE ALL EXISTING UTILITIES AND STRUCTURES WHICH MAY CONFLICT WITH THE PROPOSED LINE. ANY OTHER SEQUENCE OF CONSTRUCTION WILL BE AT THE CONTRACTOR'S RISK.
10. THERE ARE NO EXISTING HERITAGE TREES ON THE SITE.
11. ALL ITEMS ARE TO BE FURNISHED & INSTALLED BY CONTRACTOR. REFERENCE CONSTRUCTION DETAILS SHEETS FOR ADDITIONAL INFORMATION.
12. AFTER ALL WASTE WATER CONSTRUCTION HAS BEEN COMPLETED, FINAL STABILIZATION OF THE CONSTRUCTION AREA ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES SHALL BE COMPLETED BY EVENLY DISTRIBUTING SEEDING AND WATERING TO A MIN. 70% OF THE NATIVE BACKGROUND VEGETATIVE COVER.
13. ALL WASTE WATER MANHOLES SHALL BE CONSTRUCTION IN ACCORDANCE WITH THE SAWS SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION (LATEST EDITION).
14. ALL WASTE WATER PRECAST MANHOLES SHALL BE SUPPLIED BY A MANUFACTURER APPROVED BY SAWS.
15. CONTRACTOR SHALL PROVIDE MANUFACTURED STUB OUT CAP & PLUG TO MEET 30 TAC 213.5(3)(G) STANDARDS AND TO MEET ASTM D3034 SPECIFICATIONS UNLESS OTHERWISE NOTED.
16. ALL RESIDENTIAL WASTE WATER SERVICE LATERALS ARE 6" DIA. AND 35 FEET IN LENGTH UNLESS OTHERWISE NOTED.
17. ALL RESIDENTIAL WASTE WATER SERVICE LATERALS SHALL BE EXTENDED TO THE 10' E.G.T.C. AND CAPPED AND SEALED.
18. WASTE WATER LATERALS TO LOTS THAT SLOPE AWAY FROM THE STREET SHALL BE SLPED FROM THE TEE OR STACK AT 2% TO THE PROPERTY LINE.
19. ALL WASTE WATER PIPE TO BE SDR 26 PER ASTM D3034 SPECIFICATIONS UNLESS OTHERWISE NOTED. PIPE JOINTS TO BE SDR 26 PER ASTM D3139 SPECIFICATIONS.
20. ALL WASTE WATER LINES WHICH CROSS WATER LINES ARE TO HAVE A MINIMUM OF A SINGLE LENGTH OF SDR 26(AST D2241-09), PRESSURE RATED (150 PSI) PIPE, CENTERED ON THE WATERLINE SUCH THAT EACH WASTE WATER JOINT IS A MINIMUM OF NINE FEET FROM THE WATERLINE.
21. ALL SITE DIMENSIONS ARE TO FACE OF CURB, CENTER OF PIPE, CENTER OF STRIPING, AND PROPERTY LINE UNLESS OTHERWISE NOTED.
22. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN / GEOTECHNICAL / SAFETY/ EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS, SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
23. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE ENGINEER MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDON. THE ENGINEER FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE ENGINEER HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.
24. REFERENCE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION ON DRAINAGE STRUCTURES & APPURTENANCES. CONTRACTOR TO REFER TO SAWS STANDARD DETAILS FOR ALL SAWS APPURTENANCES AND STRUCTURES.
25. CONTRACTOR TO REPAIR AND/OR REPLACE ALL DAMAGED SIDEWALKS AND CURBS AROUND SITE IN ACCORDANCE WITH THE CITY OF SAN ANTONIO STANDARD DETAILS AND SPECIFICATIONS.

LOWER EAST WATERSHED - DOS RIOS/ LEON CREEK

Developer: EMPOWER COMMUNITIES, LLC.
Address: 2900 NE 7TH AVE., UNIT 2705
City: MIAMI State: FLORIDA Zip: 33137
Phone: Fax:
SAWS Block Map: 196536 Total EDUs: 48 Total Acreage: N/A
Total Linear Footage of Pipe: 12" HDPE: 2,591 LF Plat No.: 23-11800137
Number of Lots: 48 SAWS Job No.: TBD

!! CAUTION !!

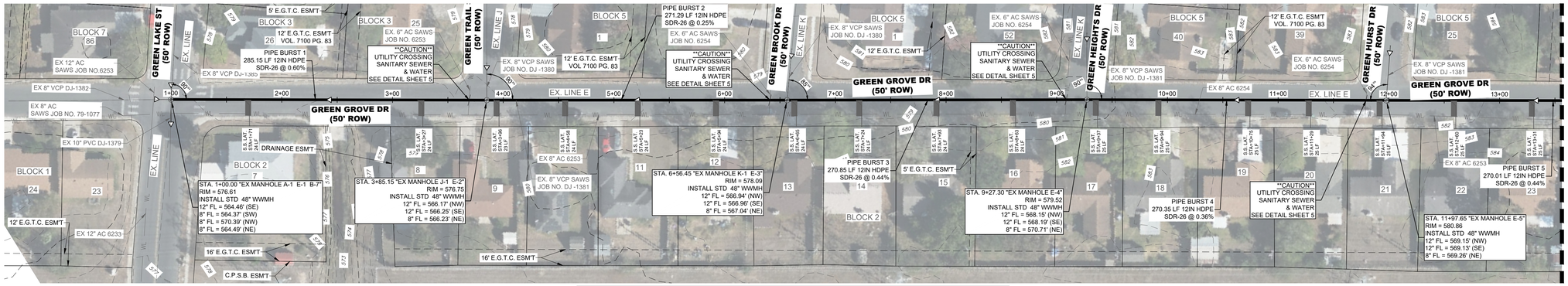
CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING DIGTESS @ 1-800-DIG-TESS FOR LOCATION OF ALL UTILITIES, AT LEAST 2 WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION.



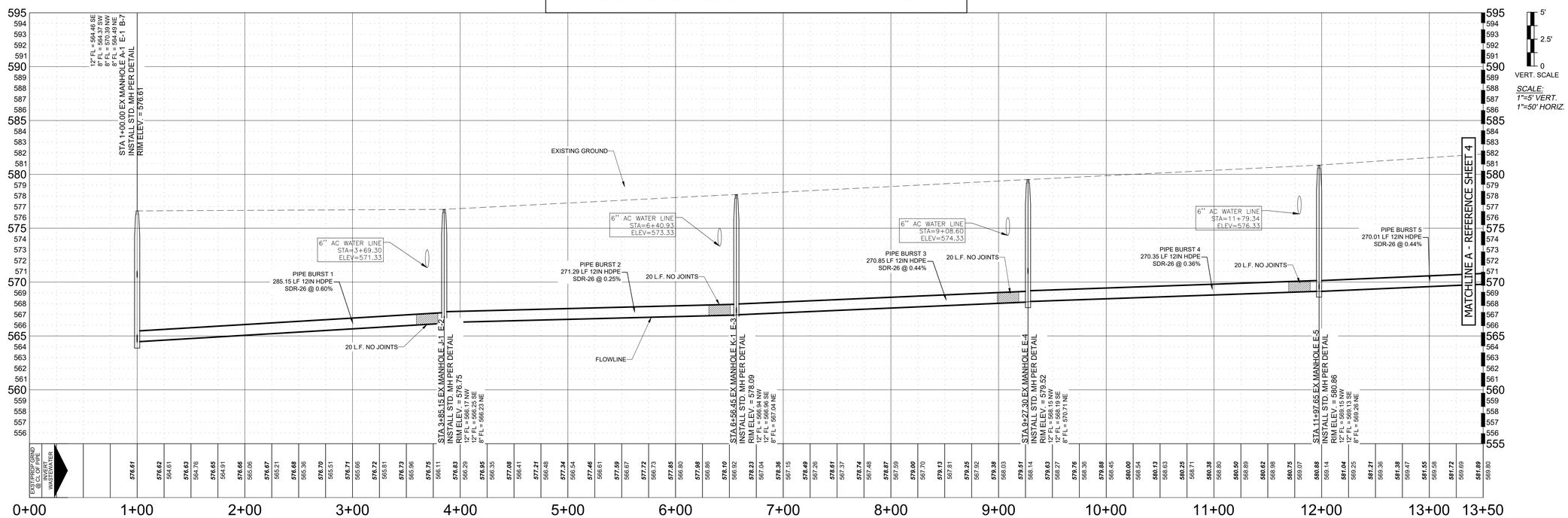
LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- 102 PROP. GRADE ELEVATIONS
- W EXISTING WATER LINE
- W PROPOSED WATER LINE
- OE EXISTING OVERHEAD UTILITIES
- UE EXISTING UNDERGROUND ELECTRIC
- G EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- WW PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER LATERAL
- PROPOSED WASTEWATER LINE
- PAVEMENT REPLACEMENT

*CONTRACTOR TO PIPE BURST EXISTING 8" VCP DJ-1380, DJ-1381 AND REPLACE WITH 12" HDPE
*CONTRACTOR TO MAINTAIN EXISTING SEWER LATERAL CONNECTIONS WITH NEW 12" MAIN
*CONTRACTOR TO PROVIDE BYPASS PUMPING AS NEEDED FOR REPLACEMENT OF EXISTING MAIN



OFFSITE SEWER LINE STA 0+00 TO STA 13+50



UP ENGINEERING + SURVEYING
11910 JONES MALTSBERGER, SUITE 102
SAN ANTONIO, TX 78216 TEL 210-774-5504
WWW.UPENGINEERING.COM TBPE F-17992
TBPELS C-01194605

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES

PREPARED UNDER THE SUPERVISION OF
RYAN R. PLAGENS, P.E. #111640 ON
April 23, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

SEWER OFFSITE OVERALL STA 1+00-STA 13+50

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET

---- OF 5

Date: Apr 16, 2025, 8:20am User ID: LJ Ramirez
File: U:_Projects\437 - Higdon Rd Empower\437\1\ACAD\Sheets\C4.2-4.3 SEWER OFFSITE OVERALL.dwg

WASTEWATER SHEET NOTES

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6. LOCATION OF EXISTING UTILITIES, SOME OF WHICH MAY NOT BE SHOWN, COULD IMPACT CONSTRUCTION MEANS AND METHODS. CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO BID AND CONSTRUCTION, AND SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES. THE CONTRACTOR TO CONTACT THE AREA "ONE CALL" SYSTEM @ 811, OR THE OWNER OF EACH INDIVIDUAL UTILITY FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS.
7. CONTRACTOR SHALL EXPOSE ALL EXISTING UTILITIES CROSSING PROPOSED GRAVITY LINES AND INSURE THERE WILL BE NO CONFLICT PRIOR TO BEGINNING CONSTRUCTION. ADDITIONALLY, CONTRACTOR TO PLAN UTILITY INSTALLATIONS IN A MANNER TO AVOID CONFLICTS WITH PROPOSED GRAVITY LINES.
8. THE SIZE AND LOCATION OF UTILITY STRUCTURES (IF SHOWN) MAY BE EXAGGERATED FOR GRAPHICAL CLARITY. THE SURVEY SHOWS FIELD MEASURED SIZES AND DEPTHS AS OBSERVED FROM GROUND LEVEL OPENINGS.
9. ON ALL GRAVITY LINES, CONTRACTOR MUST START AT DOWNSTREAM END AND PROCEED UPSTREAM TAKING CARE TO EXPOSE ALL EXISTING UTILITIES AND STRUCTURES WHICH MAY CONFLICT WITH THE PROPOSED LINE. ANY OTHER SEQUENCE OF CONSTRUCTION WILL BE AT THE CONTRACTOR'S RISK.
10. THERE ARE NO EXISTING HERITAGE TREES ON THE SITE.
11. ALL ITEMS ARE TO BE FURNISHED & INSTALLED BY CONTRACTOR. REFERENCE CONSTRUCTION DETAILS SHEETS FOR ADDITIONAL INFORMATION.
12. AFTER ALL WASTE WATER CONSTRUCTION HAS BEEN COMPLETED, FINAL STABILIZATION OF THE CONSTRUCTION AREA ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES SHALL BE COMPLETED BY EVENLY DISTRIBUTING SEEDING AND WATERING TO A MIN. 70% OF THE NATIVE BACKGROUND VEGETATIVE COVER.
13. ALL WASTE WATER MANHOLES SHALL BE CONSTRUCTION IN ACCORDANCE WITH THE SAWS SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION (LATEST EDITION).
14. ALL WASTE WATER PRECAST MANHOLES SHALL BE SUPPLIED BY A MANUFACTURER APPROVED BY SAWS.
15. CONTRACTOR SHALL PROVIDE MANUFACTURED STUB OUT CAP & PLUG TO MEET 30 TAC 213.5(3)(G) STANDARDS AND TO MEET ASTM D3034 SPECIFICATIONS UNLESS OTHERWISE NOTED.
16. ALL RESIDENTIAL WASTE WATER SERVICE LATERALS ARE 6" DIA. AND 35 FEET IN LENGTH UNLESS OTHERWISE NOTED.
17. ALL RESIDENTIAL WASTE WATER SERVICE LATERALS SHALL BE EXTENDED TO THE 10' E.G.T.C. AND CAPPED AND SEALED.
18. WASTE WATER LATERALS TO LOTS THAT SLOPE AWAY FROM THE STREET SHALL BE SLPED FROM THE TEE OR STACK AT 2% TO THE PROPERTY LINE.
19. ALL WASTE WATER PIPE TO BE SDR 26 PER ASTM D3034 SPECIFICATIONS UNLESS OTHERWISE NOTED. PIPE JOINTS TO BE SDR 26 PER ASTM D3139 SPECIFICATIONS.
20. ALL WASTE WATER LINES WHICH CROSS WATER LINES ARE TO HAVE A MINIMUM OF A SINGLE LENGTH OF SDR 26(AST D2241-09), PRESSURE RATED (150 PSI) PIPE, CENTERED ON THE WATERLINE SUCH THAT EACH WASTE WATER JOINT IS A MINIMUM OF NINE FEET FROM THE WATERLINE.
21. ALL SITE DIMENSIONS ARE TO FACE OF CURB, CENTER OF PIPE, CENTER OF STRIPING, AND PROPERTY LINE UNLESS OTHERWISE NOTED.
22. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN / GEOTECHNICAL / SAFETY/ EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS, SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
23. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE ENGINEER MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDON. THE ENGINEER FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THE ENGINEER HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.
24. REFERENCE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION ON DRAINAGE STRUCTURES & APPURTENANCES. CONTRACTOR TO REFER TO SAWS STANDARD DETAILS FOR ALL SAWS APPURTENANCES AND STRUCTURES.
25. CONTRACTOR TO REPAIR AND/OR REPLACE ALL DAMAGED SIDEWALKS AND CURBS AROUND SITE IN ACCORDANCE WITH THE CITY OF SAN ANTONIO STANDARD DETAILS AND SPECIFICATIONS.

LOWER EAST WATERSHED - DOS RIOS/ LEON CREEK

Developer: EMPOWER COMMUNITIES, LLC.
Address: 2900 NE 7TH AVE., UNIT 2705
City: MIAMI State: FLORIDA Zip: 33137
Phone: Fax:
SAWS Block Map: 196536 Total EDUs: 48 Total Acreage: N/A
Total Linear Footage of Pipe: 12" HDPE: 2,591 LF Plat No.: 23-11800137
Number of Lots: 48 SAWS Job No.: TBD

!! CAUTION !!

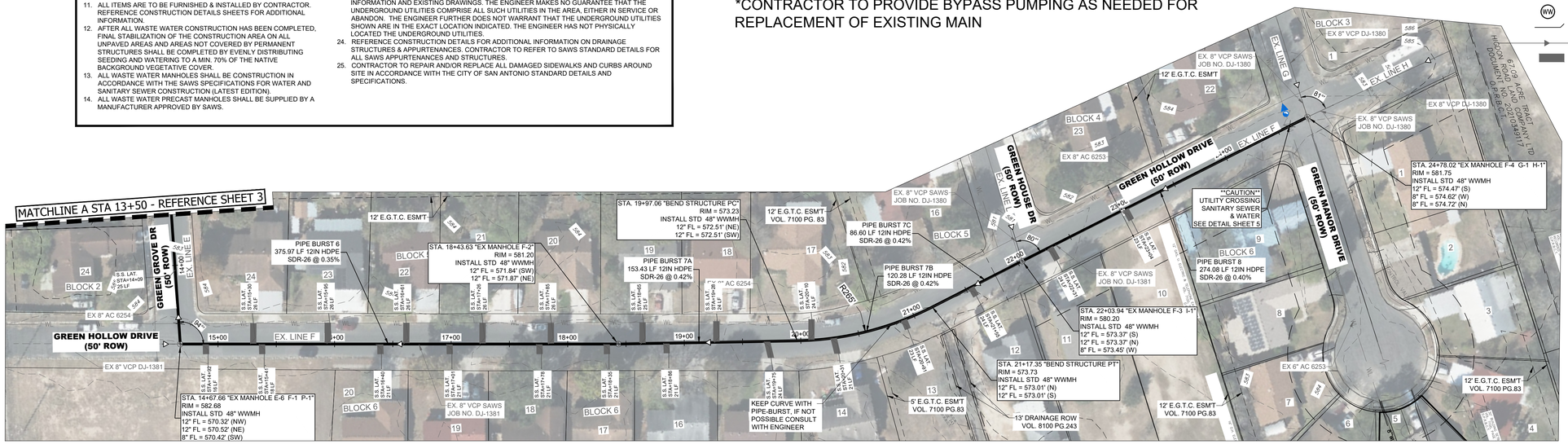
CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL EXISTING UTILITIES BY CALLING DIGTESS @ 1-800-DIG-TESS FOR LOCATION OF ALL UTILITIES, AT LEAST 2 WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION.

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- 102 EXIST. GRADE ELEVATIONS
- (102) PROP. GRADE ELEVATIONS
- W EXISTING WATER LINE
- W PROPOSED WATER LINE
- OE EXISTING OVERHEAD UTILITIES
- UE EXISTING UNDERGROUND ELECTRIC
- G EXISTING GAS LINE
- EXISTING UTILITY POLE
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- EXISTING GUY WIRE
- (WW) PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER LATERAL
- PROPOSED WASTEWATER LINE
- PAVEMENT REPLACEMENT

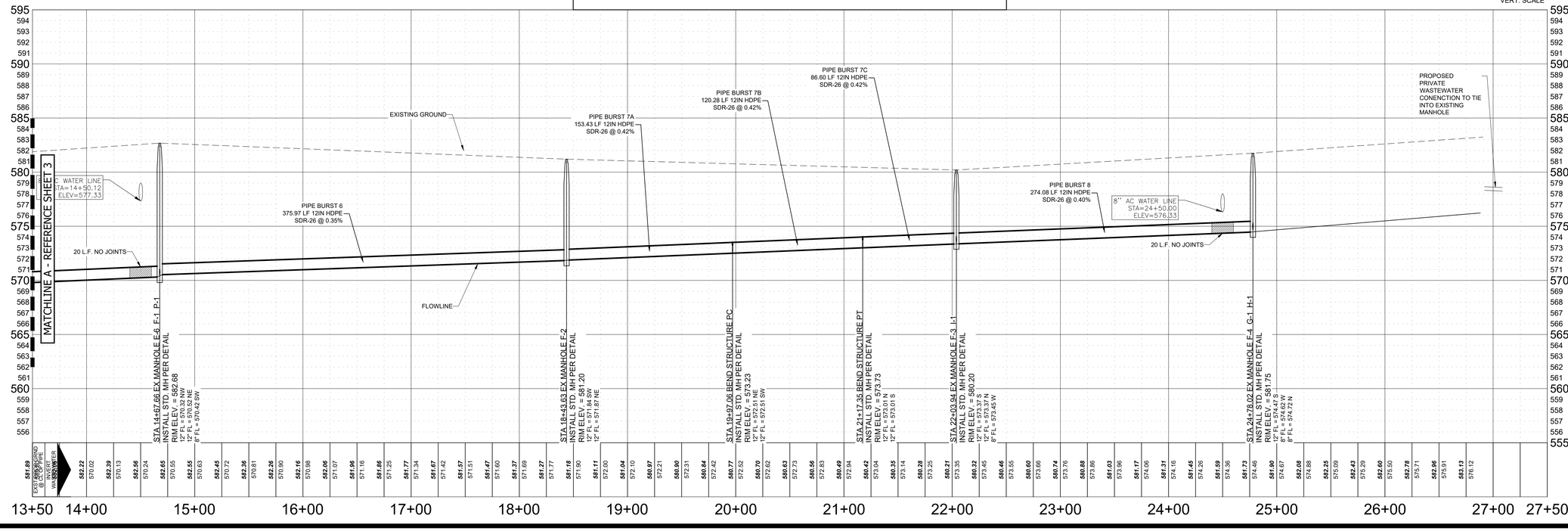
0 25' 50' 100'
SCALE 1" = 50'

*CONTRACTOR TO PIPE BURST EXISTING 8" VCP DJ-1380, DJ-1381 AND REPLACE WITH 12" HDPE
*CONTRACTOR TO MAINTAIN EXISTING SEWER LATERAL CONNECTIONS WITH NEW 12" MAIN
*CONTRACTOR TO PROVIDE BYPASS PUMPING AS NEEDED FOR REPLACEMENT OF EXISTING MAIN



0 2.5' 5'
SCALE: 1"=5' VERT. 1"=50' HORIZ.
VERT. SCALE

OFFSITE SEWER LINE STA 13+50 TO STA 27+50



UP ENGINEERING + SURVEYING
11903 JONES MALTSBERGER, SUITE 102
SAN ANTONIO, TX 78216 TEL 210-774-5504
WWW.UPENGINEERING.COM TBPE F-17992
TBPELS C-2019-6005

PRELIMINARY
NOT FOR CONSTRUCTION PURPOSES
PREPARED UNDER THE SUPERVISION OF RYAN R. PLAGENS, P.E. #111640 ON April 23, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

SEWER OFFSITE OVERALL STA 13+50-END

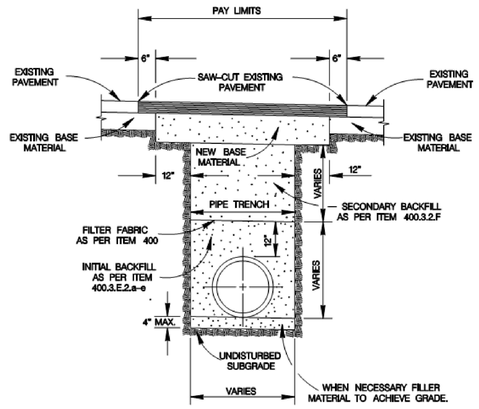
REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET

---- OF 5

Date: Apr 16, 2026, 8:20am User ID: LuisRamones
File: G:\...\Projects\1437-1\ACAD\Sheets\CK2-4.3 SEWER OFFSITE OVERALL.dwg



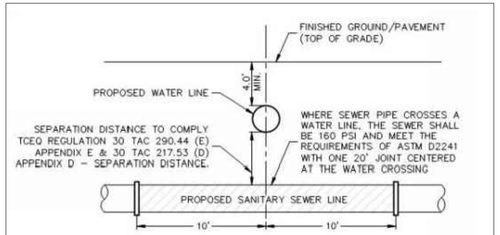
NOTES :
1. FOR LOCAL TYPE "A" & "B" STREETS (RESIDENTIAL) USE 6" ASPHALT CONCRETE BASE TYPE "B" WITH 1-1/2" TYPE "D" HOT MIX ASPHALTIC CONCRETE PAVEMENT.

2. FOR ARTERIAL & SECONDARY STREETS (COMMERCIAL) USE 12.5" TYPE "B" HOT MIX ASPHALTIC CONCRETE PAVEMENT LEVELING-UP COURSE & 1-1/2" TYPE "D" HOT MIX ASPHALTIC CONCRETE PAVEMENT SURFACE COURSE.

TYPICAL PAVEMENT REPLACEMENT

ITEM 511

SCALE : 1" = 4'



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT-TO-SCALE

UP
ENGINEERING
+ SURVEYING
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WWW.UPENGINEERING.COM TBPE F-17992
TBPELS F-10194605

PRELIMINARY

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PREPARED UNDER THE SUPERVISION OF:
RYAN R. PLAGENS
P.E. #111640 ON
April 23, 2025

SA DEVELOPMENT LLC
PO BOX 189
TAYLOR, MS 38673

VISTA MHC - SUBDIVISION
PLAT NO. 25-11800019

SEWER OFFSITE DETAILS

REV	DATE	DESCRIPTION	BY

DESIGNED BY: XXX
DRAFTED BY: XXX
CHECKED BY: XXX

SHEET

---- OF 5

Date: Apr 16, 2025, By:Tom Vann ID: LJ Ramirez
File: G:_Projects\437-1\ACAD\Sheets\C4.4 SEWER OFFSITE DETAILS.dwg