

(DEV NO. 2406)
 CITY OF MONTGOMERY, TEXAS
HILLS OF TOWN CREEK SECTION 5
 PUBLIC IMPROVEMENTS



CLIENT INFORMATION
 K. HOVARIAN HOUSTON DISTRICT, LLC
 13111 NW FWY, SUITE 200
 HOUSTON, TX 77040
 PROJECT ADDRESS
 EMMA'S WAY
 MONTGOMERY, TX 77356

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PROJECT NOTES

ENGINEER'S CERTIFICATION:
 I CERTIFY THAT THESE PLANS WHICH BEAR MY SEAL HAVE BEEN PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND ARE IN COMPLIANCE WITH ALL APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS. THE PROPOSED IMPROVEMENTS SHOWN IN THESE PLANS WILL NOT IMPEDE THE FLOW OF SURFACE WATERS FROM HIGHER ADJACENT PROPERTIES, WILL NOT ALTER THE NATURAL FLOW OF SURFACE WATERS SO AS TO DISCHARGE THEM UPON ADJACENT PROPERTIES AT A MORE RAPID RATE OR IN A DIFFERENT LOCATION, AND WILL NOT CONCENTRATE FLOWS OF SURFACE WATERS IN A MANNER WHICH EXCEEDS THE CAPACITY OF THE RECEIVING WATERCOURSE. THIS CERTIFICATION DOES NOT APPLY TO ANY EXISTING IMPROVEMENTS ON THE SUBJECT PROPERTY.

CITY OF MONTGOMERY BENCHMARKS:
 MONT 3 ELEV.=268.73'
 3" BRASS DISK LOCATED FROM THE INTERSECTION OF HWY 105 AND HWY 149, WEST ±4700' TO THE PARKING LOT OF THE HERITAGE HOUSE RESTAURANT, WHICH IS LOCATED ON THE NORTH SIDE OF HWY 105.

MONT 7 ELEV.=291.77'
 3" BRASS DISK IS LOCATED IN THE CENTER OF MONTGOMERY ON THE SOUTH SIDE OF HWY 105. MARK IS IN FRONT (NORTH) OF GAS PUMPING AREA OF BROOKSHIRE BROTHER'S GROCERY STORE, AS WELL AS ACROSS HWY 105 (SOUTH) FROM 'THE OLDE SCHOOL HOUSE.'

BENCHMARK:
 BRASS DISK IN CONCRETE ELEV.=314.12'
 EMMA'S WAY LOCATED NORTH 29°13'51" WEST, A DISTANCE OF 2.19' FROM THE COMMON CORNER OF LOTS 1 AND 2, BLOCK 1, THE HILLS OF TOWN CREEK, SOUTH 0124809'31" WEST, A DISTANCE OF 527.26 FEET FROM THE SOUTHWEST CORNER OF THE SUBJECT PROPERTY.

FLOODPLAIN:
 THIS SITE IS SITUATED IN ZONE "X" IN MONTGOMERY COUNTY, TEXAS ACCORDING TO FEMA MAP NUMBER 48339C0200G DATED AUGUST 18, 2014; THIS STATEMENT DOES NOT IMPLY THAT THE PROPERTY AND/OR THE STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. THIS DETERMINATION HAS BEEN MADE BY SCALING THE PROPERTY ON THE REFERENCED MAP AND IS NOT THE RESULT OF AN ELEVATION SURVEY. THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF THE SURVEYOR.

SURVEY NOTE:
 SURVEY PROVIDED BY CORE LAND SURVEYING DATED JANUARY 2022. CONTRACTOR TO VERIFY EXISTING CONDITIONS PRIOR TO ANY WORK AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

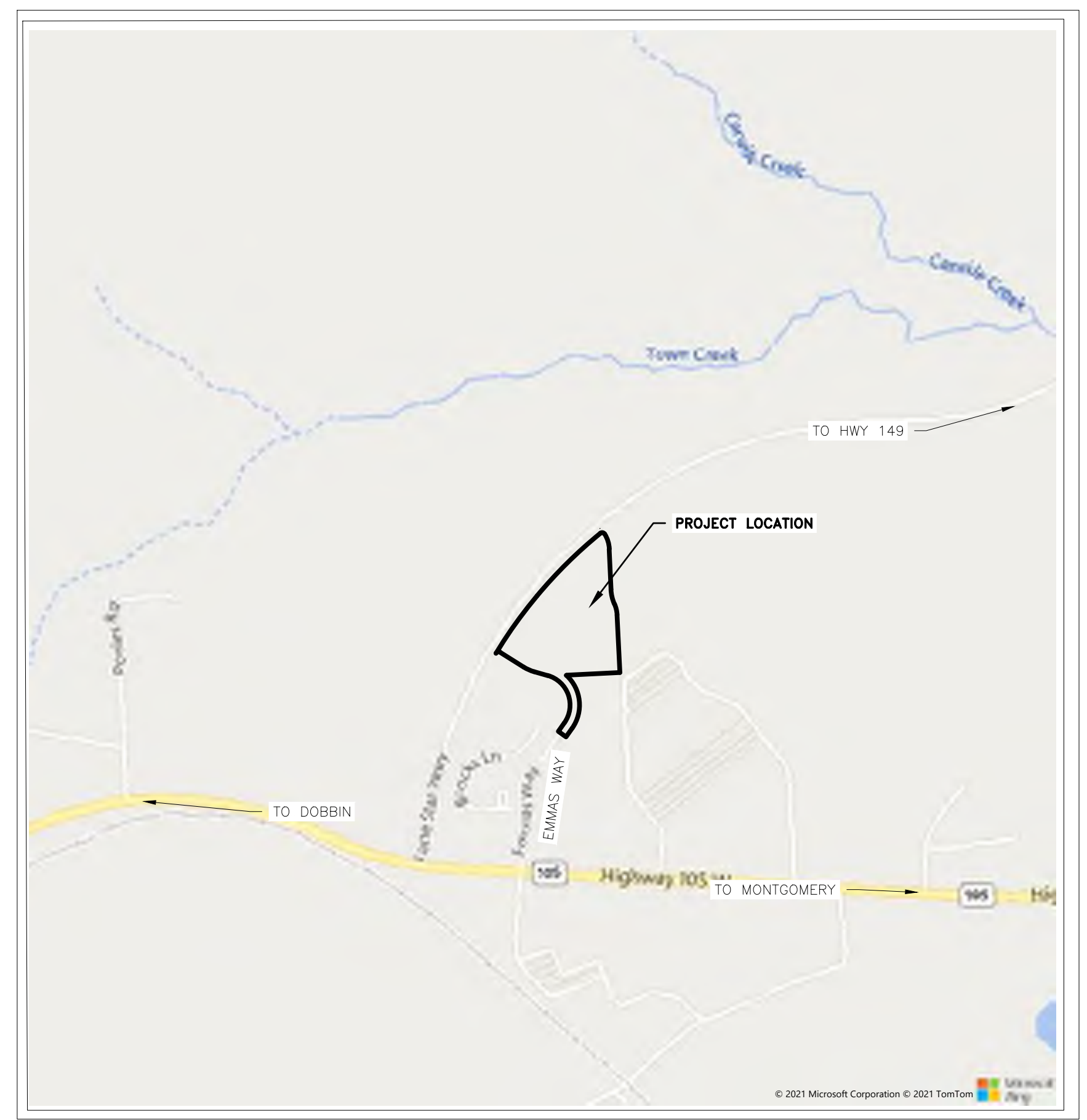
CIVIL NOTE:
 FIELD VERIFY ALL EXISTING CONDITIONS AND ELEVATIONS INCLUDING PAVEMENT AND UTILITY TIE-INS PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF ALL DISCREPANCIES PRIOR TO BEGINNING ANY WORK.

TDLR NOTE:
 TEXAS DEPARTMENT OF LICENSING AND REGISTRATION (TDLR) NUMBER REQUIRED FOR ALL PROPOSED COMMERCIAL BUILDINGS. **IF TDLR NUMBER IS NOT PRESENT, CLIENT IS RESPONSIBLE FOR ACQUIRING REGISTRATION NUMBER PRIOR TO CONSTRUCTION.

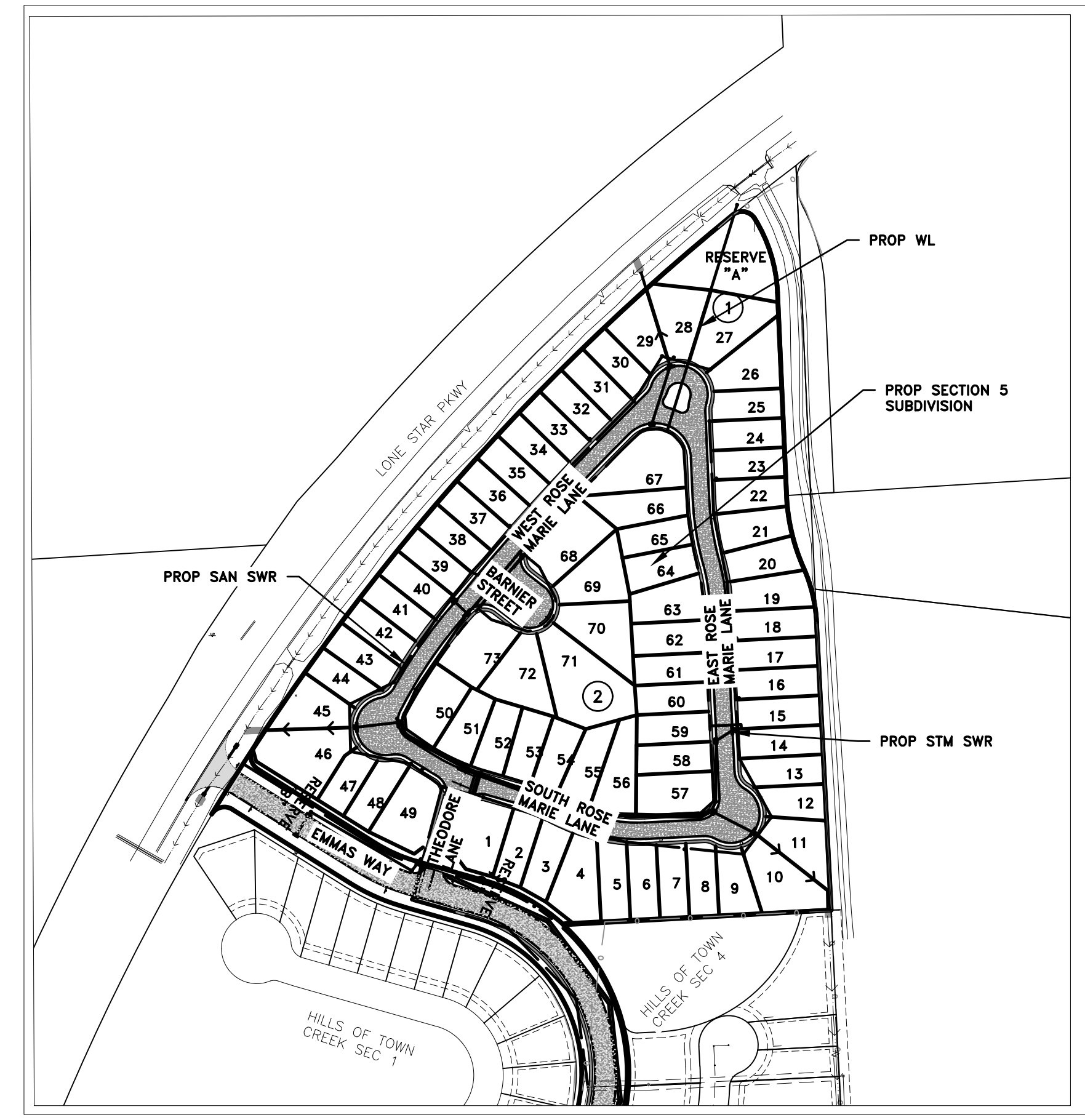
WETLAND NOTE:
 THESE PLANS WERE PREPARED WITHOUT THE BENEFIT OF AN ENVIRONMENTAL OR OTHER WETLANDS STUDY. L SQUARED ENGINEERING IS NOT AN ENVIRONMENTAL ENGINEERING FIRM AND DOES NOT HAVE THE ABILITY TO DETERMINE ENVIRONMENTAL OR WETLAND IMPACTS. THE CLIENT AND/OR OWNER SHALL BE RESPONSIBLE FOR ANY SUCH STUDY AND NOTIFY ENGINEER IF ANY RESULTING CHANGES ARE NEEDED PRIOR TO CONSTRUCTION.

LEGAL DESCRIPTION:
 THE HILLS OF TOWN CREEK SECTION 5, A SUBDIVISION OF 18.5001 ACRES (805,863 SQ. FT.), BENJAMIN RIGBY LEAGUE, ABSTRACT 31 MONTGOMERY COUNTY, TEXAS.

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KEY MAP 122U
 SCALE: 1" = 1,000'



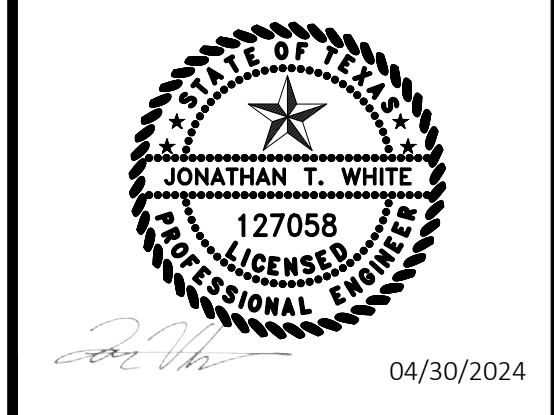
PROJECT MAP
 SCALE: 1" = 80'

CITY OF MONTGOMERY, CITY ENGINEER
 SIGNATURE VALID FOR ONE (1) YEAR

HILLS OF TOWN CREEK
 SECTION 5
 COVER SHEET

DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	04/30/24	JTW	FOR PERMIT

DRAWING INFORMATION			
PROJECT	10976	TDLR	**
DRAWN	GLH	CHECKED	JTW
SCALE	AS SHOWN	SHEET	01



*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE

L:\SHARED\L2 ENGINEERING PROJECTS\ENGINEERING PROJECTS\10976 - HOTCS - K HOVA\03 CAD\DESIGN SET\01 COVER SHEET.DWG Apr. 30, 2024--8:10 AM CAITLYN CURTIS

L:\SHARED\12 ENGINEERING PROJECTS\10876 - HORTCS - K HOVA\03 CAD\DESIGN SET\02 CONSTRUCTION NOTES.DWG Apr. 30, 2024 - 8:10 AM CANTLYN CURTIS

REFERENCE SPECIFICATIONS:

APPLICABLE ENTITY DETAILS & SPECIFICATIONS SHALL APPLY. WHEN NO SUCH INFORMATION EXISTS, CONTRACTOR SHALL THEN REFERENCE CITY OF MONTGOMERY DETAILS AND SPECIFICATIONS.

GENERAL CONSTRUCTION NOTES:

- 1. MATERIALS, CONSTRUCTION AND TESTING TO BE IN ACCORDANCE WITH THE GOVERNING ENTITY'S ORDINANCES AND SPECIFICATIONS, LATEST PRINTING AND AMENDMENTS THERETO.
2. CONTRACTOR TO OBTAIN ALL DEVELOPMENT AND CONSTRUCTION PERMITS REQUIRED BY ALL ENTITIES AT HIS EXPENSE PRIOR TO COMMENCEMENT OF WORK.
3. CONTRACTOR SHALL GIVE NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES OR RAILROADS AFFECTED BY HIS OPERATIONS 48 HOURS PRIOR TO COMMENCEMENT OF WORK IN STREET RIGHTS-OF-WAY OR EASEMENTS.
4. ALL EXISTING UNDERGROUND UTILITIES SHOWN ARE NOT GUARANTEED TO BE COMPLETED OR DEFINITE, BUT WERE OBTAINED FROM THE BEST INFORMATION AVAILABLE. CONTRACTOR HAS SOLE RESPONSIBILITY FOR FIELD VERIFICATION OF ALL EXISTING FACILITIES SHOWN ON DRAWINGS. CONTRACTOR SHALL COORDINATE ALL CONFLICTS WITH THE APPROPRIATE GOVERNING AGENCY.
5. THE LOCATION OF LUFKIN-COONROE TELEPHONE EXCHANGE OR AT&T COMPANY, ENTEX, AND ENERGY-GSU (GULF STATES UTILITIES) UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL REQUEST THE EXACT LOCATION OF THESE FACILITIES BY CALLING THE UTILITY COMPANIES, AT LEAST 48 HOURS BEFORE COMMENCING WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE WHICH OCCURS DUE TO HIS FAILURE TO REQUEST THE LOCATION AND PRESERVATION OF THESE UNDERGROUND FACILITIES. ANY DAMAGE TO EXISTING FACILITIES INCURRED AS A RESULT OF CONSTRUCTION OPERATIONS WILL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
6. TEXAS LAW ARTICLE 1436C, PROHIBITS ALL ACTIVITIES IN WHICH PERSONS OR EQUIPMENT MAY COME WITHIN 6 FEET OF ENERGIZED OVERHEAD POWER LINES, AND FEDERAL REGULATION, TITLE 29, PART 1910.130(1) AND PART 1926.440 (A) (15) REQUIRE A MINIMUM CLEARANCE OF 10 FEET FROM THESE FACILITIES. THE ABOVE LAWS CARRY BOTH CRIMINAL AND CIVIL LIABILITIES, WITH CONTRACTORS AND OWNERS BEING LEGALLY RESPONSIBLE FOR THE SAFETY OF WORKERS UNDER THESE LAWS. IF YOUR OR YOUR COMPANY MUST WORK NEAR ENERGIZED OVERHEAD POWER LINES, CALL THE POWER COMPANY FOR THE LINES TO BE DE-ENERGIZED AND/OR MOVED AT YOUR EXPENSE.
7. CONSTRUCTION SHALL COMPLY WITH THE LATEST REVISIONS OF OSHA REGULATIONS AND STATE OF TEXAS LAW CONCERNING TRENCHING AND SHORING. CONTRACTOR SHALL PROVIDE A TRENCH SAFETY SYSTEM TO MEET, AS A MINIMUM, THE REQUIREMENTS OF OSHA SAFETY AND HEALTH REGULATION, PART 1926, SUB-PART P AS PUBLISHED IN THE FEDERAL REGISTER, VOLUME 54, NO. 209, DATED OCTOBER 31, 1989.
8. DETAILS SHOWN DO NOT EXTEND OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS INCLUDING THE PLANS AND SPECIFICATIONS REQUIRED BY CHAPTER 756, SUBCHAPTER "C" OF THE TEXAS HEALTH AND SAFETY CODE.
9. CONTRACTOR SHALL COVER OPEN EXCAVATIONS WITH ANCHORED STEEL PLATES DURING NON-WORKING HOURS, ALONG EXISTING ROADWAYS AND TRAFFIC AREAS.
10. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE GOVERNING ENTITY. ALL CONSTRUCTION RUNOFF SHALL COMPLY WITH STORM WATER MANAGEMENT FOR CONSTRUCTION ACTIVITIES AND THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE FLAGMEN, SIGNING, STRIPING AND WARNING DEVICES, ETC., DURING CONSTRUCTION IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OF TRAFFIC IN EACH DIRECTION DURING WORKING HOURS OR PROVIDE ALL-WEATHER DETOURS AROUND CONSTRUCTION SITE, PROVIDE PUBLIC NOTIFICATION, AND USE UNIFORMED POLICE OFFICERS TO CONTROL TRAFFIC.
12. EXISTING PAVEMENTS, CURBS, SIDEWALKS AND DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO THE GOVERNING ENTITY'S STANDARDS. ALL ASPHALT AND CONCRETE DRIVEWAYS EXCAVATED DURING CONSTRUCTION SHALL BE BACKFILLED WITH STABILIZED MATERIAL AND RETURNED TO EXISTING CONDITIONS. ALL STATE AND COUNTY HIGHWAY PAVEMENT AND RAILROAD RIGHT-OF-WAYS TO BE BORED ACCORDING TO THE RULES, REGULATIONS AND REQUIREMENTS FOR APPROVAL AND ACCEPTANCE BY SAID AGENCIES.
13. EXISTING ROADS AND/OR RIGHT-OF-WAYS DISTURBED DURING CONSTRUCTION SHALL BE AS GOOD OR BETTER THAN THE CONDITION PRIOR TO STARTING THE WORK, UPON COMPLETION OF THE PROJECT.
14. AFTER DISTURBED AREAS HAVE BEEN COMPLETED TO THE LINES, GRADES, AND CROSS-SECTIONS SHOWN ON THE PLANS, SEEDING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS TO ESTABLISH ADEQUATE VEGETATION COVERAGE TO ELIMINATE EROSION. IF NO PROVISION FOR SEEDING IS INCLUDED IN THE PLANS OR SPECIFICATIONS, THE MINIMUM REQUIREMENT FOR THIS ITEM WILL BE IN ACCORDANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR "SOODING OR SEEDING FOR EROSION CONTROL."
15. ALL TRENCHES, INCLUDING TRENCHES FOR LEADS AND STUBS UNDER PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL CURBS SHALL BE BACKFILLED WITH CEMENT STABILIZED SAND AS PER SPECIFICATION TO A POINT IMMEDIATELY BELOW THE SUBGRADE. TRENCHES OTHER THAN UNDER PAVEMENT SHALL BE BACKFILLED WITH SUITABLE EARTH MATERIAL IN 6 INCH LAYERS AND MECHANICALLY COMPACTED TO A DENSITY OF NOT LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR COMPACTION TEST (ASTM DESIGNATION D-698/AASHTO 199). MOISTURE CONTENT OF BACKFILL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CEMENT STABILIZED SAND SPECIFICATIONS. SEE GOVERNING ENTITY'S STANDARD DETAIL SHEETS FOR BEDDING AND OTHER DESIGN REQUIREMENTS.
16. CONTRACTOR TO REMOVE EXISTING PLUGS AND CONNECT TO EXISTING UTILITY LINES AS INDICATED ON PLANS.
17. UNLESS OTHERWISE NOTED ON PLANS, WHERE MANHOLES ARE LOCATED WITHIN THE UTILITY EASEMENTS, THE CONTRACTOR SHALL SET RIM ELEVATIONS TWO INCHES ABOVE FINISHED GROUND ELEVATIONS.
18. WHEN TRENCH CONDITION REQUIRES THE USE OF WELL POINTS, THIS TO BE REQUESTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
19. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING THE MUD AND/OR DIRT DEPOSITED ON EXISTING PAVEMENT DUE TO HIS CONSTRUCTION ACTIVITY DAILY. ALL EQUIPMENT AND DEBRIS FROM CONSTRUCTION TO BE MOVED AT END OF PROJECT.

SANITARY SEWER CONSTRUCTION NOTES:

- 1. SANITARY SEWERS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST SPECIFICATIONS FOR SEWER CONSTRUCTION, AND TESTED AS SPECIFIED FROM THE LATEST TEST PROCEDURE FOR EITHER LIQUID OR AIR, INCLUDING ALL AMENDMENTS AND REVISIONS THERETO. BACKFILL AND BEDDING FOR SANITARY SEWERS MUST MEET ALL MINIMUM ASPECTS OF ASTM D-2321 AND MUST BE PLACED IN ACCORDANCE WITH THE APPLICABLE ENTITY'S SPECIFICATIONS.
2. ALL SANITARY SEWER MANHOLES SHALL BE STANDARD THE APPLICABLE ENTITY PRE-CAST USING RAIN-NECK OR CAST IN PLACE CONCRETE IN ACCORDANCE WITH ASTM C-478. NO BRICK MANHOLES ALLOWED. FOR PVC PIPE, USE MANHOLE WATER STOP GASKET AND CLAMP ASSEMBLY AT MANHOLE CONNECTIONS. SANITARY SEWER MANHOLE RIMS SHALL BE 3 INCHES ABOVE NATURAL GROUND. BACKFILL SHALL BE ADDED AND SLOPED AWAY FROM THE MANHOLE RIM FOR DRAINAGE PURPOSES.
3. MANHOLE CONCRETE BOTTOM FOUNDATION SHALL BE 12" REINFORCED WITH #5 BARS AT 12" ON CENTERS, EACH WAY, WITH A MINIMUM OF 6" EXTRA SLAB LENGTH AROUND THE MANHOLE, IF POURED IN PLACE APPROVED DETACHALS SHALL BE USED FOR PATCHING AROUND MANHOLE JOINTS. MORTAR CEMENT WILL NOT BE ACCEPTED.
4. SANITARY SEWER PIPE SHALL BE PVC SDR 26 OR PVC SDR 35 (WITH APPROVAL), IN ACCORDANCE WITH ASTM SPECIFICATIONS D-3034, FOR 4" THROUGH 18" AND ASTM F-879 FOR 18" THROUGH 27". MINIMUM SIZE SANITARY SEWER MAIN IS 6". SDR 35 MAY BE USED WHEN DEPTH IS MORE THAN 3 FEET AND LESS THAN 6 FEET.
5. SEWER LINES SHALL BE LOCATED ON THE OPPOSITE SIDE OF THE STREET FROM WHERE WATER IS LOCATED. SEWER LINE AND WATER LINE SEPARATION SHALL BE IN ACCORDANCE WITH TEXAS NATURAL RESOURCE CONSERVATION COMMISSION RULES, CHAPTER 317.13 APPENDIX E.
6. NO SEWER PIPE SHALL BE LAID ON AN UNSTABLE FOUNDATION. SELECTED MATERIAL SHALL BE USED AND/OR WET SAND CONSTRUCTION DETAILS, WHICHEVER APPLIES IN THE OPINION OF THE ENGINEER. NO PIPE SHALL BE COVERED WITHOUT APPROVAL OF THE ENGINEER OR HIS REPRESENTATIVE. SANITARY SEWERS CONSTRUCTED IN WET SAND SHALL HAVE A SPECIAL PROCEDURE AND SHALL BE CONSTRUCTED AS PER THE APPLICABLE ENTITY STANDARDS.
7. WHEN THE NATURAL GROUND LEVEL AROUND MANHOLE LIES BELOW THE 100 YEAR FLOODPLAIN ELEVATION, THE MANHOLE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SEALED AND VENTED MANHOLE DETAIL.
8. A DEFLECTION TEST SHALL BE REQUIRED AFTER THE BACKFILL HAS BEEN IN PLACE A MINIMUM OF 30 DAYS. THIS TEST SHALL BE DONE BY PULLING A HAND LINE WITH AN ATTACHED MANDREL FROM MAN-HOLE TO MANHOLE. THE MANDREL SHALL HAVE AN OUTSIDE DIAMETER THAT IS AT LEAST 95% OF THE ORIGINAL INSIDE DIAMETER OF THE PIPE. MANDREL TO BE MANUFACTURED WITH A MINIMUM OF SEVEN (7) RUNNERS, WITH EACH RUNNER BEING A MINIMUM OF 5 INCHES LONG. ANY PIPE NOT MEETING EST REQUIREMENTS TO BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.

- 9. INFILTRATION/EXFILTRATION NOT TO EXCEED 200 GALLONS PER INCH DIAMETER PER MILE OF PIPE FOR 24 HOURS UNDER A MINIMUM OF 2 FEET OF HEAD, OR AN AIR TEST SHALL BE REQUIRED IN ACCORDANCE WITH ASTM C-828.
10. WHERE A SEWER LINE HAS LESS THAN (2) FEET OF COVER, PROVIDE CEMENT STABILIZED SAND BACKFILL MATERIAL.
11. CONTRACTOR SHALL KEEP RECORD OF LOCATION OF ALL STACKS, STUBS, SEWER LEADS, ETC. THE AS-BUILT MYLAR DRAWINGS MUST SHOW THE EXACT LOCATION.
12. IF SANITARY SERVICE LEADS ARE INSTALLED DURING CONSTRUCTION OF MAIN LINE, ALL LEADS TO HAVE A MINIMUM SLOPE OF 0.70% OR GREATER. ALL PVC LEADS TO BE THE SAME MATERIAL AS MAIN LINE. ALL DOUBLE SERVICE LEADS TO HAVE WYE LOCATED ON THE END OF THE LEAD. ALL SINGLE SERVICE LEADS TO BE 4 INCH, AND ALL DOUBLE SERVICE LEADS TO BE 6 INCH.
13. THE INSTALLATION OF ALL SANITARY SEWER LINES SHALL EXTEND ALONG THE ENTIRE LENGTH OF THE PROPERTY TO BE SERVED. SANITARY SEWER LINES THAT DEAD END SHALL EXTEND TO THE PROJECT LIMITS FOR FUTURE EXTENSIONS, WITH DEPTHS BASED ON ENTIRE SERVICE AREA.
STORM WATER QUALITY NOTES:
1. IF THE PROJECT DISTURBS 10 ACRES, COVERAGE IS REQUIRED UNDER THE TPDES GENERAL PERMIT TXR150000 FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION, INSPECTION, AND MAINTENANCE OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. THE COSTS TO IMPLEMENT, INSPECT, AND MAINTAIN THE SWPPP SHALL BE CONSIDERED INCIDENTAL TO THE SWPPP BID ITEMS.
2. IF THE PROJECT DISTURBS GREATER THAN 5 ACRES, A NOTICE OF INTENT (NOI) SHALL BE SUBMITTED TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) AT LEAST 7 DAYS PRIOR TO THE START OF ANY EARTH DISTURBING ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TCEQ COMPLIANCE, PLAN IMPLEMENTATION AND MAINTENANCE DURING CONSTRUCTION. WHEN DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PROVIDE A COPY OF THE CONTRACTOR'S NOTICE OF INTENT (NOI) AND PROOF THAT IT HAS BEEN SENT TO THE TCEQ.
3. COPIES OF THE CONTRACTOR'S NOI AND CONSTRUCTION SITE NOTICE (CSN) SHALL BE POSTED AT THE SITE BY THE CONTRACTOR. COPIES SHALL ALSO BE SUBMITTED TO THE PROJECT OWNER AND ENGINEER. THE CONTRACTOR SHALL LAMINATE AND POST THE TWO NOIS, TWO CSNS AND ANY "SECONDARY OPERATOR" CSNS ON THE PROJECT SITE AT A LOCATION WITH EASY ACCESS TO THE PUBLIC FOR CLEAR VIEWING AND AS APPROVED BY THE ENGINEER. THE COST OF LAMINATION AND POSTING OF THE NOIS & CSNS SHALL BE CONSIDERED INCIDENTAL TO THE SWPPP BID ITEMS.
4. UPON COMPLETION OF CONSTRUCTION ACTIVITIES AND FINAL STABILIZATION OF THE SITE, AS DEFINED BY THE TPDES GENERAL PERMIT, A NOTICE OF TERMINATION (NOT) IS REQUIRED TO BE SUBMITTED TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ), WHEN DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE A COPY OF THE CONTRACTOR'S NOTICE OF TERMINATION (NOT) AND PROOF THAT IT HAS BEEN SENT TO THE TCEQ.
5. A RAIN GAUGE SHALL BE KEPT ON THE PROJECT SITE OR WITHIN THE IMMEDIATE PROJECT VICINITY. RECORDS OF RAINFALL EVENTS SHALL BE KEPT BY THE CONTRACTOR TO ASSIST WITH DETERMINING IF AN SWPPP SITE INSPECTION IS REQUIRED. THE COSTS FOR THE RAIN GAUGE SHALL BE CONSIDERED INCIDENTAL TO THE SWPPP BID ITEMS.
6. THE SWPPP, INSPECTION & MAINTENANCE REPORTS, CERTIFICATIONS, RAINFALL RECORDS, MAJOR GRADING DATE RECORDS AND TEMPORARY AND PERMANENT STABILIZATION DATE RECORDS SHALL BE KEPT CURRENT BY THE CONTRACTOR AND IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS. COPIES OF THE ALL SWPPP RECORDS SHALL BE KEPT ON-SITE, IF FEASIBLE, UNTIL THE NOTICE OF TERMINATION HAS BEEN SUBMITTED TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY. THE SWPPP RECORDS SHALL BE MADE READILY AVAILABLE TO ENGINEER AND REGULATORY AUTHORITIES UPON AN ON-SITE INSPECTION. THE CONTRACTOR SHALL DELIVER COPIES OF ALL SWPPP RECORDS TO PROJECT OWNER AND ENGINEER AS DIRECTED BY THE ENGINEER.

STORM SEWER NOTES:

- 1. STORM SEWER AND LEADS SHALL BE REINFORCED CONCRETE PIPE, ASTM C-76, CLASS III, WITH 0-RING RUBBER GASKET JOINTS, AND SHALL BE INSTALLED, BEDDED AND BACKFILLED IN ACCORDANCE WITH THE GOVERNING ENTITY'S STANDARDS AND SPECIFICATIONS.
NOTE: HDPE PIPE MAY BE USED PROVIDED THAT IT IS BACKFILLED WITH CEMENT STABILIZED SAND (2 SACKS CEMENT/TON), OR OTHER BACKFILL MATERIALS THAT HAVE BEEN APPROVED BY THE GOVERNING ENTITY. SEE NOTES BELOW.
2. ALL PROPOSED PIPE STUB OUTS FROM MANHOLES OR INLETS ARE TO BE PLUGGED WITH 8 INCH BRICK WALLS UNLESS OTHERWISE NOTED.
3. ALL BOX CULVERTS INSTALLED SHALL BE PLACED ON A MINIMUM OF 6 INCHES OF CEMENT STABILIZED SAND (CEMENT STABILIZED SAND SHALL BE 1/3 SACK CEMENT PER TON), FOR INSTALLATION OF PRE-CAST CONCRETE BOX CULVERTS IN POOR SOIL CONDITIONS, A 7 INCH REINFORCED CONCRETE SLAB SHALL BE INSTALLED. FOR INSTALLATION OF MONOLITHIC REINFORCED CONCRETE BOX CULVERTS IN POOR SOIL CONDITIONS, A 4 INCH THICK CLASS "C" CONCRETE SEAL SLAB SHALL BE INSTALLED, PRIOR TO CONSTRUCTION OF BOX CULVERTS.
4. STORM SEWER MANHOLES SHALL BE STANDARD PRE-CAST, UNLESS OTHERWISE NOTED.
5. ALL INLETS TO BE TO THE DETAIL SPECIFICATIONS SHOWN IN THE PLANS OR APPROVED EQUAL OR UNLESS OTHERWISE STATED ON PLANS. INLETS TO BE STANDARD DEPTH UNLESS OTHERWISE NOTED.
6. ALL STORM SEWER LEADS SHALL BE 18 INCH MINIMUM UNLESS OTHERWISE INDICATED. GRADE DROP ON LEADS BETWEEN INLETS TO BE A MINIMUM OF 0.20 FOOT. GRADE DROP BETWEEN INLET AND MANHOLES TO BE 0.20 FOOT UNLESS OTHERWISE SHOWN. WHEN MANHOLE FRAME AND COVER IS REQUIRED, USE EAST JORDAN 24" FRAME AND COVER (OR EQUAL).
9. FOR ADJUSTMENT OF MANHOLE LIDS USE STANDARD CONCRETE RINGS.
10. CONCRETE USED FOR ALL POURED-IN-PLACE MANHOLES, INLETS, WINGWALLS, HEADWALLS AND OTHER APPURTENANCES TO BE CLASS "A" CONCRETE WITH 3,000 P.S.I. STRENGTH AT 28 DAYS.
11. ALL EXPOSED CORNERS TO BE CHAMFERED 3/4".
12. OTHER BACKFILL MATERIALS MAY BE USED BASED ON THE GEOTECHNICAL REPORT OR PER HDPE SPECIFICATIONS. BACKFILL MUST BE USED WITH APPROPRIATE COMPACTION.
13. SEE MANUFACTURERS SPECIFICATIONS FOR THE USE OF HIGH DENSITY POLYETHYLENE PIPE FOR STORM DRAINS FOR SPECIFIC TECHNICAL INFORMATION.

WATER CONSTRUCTION NOTES:

- 1. CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING TO WITHSTAND TEST PRESSURE AS SPECIFIED IN THE APPLICABLE ENTITY STANDARD DRAWINGS AND REQUIREMENTS FOR WATER MAIN CONSTRUCTION AND MATERIALS.
2. PRIOR TO INSTALLATION OF WATER METER, WATER METER LEAD OR UNMETERED FIRE SPRINKLER LINE, THE CONTRACTOR SHALL CONTACT THE PERMIT DIVISION.
3. PRIOR TO WATER MAIN CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE GOVERNING ENTITY'S ENGINEER AND COMPLY WITH ALL REQUIREMENTS NECESSARY FOR THE ISSUANCE OF A WORK ORDER FOR THE WATER MAIN CONSTRUCTION.
4. SEPARATION DISTANCES FOR ALL WATER MAIN AND SANITARY SEWER MAIN CONSTRUCTION SHALL BE GOVERNED BY THE TEXAS NATURAL RESOURCES CONSERVATION COMMISSION RULES AND REGULATIONS FOR DESIGN CRITERIA FOR SEWERAGE SYSTEMS", SECTION 317.20, LATEST PRINTING. REFER TO THE APPLICABLE ENTITY DESIGN MANUAL WATER MAIN DESIGN REQUIREMENTS.
5. TWELVE-INCH (12") AND SMALLER MAINS SHALL HAVE A MINIMUM COVER OF FOUR FEET (4') FROM THE TOP OF THE CURB OR FIVE FEET (5') FROM THE MEAN ELEVATION OF THE BOTTOM OF THE NEARBY DITCH AND NEARBY RIGHT-OF-WAY ELEVATION FOR OPEN DITCH SECTIONS.
6. MAINS LARGER THAN TWELVE-INCHES (12") SHALL HAVE A MINIMUM COVER OF FIVE FEET (5') FROM THE TOP OF THE CURB OR SIX FEET (6') FROM THE MEAN ELEVATION FOR OPEN DITCH SECTIONS.
7. ALL WATER MAINS SHALL BE HYDROSTATICALLY TESTED BEFORE BACTERIOLOGICAL TESTING IN ACCORDANCE WITH AWWA STANDARD C-600.
8. ALL WATER PIPING SHALL BE DISINFECTED AND BACTERIOLOGICALLY TESTED PRIOR TO USE IN ACCORDANCE WITH AWWA STANDARD C-601.
9. ALL WATER MAINS 4" THROUGH 12" SHALL BE C-900 (SDR-18). ALL WATER MAINS 14" THROUGH 36" SHALL BE C-905 (SDR-18).
10. PRIOR TO BACKFILLING OF ALL UNDERGROUND WATER LINES, INSTALL A CONTINUOUS #14 COPPER TRACER WIRE, LOCATED DIRECTLY OVER BURIED LINES AND ACCESSIBLE AT EACH VALVE STACK.
11. THE INSTALLATION OF ALL WATER LINES SHALL EXTEND ALONG THE ENTIRE LENGTH OF THE PROPERTY TO BE SERVED. WATER LINES THAT DEAD END SHALL EXTEND TO THE PROJECT LIMITS FOR FUTURE

EXTENSIONS:

PAVING NOTES:

- 1. IF PROPOSED SEMI-RIGID BASE WITH 2 INCH TYPE "D" HOT MIX ASPHALTIC CONCRETE SURFACING, FOR URBAN ESTATES ONLY, SEMI-RIGID BASE MAY BE 7 INCH CEMENT STABILIZED SHELL, 8 INCH CRUSHED LIMESTONE, OR 6 INCH HOT MIX ASPHALTIC CONCRETE.
2. EXPOSE 15 INCHES OF REINFORCING STEEL AT ALL PROPOSED SAWED JOINTS. IF NO REINFORCING STEEL EXISTS, USE HORIZONTAL DOWELS PER NOTE #4.
3. REQUIRE A ONE (1) INCH REDWOOD EXPANSION BOARD OR PRE-MOLDED NON-EXTRUDING JOINT BETWEEN SIDEWALK AND BACK OF CURB.
4. HORIZONTAL DOWELS SHALL BE NO. 6 BARS, 24 INCHES LONG, DRILLED AND EMBEDDED 8 INCHES INTO THE CENTER OF THE EXISTING SLAB WITH "PO ROC" OR EQUAL. DOWELS SHALL BE 24 INCHES CENTER TO CENTER UNLESS OTHERWISE SPECIFIED.
5. WHEN PROPOSED PAVEMENT ENDS AT A CONSTRUCTION JOINT LEAVE 15 INCHES OF REINFORCING STEEL EXPOSED BEYOND PAVEMENT COAT WITH ASPHALT, AND WRAP WITH BURLAP FOR FUTURE PAVEMENT TIE-IN. AT EXPANSION JOINTS, EXTEND DOWELS 5 INCHES; COAT AND WRAP SAME AS CONSTRUCTION JOINTS.
6. WHEREVER A SIDEWALK IS REQUIRED BY GOVERNING ENTITY'S ORDINANCE, PROVIDE WHEELCHAIR RAMP AND/OR SIDEWALKS IN ACCORDANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD WHEELCHAIR RAMP AND SIDEWALK DETAILS".
7. ADJUST EXISTING MANHOLE FRAMES AND COVERS TO FIT NEW GRADE.
8. ADJUST EXISTING WATER VALVE BOXES TO NEW PAVING GRADE. REPLACE ALL MISSING OR DAMAGED VALVE BOXES AND COVERS.
9. PLACE WHITE OR YELLOW PLASTIC MARKER OR PAINT AS SHOWN BY THE UNIFORM TRAFFIC MANUAL FOR PAVEMENT MARKINGS.
10. PROVIDE A CONCRETE PAVING HEADER AT THE END OF THE PAVEMENT.
11. T. C. INDICATES TOP OF CURB ELEVATION AND T. P. INDICATES TOP OF PAVEMENT ELEVATION.
12. CURB RADI AT STREET INTERSECTIONS TO BE 24.50 FEET TO BACK OF CURB WITH A MINIMUM OF ONE (1) PERCENT GRADE UNLESS OTHERWISE NOTED.
13. GUIDELINES SET FORTH IN THE "TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" WILL BE OBSERVED.
14. TRANSVERSE EXPANSION JOINTS SHALL BE INSTALLED AT ALL RADIUS RETURNS AND AT A MAXIMUM SPACING OF 60 FOOT INTERVALS.
15. CONTRACTOR WILL USE CONTINUOUS LONGITUDINAL REINFORCING BARS IN CURBS AS SHOWN ON DETAILS PROVIDED IN CONSTRUCTION DRAWINGS.
16. CYLINDER COMPRESSION TEST OR BEAM FLEXURAL TEST SHALL BE REQUIRED. TWO SAMPLES SHALL BE TAKEN FOR EACH 100 CUBIC YARDS OF CONCRETE POURED. FOR SMALLER QUANTITIES, TWO SAMPLES SHALL BE TAKEN REGARDLESS OF THE AMOUNT OF CONCRETE POURED EACH DAY. CONCRETE SHALL HAVE 5 SACKS CEMENT PER CUBIC YARD AND A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI IN 28 DAYS OR A MINIMUM FLEXURAL STRENGTH OF 600 PSI IN 28 DAYS. NO TRAFFIC SHALL BE ALLOWED ON CONCRETE FOR 28 DAYS. IF EXTRA TESTS ARE MADE 75% OF THE 28 DAY STRENGTH IS ACHIEVED THE GOVERNING ENTITY'S ENGINEER MAY ALLOW TRAFFIC ON THE PAVEMENT IF IT DEEMS NECESSARY.
17. PRIOR TO PLAN APPROVAL, A CERTIFIED LAB SHALL DETERMINE THE PERCENTAGE OF CEMENT CONTENT FOR SUBGRADE STABILIZATION IN SANDY SOILS WITH P.I. LESS THAN 10 TO OBTAIN A COMPRESSIVE STRENGTH OF 400 PSI IN 28 DAYS. THE LAB SHALL ALSO DETERMINE THE PERCENTAGE OF LIME CONTENT FOR SUBGRADE STABILIZATION IN CLAY SOILS WITH A P.I. GREATER THAN 20. ALL STREETS SHALL BE TESTED EVERY 200 FEET AND SUBGRADE SHALL BE STABILIZED UNLESS THE LAB CERTIFIES THE P.I. TO BE BETWEEN 10 AND 20 AND THAT STABILIZATION IS NOT NEEDED.
18. A CONCRETE MIX DESIGN BY THE CERTIFIED LAB SHALL BE SUBMITTED TO AND APPROVED BY THE GOVERNING ENTITY'S ENGINEER BEFORE ANY CONCRETE IS POURED.
19. A MINIMUM OF TWO (2) COMPACTION TESTS SHALL BE PERFORMED A MAXIMUM DISTANCE OF 500 FEET, AND FOR EACH 2'-6" MAXIMUM THICK LAYERS OF FILL. IN AREAS WHERE NO FILL IS REQUIRED, TWO (2) SAMPLES SHALL BE TAKEN AT A MAXIMUM DISTANCE OF 500 FEET. ADDITIONAL TESTING SHALL BE PERFORMED IF SEEN NECESSARY BY THE ENGINEER. NO ADDITIONAL LAYERS OF FILL SHALL BE MADE WITHOUT HAVING THE LAB'S WRITTEN APPROVAL OF COMPLETED LAYERS. PROOF ROLLING SHALL BE REQUIRED BY THE INSPECTOR ON EACH LAYER PLACED AND ANY "PUMPING" AREAS SHALL BE REMOVED IMMEDIATELY AND REPLACED OR STABILIZED AND RE-COMPACTED TO A PASSING DENSITY.
20. CONSTRUCTION OF ITEMS THAT ARE NOT SPECIFICALLY ADDRESSED TO BE IN ACCORDANCE WITH THE TEXAS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS (LATEST REVISION).
21. RIGHT-OF-WAY SHALL BE SLOPED FROM THE PROPERTY TO THE TOP OF CURB AND HYDROMULCHED OR SODDED BEFORE FINAL ACCEPTANCE BY THE GOVERNING ENTITY TO CONTROL EROSION INTO THE STREET AND STORM SEWER.
22. MEMBRANE CURING TYPE 2, WHITE PIGMENTED, SHALL BE USED FOR CURING ALL CONCRETE SURFACES IMMEDIATELY AFTER FINISHING OF SURFACES AND SHALL BE IN ACCORDANCE WITH THE TEXAS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS ITEM #526.
23. ALL FIRST STAGE INLET CONSTRUCTION SHALL BE PROTECTED WITH 3 INCH THICK BOARDS AT ALL TIMES.
24. ALL SUBGRADE AND EMBANKMENT AREAS SHALL BE STRIPPED OF ALL ORGANIC AND UNSUITABLE MATERIAL BEFORE STABILIZATION OR FILLING IS BEGUN. MATERIAL USED FOR FILL SHALL BE CERTIFIED BY A LAB TO HAVE A PLASTICITY INDEX BETWEEN 10 AND 20.
25. FORMS SHALL BE SET TO THE PROPER GRADE AND PROPERLY SUPPORTED SO THAT NO DISPLACEMENT OCCURS WITH THE PAVING ACTIVITIES. ALL CONCRETE SHALL BE VIBRATED BY MECHANICAL MEANS TO INSURE PROPER COMPACTION AND NO HONEY COMBS.
26. CONCRETE SHALL NOT BE PLACED WHEN THE TEMPERATURE IS BELOW 40° F. AND FALLING, BUT MAY BE PLACED WHEN TEMPERATURE IS ABOVE 35° F. AND RISING. THE TEMPERATURE SHALL BE TAKEN IN THE SHADE AND AWAY FROM ARTIFICIAL HEAT.
27. THE CONTRACTOR SHALL ERECT AND MAINTAIN BARRICADES TO ADEQUATELY PROTECT THE PAVEMENT. THE CONTRACTOR SHALL HAVE PERSONNEL ON SITE UNTIL THE PAVEMENT HAS REACHED SUFFICIENT STRENGTH AS NOT TO BE DAMAGED BY ANIMALS OR FOOT TRAFFIC.
28. JOINT SEALING MATERIAL SHALL BE A HOT POURED RUBBER TYPE AND SHALL MEET THE REQUIREMENTS IN ACCORDANCE WITH TEST METHOD TEX-525-C, OR AN APPROVED EQUAL. TAR WILL NOT BE ALLOWED.
29. JOINTS SHALL BE CLEANED OF ALL SCALE, DIRT, DUST, CURING COMPOUND, AND CONCRETE TO THE WIDTH AND DEPTH OF THE JOINT AND SHALL BE DRY BEFORE SEALING IS PERFORMED.
30. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM 615 GRADE 60 (GRADE 40 ONLY FOR BARS REQUIRING BENDING). REINFORCING STEEL SHALL BE SUPPORTED ON CHAIRS STRONG ENOUGH TO HOLD IT IN PLACE AND BE TIED.
31. CONCRETE FOR PAVEMENT SHALL MEET TEXAS DEPARTMENT OF HIGHWAY STANDARD SPECIFICATIONS AND SHALL BE A MINIMUM OF 5 SACK, 3,000 PSI UNLESS STATED SPECIFICALLY BY THE PLANS OR THE SPECIFICATIONS.
32. CONCRETE PAVEMENT SHALL BE CORED TO VERIFY THICKNESS OF CONCRETE AT INTERVALS OF 1,000 LINEAR FEET PER TRAFFIC LANE, IF REQUIRED BY THE GOVERNING ENTITY ENGINEER.

LEGEND:

Table with 2 columns: Symbol and Description. Includes symbols for EX ADJUNCTION LINE, EX SANITARY, EX WATERLINE, EX STORM SEWER, EX DRAINAGE PATH, EX HIGH BANK, EX EASEMENT, EX BUILDING LINE, EX OVERHEAD POWER, EX UNDERGROUND POWER, EX FIBER, EX TELEPHONE, EX GAS LINE, EX FENCE, EX ZONE X, EX ZONE AE, EX FLOODWAY, EX WETLANDS, PROJECT BOUNDARY LINE, PROP PHASE LINE, PROP SANITARY, PROP FORCE MAIN, PROP WATERLINE, PROP STORM SEWER, PROP DRAINAGE PATH, PROP HIGH BANK, PROP EASEMENT, PROP BUILDING LINE, PROP OVERHEAD POWER, PROP UNDERGROUND POWER, PROP FIBER, PROP TELEPHONE, PROP GAS LINE, PROP FENCE, PROP PAVEMENT, PROP FACE OF CURB, PROP FACE OF CURB, PROP CASING, FINISHED GRADE, INVERT ELEVATION, CROWN ELEVATION.

LEGAL DESCRIPTION:

THE HILLS OF TOWN CREEK SECTION 5, A SUBDIVISION OF 18,5001 ACRES (805,863 SQ FT.), BENJAMIN RIGBY LEAGUE, ABSTRACT 31 MONTGOMERY COUNTY, TEXAS.

CITY OF MONTGOMERY BENCHMARKS:

MONT 3 ELEV.=268.73' 3" BRASS DISK LOCATED FROM THE INTERSECTION OF HWY 105 AND HWY 149, WEST ±4700' TO THE PARKING LOT OF THE HERITAGE HOUSE RESTAURANT, WHICH IS LOCATED ON THE NORTH SIDE OF HWY 105.

MONT 7 ELEV.=291.77' 3" BRASS DISK IS LOCATED IN THE CENTER OF MONTGOMERY ON THE SOUTH SIDE OF HWY 105, MARK IS IN FRONT (NORTH) OF GAS PUMPING AREA OF BROOKSHIRE BROTHER'S GROCERY STORE, AS WELL AS ACROSS HWY 105 (SOUTH) FROM THE OLDE SCHOOL HOUSE.

BENCHMARK: BRASS DISK IN CONCRETE ELEV.=314.12' BRASS DISK IN CONCRETE IN THE SOUTHEAST RIGHT-OF-WAY OF EMMA'S WAY LOCATED NORTH 29°13'51" WEST, A DISTANCE OF 2.19' FROM THE COMMON CORNER OF LOTS 1 AND 2, BLOCK 1, THE HILLS OF TOWN CREEK, SOUTH 0124809°31'WEST, A DISTANCE OF 527.26 FEET FROM THE SOUTHWEST CORNER OF THE SUBJECT PROPERTY.

FLOODPLAIN:

THIS SITE IS SITUATED IN ZONE "X" IN MONTGOMERY, COUNTY, TEXAS ACCORDING TO FEMA MAP NUMBER 483530202G DATED AUGUST 18, 2014; THIS STATEMENT DOES NOT IMPLY THAT THE PROPERTY AND/OR THE STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. THIS DETERMINATION HAS BEEN MADE BY SCALING THE PROPERTY ON THE REFERENCED MAP AND IS NOT THE RESULT OF AN ELEVATION SURVEY. THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF THE SURVEYOR.

CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR DATE

LS SQUARED ENGINEERING logo and contact information: WWW.L2ENGINEERING.COM, 1307 W. DAVIS STREET #100, CONROE, TEXAS 77385, OFFICE: 281-467-9600, 21123 EVA STREET #200, MONTGOMERY, TEXAS 77356

CLIENT INFORMATION: K. HOUARI/ANAH HOUSTON DISTRICT, LLC, 13111 NW FWY, SUITE 200, HOUSTON, TX 77040. PROJECT ADDRESS: EMMA'S WAY, MONTGOMERY, TX 77356

HILLS OF TOWN CREEK SECTION 5 CONSTRUCTION NOTES & LEGEND 1 OF 2

Table with 4 columns: #, DATE, BY, * COMMENT. Row 1: 1, 04/30/24, JTW, FOR PERMIT

Table with 2 columns: DRAWING INFORMATION, SHEET. Row 1: PROJECT 10976, TDLR. Row 2: DRAWN GLH, CHECKED JTW. Row 3: SCALE SHEET 02

Professional Engineer Seal for Jonathan T. White, License No. 27058, State of Texas, dated 04/30/2024

*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE

TCEQ WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

- This water distribution system must be constructed in accordance with the current Texas Commission on Environmental Quality (TCEQ) Rules and Regulations for Public Water Systems 30 Texas Administrative Code (TAC) Chapter 290 Subchapter D. When conflicts are noted with local standards, the more stringent requirement shall be applied. At a minimum, construction for public water systems must always meet TCEQ's "Rules and Regulations for Public Water Systems."
- All newly installed pipes and related products must conform to American National Standards Institute (ANSI)/NSF International Standard 61 and must be certified by an organization accredited by ANSI [§290.44(a)(1)].
- Plastic pipe for use in public water systems must bear the NSF International Seal of Approval (NSF-pw) and have an ASTM design pressure rating of at least 150 psi or a standard dimension ratio of 26 or less [§290.44(a)(2)].
- No pipe which has been used for any purpose other than the conveyance of drinking water shall be accepted or relocated for use in any public drinking water supply [§290.44(a)(3)].
- All water line crossings of wastewater mains shall be perpendicular [§290.44(e)(4)(B)].
- Water transmission and distribution lines shall be installed in accordance with the manufacturer's instructions. However, the top of the water line must be located below the frost line and in no case shall the top of the water line be less than 24 inches below ground surface [§290.44(a)(4)].
- The maximum allowable lead content of pipes, pipe fittings, plumbing fittings, and fixtures is 0.25 percent [§290.44(b)].
- The contractor shall install appropriate air release devices with vent openings to the atmosphere covered with 16-mesh or finer, corrosion resistant screening material or an acceptable equivalent [§290.44(d)(1)].
- The contractor shall not place the pipe in water or where it can be flooded with water or sewage during its storage or installation [§290.44(f)(1)].
- When waterlines are laid under any flowing or intermittent stream or semi-permanent body of water the waterline shall be installed in a separate watertight pipe encasement. Valves must be provided on each side of the crossing with facilities to allow the underwater portion of the system to be isolated and tested [§290.44(f)(2)].
- Pursuant to 30 TAC §290.44(a)(5), the hydrostatic leakage rate shall not exceed the amount allowed or recommended by the most current AWWA formulas for PVC pipe, cast iron and ductile iron pipe. Include the formulas in the notes on the plans.
 - The hydrostatic leakage rate for polyvinyl chloride (PVC) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-605 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

$$Q = \frac{LD\sqrt{P}}{148,000}$$
 Where:
 - Q = the quantity of makeup water in gallons per hour,
 - L = the length of the pipe section being tested, in feet,
 - D = the nominal diameter of the pipe in inches, and
 - P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
 - The hydrostatic leakage rate for ductile iron (DI) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-600 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

$$L = \frac{SD\sqrt{P}}{148,000}$$
 Where:
 - L = the quantity of makeup water in gallons per hour,
 - S = the length of the pipe section being tested, in feet,
 - D = the nominal diameter of the pipe in inches, and
 - P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
- The contractor shall maintain a minimum separation distance in all directions of nine feet between the proposed waterline and wastewater collection facilities including manholes. If this distance cannot be maintained, the contractor must immediately notify the project engineer for further direction. Separation distances, installation methods, and materials utilized must meet §290.44(e)(1)-(4).
- The separation distance from a potable waterline to a wastewater main or lateral manhole or cleanout shall be a minimum of nine feet. Where the nine-foot separation distance cannot be achieved, the potable waterline shall be encased in a joint of at least 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at five-foot intervals with spacers or be filled to the springline with washed sand. The encasement pipe shall be centered on the crossing and both ends sealed with cement grout or manufactured sealant [§290.44(e)(5)].
- Fire hydrants shall not be installed within nine feet vertically or horizontally of any wastewater line, wastewater lateral, or wastewater service line regardless of construction [§290.44(e)(6)].
- Suction mains to pumping equipment shall not cross wastewater mains, wastewater laterals, or wastewater service lines. Raw water supply lines shall not be installed within five feet of any tile or concrete wastewater main, wastewater lateral, or wastewater service line [§290.44(e)(7)].
- Waterlines shall not be installed closer than ten feet to septic tank drainfields [§290.44(e)(8)].
- The contractor shall disinfect the new waterlines in accordance with AWWA Standard C-651-14 or most recent, then flush and sample the lines before being placed into service. Samples shall be collected for microbiological analysis to check the effectiveness of the disinfection procedure which shall be repeated if contamination persists. A minimum of one sample for each 1,000 feet of completed waterline will be required or at the next available sampling point beyond 1,000 feet as designated by the design engineer [§290.44(f)(3)].
- Dechlorination of disinfecting water shall be in strict accordance with current AWWA Standard C655-09 or most recent.

TCEQ NOTES:

- THESE WATER STORAGE FACILITIES MUST BE CONSTRUCTED IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D.
- ALL FACILITIES FOR POTABLE WATER STORAGE SHALL BE COVERED AND DESIGNED, FABRICATED, ERECTED, TESTED AND DISINFECTED IN STRICT ACCORDANCE WITH CURRENT AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS AND SHALL BE PROVIDED WITH THE MINIMUM NUMBER, SIZE AND TYPE OF ROOF VENTS, MAN WAYS, DRAINS, SAMPLE CONNECTIONS, ACCESS LADDERS, OVERFLOWS, LIQUID LEVEL INDICATORS AND OTHER APPURTENANCES AS SPECIFIED IN THESE RULES.
- BOLTED TANKS SHALL BE DESIGNED, FABRICATED, ERECTED AND TESTED IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARD D103. WELDED TANKS SHALL BE DESIGNED, FABRICATED, ERECTED AND TESTED IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARD D 100. THE ROOF OF ALL TANKS SHALL BE DESIGNED AND ERECTED SO THAT NO WATER PONDS AT ANY POINT ON THE ROOF AND, IN ADDITION, NO AREA OF THE ROOF SHALL HAVE A SLOPE OF LESS THAN 0.75 INCH PER FOOT.
- ROOF VENTS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARDS AND SHALL BE EQUIPPED WITH APPROVED SCREENS TO PREVENT ENTRY OF ANIMALS, BIRDS, INSECTS AND HEAVY AIR CONTAMINANTS. SCREENS SHALL BE FABRICATED OF CORROSION RESISTANT MATERIAL AND SHALL BE 16 MESH OR FINER. SCREENS SHALL BE SECURELY CLAMPED IN PLACE WITH STAINLESS OR GALVANIZED BANDS OR WIRES AND SHALL BE DESIGNED TO WITHSTAND WINDS OF NOT LESS THAN TANK DESIGN CRITERIA (UNLESS SPECIFIED OTHERWISE BY THE ENGINEER).
- ALL ROOF OPENINGS SHALL BE DESIGNED IN ACCORDANCE WITH CURRENT AWWA STANDARDS. IF AN ALTERNATE 30 INCH DIAMETER ACCESS OPENING IS NOT PROVIDED IN A STORAGE TANK, THE PRIMARY ROOF ACCESS OPENING SHALL NOT BE LESS THAN 30 INCHES IN DIAMETER. OTHER ROOF OPENINGS REQUIRED ONLY FOR VENTILATING PURPOSES DURING CLEANING, REPAIRING OR PAINTING OPERATIONS SHALL BE NOT LESS THAN 24 INCHES IN DIAMETER OR AS SPECIFIED BY THE LICENSED PROFESSIONAL ENGINEER. AN EXISTING TANK WITHOUT A 30-INCH IN DIAMETER ACCESS OPENING MUST BE MODIFIED TO MEET THIS REQUIREMENT WHEN MAJOR REPAIR OR MAINTENANCE IS PERFORMED ON THE TANK. EACH ACCESS OPENING SHALL HAVE A RAISED CURBING AT LEAST FOUR INCHES IN HEIGHT WITH A LOCKABLE COVER THAT OVERLAPS THE CURBING AT LEAST TWO INCHES IN A DOWNWARD DIRECTION. WHERE NECESSARY, A GASKET SHALL BE USED TO MAKE A POSITIVE SEAL WHEN THE HATCH IS CLOSED. ALL HATCHES SHALL REMAIN LOCKED EXCEPT DURING INSPECTIONS AND MAINTENANCE.
- OVERFLOWS SHALL BE DESIGNED IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARDS AND SHALL TERMINATE WITH A GRAVITY HINGED AND WEIGHTED COVER. THE COVER SHALL FIT TIGHTLY WITH NO GAP OVER 1/16 INCHES. IF THE OVERFLOW TERMINATES AT ANY POINT OTHER THAN THE GROUND LEVEL, IT SHALL BE LOCATED NEAR ENOUGH AND AT A POSITION ACCESSIBLE FROM A LADDER OR THE BALCONY FOR INSPECTION PURPOSES. THE OVERFLOW(S) SHALL BE SIZED TO HANDLE THE MAXIMUM POSSIBLE FILL RATE WITHOUT EXCEEDING THE CAPACITY OF THE OVERFLOW(S). THE DISCHARGE OPENING OF THE OVERFLOW(S) SHALL BE ABOVE THE SURFACE OF THE GROUND AND SHALL NOT BE SUBJECT TO SUBMERGENCE.
- ALL CLEARWELLS AND WATER STORAGE TANKS SHALL HAVE A LIQUID LEVEL INDICATOR LOCATED AT THE TANK SITE. THE INDICATOR CAN BE A FLOAT WITH A MOVING TARGET, AN ULTRASONIC LEVEL INDICATOR, OR A PRESSURE GAUGE CALIBRATED IN FEET OF WATER. IF AN ELEVATED TANK OR STANDPIPE HAS A FLOAT WITH MOVING TARGET INDICATOR, IT MUST ALSO HAVE A PRESSURE INDICATOR LOCATED AT GROUND LEVEL. PRESSURE GAUGES MUST NOT BE LESS THAN THREE INCHES IN DIAMETER AND CALIBRATED AT NOT MORE THAN TWO-FOOT INTERVALS. REMOTE READING GAUGES AT THE OWNER'S TREATMENT PLANT OR PUMPING STATION WILL NOT ELIMINATE THE REQUIREMENT FOR A GAUGE AT THE TANK SITE UNLESS THE TANK IS LOCATED AT THE PLANT OR STATION.
- INLET AND OUTLET CONNECTIONS SHALL BE LOCATED SO AS TO PREVENT SHORT CIRCUITING OR STAGNATION OF WATER. CLEARWELLS USED FOR DISINFECTANT CONTACT TIME SHALL BE APPROPRIATELY BAFFLED.
- CLEARWELLS AND POTABLE WATER STORAGE TANKS SHALL BE THOROUGHLY TIGHT AGAINST LEAKAGE, SHALL BE LOCATED ABOVE THE GROUND WATER TABLE AND SHALL HAVE NO WALLS IN COMMON WITH ANY OTHER PLANT UNITS CONTAINING WATER IN THE PROCESS OF TREATMENT. ALL ASSOCIATED APPURTENANCES INCLUDING VALVES, PIPES AND FITTINGS SHALL BE TIGHT AGAINST LEAKAGE.
- EACH CLEARWELL OR POTABLE WATER STORAGE TANK SHALL BE PROVIDED WITH A MEANS OF REMOVING ACCUMULATED SILT AND DEPOSITS AT ALL LOW POINTS IN THE BOTTOM OF THE TANK. DRAINS SHALL NOT BE CONNECTED TO ANY WASTE OR SEWAGE DISPOSAL SYSTEM AND SHALL BE CONSTRUCTED SO THAT THEY ARE NOT A POTENTIAL AGENT IN THE CONTAMINATION OF THE STORED WATER.
- ALL CLEAR WELLS, GROUND STORAGE TANKS, STANDPIPES, AND ELEVATED TANKS SHALL BE PAINTED, DISINFECTED, AND MAINTAINED IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARDS. HOWEVER, NO TEMPORARY COATINGS, WAX GREASE COATINGS, OR COATING MATERIALS CONTAINING LEAD WILL BE ALLOWED. NO OTHER COATINGS WILL BE ALLOWED WHICH ARE NOT APPROVED FOR USE (AS A CONTACT SURFACE WITH POTABLE WATER) BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA), NATIONAL SANITATION FOUNDATION (NSF), OR THE UNITED STATES FOOD AND DRUG ADMINISTRATION (FDA). ALL NEWLY INSTALLED COATINGS MUST CONFORM TO ANSI/NSF STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI.
- NO TANKS OR CONTAINERS SHALL BE USED TO STORE POTABLE WATER THAT HAS PREVIOUSLY BEEN USED FOR ANY NON POTABLE PURPOSE. WHERE A USED TANK IS PROPOSED FOR USE, A LETTER FROM THE PREVIOUS OWNER OR OWNERS MUST BE SUBMITTED TO THE COMMISSION WHICH STATES THE USE OF THE TANK.
- ACCESS MANWAYS IN THE RISER PIPE, SHELL AREA, ACCESS TUBE, BOWL AREA OR ANY OTHER LOCATION OPENING DIRECTLY INTO THE WATER COMPARTMENT SHALL BE LOCATED IN STRICT ACCORDANCE WITH CURRENT AWWA STANDARDS. THESE OPENINGS SHALL NOT BE LESS THAN 24 INCHES IN DIAMETER. HOWEVER, IN THE CASE OF A RISER PIPE OR ACCESS TUBE OF 36 INCHES IN DIAMETER OR SMALLER, THE ACCESS MANWAY MAY BE 18 INCHES TIMES 24 INCHES WITH THE VERTICAL DIMENSION NOT LESS THAN 24 INCHES. THE PRIMARY ACCESS MANWAY IN THE LOWER RING OR SECTION OF A GROUND STORAGE TANK SHALL BE NOT LESS THAN 30 INCHES IN DIAMETER. WHERE NECESSARY, FOR ANY ACCESS MANWAY WHICH ALLOWS DIRECT ACCESS TO THE WATER COMPARTMENT, A GASKET SHALL BE USED TO MAKE A POSITIVE SEAL WHEN THE ACCESS MANWAY IS CLOSED.
- SERVICE PUMP INSTALLATION TAKING SUCTION FROM STORAGE TANKS SHALL PROVIDE AUTOMATIC LOW WATER LEVEL CUTOFF DEVICES TO PREVENT DAMAGE TO THE PUMPS. THE SERVICE PUMP CIRCUITRY SHALL ALSO RESUME PUMPING AUTOMATICALLY ONCE THE MINIMUM WATER LEVEL IS REACHED IN THE TANK.

CITY OF MONTGOMERY

GENERAL CONSTRUCTION NOTES

- CONTRACTOR SHALL CONTACT CITY OF MONTGOMERY CITY ENGINEER, KATHERINE VU AT (713)789-1900 A MINIMUM OF 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
- CONTRACTOR SHALL CONTACT CITY OF MONTGOMERY DIRECTOR OF PUBLIC WORKS, MIKE MUCKLERDY AT (936) 597-6434 A MINIMUM OF 48 HOURS PRIOR TO COMMENCING CONSTRUCTION TO SET UP AN INSPECTION TO VERIFY CITY'S FACILITIES.
- CONTRACTOR TO CONTACT CITY OF MONTGOMERY UTILITY OPERATOR PHILIP WRIGHT OF HAYS UTILITY NORTH CORPORATION AT (936) 588-1166 A MINIMUM OF 48 HOURS PRIOR TO COMMENCING CONSTRUCTION TO SET UP AN INSPECTION TO VERIFY CITY'S FACILITIES.
- THE CITY UTILITY OPERATOR AND PUBLIC WORKS FOREMAN SHALL BE NOTIFIED 24 HOURS IN ADVANCE TO WITNESS AND INSPECT ANY SANITARY SEWER LINE CONNECTION. NO SANITARY SEWER LINES SHALL BE BACKFILLED BEFORE THE CITY'S UTILITY OPERATOR OR PUBLIC WORKS FOREMAN HAS INSPECTED THE CONNECTION.
- CONTRACTOR SHALL CONTACT THE CITY'S UTILITY OPERATOR OR PUBLIC WORKS FOREMAN TO OPERATE ANY VALVES. AT NO TIME IS THE CONTRACTOR OR CONTRACTOR'S REPRESENTATIVE TO OPERATE ANY PART OF THE CITY OF MONTGOMERY WATER SYSTEM.
- THE OWNER OR CONTRACTOR SHALL INSTALL AND TEST APPROPRIATE BACKFLOW PREVENTION, PER THE CITY OF MONTGOMERY RULES & REGULATIONS.
- ALL TAPS TO THE CITY'S SYSTEM SHALL BE MADE BY THE CITY'S OPERATOR AT THE OWNERS EXPENSE.

LEGAL DESCRIPTION:
THE HILLS OF TOWN CREEK SECTION 5, A SUBDIVISION OF 18,5001 ACRES (805,863 SQ FT.), BENJAMIN RIGBY LEAGUE, ABSTRACT 31 MONTGOMERY COUNTY, TEXAS.

CITY OF MONTGOMERY BENCHMARKS:
MONT 3
ELEV.=268.73'
3" BRASS DISK LOCATED FROM THE INTERSECTION OF HWY 105 AND HWY 149, WEST ±4700' TO THE PARKING LOT OF THE HERITAGE HOUSE RESTAURANT, WHICH IS LOCATED ON THE NORTH SIDE OF HWY 105.

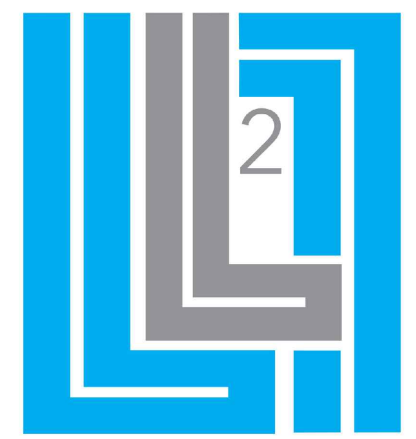
MONT 7
ELEV.=291.77'
3" BRASS DISK IS LOCATED IN THE CENTER OF MONTGOMERY ON THE SOUTH SIDE OF HWY 105. MARK IS IN FRONT (NORTH) OF GAS PUMPING AREA OF BROOKSHIRE BROTHER'S GROCERY STORE, AS WELL AS ACROSS HWY 105 (SOUTH) FROM THE OLDE SCHOOL HOUSE.'

BENCHMARK:
BRASS DISK IN CONCRETE
ELEV.=314.12'
BRASS DISK IN CONCRETE IN THE SOUTHEAST RIGHT-OF-WAY OF EMMA'S WAY LOCATED NORTH 29°13'51" WEST, A DISTANCE OF 2.19' FROM THE COMMON CORNER OF LOTS 1 AND 2, BLOCK 1, THE HILLS OF TOWN CREEK, SOUTH 0124809'31"WEST, A DISTANCE OF 527.26 FEET FROM THE SOUTHWEST CORNER OF THE SUBJECT PROPERTY.

FLOODPLAIN:
THIS SITE IS SITUATED IN ZONE "X" IN MONTGOMERY COUNTY, TEXAS ACCORDING TO FEMA MAP NUMBER 483300202G DATED AUGUST 18, 2014. THIS STATEMENT DOES NOT IMPLY THAT THE PROPERTY AND/OR THE STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE. THIS DETERMINATION HAS BEEN MADE BY SCALING THE PROPERTY ON THE REFERENCED MAP AND IS NOT THE RESULT OF AN ELEVATION SURVEY. THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF THE SURVEYOR.

CITY OF MONTGOMERY, CITY ENGINEER
SIGNATURE VALID FOR ONE (1) YEAR

DATE



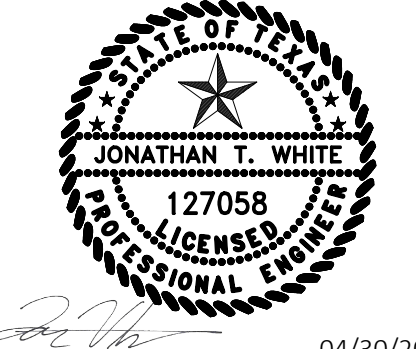
L SQUARED ENGINEERING
MUNICIPAL COMMERCIAL RESIDENTIAL
WWW.L2ENGINEERING.COM
HOUSTON OFFICE: 13007 W. DAVIS STREET #100 CONROE, TEXAS 77384 OFFICE: 281-647-9600
21123 EVA STREET #200 MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
K. HOVANANIAN HOUSTON DISTRICT, LLC
13111 NW FWY, SUITE 200
HOUSTON, TX 77040
PROJECT ADDRESS
EMMA'S WAY
MONTGOMERY, TX 77356

HILLS OF TOWN CREEK SECTION 5 CONSTRUCTION NOTES & LEGEND 2 OF 2

DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	04/30/24	JTW	FOR PERMIT

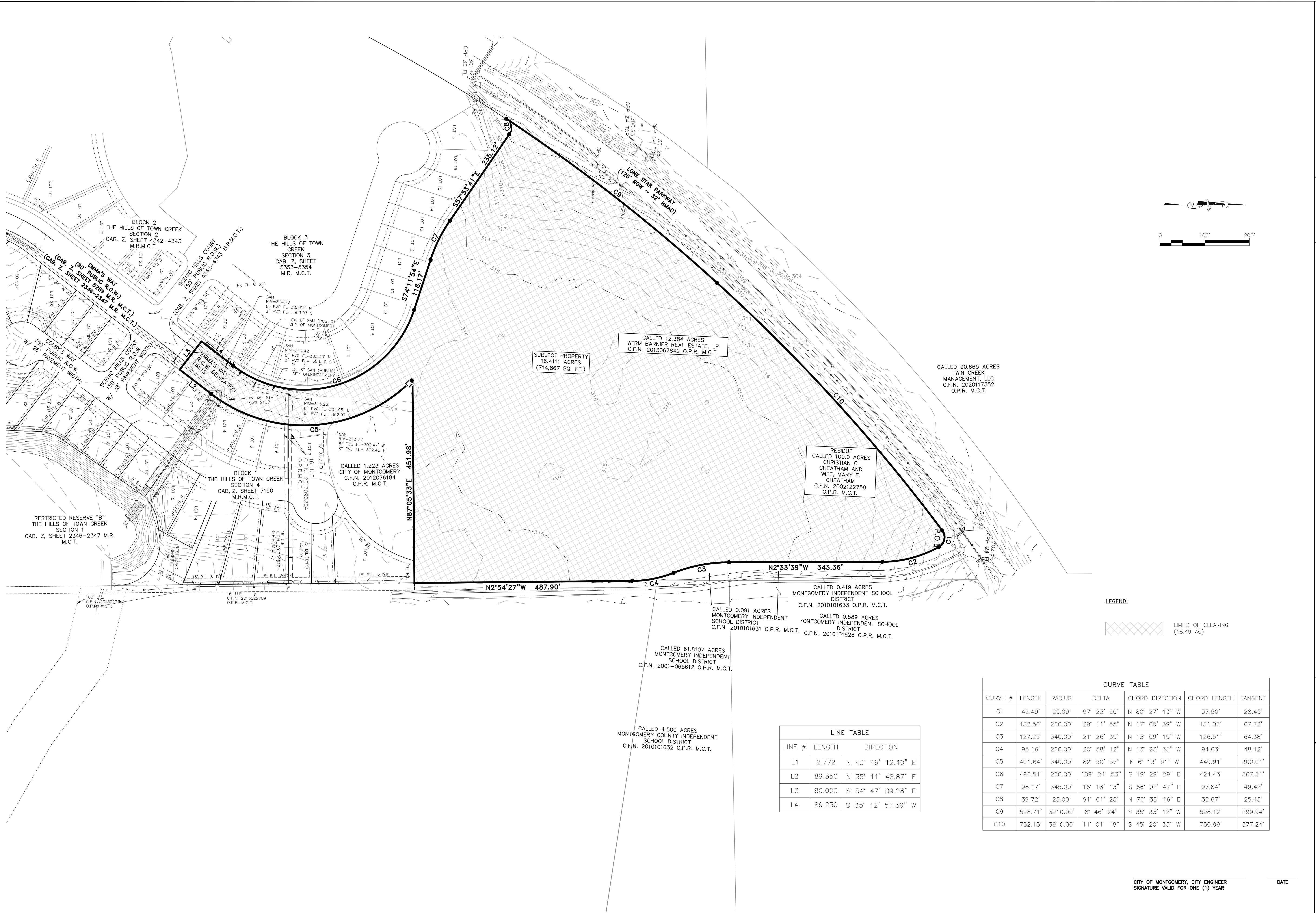
DRAWING INFORMATION			
PROJECT	10976	TDLR	**
DRAWN	GLH	CHECKED	JTW
SCALE	SHEET		03



04/30/2024

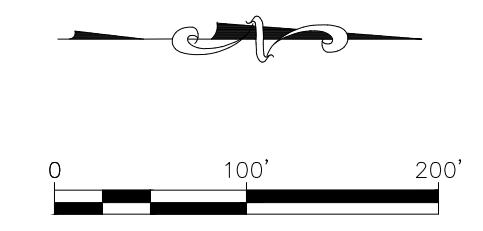
*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE

L:\SHARED\L2 ENGINEERING PROJECTS\ENGINEERING PROJECTS\10976 - HOTCS - K HOVA03 CAD\DESIGN SET\04 EXISTING CONDITIONS SURVEY & CLEARING PLAN.DWG Apr. 30, 2024--8:10 AM CAILYN CURTIS



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CONROE, TEXAS 77384
OFFICE: 281-467-9600
21123 EVA STREET #200
MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
K. HOUARIAN HOUSTON DISTRICT, LLC
13111 NW FWY, SUITE 200
HOUSTON, TX 77040
PROJECT ADDRESS
EMMA'S WAY
MONTGOMERY, TX 77356



HILLS OF TOWN CREEK SECTION 5 EXISTING CONDITIONS SURVEY & CLEARING PLAN

LEGEND:
 LIMITS OF CLEARING (18.49 AC)

LINE #	LENGTH	DIRECTION
L1	2.772	N 43° 49' 12.40" E
L2	89.350	N 35° 11' 48.87" E
L3	80.000	S 54° 47' 09.28" E
L4	89.230	S 35° 12' 57.39" W

CURVE #	LENGTH	RADIUS	DELTA	CHORD DIRECTION	CHORD LENGTH	TANGENT
C1	42.49'	25.00'	97° 23' 20"	N 80° 27' 13" W	37.56'	28.45'
C2	132.50'	260.00'	29° 11' 55"	N 17° 09' 39" W	131.07'	67.72'
C3	127.25'	340.00'	21° 26' 39"	N 13° 09' 19" W	126.51'	64.38'
C4	95.16'	260.00'	20° 58' 12"	N 13° 23' 33" W	94.63'	48.12'
C5	491.64'	340.00'	82° 50' 57"	N 6° 13' 51" W	449.91'	300.01'
C6	496.51'	260.00'	109° 24' 53"	S 19° 29' 29" E	424.43'	367.31'
C7	98.17'	345.00'	16° 18' 13"	S 66° 02' 47" E	97.84'	49.42'
C8	39.72'	25.00'	91° 01' 28"	N 76° 35' 16" E	35.67'	25.45'
C9	598.71'	3910.00'	8° 46' 24"	S 35° 33' 12" W	598.12'	299.94'
C10	752.15'	3910.00'	11° 01' 18"	S 45° 20' 33" W	750.99'	377.24'

#	DATE	BY	* COMMENT
1	04/30/24	JTW	FOR PERMIT

PROJECT	10976	TDLR	**
DRAWN	GLH	CHECKED	JTW
SCALE	SHEET		
1" = 100' (24x36)			
1" = 200' (11x17)			04

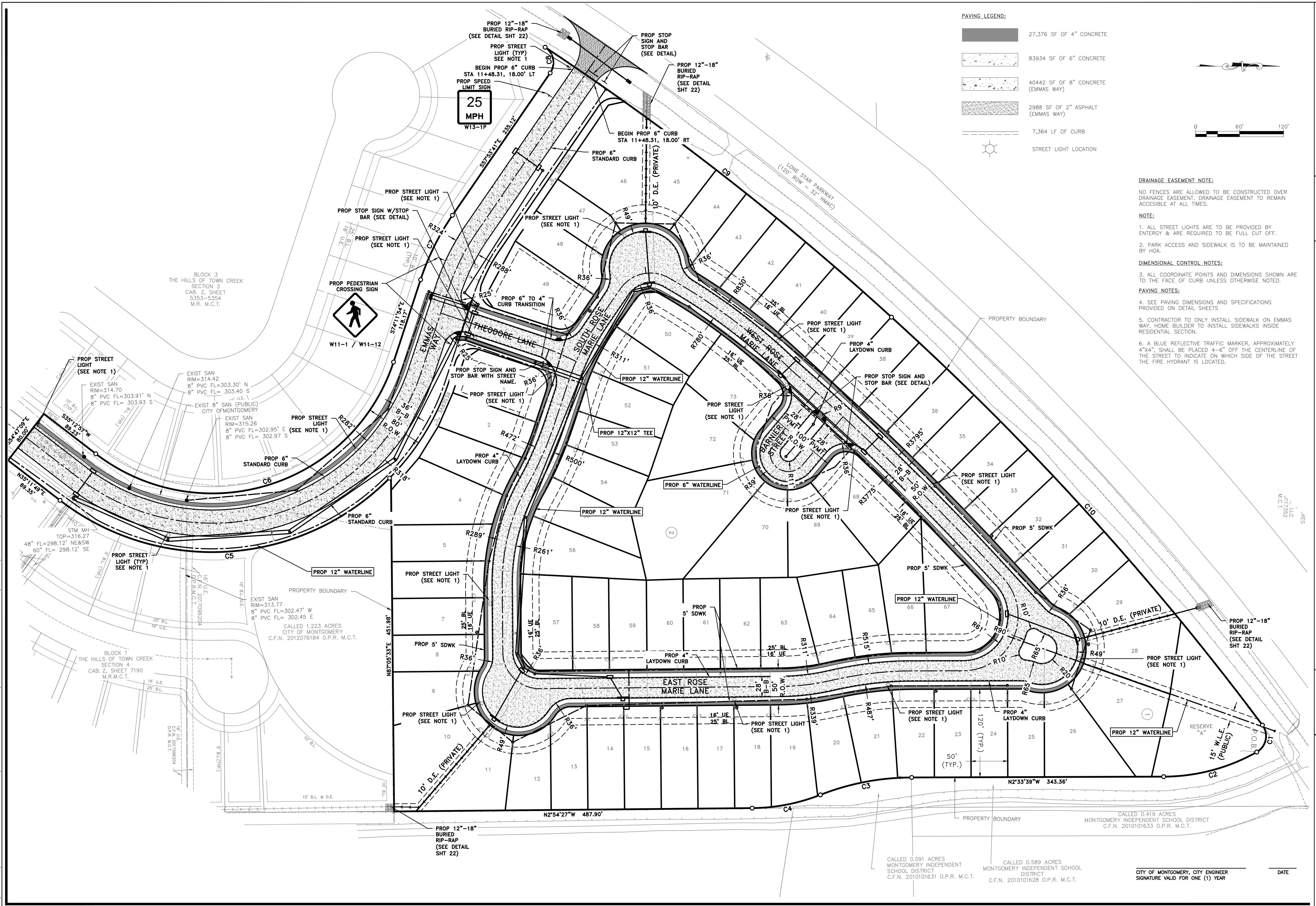
CITY OF MONTGOMERY, CITY ENGINEER
SIGNATURE VALID FOR ONE (1) YEAR

DATE

04/30/2024

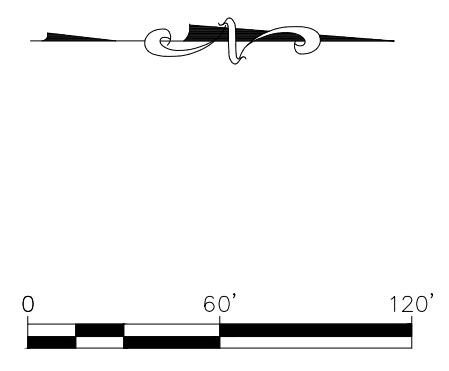
*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE

L:\SHARED\2 ENGINEERING PROJECTS\ENGINEERING PROJECTS\10976 - HOTCS - K HOV\03 CAD\DESIGN SET\05 OVERALL SITE PLAN.DWG Apr. 30, 2024-8:10 AM CAITLYN CURTIS



PAVING LEGEND:

	27,376 SF OF 4" CONCRETE
	8,3934 SF OF 6" CONCRETE
	40,442 SF OF 8" CONCRETE (EMMAS WAY)
	2,988 SF OF 2" ASPHALT (EMMAS WAY)
	7,364 LF OF CURB
	STREET LIGHT LOCATION



- DRAINAGE EASEMENT NOTE:**
NO FENCES ARE ALLOWED TO BE CONSTRUCTED OVER DRAINAGE EASEMENT. DRAINAGE EASEMENT TO REMAIN ACCESSIBLE AT ALL TIMES.
- NOTE:**
1. ALL STREET LIGHTS ARE TO BE PROVIDED BY ENERGY & ARE REQUIRED TO BE FULL CUT OFF.
2. PARK ACCESS AND SIDEWALK IS TO BE MAINTAINED BY HOA.
- DIMENSIONAL CONTROL NOTES:**
3. ALL COORDINATE POINTS AND DIMENSIONS SHOWN ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
- PAVING NOTES:**
4. SEE PAVING DIMENSIONS AND SPECIFICATIONS PROVIDED ON DETAIL SHEETS
5. CONTRACTOR TO ONLY INSTALL SIDEWALK ON EMMAS WAY. HOME BUILDER TO INSTALL SIDEWALKS INSIDE RESIDENTIAL SECTION.
6. A BLUE REFLECTIVE TRAFFIC MARKER, APPROXIMATELY 4"x4", SHALL BE PLACED 4-6" OFF THE CENTERLINE OF THE STREET TO INDICATE ON WHICH SIDE OF THE STREET THE FIRE HYDRANT IS LOCATED.

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OFFICE: 281-467-9600
21123 EVA STREET #200
MONTGOMERY, TEXAS 77355

CLIENT INFORMATION
K. HOWARDIAN HOUSTON DISTRICT, LLC
13111 NW FWY, SUITE 200
HOUSTON, TX 77040
PROJECT ADDRESS
EMMA'S WAY
MONTGOMERY, TX 77356

HILLS OF TOWN CREEK SECTION 5 OVERALL SITE PLAN

DRAWING ISSUE

#	DATE	BY	* COMMENT
1	04/30/24	JTW	FOR PERMIT

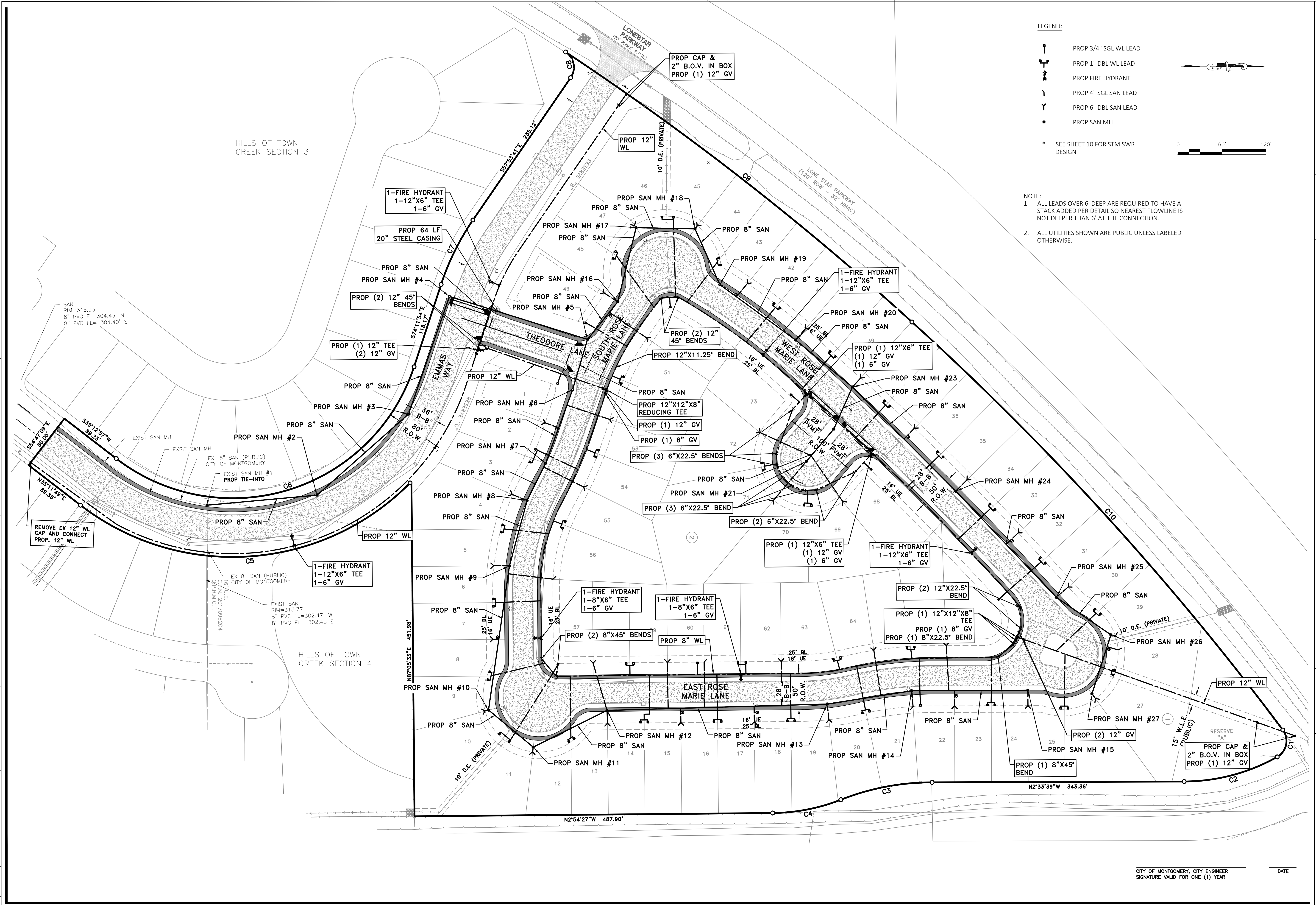
DRAWING INFORMATION

PROJECT	10976	TDLR	**
DRAWN	GLH	CHECKED	JTW
SCALE	SHEET		
1" = 60' (24x36)			
1" = 120' (11x17)			05

JONATHAN T. WHITE
127058
PROFESSIONAL ENGINEER
STATE OF TEXAS
04/30/2024

*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE

L:\SHARED\L2 ENGINEERING PROJECTS\ENGINEERING PROJECTS\10976 - HOTC5 - K HOV.03 CAD\DESIGN SET\06 SANITARY SEWER AND WATER PLAN.DWG Apr. 30, 2024--8:10 AM CAITLYN CURTIS



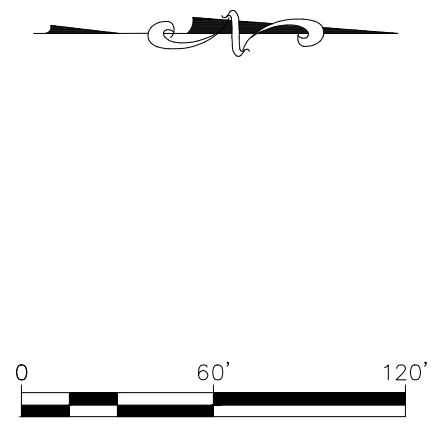
LEGEND:

- PROP 3/4" SGL WL LEAD
- PROP 1" DBL WL LEAD
- PROP FIRE HYDRANT
- PROP 4" SGL SAN LEAD
- PROP 6" DBL SAN LEAD
- PROP SAN MH

* SEE SHEET 10 FOR STM SWR DESIGN

NOTE:

1. ALL LEADS OVER 6' DEEP ARE REQUIRED TO HAVE A STACK ADDED PER DETAIL SO NEAREST FLOWLINE IS NOT DEEPER THAN 6' AT THE CONNECTION.
2. ALL UTILITIES SHOWN ARE PUBLIC UNLESS LABELED OTHERWISE.



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OFFICE: 396-647-9600
21123 EVA STREET #200 MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
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HOUSTON, TX 77040
PROJECT ADDRESS
EMMA'S WAY
MONTGOMERY, TX 77356

HILLS OF TOWN CREEK SECTION 5
SANITARY SEWER AND WATER PLAN

DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	04/30/24	JTW	FOR PERMIT

DRAWING INFORMATION			
PROJECT	10976	TDLR	**
DRAWN	GLH	CHECKED	JTW
SCALE	SHEET		06
1" = 60' (24x36)			
1" = 120' (11x17)			

CITY OF MONTGOMERY, CITY ENGINEER
SIGNATURE VALID FOR ONE (1) YEAR

DATE

04/30/2024

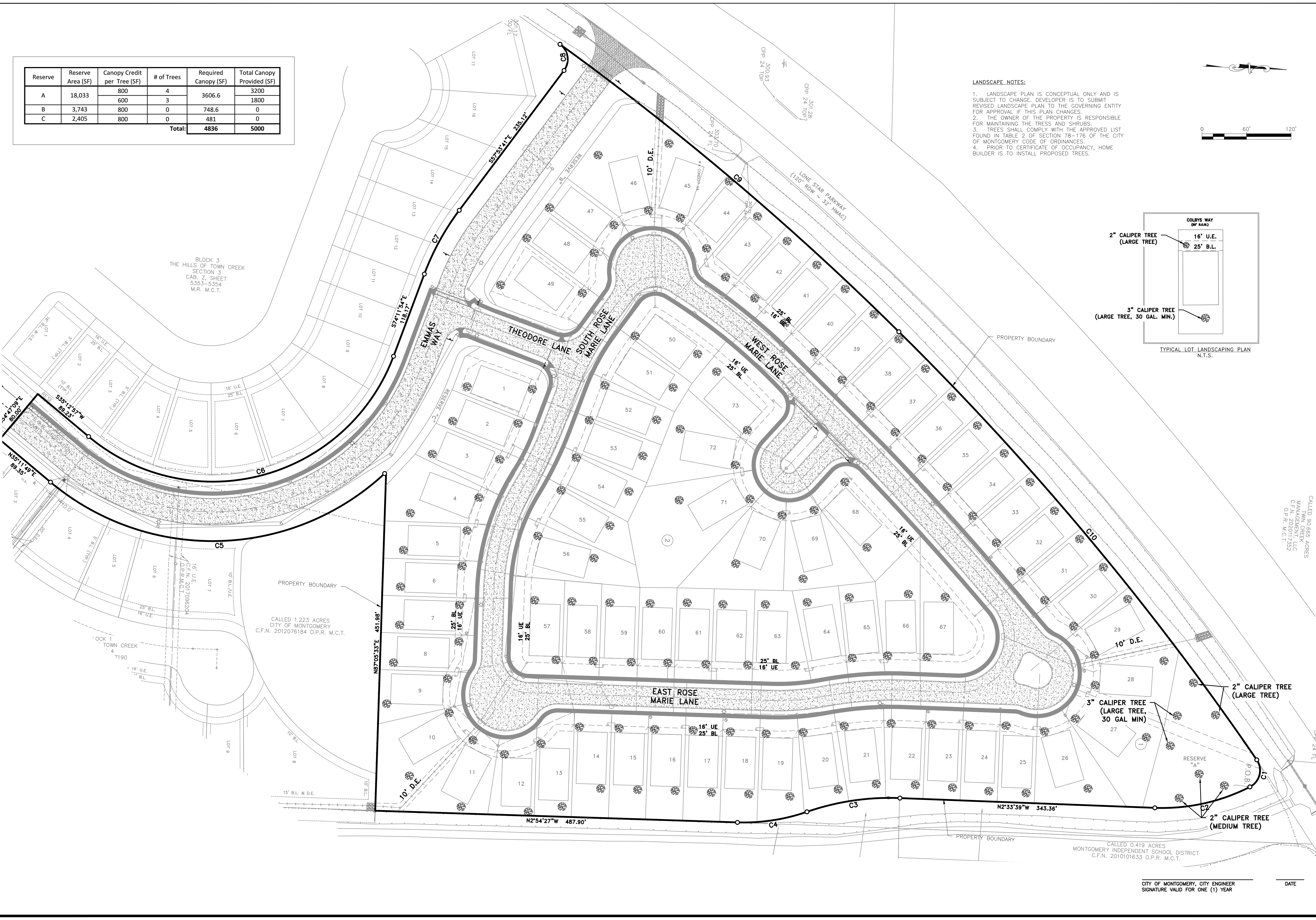
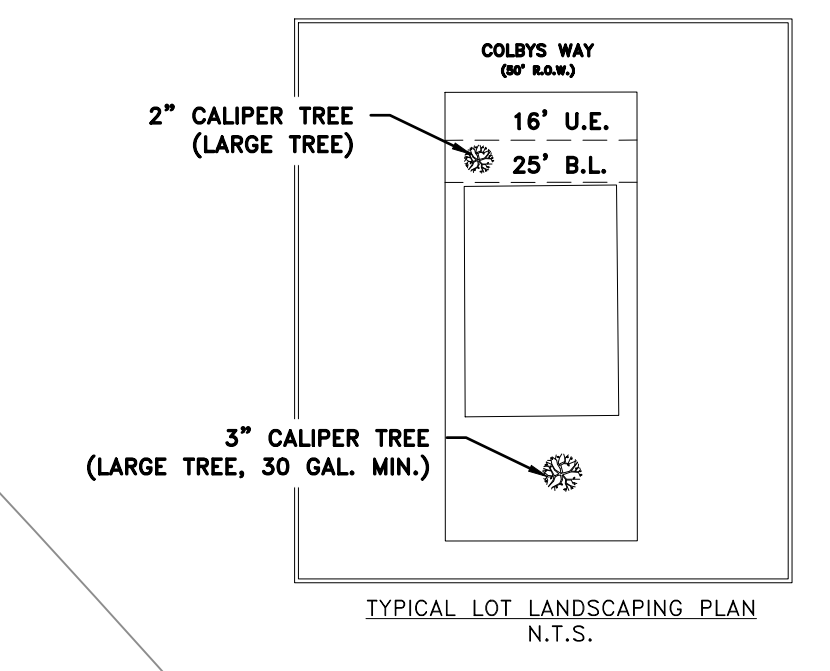
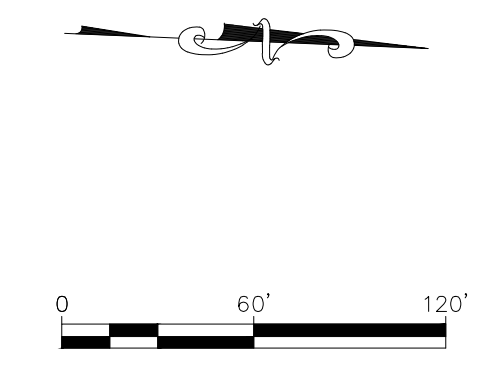
*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE

L:\SHARED\L2\ENGINEERING\PROJECTS\ENGINEERING PROJECTS\10976 - HOTCS - K HOV\03 CAD\DESIGN SET\07 LANDSCAPING PLAN.DWG Apr. 30, 2024--8:11 AM CAITLYN CURTIS

Reserve	Reserve Area (SF)	Canopy Credit per Tree (SF)	# of Trees	Required Canopy (SF)	Total Canopy Provided (SF)
A	18,033	800	4	3606.6	3200
		600	3		1800
B	3,743	800	0	748.6	0
C	2,405	800	0	481	0
Total:				4836	5000

LANDSCAPE NOTES:

- LANDSCAPE PLAN IS CONCEPTUAL ONLY AND IS SUBJECT TO CHANGE. DEVELOPER IS TO SUBMIT REVISED LANDSCAPE PLAN TO THE GOVERNING ENTITY FOR APPROVAL IF THIS PLAN CHANGES.
- THE OWNER OF THE PROPERTY IS RESPONSIBLE FOR MAINTAINING THE TREES AND SHRUBS.
- TREES SHALL COMPLY WITH THE APPROVED LIST FOUND IN TABLE 2 OF SECTION 78-176 OF THE CITY OF MONTGOMERY CODE OF ORDINANCES.
- PRIOR TO CERTIFICATE OF OCCUPANCY, HOME BUILDER IS TO INSTALL PROPOSED TREES.



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21123 EVA STREET #200
MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
K. HOVRANIAN HOUSTON DISTRICT, LLC
13111 NW FWY, SUITE 200
HOUSTON, TX 77040
PROJECT ADDRESS
EMMA'S WAY
MONTGOMERY, TX 77356

HILLS OF TOWN CREEK SECTION 5 LANDSCAPING PLAN

DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	04/30/24	JTW	FOR PERMIT

DRAWING INFORMATION			
PROJECT	10976	TDLR	**
DRAWN	GLH	CHECKED	JTW
SCALE	SHEET		07
1" = 60' (24x36)			
1" = 120' (11x17)			

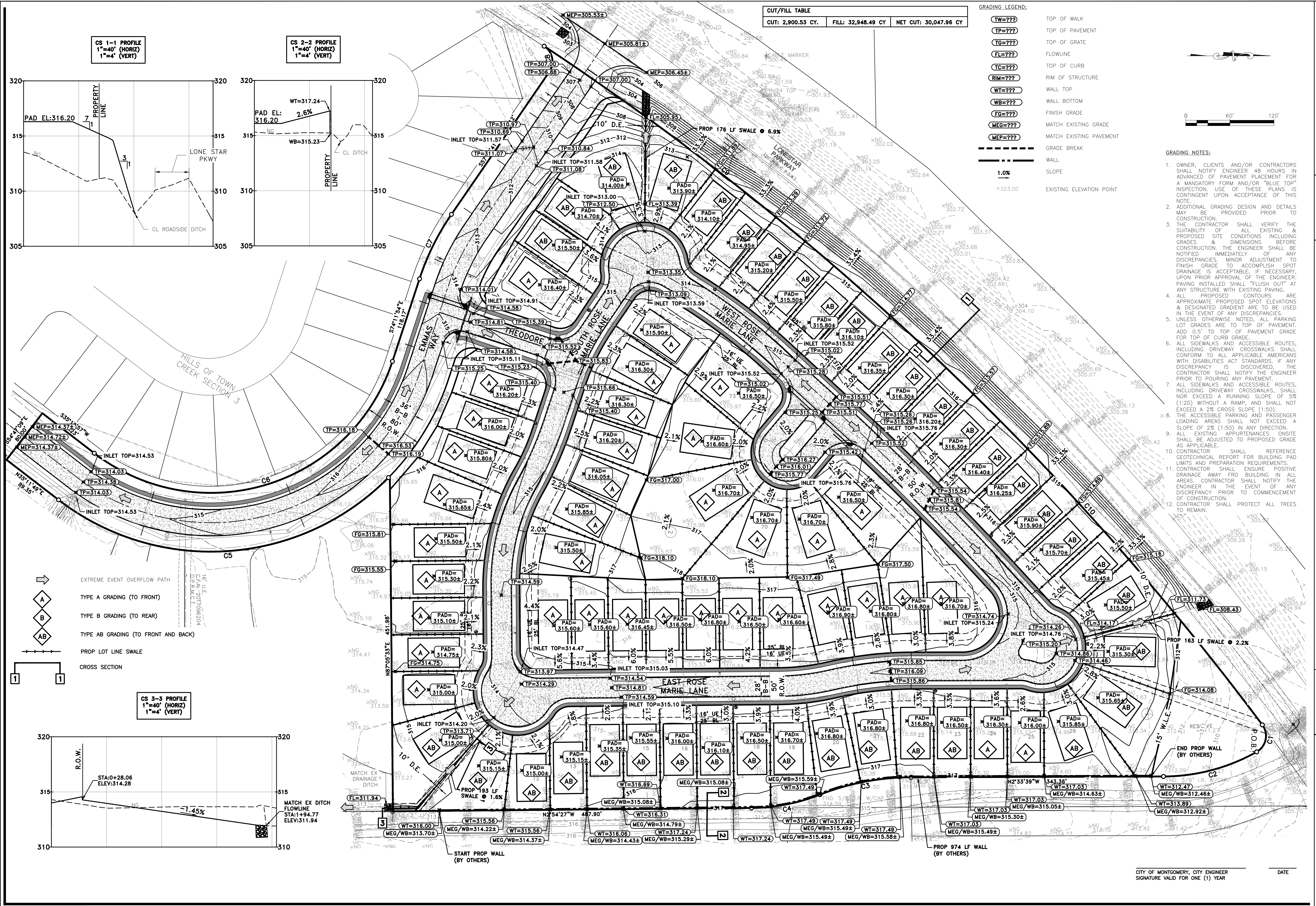
CITY OF MONTGOMERY, CITY ENGINEER
SIGNATURE VALID FOR ONE (1) YEAR

DATE

04/30/2024

*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE

L:\SHARED\L2 ENGINEERING PROJECTS\ENGINEERING PROJECTS\10976 - HOTCS - K HOV.03 CAD\DESIGN SET\08 GRADING PLAN.DWG Apr. 30, 2024 - 8:11 AM CATHLYN CURTIS



CUT/FILL TABLE

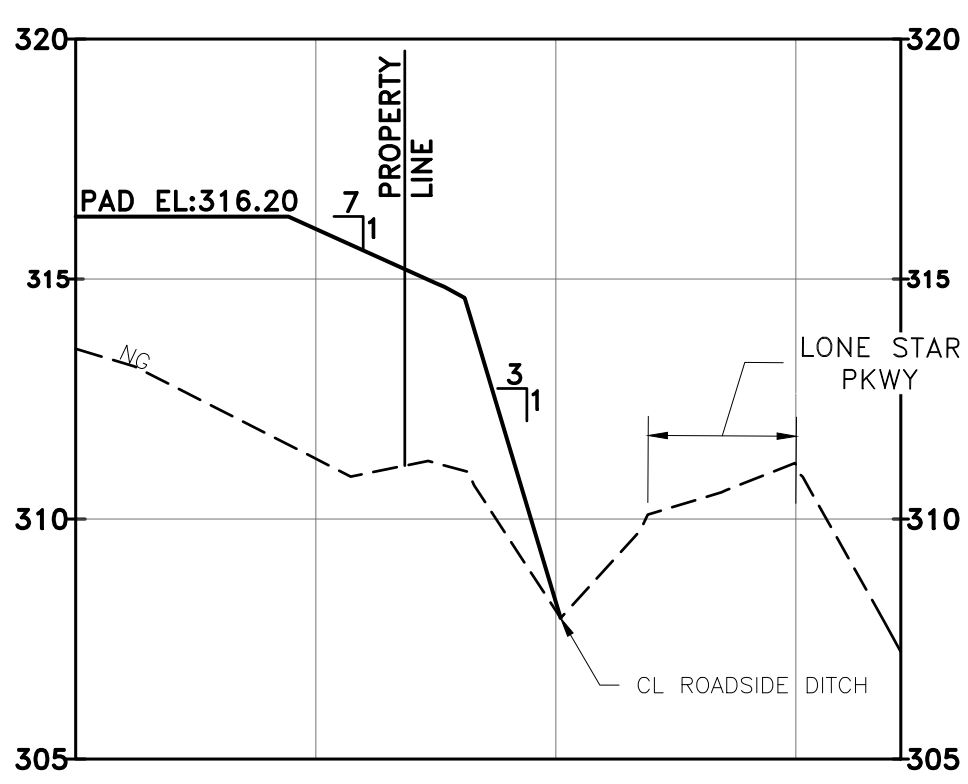
CUT:	2,900.53 CY.	FILL:	32,948.49 CY	NET CUT:	30,047.96 CY
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GRADING LEGEND:

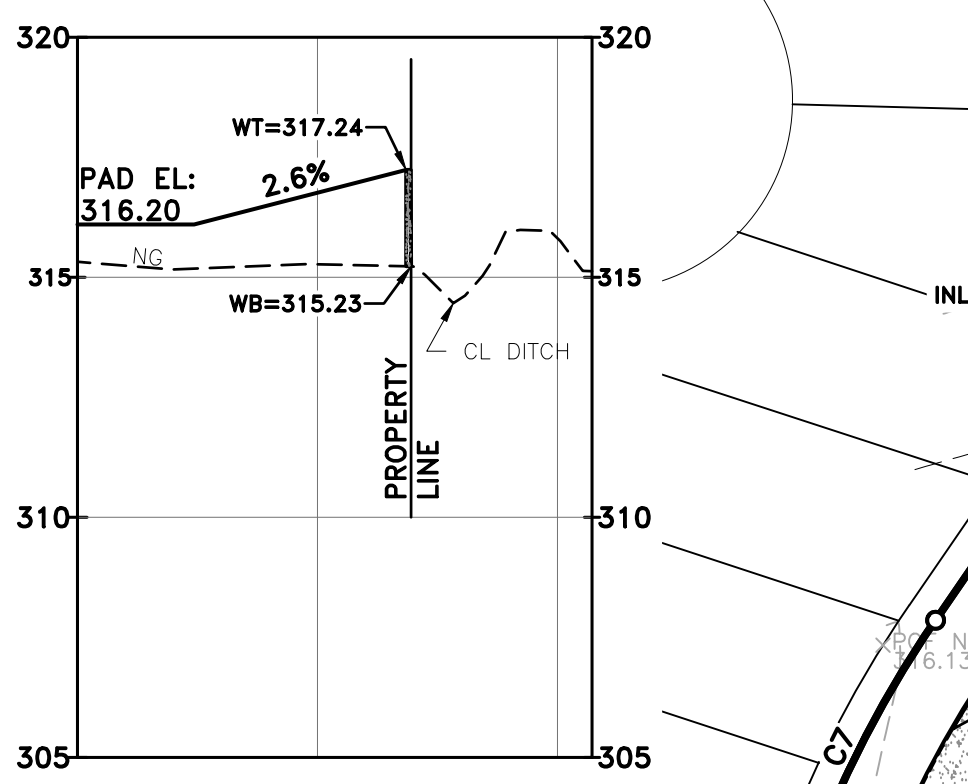
TW=???	TOP OF WALK
TP=???	TOP OF PAVEMENT
TG=???	TOP OF GRATE
FL=???	FLOWLINE
TC=???	TOP OF CURB
RM=???	RIM OF STRUCTURE
WT=???	WALL TOP
WB=???	WALL BOTTOM
FG=???	FINISH GRADE
MEG=???	MATCH EXISTING GRADE
MEP=???	MATCH EXISTING PAVEMENT
---	GRADE BREAK
---	WALL
---	SLOPE
---	>323.00 EXISTING ELEVATION POINT

- GRADING NOTES:**
- OWNER, CLIENTS AND/OR CONTRACTORS SHALL NOTIFY ENGINEER 48 HOURS IN ADVANCE OF PAVEMENT PLACEMENT FOR A MANDATORY FORM AND/OR "BLUE TOP" INSPECTION. USE OF THESE PLANS IS CONTINGENT UPON ACCEPTANCE OF THIS NOTE.
 - ADDITIONAL GRADING DESIGN AND DETAILS MAY BE PROVIDED PRIOR TO CONSTRUCTION.
 - THE CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING & PROPOSED SITE CONDITIONS INCLUDING GRADES & DIMENSIONS BEFORE CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES. MINOR ADJUSTMENT TO FINISH GRADE TO ACCOMPLISH SPOT DRAINAGE IS ACCEPTABLE. IF NECESSARY, UPON PRIOR APPROVAL OF THE ENGINEER, PAVING INSTALLED SHALL "FLUSH OUT" AT ANY STRUCTURE WITH EXISTING PAVING.
 - ALL PROPOSED CONTOURS ARE APPROXIMATE PROPOSED SPOT ELEVATIONS & DESIGNATED GRADIENT ARE TO BE USED IN THE EVENT OF ANY DISCREPANCIES.
 - UNLESS OTHERWISE NOTED, ALL PARKING LOT GRADES ARE TO TOP OF PAVEMENT. ADD 0.5' TO TOP OF PAVEMENT GRADE FOR TOP OF CURB GRADE.
 - ALL SIDEWALKS AND ACCESSIBLE ROUTES, INCLUDING DRIVEWAY CROSSWALKS SHALL CONFORM TO ALL APPLICABLE AMERICANS WITH DISABILITIES ACT STANDARDS. IF ANY DISCREPANCY IS DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO POURING ANY PAVEMENT.
 - ALL SIDEWALKS AND ACCESSIBLE ROUTES, INCLUDING DRIVEWAY CROSSWALKS, SHALL NOT EXCEED A RUNNING SLOPE OF 5% (1:20) WITHOUT A RAMP, AND SHALL NOT EXCEED A 2% CROSS SLOPE (1:50).
 - THE ACCESSIBLE PARKING AND PASSENGER LOADING AREAS SHALL NOT EXCEED A SLOPE OF 2% (1:50) IN ANY DIRECTION.
 - ALL EXISTING APPURTENANCES ON-SITE SHALL BE ADJUSTED TO PROPOSED GRADE AS APPLICABLE.
 - CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR BUILDING PAD LIMITS AND PREPARATION REQUIREMENTS.
 - CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM BUILDING IN ALL AREAS. CONTRACTOR SHALL NOTIFY THE ENGINEER AT THE EVENT OF ANY DISCREPANCY PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 - CONTRACTOR SHALL PROTECT ALL TREES TO REMAIN.

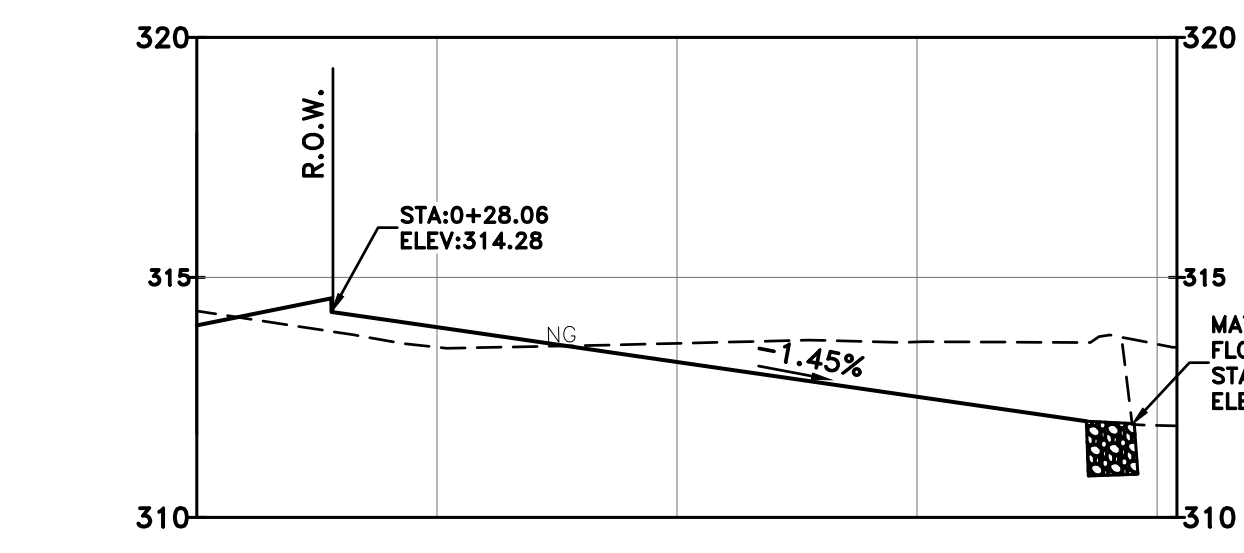
CS 1-1 PROFILE
1"=40' (HORIZ)
1"=4' (VERT)



CS 2-2 PROFILE
1"=40' (HORIZ)
1"=4' (VERT)



CS 3-3 PROFILE
1"=40' (HORIZ)
1"=4' (VERT)



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MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
K. HOWARD HOUSTON DISTRICT, LLC
13111 NW Fwy, Suite 200
HOUSTON, TX 77040

PROJECT ADDRESS
EMMA'S WAY
MONTGOMERY, TX 77356

**HILLS OF TOWN CREEK
SECTION 5
GRADING PLAN**

DRAWING ISSUE

#	DATE	BY	*COMMENT
1	04/30/24	JTW	FOR PERMIT

DRAWING INFORMATION

PROJECT	10976	TDLR	**
DRAWN	GLH	CHECKED	JTW
SCALE	SHEET		08
1" = 60' (24x36)		1" = 120' (11x17)	

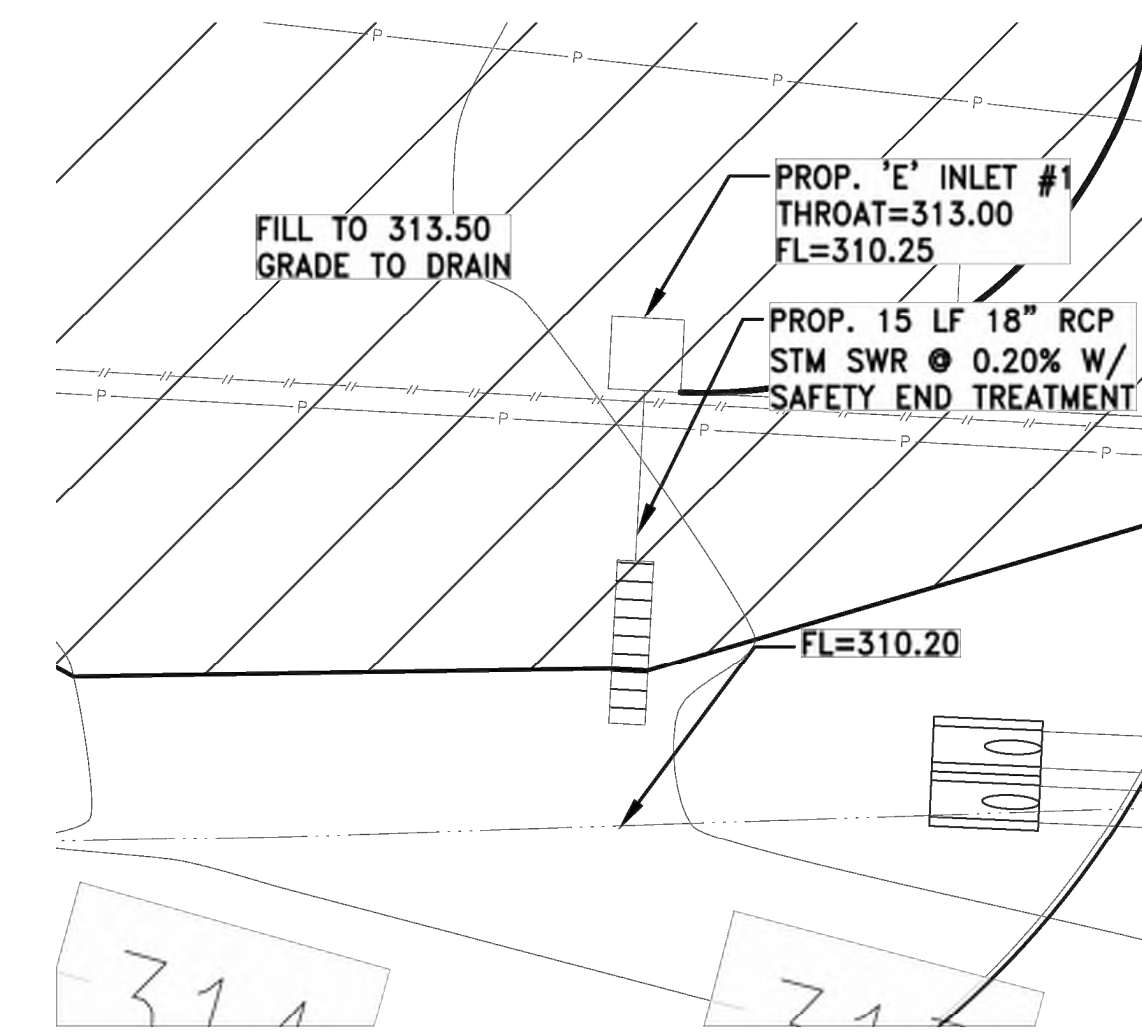
STATE OF TEXAS
JONATHAN T. WHITE
127058
LICENSED PROFESSIONAL ENGINEER

GITY OF MONTGOMERY, CITY ENGINEER
SIGNATURE VALID FOR ONE (1) YEAR

DATE

04/30/2024

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LEGEND

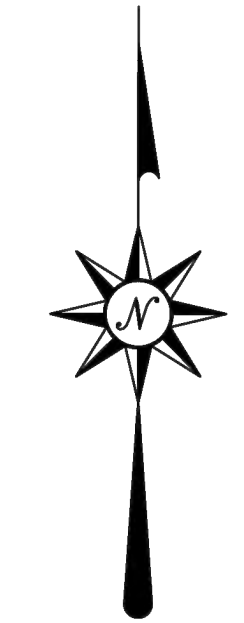
- PROPERTY LINE
- PROPOSED STORM SEWER (BY OTHERS)
- PROPOSED SANITARY SEWER (BY OTHERS)
- PROPOSED WATERLINE (BY OTHERS)
- PROPOSED PAVEMENT (BY OTHERS)
- 295 EXISTING CONTOUR MAJOR
- 294 EXISTING CONTOUR MINOR
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING EASEMENT
- EXISTING BUILDING LINE
- EXISTING POWERLINE
- EXISTING DITCH
- EXISTING FENCE
- PROPOSED RIGHT-OF-WAY
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATERLINE
- PROPOSED PAVEMENT
- PROPOSED EASEMENT
- - - - - PROPOSED DRAINAGE AREAS

AREA
 CFS 100 YR STORM EVENT UNLESS NOTED OTHERWISE.
 CALCULATED WITH RATIONAL METHOD, TC = 10 MIN. (TYP.)

CUMULATIVE AREA
 CFS STORM EVENT

TC = TIME OF CONCENTRATION

PROPOSED FLOW DIRECTION (DEVELOPED)



- Note 1: DA's D1 thru D12 shall not discharge more than the flow indicated. Future development to utilize mitigation as needed to reduce flow appropriately.
- Note 2: Future development in DA's D19 and D20 shall provide storm water conveyance for developed flows directly to detention pond via storm sewer and extreme event swales.
- Note 3: Drainage System's A, B, & C shall discharge directly to road ditches in the amounts shown. Excess flow shall be mitigated as appropriate in future development. A restrictor may be required to mitigate flows to TXDOT drainage facility capacities.
- Note 4: Drainage System E shall discharge directly to the Town Creek Tributary in future development.

- Note 5: Drainage System Total Flows as shown in Drainage System labels are calculated using TR-55 Methodology with a SCS Type III Storm. Expect some variation between calculated rational flows which were utilized in the storm sewer design (shown in circles).
- Note 6: The Drainage and Grading plan for any future development in systems "C" & "E" must be reviewed and approved by TXDOT.

DRAWING ISSUE/REVISIONS			
No.	DATE	BY	COMMENT

L SQUARED ENGINEERING
Civil • Consulting • Management

CLIENT
CHEATHAM

THE HILLS OF TOWN CREEK
SECTION 1 SUBDIVISION PLANS
OVERALL DRAINAGE AREAS

PROJECT TITLE

ENGINEER CONTACT INFO:
LSQUARED ENGINEERING, LLC.
21123 EVA ST. SUITE 210-H
MONTGOMERY, TX 77356
836-647-0420

PROJECT LOCATION
AT THE INTERSECTION OF LONESTAR
PARKWAY AND HIGHWAY 105
MONTGOMERY COUNTY, TEXAS

PROJECT LEGAL DESCRIPTION
12.384 Acres of land being part of that certain
79.8035 Acre Tract of land conveyed from
MONTGOMERY INDEPENDENT SCHOOL
DISTRICT to MONTGOMERY ENERGY
RESOURCES, INC., lying in the BENJAMIN
RIGBY LEAGUE, Abstract 31

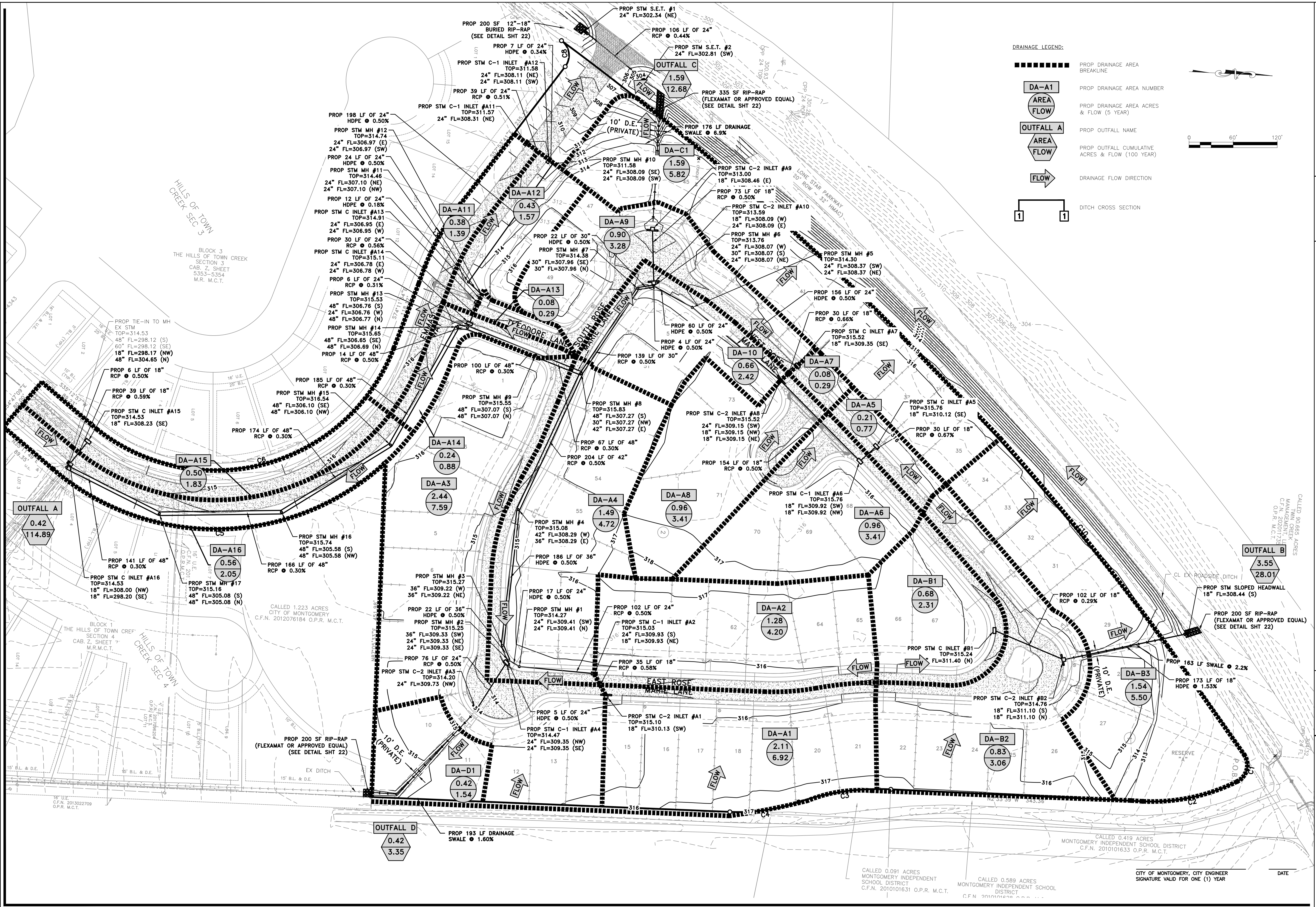
SEAL

DATE: 11/12/2012
PROJECT NO: 10003
DRAWN BY: CBJ
SCALE: 1"=200'
DRAWING NO: 09

L SQUARED ENGINEERING
Civil • Consulting • Management

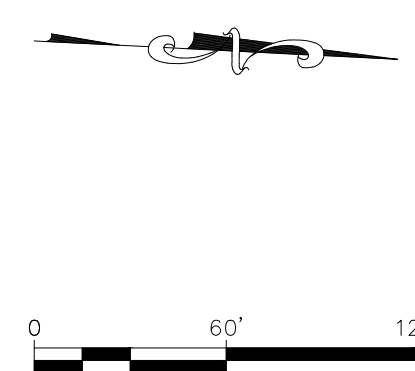
Chris Reynolds
CITY OF MONTGOMERY, CITY ENGINEER
SIGNATURE VALID FOR ONE (1) YEAR
DATE: 10/20/2020

L:\SHARED\12 ENGINEERING PROJECTS\ENGINEERING PROJECTS\10976 - HOTCS - K HOV.03 CAD\DESIGN SET\10 DRAINAGE & STORM SEWER PLAN.DWG Apr. 30, 2024-8:11 AM CATHLYN CURTIS



DRAINAGE LEGEND:

- PROP DRAINAGE AREA BREAKLINE
- DA-A1
AREA
FLOW PROP DRAINAGE AREA NUMBER
- AREA
FLOW PROP DRAINAGE AREA ACRES & FLOW (5 YEAR)
- OUTFALL A
AREA
FLOW PROP OUTFALL NAME
- AREA
FLOW PROP OUTFALL CUMULATIVE ACRES & FLOW (100 YEAR)
- FLOW DRAINAGE FLOW DIRECTION
- 1 1 DITCH CROSS SECTION



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21123 EVA STREET #200
MONTGOMERY, TEXAS 37155

CLIENT INFORMATION
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13111 NW FMV, SUITE 200
HOUSTON, TX 77040
PROJECT ADDRESS
EMMA'S WAY
MONTGOMERY, TX 77356

HILLS OF TOWN CREEK SECTION 5 DRAINAGE AND STORM SEWER PLAN

DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	04/30/24	JTW	FOR PERMIT

DRAWING INFORMATION			
PROJECT	10976	TDLR	**
DRAWN	GLH	CHECKED	JTW
SCALE	1" = 60' (24x36)	SHEET	10
	1" = 120' (11x17)		

STATE OF TEXAS
JONATHAN T. WHITE
127058
PROFESSIONAL ENGINEER
CITY OF MONTGOMERY, CITY ENGINEER
SIGNATURE VALID FOR ONE (1) YEAR
DATE

*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE

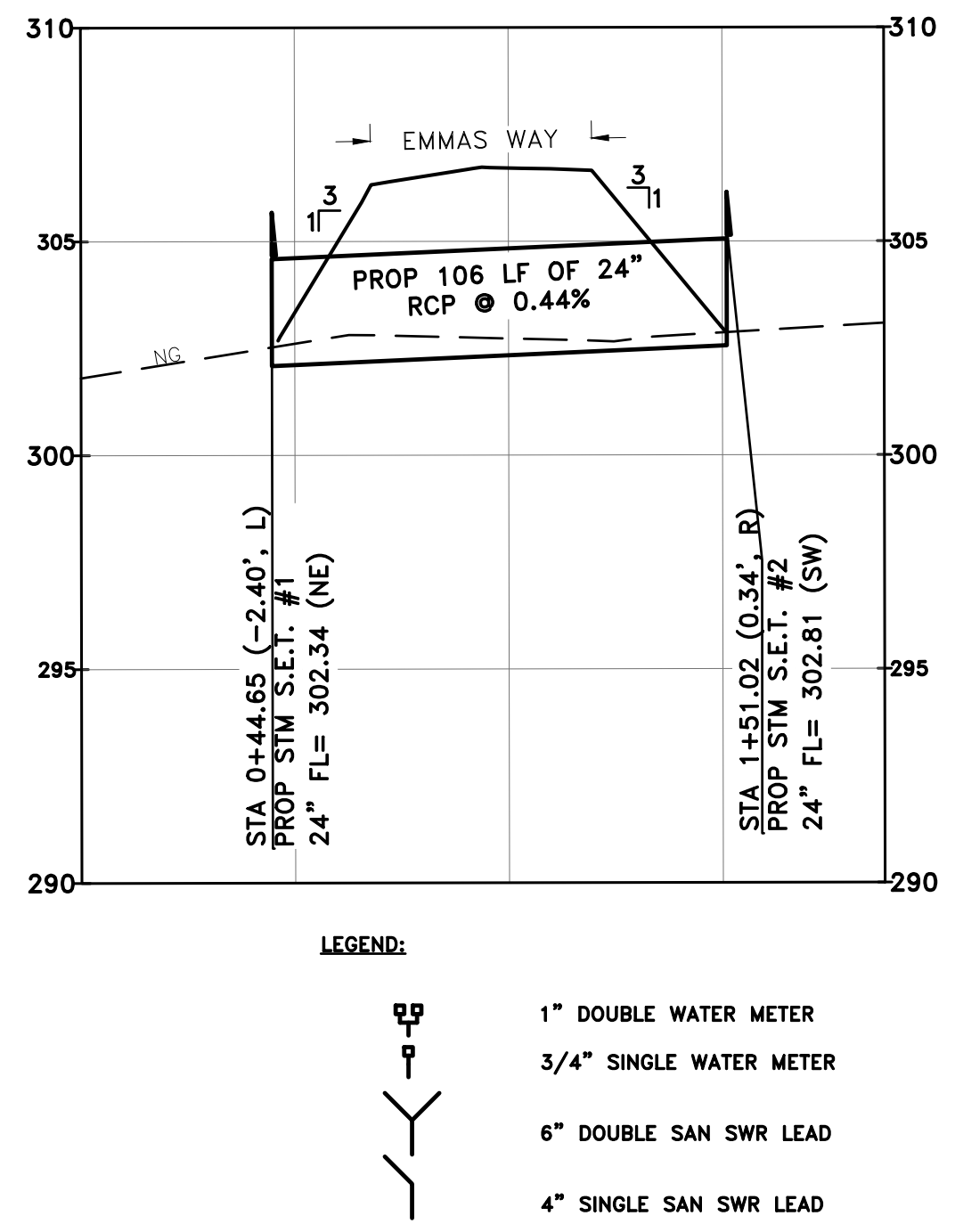
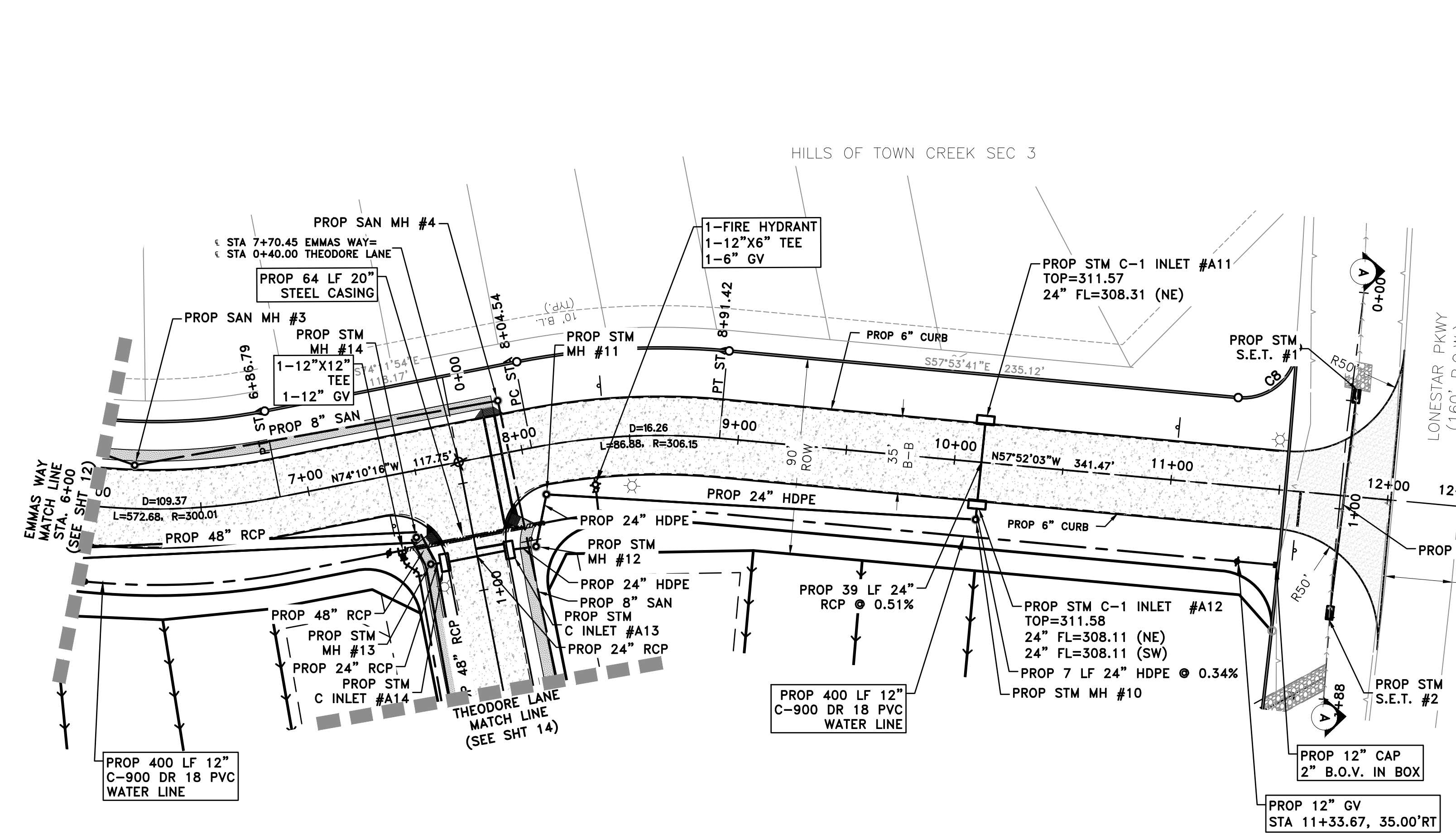
SYS 'A1'
5 Year

Inlet Info		HGL																										
Inlet/MH From	Inlet/MH To	Drainage Area	Drainage Area	Runoff Co. "C"	DA C*A	Total C*A	Drainage Area Time of Conc. (Min)	Total Time of Conc. (Min)	Intensity (I)	Cf	Drainage Area Flow (cfs)	Total Flow (cfs)	Number of Barrels	Culvert Size (ft)	Slope	Area (A)	Perimeter (P)	R=(A/P)	Length (ft)	Roughness (n)	Q _{capacity} (CFS)	V _{allow} (FPS)	Upstream FL	Downstream FL	Change In Head (ft)	Hydraulic GradeLine %	Elevation of Hyd. Grad. Upstream (ft)	Elevation of Hyd. Grad. Downstream (ft)
Inlet A1	Inlet A2	2.11	2.11	0.55	1.16	1.16	13.36	13.36	5.96	1.00	6.92	6.92	1	1.5	0.005	1.77	4.71	0.375	35	0.013	7.32	4.14	310.10	309.93	0.15	0.43	312.67	312.51
Inlet A2	MH1	1.28	3.39	0.55	0.70	1.86	13.36	13.36	5.96	1.00	4.20	11.11	1	2	0.005	3.14	6.28	0.500	102	0.013	16.15	5.14	309.93	309.41	0.25	0.24	312.51	312.27
MH1	MH2	0.00	3.39	0.55	0.00	1.86	0.00	13.36	5.96	1.00	0.00	11.11	1	2	0.005	3.14	6.28	0.500	17	0.011	18.34	5.84	309.41	309.33	0.03	0.17	312.27	312.24
Inlet A3	Inlet A4	2.44	2.44	0.55	1.34	1.34	15.19	15.19	5.65	1.00	7.59	7.59	1	2	0.005	3.14	6.28	0.500	76	0.013	15.99	5.09	309.73	309.35	0.09	0.11	312.33	312.25
Inlet A4	MH2	1.49	3.93	0.55	0.82	2.16	14.53	15.19	5.65	1.00	4.72	12.22	1	2	0.004	3.14	6.28	0.500	5	0.011	16.91	5.38	309.35	309.33	0.01	0.21	312.25	312.24
MH2	MH3	0.00	7.32	0.55	0.00	4.03	0.00	15.19	5.65	1.00	0.00	22.76	1	3	0.005	7.07	9.42	0.750	22	0.011	55.73	7.88	309.33	309.22	0.02	0.08	312.24	312.22
MH3	MH4	0.00	7.32	0.55	0.00	4.03	0.00	15.19	5.65	1.00	0.00	22.76	1	3	0.005	7.07	9.42	0.750	186	0.011	55.73	7.88	309.22	308.29	0.16	0.08	311.45	311.29
MH4	MH8	0.00	7.32	0.55	0.00	4.03	0.00	15.19	5.65	1.00	0.00	22.76	1	3.5	0.005	9.62	11.00	0.875	204	0.013	71.14	7.39	308.29	307.27	0.10	0.05	311.21	311.11
Inlet A5	Inlet A6	0.21	0.21	0.55	0.12	0.12	10.00	10.00	6.66	1.00	0.77	0.77	1	1.5	0.005	1.77	4.71	0.375	30	0.013	7.43	4.20	310.07	309.92	0.00	0.01	311.71	311.71
Inlet A6	Inlet A8	0.96	1.17	0.55	0.53	0.64	10.88	10.88	6.45	1.00	3.41	4.15	1	1.5	0.005	1.77	4.71	0.375	154	0.013	7.43	4.20	309.92	309.15	0.24	0.16	311.71	311.47
Inlet A7	Inlet A8	0.08	0.08	0.55	0.04	0.04	10.00	10.88	6.45	1.00	0.29	0.28	1	1.5	0.005	1.77	4.71	0.375	30	0.013	7.43	4.20	309.30	309.15	0.00	0.00	311.47	311.47
Inlet A8	MH5	0.96	2.21	0.55	0.53	1.22	10.88	10.88	6.45	1.00	3.41	7.84	1	2	0.005	3.14	6.28	0.500	156	0.011	18.90	6.02	309.15	308.37	0.13	0.09	311.47	311.33
MH5	MH6	0.00	2.21	0.55	0.00	1.22	0.00	10.88	6.45	1.00	0.00	7.84	1	2	0.005	3.14	6.28	0.500	60	0.011	18.90	6.02	308.37	308.07	0.05	0.09	311.33	311.28
Inlet A9	Inlet A10	0.90	0.90	0.55	0.50	0.50	10.15	10.15	6.62	1.00	3.28	3.28	1	1.5	0.005	1.77	4.71	0.375	73	0.013	7.48	4.23	308.46	308.09	0.07	0.10	311.35	311.28
Inlet A10	MH6	0.66	1.56	0.55	0.36	0.86	10.00	10.15	6.62	1.00	2.42	5.68	1	2	0.005	3.14	6.28	0.500	4	0.011	18.90	6.02	308.09	308.07	0.00	0.05	311.28	311.28
MH6	MH7	0.00	3.77	0.55	0.00	2.07	0.00	10.15	6.62	1.00	0.00	13.72	1	2.5	0.005	4.91	7.85	0.625	22	0.011	34.27	6.98	308.07	307.96	0.02	0.08	311.28	311.26
MH7	MH8	0.00	3.77	0.55	0.00	2.07	0.00	10.15	6.62	1.00	0.00	13.72	1	2.5	0.005	4.91	7.85	0.625	139	0.013	28.89	5.89	307.96	307.27	0.16	0.11	311.26	311.11
MH8	MH9	0.00	11.09	0.55	0.00	6.10	0.00	15.19	5.65	1.00	0.00	34.49	1	4	0.003	12.57	12.57	1.000	67	0.013	78.48	6.25	307.27	307.07	0.04	0.06	311.11	310.77
MH9	MH13	0.00	11.09	0.55	0.00	6.10	0.00	15.19	5.65	1.00	0.00	34.49	1	4	0.003	12.57	12.57	1.000	100	0.013	78.68	6.26	307.07	306.77	0.06	0.06	310.83	310.77
Inlet A11	Inlet A12	0.38	0.38	0.55	0.21	0.21	10.00	10.00	6.66	1.00	1.39	1.39	1	1.5	0.005	1.77	4.71	0.375	39	0.013	7.52	4.26	308.31	308.11	0.01	0.02	310.75	310.74
Inlet A12	MH10	0.43	0.81	0.55	0.24	0.45	10.00	10.00	6.66	1.00	1.57	2.97	1	1.5	0.003	1.77	4.71	0.375	7	0.011	6.63	3.75	308.11	308.09	0.00	0.06	310.74	310.74
MH10	MH11	0.00	0.81	0.55	0.00	0.45	0.00	10.00	6.66	1.00	0.00	2.97	1	2	0.005	3.14	6.28	0.500	198	0.011	18.90	6.02	308.09	307.10	0.02	0.01	310.74	310.71
MH11	MH12	0.00	0.81	0.55	0.00	0.45	0.00	10.00	6.66	1.00	0.00	2.97	1	2	0.005	3.14	6.28	0.500	24	0.011	19.67	6.26	307.10	306.97	0.00	0.01	310.71	310.71
MH12	Inlet A13	0.00	0.81	0.55	0.00	0.45	0.00	10.00	6.66	1.00	0.00	2.97	1	2	0.002	3.14	6.28	0.500	12	0.011	10.91	3.47	306.97	306.95	0.00	0.01	310.71	310.71
Inlet A13	Inlet A14	0.08	0.89	0.55	0.04	0.49	10.00	10.00	6.66	1.00	0.29	3.26	1	2	0.006	3.14	6.28	0.500	30	0.013	17.03	5.42	306.95	306.78	0.01	0.02	310.71	310.70
Inlet A14	MH13	0.24	1.13	0.55	0.13	0.62	10.00	10.00	6.66	1.00	0.88	4.14	1	2	0.003	3.14	6.28	0.500	6	0.013	13.06	4.16	306.78	306.76	0.00	0.03	310.70	310.70
MH13	MH14	0.00	12.22	0.55	0.00	6.72	0.00	15.19	5.65	1.00	0.00	38.00	1	4	0.005	12.57	12.57	1.000	14	0.013	101.57	8.08	306.76	306.69	0.01	0.07	310.70	310.69
MH14	MH15	0.00	12.22	0.55	0.00	6.72	0.00	15.19	5.65	1.00	0.00	38.00	1	4	0.003	12.57	12.57	1.000	185	0.013	78.32	6.23	306.65	306.10	0.13	0.07	310.23	310.10
MH15	MH16	0.00	12.22	0.55	0.00	6.72	0.00	15.19	5.65	1.00	0.00	38.00	1	4	0.003	12.57	12.57	1.000	174	0.013	78.53	6.25	306.10	305.58	0.12	0.07	309.92	309.79
MH16	MH17	0.00	12.22	0.55	0.00	6.72	0.00	15.19	5.65	1.00	0.00	38.00	1	4	0.003	12.57	12.57	1.000	166	0.013	78.83	6.27	305.58	305.08	0.12	0.07	309.79	309.68
MH17	OUT	0.00	15.99	0.55	0.00	8.79	0.00	15.19	5.65	1.00	0.00	49.73	1	4	0.003	12.57	12.57	1.000	141	0.013	79.32	6.31	305.08	304.65	0.17	0.12	309.68	309.51
Inlet A15	Inlet A16	0.50	0.50	0.55	0.28	0.28	10.00	15.19	5.65	1.00	1.83	1.55	1	1.5	0.006	1.77	4.71	0.375	39	0.013	8.06	4.56	308.23	308.00	0.01	0.02	309.51	309.50
Inlet A16	OUT	0.56	17.05	0.55	0.31	9.38	10.00	15.19	5.65	1.00	2.05	53.02	1	4	0.005	12.57	12.57	1.000	6	0.013	101.57	8.08	298.20	298.17	0.01	0.14	302.18	302.17

Starting TW Elevation: 302.17

100 Year

Inlet Info		HGL																										
Inlet/MH From	Inlet/MH To	Drainage Area	Drainage Area	Runoff Co. "C"	DA C*A	Total C*A	Drainage Area Time of Conc. (Min)	Total Time of Conc. (Min)	Intensity (I)	Cf	Drainage Area Flow (cfs)	Total Flow (cfs)	Number of Barrels	Diameter (ft)	Slope	Area (A)	Perimeter (P)	R=(A/P)	Length (ft)	Roughness (n)	Q _{capacity} (CFS)	V _{allow} (FPS)	Upstream FL	Downstream FL	Change In Head (ft)	Hydraulic GradeLine %	Elevation of Hyd. Grad. Upstream (ft)	Elevation of Hyd. Grad. Downstream (ft)
Inlet A1	Inlet A2	2.11	2.11	0.55	1.16	1.16	13.36	13.36	10.35	1.25	15.02	15.02	1	1.5	0.005	1.77	4.71	0.375	35	0.013	7.32	4.14	310.10	309.93	0.72	2.04	315.04	314.33
Inlet A2	MH1	1.28	3.39	0.55	0.70	1.86	13.36	13.36	10.35	1.25	9.11	24.12	1	2	0.005	3.14	6.28	0.500	102	0.013	16.15	5.14	309.93	309.41	1.16	1.14	314.33	313.17
MH1	MH2	0.00	3.39	0.55	0.00	1.86	0.00	13.36	10.35	1.25	0.00	24.12	1	2	0.005	3.14	6.28	0.500	17	0.011	18.34	5.84	309.41	309.33	0.14	0.81	313.17	313.03
Inlet A3	Inlet A4	2.44	2.44	0.55	1.34	1.34	15.19	15.19	9.80	1.25	16.44	16.44	1	2	0.005	3.14	6.28	0.500	76	0.013	15.99	5.09	309.73	309.35	0.40	0.53	313.48	313.08
Inlet A4	MH2	1.49	3.93	0.55	0.82	2.16	14.53	15.19	9.80	1.25	10.23	26.48	1	2	0.004	3.14	6.28	0.500	5	0.011	16.91	5.38	309.35	309.33	0.05			



- LEGEND:
- EX ADJOINER LINE, ADJ
 - EX SANITARY, SAN
 - EX WATERLINE, WL
 - EX STORM SEWER, STM
 - EX DRAINAGE PATH, FL
 - EX HIGH BANK, HB
 - EX EASEMENT, ESMT
 - EX BUILDING LINE, BL
 - EX OVERHEAD POWER, P
 - EX UNDERGROUND POWER, UG
 - EX FIBER, FO
 - EX TELEPHONE, T
 - EX GAS LINE, G
 - EX FENCE, FNC
 - PROJECT BOUNDARY LINE, BNDY
 - PROP SANITARY, SAN
 - PROP WATERLINE, WL
 - PROP STORM SEWER, STM
 - PROP DRAINAGE PATH, FL
 - PROP HIGH BANK, HB
 - PROP EASEMENT, ESMT
 - PROP BUILDING LINE, BL
 - PROP OVERHEAD POWER, P
 - PROP UNDERGND POWER, UG
 - PROP FIBER, FO
 - PROP TELEPHONE, T
 - PROP GAS LINE, G
 - PROP FENCE, FNC
 - PROP PAVEMENT, PVMT
 - PROP BACK OF CURB, BC
 - PROP STACK

VERTICAL CURVE #1 TABLE			VERTICAL CURVE #2 TABLE		
STATION	ELEV	SLOPE	STATION	ELEV	SLOPE
6+52.50	316.42'	-0.50%	9+80.56	311.96'	-1.24%
6+54.80	316.41'	-0.51%	9+84.80	311.91'	-1.30%
6+64.80	316.35'	-0.59%	9+94.80	311.76'	-1.50%
6+74.80	316.28'	-0.72%	10+04.80	311.58'	-1.78%
6+84.80	316.19'	-0.85%	10+14.80	311.37'	-2.06%
6+94.80	316.09'	-0.98%	10+24.80	311.14'	-2.35%
7+00.00	316.04'	-1.08%	10+32.18	310.95'	-2.59%
7+04.80	315.98'	-1.15%	10+34.80	310.87'	-2.73%
7+14.80	315.86'	-1.24%	10+44.80	310.58'	-2.91%
7+24.80	315.72'	-1.37%	10+54.80	310.26'	-3.19%
7+34.80	315.57'	-1.50%	10+64.80	309.92'	-3.47%
7+44.80	315.41'	-1.63%	10+74.80	309.54'	-3.76%
7+47.50	315.36'	-1.72%	10+83.80	309.18'	-4.02%

- NOTES:
- ALL LONGSIDE LEADS SHALL INCLUDE STACKS, RISERS, TEES, WYES, AND ALL APPURTENANCES TO END AT A DEPTH OF 4'-5' BELOW NATURAL GROUND. (SEE DETAIL SHT. 25)
 - ALL SANITARY SEWER SERVICE LINES TO BE 1% SLOPE, UNLESS OTHERWISE NOTED
 - ALL FIRE HYDRANTS TO BE LOCATED 3' BEHIND BACK OF CURB.
 - ALL UTILITY LEADS UNDER PAVEMENT IN CUL-DE-SACS AND/OR KNUCKLES TO BE BACKFILLED WITH CEMENT STABILIZED SAND UP TO PAVEMENT SUBGRADE.
 - SEE PROFILE FOR ACTUAL LOCATION OF EACH WATERLINE APPURTENANCE. PROFILE VIEW GOVERNS OVER PLAN VIEW.
 - HGL IS FOR THE 5-YR EVENT IN STORM SEWER.
 - WATER AND SANITARY SHALL MAINTAIN 9' HORIZONTAL CLEARANCE.
 - STORM AND SANITARY SHALL MAINTAIN 5' HORIZONTAL CLEARANCE.
 - STORM AND WATER SHALL MAINTAIN 4' HORIZONTAL CLEARANCE.

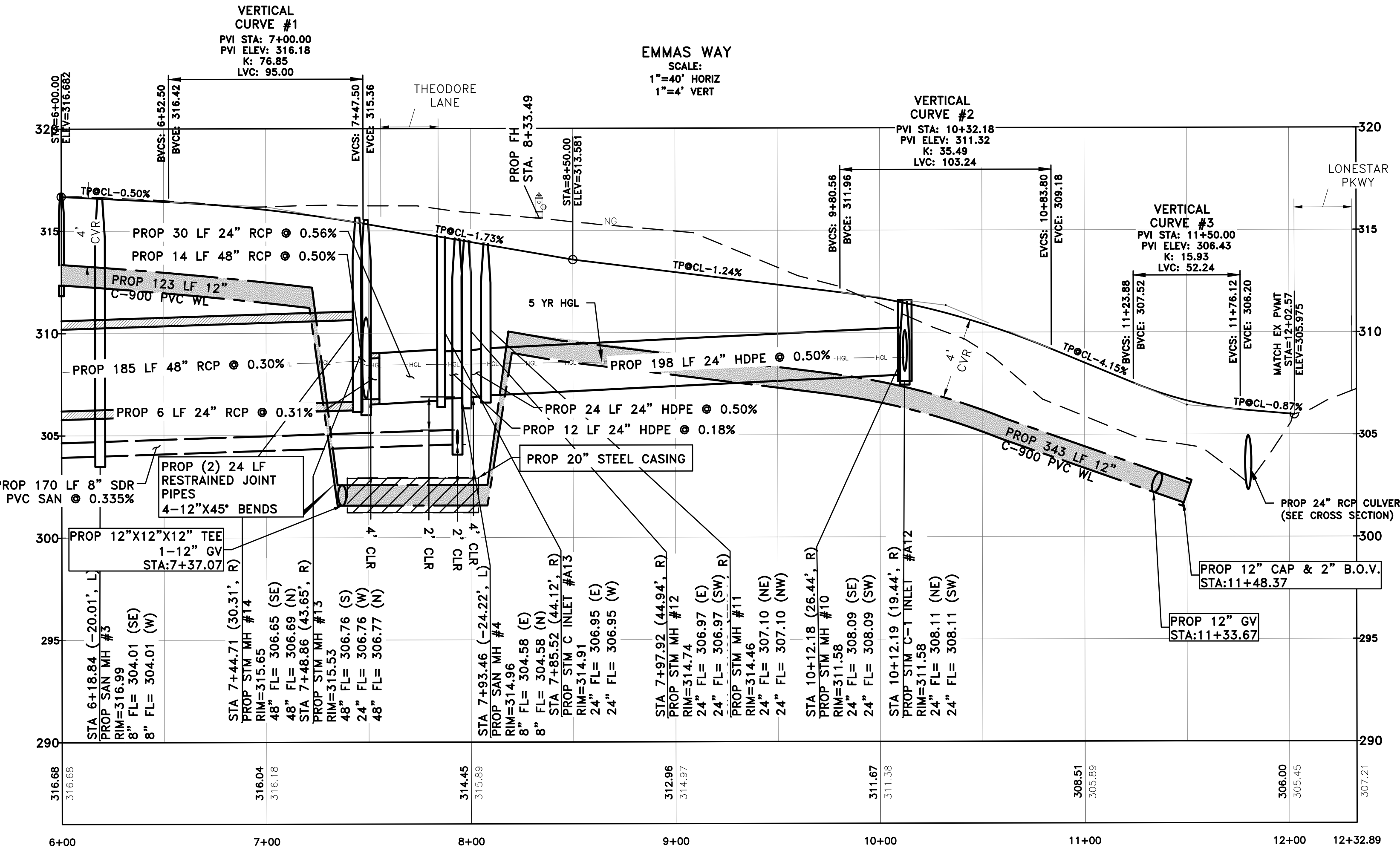
SANITARY SEWER CONNECTION NOTE: THE CONTRACTOR SHALL CONNECT THE PROPOSED 8-INCH SANITARY SEWER LINE TO THE SANITARY SEWER MANHOLE BY MEANS OF CORE AND BOOT AT SPECIFIED FLOWLINE. THE OPENING IN THE SIDE OF THE MANHOLE SHALL NOT BE MORE THAN 3-INCHES NOR LESS THAN 1-INCH IN DIAMETER THAN THE OUTSIDE DIAMETER FOR THE PROPOSED PIPE. THE PROPOSED PIPE SHALL NOT PROTRUDE MORE THAN 3-INCHES PAST THE INSIDE FACE OF THE MANHOLE WALL. FILL THE ENTIRE VOID AROUND THE PROPOSED PIPE WITH NON-SHRINK WATERPROOF GROUT. CONTRACTOR TO CONSTRUCT SLOPE AT INVERT OF MANHOLE UNDER POINT OF SANITARY SEWER CONNECTION. THE CONTRACTOR SHALL BACKFILL THE EXCAVATION AROUND THE EXISTING MANHOLE WITH CEMENT-SAND.

Table 73 - PROTECTION REQUIREMENTS AT WATER LINE (WL) - SANITARY SEWER (SS) CROSSINGS

Crossing	Sanitary Sewer		Water Line	
	Min. Depth	Min. Cover	Min. Depth	Min. Cover
Asphalt	4'	2'	4'	2'
Concrete	4'	2'	4'	2'
Gravel	4'	2'	4'	2'
Grass	4'	2'	4'	2'
Soil	4'	2'	4'	2'
Water	4'	2'	4'	2'

VERTICAL CURVE #3 TABLE

STATION	ELEV	SLOPE
11+23.88	307.52'	-4.15%
11+24.80	307.48'	-4.12%
11+34.80	307.10'	-3.78%
11+44.80	306.79'	-3.15%
11+50.00	306.65'	-2.67%
11+54.80	306.53'	-2.36%
11+64.80	306.34'	-1.89%
11+74.80	306.22'	-1.27%
11+76.12	306.20'	-0.91%



L SQUARED ENGINEERING
MUNICIPAL COMMERCIAL RESIDENTIAL
WWW.L2ENGINEERING.COM
1307 W. DAVIS STREET #100
CONROE, TEXAS 77384
OFFICE: 281-467-9000
21123 EVA STREET #200
MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
K. HOUBANIAN HOUSTON DISTRICT, LLC
13111 NW FWY, SUITE 200
HOUSTON, TX 77040
PROJECT ADDRESS
EMMAS WAY
MONTGOMERY, TX 77356

HILLS OF TOWN CREEK
SECTION 5
EMMAS WAY PLAN & PROFILE
STA 6+00 - END

DRAWING ISSUE

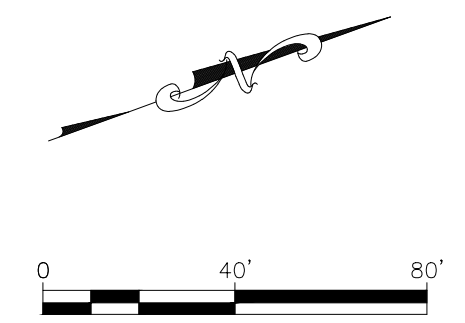
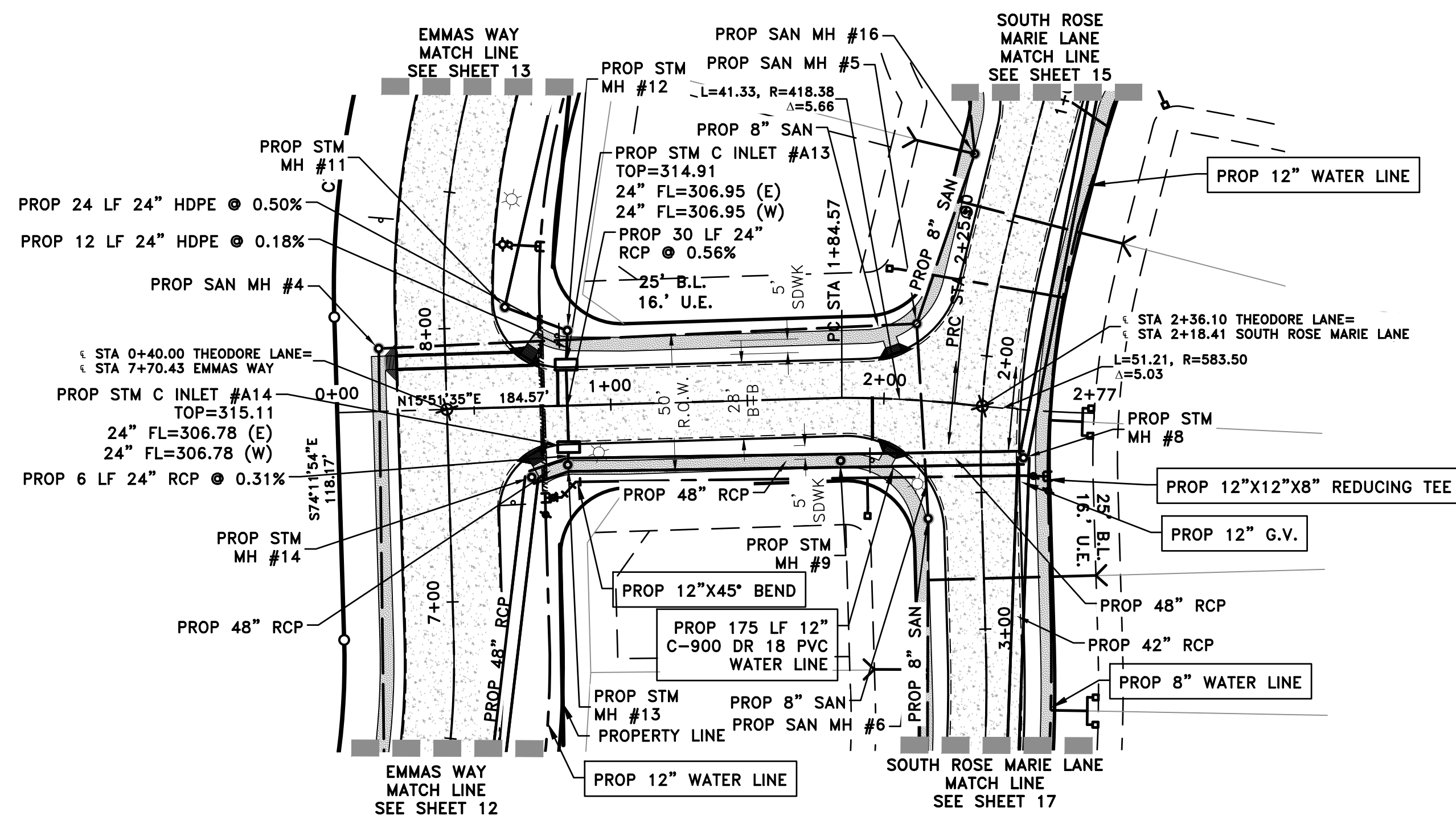
#	DATE	BY	* COMMENT
1	04/30/24	JTW	FOR PERMIT

DRAWING INFORMATION

PROJECT	10976	TDLR	**
DRAWN	GLH	CHECKED	JTW
SCALE	1" = 40' (24x36)	SHEET	13
	1" = 80' (11x17)		

STATE OF TEXAS
JONATHAN T. WHITE
27058
PROFESSIONAL ENGINEER
04/30/2024

*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE



LEGEND:

---	EX ADJOINER LINE, ADJ
---	EX SANITARY, SAN
---	EX WATERLINE, WL
---	EX STORM SEWER, STM
---	EX DRAINAGE PATH, FL
---	EX HIGH BANK, HB
---	EX EASEMENT, ESMT
---	EX BUILDING LINE, BL
P	EX OVERHEAD POWER, P
UG	EX UNDERGROUND POWER, UG
FO	EX FIBER, FO
T	EX TELEPHONE, T
G	EX GAS LINE, G
X	EX FENCE, FNC
---	PROJECT BOUNDARY LINE, BNDY
---	PROP SANITARY, SAN
---	PROP WATERLINE, WL
---	PROP STORM SEWER, STM
---	PROP DRAINAGE PATH, FL
---	PROP HIGH BANK, HB
---	PROP EASEMENT, ESMT
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P	PROP OVERHEAD POWER, P
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FO	PROP FIBER, FO
T	PROP TELEPHONE, T
G	PROP GAS LINE, G
X	PROP FENCE, FNC
---	PROP PAVEMENT, PVMT
---	PROP BACK OF CURB, BC
⊙	PROP STACK

- NOTES:
- ALL LONGSIDE LEADS SHALL INCLUDE STACKS, RISERS, TEES, WYES, AND ALL APPURTENANCES TO END AT A DEPTH OF 4'-5" BELOW NATURAL GROUND. (SEE DETAIL SHT. 25)
 - ALL SANITARY SEWER SERVICE LINES TO BE 1% SLOPE, UNLESS OTHERWISE NOTED
 - ALL FIRE HYDRANTS TO BE LOCATED 3' BEHIND BACK OF CURB.
 - ALL UTILITY LEADS UNDER PAVEMENT IN CUL-DE-SACS AND/OR KNUCKLES TO BE BACKFILLED WITH CEMENT STABILIZED SAND UP TO PAVEMENT SUBGRADE.
 - SEE PROFILE FOR ACTUAL LOCATION OF EACH WATERLINE APPURTENANCE. PROFILE VIEW GOVERNS OVER PLAN VIEW.
 - HGL IS FOR THE 5-YR EVENT IN STORM SEWER.
 - WATER AND SANITARY SHALL MAINTAIN 9' HORIZONTAL CLEARANCE.
 - STORM AND SANITARY SHALL MAINTAIN 5' HORIZONTAL CLEARANCE.
 - STORM AND WATER SHALL MAINTAIN 4' HORIZONTAL CLEARANCE.

SANITARY SEWER CONNECTION NOTE: THE CONTRACTOR SHALL CONNECT THE PROPOSED 8-INCH SANITARY SEWER LINE TO THE SANITARY SEWER MANHOLE BY MEANS OF CORE AND BOOT AT SPECIFIED FLOWLINE. THE OPENING IN THE SIDE OF THE MANHOLE SHALL NOT BE MORE THAN 3-INCHES NOR LESS THAN 1-INCH IN DIAMETER THAN THE OUTSIDE DIAMETER FOR THE PROPOSED PIPE. THE PROPOSED PIPE SHALL NOT PROTRUDE MORE THAN 3-INCHES PAST THE INSIDE FACE OF THE MANHOLE WALL. FILL THE ENTIRE VOID AROUND THE PROPOSED PIPE WITH NON-SHRINK WATERPROOF GROUT. CONTRACTOR TO CONSTRUCT SLOPE AT INVERT OF MANHOLE UNDER POINT OF SANITARY SEWER CONNECTION. THE CONTRACTOR SHALL BACKFILL THE EXCAVATION AROUND THE EXISTING MANHOLE WITH CEMENT-SAND.

CITY OF MONTGOMERY, CITY ENGINEER
SIGNATURE VALID FOR ONE (1) YEAR

DATE

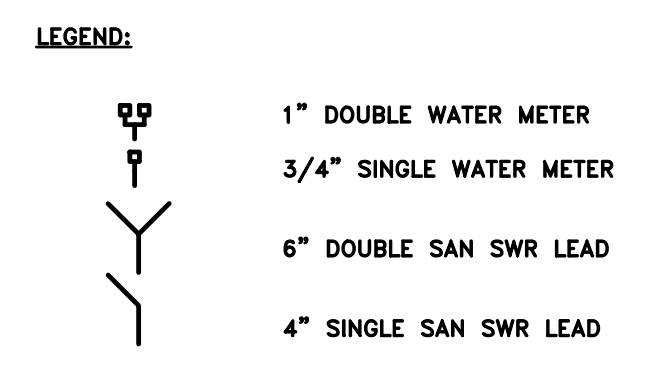
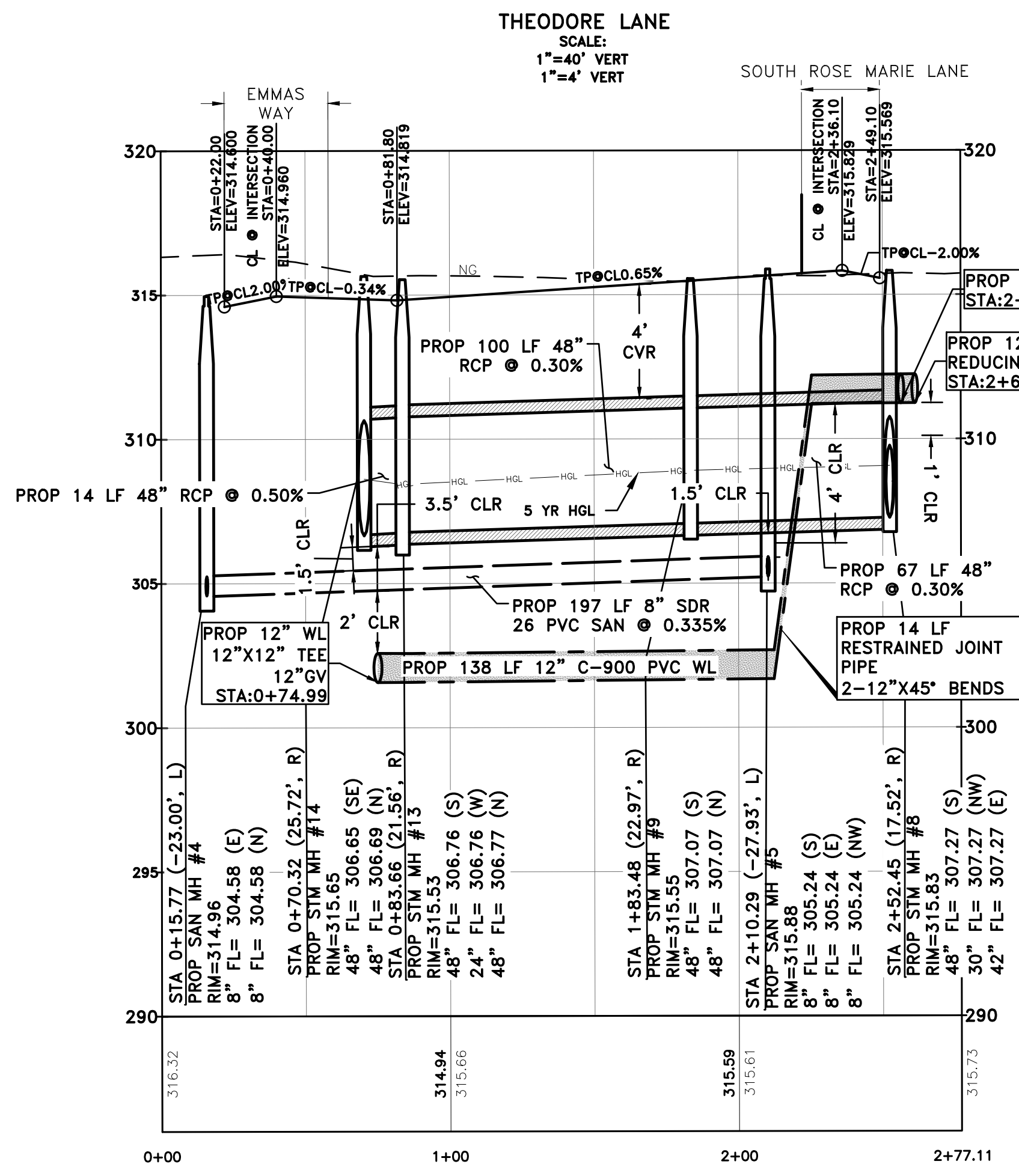


TABLE 73 - PROTECTION REQUIREMENTS AT WATER LINE (WL) - SANITARY SEWER (SS) CROSSINGS

Crossing	Water Line (WL)		Sanitary Sewer (SS)	
	Proposed	Existing	Proposed	Existing
Under 18\"/>				

- Minimum clearance is 2 feet for non-pressure steel pipe and pressure steel pipe (with at least 18\"/>
- Minimum clearance is 2 feet for non-pressure steel pipe and 1 foot for pressure steel pipe.
- Required if existing pipe is damaged and/or there is evidence of leakage.
- Not required for segment WL, unless there is evidence of leakage, completely fill segment hole with bentonite slurry.
- Not required for segment SS, completely fill segment hole with bentonite slurry.
- Not allowed.
- Both Waterline and Wastewater under lateral sewer pipe a pressure and leakage test as specified in AWWA C200 standards.
- Waterline joint sealant shall be water proof and shall be shown on profile view.

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21123 EVA STREET #200
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CLIENT INFORMATION
K. HOWANIAN HOUSTON DISTRICT, LLC
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HOUSTON, TX 77040
PROJECT ADDRESS
EMMA'S WAY
MONTGOMERY, TX 77356

HILLS OF TOWN CREEK SECTION 5 THEODORE LANE PLAN & PROFILE

DRAWING ISSUE

#	DATE	BY	* COMMENT
1	04/30/24	JTW	FOR PERMIT


DRAWING INFORMATION

PROJECT	10976	TDLR	**
DRAWN	GLH	CHECKED	JTW
SCALE	1" = 40' (24x36) 1" = 80' (11x17)	SHEET	14

JONATHAN T. WHITE
172058
PROFESSIONAL ENGINEER
04/30/2024

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L:\SHARED\12 ENGINEERING PROJECTS\ENGINEERING PROJECTS\10976 - HQT05 - K HOVA03 CAD\DESIGN SET\15 STREET B PLAN & PROFILE.DWG Apr. 30, 2024--8:13 AM CAMILYN CURTIS




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13111 NW Fwy, Suite 200
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PROJECT ADDRESS
EMMA'S WAY
MONTGOMERY, TX 37135

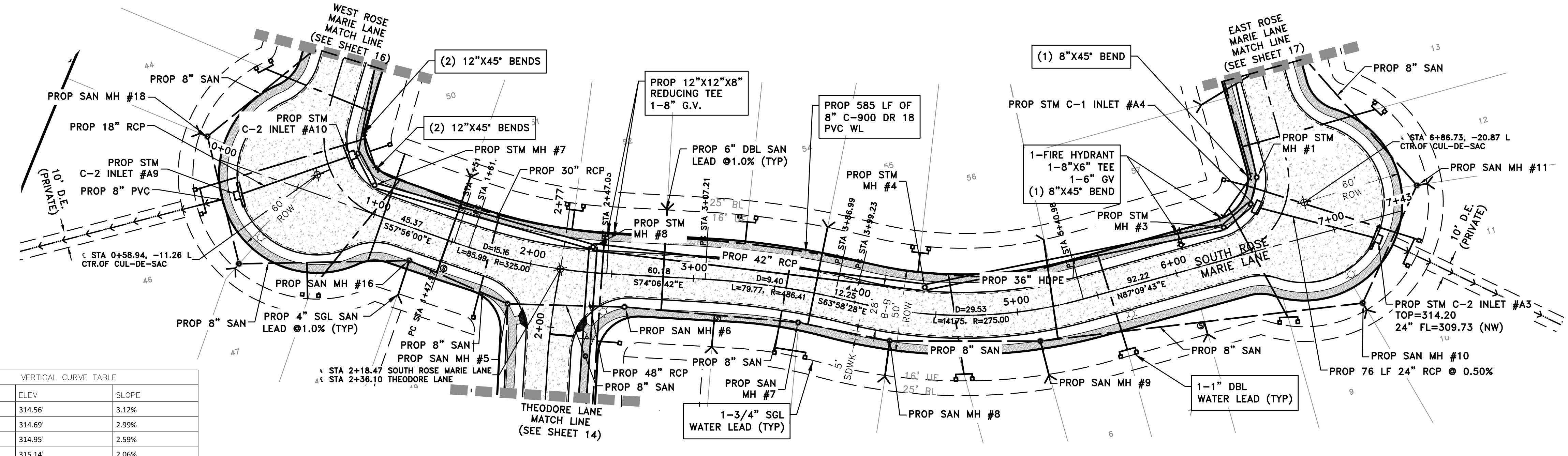
HILLS OF TOWN CREEK SECTION 5 SOUTH ROSE MARIE LANE PLAN & PROFILE 0+00-7+43

DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	04/30/24	JTW	FOR PERMIT

DRAWING INFORMATION			
PROJECT	10976	TDLR	**
DRAWN	GLH	CHECKED	JTW
SCALE	1" = 40' (24x36) 1" = 80' (11x17)	SHEET	15

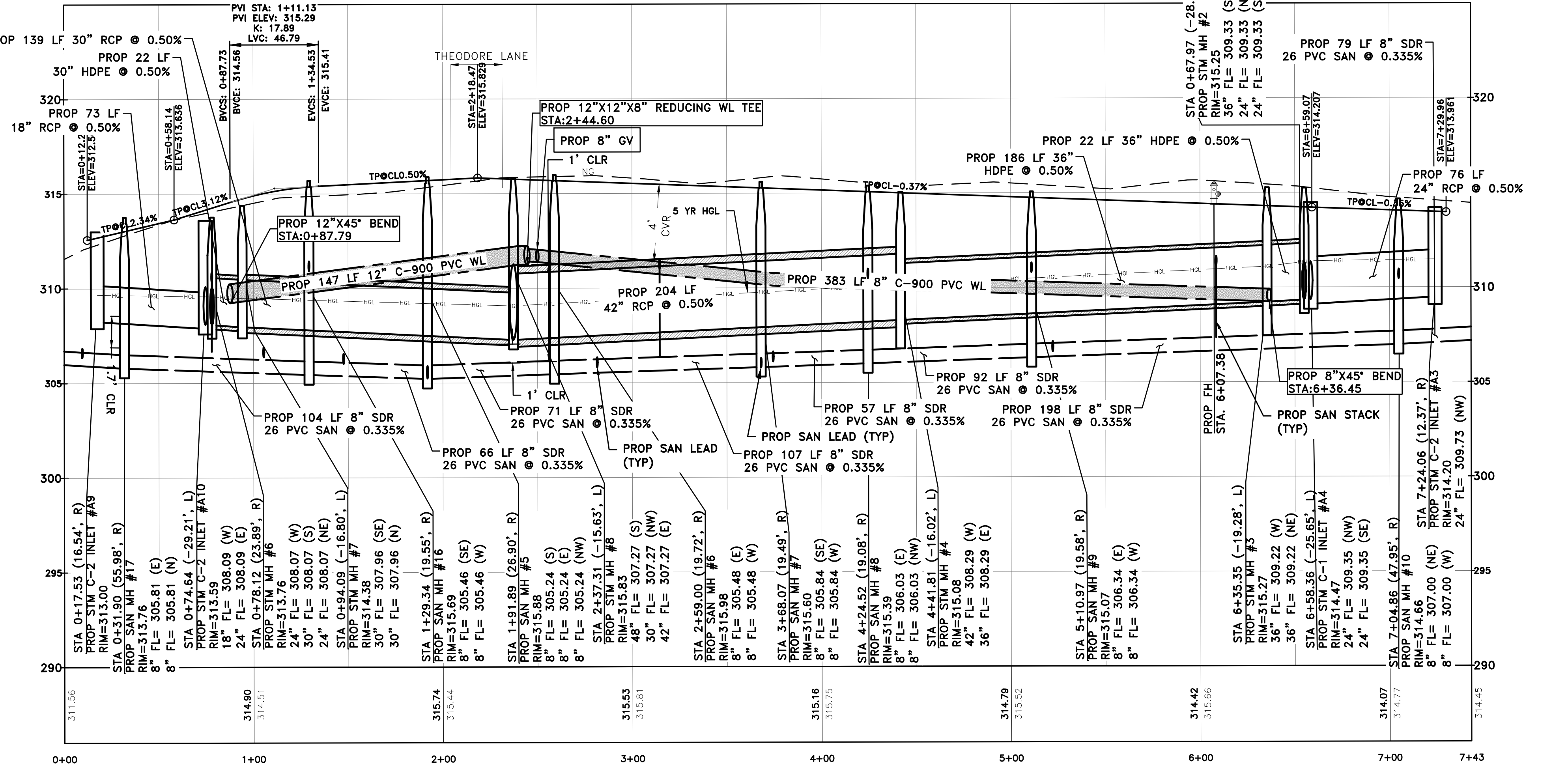


JONATHAN T. WHITE
127058
PROFESSIONAL ENGINEER
04/30/2024



VERTICAL CURVE TABLE		
STA.	ELEV.	SLOPE
0+87.73	314.56'	3.12%
0+92.27	314.69'	2.99%
1+02.27	314.95'	2.59%
1+11.13	315.14'	2.06%
1+12.27	315.16'	1.78%
1+22.27	315.30'	1.47%
1+32.27	315.39'	0.91%
1+34.53	315.41'	0.57%

SAN LEAD TABLE				
STATION & OFFSET	LENGTH	START FL	END FL	
0+09.58, 22.05	16.45	306.36	306.53	
1+05.59, 28.43	69.43	306.11	306.81	
1+29.34, 19.55	22.23	310.94	311.16	
1+47.58, 20.93	61.94	305.83	306.45	
2+81.47, 20.44	61.45	305.63	306.24	
3+14.55, 21.45	19.54	311.04	311.24	
3+74.34, 19.56	60.56	305.93	306.54	
4+24.52, 19.08	21.93	310.51	310.73	
5+10.90, 19.42	21.66	310.82	311.04	
5+20.99, 20.24	61.36	306.45	307.06	
6+08.45, 33.13	7.87	306.74	306.82	
7+04.86, 47.95	4.83	310.46	310.51	
7+06.71, -113.49	67.14	307.61	308.28	



- NOTES:**
- ALL LONGSIDE LEADS SHALL INCLUDE STACKS, RISERS, TEES, WYES, AND ALL APPURTENANCES TO END AT A DEPTH OF 4'-5" BELOW NATURAL GROUND. (SEE DETAIL SHT. 25)
 - ALL SANITARY SEWER SERVICE LINES TO BE 1% SLOPE, UNLESS OTHERWISE NOTED
 - ALL FIRE HYDRANTS TO BE LOCATED 3' BEHIND BACK OF CURB.
 - ALL UTILITY LEADS UNDER PAVEMENT IN CUL-DE-SACS AND/OR KNUCKLES TO BE BACKFILLED WITH CEMENT STABILIZED SAND UP TO PAVEMENT SUBGRADE.
 - SEE PROFILE FOR ACTUAL LOCATION OF EACH WATERLINE APPURTENANCE. PROFILE VIEW GOVERNS OVER PLAN VIEW.
 - HGL IS FOR THE 5-YR EVENT IN STORM SEWER.
 - WATER AND SANITARY SHALL MAINTAIN 9' HORIZONTAL CLEARANCE.
 - STORM AND SANITARY SHALL MAINTAIN 5' HORIZONTAL CLEARANCE.
 - STORM AND WATER SHALL MAINTAIN 4' HORIZONTAL CLEARANCE.

SANITARY SEWER CONNECTION NOTE: THE CONTRACTOR SHALL CONNECT THE PROPOSED 8-INCH SANITARY SEWER LINE TO THE SANITARY SEWER MANHOLE BY MEANS OF CORE AND BOOT AT SPECIFIED FLOWLINE. THE OPENING IN THE SIDE OF THE MANHOLE SHALL NOT BE MORE THAN 3-INCHES NOR LESS THAN 1-INCH IN DIAMETER THAN THE OUTSIDE DIAMETER FOR THE PROPOSED PIPE. THE PROPOSED PIPE SHALL NOT PROTRUDE MORE THAN 3-INCHES PAST THE INSIDE FACE OF THE MANHOLE WALL. FILL THE ENTIRE VOID AROUND THE PROPOSED PIPE WITH NON-SHRINK WATERPROOF GROUT. CONTRACTOR TO CONSTRUCT SLOPE AT INVERT OF MANHOLE UNDER POINT OF SANITARY SEWER CONNECTION. THE CONTRACTOR SHALL BACKFILL THE EXCAVATION AROUND THE EXISTING MANHOLE WITH CEMENT-SAND.

NOTE:
ALL LEADS OVER 6' DEEP ARE REQUIRED TO HAVE A STACK ADDED PER DETAIL SO NEAREST FLOWLINE IS NOT DEEPER THAN 6' AT THE CONNECTION.

TABLE 73 - PROTECTION REQUIREMENTS AT WATER LINE (WL) - SANITARY SEWER (SS) CROSSINGS

CROSSING TYPE	PROTECTION TYPE		MINIMUM PROTECTION		MAXIMUM PROTECTION	
	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM
Underground	18"	24"	18"	24"	18"	24"
At-grade	18"	24"	18"	24"	18"	24"

1. Minimum clearance to 2 feet for non-pressure rated pipe and pressure rated pipe with at least 100 psi pressure rating. When less than 2 feet can be achieved, then the flow to be crossed.
 2. Minimum clearance to 2 feet for non-pressure rated pipe and 1 foot for pressure rated pipe.
 3. Required if crossing pipe is obstructed under the roadway or bridge.
 4. Not required for exposed WL, unless there is evidence of bridge, completely fill exposed hole with concrete backfill.
 5. Not required for exposed WL, completely fill exposed hole with concrete backfill with horizontal bracing.
 6. Not required.
 7. Both Waterline and Waterline make or install must pass a pressure and leakage test as specified in MWMA CIP manual.
 8. Structural joint sealers including water protection shall be shown on profile view.

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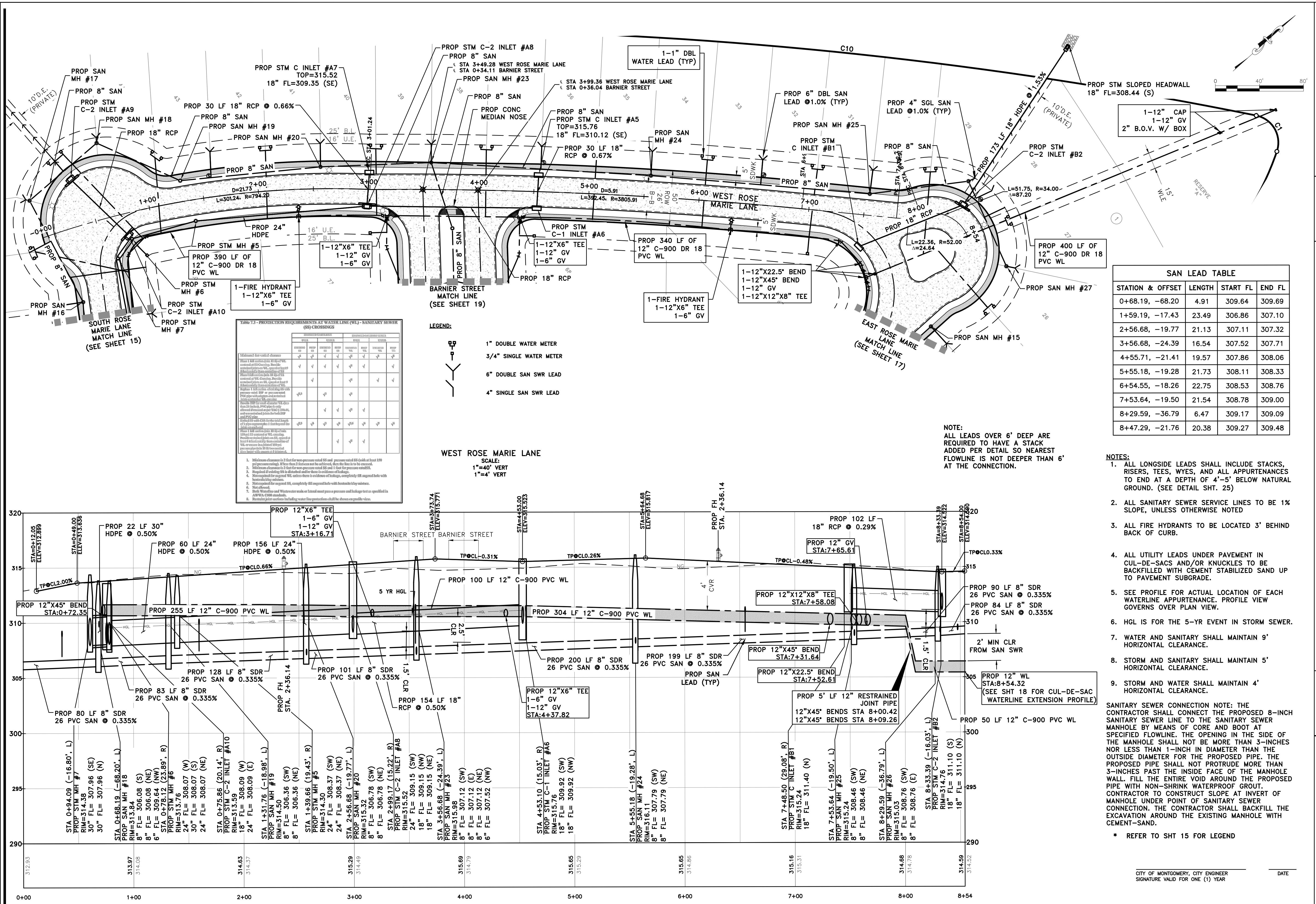


Table 1.3 - PROTECTION REQUIREMENTS AT WATER LINE (WL) - SANITARY SEWER (SS) CROSSINGS

CROSSING TYPE	PIPE SIZE	PROTECTION TYPE	MIN. COVER	MIN. CLEARANCE	MIN. SPACING
Underground	12\"/>				

- LEGEND:
- 1" DOUBLE WATER METER
 - 3/4" SINGLE WATER METER
 - 6" DOUBLE SAN SWR LEAD
 - 4" SINGLE SAN SWR LEAD

SAN LEAD TABLE

STATION & OFFSET	LENGTH	START FL	END FL
0+68.19, -68.20	4.91	309.64	309.69
1+59.19, -17.43	23.49	306.86	307.10
2+56.68, -19.77	21.13	307.11	307.32
3+56.68, -24.39	16.54	307.52	307.71
4+55.71, -21.41	19.57	307.86	308.06
5+55.18, -19.28	21.73	308.11	308.33
6+54.55, -18.26	22.75	308.53	308.76
7+53.64, -19.50	21.54	308.78	309.00
8+29.59, -36.79	6.47	309.17	309.09
8+47.29, -21.76	20.38	309.27	309.48

- NOTES:
- ALL LONGSIDE LEADS SHALL INCLUDE STACKS, RISERS, TEES, WYES, AND ALL APPURTENANCES TO END AT A DEPTH OF 4'-5' BELOW NATURAL GROUND. (SEE DETAIL SHT. 25)
 - ALL SANITARY SEWER SERVICE LINES TO BE 1% SLOPE, UNLESS OTHERWISE NOTED
 - ALL FIRE HYDRANTS TO BE LOCATED 3' BEHIND BACK OF CURB.
 - ALL UTILITY LEADS UNDER PAVEMENT IN CUL-DE-SACS AND/OR KNUCKLES TO BE BACKFILLED WITH CEMENT STABILIZED SAND UP TO PAVEMENT SUBGRADE.
 - SEE PROFILE FOR ACTUAL LOCATION OF EACH WATERLINE APPURTENANCE. PROFILE VIEW GOVERNS OVER PLAN VIEW.
 - HGL IS FOR THE 5-YR EVENT IN STORM SEWER.
 - WATER AND SANITARY SHALL MAINTAIN 9' HORIZONTAL CLEARANCE.
 - STORM AND SANITARY SHALL MAINTAIN 5' HORIZONTAL CLEARANCE.
 - STORM AND WATER SHALL MAINTAIN 4' HORIZONTAL CLEARANCE.

SANITARY SEWER CONNECTION NOTE: THE CONTRACTOR SHALL CONNECT THE PROPOSED 8-INCH SANITARY SEWER LINE TO THE SANITARY SEWER MANHOLE BY MEANS OF CORE AND BOOT AT SPECIFIED FLOWLINE. THE OPENING IN THE SIDE OF THE MANHOLE SHALL NOT BE MORE THAN 3-INCHES NOR LESS THAN 1-INCH IN DIAMETER THAN THE OUTSIDE DIAMETER FOR THE PROPOSED PIPE. THE PROPOSED PIPE SHALL NOT PROTRUDE MORE THAN 3-INCHES PAST THE INSIDE FACE OF THE MANHOLE WALL. FILL THE ENTIRE VOID AROUND THE PROPOSED PIPE WITH NON-SHRINK WATERPROOF GROUT. CONTRACTOR TO CONSTRUCT SLOPE AT INVERT OF MANHOLE UNDER POINT OF SANITARY SEWER CONNECTION. THE CONTRACTOR SHALL BACKFILL THE EXCAVATION AROUND THE EXISTING MANHOLE WITH CEMENT-SAND.

* REFER TO SHT 15 FOR LEGEND

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PROJECT ADDRESS
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HILLS OF TOWN CREEK
SECTION 5
WEST ROSE MARIE LANE PLAN &
PROFILE 0+00-8+54

DRAWING ISSUE

#	DATE	BY	* COMMENT
1	04/30/24	JTW	FOR PERMIT

DRAWING INFORMATION

PROJECT	10976	TDLR	**
DRAWN	GLH	CHECKED	JTW
SCALE	1" = 40' (24x36)		
	1" = 80' (11x17)		
SHEET	16		

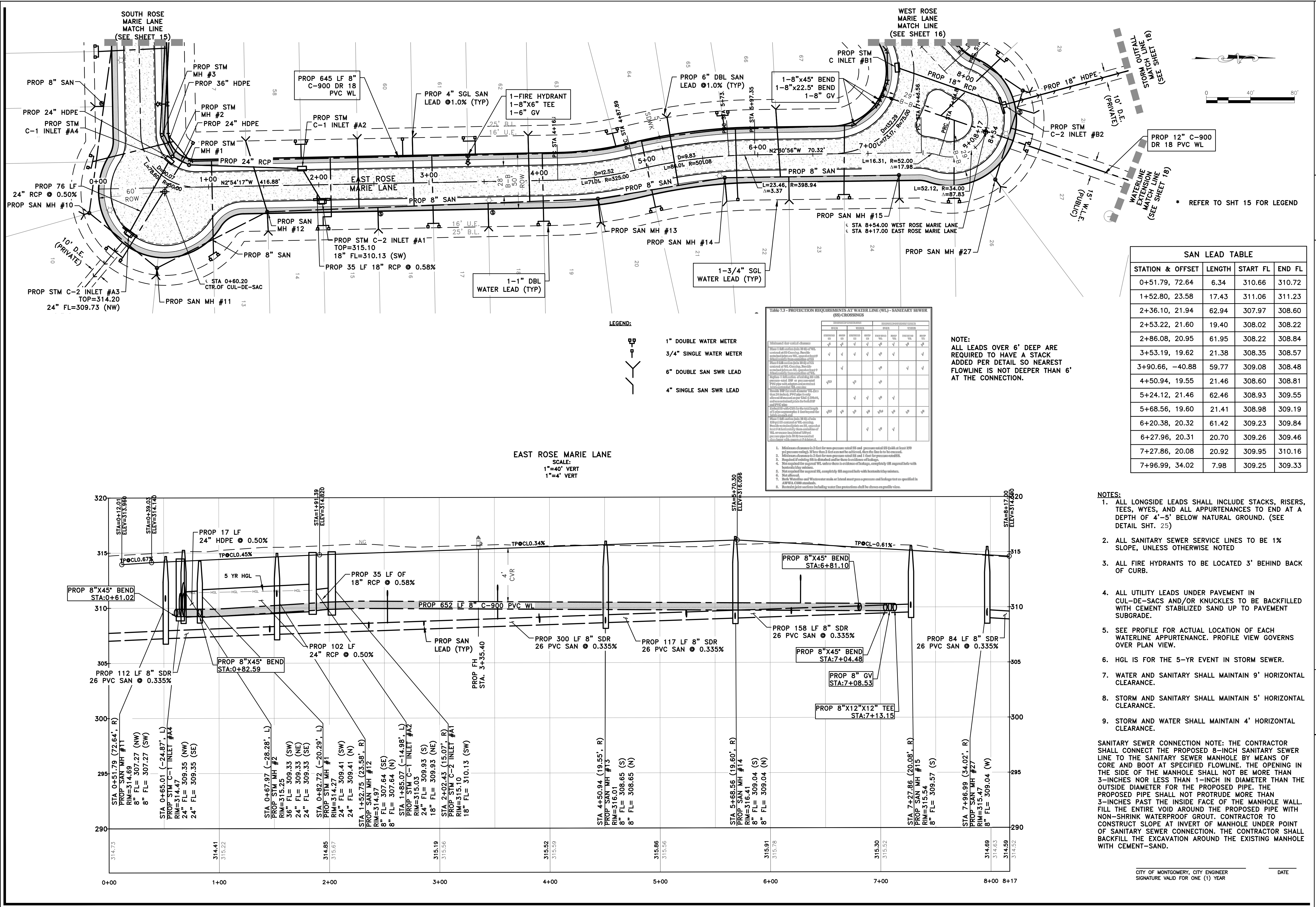
JONATHAN T. WHITE
127058
PROFESSIONAL ENGINEER
STATE OF TEXAS
04/30/2024

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MONTGOMERY, TX 77356

HILLS OF TOWN CREEK SECTION 5 EAST ROSE MARIE LANE PLAN & PROFILE 0+00-8+17

DRAWING ISSUE		
#	DATE	BY
1	04/30/24	JTW

DRAWING INFORMATION		
PROJECT	10976	TDLR
DRAWN	GLH	CHECKED
SCALE	1" = 40' (24x36)	1" = 80' (11x17)
SHEET	17	

JONATHAN T. WHITE
127058
PROFESSIONAL ENGINEER
STATE OF TEXAS

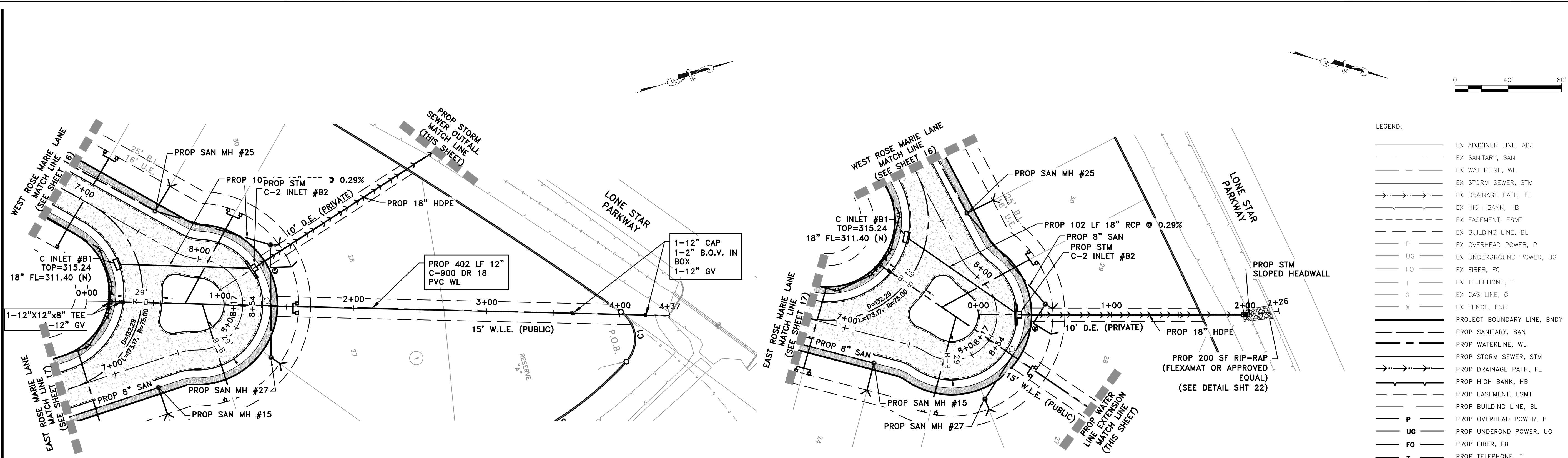
- NOTES:**
- ALL LONGSIDE LEADS SHALL INCLUDE STACKS, RISERS, TEES, WYES, AND ALL APPURTENANCES TO END AT A DEPTH OF 4'-5" BELOW NATURAL GROUND. (SEE DETAIL SHT. 25)
 - ALL SANITARY SEWER SERVICE LINES TO BE 1% SLOPE, UNLESS OTHERWISE NOTED
 - ALL FIRE HYDRANTS TO BE LOCATED 3' BEHIND BACK OF CURB.
 - ALL UTILITY LEADS UNDER PAVEMENT IN CUL-DE-SACS AND/OR KNUCKLES TO BE BACKFILLED WITH CEMENT STABILIZED SAND UP TO PAVEMENT SUBGRADE.
 - SEE PROFILE FOR ACTUAL LOCATION OF EACH WATERLINE APPURTENANCE. PROFILE VIEW GOVERNS OVER PLAN VIEW.
 - HGL IS FOR THE 5-YR EVENT IN STORM SEWER.
 - WATER AND SANITARY SHALL MAINTAIN 9' HORIZONTAL CLEARANCE.
 - STORM AND SANITARY SHALL MAINTAIN 5' HORIZONTAL CLEARANCE.
 - STORM AND WATER SHALL MAINTAIN 4' HORIZONTAL CLEARANCE.

SANITARY SEWER CONNECTION NOTE: THE CONTRACTOR SHALL CONNECT THE PROPOSED 8-INCH SANITARY SEWER LINE TO THE SANITARY SEWER MANHOLE BY MEANS OF CORE AND BOOT AT SPECIFIED FLOWLINE. THE OPENING IN THE SIDE OF THE MANHOLE SHALL NOT BE MORE THAN 3-INCHES NOR LESS THAN 1-INCH IN DIAMETER THAN THE OUTSIDE DIAMETER FOR THE PROPOSED PIPE. THE PROPOSED PIPE SHALL NOT PROTRUDE MORE THAN 3-INCHES PAST THE INSIDE FACE OF THE MANHOLE WALL. FILL THE ENTIRE VOID AROUND THE PROPOSED PIPE WITH NON-SHRINK WATERPROOF GROUT. CONTRACTOR TO CONSTRUCT SLOPE AT INVERT OF MANHOLE UNDER POINT OF SANITARY SEWER CONNECTION. THE CONTRACTOR SHALL BACKFILL THE EXCAVATION AROUND THE EXISTING MANHOLE WITH CEMENT-SAND.

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L:\SHARED\L2 ENGINEERING PROJECTS\ENGINEERING PROJECTS\10976 - HOTCS - K HOV03 CAD\DESIGN SET\18 STREET D WATER LINE AND STM PLAN & PROFILE.DWG Apr. 30, 2024-8:14 AM CAITLYN CURTIS



- LEGEND:**
- EX ADJOINER LINE, ADJ
 - EX SANITARY, SAN
 - EX WATERLINE, WL
 - EX STORM SEWER, STM
 - EX DRAINAGE PATH, FL
 - EX HIGH BANK, HB
 - EX EASEMENT, ESMT
 - EX BUILDING LINE, BL
 - EX OVERHEAD POWER, P
 - EX UNDERGROUND POWER, UG
 - EX FIBER, FO
 - EX TELEPHONE, T
 - EX GAS LINE, G
 - EX FENCE, FNC
 - PROJECT BOUNDARY LINE, BNDY
 - PROP SANITARY, SAN
 - PROP WATERLINE, WL
 - PROP STORM SEWER, STM
 - PROP DRAINAGE PATH, FL
 - PROP HIGH BANK, HB
 - PROP EASEMENT, ESMT
 - PROP BUILDING LINE, BL
 - PROP OVERHEAD POWER, P
 - PROP UNDERGROUND POWER, UG
 - PROP FIBER, FO
 - PROP TELEPHONE, T
 - PROP GAS LINE, G
 - PROP FENCE, FNC
 - PROP PAVEMENT, PVMT
 - PROP BACK OF CURB, BC
 - PROP STACK

- LEGEND:**
- 1" DOUBLE WATER METER
 - 3/4" SINGLE WATER METER
 - 6" DOUBLE SAN SWR LEAD
 - 4" SINGLE SAN SWR LEAD

PROP WATER LINE EXTENSION
SCALE:
1"=40' VERT
1"=4' HORIZ

PROP STORM SEWER OUTFALL
SCALE:
1"=40' VERT
1"=4' HORIZ

- NOTES:**
- ALL LONGSIDE LEADS SHALL INCLUDE STACKS, RISERS, TEES, WYES, AND ALL APPURTENANCES TO END AT A DEPTH OF 4'-5' BELOW NATURAL GROUND. (SEE DETAIL SHT. 25)
 - ALL SANITARY SEWER SERVICE LINES TO BE 1% SLOPE, UNLESS OTHERWISE NOTED
 - ALL FIRE HYDRANTS TO BE LOCATED 3' BEHIND BACK OF CURB.
 - ALL UTILITY LEADS UNDER PAVEMENT IN CUL-DE-SACS AND/OR KNUCKLES TO BE BACKFILLED WITH CEMENT STABILIZED SAND UP TO PAVEMENT SUBGRADE.
 - SEE PROFILE FOR ACTUAL LOCATION OF EACH WATERLINE APPURTENANCE. PROFILE VIEW GOVERNS OVER PLAN VIEW.
 - HGL IS FOR THE 5-YR EVENT IN STORM SEWER.
 - WATER AND SANITARY SHALL MAINTAIN 9' HORIZONTAL CLEARANCE.
 - STORM AND SANITARY SHALL MAINTAIN 5' HORIZONTAL CLEARANCE.
 - STORM AND WATER SHALL MAINTAIN 4' HORIZONTAL CLEARANCE.

SANITARY SEWER CONNECTION NOTE: THE CONTRACTOR SHALL CONNECT THE PROPOSED 8-INCH SANITARY SEWER LINE TO THE SANITARY SEWER MANHOLE BY MEANS OF CORE AND BOOT AT SPECIFIED FLOWLINE. THE OPENING IN THE SIDE OF THE MANHOLE SHALL NOT BE MORE THAN 3-INCHES NOR LESS THAN 1-INCH IN DIAMETER THAN THE OUTSIDE DIAMETER FOR THE PROPOSED PIPE. THE PROPOSED PIPE SHALL NOT PROTRUDE MORE THAN 3-INCHES PAST THE INSIDE FACE OF THE MANHOLE WALL. FILL THE ENTIRE VOID AROUND THE PROPOSED PIPE WITH NON-SHRINK WATERPROOF GROUT. CONTRACTOR TO CONSTRUCT SLOPE AT INVERT OF MANHOLE UNDER POINT OF SANITARY SEWER CONNECTION. THE CONTRACTOR SHALL BACKFILL THE EXCAVATION AROUND THE EXISTING MANHOLE WITH CEMENT-SAND.

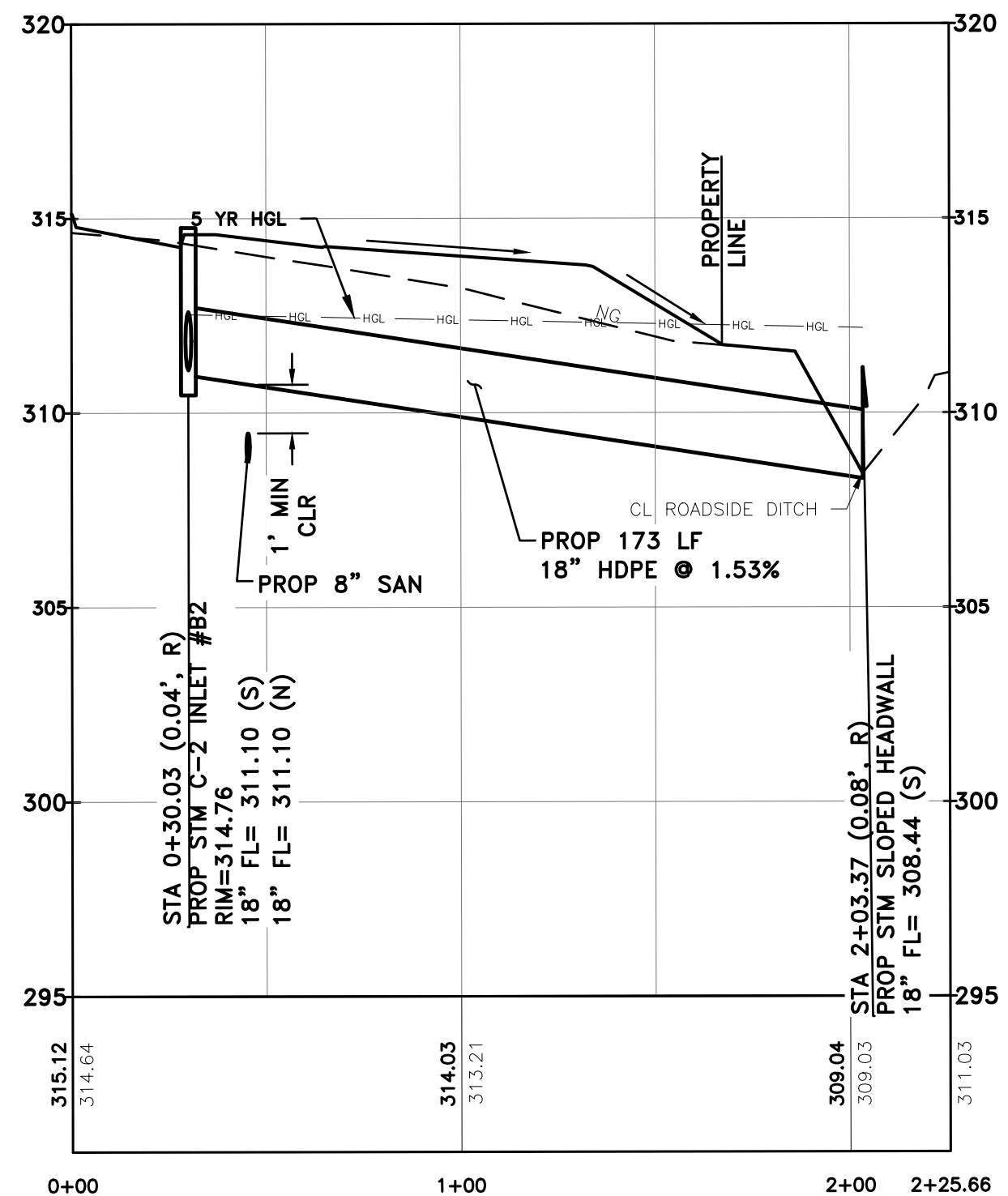
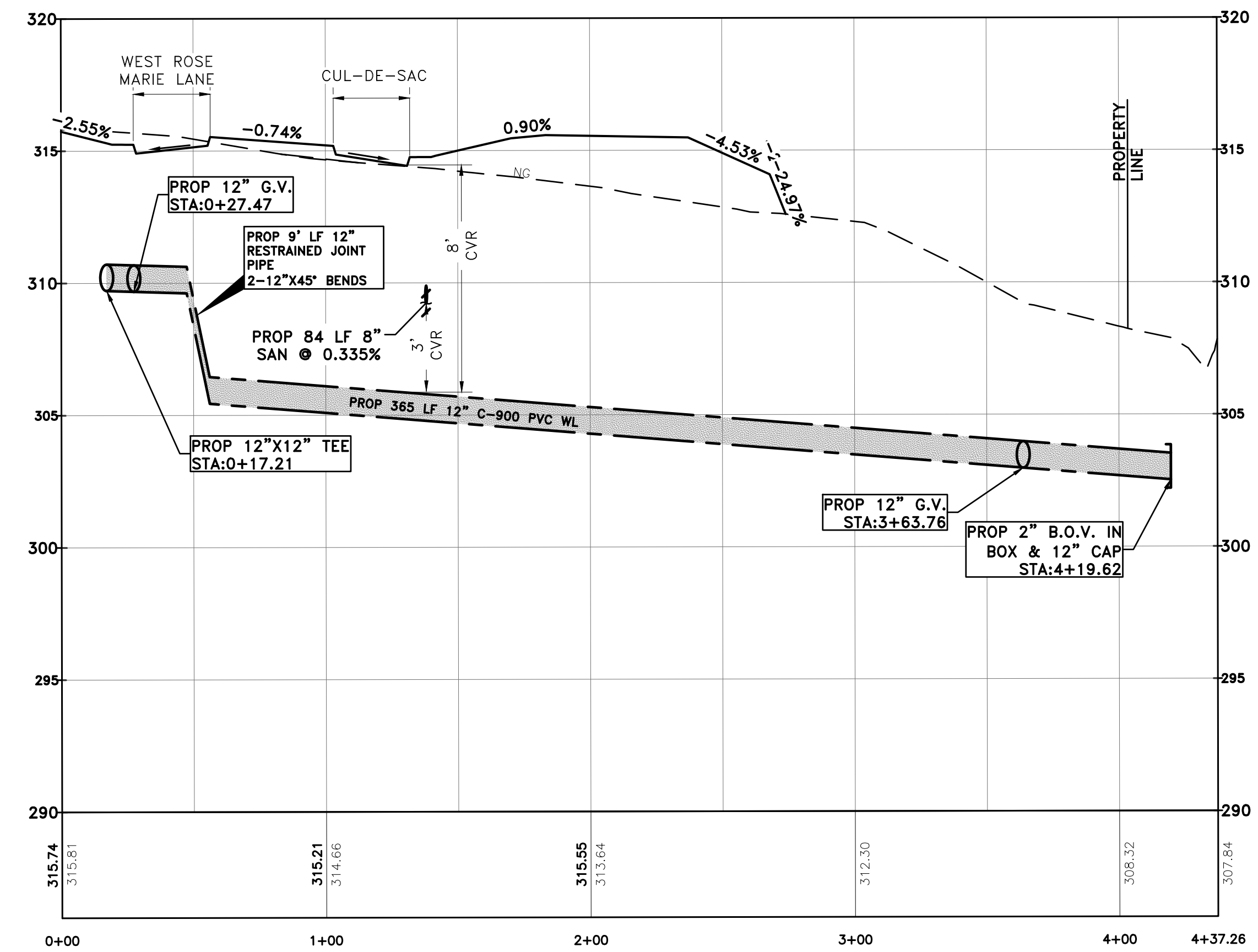


TABLE 7.3 - PROTECTION REQUIREMENTS AT WATER LINE (WL) - SANITARY SEWER (SS) CROSSINGS

CROSSING TYPE	WATER LINE (WL)		SANITARY SEWER (SS)	
	MIN. COVER	MIN. CLEARANCE	MIN. COVER	MIN. CLEARANCE
Under Roadway	5'-0"	3'-0"	5'-0"	3'-0"
Under Sidewalk	4'-0"	2'-0"	4'-0"	2'-0"
Under Driveway	4'-0"	2'-0"	4'-0"	2'-0"
Under Utility	4'-0"	2'-0"	4'-0"	2'-0"
Under Structure	4'-0"	2'-0"	4'-0"	2'-0"
Under Foundation	4'-0"	2'-0"	4'-0"	2'-0"
Under Wall	4'-0"	2'-0"	4'-0"	2'-0"
Under Slab	4'-0"	2'-0"	4'-0"	2'-0"
Under Footing	4'-0"	2'-0"	4'-0"	2'-0"
Under Pier	4'-0"	2'-0"	4'-0"	2'-0"
Under Column	4'-0"	2'-0"	4'-0"	2'-0"
Under Wall	4'-0"	2'-0"	4'-0"	2'-0"
Under Slab	4'-0"	2'-0"	4'-0"	2'-0"
Under Footing	4'-0"	2'-0"	4'-0"	2'-0"
Under Pier	4'-0"	2'-0"	4'-0"	2'-0"
Under Column	4'-0"	2'-0"	4'-0"	2'-0"



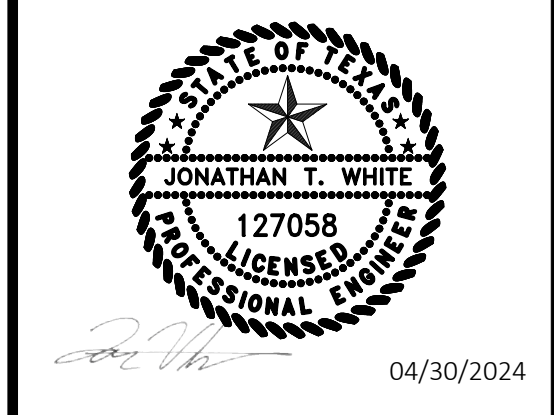
CLIENT INFORMATION
K. HOUARIAN HOUSTON DISTRICT, LLC
13111 NW Fwy, Suite 200
HOUSTON, TX 77040
PROJECT ADDRESS
EMMA'S WAY
MONTGOMERY, TX 77356

HILLS OF TOWN CREEK SECTION 5
PROP WATER LINE & STM
EXTENSION PLAN & PROFILE

DRAWING ISSUE

#	DATE	BY	* COMMENT
1	04/30/24	JTW	FOR PERMIT

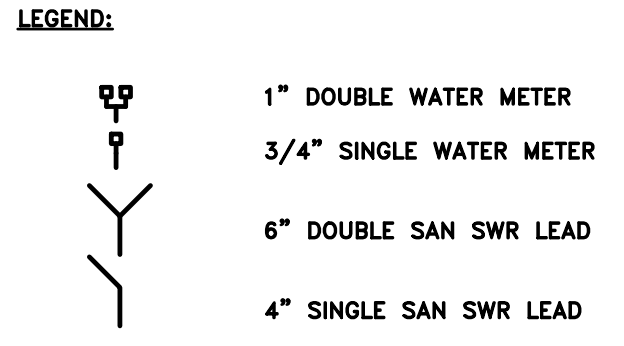
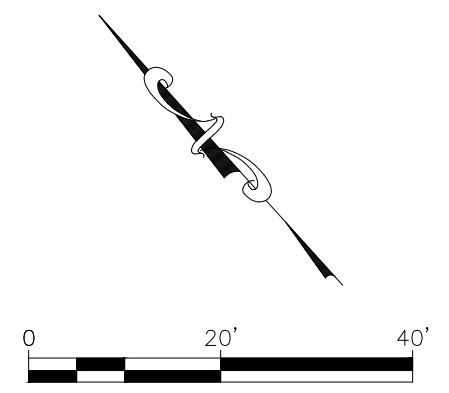
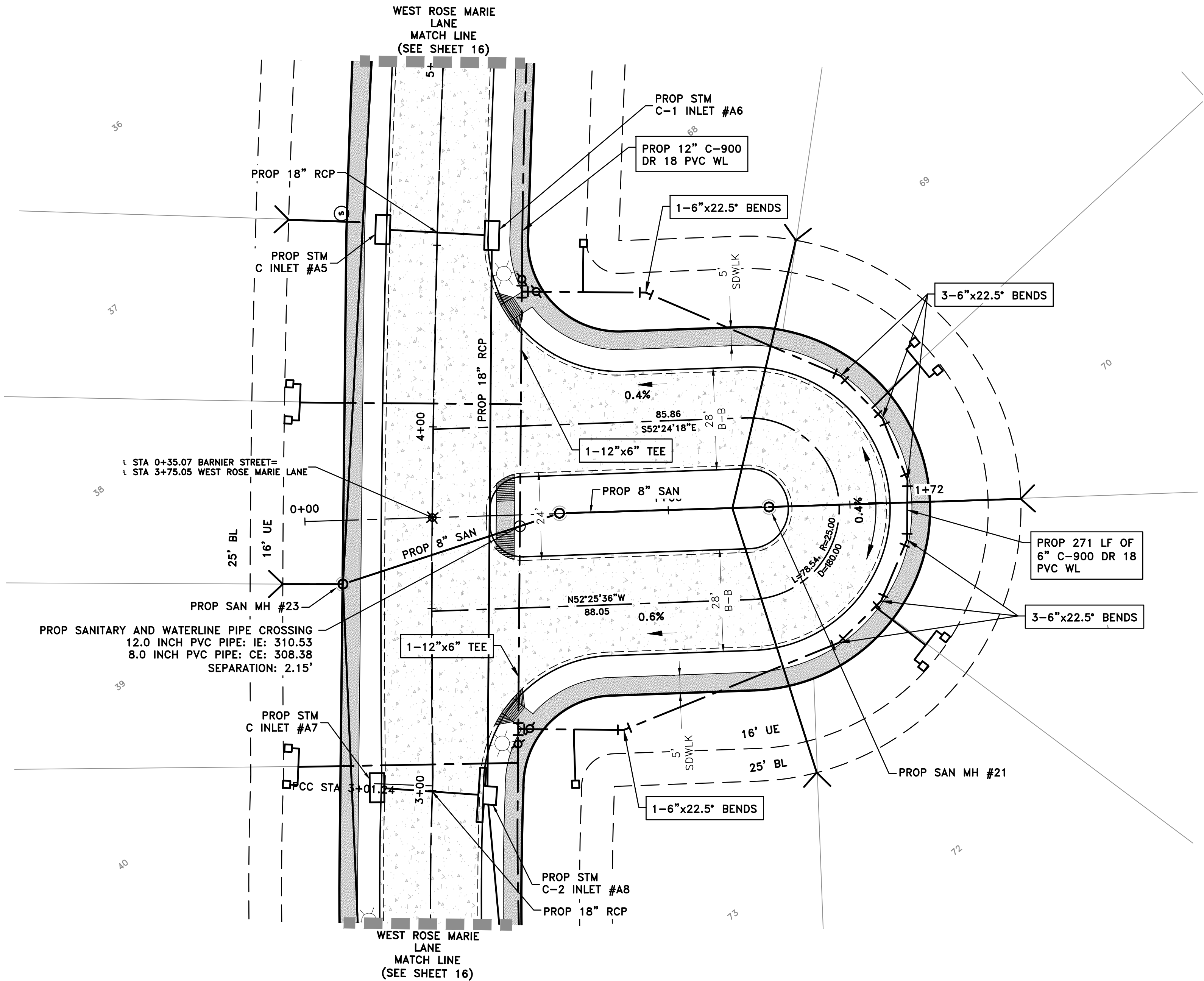
DRAWING INFORMATION
PROJECT: 10976 TDLR **
DRAWN: GLH CHECKED: JTW
SCALE: 1" = 40' (24x36) SHEET: 18
1" = 80' (11x17)



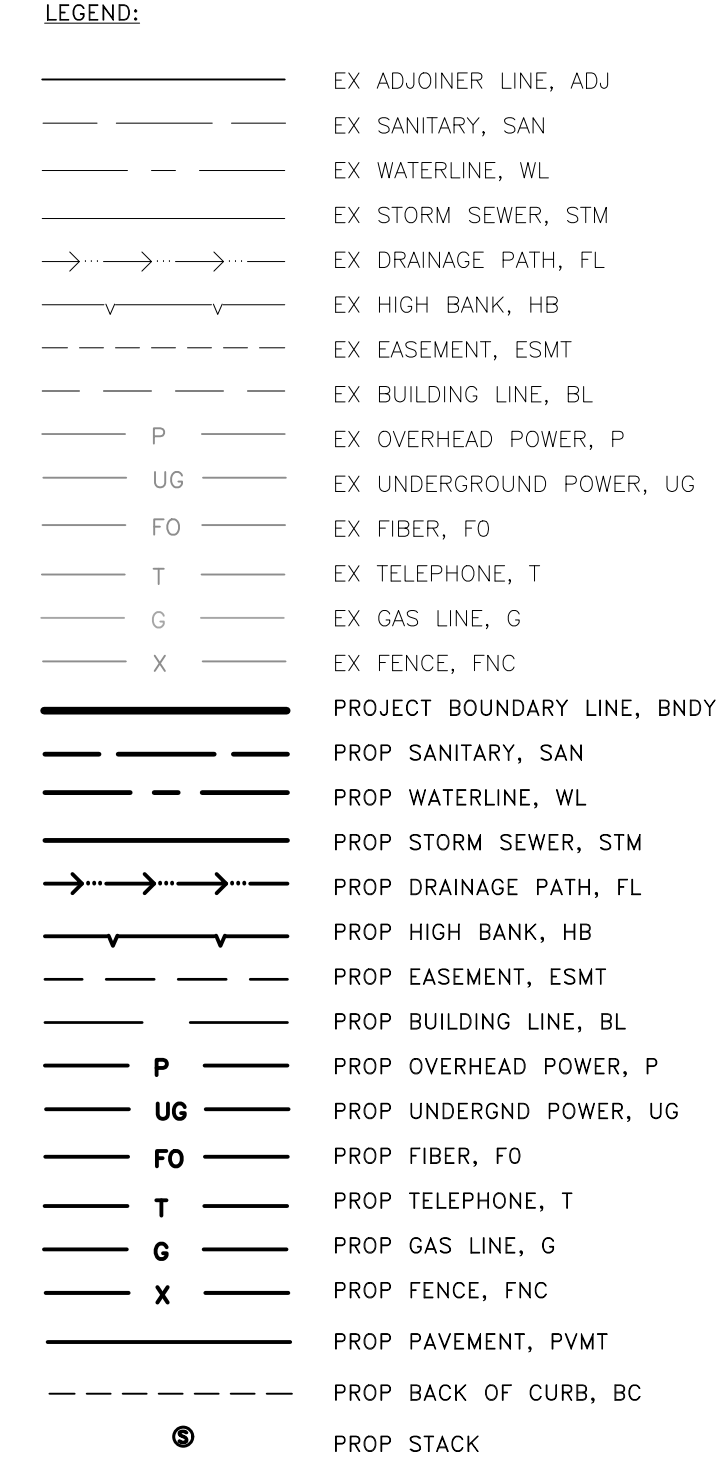
CITY OF MONTGOMERY, CITY ENGINEER
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DATE

04/30/2024

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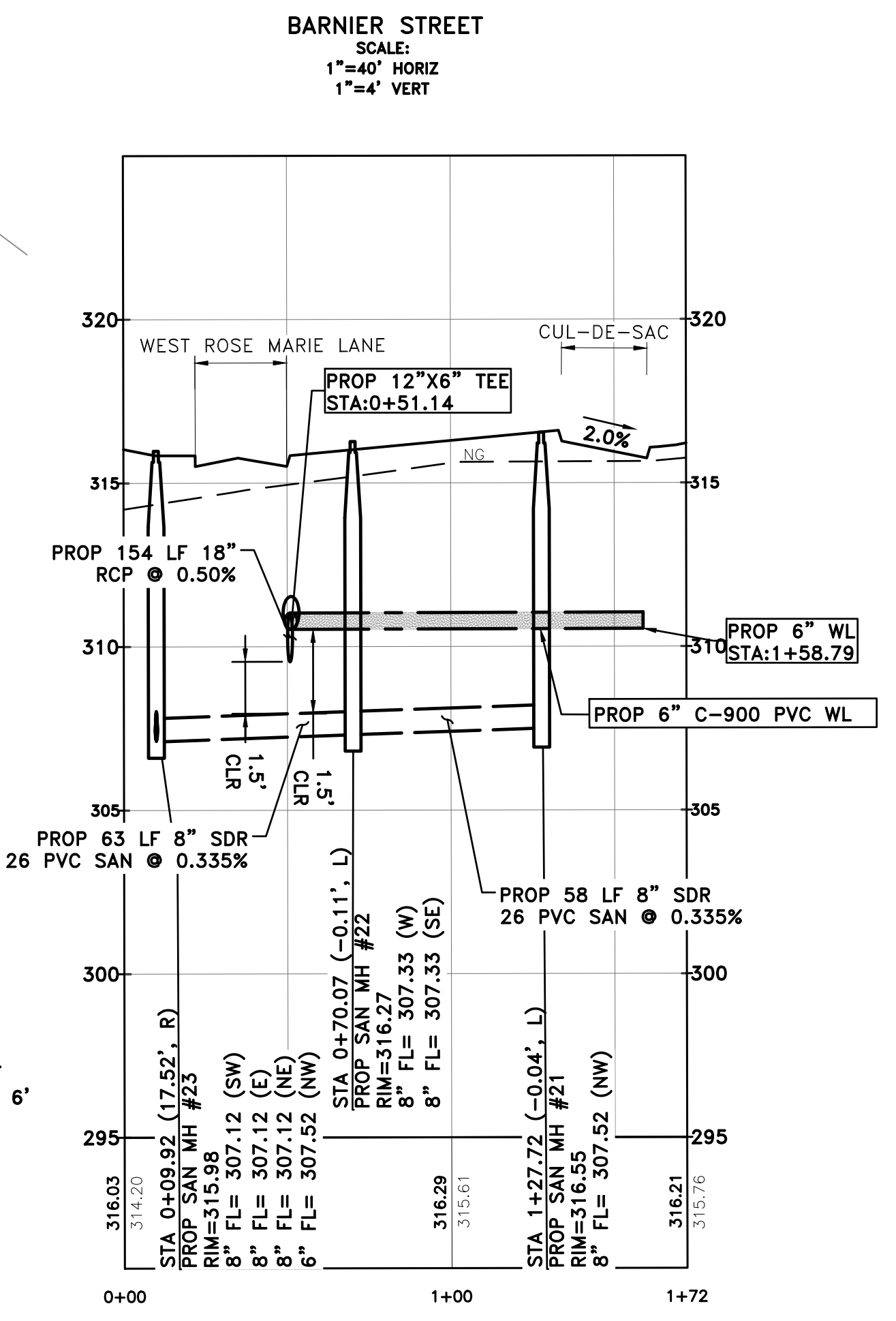


SAN LEAD TABLE			
STATION & OFFSET	LENGTH	START FL	END FL
1+17.65, -0.02	75.75	311.82	312.58
1+17.65, -0.02	76.37	311.82	312.58
1+27.72, -0.04	69.31	312.13	312.82



- NOTES:**
- ALL LONGSIDE LEADS SHALL INCLUDE STACKS, RISERS, TEES, WYES, AND ALL APPURTENANCES TO END AT A DEPTH OF 4'-5' BELOW NATURAL GROUND. (SEE DETAIL SHT. 25)
 - ALL SANITARY SEWER SERVICE LINES TO BE 1% SLOPE, UNLESS OTHERWISE NOTED
 - ALL FIRE HYDRANTS TO BE LOCATED 3' BEHIND BACK OF CURB.
 - ALL UTILITY LEADS UNDER PAVEMENT IN CUL-DE-SACS AND/OR KNUCKLES TO BE BACKFILLED WITH CEMENT STABILIZED SAND UP TO PAVEMENT SUBGRADE.
 - SEE PROFILE FOR ACTUAL LOCATION OF EACH WATERLINE APPURTENANCE. PROFILE VIEW GOVERNS OVER PLAN VIEW.
 - HGL IS FOR THE 5-YR EVENT IN STORM SEWER.
 - WATER AND SANITARY SHALL MAINTAIN 9' HORIZONTAL CLEARANCE.
 - STORM AND SANITARY SHALL MAINTAIN 5' HORIZONTAL CLEARANCE.
 - STORM AND WATER SHALL MAINTAIN 4' HORIZONTAL CLEARANCE.

SANITARY SEWER CONNECTION NOTE: THE CONTRACTOR SHALL CONNECT THE PROPOSED 8-INCH SANITARY SEWER LINE TO THE SANITARY SEWER MANHOLE BY MEANS OF CORE AND BOOT AT SPECIFIED FLOWLINE. THE OPENING IN THE SIDE OF THE MANHOLE SHALL NOT BE MORE THAN 3-INCHES NOR LESS THAN 1-INCH IN DIAMETER THAN THE OUTSIDE DIAMETER FOR THE PROPOSED PIPE. THE PROPOSED PIPE SHALL NOT PROTRUDE MORE THAN 3-INCHES PAST THE INSIDE FACE OF THE MANHOLE WALL. FILL THE ENTIRE VOID AROUND THE PROPOSED PIPE WITH NON-SHRINK WATERPROOF GROUT. CONTRACTOR TO CONSTRUCT SLOPE AT INVERT OF MANHOLE UNDER POINT OF SANITARY SEWER CONNECTION. THE CONTRACTOR SHALL BACKFILL THE EXCAVATION AROUND THE EXISTING MANHOLE WITH CEMENT-SAND.



NOTE:
ALL LEADS OVER 6' DEEP ARE REQUIRED TO HAVE A STACK ADDED PER DETAIL SO NEAREST FLOWLINE IS NOT DEEPER THAN 6' AT THE CONNECTION.

Table 13 - PROTECTION REQUIREMENTS AT WATER LINE (WL) - SANITARY SEWER (SS) CROSSINGS

Protection Method	Sanitary Sewer		Water Line	
	Min. Depth	Min. Cover	Min. Depth	Min. Cover
1. Minimum clearance to 2' for non-pressure rated pipe and pressure rated 8" pipe at least 18" for pressure rated 12" pipe.	✓	✓	✓	✓
2. Minimum clearance to 2' for non-pressure rated pipe and 1' for pressure rated pipe.	✓	✓	✓	✓
3. Required if crossing is to be disturbed and there is evidence of leakage.	✓	✓	✓	✓
4. This required for exposed WL, unless there is evidence of leakage, completely fill around hole with bentonite slurry.	✓	✓	✓	✓
5. This required for exposed SS, completely fill around hole with bentonite slurry unless bentonite is not available.	✓	✓	✓	✓
6. This required for exposed SS, completely fill around hole with bentonite slurry unless bentonite is not available.	✓	✓	✓	✓
7. Both Waterline and Waterline under a paved area shall be protected as specified in ACPWA CIP standards.	✓	✓	✓	✓
8. This required for exposed WL, completely fill around hole with bentonite slurry unless bentonite is not available.	✓	✓	✓	✓

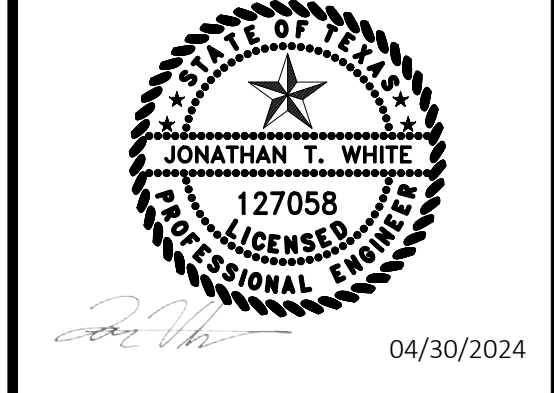


CLIENT INFORMATION
K. HOVANIAN HOUSTON DISTRICT, LLC
13111 NW Fwy, Suite 200
Houston, TX 77040
PROJECT ADDRESS
EMMA'S WAY
MONTGOMERY, TX 77356

HILLS OF TOWN CREEK SECTION 5 BARNIER STREET PLAN & PROFILE 0+00-1+72

DRAWING ISSUE			
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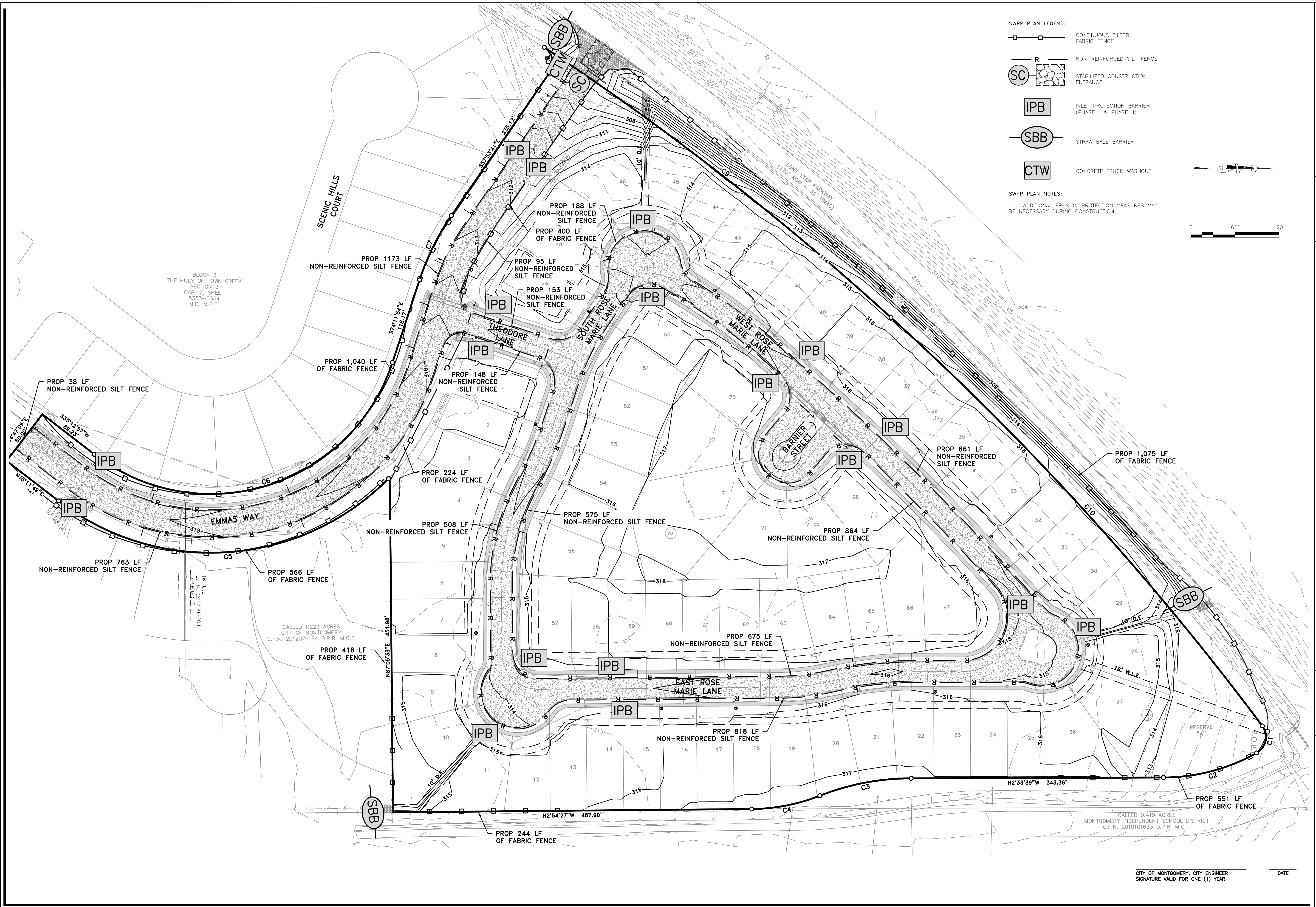
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PROJECT	10976	TDLR	**
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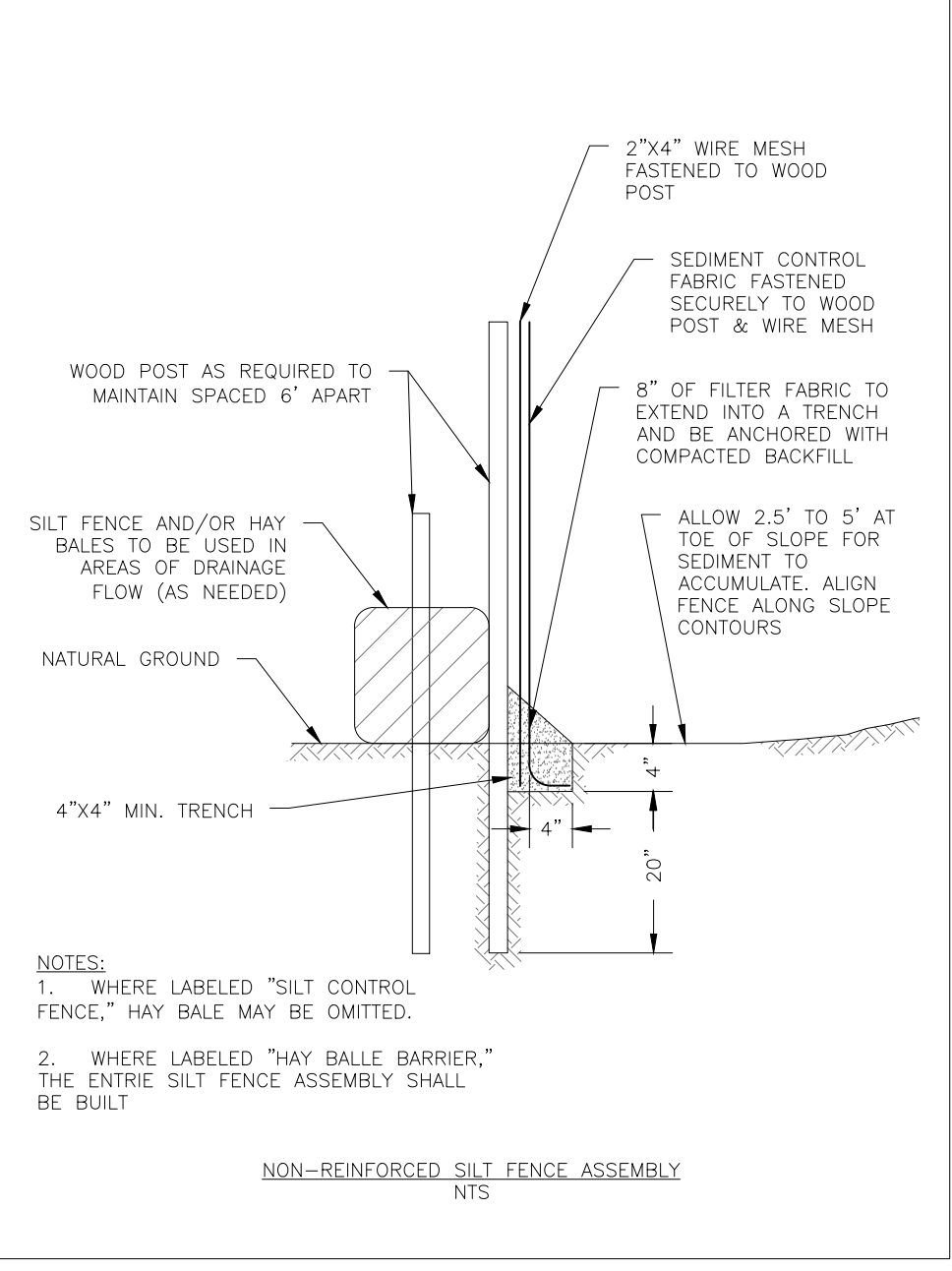
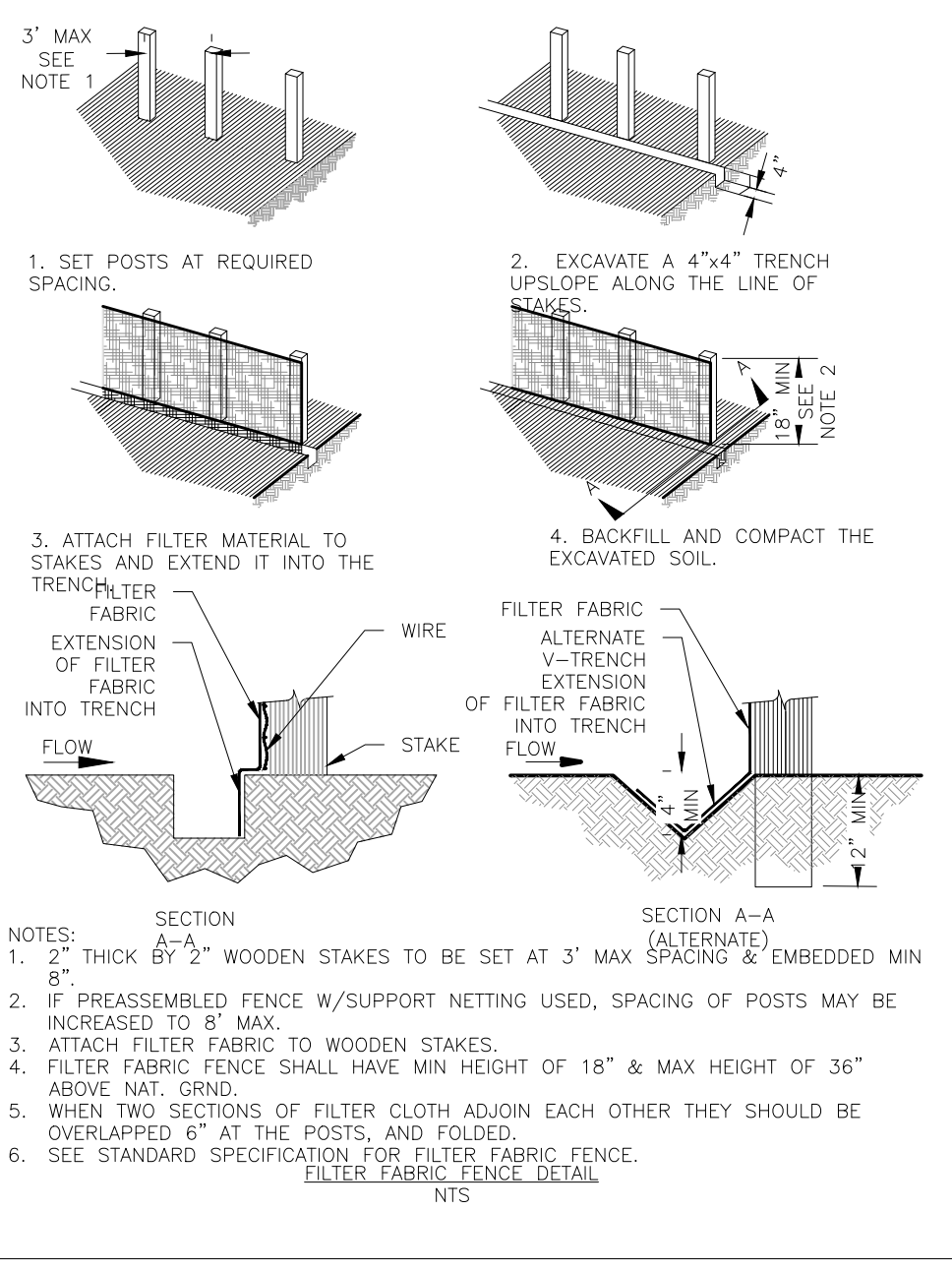
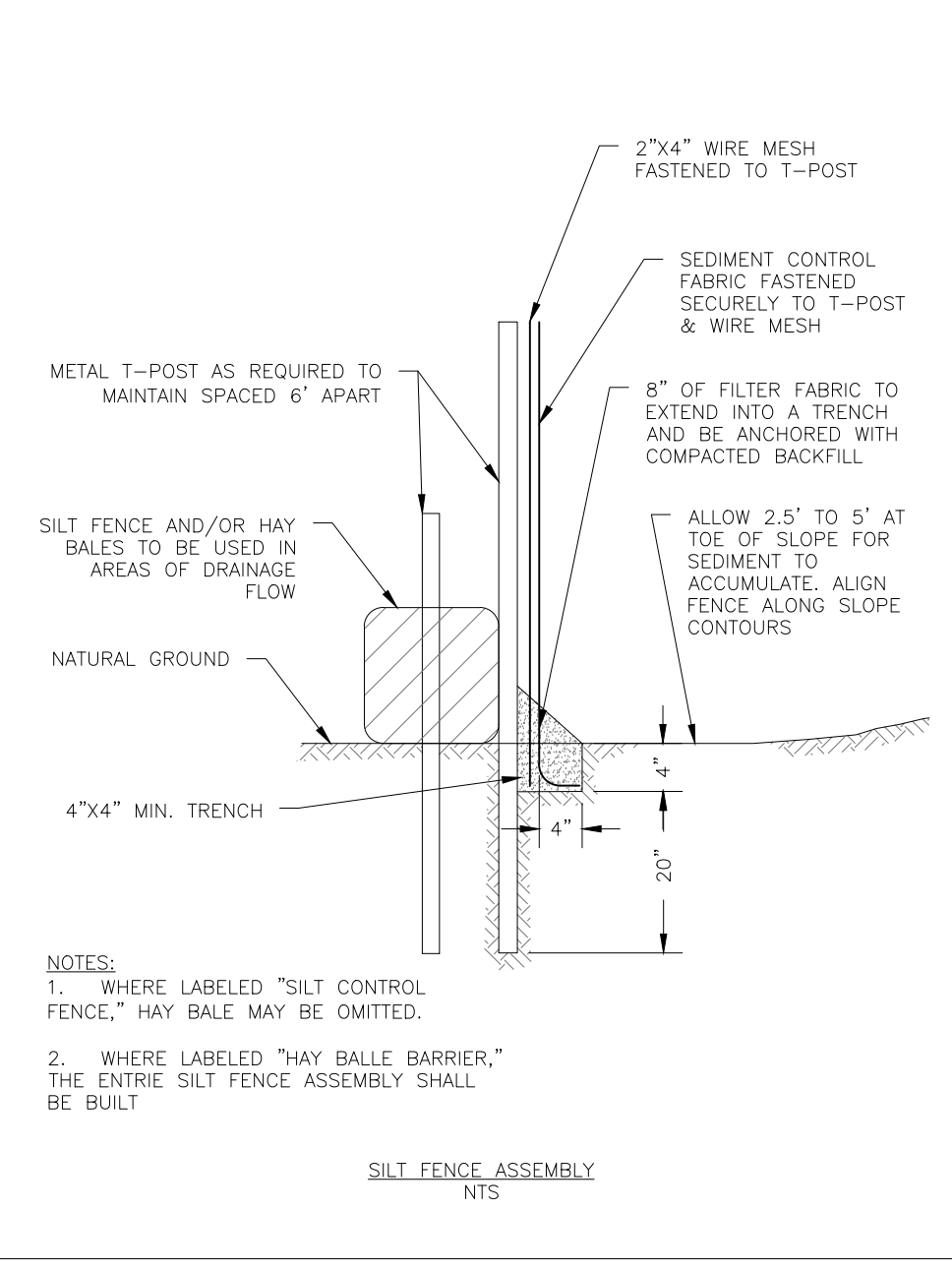
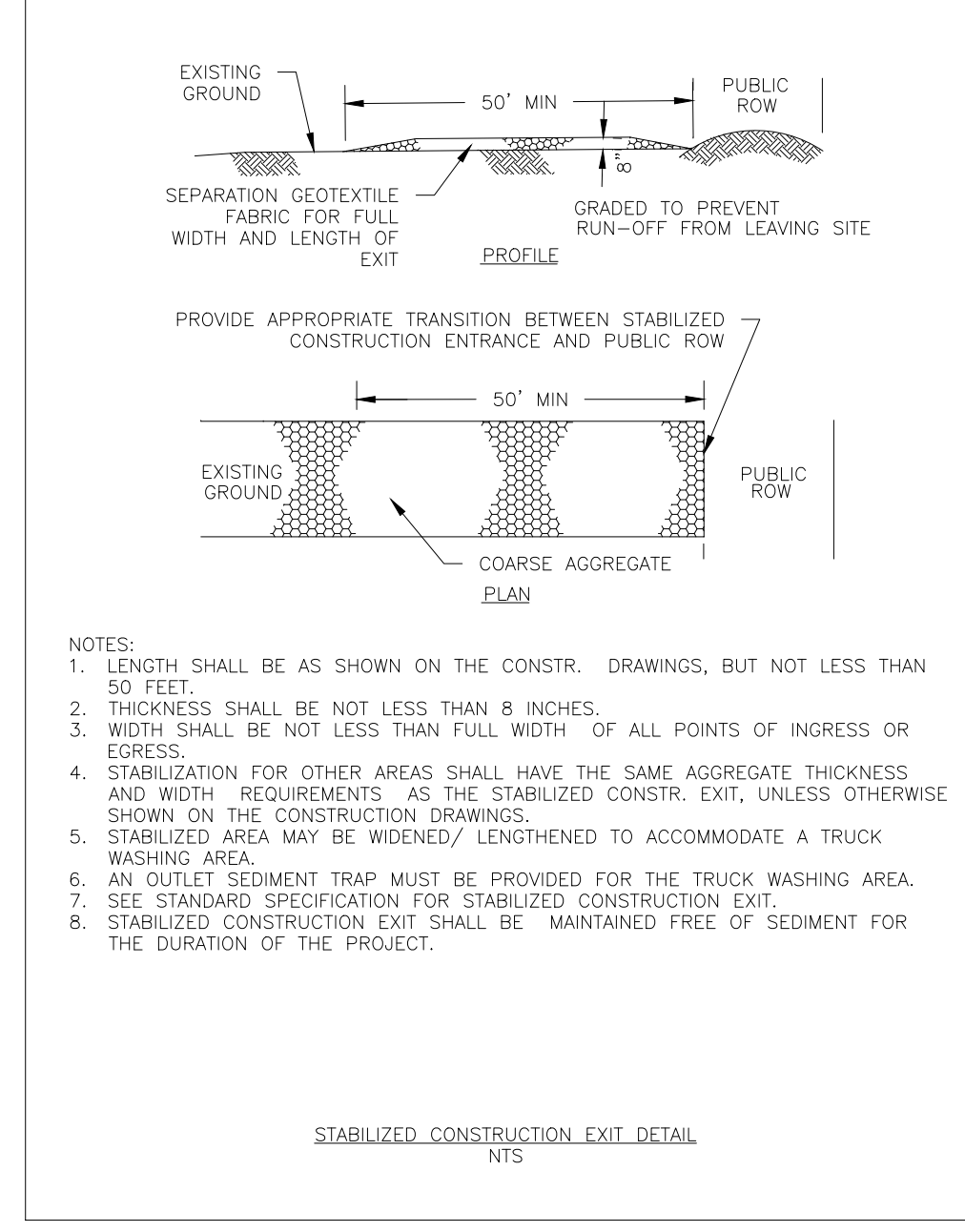
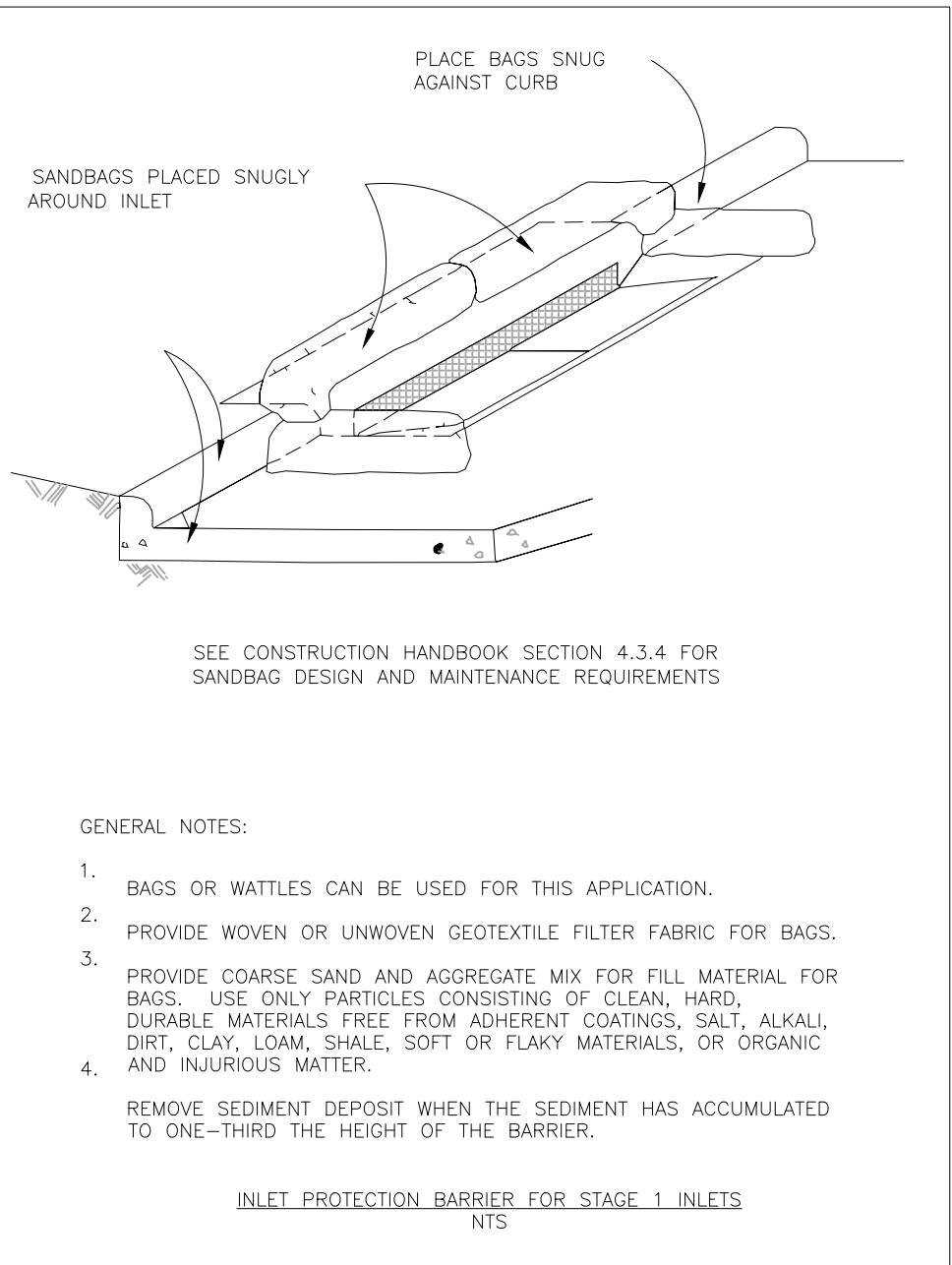
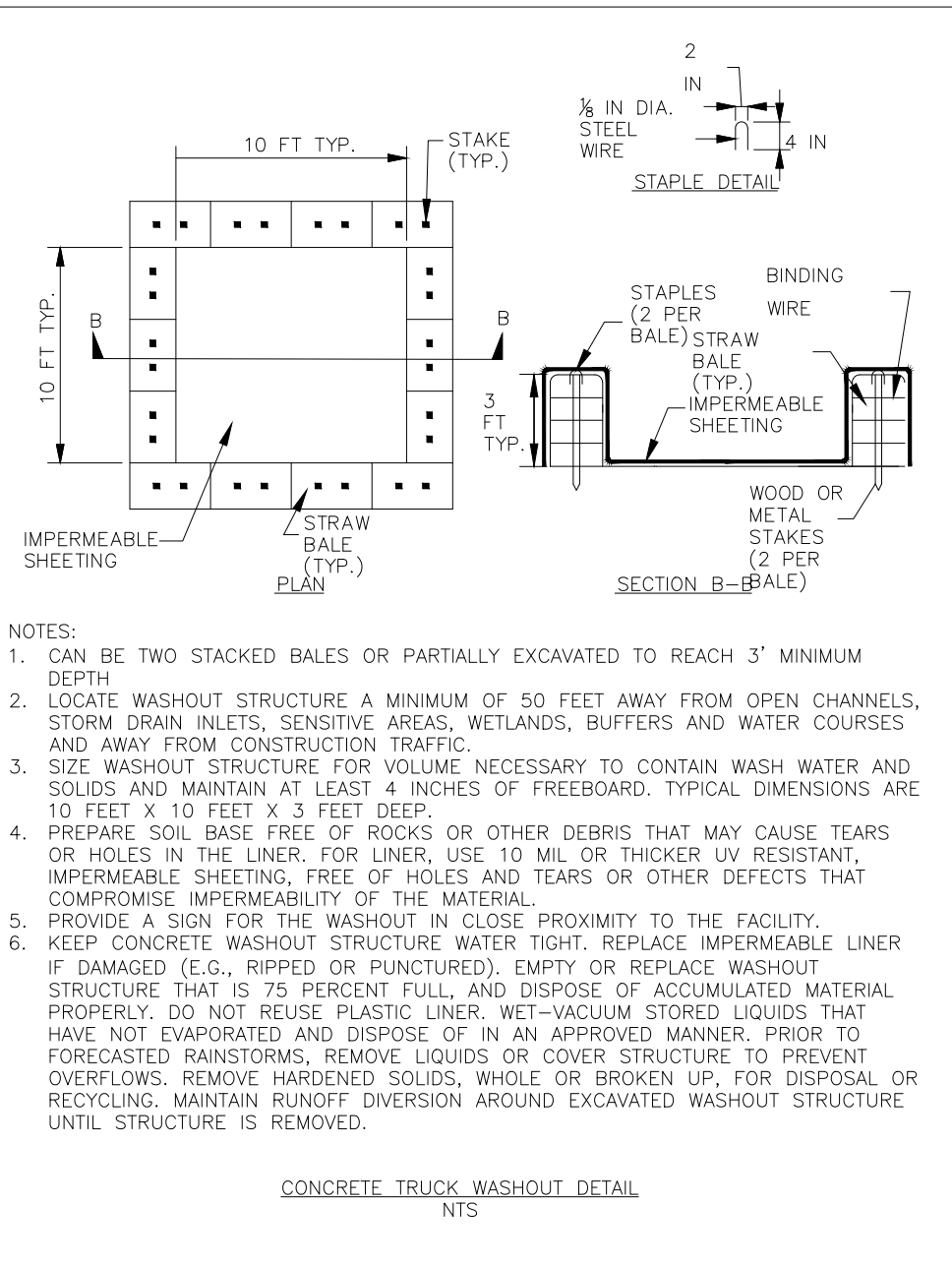
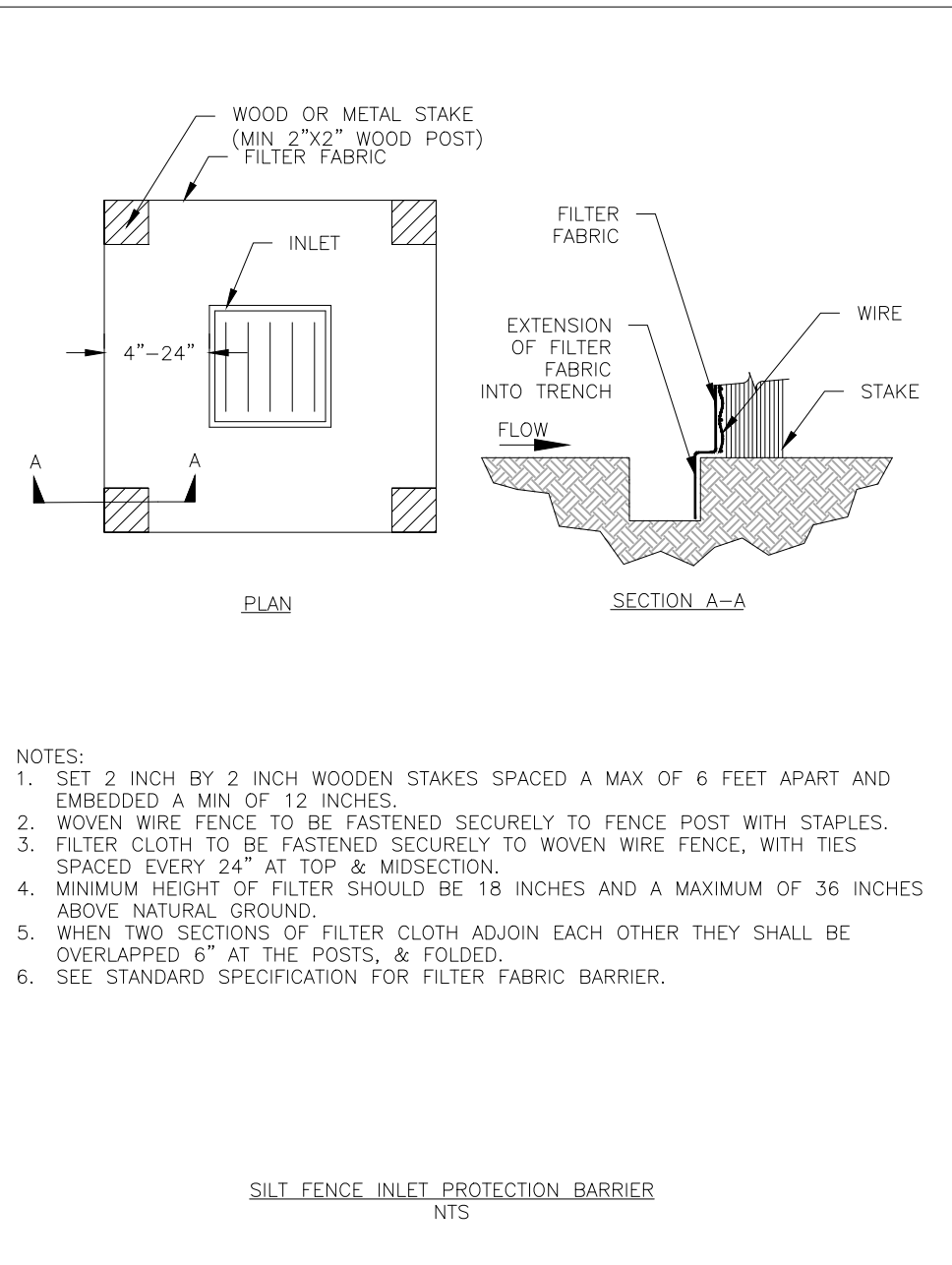
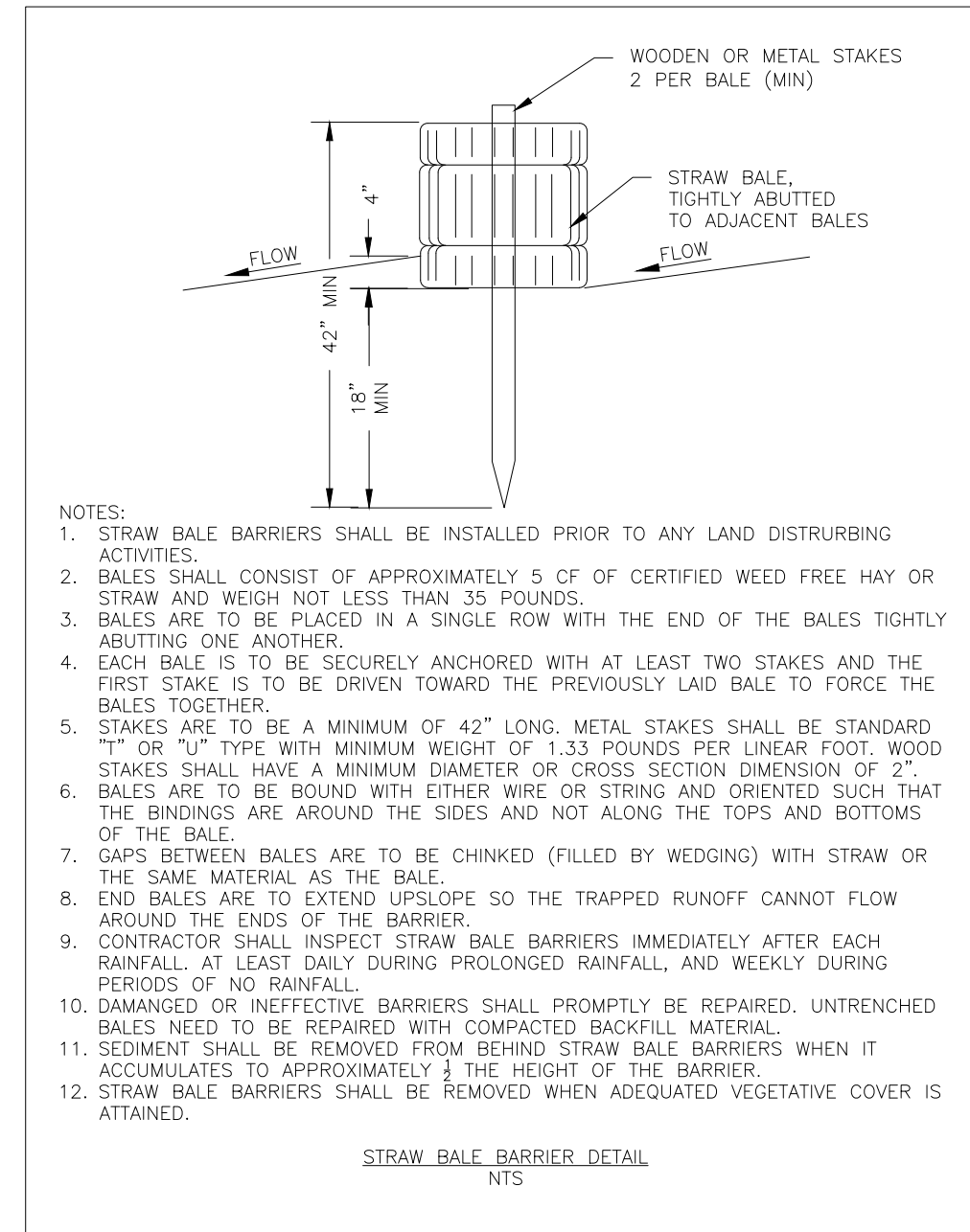


CITY OF MONTGOMERY, CITY ENGINEER
SIGNATURE VALID FOR ONE (1) YEAR

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MUNICIPAL COMMERCIAL RESIDENTIAL

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PMB REGISTRATION NUMBER 112125

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HILLS OF TOWN CREEK
SECTION 5
SWPP DETAILS

DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	04/30/24	JTW	FOR PERMIT

DRAWING INFORMATION			
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DRAWN	GLH	CHECKED	JTW
SCALE	AS NOTED	SHEET	21

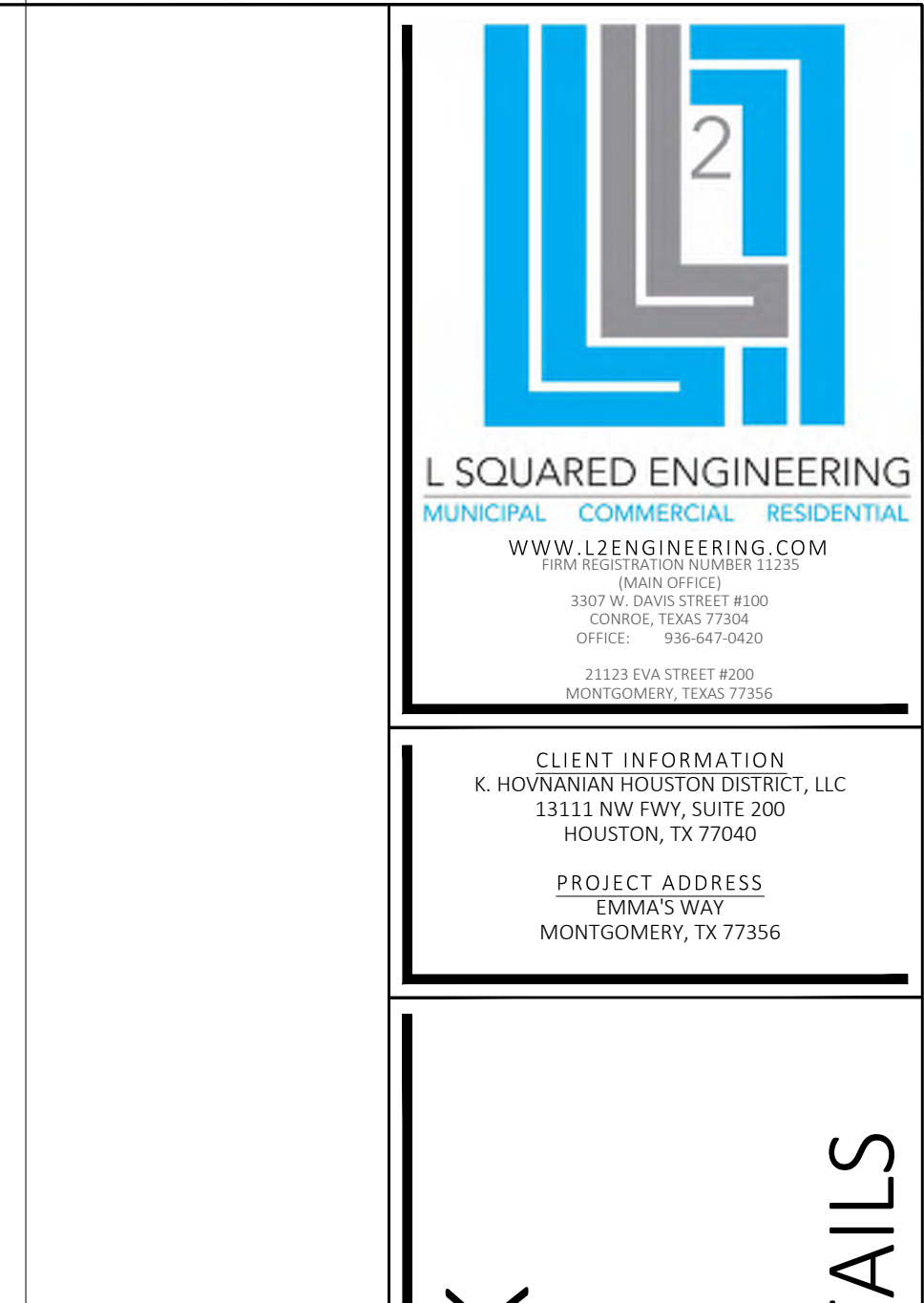
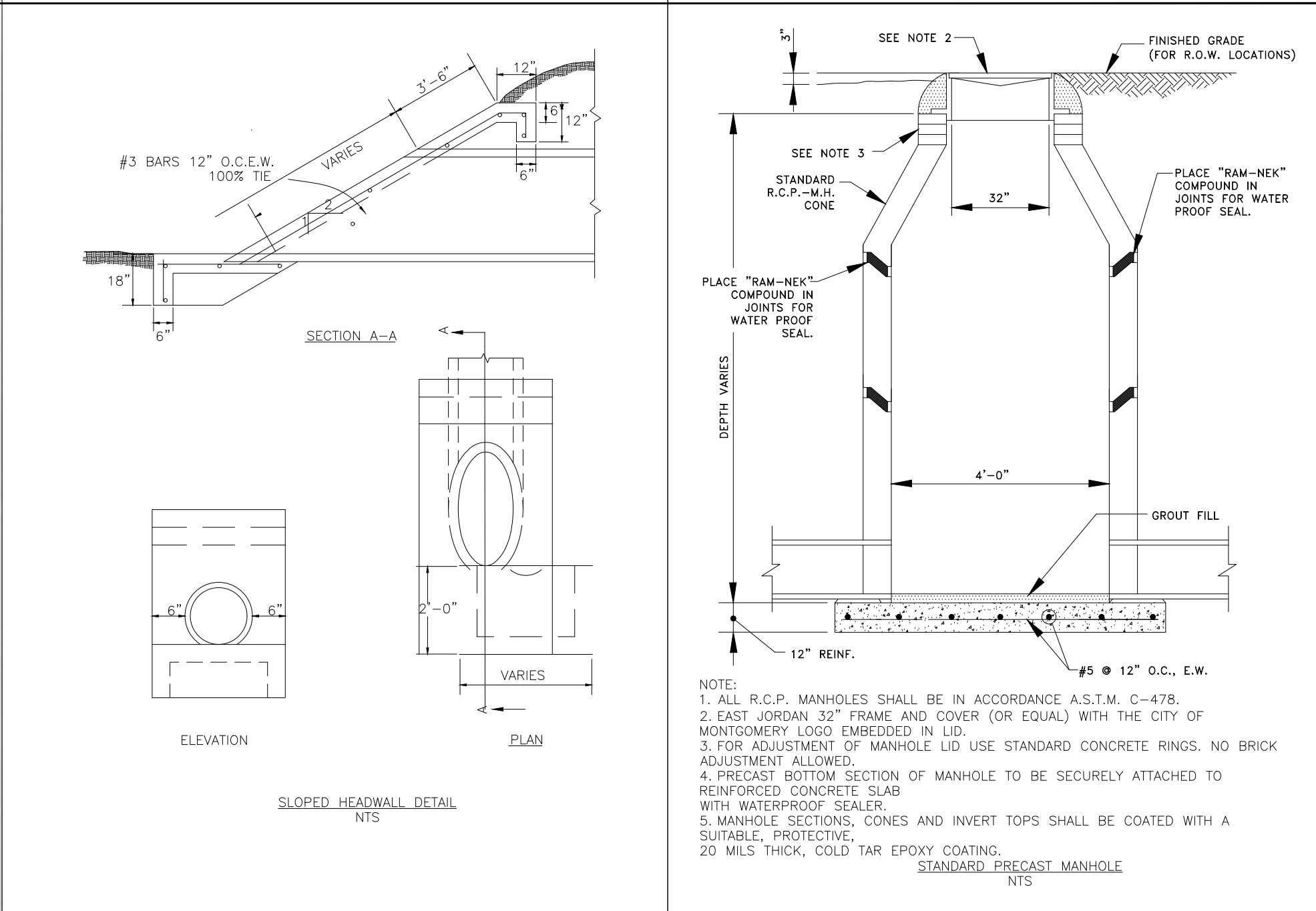
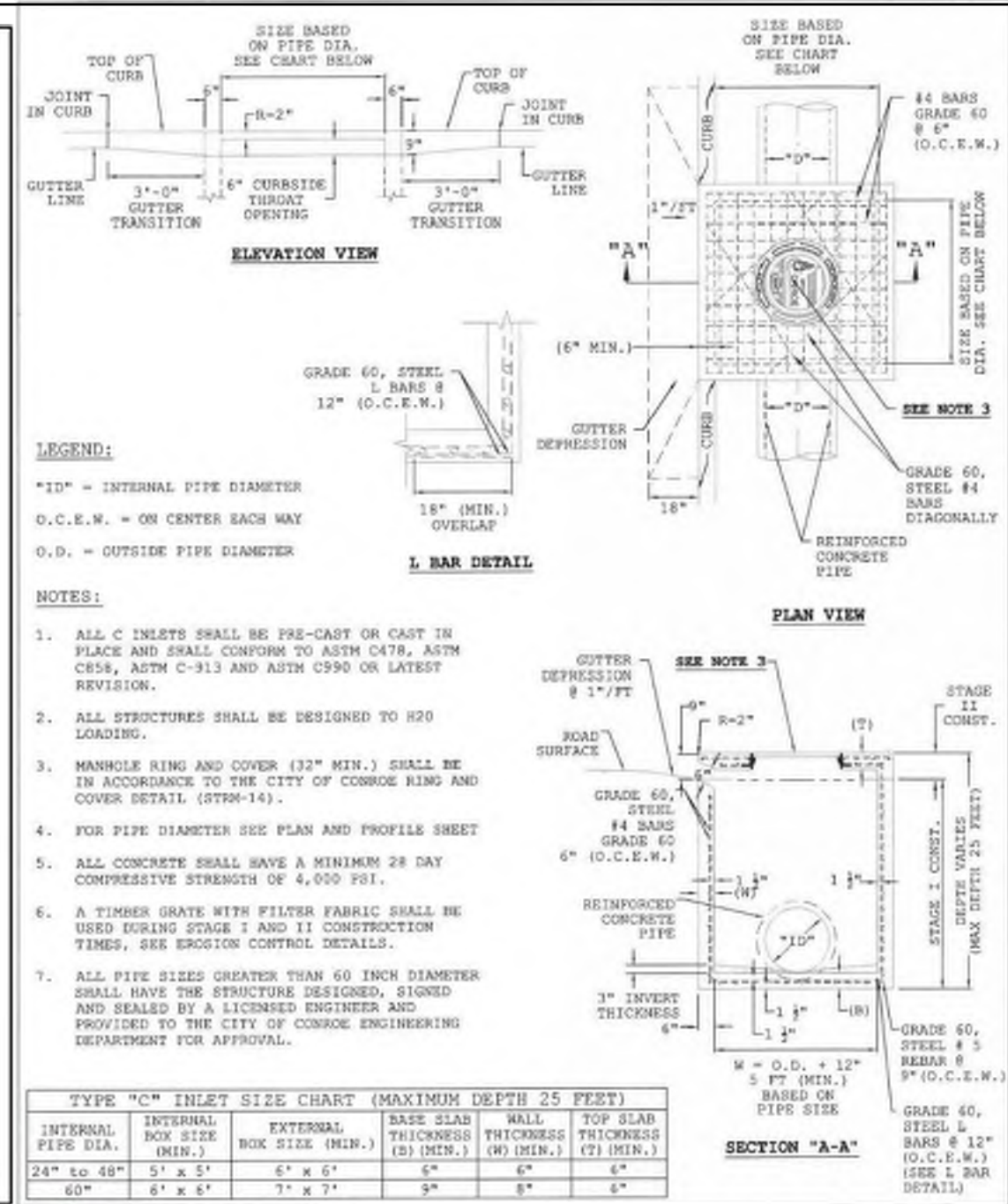
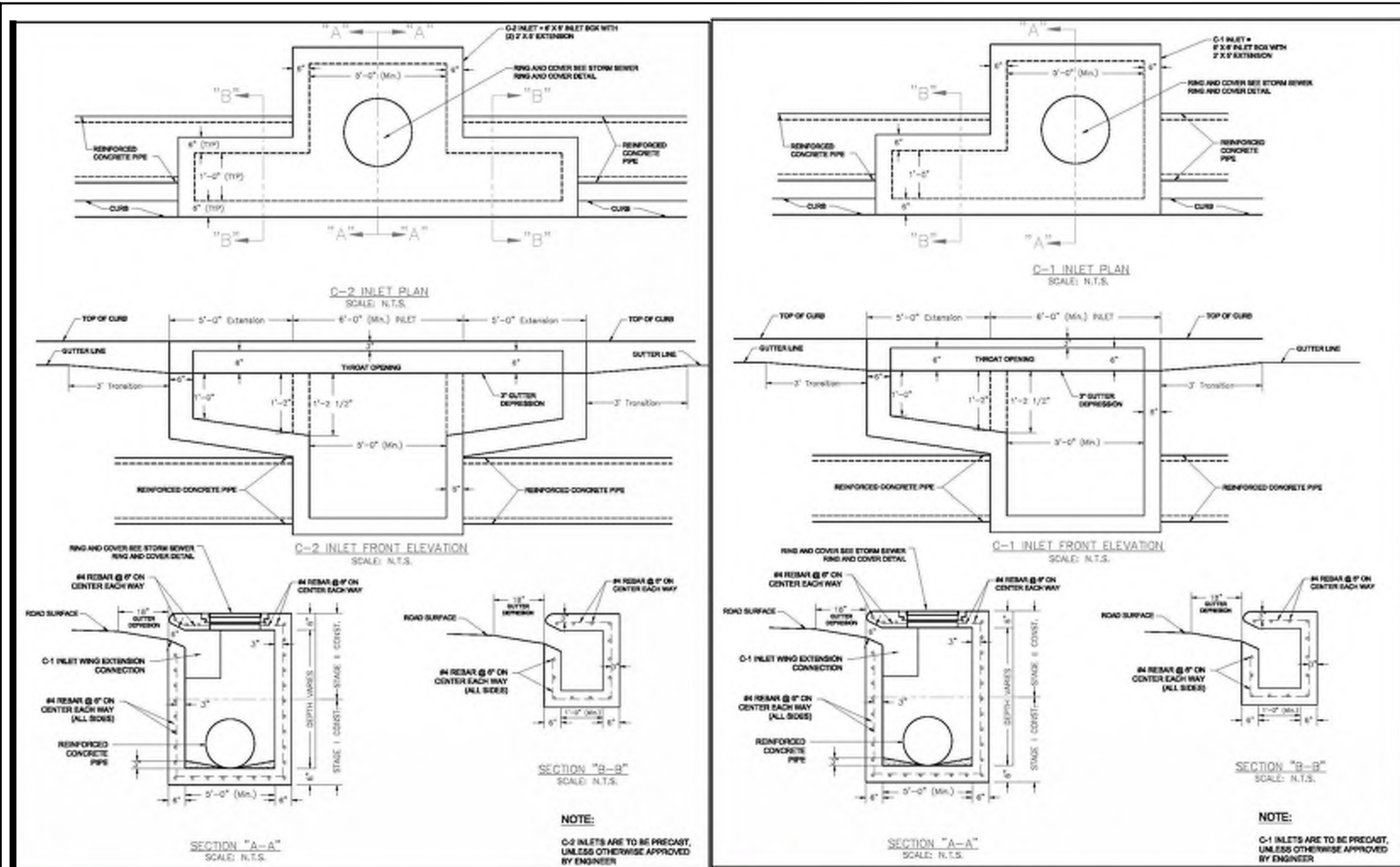
JONATHAN T. WHITE
127058
PROFESSIONAL ENGINEER
STATE OF TEXAS

04/30/2024

CITY OF MONTGOMERY, CITY ENGINEER
SIGNATURE VALID FOR ONE (1) YEAR

DATE

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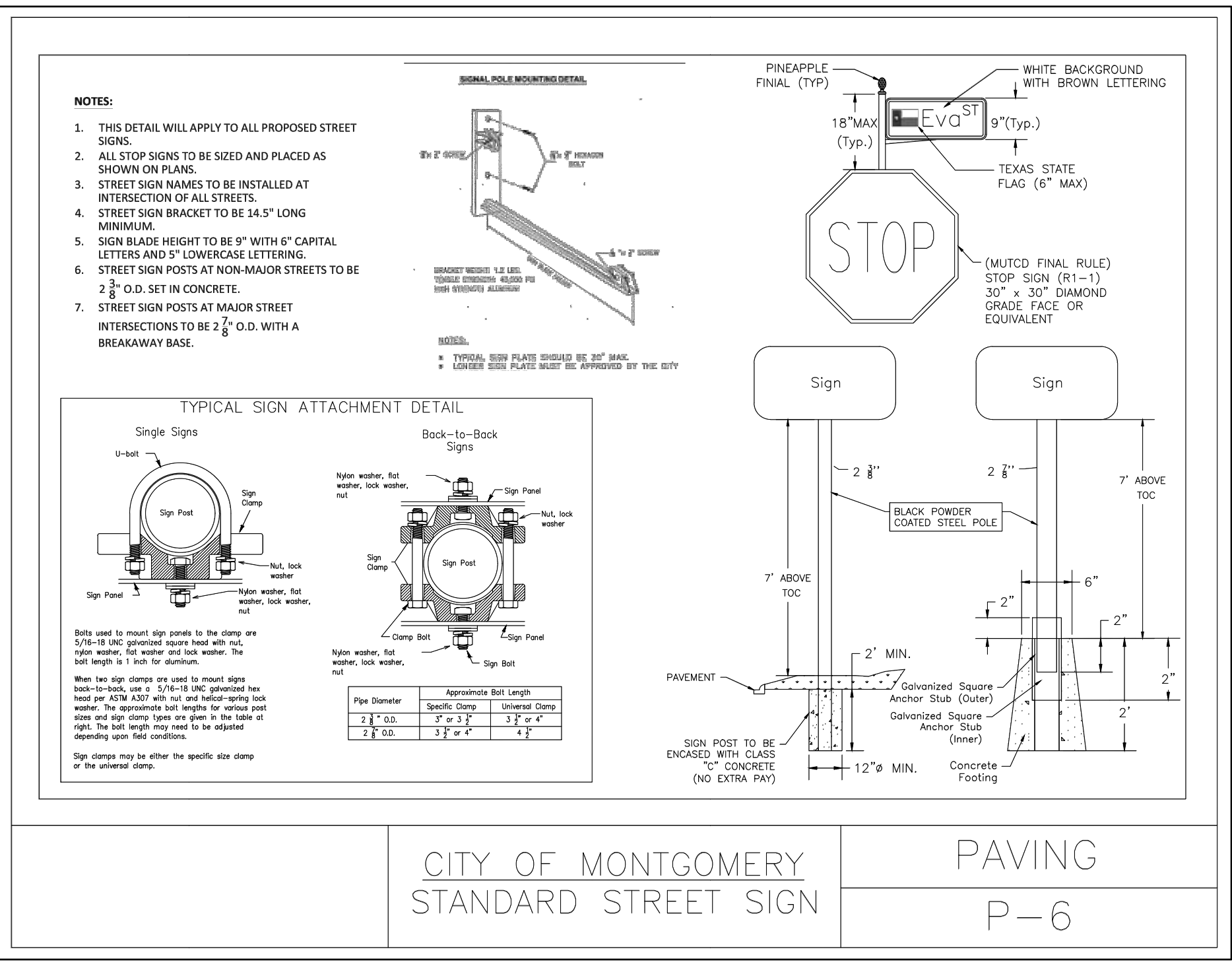
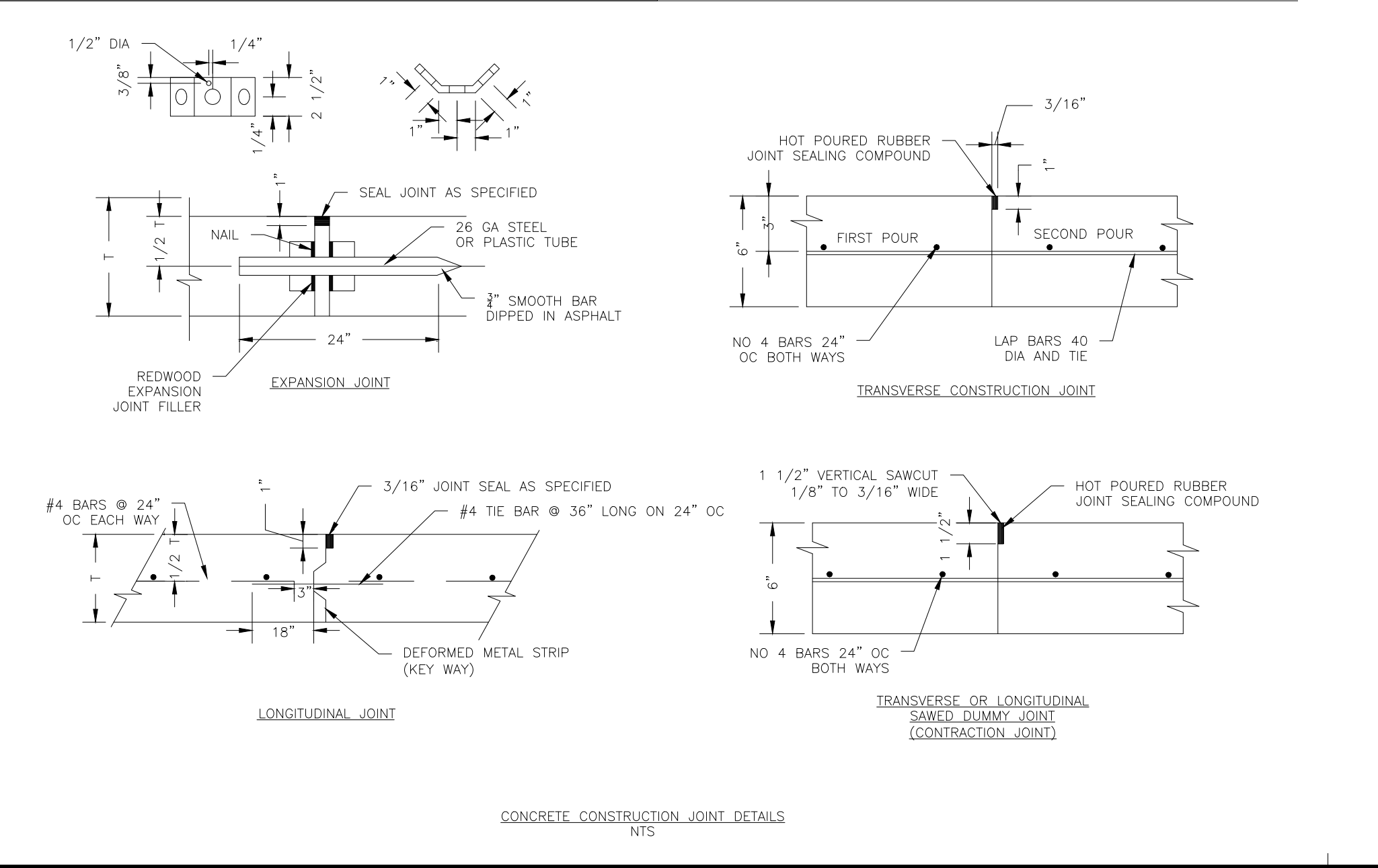
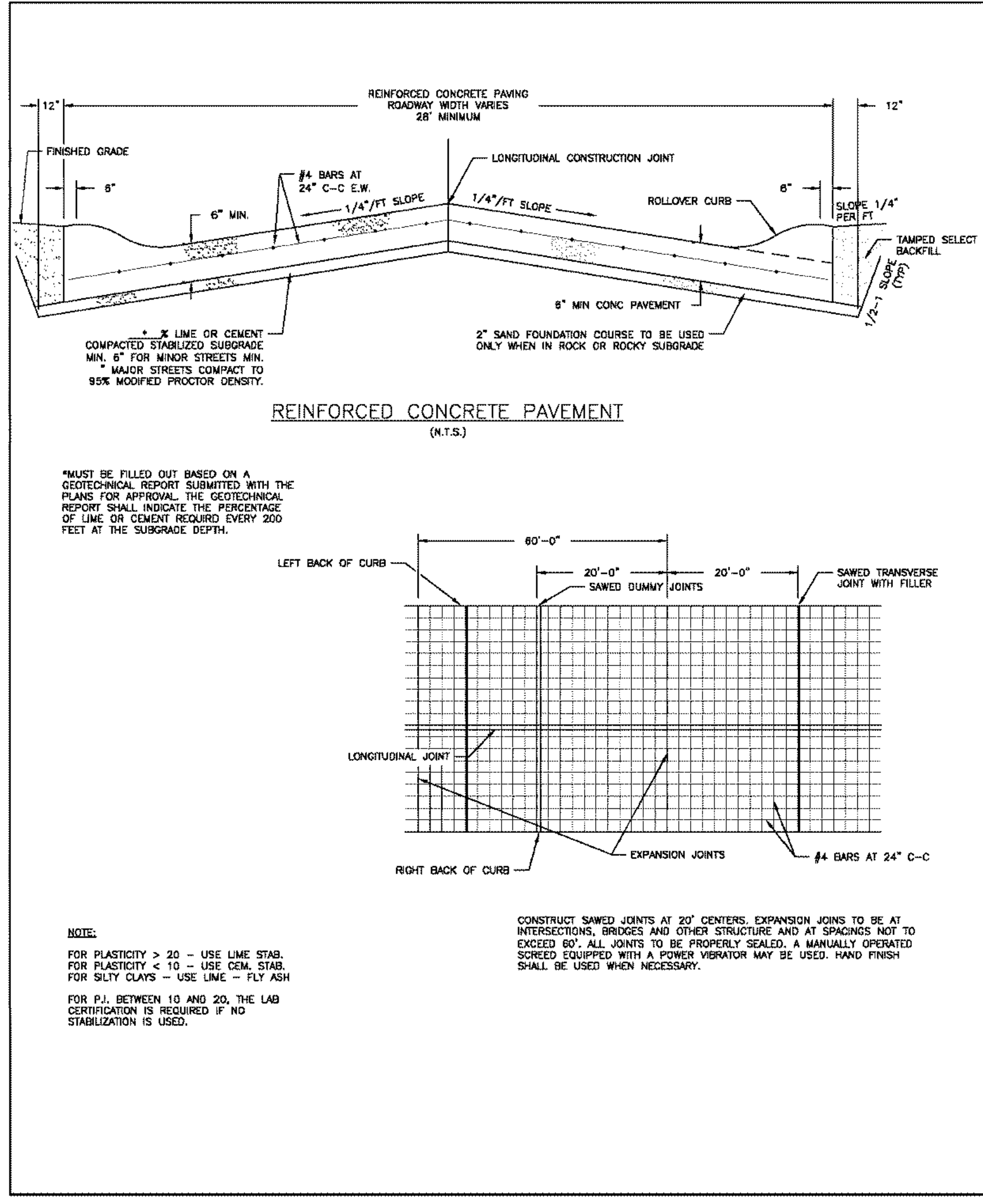
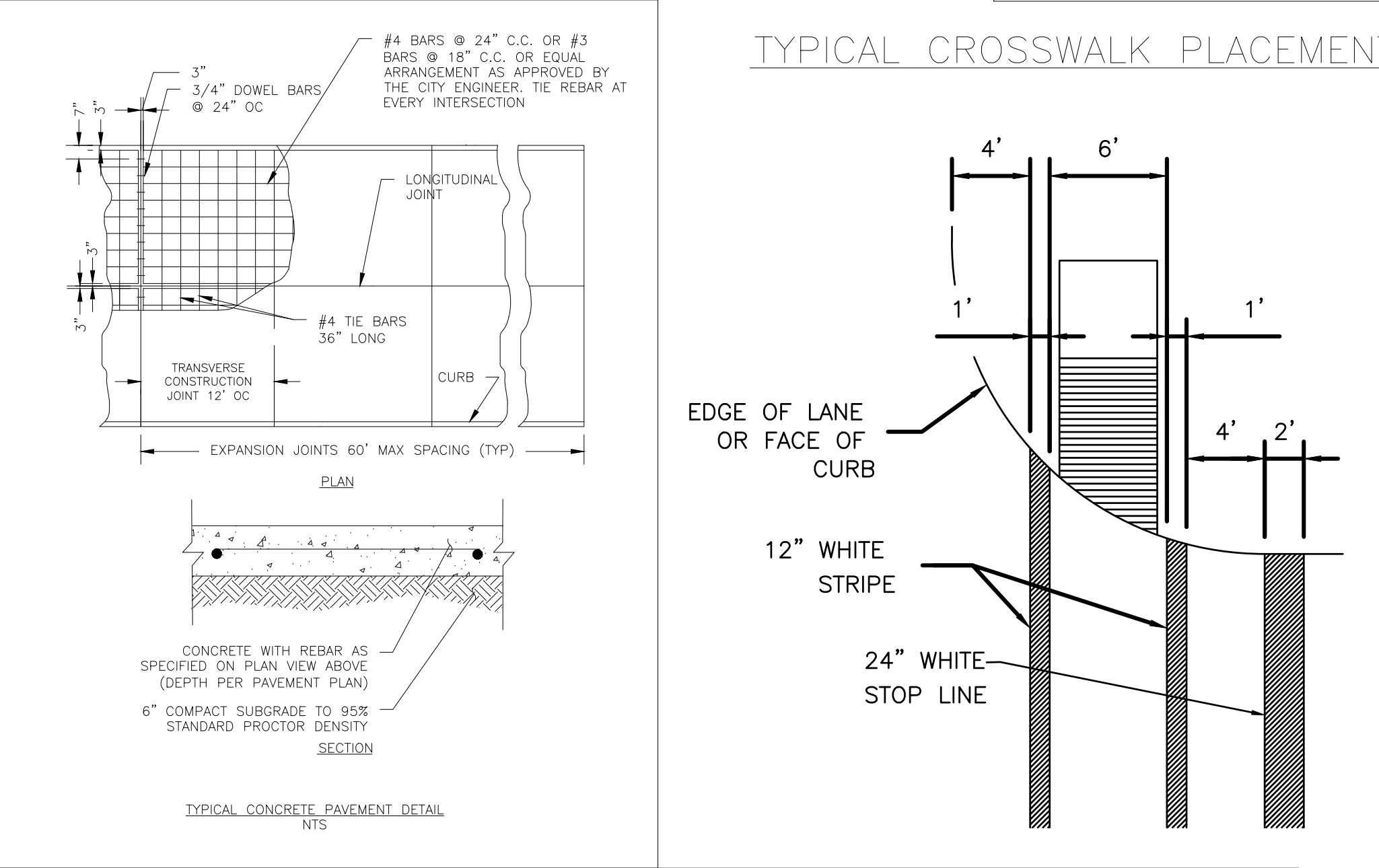
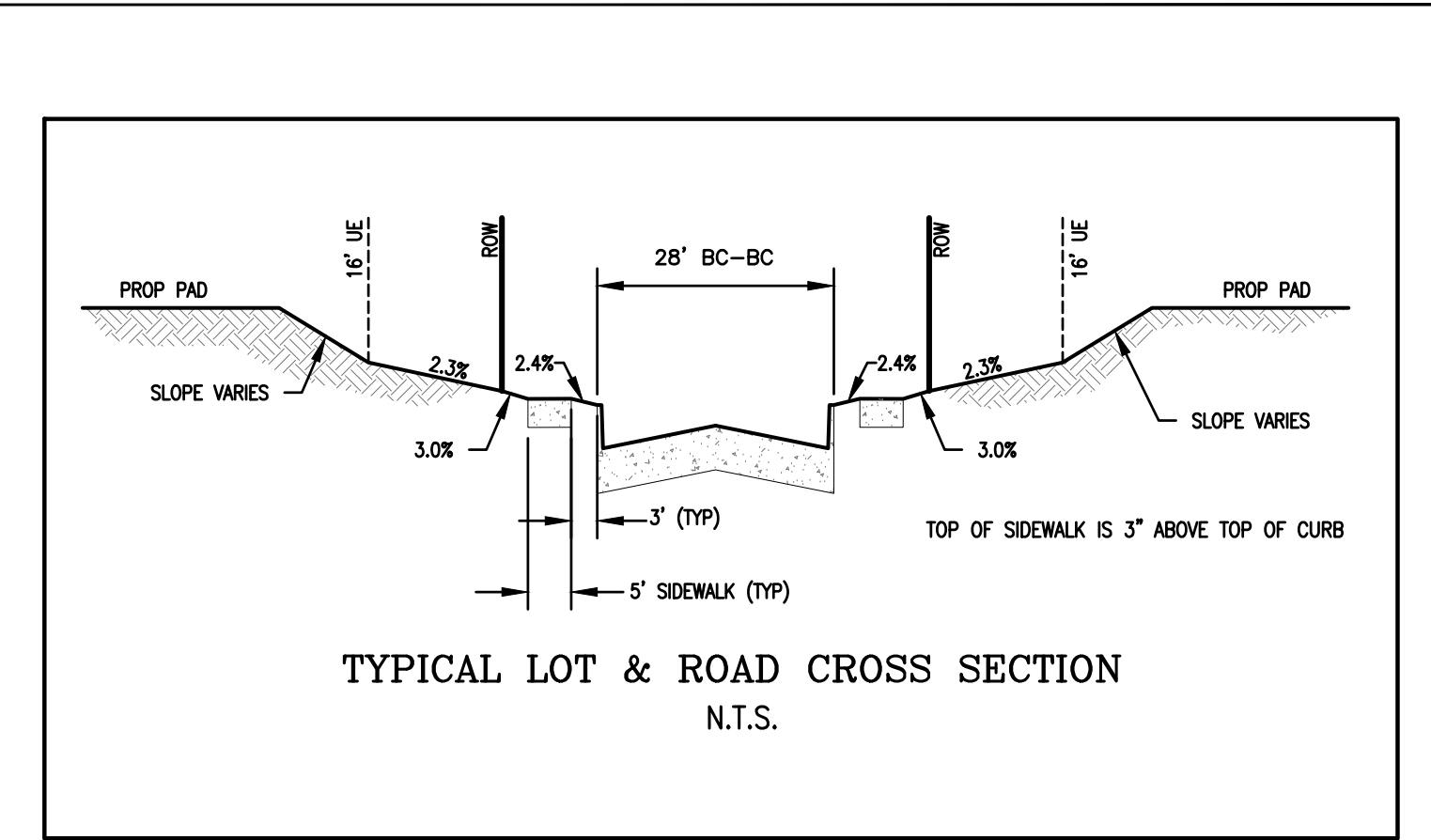
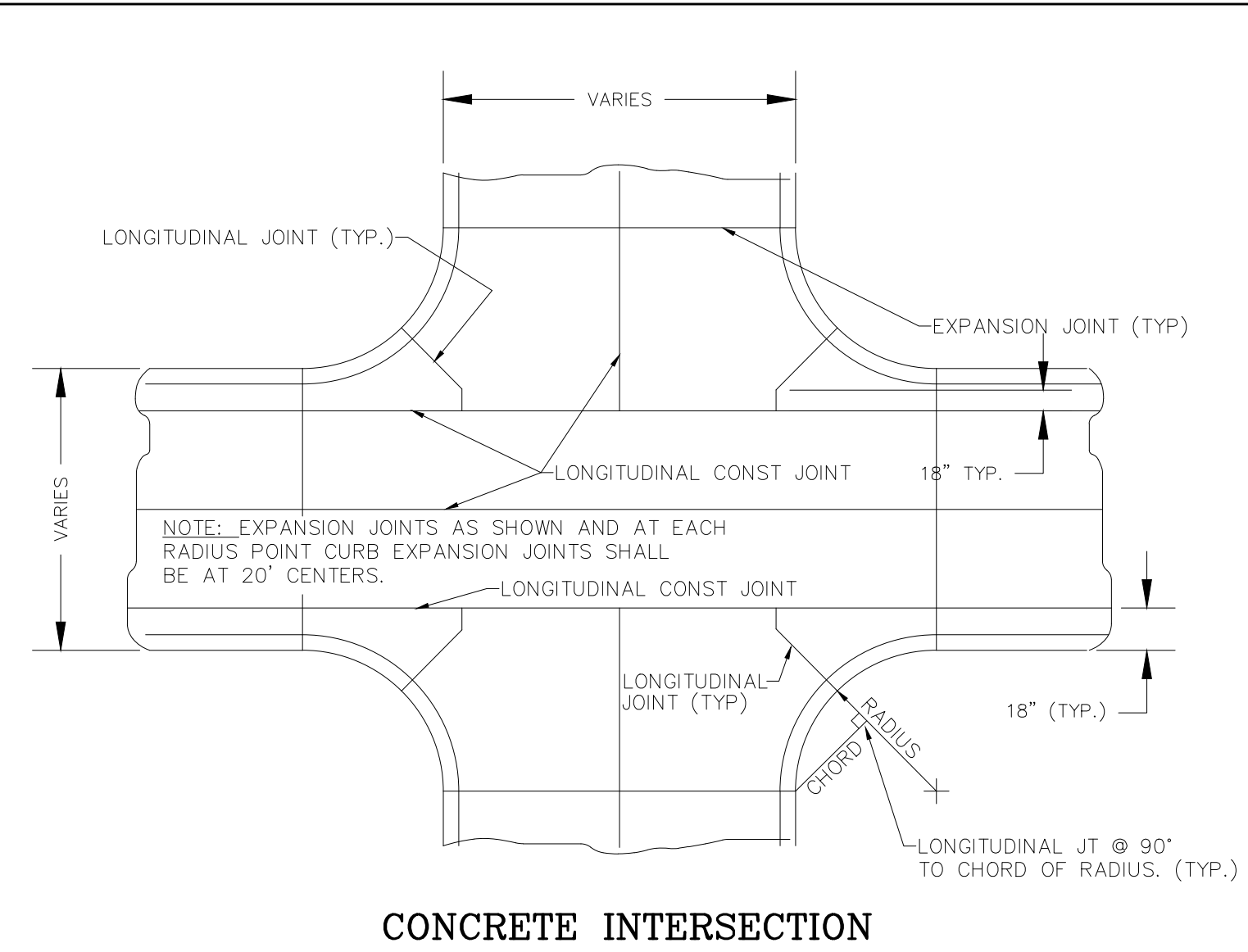
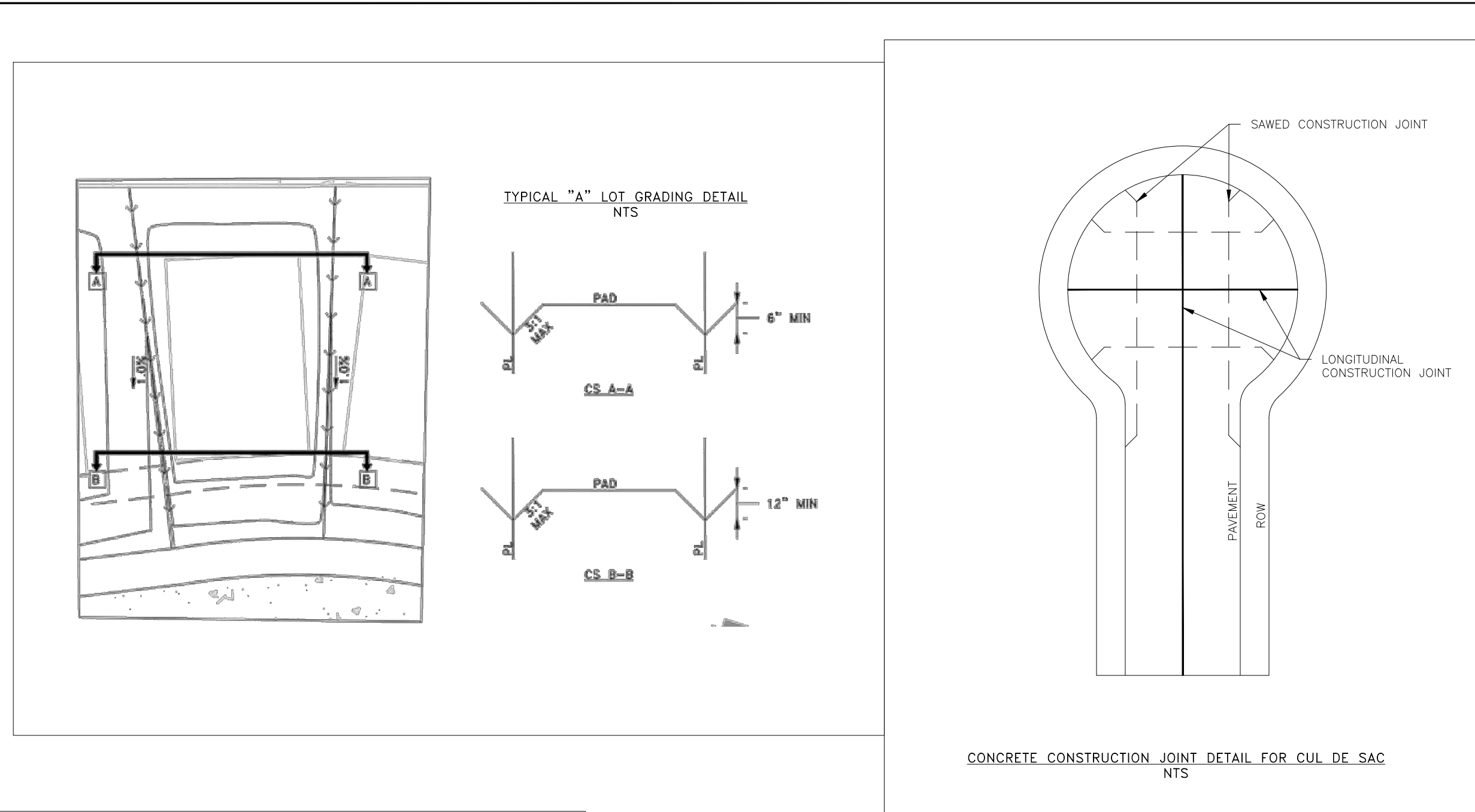
Revision Date: 03/03/2020
STRM-09
Approved By: [Signature]

TABLE OF VARIABLE DIMENSIONS AND QUANTITIES FOR ONE HEADWALL

Values for One Pipe

Span	W	X	Y	L	Reinf. Conc. (cu) (1)	Reinf. Conc. (cu) (2)
33'	14'-3 1/2"	4'-0"	9'-0"	10'-11 1/2"	316	3.4
36'	15'-2 1/2"	4'-0"	9'-0"	11'-10"	338	3.8
39'	16'-1 1/2"	4'-0"	9'-0"	12'-6 1/2"	360	4.2
42'	17'-0 1/2"	4'-0"	9'-0"	13'-3 1/2"	382	4.6
45'	17'-9 1/2"	4'-0"	9'-0"	14'-0 1/2"	404	5.0
48'	18'-8 1/2"	4'-0"	9'-0"	14'-7 1/2"	426	5.4
51'	19'-7 1/2"	4'-0"	9'-0"	15'-4 1/2"	448	5.8
54'	20'-6 1/2"	4'-0"	9'-0"	16'-1 1/2"	470	6.2
57'	21'-5 1/2"	4'-0"	9'-0"	16'-8 1/2"	492	6.6
60'	22'-4 1/2"	4'-0"	9'-0"	17'-5 1/2"	514	7.0
63'	23'-3 1/2"	4'-0"	9'-0"	18'-2 1/2"	536	7.4
66'	24'-2 1/2"	4'-0"	9'-0"	18'-9 1/2"	558	7.8
69'	25'-1 1/2"	4'-0"	9'-0"	19'-6 1/2"	580	8.2
72'	26'-0 1/2"	4'-0"	9'-0"	20'-3 1/2"	602	8.6
75'	26'-9 1/2"	4'-0"	9'-0"	21'-0 1/2"	624	9.0
78'	27'-8 1/2"	4'-0"	9'-0"	21'-7 1/2"	646	9.4
81'	28'-7 1/2"	4'-0"	9'-0"	22'-4 1/2"	668	9.8
84'	29'-6 1/2"	4'-0"	9'-0"	23'-1 1/2"	690	10.2
87'	30'-5 1/2"	4'-0"	9'-0"	23'-8 1/2"	712	10.6
90'	31'-4 1/2"	4'-0"	9'-0"	24'-5 1/2"	734	11.0
93'	32'-3 1/2"	4'-0"	9'-0"	25'-2 1/2"	756	11.4
96'	33'-2 1/2"	4'-0"	9'-0"	25'-9 1/2"	778	11.8
99'	34'-1 1/2"	4'-0"	9'-0"	26'-6 1/2"	800	12.2
102'	35'-0 1/2"	4'-0"	9'-0"	27'-3 1/2"	822	12.6
105'	35'-9 1/2"	4'-0"	9'-0"	28'-0 1/2"	844	13.0
108'	36'-8 1/2"	4'-0"	9'-0"	28'-7 1/2"	866	13.4
111'	37'-7 1/2"	4'-0"	9'-0"	29'-4 1/2"	888	13.8
114'	38'-6 1/2"	4'-0"	9'-0"	30'-1 1/2"	910	14.2
117'	39'-5 1/2"	4'-0"	9'-0"	30'-8 1/2"	932	14.6
120'	40'-4 1/2"	4'-0"	9'-0"	31'-5 1/2"	954	15.0
123'	41'-3 1/2"	4'-0"	9'-0"	32'-2 1/2"	976	15.4
126'	42'-2 1/2"	4'-0"	9'-0"	32'-9 1/2"	998	15.8
129'	43'-1 1/2"	4'-0"	9'-0"	33'-6 1/2"	1020	16.2
132'	44'-0 1/2"	4'-0"	9'-0"	34'-3 1/2"	1042	16.6
135'	44'-9 1/2"	4'-0"	9'-0"	35'-0 1/2"	1064	17.0
138'	45'-8 1/2"	4'-0"	9'-0"	35'-7 1/2"	1086	17.4
141'	46'-7 1/2"	4'-0"	9'-0"	36'-4 1/2"	1108	17.8
144'	47'-6 1/2"	4'-0"	9'-0"	37'-1 1/2"	1130	18.2
147'	48'-5 1/2"	4'-0"	9'-0"	37'-8 1/2"	1152	18.6
150'	49'-4 1/2"	4'-0"	9'-0"	38'-5 1/2"	1174	19.0
153'	50'-3 1/2"	4'-0"	9'-0"	39'-2 1/2"	1196	19.4
156'	51'-2 1/2"	4'-0"	9'-0"	39'-9 1/2"	1218	19.8
159'	52'-1 1/2"	4'-0"	9'-0"	40'-6 1/2"	1240	20.2
162'	53'-0 1/2"	4'-0"	9'-0"	41'-3 1/2"	1262	20.6
165'	53'-9 1/2"	4'-0"	9'-0"	42'-0 1/2"	1284	21.0
168'	54'-8 1/2"	4'-0"	9'-0"	42'-7 1/2"	1306	21.4
171'	55'-7 1/2"	4'-0"	9'-0"	43'-4 1/2"	1328	21.8
174'	56'-6 1/2"	4'-0"	9'-0"	44'-1 1/2"	1350	22.2
177'	57'-5 1/2"	4'-0"	9'-0"	44'-8 1/2"	1372	22.6
180'	58'-4 1/2"	4'-0"	9'-0"	45'-5 1/2"	1394	23.0
183'	59'-3 1/2"	4'-0"	9'-0"	46'-2 1/2"	1416	23.4
186'	60'-2 1/2"	4'-0"	9'-0"	46'-9 1/2"	1438	23.8
189'	61'-1 1/2"	4'-0"	9'-0"	47'-6 1/2"	1460	24.2
192'	62'-0 1/2"	4'-0"	9'-0"	48'-3 1/2"	1482	24.6
195'	62'-9 1/2"	4'-0"	9'-0"	49'-0 1/2"	1504	25.0
198'	63'-8 1/2"	4'-0"	9'-0"	49'-7 1/2"	1526	25.4
201'	64'-7 1/2"	4'-0"	9'-0"	50'-4 1/2"	1548	25.8
204'	65'-6 1/2"	4'-0"	9'-0"	51'-1 1/2"	1570	26.2
207'	66'-5 1/2"	4'-0"	9'-0"	51'-8 1/2"	1592	26.6
210'	67'-4 1/2"	4'-0"	9'-0"	52'-5 1/2"	1614	27.0
213'	68'-3 1/2"	4'-0"	9'-0"	53'-2 1/2"	1636	27.4
216'	69'-2 1/2"	4'-0"	9'-0"	53'-9 1/2"	1658	27.8
219'	70'-1 1/2"	4'-0"	9'-0"	54'-6 1/2"	1680	28.2
222'	71'-0 1/2"	4'-0"	9'-0"	55'-3 1/2"	1702	28.6
225'	71'-9 1/2"	4'-0"	9'-0"	56'-0 1/2"	1724	29.0
228'	72'-8 1/2"	4'-0"	9'-0"	56'-7 1/2"	1746	29.4
231'	73'-7 1/2"	4'-0"	9'-0"	57'-4 1/2"	1768	29.8
234'	74'-6 1/2"	4'-0"	9'-0"	58'-1 1/2"	1790	30.2
237'	75'-5 1/2"	4'-0"	9'-0"	58'-8 1/2"	1812	30.6
240'	76'-4 1/2"	4'-0"	9'-0"	59'-5 1/2"	1834	31.0
243'	77'-3 1/2"	4'-0"	9'-0"	60'-2 1/2"	1856	31.4
246'	78'-2 1/2"	4'-0"	9'-0"	60'-9 1/2"	1878	31.8
249'	79'-1 1/2"	4'-0"	9'-0"	61'-6 1/2"	1900	32.2
252'	80'-0 1/2"	4'-0"	9'-0"	62'-3 1/2"	1922	32.6
255'	80'-9 1/2"	4'-0"	9'-0"	63'-0 1/2"	1944	33.0
258'	81'-8 1/2"	4'-0"	9'-0"	63'-7 1/2"	1966	33.4
261'	82'-7 1/2"	4'-0"	9'-0"	64'-4 1/2"	1988	33.8
264'	83'-6 1/2"	4'-0"	9'-0"	65'-1 1/2"	2010	34.2
267'	84'-5 1/2"	4'-0"	9'-0"	65'-8 1/2"	2032	34.6
270'	85'-4 1/2"	4'-0"	9'-0"	66'-5 1/2"	2054	35.0
273'	86'-3 1/2"	4'-0"	9'-0"	67'-2 1/2"	2076	35.4
276'	87'-2 1/2"	4'-0"	9'-0"	67'-9 1/2"	2098	35.8
279'	88'-1 1/2"	4'-0"	9'-0"	68'-6 1/2"	2120	36.2
282'	89'-0 1/2"	4'-0"	9'-0"	69'-3 1/2"	2142	36.6
285'	89'-9 1/2"	4'-0"	9'-0"	70'-0 1/2"	2164	37.0
288'	90'-8 1/2"	4'-0"	9'-0"	70'-7 1/2"	2186	37.4
291'	91'-7 1/2"	4'-0"	9'-0"	71'-4 1/2"	2208	37.8
294'	92'-6 1/2"	4'-0"	9'-0"	72'-1 1/2"	2230	38.2
297'	93'-5 1/2"	4'-0"	9'-0"	72'-8 1/2"	2252	38.6
300'	94'-4 1/2"	4'-0"	9'-0"	73'-5 1/2"	2274	39.0
303'	95'-3 1/2"	4'-0"	9'-0"	74'-2 1/2"	2296	39.4
306'	96'-2 1/2"	4'-0"	9'-0"	74'-9 1/2"	2318	39.8
309'	97'-1 1/2"	4'-0"	9'-0"	75'-6 1/2"	2340	40.2
312'	98'-0 1/2"	4'-0"	9'-0"	76'-3 1/2"	2362	40.6
315'	98'-9 1/2"	4'-0"	9'-0"	77'-0 1/2"	2384	41.0
318'	99'-8 1/2"	4'-0"	9'-0"	77'-7 1/2"	2406	41.4
321'	100'-7 1/2"	4'-0"	9'-0"	78'-4 1/2"	2428	41.8
324'	101'-6 1/2"	4'-0"	9'-0"	79'-1 1/2"	2450	42.2
327'	102'-5 1/2"	4'-0"	9'-0"	79'-8 1/2"	2472	42.6
330'	103'-4 1/2"	4'-0"	9'-0"	80'-5 1/2"	2494	43.0
333'	104'-3 1/2"	4'-0"	9'-0"	81'-2 1/2"	2516	43.4
336'	105'-2 1/2"	4'-0"	9'-0"	81'-9 1/2"	2538	43.8
339'	106'-1 1/2"	4'-0"	9'-0"	82'-6 1/2"	2560	44.2
342'	107'-0 1/2"	4'-0"	9'-0"	83'-3 1/2"	2582	44.6
345'	107'-9 1/2"	4'-0"	9'-0"	84'-0 1/2"	2604	45.0
348'	108'-8 1/2"	4'-0"	9'-0"	84'-7 1/2"	2626	45.4
351'	109'-7 1/2"	4'-0"	9'-0"	85'-4 1/2"	2648	45.8
354'	110'-6 1/2"	4'-0"	9'-0"	86'-1 1/2"	2670	46.2
357'	111'-5 1/2"	4'-0"	9'-0"	86'-8 1/2"	2692	46.6
360'	112'-4 1/2"	4'-0"	9'-0"	87'-5 1/2"	2714	47.0
363'	113'-3 1/2"	4'-0"	9'-0"	88'-2 1/2"	2736	47.4
366'	114'-2 1/2"	4'-0"	9'-0"	88'-9 1/2"	2758	47.8
369'	115'-1 1/2"	4'-0"	9'-0"	89'-6 1/2"	2780	48.2
372'	116'-0 1/2"	4'-0"	9'-0"	90'-3 1/2"	2802	48.6
375'	116'-9 1/2"	4'-0"	9'-0"	91'-0 1/2"	2824	49.0
378'	117'-8 1/2"	4'-0"	9'-0"	91'-7 1/2"	2846	49.4
381'	118'-7 1/2"	4'-0"	9'-0"	92'-4 1/2"	2868	49.8
384'	119'-6 1/2"	4'-0"	9'-0"	93'-1 1/2"	2890	50.2
387'	120'-5 1/2"	4'-0"	9'-0"	93'-8 1/2"	2912	50.6
390'	121'-4 1/2"	4'-0"	9'-0"	94'-5 1/2"	2934	51.0
393'	122'-3 1/2"	4'-0"	9'-0"	95'-2 1/2"	2956	51.4
396'	123'-2 1/2"	4'-0"	9'-0"	95'-9 1/2"	2978	51.8
399'	124'-1 1/2"	4'-0"	9'-0"	96'-6 1/2"	3000	52.2
402'	125'-0 1/2"	4'-0"	9'-0"	97'-3 1/2"	3022	52.6
405'	125'-9 1/2"	4'-0"	9'-0"	98'-0 1/2"	3044	53.0
408'	126'-8 1/2"	4'-0"	9'-0"	98'-7 1/2"	3066	53.4
411'	127'-7 1/2"	4'-0"	9'-0"	99'-4 1/2"	3088	53.8
414'	128'-6 1/2"	4'-0"	9'-0"	100'-1 1/2"	3110	54.2
417'	129'-5 1/2"	4'-0"	9'-0"	100'-8 1/2"	3132	54.6
420'	130'-4 1/2"	4'-0"	9'-0"	101'-5 1/2"	3154	55.0
423'	131'-3 1/2"	4'-0"	9'-0"	102'-2 1/2"	3176	55.4
426'	132'-2 1/2"	4'-0"	9'-0"	102'-9 1/2"	3198	55.8
429'	133'-1 1/2"	4'-0"	9'-0"	103'-6 1/2"	3220	56.2
432'	134'-0 1/2"	4'-0"	9'-0"	104'-3 1/2"	3242	56.6
435'	134'-9 1/2"	4'-0"	9'-0"	105'-0 1/2"	3264	57.0
438'	135'-8 1/2"	4'-0"	9'-0"	105'-7 1/2"	3286	57.4
441'	136'-7 1/2"	4'-0"	9'-0"	106'-4 1/2"	3308	57.8
444'	137'-6 1/2"	4'-0"	9'-0"	107'-1 1/2"	3330	58.2
447'	138'-5 1/2"	4'-0"	9'-0"	107'-8 1/2"	3352	58.6
450'	139'-4 1/2"	4'-0"	9'-0"	108'-5 1/2"	3374	59.0
453'	140'-3 1/2"	4'-0"	9'-0"	109'-2 1/2"	3396	59.4
456'	141'-2 1/2"	4'-0"	9'-0"	109'-9 1/2"	3418	59.8
459'	142'-1 1/2"	4'-0"	9'-0"	110'-6 1/2"	3440	60.2
462'	143'-0 1/2"	4'-0"	9'-0"	111'-3 1/2"	3462	60.6
465'	143'-9 1/2"	4'-0"	9'-0"	112'-0 1/2"	3484	61.0
468'	144'-8 1/2"	4'-0"	9'-0"	112'-7 1/2"	3506	61.4
471'	145'-7 1/2"	4'-0"	9'-0"	113'-4 1/2"	3528	61.8
474'	146'-6 1/2"	4'-0"	9'-0"	114'-1 1/2"	3550	62.2
477'	147'-5 1/2"	4'-0"	9'-0"	114'-8 1/2"	3572	62.6
480'	148'-4 1/2"	4'-0"	9'-0"	115'-5 1/2"	3594	63.0
483'	149'-3 1/2"	4'-0"	9'-0"	116'-2 1/2"	3616	63.4
486'	150'-2 1/2"	4'-0"	9'-0"	116'-9 1/2"	3638	63.8
489'	151'-1 1/2"	4'-0"	9'-0"	117'-6 1/2"	3660	64.2
492'	152'-0 1/2"	4'-0"	9'-0"	118'-3 1/2"	3682	64.6
495'	152'-9 1/2"	4'-0"	9'-0"	119'-0 1/2"	3704	65.0
498'	153'-8 1/2"	4'-0"	9'-0"	119'-7 1/2"	3726	65.4
501'	154'-7					

L:\SHARED\12 ENGINEERING PROJECTS\ENGINEERING PROJECTS\10976 - HQT05 - K HOVA\03 CAD\DESIGN SET\24 PAVING DETAILS.DWG Apr. 30, 2024--8:14 AM CAMILYN CURTIS



REVISIONS	CITY OF MONTGOMERY	PAVING
10-2013 REVISED NOTES	TYPICAL RESIDENTIAL CONCRETE PAVING WITH ROLLOVER CURB	P-2

CITY OF MONTGOMERY
STANDARD STREET SIGN

PAVING
P-6

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HILLS OF TOWN CREEK
SECTION 5
PAVING DETAILS 1 OF 3

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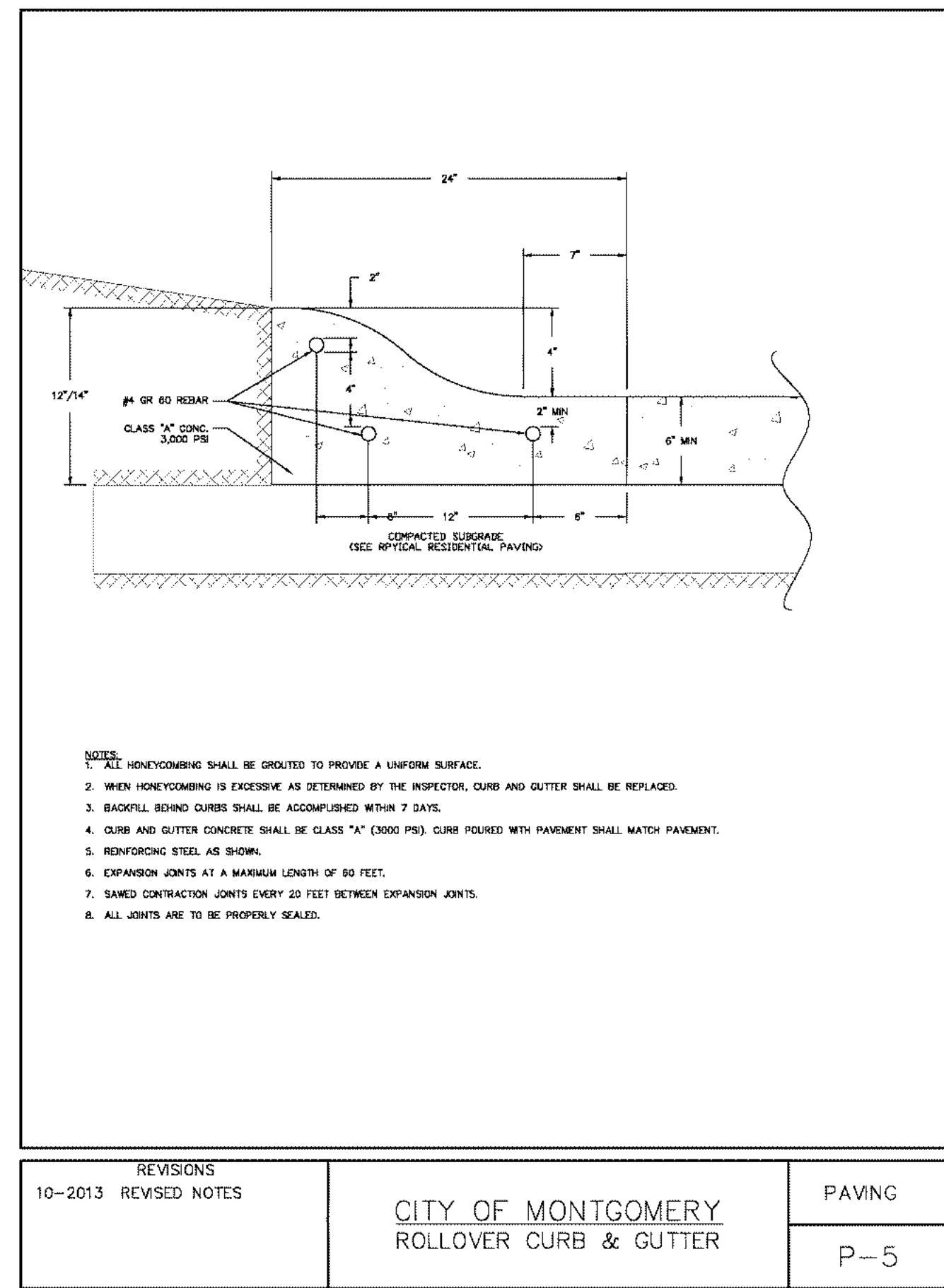
DRAWING INFORMATION			
PROJECT	10976	TDLR	**
DRAWN	GLH	CHECKED	JTW
SCALE	AS NOTED	SHEET	23

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STATE OF TEXAS

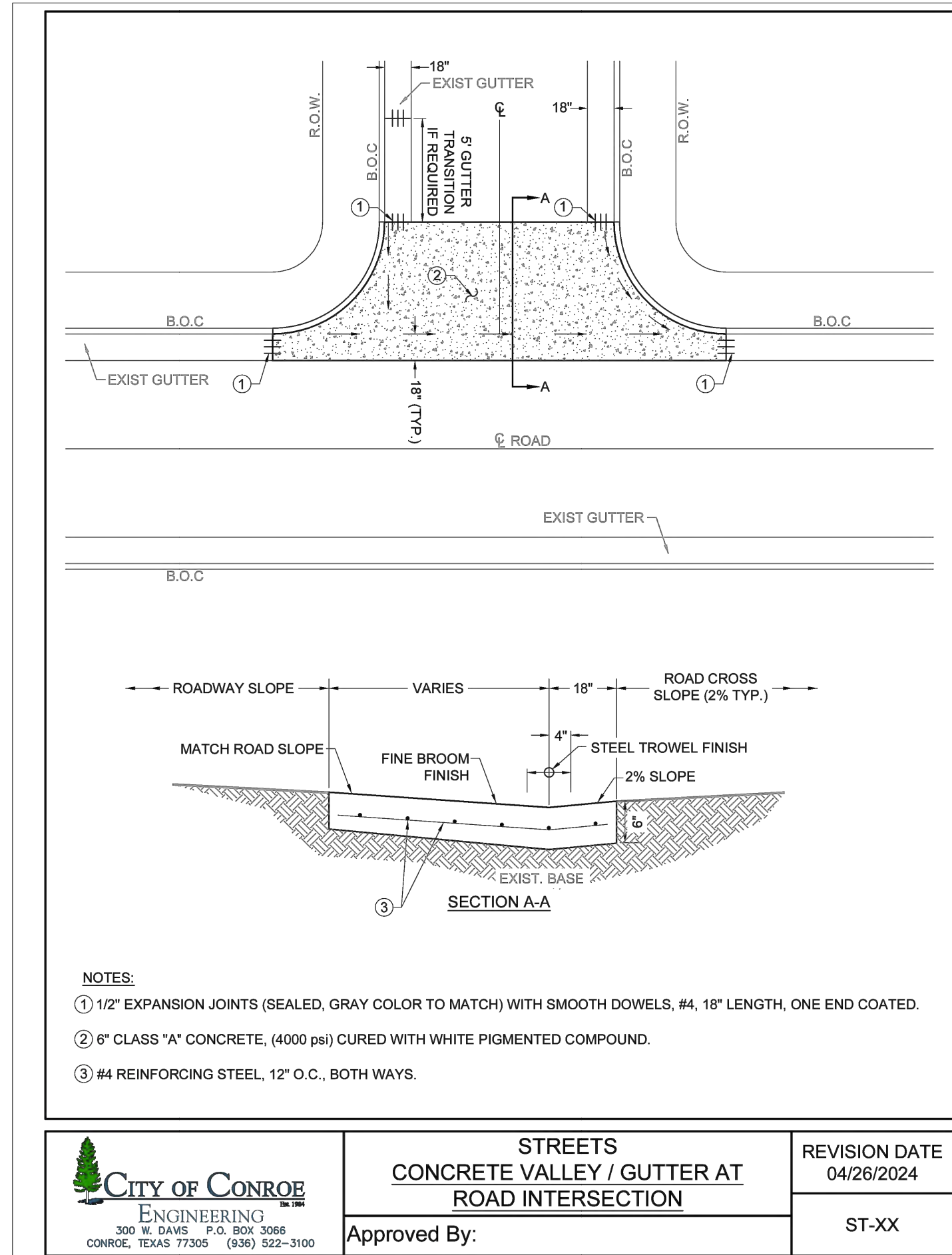
04/30/2024

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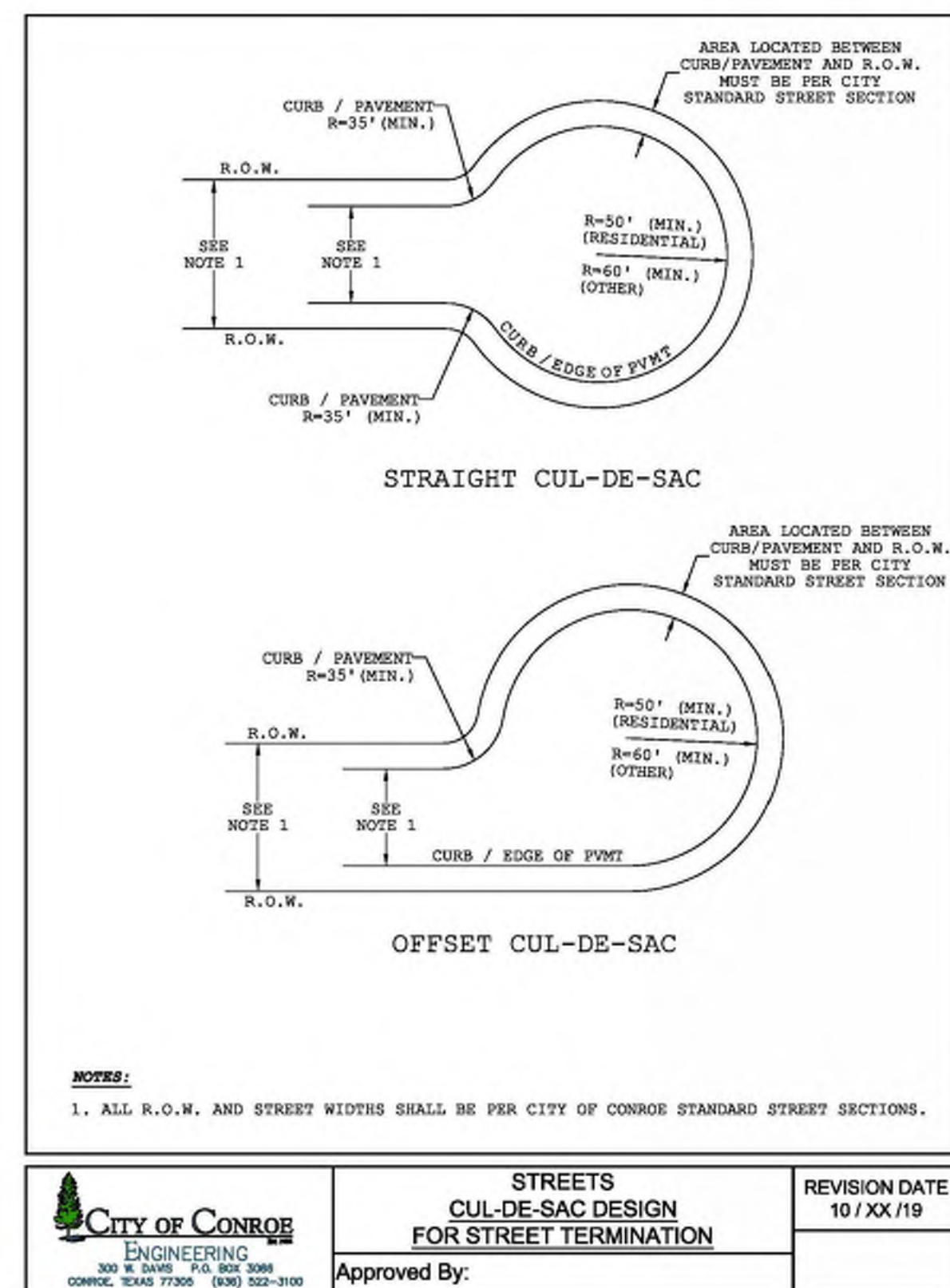
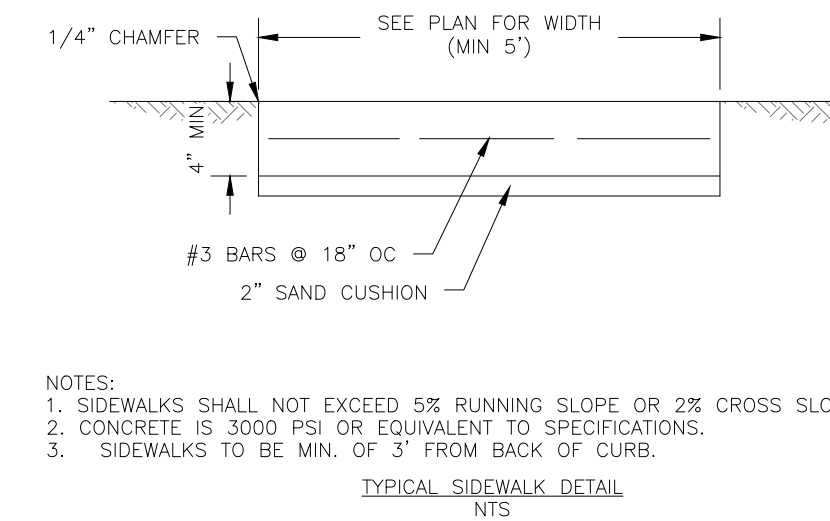
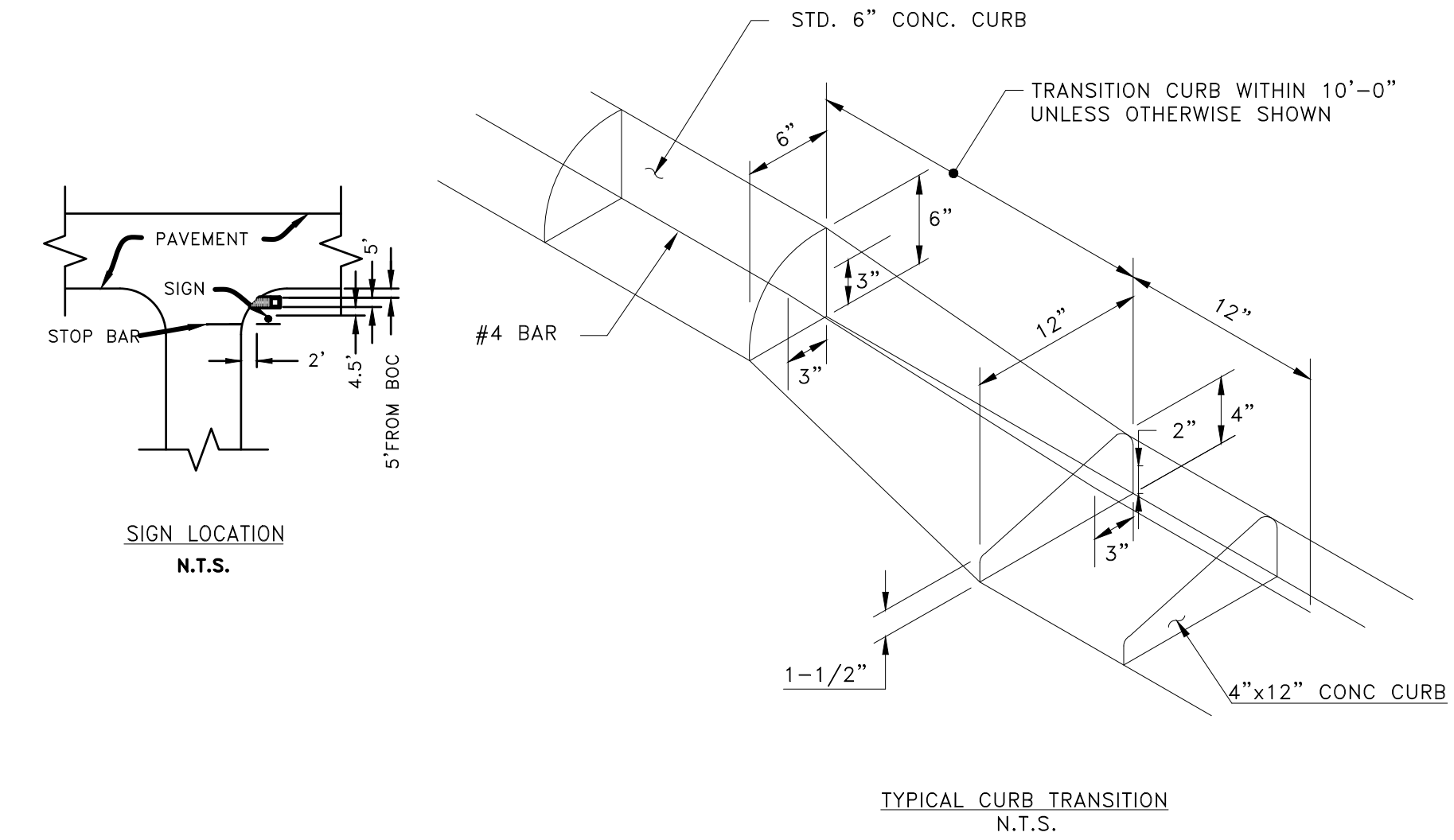
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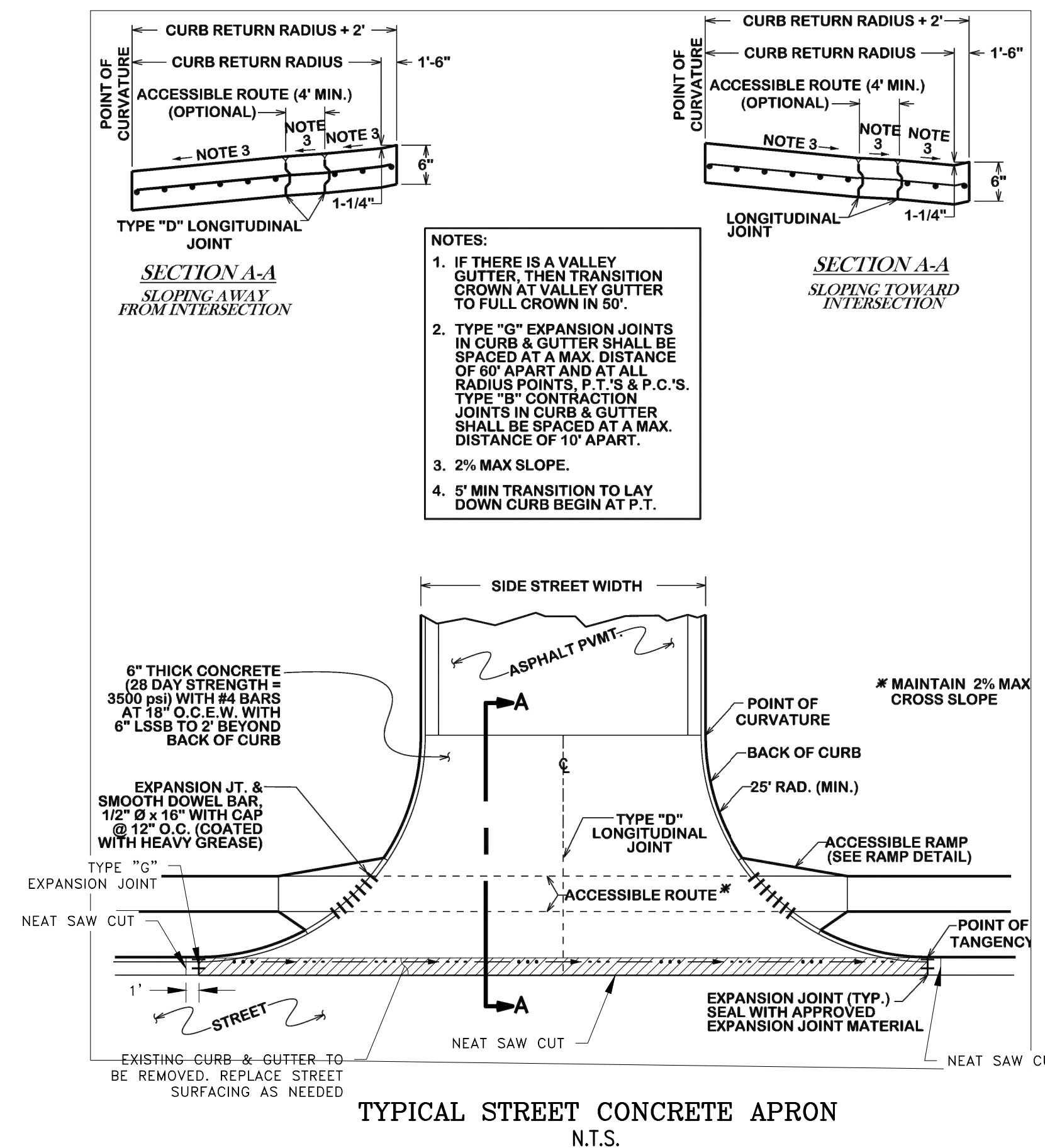
REVISIONS 10-2013 REVISED NOTES	CITY OF MONTGOMERY ROLLOVER CURB & GUTTER	PAVING P-5
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CITY OF CONROE ENGINEERING 300 W. DAVIS P.O. BOX 3366 CONROE, TEXAS 77305 (936) 522-3100	STREETS CONCRETE VALLEY / GUTTER AT ROAD INTERSECTION Approved By:	REVISION DATE 04/26/2024 ST-XX
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CITY OF CONROE ENGINEERING 300 W. DAVIS P.O. BOX 3366 CONROE, TEXAS 77305 (936) 522-3100	STREETS CUL-DE-SAC DESIGN FOR STREET TERMINATION Approved By:	REVISION DATE 10/XX/19
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MONTGOMERY, TX 77356

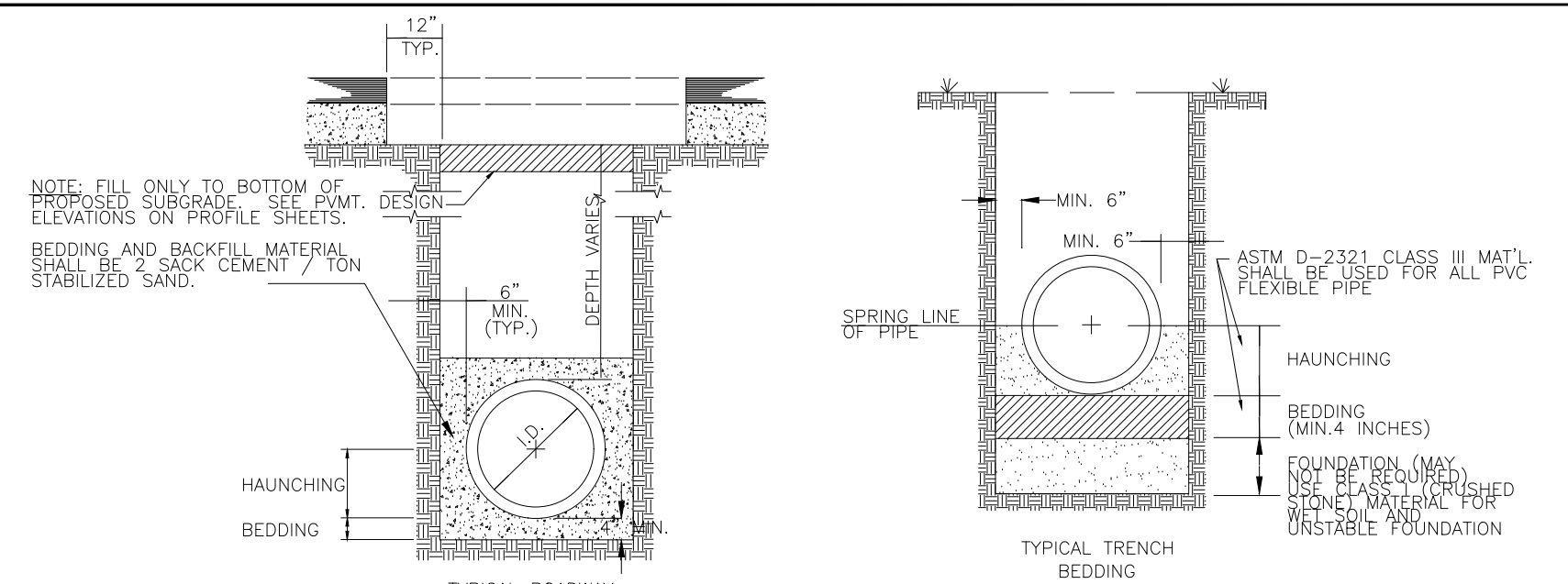
HILLS OF TOWN CREEK
SECTION 5
PAVING DETAILS 2 OF 3

DRAWING ISSUE			
#	DATE	BY	* COMMENT
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DRAWING INFORMATION			
PROJECT	10976	TDLR	**
DRAWN	GLH	CHECKED	JTW
SCALE	AS NOTED	SHEET	24

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127058
PROFESSIONAL ENGINEER
04/30/2024

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Typical Roadway Trench Bedding
 NOTE: FILL ONLY TO BOTTOM OF ELEVATIONS ON PROFILE SHEETS. BEDDING AND BACKFILL MATERIAL SHALL BE 2" SAND CEMENT STABILIZED SAND. 7 TON HAUNCHING. MIN. 6" (TYP.) DEPTH. MIN. 6" (TYP.) BEDDING. MIN. 6" (TYP.) HAUNCHING.

Typical Trench Bedding
 MIN. 6" HAUNCHING. FOUNDATION (MAY NOT BE USED FOR ALL PVC FLEXIBLE PIPE). ASTM D-2321 CLASS III MAT. SHALL BE USED FOR ALL PVC FLEXIBLE PIPE. BEDDING SHALL CONFORM TO "TYPICAL WATERLINE BACKFILL AND TRENCH REPAIR" STANDARD DRAWING W-5.

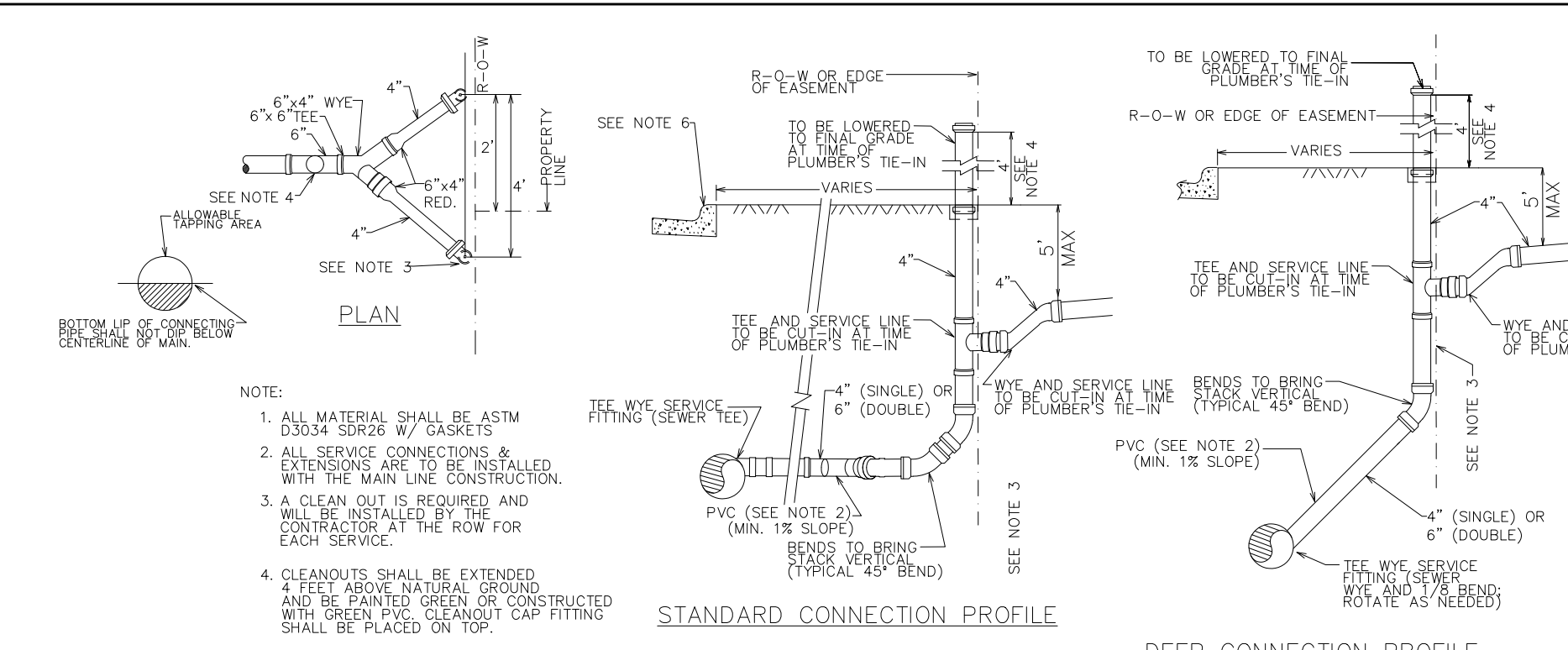
Class II
 Coarse sands and gravels with maximum particle size of 1 1/2", including various graded sands and gravels containing small percentages of fines, generally granular and noncohesive, either wet or dry. Soil Types GM, GP, SW, and SP are included in this class.

Class III
 Fine sand and clayey gravels including fine sands, sand-clay mixtures, and gravel-clay mixtures. Soil Types GM, GC, SM, and SC are included in this class.

Class IV
 Silty, silty clays, and clays, including inorganic clays and silts of medium to high plasticity and liquid limits. Soil Types MH, ML, CH and CL are included in this class.

Class V
 This class includes the organic soils OL, OH, and PT as well as soils containing frozen earth, debris, rocks larger than 1 1/2" in diameter, and other foreign materials. These materials are not recommended for bedding, haunching, or initial backfill.

NOTE: BACKFILL ABOVE THE BEDDING SHALL CONFORM TO "TYPICAL WATERLINE BACKFILL AND TRENCH REPAIR" STANDARD DRAWING W-5.

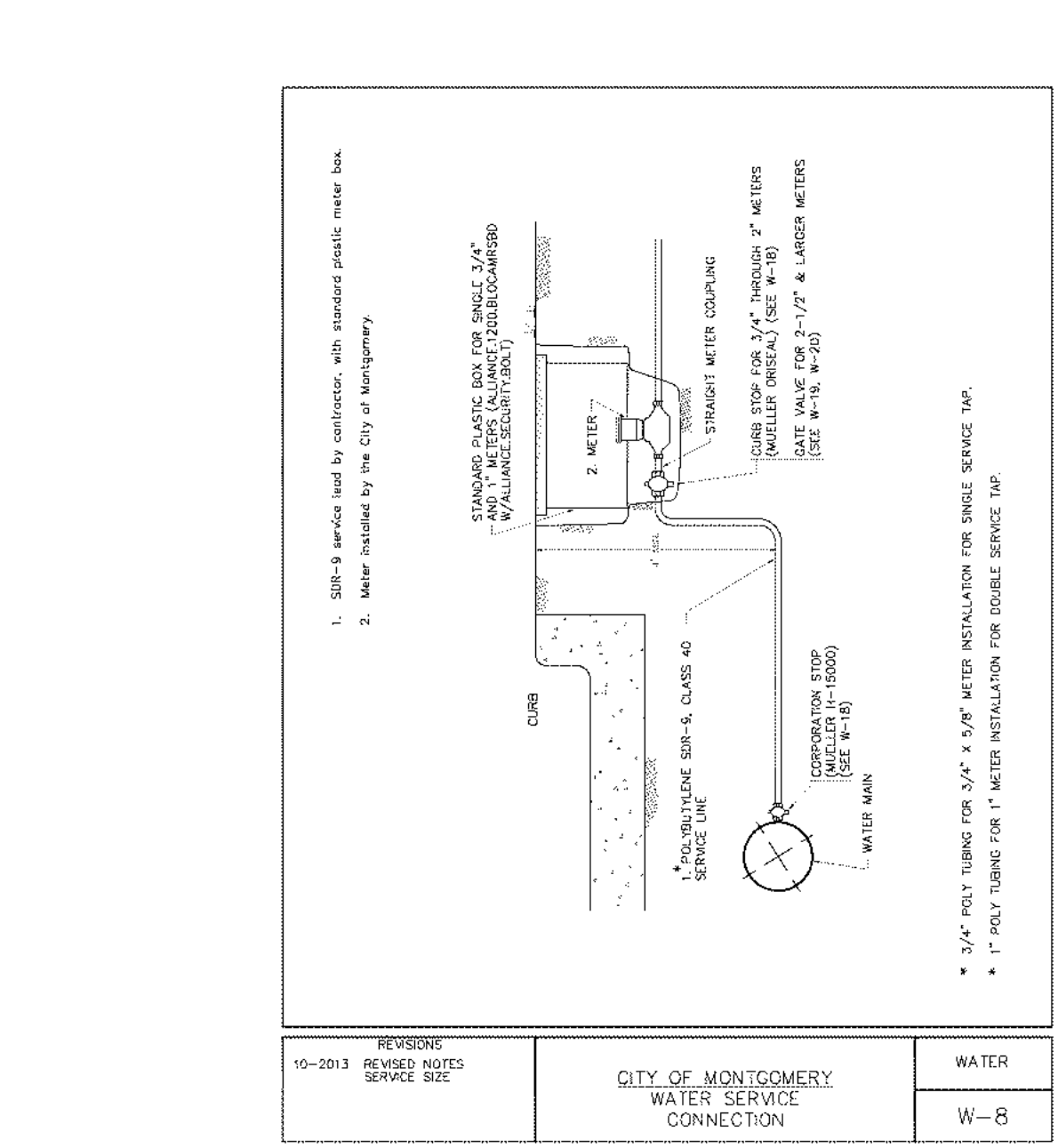


Sanitary Sewer Service Connection

Standard Connection Profile
 NOTE: 1. ALL MATERIAL SHALL BE ASTM D3034 SDR26 W/ GASKETS. 2. ALL SERVICE CONNECTIONS & EXTENSIONS ARE TO BE INSTALLED WITH THE MAIN LINE CONSTRUCTION. 3. A CLEAN OUT IS REQUIRED AND CONTRACTOR SHALL BE RESPONSIBLE FOR EACH SERVICE. 4. CLEAN OUTS SHALL BE EXTENDED TO BE PRINTED GREEN OR CONSTRUCTED WITH GREEN PVC. CLEANOUT CAP FITTING SHALL BE PLACED ON TOP. 5. ALL SINGLE SERVICE LEADS SHALL BE UNLESS OTHERWISE NOTED ON THE PLAN. ALL DOUBLE SERVICE LEADS SHALL BE UNLESS OTHERWISE NOTED ON THE PLAN. 6. AN "S" MUST BE MARKED BY BEING STAMPED ON THE FACE OF CURB AND OUTER AT EACH TAP LOCATION. IN ADDITION TO A 2" GREEN PVC MARKER BEING PLACED AT THE END OF THE SERVICE CONNECTION AND EXTENDING 4' ABOVE NG.

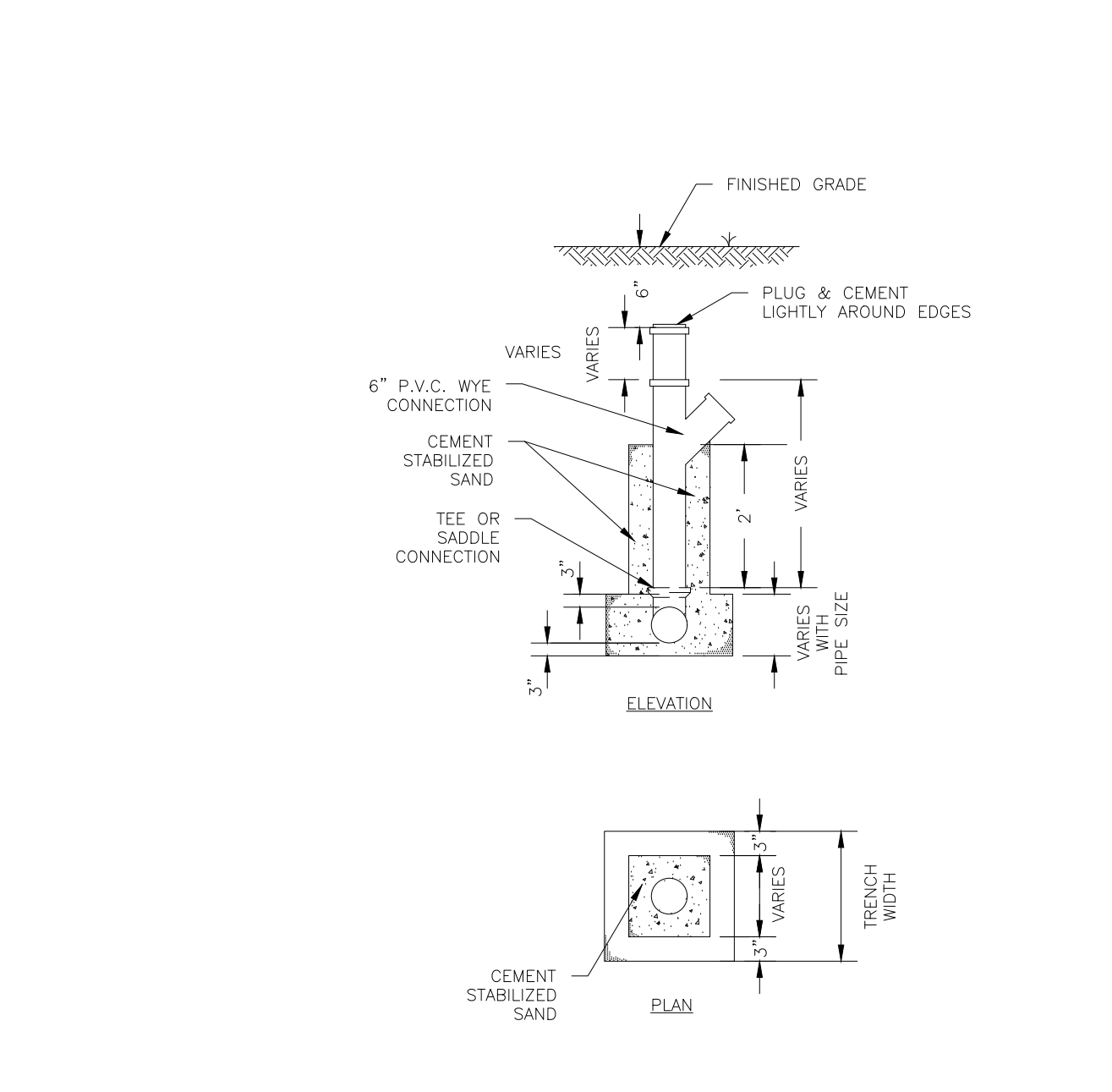
Deep Connection Profile
 TO BE LOWERED TO FINAL PLUMBER'S TIE-IN. R-O-W OR EDGE OF EASEMENT. MALE THREADED PLASTIC CAP/PLUG. FEMALE ADAPTER. FINISHED GRADE. SCH 40 PVC (SIZE VARIES). 90° LONG "L" OR WYE. DIRECTION OF FLOW. SANITARY SEWER LEAD. DEPTH VARIES FOR DEAD-END LINES MIN. COVER 36" INCHES.

Typical Waterline Bedding and Trench Detail
 N.T.S.

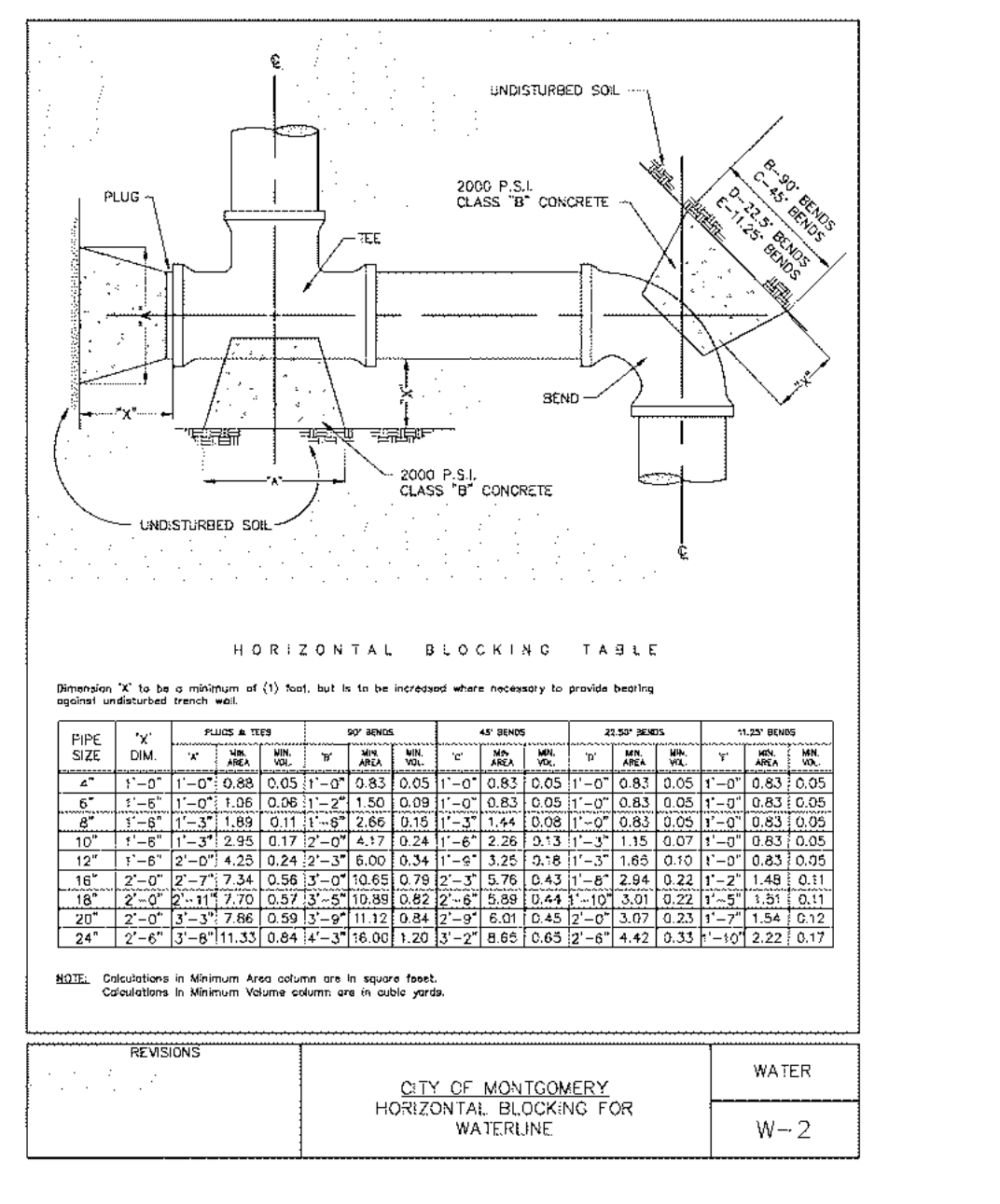


1. SDR-9 service used by contractor, with standard plastic manhole box. 2. Water installed by the City of Montgomery. 3. 3/4" PVC POLY TUBING FOR 1/2" METER INSTALLATION FOR SINGLE SERVICE W/P. 4. 1" POLY TUBING FOR 1" METER INSTALLATION FOR DOUBLE SERVICE W/P.

Sanitary Sewer Stack Detail
 N.T.S.

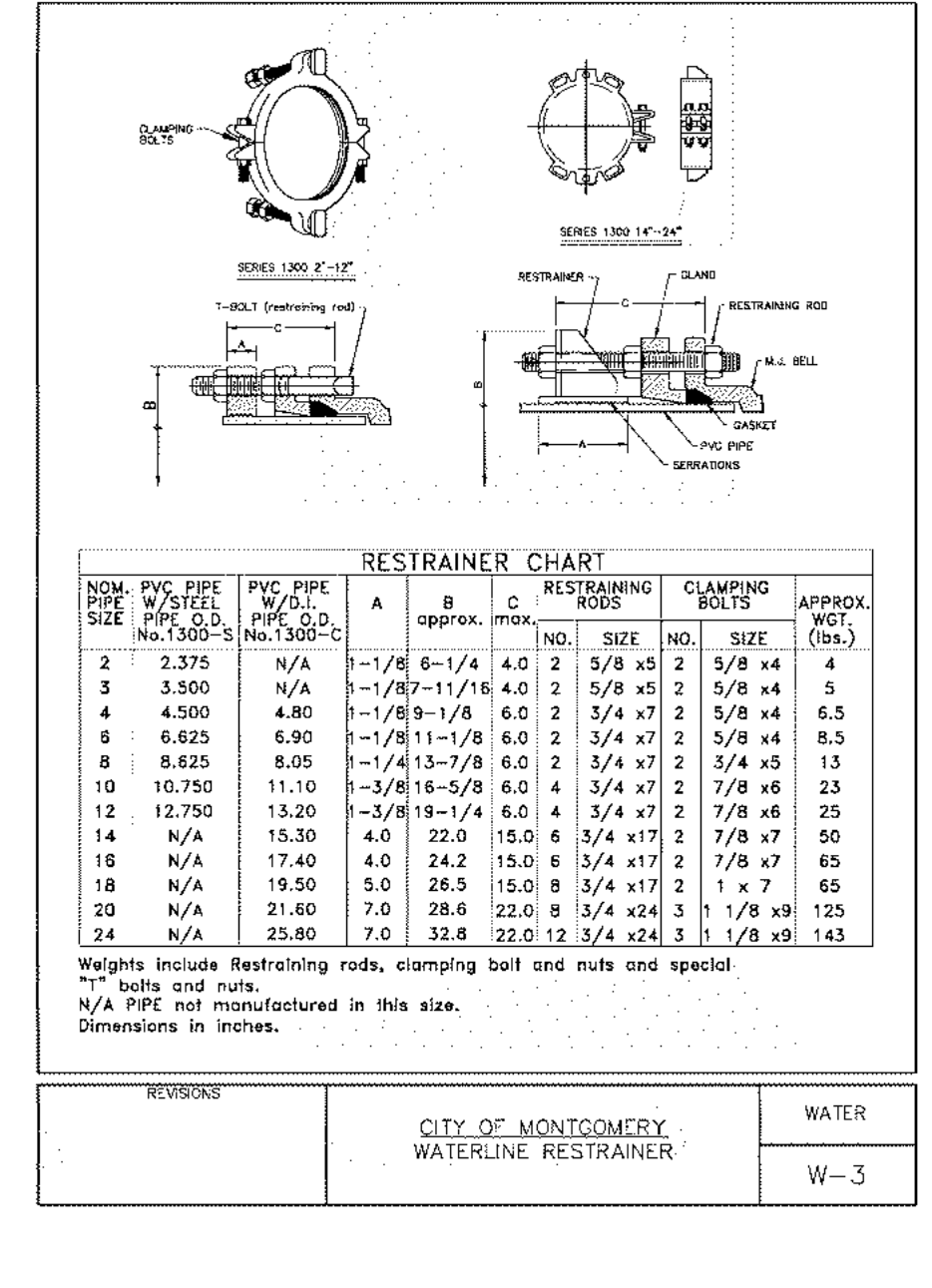


1. THE VALVE AND FEMALE FITTING (STREET ELL) SHOULD BE ENCLOSED IN A FITTER BOX BELOW GROUND LEVEL. 2. ALL PIPING AND FITTINGS SHOULD BE THE SAME SIZE AS CORPORATIONS. 3. FOR 2" BLOW-OFF PROVIDE 2" X 90° BEND (LOOKING UP) AND FEMALE ADAPTER.

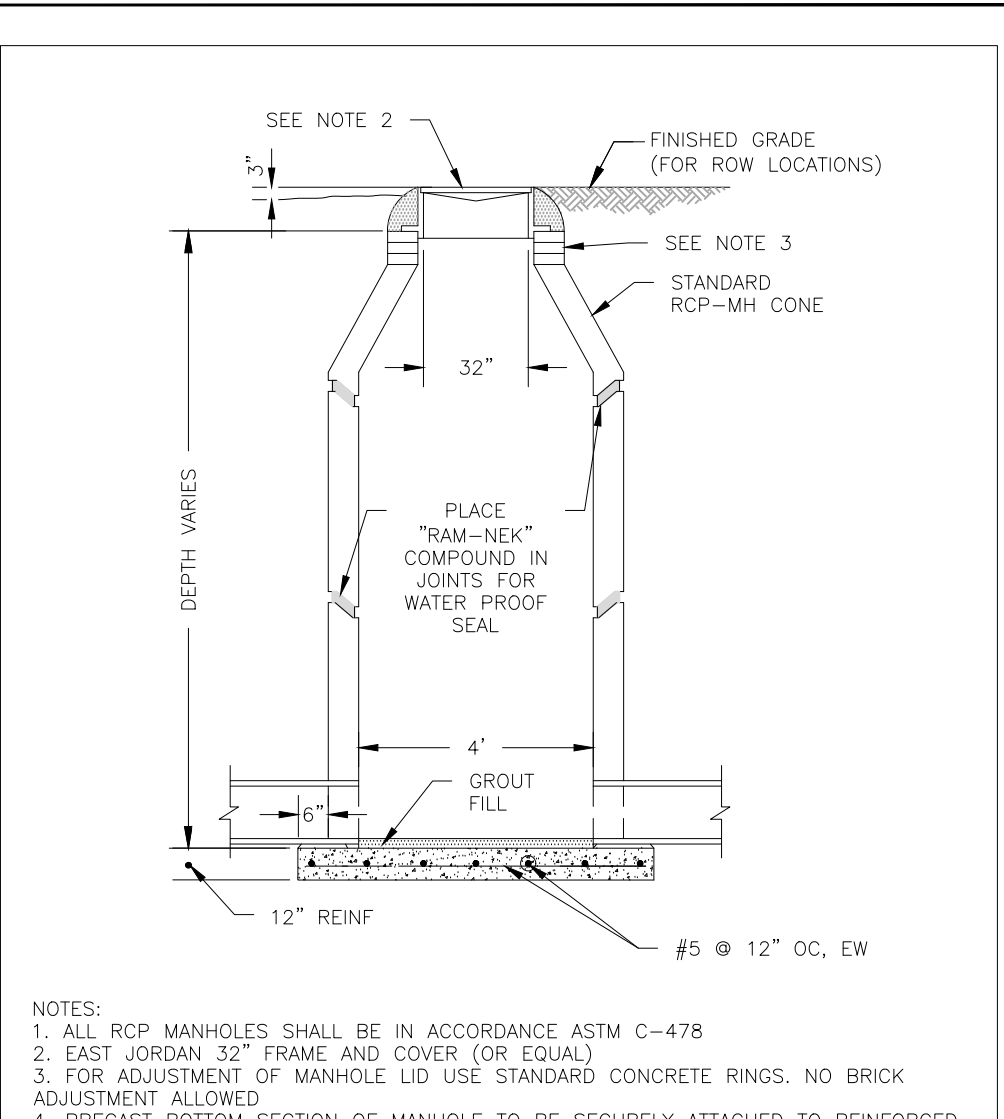
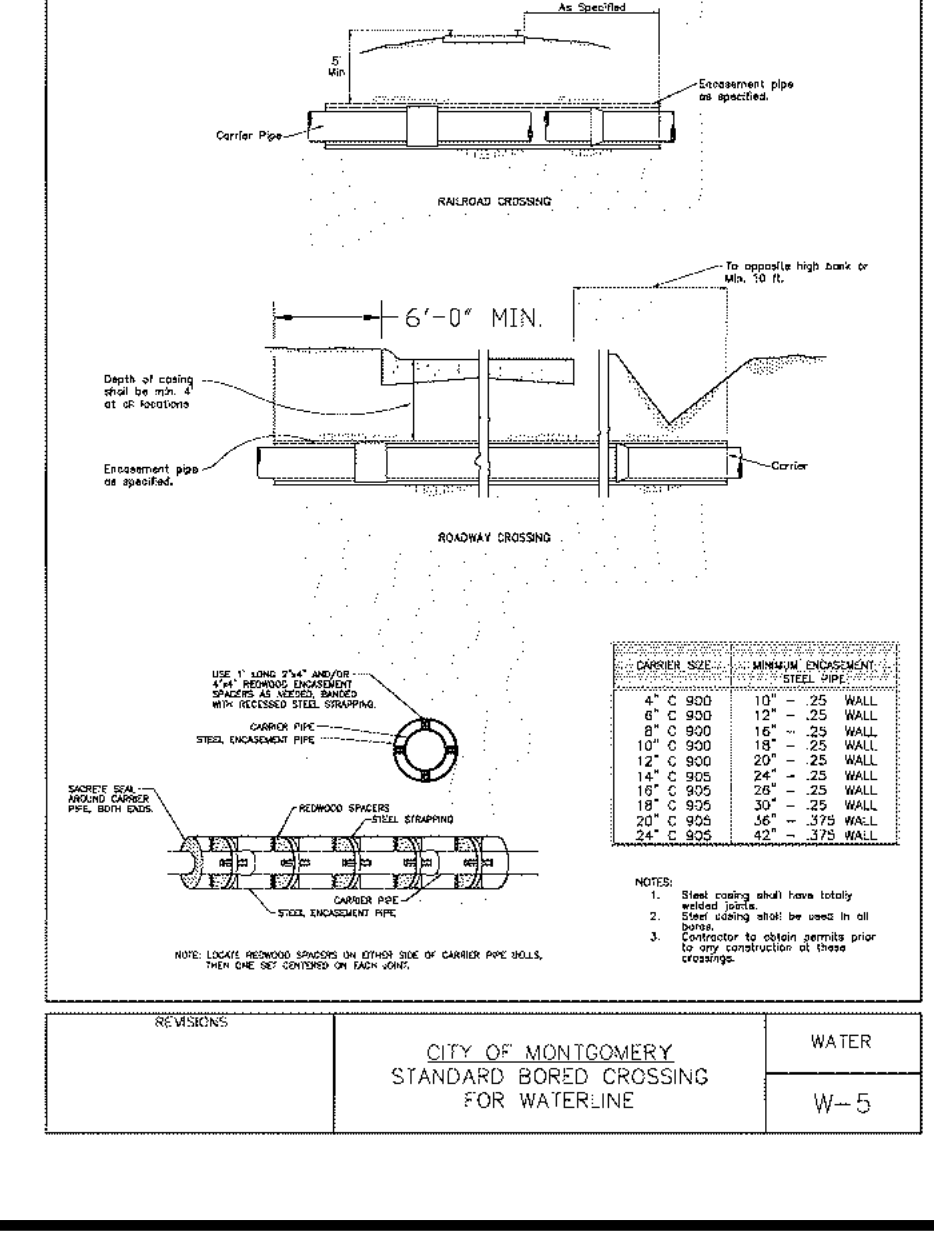
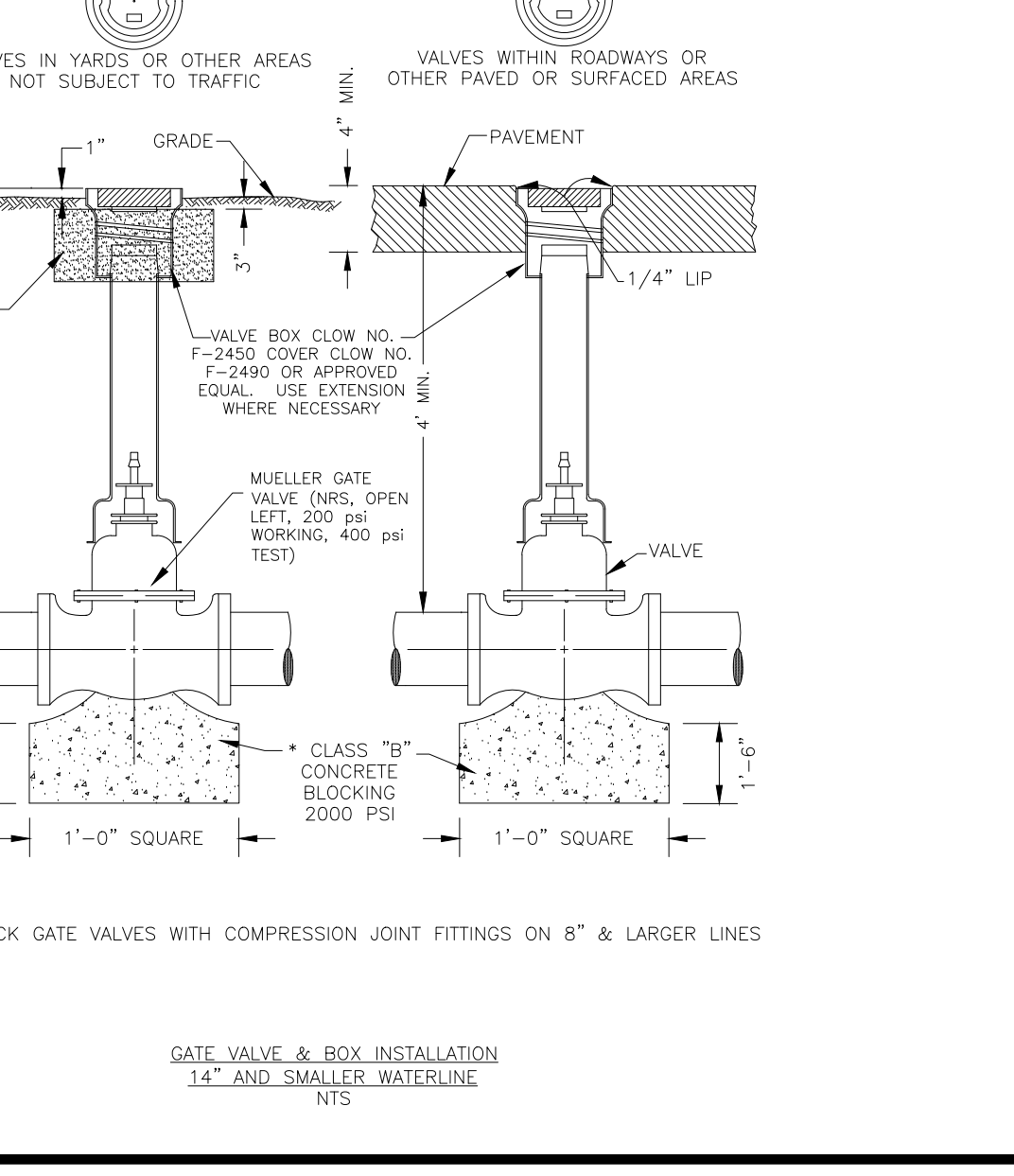
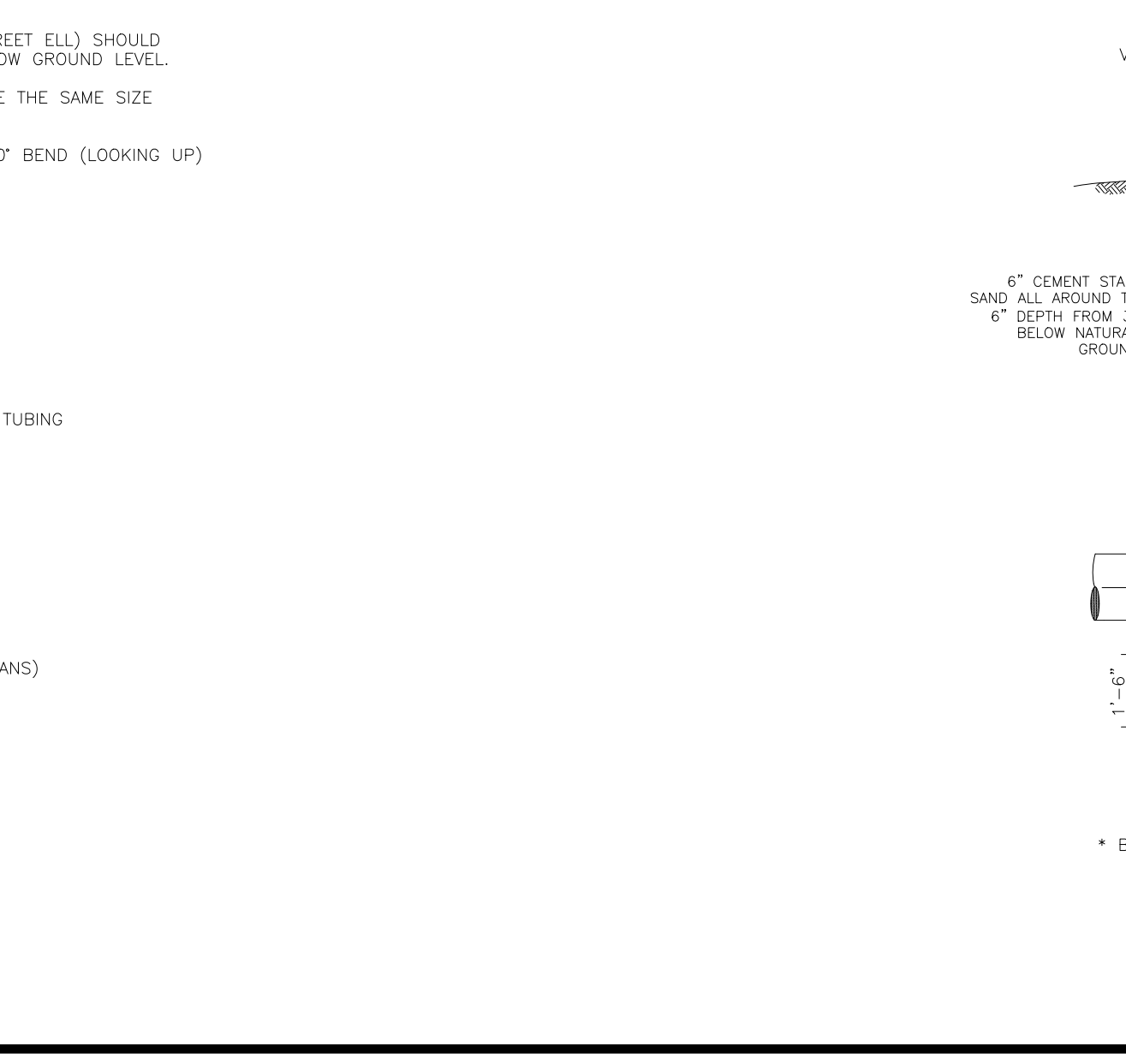
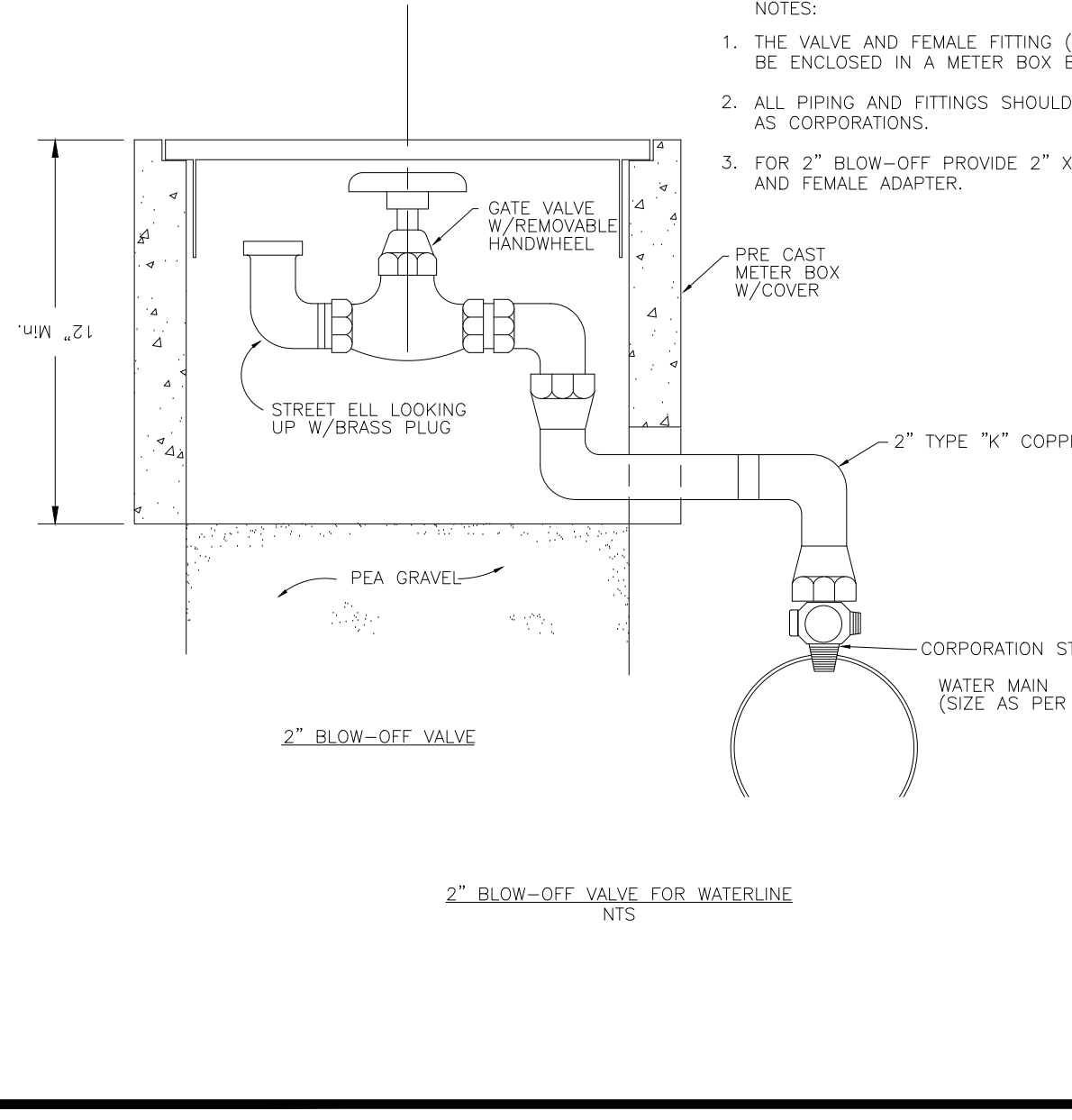


Horizontal Blocking Table
 Minimum 'X' to be a minimum of (10) feet, but to be increased where necessary to provide bearing on undisturbed trench wall.

PIPE SIZE	Y	X	Y	X	Y	X	Y	X	Y	X
4"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
6"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
8"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
10"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
12"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
14"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
16"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
18"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
20"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
24"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"



Restrainer Chart
 RESTRAINER CHART showing various restraints (A, B, C) and their dimensions for different pipe sizes and materials.



Standard Sanitary Pre-cast Manhole
 N.T.S.

Water Line and Sanitary Sewer Crossing Notes and Detail
 N.T.S.

CONSTRUCT WATER LINE-SANITARY SEWER CROSSING PER THE FOLLOWING REQUIREMENTS:

1. PROVIDE MINIMUM 2' VERTICAL CLEARANCE.
2. PLACE ONE FULL SECTION (MIN. 18 FT) OF WATERLINE CENTERED AT SANITARY SEWER CROSSING. PROVIDE RESTRAINED JOINTS ON WATERLINE, SPACED AT LEAST 9 FEET HORIZONTALLY FROM CENTERLINE SAND, AS PER TAC § 290.44.
3. WHERE A WATERLINE CROSSES A SEWER MAIN OR LATERAL WITHOUT 2' CLEARANCE, WATERLINE MUST BE 6" ABOVE SEWER MAIN OR LATERAL. SEWER MUST HAVE A PRESSURE RATED PIPE OF AT LEAST 150 PSI AND SHALL BE EMBEDDED IN CEMENT STABILIZED SAND FOR A TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12" BEYOND THE JOINT ON EACH END.
4. PLACE ONE FULL SECTION (MIN. 18 FT) OF 150 PSI SANITARY SEWER CENTERED AT WATERLINE CROSSING, SPACED AT LEAST 9 FEET HORIZONTALLY FROM CENTERLINE OF WATERLINE, AND EMBED IN CEMENT STABILIZED SAND.
5. WATERLINES, INCLUDING SERVICE LEADS, SHALL ALWAYS CROSS OVER SANITARY SEWER LINES AND SERVICE LEADS UNLESS SPECIFICALLY LABELED AND APPROVED OTHERWISE.

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 MONTGOMERY, TX 77356

HILLS OF TOWN CREEK SECTION 5 WATER & SANITARY SEWER DETAILS 1 OF 2

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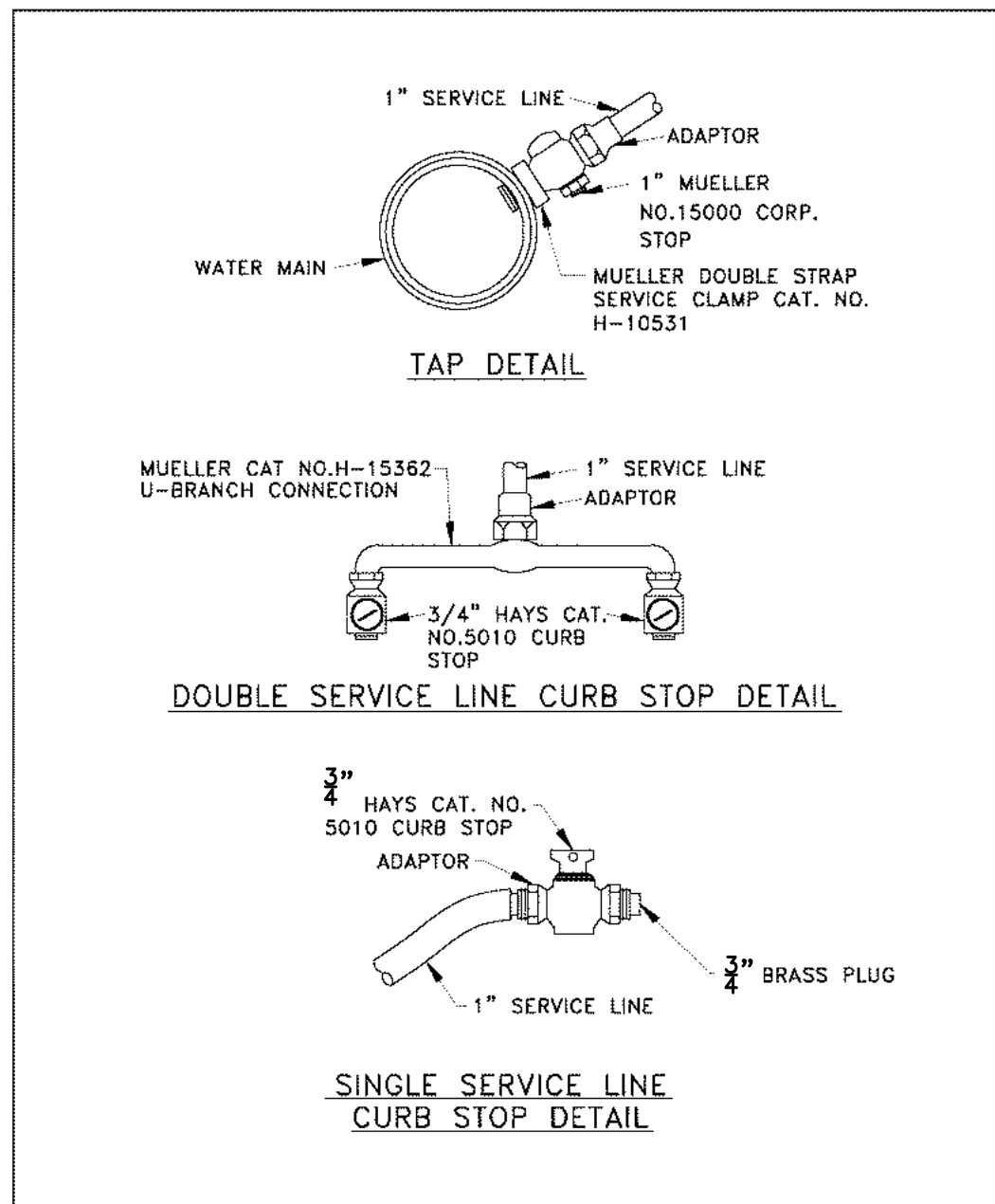
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DRAWN	GLH	CHECKED	JTW
SCALE	AS NOTED	SHEET	26

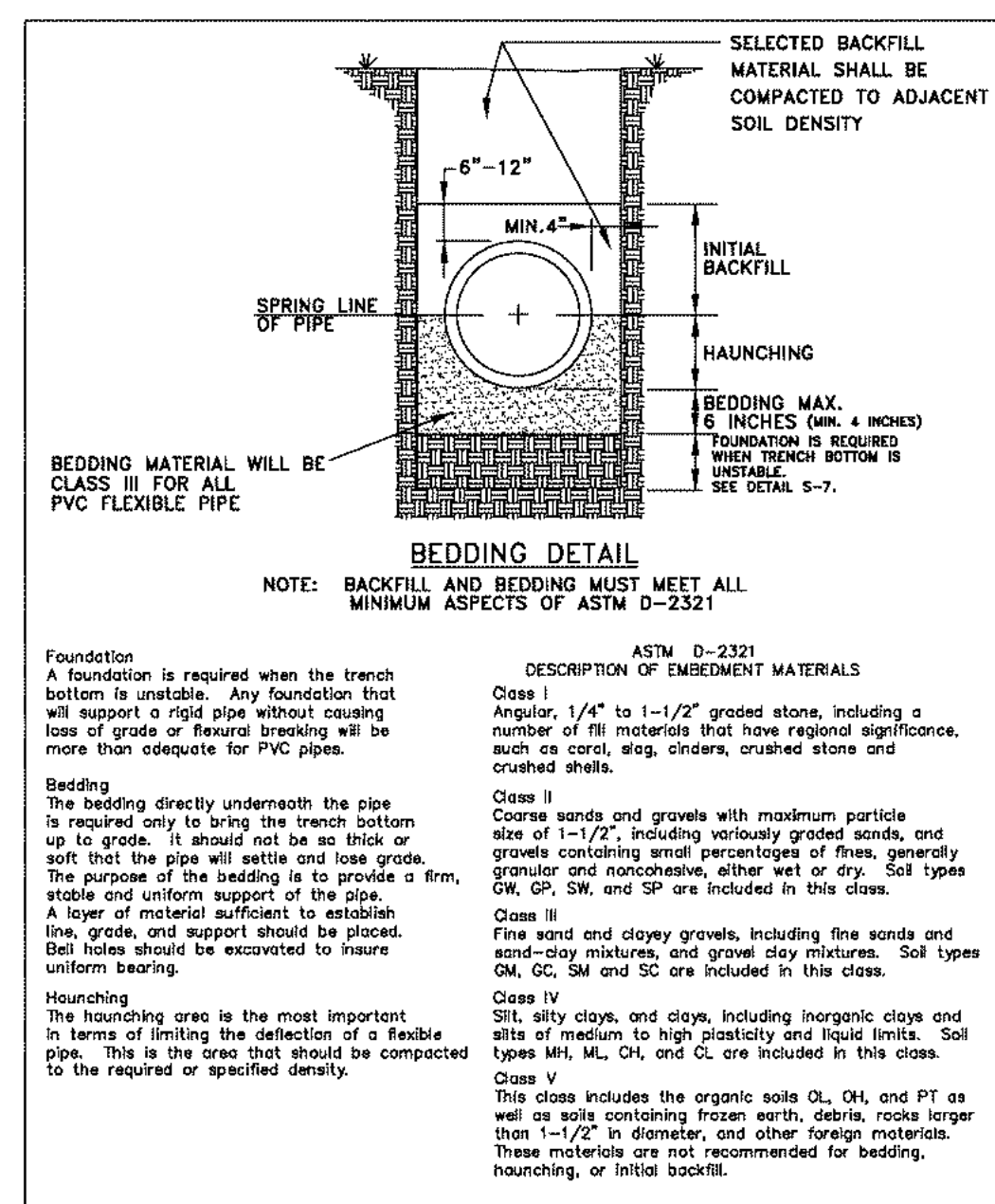
CITY OF MONTGOMERY
 JONATHAN T. WHITE
 127058
 PROFESSIONAL ENGINEER
 STATE OF TEXAS
 04/30/2024

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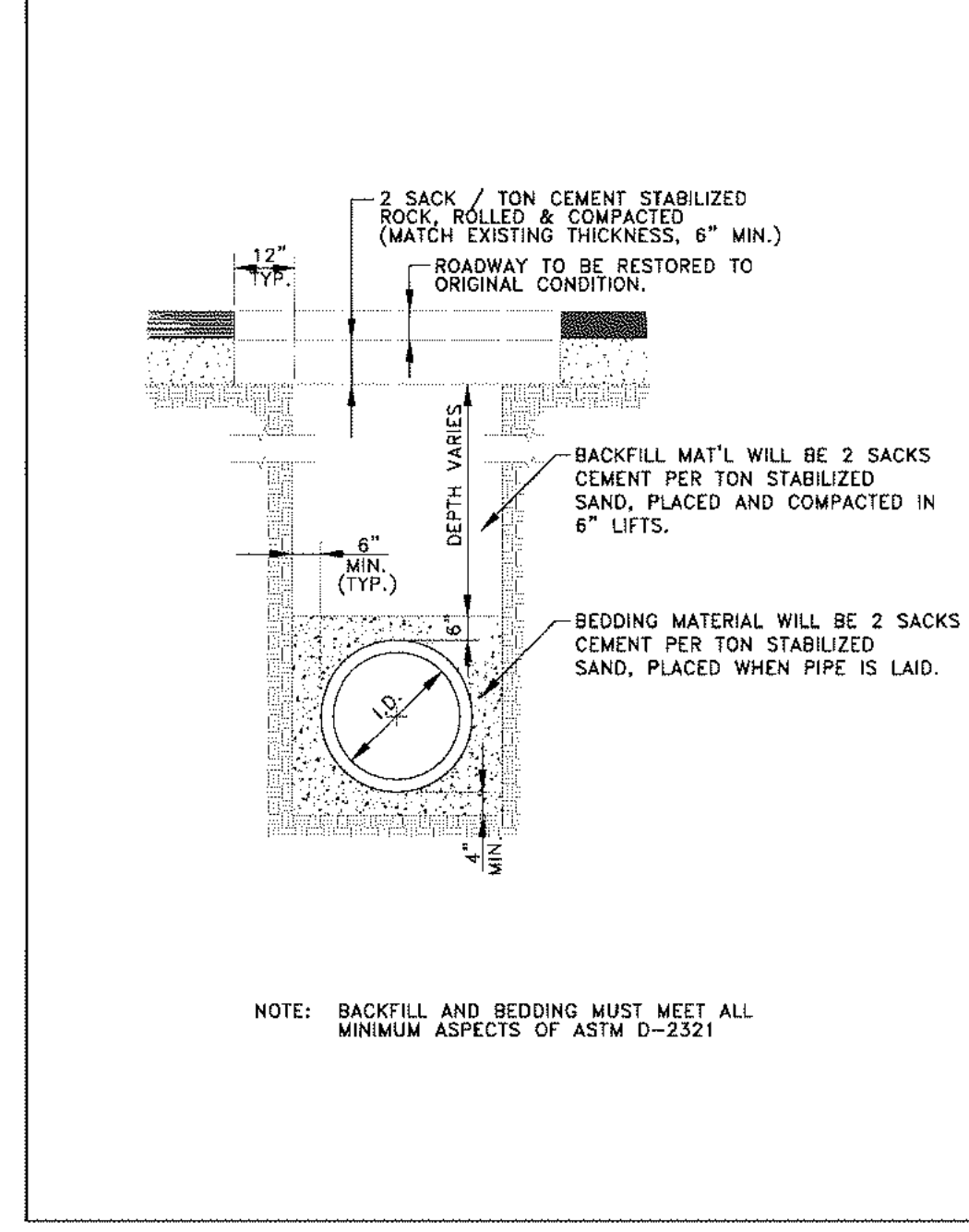
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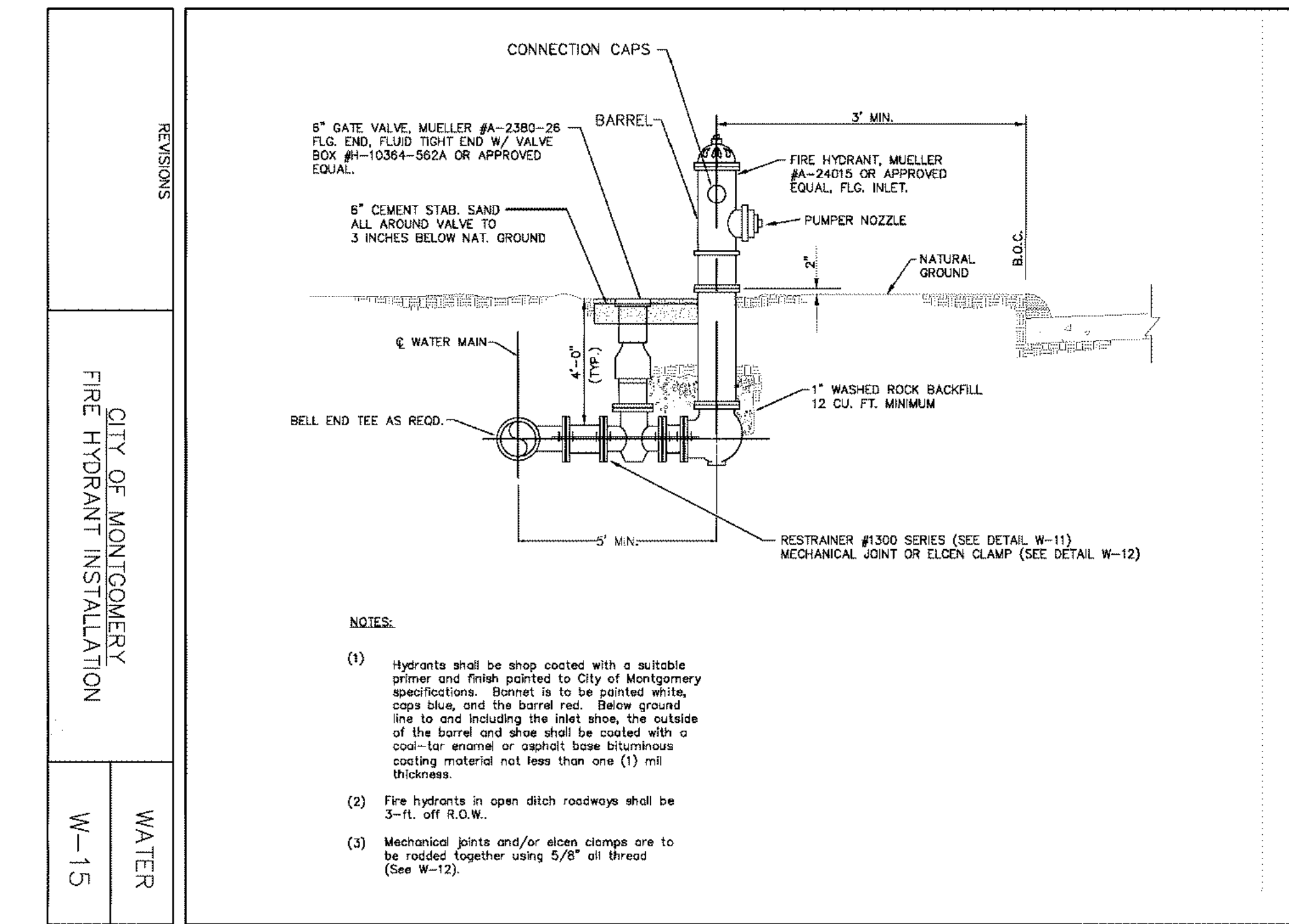
REVISIONS	CITY OF MONTGOMERY CURB STOP & TAP FOR WATERLINE	WATER
10-2013	REVISED SERVICE LINE SIZE	W-10



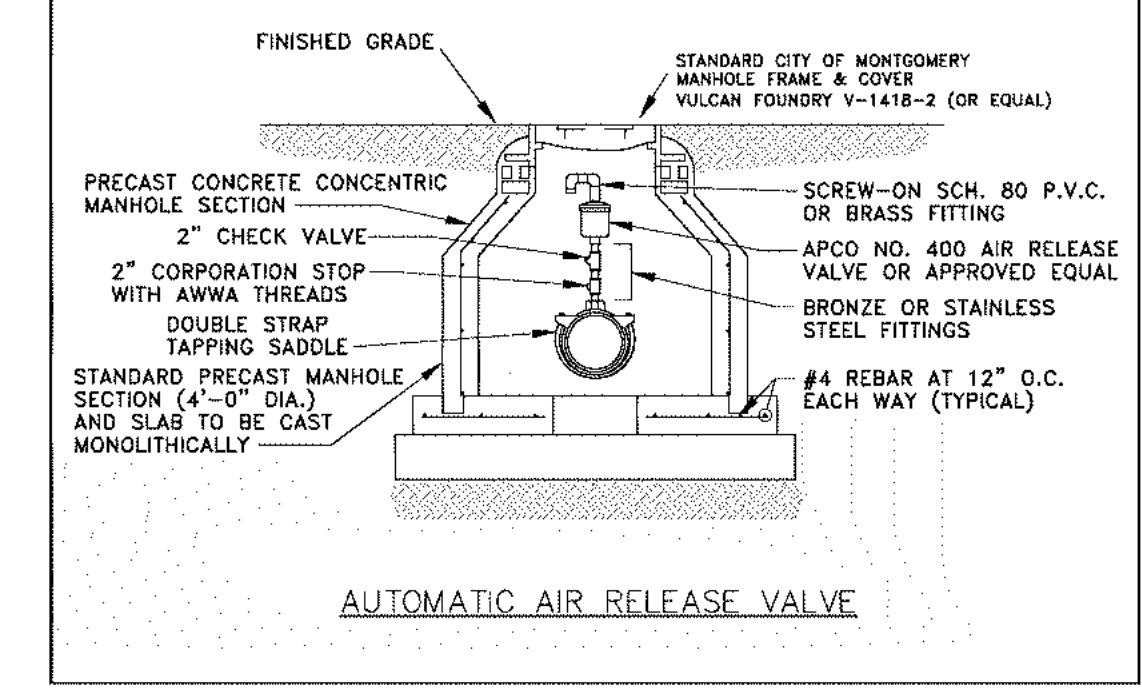
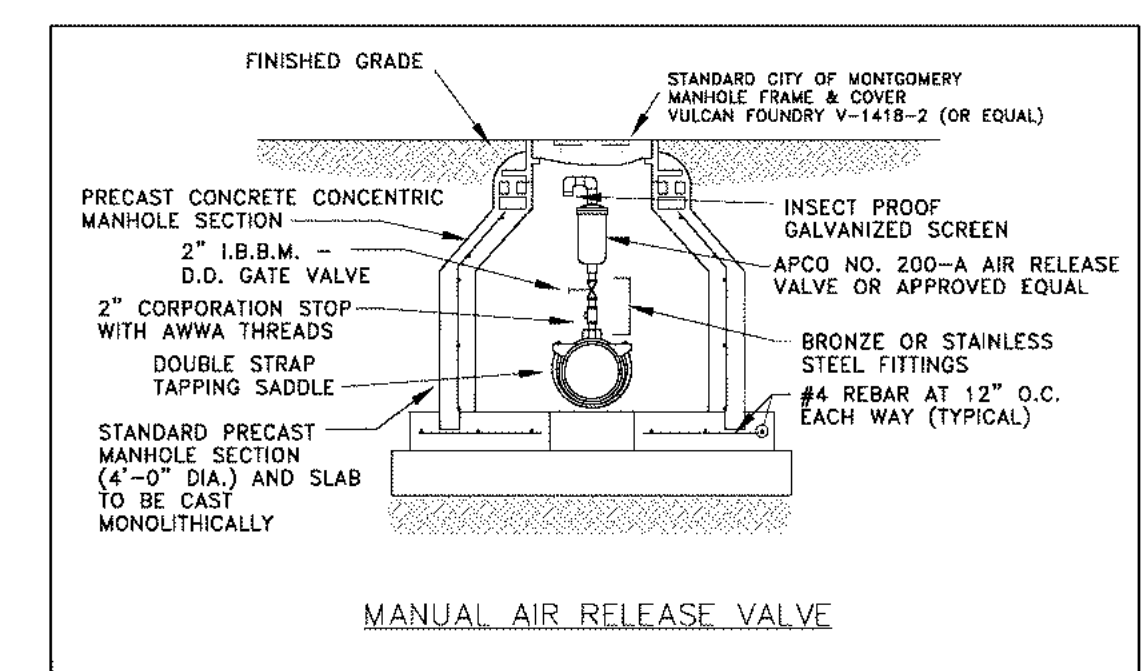
REVISIONS	CITY OF MONTGOMERY TYPICAL SANITARY SEWER BEDDING AND TRENCH DETAIL	SEWER
		S-1



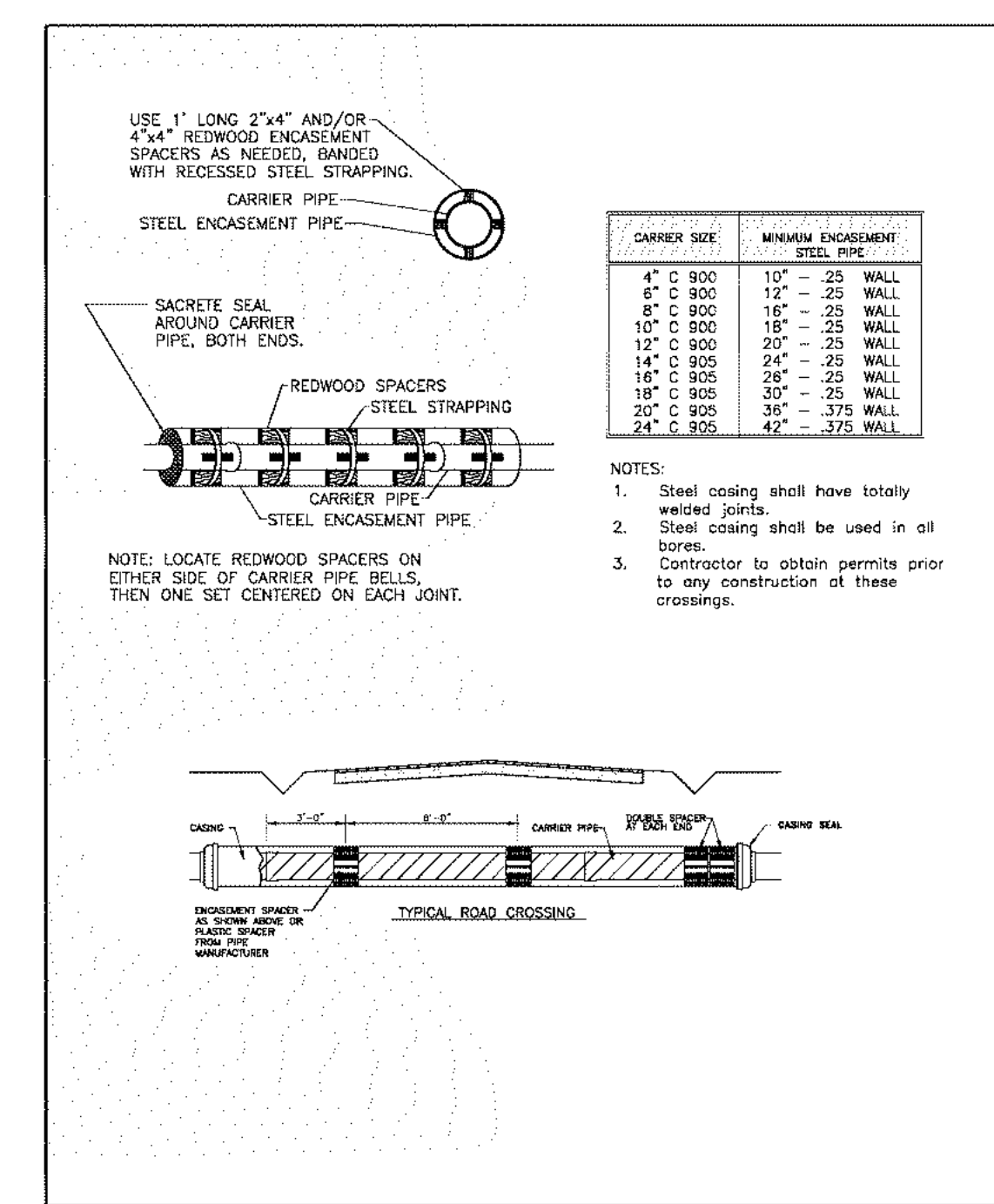
REVISIONS	CITY OF MONTGOMERY TYPICAL ROADWAY TRENCH BEDDING AND BACKFILL DETAIL	SEWER
		S-2



REVISIONS	CITY OF MONTGOMERY TYPICAL ROADWAY TRENCH BEDDING AND BACKFILL DETAIL	WATER
		W-15



REVISIONS	CITY OF MONTGOMERY AIR RELEASE VALVES	SEWER
		S-6



REVISIONS	CITY OF MONTGOMERY STANDARD BORED CROSSING WITH STEEL CASING FOR SEWER LINES (OR WATERLINES)	SEWER
		S-3

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HILLS OF TOWN CREEK
SECTION 5
WATER & SANITARY
SEWER DETAILS 2 OF 2

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PROJECT	10976	TDLR	**
DRAWN	GLH	CHECKED	JTW
SCALE	AS NOTED	SHEET	27

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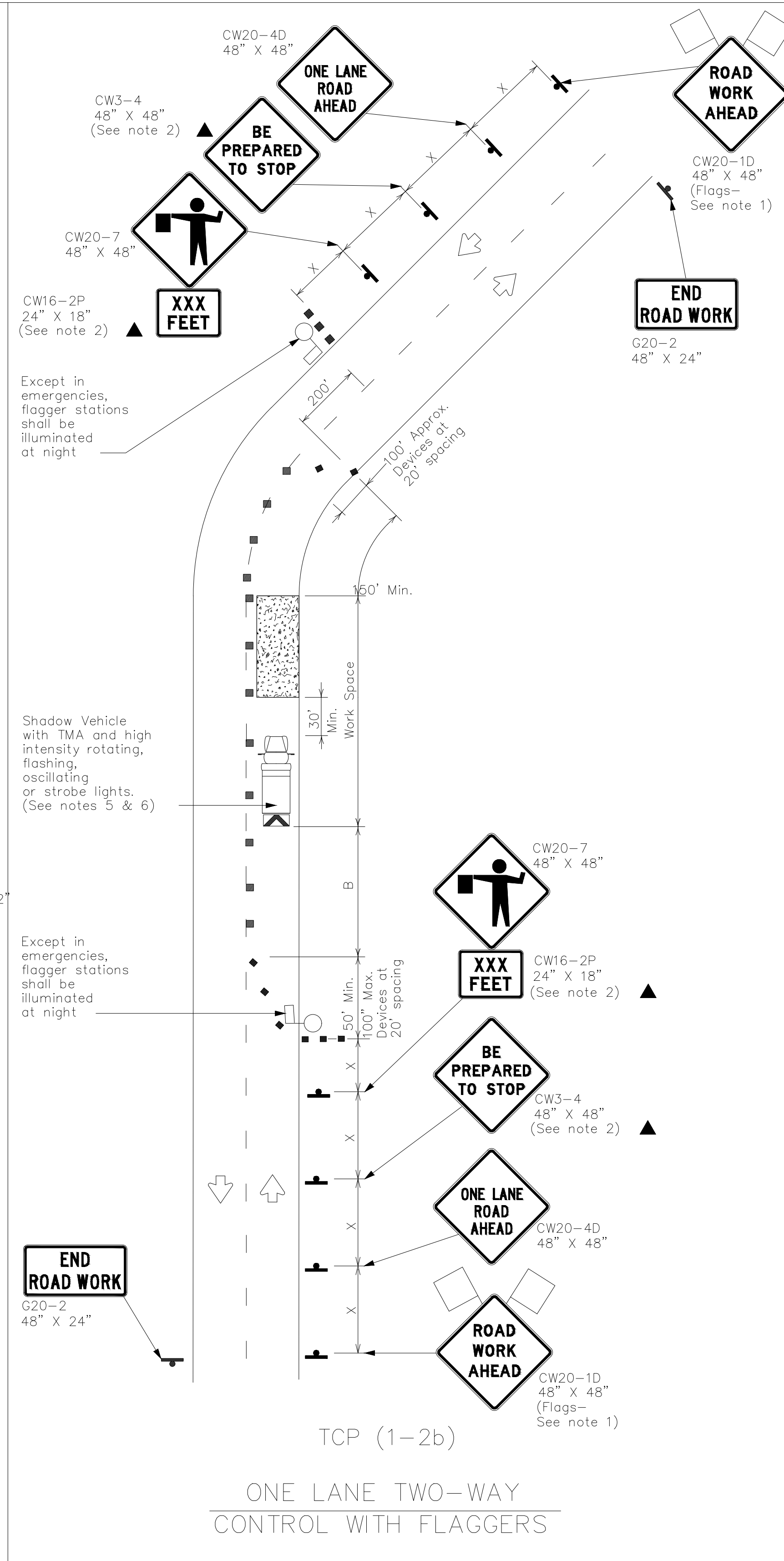
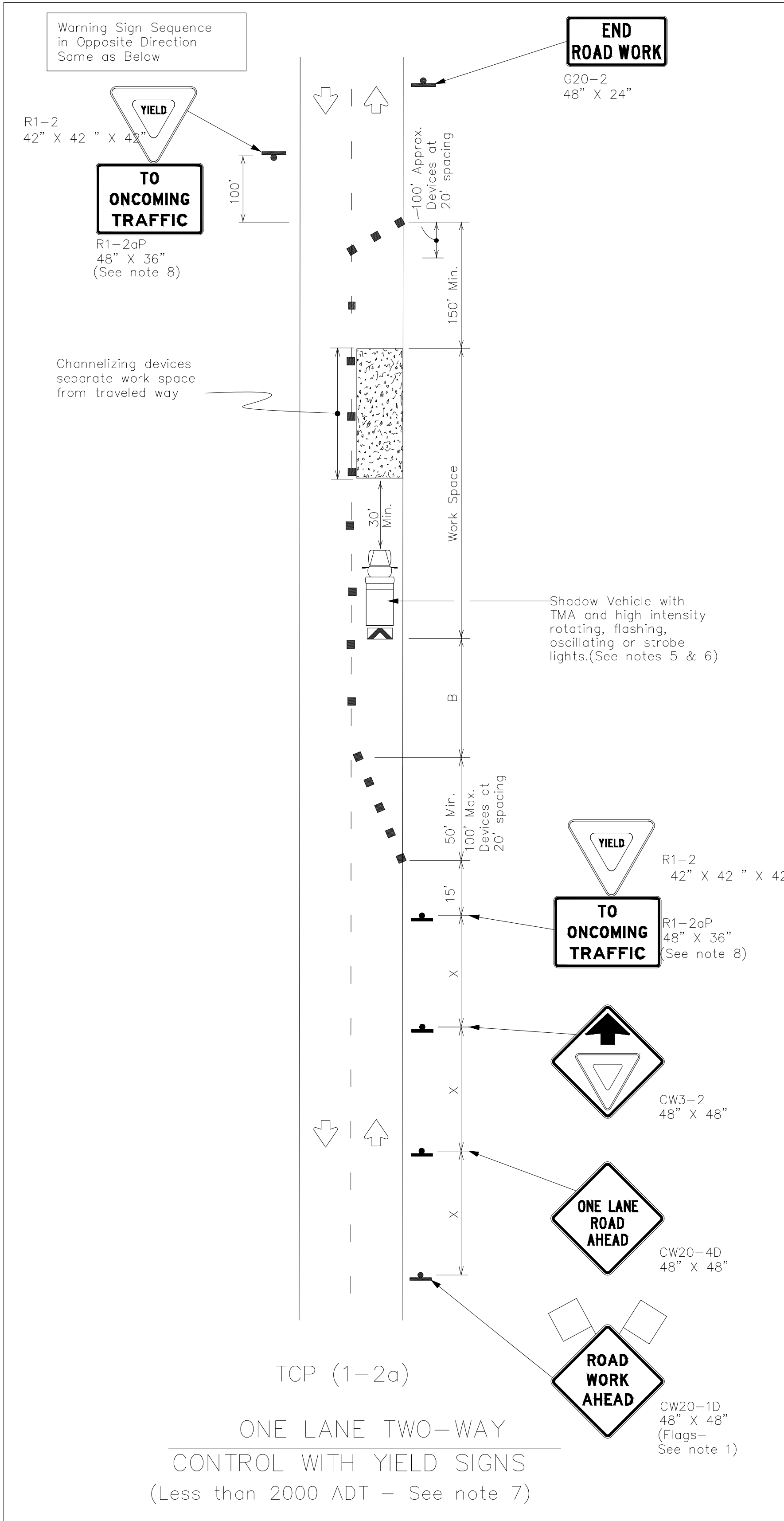
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LEGEND

	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board		Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "x"	Suggested Longitudinal Buffer Space "y"	Stopping Sight Distance
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent			
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L=WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70	700'	770'	840'	70'	140'	800'	475'	730'	
75	750'	825'	900'	75'	150'	900'	540'	820'	

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE

MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

- Flags attached to signs where shown are REQUIRED.
 - All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
 - The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
 - Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger or R1-2 "YIELD" sign is less than 1500 feet.
 - A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
 - Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
- TCP (1-2a)**
- R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work spaces should be no longer than one half city block. In rural areas on roadways with less than 2000 ADT, work spaces should be no longer than 400 feet.
 - R1-2 "YIELD" sign with R1-2aP "TO ONCOMING TRAFFIC" plaque shall be placed on a support at a 7 foot minimum mounting height.
- TCP (1-2b)**
- Flaggers should use two-way radios or other methods of communication to control traffic.
 - Length of work space should be based on the ability of flaggers to communicate.
 - If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
 - Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer.
 - Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

Texas Department of Transportation
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
ONE-LANE TWO-WAY TRAFFIC CONTROL
TCP(1-2)-18

FILE: tcp1-2-18.dgn	DN:	CK:	DW:	CK:
©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS				
4-90 4-98				
2-94 2-12				
1-97 2-18				
152				

CITY OF MONTGOMERY, CITY ENGINEER
SIGNATURE VALID FOR ONE (1) YEAR

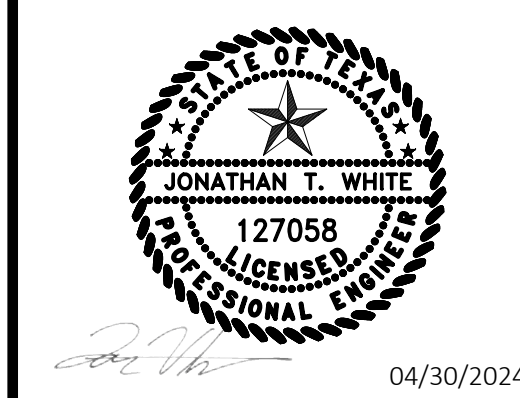
DATE

DRAWING ISSUE

#	DATE	BY	* COMMENT
1	04/30/24	JTW	FOR PERMIT

DRAWING INFORMATION

PROJECT	10976	TDLR	**
DRAWN	GLH	CHECKED	JTW
SCALE	AS NOTED	SHEET	28



04/30/2024

*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE



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PROJECT ADDRESS
EMMA'S WAY
MONTGOMERY, TX 77356

HILLS OF TOWN CREEK
SECTION 5
TRAFFIC CONTROL PLAN