CONSTRUCTION PLANS FOR WATER, SANITARY SEWER AND DRAINAGE FACILITIES PAVING AND APPURTENANCES

TO SERVE

BRIARLEY PHASE 1B

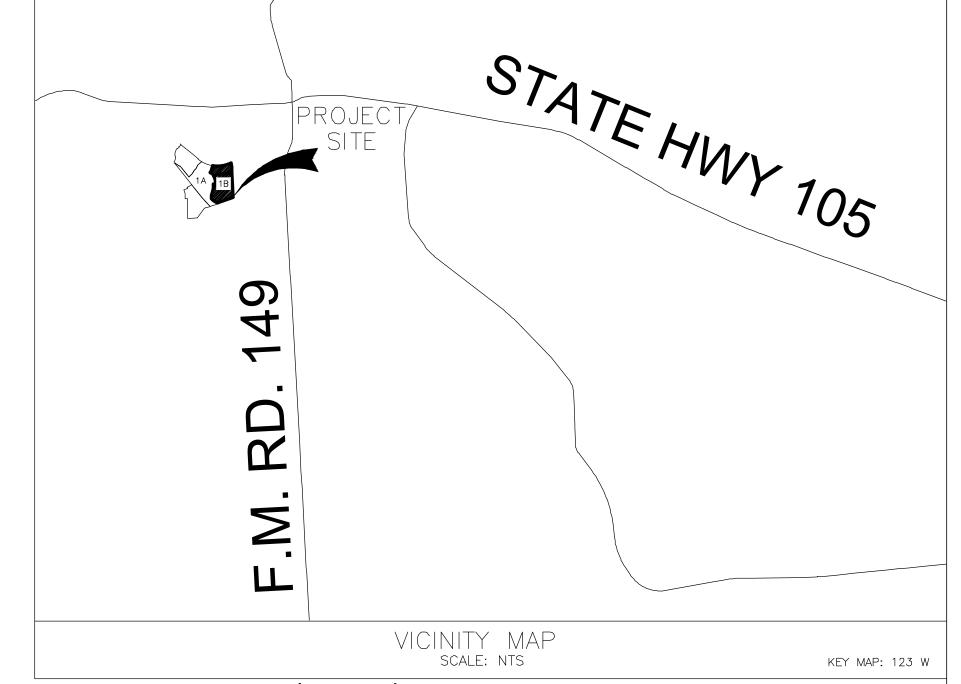
DEV. NO. 2006

MONTGOMERY COUNTY MUNICIPAL UTILITY DISTRICT NO. 215 CITY OF MONTGOMERY, TEXAS

JOB. NO. 2980-0104

NOTES

- ALL STORM SEWER, OVERFLOW SWALES, OUTFALL DITCHES, CHANNELS AND BOX CULVERTS SHALL BE MAINTAINED BY MONTGOMERY COUNTY M.U.D. NO. 215.
- & MONTGOMERY COUNTY, TEXAS. ALL STORM SEWERS, NATURAL DRAINAGE COURSES, OR IMPROVED DRAINAGE CHANNELS HAVE ADEQUATE CAPACITY FOR THE FLOWS INDICATED IN THE DRAINAGE ANALYSIS. THE DRAINAGE DATA PRESENTED IN THESE PLANS CONFORMS TO THE LJA MASTER DRAINAGE PLAN AND ALL APPLICABLE CITY OF MONTGOMERY DRAINAGE REQUIREMENTS



Sheet Index Sheet Number Sheet Title **COVER SHEET** STORM WATER POLLUTION PREVENTION PLAN **CLEARING PLAN** STORM OUTFALL 'B STORM OUTFALL 'B **PAVING DETAILS PAVING DETAILS II** SANITARY DETAILS SANITARY DETAILS I WATER DETAILS I WATER DETAILS II WATER DETAILS III DRAINAGE DETAILS I

STORM WATER POLLUTION PREVENTION PLAN DETAILS



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

TY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK



ENGINEER:

LJA Engineering, Inc.

DRAINAGE DETAILS II DRAINAGE DETAILS III

3600 W Sam Houston Parkway S Suite 600 Houston, Texas 77042

Phone 713.953.5200 Fax 713.953.5026 FRN - F-1386

JDS OLD PLANTERSVILLE ROAD, LLC

FORMERLY: REDBIRD DEVELOPMENT, LLC

BY _____ DATE ____

APPROVED FOR CONSTRUCTION

DATE: April 2025

SHEET 1 OF 30 G

- 1. MATERIALS, CONSTRUCTION AND TESTING TO BE IN ACCORDANCE WITH THE CITY OF MONTGOMERY ORDINANCES AND SPECIFICATIONS, LATEST PRINTING AND AMENDMENTS
- 2. CONTRACTOR SHALL OBTAIN ALL DEVELOPMENT AND CONSTRUCTION PERMITS REQUIRED BY THE CITY OF MONTGOMERY AT CONTRACTORS 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 AND THE CITY OF MONTGOMERY DEPARTMENT OF PUBLIC WORKS, 48 HOURS PRIOR TO COMMENCEMENT OF WORK IN STREET RIGHTS-OF-WAY OR
- EASEMENTS. 4. ALL EXISTING UNDERGROUND UTILITIES 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 AT&T COMPANY, ENTERPRISE PIPELINE, TEXAS EXPRESS PIPELINE AND TXU 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 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.
- 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 YOU 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 PREPARED BY THE ENGINEER DO NOT EXTEND TO 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 CONSTRUCTION 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 CITY OF MONTGOMERY . 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 BOTH DAY AND NIGHT 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 CITY OF MONTGOMERY 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. 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 PLANTING GRASS 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 "SODDING OR SEEDING FOR EROSION CONTROL. 14. 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 T99). MOISTURE CONTENT OF BACKFILL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CEMENT STABILIZED SAND SPECIFICATIONS. SEE STANDARD DETAIL SHEETS FOR BEDDING AND OTHER DESIGN REQUIREMENTS.
- 15. INCLUDE PRICE OF ALL BEDDING AND BACKFILL OF TYPE REQUIRED, IN PRICE BID PER LINEAR FOOT OF PIPE.
- 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 IS 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. 20. CONTRACTOR SHALL CONTACT THE FOLLOWING A MINIMUM OF 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
- MARCUS BOWLES, PE LJA ENGINEERING, INC. . . . (713) 953-5098 MICAH KREIKEMEIER, PE LJA ENGINEERING. INC. (713) 953-5134 KATHERINE VU, PE CITY ENGINEER (713) 789-1900 CHRIS ROZNOVSKY, PE CITY ENGINEER. (713) 789-1900
- 21 ALL AREAS DISTURBED ALONG SIDE AND BACK-OF-LOT EASEMENTS OR OTHER UNNECESSARY DISTURBANCES AS A RESULT OF CONSTRUCTION WORK SHALL BE SEEDED AND FERTILIZED IN ACCORDANCE WITH SEEDING SPECIFICATIONS (NO SEPARATE PAY).
- 22. ALL STATIONS ARE CENTERLINE OF STREET RIGHT-OF-WAY UNLESS OTHERWISE 23. THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF EXISTING
- UTILITIES PRIOR TO CONSTRUCTION. 24. MATERIAL USED FOR COMPACTED FILL SHALL HAVE A PLASTIC INDEX (P.I.) BETWEEN 10 AND 20.
- 25. WHEN THE OWNER DETERMINES THAT THE CONTRACTOR IS WORKING IN OR ADJACENT TO DEVELOPED AREAS, NO CONSTRUCTION SHALL COMMENCE PRIOR TO SUNRISE ON WEEK DAYS AND 7:30 A.M. ON WEEKENDS AND/OR HOLIDAYS, AND SHALL CONCLUDE PRIOR TO SUNDOWN UNLESS ARRANGEMENTS TO THE CONTRARY HAVE BEEN COORDINATED AND APPROVED WITH THE OWNER.
- 26. IN THE CASE OF ONGOING PROJECTS ADJACENT TO OR NEAR THE PROPOSED PROJECT, THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING CONSTRUCTION WITH OTHER CONTRACTORS.

- <u>SPECIAL TRENCH BACKFILL NOTES:</u>
- 1. ALL TRENCH BACKFILL FOR UTILITIES SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY PER ASTM D-698. MOISTURE CONTENT SHALL BE WITHIN -3% TO
- 2. DENSITIES SHALL BE TAKEN AT APPROXIMATE 100-F00T INTERVALS FOR EACH LIFT, OR AS RECOMMENDED BY THE TESTING LAB, OR AS OTHERWISE DIRECTED BY THE ENGINEER. 3. THE TESTING LAB SHALL BE PAID BY THE OWNER EXCEPT RETESTS REQUIRED DUE TO THE
- FAILURE OF THE FIRST TEST SHALL BE PAID BY THE CONTRACTOR. 4. LIFTS SHALL BE 8-INCH MAXIMUM, MEASURED LOOSE.
- 5. ALL TRENCH BACKFILL SHALL BE CONSIDERED SUBSIDIARY TO THE PIPE.

<u>SANITARY SEWER CONSTRUCTION NOTES:</u>

- 1. SANITARY SEWERS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST CITY SPECIFICATIONS FOR SEWER CONSTRUCTION, AND TESTED AS SPECIFIED IN THE CITY 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
- CITY OF MONTGOMERY DRAWING NUMBER 1201. 2. ALL SANITARY SEWER MANHOLES SHALL BE STANDARD CITY OF MONTGOMERY PRE-CAST USING RAM-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 CHEMICALS 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 15" 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 SEPERATION SHALL BE IN ACCORDANCE WITH TEXAS NATURAL RESOURCE CONSERVATION COMMISSION RULES, CHAPTER 317.13 APPENDIX E. (SEE THIS SHEET FOR THESE RULES).
- 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 CITY
- OF MONTGOMERY DRAWING NUMBER 1201. WHEN THE NATURAL GROUND LEVEL AROUND MANHOLE LIES BELOW THE 100 YEAR FLOODPLAIN ELEVATION, THE MANHOLE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF MONTGOMERY DRAWING NUMBER 1201, STANDARD 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 TEST 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.

WATER LINE CONSTRUCTION NOTES:

- 1. WATER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST CITY OF MONTGOMERY WILLIS RULES AND REGULATIONS, STANDARD SPECIFICATIONS, AND CONSTRUCTION DETAILS.
- 2. 4" THROUGH 12" WATER LINES SHALL BE P.V.C. CLASS 150, DR-18, AWWA C-900 AND 1" THROUGH 3" WATER LINES SHALL BE PVC SCHEDULE 40. 4" THROUGH 54" D.I.P. WATER LINES SHALL BE AWWA C151 (ANSI A21.51) AND DOUBLE WRAPPED IN 8-MIL POLYETHYLENE. PIPE SHALL BE LINED IN ACCORDANCE WITH AWWA C104 (ANSI A21.4).
- 3. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AS NECESSARY TO PREVENT PIPE MOVEMENT. WHERE PREVENTING MOVEMENT OF PIPE 16" OR GREATER AS NECESSARY DUE TO THRUST, USE RESTRAINED JOINTS UNLESS OTHERWISE NOTED ON
- 4. ALL WATER LINES UNDER PROPOSED OR FUTURE PAVING AND TO A POINT ONE (1) FOOT BACK OF ALL PROPOSED OR FUTURE CURBS SHALL BE ENCASED IN BANK SAND TO 12" OVER PIPE AND BACKFILLED WITH CEMENT STABILIZED SAND TO WITHIN ONE (1) FOOT OF SUBGRADE.
- 5. ALL WATER LINE AND SEWER LINE CROSSINGS SHALL BE CONSTRUCTED PER CITY OF MONTGOMERY AND TCEQ REGULATIONS.
- 6. ALL WATER VALVES SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C-500 AND SHALL BE OF THE RESILIENT SEAT TYPE. 7. ALL WATER LINES TO BE DISINFECTED IN CONFORMANCE WITH AWWA C-651 AND THE TEXAS STATE DEPARTMENT OF HEALTH. AT LEAST ONE BACTERIOLOGICAL SAMPLE SHALL BE COLLECTED FOR EACH 1,000 LINEAR FEET OF WATER LINE AND SHALL BE
- REPEATED IF CONTAMINATION PERSISTS. 8. ALL BELOW GRADE VALVES SHALL BE GASKETED, HUB-END GATE VALVES WITH A CAST IRON BOX, EXCEPT WHERE FLANGES ARE CALLED OUT ON THE PLANS. 9. 4" THROUGH 12" FITTINGS SHALL BE DUCTILE IRON PRESSURE FITTINGS PER ANSI
- A21.10, OR PUSH ON FITTINGS PER ANSI A21.11, PRESSURE RATED AT 150 PSIG. 10. HYDROSTATIC TESTING: ALL WATER PIPE SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH THE LATEST CITY OF MONTGOMERY STANDARD CONSTRUCTION SPECIFICATIONS. TESTS ARE TO BE PERFORMED ON THE TOTAL FOOTAGE OF WATER PIPE LINE INCLUDED IN THE PROJECT
- 11. ALL WATER LINES TO HAVE 4' MINIMUM COVER TO FINISHED GRADE AND MINIMUM 12" CLEAR TO OTHER UTILITIES AT CROSSING UNLESS OTHERWISE NOTED ON PLANS. ALL WATER LINE INSTALLED OVER 8' DEEP SHALL UTILIZE RESTRAINED JOINT FITTINGS.
- 12. CONTRACTOR SHALL KEEP WATER PIPE CLEAN AND CAP (OR OTHERWISE EFFECTIVELY COVER) OPEN PIPE ENDS TO EXCLUDE INSECTS, ANIMALS OR OTHER SOURCES OF CONTAMINATION FROM UNFINISHED PIPE LINES AT TIMES WHEN CONSTRUCTION IS NOT 13. UNLESS OTHERWISE NOTED, ALL WATER LINES 12" AND SMALLER SHALL HAVE A
- MINIMUM OF 4' OF COVER, AND WATER LINES 16" AND LARGER SHALL HAVE A MINIMUM OF 5' OF COVER. 14. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AT ALL UNDERGROUND TEES, BENDS AND LATERALS. THEY SHALL BE BUILT AS PER THE DETAILS PROVIDED TO PREVENT
- PIPE MOVEMENT. 15. ALL ABOVE GROUND DUCTILE IRON PIPE CONNECTIONS SHALL BE FLANGED. UNDERGROUND DUCTILE IRON PIPE CONNECTIONS SHALL BE BOLTLESS AND PUSH-ON
- AFTER THE FIRST FLANGED FITTING BELOW GRADE UNLESS NOTED OTHERWISE ON THE 16. ALL FLANGES BELOW GRADE SHALL HAVE STAINLESS STEEL BOLTS AND NUTS.

WATER LINE CONSTRUCTION NOTES CONT'D:

- 17. ALL WATER VALVES SHALL OPEN CLOCKWISE. ALL WATER VALVES SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C-500 AND SHALL BE OF THE RESILIENT SEAT TYPE.
- 18. ALL BELOW GRADE VALVES SHALL BE GASKETED, HUB-END GATE VALVES WITH A CAST IRON BOX, EXCEPT WHERE FLANGES ARE CALLED OUT ON THE PLANS.
- 19. ALL FLANGES BELOW GRADE SHALL BE INSULATED. 20. ALL WATERLINES SHALL BE ENCASED IN BANK SAND TO AT LEAST 12" ABOVE THE PIPE. COST OF BANK SAND TO BE INCLUDED IN UNIT PRICE OF WATERLINE. 21. MAINTAIN MINIMUM 9-FOOT HORIZONTAL CLEARANCE BETWEEN OUTSIDE OF SANITARY
- SEWER MANHOLE AND WATERLINE. 22. WATER LINES PARALLEL TO SANITARY LINES SHALL BE INSTALLED WITH AT LEAST A 9-FOOT CLEARANCE AND IN SEPARATE TRENCHES.
- 23. CENTER OF FIRE HYDRANT TO BE LOCATED 3'-0" FROM BACK OF CURB WITH CENTER LINE OF STEAMER NOZZLE 22-INCHES ABOVE FINISHED GRADE, UNLESS OTHERWISE SHOWN.
- 24. WATERLINE SHALL BE CONSTRUCTED SUCH THAT ALL CROSSES AND TEES WILL NOT BE LOCATED UNDER PROPOSED OR FUTURE PAVING. 25. UTILITY CONTRACTOR TO TURN FIRE HYDRANTS AND MAKE ALL FINAL ADJUSTMENTS AFTER COMPLETION OF PAVING. NO SEPARATE PAY.

DRY UTILITY NOTES: CAUTION: UNDERGROUND GAS FACILITIES

- 1. LOCATIONS OF CENTERPOINT ENERGY MAIN LINES (TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE LLC. WHERE APPLICABLE) ARE SHOWN IN AN APPROXIMATE
- LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. 2. CENTERPOINT SIGNATURES ON THESE PLANS ONLY INDICATES THAT ITS FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT A CONFLICT ANALYSIS HAS BEEN MADE. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT (713) 223-4567 OR 1-800-669-8344 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD
- 3. WHEN CENTERPOINT ENERGY PIPELINE MARKINGS ARE NOT VISIBLE, CALL (713) 967-8037 (7:00 A.M. TO 4:30 P.M.) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
- 4. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.
- 5. WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED. SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPELINE.

WARNING: UNDERGROUND ELECTRICAL FACILITIES

1. UNDERGROUND ELECTRICAL FACILITIES EXIST IN THE AREA OF THIS PROJECT. DO NOT BEGIN CONSTRUCTION UNTIL THESE FACILITIES HAVE BEEN LOCATED AND STAKED. TO HAVE THESE UNDERGROUND FACILITIES STAKED CALL THE UTILITY COORDINATING COMMITTEE AT (713) 223-4567, OR TOLL FREE AT 1-800-669-8344, AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION.

TRAFFIC NOTES:

- 1. CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TEXAS MUTCD, MOST RECENT EDITION WITH REVISIONS) DURING CONSTRUCTION. 2. LANE CLOSURE PERMITS ARE TO BE OBTAINED WHEN REQUIRED. THE REQUEST MUST
- BE MADE AT LEAST THREE DAYS PRIOR TO THE DATE FOR WHICH THE CLOSURE IS 3. CONTRACTOR SHALL COVER EXCAVATIONS WITH STEEL PLATES, ANCHORED PROPERLY, DURING NON-WORKING HOURS AND OPEN LANES FOR TRAFFIC FLOWS.
- 4. IF THE CONTRACTOR DESIRES TO BLOCK A LANE FOR WHICH NO "TRAFFIC CONTROL PLANS" WERE SUBMITTED. (S)HE SHALL SUBMIT REPRODUCIBLE MYLARS SEALED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS TO THE PLAN REVIEW SECTION OF THE ENTITY HAVING JURISDICTION OVER THE ROAD BEING WORKED ON, WITH THE ENTIRE APPROVED SET OF DRAWINGS FOR APPROVAL TEN WORKING DAYS PRIOR TO CONSTRUCTION.
- 5. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF "TRAFFIC CONTROL PLANS" DURING CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, (S)HE SHALL BE RESPONSIBLE TO SUBMIT AN ALTERNATE SET OF REPRODUCIBLE MYLARS SEALED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS WITH THE ENTIRE APPROVED SET OF DRAWINGS TO THE PLAN REVIEW SECTION OF THE ENTITY HAVING JURISDICTION OVER THE ROAD BEING WORKED ON, FOR APPROVAL TEN WORKING DAYS PRIOR TO IMPLEMENTATION.
- 6. APPROVED COPIES OF "TRAFFIC CONTROL PLANS" AND LANE/SIDEWALK CLOSURE PERMITS SHALL BE AVAILABLE FOR INSPECTION AT JOB SITE ALL TIMES. ALL REQUESTS FOR LANE/SIDEWALK CLOSURES MUST BE MADE AT LEAST THREE DAYS PRIOR TO THE DATE FOR WHICH THE CLOSURE IS SOUGHT.

MONTGOMERY COUNTY FIRE MARSHALL NOTES:

- FIRE LANE MARKINGS WILL BE REVIEWED DURING FINAL INSPECTION. 2. NFPA 704 PLACARD SHALL BE PLACED ON THE BUILDING STREETSIDE.
- 3. PROVIDE FIRE EXTINGUISHERS PER IFC SECTION 906. 4. EXIT DOORS SHALL BE READILY OPERABLE FROM THE EGRESS SIDE WITHOUT THE USE OF KEY OR SPECIAL KNOWLEDGE OR EFFORT, DOOR HANDLES, PULLS, LATCHES, LOCKS. AND OTHER OPERATING DEVICES ON DOORS SHALL NOT REQUIRE TIGHT
- GRASPING, TIGHT PINCHING, OR TWISTING OF THE WRIST TO OPERATE. 5. EXIT SIGNS AMD EMERGENCY LIGHTING NEEDED IN PROPER LOCATIONS WITH BACK UP POWFR.
- 6. KNOX EQUIPMENT • ALL LOCKED ACCESS GATES ARE REQUIRED TO COMPLY WITH THE MONTGOMERY COUNTY ACCESS GATE ACCESS PROGRAM.

CITY OF MONTGOMERY GENERAL NOTES:

GENERAL CONSTRUCTION NOTES:

- 1. CONTRACTOR SHALL CONTACT CITY OF MONTGOMERY CITY ENGINEER, KATHERINE VU AT (713)789-1900 A MINIMUM OF 48 2. CONTRACTOR SHALL CONTACT CITY OF MONTGOMERY DIRECTOR OF PUBLIC WORKS, MIKE MUCKLEROY AT (936) 597-6434 A MINIMUM OF 48 HOURS PRIOR TO COMMENCING CONSTRUCTION TO SET UP AN INSPECTION TO VERIFY CITY'S FACÍLITIES. 3. CONTRACTOR TO CONTACT CITY OF MONTGOMERY UTILITY OPERATOR, PHILIP WRIGHT OF HAYS LITHITY NORTH CORPORATION AT (936)588-1166 A MINIMUM OF 48 HOURS PRIOR TO COMMENCING CONSTRUCTION TO SET UP AN INSPECTION TO VERIFY CITY'S
- 4. 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 INSPECT THE CONNECTION

5. ALL TAPS TO THE CITY'S WATER AND SANITARY SEWER SYSTEM SHALL BE MADE BY THE CITY'S OPERATOR AT THE OWNER'S

- 6. CONTRACTOR SHALL CONTACT THE CITY'S UTILITY OPERATOR OR PUBLIC WORKS FOREMAN TO OPERATE ANY VALVES. ATH NO TIME IS THE CONTRACTOR OR CONTRACTOR'S REPRESENTATIVE TO OPERATE ANY PART OF THE CITY OF MONTGOMERY WATER
- 7. THE OWNER OR CONTRACTOR SHALL INSTALL AND TEST APPROPRIATE BACKFLOW PREVENTION, PER THE CITY OF MONTGOMERY
- 8. ALL TAPS TO THE CITY'S SYSTEM SHALL BE MADE BY THE CITY'S OPERATOR AT THE OWNERS EXPENSE. 9. STORMWATER POLLUTION PROTECTION MUST BE IN PLACE PRIOR TO ANY CONSTRUCTION COMMENCES AND MUST REMAIN IN PLACE UNTIL CONSTRUCTION HAS CONCLUDED. ALL PROTECTION MEASURES MUST BE INSPECTED EVERY 30 DAYS, OR AFTER A RAIN EVENT OF ANY SIZE, WHICHEVER IS SOONER.

(B) CLAY PIPE.

- 1. CONSTRUCT MANHOLES A MAXIMUM OF FOUR HUNDRED (400) FEET APART. 2. ALL CHANGES OF DIRECTION IN THE SANITARY SEWER LINE SHALL TAKE PLACE AT A MANHOLE.
- 3. USE PRE-CAST CONCRETE MANHOLE, NO BRICK MANHOLES SHALL BE ALLOWED. 4. PROVIDE MANHOLES IN ACCORDANCE WITH CITY OF MONTGOMERY STANDARD DETAILS. SERVICE LEAD:
- 1. FOR DEVELOPMENTS WITH MORE THAN 5,000 GALLONS-PER-DAY FLOW IN SINGLE SERVICE, CONNECT THE SERVICE DIRECTLY TO A PROPOSED OR EXISTING MANHOLE.
- FOR SINGLE RESIDENTIAL SERVICE, PROVIDE A SERVICE LEAD WITH A MINIMUM 4-INCH DIAMETER AND A
- 3. DOUBLE SERVICE LEADS ARE ONLY ALLOWED WITH AN APPROVED VARIANCE BY THE CITY COUNCIL IF THE LENGTH OF THE SERVICE LEAD EXCEEDS 100-FEET OR THE WIDTH OF THE PUBLIC RIGHT-OF-WAY BY MORE THAN 20-FEET, THE MINIMUM DIAMETER SHALL BE 8-INCHES .
- LINE DEPTH: 1. CONSTRUCT SEWER PIPE WITH THE TOP OF PIPE A MINIMUM OF 3 FEET BELOW NATURAL GROUND.
- 2. SEWERS LAID IN STREET RIGHT-OF-WAYS WITH CURB AND GUTTER PAVED STREETS SHALL HAVE A MINIMUM COVER (4-FEET FROM THE TOP OF PIPE TO TOP OF CURB.
- SEWERS LAID IN STREET RIGHT-OF-WAYS WITH OPEN DITCHES SHALL HAVE A MINIMUM COVER OF 6-FEET FROM THE THIS AREA LIES IN ZONE "X". AVERAGE GROUND LINE AT THE ADJACENT STREET RIGHT-OF-WAY TO THE TOP OF PIPE.
- LIFT STATIONS::
- COMPLY WITH THE REQUIREMENTS SET FORTH BY THE TCEQ. USE A PEAKING FACTOR OF 4 IN THE DESIGN CALCULATIONS
- PROVIDE THE CITY OF MONTGOMERY WITH A COPY OF THE ENGINEERING DESIGN REPORT SATISFYING TOEO CRITERIA. THE CITY OF MONTGOMERY SHALL APPROVE THE BRAND OF PUMP USED IN THE LIFT STATION. 5. CONSTRUCT ALL LIFT STATIONS OF CONCRETE, NO FIBERGLASS LIFT STATIONS SHALL BE ALLOWED.
- (A) PLASTIC "TRUSS" PIPE.
- 1. THE FOLLOWING TYPES OF SANITARY SEWER PIPE MATERIALS ARE NOT ALLOWED:

BENCHMARK:

ALL ELEVATIONS SET TO NGS. NAVD 88.

MONUMENT 1 DESIGNATION ELEV. 239.00

BRASS DISC SET IN CONCRETE LOCATED BY

MONUMENT 2 DESIGNATION ELEV. 301.880

BRASS DISC SET IN CONCRETE LOCATED BY

100YR. W.S.E.= 298.83' AT OUTFALL #1000

100YR. W.S.E.= 298.83' AT OUTFALL #2000

EFFECTIVE DATE: AUGUST 18, 2014

FIRM PANEL NO.48339C0200G & 48339C0350G

COORDINATES X = 376,481.91322 Y = 10,135,441.47530

COORDINATES X = 3,757,800.73970 Y = 10,131,535.69490

1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED. 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.

4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL

OVERFLOW SWALES MINIMUM EVERY 50'. 5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL

PAVEMENT SHALL BE INCIDENTAL. 6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215.

7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL

8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL.

OF CURB. 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.

9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK

10a) SIDEWALKS TO BE LOCATED A MINIMUM OF 5' FROM THE BACK OF CURB WHERE LIGHT POLES ARE PRESENT. 10b) CONSTRUCT SIDEWALKS AND CURB RAMPS IN

CONFORMANCE WITH THE TEXAS ACCESSIBILITY STANDARDS

(TAS) AND THE AMERICAN WITH DISABILITIES ACT (ADA). 10c) DO NOT PLACE SIDEWALK OVER PARALLEL UTILITY

SIDEWALK SECTION MEETING TAS AND ADA AS THE SIDEWALK CROSSES THE DRIVEWAY. 11) AS-BUILT ELECTRICAL PLANS TO BE SUBMITTED WITH

10d) AT DRIVEWAYS, ALIGN A MINIMUM 5 FOOT WIDE

THE AS-BUILT DRAWINGS FOR THE SUBDIVISION. 12) CONTRACTOR SHALL CLEAR, GRUB, ROOT RAKE, BACK DRAG, CHIP AND DISPOSE OFFSITE OF ALL CLEARED AND GRUBBED MATERIAL.

13) SIDEWALK RAMPS AND SIDEWALKS WITHIN COMMON AREAS TO BE CONSTRUCTED WITH WS&D. SIDEWALKS IN FRONT OF HOMES TO BE CONSTRUCTED BY HOMEBUILDERS. ALL SIDEWALKS TO BE INSTALLED BY END OF 1 YEAR WARRANTY PERIOD.

14) CONTRACTOR TO STAMP THE FACE OF THE CURB WITH AN "S" AT THE LOCATION OF EACH SANITARY SEWER LEAD AND "W" AT THE LOCATION OF EACH WATER LEAD.

| | | · · |
|------|----------|-----|
| DATE | REVISION | BY |
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CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

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

MONTGOMERY COUNTY

MUNICIPAL UTILITY

DISTRICT NO. 215

BRIARLEY PHASE 1B

GENERAL NOTES



LJA Engineering, Inc. 3600 W Sam Houston Parkway S Suite 600

Houston, Texas 77042 FRN - F-1386 LJA PROJECT NO .: 2980-0104 DATE; APRIL 2025 DRAWN: R.D.R./F.M. DESIGN: R.D.R./F.M.

STORM NOTES - SEE SHEET 28

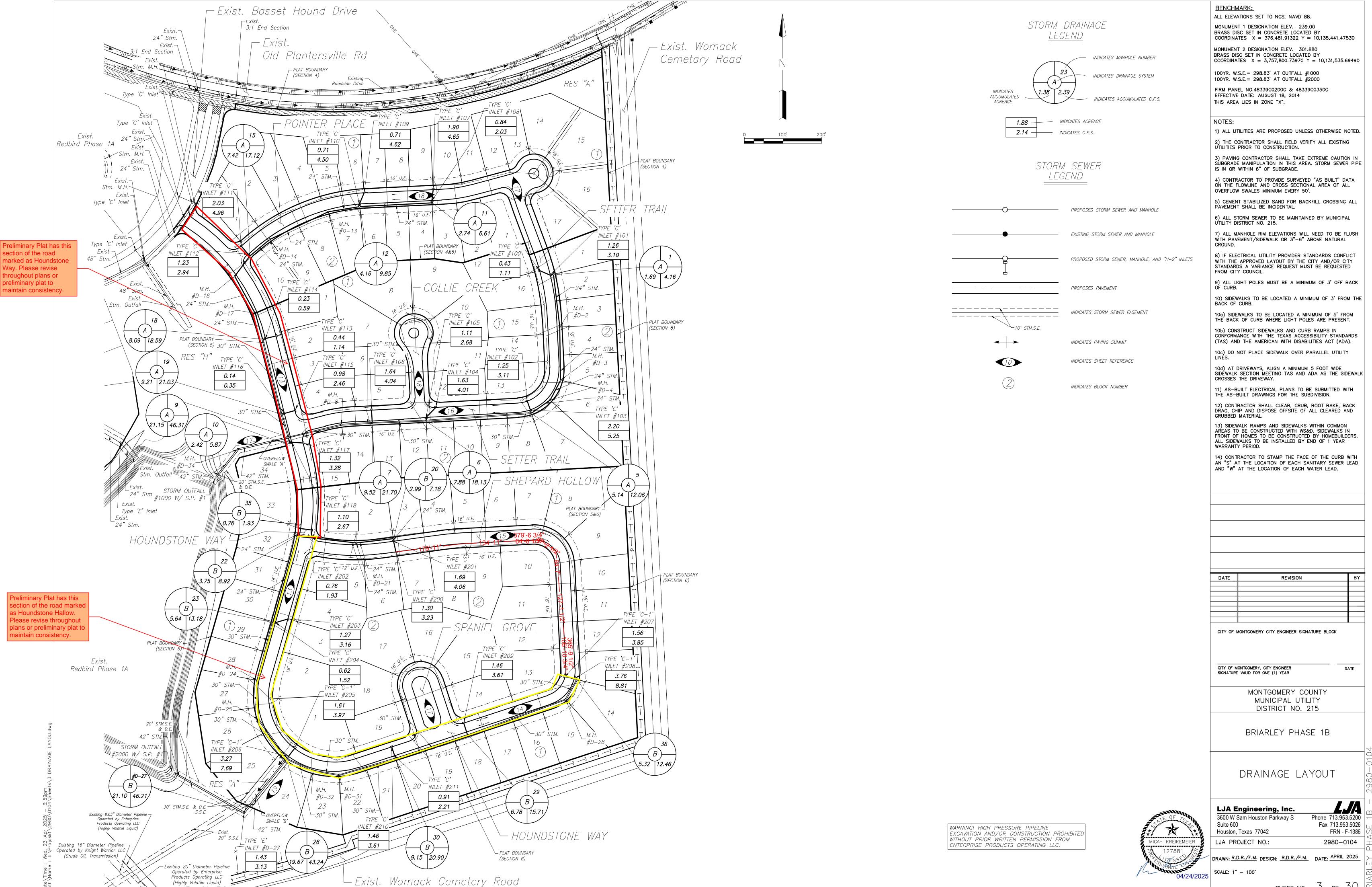
10. ALL CONSTRUCTION DRAWINGS MUST INCLUDE A TRAFFIC CONTROL MEASURES THAT MUST BE APPROVED BY THE APPROPRIATE JURISDICTION PRIOR TO CONSTRUCTION BEGINNING AND COORDINATED WITH SAID JURISDICTION THROUGH THE DURATION OF CONSTRUCTION

SCALE: N.T.S.

SHEET NO. 2 OF 30

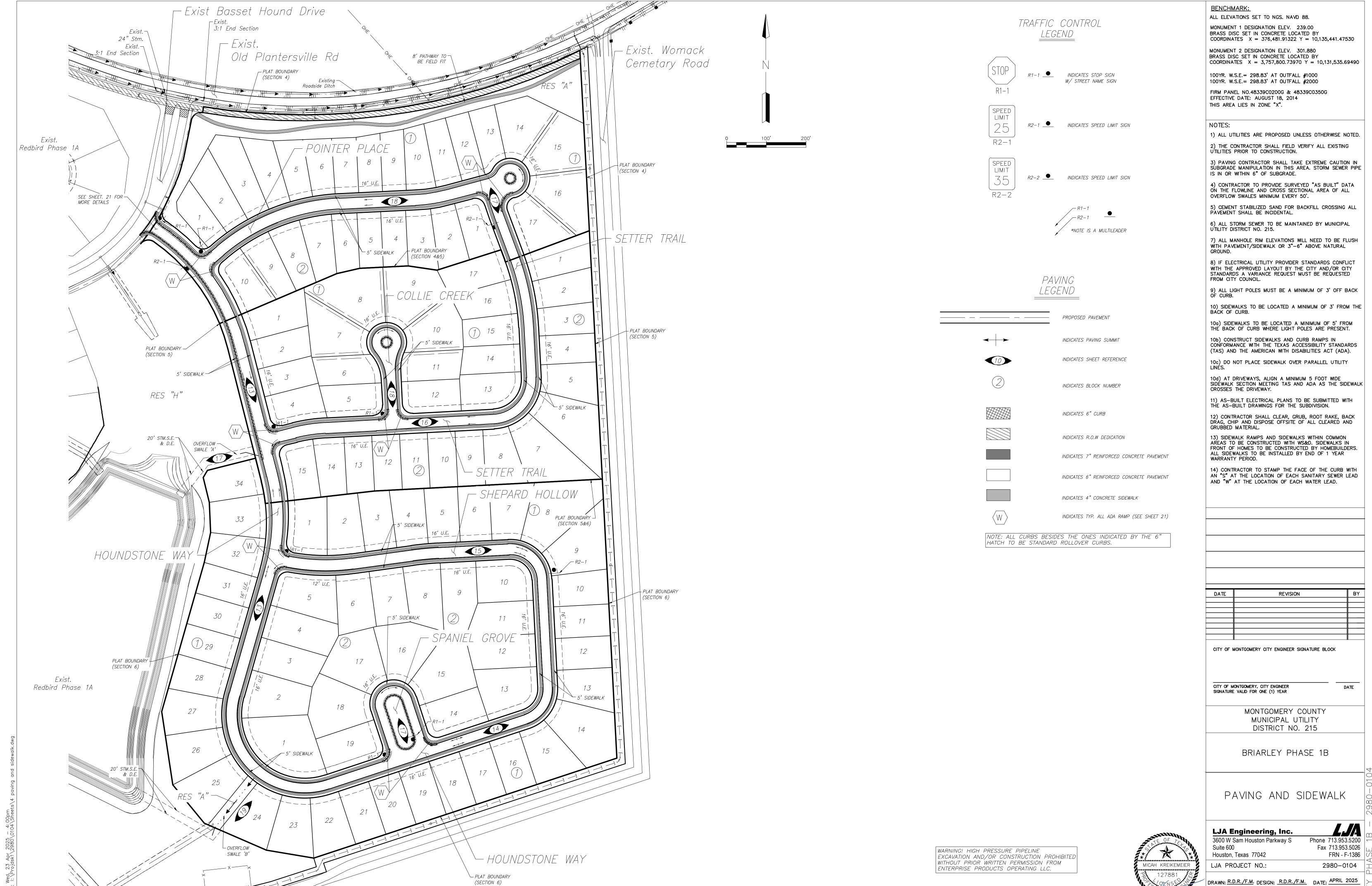
Phone 713.953.5200 Fax 713.953.5026

DATE



Exist. Womack Cemetery Road

SHEET NO. 3 OF 30



Exist. Womack Cemetery Road

04/24/2025 | SCALE: 1" = 100'

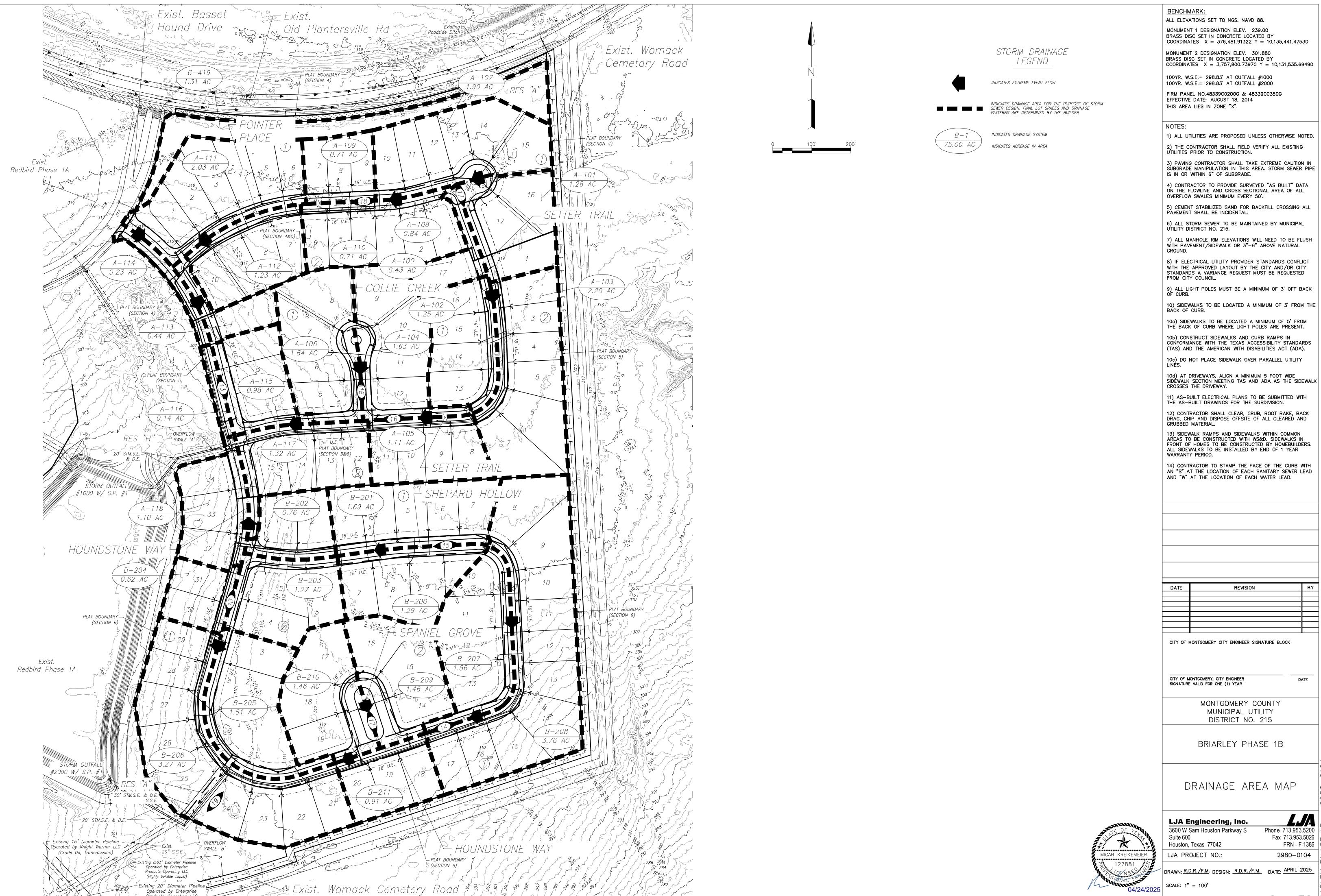
SHEET NO. 4 OF 30



Existing 20" Diameter Pipeline Operated by Enterprise

(Highly Volatile Liquid)

SHEET NO. 5 OF 30



Phone 713.953.5200 Fax 713.953.5026 FRN - F-1386 2980-0104 DATE: APRIL 2025

SHEET NO. 6 OF 30

| 5 YEAR FR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|------------|-----------|--------------|--------------|----------------|-------------|--------------|--------------|--------------|------------|----------------|--------------|------------|-------------|----------------|----------------|----------------|------------|------------|--------------|-------------|------------------|------------------|-------------|------------------|------------------|--------------|------------------|------------|-------------|--------------|--------------|--------------|--------------|--------------------------------|------------------------|----------|
| Area | MANHOLES/ | 1 | Mrea | Total | tc | Frequency | , c | Intensity | Q | Additional | Total Q | Q Pass | Reach | | INE . | | | SIGN | Actual | Friction | Minor | FLOW | VLINES | Line | | HYDR. GRAD | _ | TC/NG | Pipe | BOX CULVERT | AREA | | HYDRAULIC | | | | |
| | INLETS | INLETS | ac. | Area ac. | min. | Factor f | | in./hr. | c.f.s. | c.f.s. | c.f.s. | c.f.s. | ft. | size in. | slope % | l n | Q c.f.s. | f.p.s. | f.p.s. | Loss ft. | Loss ft. | upstrm. elev. | dnstrm. elev. | Size ft. | upstrm. elev. | dnstrm. elev. | slope % | | Size | SIZE | | PERIMETER | RADIUS | DIAMETER | X-Coord | Y-Coord | Junction |
| A-100 | 100 | 101 | 0.43 | 0.43 | 23.62 | 1.00 | 0.55 | 4.70 | 1.11 | 0.00 | 1.11 | 0.00 | 30 | 24 | 0.66% | 0.013 | 18.38 | 5.9 | 0.4 | 0.20 | 0.02 | 313.35 | 313.15 | 2.0 | 315.45 | 315.25 | 0.66 | 318.91 | 24 | Х | 3.14 | 6.28 | 0.50 | 2.00 | | 55485.154 | M |
| A-101 | 101 | 1 | 1.26 | 1.69 | 25.97 | 1.00 | 0.55 | 4.47 | 3.10 | 0.00 | 4.16 | 0.00 | 8 | 24 | 1.21% | 0.013 | 24.88 | 7.9 | 1.3 | 0.10 | 0.00 | 313.15 | 313.05 | 2.0 | 315.25 | 315.15 | 1.25 | 318.91 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | 55485.154 | M |
| - | 1 2 | 3 | 0.00 | 1.69 | 25.97 | 1.00 | 0.55 0.55 | 4.47 | 0.00 | 0.00 | 4.16 4.16 | 0.00 0.00 | 138 138 | 24 | 0.45% 0.45% | 0.013 0.013 | 15.18 15.16 | 4.8 | 1.3 | 0.62 0.62 | 0.00 | 313.15 | 312.53 311.91 | 2.0 | 315.15 | 314.53 313.91 | 0.45 0.45 | 318.91 318.62 | 24 | X | 3.14 3.14 | 6.28 6.28 | 0.50 0.50 | 2.00 | | 55485.154 55485.154 | M |
| - | 3 | 4 | 0.00 | 1.69 | 25.97 | 1.00 | 0.55 | 4.47 | 0.00 | 0.00 | 4.16 | 0.00 | 59 | 24 | 0.45% | 0.013 | 15.20 | 4.8 | 1.3 | 0.26 | 0.00 | 311.91 | 311.64 | 2.0 | 313.91 | 313.64 | 0.45 | 317.85 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | 55485.154 | M |
| - | 4 | 5 | 0.00 | 1.69 | 25.97 | 1.00 | 0.55 | 4.47 | 0.00 | 0.00 | 4.16 | 0.00 | 59 | 24 | 0.45% | 0.013 | 15.13 | 4.8 | 1.3 | 0.26 | 0.10 | 311.64 | 311.38 | 2.0 | 313.64 | 313.38 | 0.45 | 317.24 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | 55485.154 | М |
| - | 5 | 6 | 0.00 | 5.14 | 28.34 | 1.00 | 0.55 | 4.27 | 0.00 | 0.00 | 12.06 | 0.00 | 273 | 24 | 0.45% | 0.013 | 15.17 | 4.8 | 3.8 | 1.22 | 0.00 | 310.93 | 309.70 | 2.0 | 312.93 | 311.70 | 0.45 | 316.64 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | 55485.154 | M |
| - | 6 7 | γ γ | 0.00 | 9.52 | 29.38 29.87 | 1.00 | 0.55 0.55 | 4.18 | 0.00 | 0.00 | 18.13 21.70 | 0.00 0.00 | 140 80 | 30 | 0.95% 0.95% | 0.013 0.013 | 22.04 39.96 | 7.0 8.1 | 5.8 4.4 | 1.32 0.76 | 0.00 | 307.56 | 306.23 302.76 | 2.0 | 309.56 306.02 | 308.23 305.26 | 0.95 0.95 | 316.42 316.20 | 24 30 | X | 3.14 4.91 | 6.28 7.85 | 0.50 0.63 | 2.00 2.50 | | 55485.154 55485.154 | M |
| - | 8 | 9 | 0.00 | 9.52 | 29.87 | 1.00 | 0.55 | 4.14 | 0.00 | 0.00 | 21.70 | 0.00 | 141 | 30 | 0.95% | 0.013 | 39.92 | 8.1 | 4.4 | 1.33 | 0.00 | 300.99 | 299.66 | 2.5 | 303.49 | 302.16 | 0.95 | 314.95 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | | 55485.154 | M |
| - | 9 | 34 | 0.00 | 21.15 | 32.12 | 1.00 | 0.55 | 3.98 | 0.00 | 0.00 | 46.31 | 0.00 | 135 | 42 | 0.26% | 0.013 | 51.24 | 5.3 | 4.8 | 0.35 | 0.00 | 294.60 | 294.25 | 3.5 | 298.10 | 297.75 | 0.26 | 311.38 | 42 | X | 9.62 | 11.00 | 0.88 | 3.50 | 3500636.055 2 | 55485.154 | М |
| - | 34 | 1000 | 0.00 | 21.15 | 32.12 | 1.00 | 0.55 | 3.98 | 0.00 | 0.00 | 46.31 | 0.00 | 98 | 42 | 0.26% | 0.013 | 50.81 | 5.3 | 4.8 | 0.25 | 0.00 | 294.25 | 294.00 | 3.5 | 297.75 | 297.50 | 0.26 | 306.84 | 42 | X | 9.62 | 11.00 | 0.88 | 3.50 | 3500636.055 2 | 55485.154 | М |
| A-102 | 102 | 103 | 1.25 | 1.25 | 25.40 | 1.00 | 0.55 | 4.52 | 3.11 | 0.00 | 3.11 | 0.00 | 24 | 24 | 0.83% | 0.013 | 20.65 | 6.6 | 1.0 | 0.20 | 0.01 | 311.65 | 311.45 | 2.0 | 313.65 | 313.45 | 0.83 | 317.85 | 24 | Х | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2 | 55/85 15/ | м |
| A-102 | 103 | 5 | 2.20 | 3.45 | | | 0.55 | 4.34 | 5.25 | 0.00 | 8.24 | 0.00 | 8 | 24 | 1.19% | 0.013 | 24.67 | 7.9 | 2.6 | 0.10 | 0.00 | | 311.35 | | 313.45 | 313.35 | | 317.85 | 24 | x | 3.14 | | 0.50 | 2.00 | 3500636.055 2 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A-104 | 104 | 105 | 1.63 | 1.63 | 25.90 | 1.00 | 0.55 | 4.48 | 4.01 | 0.00 | 4.01 | 0.00 | 36 | 24 | 0.55% | 0.013 | 16.84 | 5.4 | 1.3 | 0.20 | 0.00 | 310.54 | 310.34 | 2.0 | 312.54 | 312.34 | 0.55 | 316.20 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2 | | M |
| A-105 | 105 | 6 | 1.11 | 2.74 | 26.94 | 1.00 | 0.55 | 4.38 | 2.68 | 0.00 | 6.61 | 0.00 | 8 | 24 | 1.25% | 0.013 | 25.29 | 8.1 | 2.1 | 0.10 | 0.00 | 310.34 | 310.24 | 2.0 | 312.34 | 312.24 | 1.25 | 316.20 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2 | 55485.154 | М |
| A-106 | 106 | 7 | 1.64 | 1.64 | 25.91 | 1.00 | 0.55 | 4.48 | 4.04 | 0.00 | 4.04 | 0.00 | 33 | 24 | 0.61% | 0.013 | 17.61 | 5.6 | 1.3 | 0.20 | 0.00 | 306.50 | 306.30 | 2.0 | 308.50 | 308.30 | 0.61 | 311.57 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2 | 55485.154 | М |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A-117 A-118 | 117 | 118 | 1.32 1.10 | 1.32 2.42 | 25.50 26.68 | 1.00 | 0.55 0.55 | 4.52 4.41 | 3.28 2.67 | 0.00 | 3.28 5.87 | 0.00 | 28 | 24 | 0.71% 1.67% | 0.013 0.013 | 19.08 29.21 | 6.1 9.3 | 1.0 | 0.20 0.10 | 0.00 | 300.12 299.92 | 299.92 299.82 | 2.0 2.0 | 302.12 301.92 | 301.92 301.82 | 0.71 1.67 | 314.96 314.96 | 24 | X | 3.14 3.14 | 6.28 6.28 | 0.50 0.50 | 2.00 | 3500636.055 2 3500636.055 2 | | M |
| - A-110 | 10 | 9 | 0.00 | 2.42 | 26.68 | 1.00 | 0.55 | 4.41 | 0.00 | 0.00 | 5.87 | 0.00 | 21 | 24 | 1.24% | 0.013 | 25.20 | 8.0 | 1.9 | 0.10 | 0.00 | 296.74 | 296.48 | 2.0 | 298.74 | 298.48 | 1.24 | 314.96 | 24 | x | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2 | | M |
| | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | |
| A-107 | 107 | 108 | 1.90 | 1.90 | 26.20 | 1.00 | 0.55 | 4.45 | 4.65 | 0.00 | 4.65 | 0.00 | 28 | 24 | 0.70% | 0.013 | 18.99 | 6.0 | 1.5 | 0.20 | 0.00 | 314.43 | 314.23 | 2.0 | 316.43 | 316.23 | 0.70 | 318.34 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2 | | M |
| A-108 - | 108 | 11 | 0.84 | 2.74 | 26.94 | 1.00 | 0.55 | 4.38 | 2.03 0.00 | 0.00 | 6.61 6.61 | 0.00 | 100 | 24 | 1.67% 0.30% | 0.013 0.013 | 29.21 12.35 | 9.3 | 2.1 | 0.10 | 0.00 | 314.23 | 314.13 | 2.0 | 316.23 316.11 | 316.13 | 1.25 0.30 | 318.34 318.34 | 24 | X | 3.14 3.14 | 6.28 6.28 | 0.50 0.50 | 2.00 | | 55485.154 55485.154 | M |
| - | 12 | 13 | 0.00 | 4.16 | 27.85 | 1.00 | 0.55 | 4.31 | 0.00 | 0.00 | 9.85 | 0.00 | 83 | 24 | 0.30% | 0.013 | 12.42 | 4.0 | 3.1 | 0.35 | 0.00 | 313.55 | 313.30 | 2.0 | 315.55 | 315.30 | 0.30 | 317.91 | 24 | X | 3.14 | | 0.50 | 2.00 | 3500636.055 2 | | M |
| - | 13 | 14 | 0.00 | 4.16 | 27.85 | 1.00 | 0.55 | 4.31 | 0.00 | 0.00 | 9.85 | 0.00 | 167 | 24 | 1.24% | 0.013 | 25.22 | 8.0 | 3.1 | 2.07 | 0.00 | 313.30 | 311.22 | 2.0 | 315.30 | 313.22 | 1.24 | 315.94 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2 | | M |
| - | 14 | 15 | 0.00 | 4.16 | | | 0.55 | 4.31 | 0.00 | 0.00 | 9.85 | 0.00 | 67 | 24 | 1.24% | | 25.19 | 8.0 | 3.1 | 0.83 | 0.00 | 307.84 | 307.01 | 2.0 | 309.84 | 309.01 | | 311.81 | 24 | X | | 6.28 | 0.50 | 2.00 | 3500636.055 2 | | |
| - | 15 | | | 7.42 | 29.23 | 1.00 | 0.55 | 4.19 | 0.00 | 0.00 | 17.12 | 0.00 | 65 | 24 | 1.24% | 0.013 | 25.20 | 8.0 | 5.4 | 0.81 | 0.00 | 307.01 | 306.20 | 2.0 | 309.01 | 308.20 | 1.24 | 310.52 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2 | | |
| - | 16 | | 0.00 | 7.42 | | | 0.55 0.55 | | 0.00 | 0.00 | 17.12 17.12 | 0.00 0.00 | 109 | 24 | 1.24% 1.24% | 0.013 | 25.24 25.17 | 8.0 8.0 | 5.4 5.4 | 1.35 0.87 | 0.00 | 304.40 | 303.04 | | 306.40 305.04 | 305.04 304.17 | | 308.66 307.67 | 24 | X | 3.14 3.14 | | 0.50 0.50 | 2.00 2.00 | 3500636.055 2 3500636.055 2 | | |
| - | 17 | | 0.00 | 7.42 8.09 | 29.25 | | 0.55 | | 0.00 | 0.00 | 18.59 | 0.00 | 71 200 | 24 30 | 0.95% | 0.013 0.013 | 40.01 | 8.0 | 3.8 | 1.89 | 0.00 | 303.04 | 299.69 | 2.5 | | 302.19 | | 307.67 | 24 30 | X | 4.91 | | 0.63 | 2.50 | 3500636.055 2 | | |
| - | 19 | | 0.00 | 9.21 | | | 0.55 | | 0.00 | 0.00 | 21.03 | 0.00 | 63 | 30 | 0.95% | 0.013 | 40.03 | 8.2 | 4.3 | 0.60 | 0.00 | | 296.37 | | | 298.87 | | | 30 | X | 4.91 | | 0.63 | | 3500636.055 2 | | |
| | | | | | | | | | | | | | | | | | | | <u> </u> | | | | | | | | | | | | | | | | | | |
| A-109 | 109 | | 0.71 | 0.71 | 24.41 | 1.00 | 0.55 | 4.62 | 1.80 | 0.00 | 1.80 | 0.00 | 31 | 24 | 0.64% | | 18.07 | 5.8 | 0.6 | 0.20 | 0.00 | 313.89 | 313.69 | 2.0 | 315.89 | 315.69 | 0.64 | 312.88 | 24 | X | 3.14 | | 0.50 | 2.00 | 3500636.055 2 | 55485.154 | M |
| A-110 | 110 | 12 | 0.71 | 1.42 | 25.64 | 1.00 | 0.55 | 4.50 | 1./6 | 0.00 | 3.52 | 0.00 | 6 | 24 | 1.67% | 0.013 | 29.21 | 9.3 | 1.1 | 0.10 | 0.00 | 313.69 | 313.59 | 2.0 | 315.69 | 315.59 | 1.67 | 312.88 | 24 | Х | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2 | 55485.154 | IVI |
| A-111 | 111 | 112 | 2.03 | 2.03 | 26.33 | 1.00 | 0.55 | 4.44 | 4.96 | 0.00 | 4.96 | 0.00 | 28 | 24 | 0.71% | 0.013 | 19.12 | 6.1 | 1.6 | 0.20 | 0.00 | 307.31 | 307.11 | 2.0 | 309.31 | 309.11 | 0.71 | 308.48 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2 | 55485.154 | М |
| A-112 | 112 | | 1.23 | | 27.31 | 1.00 | 0.55 | 4.35 | 2.94 | 0.00 | 7.80 | 0.00 | 6 | 24 | 1.67% | 0.013 | 29.21 | 9.3 | 2.5 | 0.10 | 0.00 | 307.11 | 307.01 | 2.0 | 309.11 | 309.01 | | 308.48 | | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2 | 55485.154 | М |
| | | | | | | | | 1 4 70 | 1 111 | | 1 1 | | | 1 04 | | | 1 40 40 | | | | | 000.00 | 000.00 | | | 00400 | | 005.74 | 5 4 | | | | | | | == 45= 4= 4 | |
| A-113 A-114 | 113 114 | 114 18 | 0.44 | 0.44 0.67 | | 1.00 | 0.55 0.55 | 4.70 4.63 | 1.14 0.59 | 0.00 | 1.14 | 0.00 | 28 | 24 24 | 0.71% 1.25% | 0.013 0.013 | 19.12 25.29 | 6.1 8.1 | 0.4 0.5 | 0.20 0.10 | 0.00 | 303.09 302.89 | 302.89 302.79 | | 305.09 304.89 | 304.89 304.79 | 0.71 | 305.71 305.71 | 24 24 | X | 3.14 3.14 | 6.28 | 0.50 0.50 | 2.00 | 3500636.055 2 3500636.055 2 | 55485.154 | M |
| | 114 | 1 10 | 0.23 | 0.07 | Z4.J2 | 1.00 | 1 0.00 | 1 4.00 | 1 0.58 | 1 0.00 | 1.71 | 0.00 | 1 0 | | 1.2370 | 1 0.013 | 25.28 | 0.1 | 1 0.5 | 1 0.10 | 0.00 | 302.08 | 302.78 | 2.0 | 304.08 | 1 304.73 | 1.20 | 303.71 | 44 | | J 3.14 | 0.20 | 0.00 | 2.00 | 3300030.000 2 | 00-00.104 | IVI |
| A-115 | | | 0.98 | 0.98 | 24.96 | 1.00 | 0.55 | | 2.46 | 0.00 | 2.46 | 0.00 | 28 | 24 | 0.71% | | | 6.1 | | 0.20 | 0.00 | | 300.45 | | 302.65 | | | 305.24 | | Х | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2 | 55485.154 | M |
| A-116 | 116 | 19 | 0.14 | 1.12 | 25.20 | 1.00 | 0.55 | 4.54 | 0.35 | 0.00 | 2.80 | 0.00 | 8 | 24 | 1.25% | 0.013 | 25.29 | 8.1 | 0.9 | 0.10 | 0.00 | 300.45 | 300.35 | 2.0 | 302.45 | 302.35 | 1.25 | 305.24 | 24 | Х | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2 | 55485.154 | M |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| YEAR FRE | EQUENCY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|-------------|-----------|------|--------------|----------------|-----------|--------|--------------|--------|------------|----------------|--------------|----------------|---------------|----------------|----------------|----------------|------------|------------|--------|--------------|---------|---------|------|---------|------------------|--------------|--------|------|-------------|-------|--------------|--------------|----------|----------------|---------------------|--------|
| YSTEM B | | | | | | | | 1 | | 1 | | | | | | | | | | 1 = | | | | | | | | | | | | T | | | | | |
| Area | | MANHOLES/ | Area | Total | tc | Frequency | y C | Intensity | Q | Additional | Total Q | Q Pass | Reach | | INE | 4 | | SIGN | Actual | | Minor | | VLINES | Line | | HYDR. GRAD. | | TC/NG | Pipe | BOX CULVERT | AREA | | HYDRAULIC H | | 1 | 1 | ' |
| | INLETS | INLETS | | Area | _ | Factor | | | _ | Q | _ | _ | _ | size | slope | | Q | v | ۷ <u> </u> | Loss | Loss | upstrm. | dnstrm. | Size | upstrm. | dnstrm. | slope | | Size | SIZE | | PERIMETER | RADIUS D | DIAMETER | 1 | 1 | ' |
| | from | to | ac. | ac. | min. | T too | | in./hr. | c.f.s. | c.f.s. | c.f.s. | c.f.s. | π. | in. | <u> </u> | n | c.f.s. | f.p.s. | f.p.s. | IT. | It. | elev. | elev. | II. | elev. | elev. | <u>%</u> | 01001 | 21 | | | | | | X-Coord | Y-Coord | |
| 3-200 | 200 | 201 | 1.30 | 1.30 | 25.47 | 1.00 | 0.55 | 4.52 | 3.23 | 0.00 | 3.23 | 0.00 | 28 | 24 | 0.71% | 0.013 | 19.09 | 6.1 | 1.0 | 0.20 | 0.00 | 307.95 | 307.75 | 2.0 | 309.95 | 309.75 | 0.71 | 312.81 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | | |
| 3-201 | 201 | 20 | 1.69 | 2.99 | 27.13 | 1.00 | 0.55 | 4.37 | 4.06 | 0.00 | 7.18 | 0.00 | / | 24 | 1.43% | 0.013 | 27.04 | 8.6 | 2.3 | 0.10 | 0.00 | 307.75 | 307.65 | 2.0 | 309.75 | 309.65 | 1.43 | 312.81 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | | |
| - | 20 | 21 | 0.00 | 2.99 | 27.13 | 1.00 | 0.55 | 4.37 | 0.00 | 0.00 | 7.18 | 0.00 | 97 | 24 | 0.35% | 0.013 | 13.40 | 4.3 | 2.3 | 0.34 | 0.00 | 307.61 | 307.27 | 2.0 | 309.61 | 309.27 | 0.35 | 312.81 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | | |
| - | 21 | 22 | 0.00 | 2.99 | 27.13 | 1.00 | 0.55 | 4.37 | 0.00 | 0.00 | 7.18 | 0.00 | 153 | 24 | 0.35% | 0.013 | 13.31 | 4.2 | 2.3 | 0.53 | 0.00 | 305.16 | 304.63 | 2.0 | 307.23 | 306.70 | 0.34 | 311.53 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | | |
| - | 22 | 23 | 0.00 | 3.75 | 27.62 | 1.00 | 0.55 | 4.33 | 0.00 | 0.00 | 8.92 | 0.00 | 230 | 24 | 0.35% | 0.013 | 13.34 | 4.2 | 2.8 | 0.80 | 0.00 | 303.22 | 302.42 | 2.0 | 306.70 | 305.91 | 0.35 | 308.10 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | | |
| - | 23 | 24 | 0.00 | 5.64 | 28.56 | 1.00 | 0.55 | 4.25 | 0.00 | 0.00 | 13.18 | 0.00 | 157 | 30 | 0.45% | 0.013 | 27.55 | 5.6 | 2.7 | 0.71 | 0.00 | 302.42 | 301.71 | 2.5 | 305.91 | 305.20 | 0.45 | 308.34 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | | | |
| - | 24 | 25 | 0.00 | 5.64 | 28.56 | 1.00 | 0.55 | 4.25 | 0.00 | 0.00 | 13.18 | 0.00 | 101 | 30 | 0.45% | 0.013 | 27.37 | 5.6 | 2.7 | 0.45 | 0.00 | 301.71 | 301.26 | 2.5 | 305.20 | 304.75 | 0.44 | 307.87 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 | | |
| - | 25 | 26 | 0.00 | 5.64 | 28.56 | 1.00 | 0.55 | 4.25 | 0.00 | 0.00 | 13.18 | 0.00 | 125 | 30 | 0.45% | 0.013 | 27.63 | 5.6 | 2.7 | 0.56 | 0.00 | 301.26 | 300.69 | 2.5 | 304.75 | 304.19 | 0.45 | 307.60 | 30 | Х | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 | | |
| - | 26 | 27 | 0.00 | 19.67 | 31.90 | 1.00 | 0.55 | 4.00 | 0.00 | 0.00 | 43.24 | 0.00 | 178 | 42 | 0.39% | 0.013 | 62.64 | 6.5 | 4.5 | 0.69 | 0.00 | 300.69 | 300.00 | 3.5 | 304.19 | 303.50 | 0.39 | 307.30 | 42 | X | 9.62 | 11.00 | 0.88 | 3.50 | | | |
| - | 27 | 2000 | 1.43 | 21.10 | 32.11 | 1.00 | 0.55 | 3.98 | 3.13 | 0.00 | 46.21 | 0.00 | 215 | 42 | 0.39% | 0.013 | 62.82 | 6.5 | 4.8 | 0.84 | 0.00 | 294.84 | 294.00 | 3.5 | 298.34 | 297.50 | 0.39 | 307.27 | 42 | X | 9.62 | 11.00 | 0.88 | 3.50 | 3500636.055 | <u> 255485.15</u> 4 | 4 M |
| 2 000 | 1 000 | | 0.70 | 0.70 | 04.50 | 4.00 | 0.55 | 1 404 | 1 400 | 1 000 | 1 400 | 0.00 | T 00 | 0.4 | 1 00484 | 1 0040 | 17.04 | | | T 0.00 | | 000 50 | 00000 | 0.0 | 00000 | 1 000 70 1 | 0.00 | 007.00 | 0.1 | | | | 0.50 | 0.00 | 1 050000 055 | L 055405 45 | |
| 3-202 | 202 | 35 | 0.76 | 0.76 | 24.53 | 1.00 | 0.55 | 4.61 | 1.93 | 0.00 | 1.93 | 0.00 | 33 | 24 | 0.61% | 0.013 | 17.61 | 5.6 | 0.6 | 0.20 | 0.00 | 303.50 | 303.30 | 2.0 | 306.98 | 306.78 | 0.60 | 307.86 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | | |
| - | 35 | 22 | 0.00 | 0.76 | 24.53 | 1.00 | 0.55 | 4.61 | 0.00 | 0.00 | 1.93 | 0.00 | 22 | 24 | 0.35% | 0.013 | 13.44 | 4.3 | 0.6 | 0.08 | 0.00 | 303.30 | 303.22 | 2.0 | 306.78 | 306.70 | 0.30 | 307.68 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.15 | 4 M |
| 2000 | 1 000 | 1 204 | 4.07 | 4.07 | 05.40 | 4.00 | 0.55 | 1 450 | 1 040 | 1 000 | 0.40 | 0.00 | 1 00 | - 24 | 1 0 000/ | 1 0040 | 17.50 | T 50 | 1 40 | 1 000 | 0.00 | 202.00 | 202.00 | | 200.04 | 1 200 04 1 | 0.00 | 200.04 | 24 | | | 1 000 F | 0.50 | 0.00 | | T 055405 45 | 4 1 14 |
| B-203 | 203 | 204 | 1.27 | | | 1.00 | 0.55 | 4.52 | 3.16 | | 3.16 | 0.00 | 33 | 24 | 0.60% | 0.013 | 17.58 | 5.6 | 1.0 | 0.20 | 0.00 | | 303.69 | 2.0 | 306.21 | 306.01 | 0.60 | 308.34 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | | |
| B-204 | 204 | 23 | 0.62 | 1.89 | 26.19 | 1.00 | 0.55 | 4.45 | 1.52 | 0.00 | 4.63 | 0.00 | | 24 | 1.43% | 0.013 | 27.04 | 8.6 | 1.5 | 0.10 | 0.00 | 303.69 | 303.59 | 2.0 | 306.01 | 305.91 | 1.42 | 308.34 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 | 4 M |
| 2 205 | 205 | 206 | 1.61 | 1.61 | 25.87 | 1.00 | 0.55 | 4.48 | 3.97 | 0.00 | 3.97 | 0.00 | 26 | 24 | 0.78% | 0.013 | 19.94 | 6.3 | 1.3 | 0.20 | 0.05 | 302.80 | 302.60 | 2.0 | 304.80 | 304.60 | 0.70 | 307.83 | 24 | Х | 3.14 | epo [| 0.50 | 2.00 | 3500636.055 | 255405 15 | 4 M |
| B-205 B-206 | 205 | | | 4.88 | 28.22 | 1.00 | 0.55 | 4.48 | 7.69 | 0.00 | 11.48 | 0.00 | 20 | 24 | 1.25% | 0.013 | 25.29 | 8.1 | 3.7 | 0.20 | 0.05 0.00 | 302.60 | 302.50 | 2.0 | 304.60 | 304.50 | 0.78 1.25 | 307.83 | 24 | | 3.14 | 6.28 6.28 | 0.50 | 2.00 | 3500636.055 | | |
| B-200 | 200 | 26 | 3.27 | 4.00 | 26.22 | 1.00 | 0.55 | 4.26 | 7.09 | 0.00 | 11.40 | 0.00 | . • | 24 | 1.25% | 0.013 | 25.28 | 6.1 | 3.7 | 1 0.10 | 0.00 | 302.60 | 302.50 | 2.0 | 304.00 | 304.50 | 1.25 | 307.83 | 24 | X | 3.14 | 0.28 | 0.50 | 2.00 | _ 3500636.055 | 200480.104 | |
| B-207 | 207 | 208 | 1.56 | 1.56 | 25.81 | 1.00 | 0.55 | 4.49 | 3.85 | 0.00 | 3.85 | 0.00 | 24 | 24 | 0.83% | 0.013 | 20.62 | 6.6 | 12 | T 0.20 | 0.09 | 306.05 | 305.85 | 2.0 | 308.38 | 308.18 | 0.83 | 310.55 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485 15 | 4 I M |
| B-208 | 208 | 36 | 3.76 | 5.32 | 28.42 | 1.00 | 0.55 | 4.26 | 8.81 | 0.00 | 12.46 | 0.00 | Ω 2-7 | 24 | 1.25% | 0.013 | 25.29 | 8.1 | 4.0 | 0.10 | 0.00 | 305.85 | 305.75 | 2.0 | 308.18 | 308.08 | 1.24 | 310.55 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | | |
| - | 36 | 28 | 0.00 | 5.32 | 28.42 | 1.00 | 0.55 | 4.26 | 0.00 | 0.00 | 12.46 | 0.00 | 60 | 30 | 0.30% | 0.013 | 22.47 | 4.6 | 2.5 | 0.18 | 0.00 | 305.58 | 305.40 | 2.5 | 308.08 | 307.90 | 0.30 | 310.55 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 | | |
| | 28 | 29 | 0.00 | 5.32 | 28.42 | 1.00 | 0.55 | 4.26 | 0.00 | 0.00 | 12.46 | 0.00 | 270 | 30 | 0.30% | 0.013 | 22.48 | 4.6 | 2.5 | 0.10 | 0.00 | 305.40 | 304.59 | 2.5 | 307.90 | 307.90 | 0.30 | 310.33 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | | | |
| | 29 | 30 | 0.00 | 6.78 | 29.01 | 1.00 | | 4.21 | 0.00 | 0.00 | 15.71 | 0.00 | 196 | 30 | 0.30% | 0.013 | 22.48 | 4.6 | 3.2 | 0.59 | 0.00 | 304.59 | 304.00 | 2.5 | 307.09 | 306.50 | 0.30 | 311.15 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | | | |
| | 30 | 31 | 0.00 | 9.15 | 29.77 | 1.00 | 0.55 | 4.15 | 0.00 | 0.00 | 20.90 | 0.00 | 152 | 30 | 0.55% | 0.013 | 30.33 | 6.2 | 4.3 | 0.83 | 0.00 | 304.00 | 303.17 | 2.5 | 306.50 | 305.50 | 0.55 | 310.47 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 | | |
| | | 27 | | | | | | | 0.00 | | | | 69 | 30 | | | | | | + | | 303.17 | 303.17 | 2.5 | 305.67 | 305.07 | | 308.91 | 30 | | 4.91 | | | | 3500636.055 | | |
| - | 31 | 26 | 0.00 | 9.15 9.15 | 29.77 29.77 | 1.00 | 0.55 | 4.15 4.15 | 0.00 | 0.00 | 20.90 20.90 | 0.00 0.00 | 75 | 30 | 0.55% 0.55% | 0.013 0.013 | 30.48 30.55 | 6.2 6.2 | 4.3 | 0.38 | 0.00 | 303.17 | 302.79 | 2.5 | 305.29 | 305.29 304.87 | 0.55 0.55 | 307.81 | 30 | X | 4.91 | 7.85 7.85 | 0.63 0.63 | 2.50 | 3500636.055 | | |
| - | | <u> </u> | 0.00 | J 8.15 | 29.77 | 1.00 | 0.55 | 1 4.15 | 1 0.00 | 1 0.00 | 20.90 | 0.00 | 1 /5 | 30 | 0.55% | 1 0.013 | J 30.55 | 0.2 | 4.3 | 0.41 | I 0.00 | 302.78 | 302.37 | 2.5 | | 304.87 | 0.55 | 307.84 | 30 | ^ | 4.91 | 7.80 | 0.63 | 2.50 | 3500035.055 | ∠33463.154 | 1 1/1 |
| B-209 | 209 | 29 | 1.46 | 1.46 | 25.69 | 1.00 | 0.55 | 4.50 | 3.61 | 0.00 | 3.61 | 0.00 | 33 | 24 | 0.61% | 0.013 | 17.61 | 5.6 | 1.1 | 0.20 | 0.00 | 306.60 | 306.40 | 2.0 | 308.60 | 308.40 | 0.61 | 311.15 | 24 | Х | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485 15 | 4 M |
| D-200 | | | 1.40 | 1.40 | 20.00 | 1.00 | 0.55 | 1 4.50 | J 3.01 | 1 0.00 | J 3.01 | 0.00 | 1 33 | | 0.0170 | 1 0.013 | 17.01 | J 3.0 | 1.1 | 1 0.20 | 0.00 | 300.00 | 300.40 | 2.0 | 300.00 | 300.40 | 0.01 | 311.13 | 27 | | 3.14 | 0.20 | 0.50 | 2.00 | _ 55000000.000 | 200400.104 | 1 101 |
| B-210 | 210 | 211 | 1.46 | 1.46 | 25.69 | 1.00 | 0.55 | 4.50 | 3.61 | 0.00 | 3.61 | 0.00 | 24 | 24 | 0.83% | 0.013 | 20.65 | 6.6 | 1.1 | 0.20 | 0.00 | 305.97 | 305.77 | 2.0 | 307.97 | 307.77 | 0.83 | 310.49 | 24 | Х | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485 15 | 4 M |
| B-210 | 211 | 30 | 0.91 | 2.37 | 26.64 | | 0.55 | 4.41 | 2.21 | 0.00 | 5.75 | 0.00 | 2 7 | 24 | 1.25% | 0.013 | 25.29 | 8.1 | 1.8 | 0.20 | 0.00 | 305.77 | 305.67 | 2.0 | 307.77 | 307.67 | 1.25 | 310.49 | 24 | x | 3.14 | | 0.50 | 2.00 | 3500636.055 | | |
| F 4 1 1 | | 1 30 | 0.81 | 2.31 | 20.04 | 1.00 | 1 0.00 | 1 4.41 | | 1 0.00 | 0.70 | L 0.00 | | /4 | 1.2070 | 1 0.013 | ZJ.Zð | J 0.1 | 1.0 | 1 0.10 | 1 0.00 | 303.77 | 303.07 | 2.0 | 301.11 | 307.07 | 1.20 | 310.43 | 44 | ^ | J. 14 | 0.20 | 0.50 | 2.00 | 0000000.000 | 200400.104 | IVI |

BENCHMARK:

ALL ELEVATIONS SET TO NGS. NAVD 88. MONUMENT 1 DESIGNATION ELEV. 239.00 BRASS DISC SET IN CONCRETE LOCATED BY COORDINATES X = 376,481.91322 Y = 10,135,441.47530

MONUMENT 2 DESIGNATION ELEV. 301.880 BRASS DISC SET IN CONCRETE LOCATED BY COORDINATES X = 3,757,800.73970 Y = 10,131,535.69490

100YR. W.S.E.= 298.83' AT OUTFALL #1000 100YR. W.S.E.= 298.83' AT OUTFALL #2000 FIRM PANEL NO.48339C0200G & 48339C0350G EFFECTIVE DATE: AUGUST 18, 2014 THIS AREA LIES IN ZONE "X".

1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED. 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.

4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL OVERFLOW SWALES MINIMUM EVERY 50'.

5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL. 6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215.

7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL GROUND.

8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL.

9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB. 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.

10a) SIDEWALKS TO BE LOCATED A MINIMUM OF 5' FROM THE BACK OF CURB WHERE LIGHT POLES ARE PRESENT.

10b) CONSTRUCT SIDEWALKS AND CURB RAMPS IN CONFORMANCE WITH THE TEXAS ACCESSIBILITY STANDARDS (TAS) AND THE AMERICAN WITH DISABILITIES ACT (ADA). 10c) DO NOT PLACE SIDEWALK OVER PARALLEL UTILITY

10d) AT DRIVEWAYS, ALIGN A MINIMUM 5 FOOT WIDE SIDÉWALK SECTION MEETING TAS AND ADA AS THE SIDEWALK

CROSSES THE DRIVEWAY. 11) AS-BUILT ELECTRICAL PLANS TO BE SUBMITTED WITH THE AS-BUILT DRAWINGS FOR THE SUBDIVISION.

12) CONTRACTOR SHALL CLEAR, GRUB, ROOT RAKE, BACK DRAG, CHIP AND DISPOSE OFFSITE OF ALL CLEARED AND GRUBBED MATERIAL. 13) SIDEWALK RAMPS AND SIDEWALKS WITHIN COMMON

AREAS TO BE CONSTRUCTED WITH WS&D. SIDEWALKS IN FRONT OF HOMES TO BE CONSTRUCTED BY HOMEBUILDERS. ALL SIDEWALKS TO BE INSTALLED BY END OF 1 YEAR WARRANTY PERIOD.

14) CONTRACTOR TO STAMP THE FACE OF THE CURB WITH AN "S" AT THE LOCATION OF EACH SANITARY SEWER LEAD AND "W" AT THE LOCATION OF EACH WATER LEAD.

REVISION

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

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

MONTGOMERY COUNTY MUNICIPAL UTILITY DISTRICT NO. 215

DATE

BRIARLEY PHASE 1B

5 YEAR STORM CALCULATIONS

MICAH KREIKEMEIER

| LJA Engineering |
|------------------------------------|
| 3600 W Sam Houston Pa Suite 600 |
| Houston, Texas 77042 |
| LJA PROJECT NO.: |
| |

Phone 713.953.5200 Fax 713.953.5026 FRN - F-1386 2980-0104 DRAWN: R.D.R./F.M. DESIGN: R.D.R./F.M. DATE: APRIL 2025

04/24/2025 SCALE: N.T.S.

SHEET NO. 7 OF 30

| 10 YEAR SYSTEM | FREQUENCY | , | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------|-----------|--------------|--------------|-----|------------|----------------|--------------|--------------|--------------|--------------|----------|----------------|--------|-----------|----------|----------------|----------------|----------------|------------|------------|--------------|--------|------------------|------------------|------------|------------------|------------------|--------------|------------------|----------|-------------|--------------|---------------|--------------|--------------|----------------------------------|--|
| | MANHOL | ES/ MANHO | LES/ Area | Tot | al | tc | Frequency | С | Intensity | , Q | Addition | al Total Q | QPass | Reach | l L | .INE | | DE | SIGN | Actual | Friction | Minor | FLOW | VLINES | Line | | HYDR. GRAD | <u> </u> | TC/NG | Pipe | BOX CULVERT | AREA | WETTED | HYDRAULIC | HYDRAULIC | | |
| | INLET | | | Are | | | Factor | _ | | | Q | | | | size | slope | | Q | V | v | Loss | Loss | upstrm. | dnstrm. | Size | upstrm. | dnstrm. | slope | | Size | SIZE | | | RADIUS | | 1 | |
| | from | to | ac. | ac | : . | min. | f | | in./hr. | c.f.s. | c.f.s. | c.f.s. | c.f.s. | ft. | in. | % | n | c.f.s. | f.p.s. | f.p.s. | ft. | ft. | elev. | elev. | ft. | elev. | elev. | % | | | | | | | | | /-Coord Junction |
| A-100 | 100 | 10 | 0.43 | 0.4 | .3 | 23.62 | 1.00 | 0.55 | 5.45 | 1.29 | 0.00 | 1.29 | 0.00 | 30 | 24 | 0.66% | 0.013 | 18.38 | 5.9 | 0.4 | 0.20 | 0.02 | 313.35 | 313.15 | 2.0 | 315.45 | 315.25 | 0.66 | 318.91 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | 5485.154 M |
| A-101 | 101 | 1 1 | 1.26 | 1.6 | 9 | 25.97 | 1.00 | 0.55 | 5.18 | 3.59 | 0.00 | 4.82 | 0.00 | 120 | 24 | 1.21% | 0.013 | 24.88 | 7.9 | 1.5 | 0.10 | 0.00 | 313.15 | 313.05 | 2.0 | 315.25 | 315.15 | 1.25 | 318.91 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | 55485.154 M |
| | 1 2 | 3 | 0.00 | 1.6 | | 25.97 25.97 | 1.00 | 0.55 0.55 | 5.18 5.18 | 0.00 | 0.00 | 4.82 | 0.00 | 138 | 24 | 0.45% 0.45% | 0.013 0.013 | 15.18 15.16 | 4.8 | 1.5 1.5 | 0.62 | 0.00 | 312.15 | 312.53 | 2.0 | 315.15 314.53 | 314.53 313.91 | 0.45 0.45 | 318.91 318.62 | 24 24 | X | 3.14 | 6.28 6.28 | 0.50 0.50 | 2.00 | | 55485.154 M 55485.154 M |
| _ | 3 | 4 | 0.00 | 1.6 | 9 | 25.97 | 1.00 | 0.55 | 5.18 | 0.00 | 0.00 | 4.82 | 0.00 | 59 | 24 | 0.45% | 0.013 | 15.20 | 4.8 | 1.5 | 0.02 | 0.00 | 311.91 | 311.64 | 2.0 | 313.91 | 313.64 | 0.45 | 317.85 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | 5485.154 M |
| - | 4 | 5 | 0.00 | 1.6 | 9 | 25.97 | 1.00 | 0.55 | 5.18 | 0.00 | 0.00 | 4.82 | 0.00 | 59 | 24 | 0.45% | 0.013 | 15.13 | 4.8 | 1.5 | 0.26 | 0.13 | 311.64 | 311.38 | 2.0 | 313.64 | 313.38 | 0.45 | 317.24 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | 5485.154 M |
| - | 5 | 6 | 0.00 | 5.1 | 4 | 28.34 | 1.00 | 0.55 | 4.95 | 0.00 | 0.00 | 13.99 | 0.00 | 273 | 24 | 0.45% | 0.013 | 15.17 | 4.8 | 4.5 | 1.22 | 0.00 | 310.93 | 309.70 | 2.0 | 312.93 | 311.70 | 0.45 | 316.64 | 24 | Х | 3.14 | 6.28 | 0.50 | 2.00 | | 5485.154 M |
| - | 6 | 7 | 0.00 | 7.8 | | 29.38 | 1.00 | 0.55 | 4.85 | 0.00 | 0.00 | 21.04 | 0.00 | 140 | 24 | 0.95% | 0.013 | 22.04 | 7.0 | 6.7 | 1.32 | 0.00 | 307.56 | 306.23 | 2.0 | 309.56 | 308.23 | 0.95 | 316.42 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | 5485.154 M |
| - | 7 | 8 | 0.00 | 9.5 | | 29.87 | 1.00 | 0.55 | 4.81 | 0.00 | 0.00 | 25.19 | 0.00 | 80 | 30 | 0.95% | 0.013 | 39.96 | 8.1 | 5.1 | 0.76 | 0.00 | 303.52 | 302.76 | 2.5 | 306.02 | 305.26 | 0.95 | 316.20 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 25 | |
| | 8 | 34 | 0.00 | 9.5 | 15 | 29.87 | 1.00 1.00 | 0.55 0.55 | 4.81 4.62 | 0.00 | 0.00 | 25.19 53.79 | 0.00 | 141 | 30 42 | 0.95% 0.26% | 0.013 0.013 | 39.92 51.24 | 8.1 5.3 | 5.1 5.6 | 1.33 0.38 | 0.00 | 294.60 | 299.66 294.25 | 3.5 | 303.49 298.16 | 302.16 297.78 | 0.95 0.28 | 314.95 311.38 | 30 42 | X | 4.91 9.62 | 7.85 11.00 | 0.63 0.88 | 2.50 3.50 | 3500636.055 25 3500636.055 25 | |
| <u> </u> | 34 | 100 | | 21. | 15 | 32.12 | 1.00 | 0.55 | 4.62 | 0.00 | 0.00 | 53.79 | 0.00 | 98 | 42 | 0.26% | 0.013 | 50.81 | 5.3 | 5.6 | 0.38 | 0.00 | 294.25 | 294.20 | 3.5 | 297.78 | 297.50 | 0.28 | 306.84 | 42 | X | 9.62 | 11.00 | 0.88 | 3.50 | 3500636.055 25 | |
| | | 1 100 | 3 0.00 | | | 02.12 | 1.00 | 0.00 | 7.02 | 0.00 | 0.00 | 1 00.70 | 0.00 | 1 00 | 1 72 | 0.2070 | 0.010 | 00.01 | 1 0.0 | 0.0 | 0.20 | 0.00 | 204.20 | 204.00 | 0.0 | 207.70 | 207.00 | 0.20 | 000.04 | 72 | X | 0.02 | 11.00 | 0.00 | 0.00 | 1 0000000 20 | 7700.107 |
| A-102 | 102 | 103 | 1.25 | 1.2 | :5 | 25.40 | 1.00 | 0.55 | 5.25 | 3.61 | 0.00 | 3.61 | 0.00 | 24 | 24 | 0.83% | 0.013 | 20.65 | 6.6 | 1.1 | 0.20 | 0.01 | 311.65 | 311.45 | 2.0 | 313.65 | 313.45 | 0.83 | 317.85 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 25 | 5485.154 M |
| A-103 | 103 | 5 | 2.20 | 3.4 | .5 | 27.44 | 1.00 | 0.55 | 5.04 | 6.09 | 0.00 | 9.56 | 0.00 | 8 | 24 | 1.19% | 0.013 | 24.67 | 7.9 | 3.0 | 0.10 | 0.00 | 311.45 | 311.35 | 2.0 | 313.45 | 313.35 | 1.19 | 317.85 | 24 | Х | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 25 | 5485.154 M |
| | 1 | | | | | | | | T | 1 | | 1 | T | 1 | T | T | | | 1 | | 1 | | 1 | T | | 1 | 1 | | | | | ¬ | | | | I I | |
| A-104 A-105 | | | | 1.6 | | 25.90 26.94 | 1.00 1.00 | 0.55 0.55 | 5.19 5.08 | 4.65 3.10 | 0.00 | 4.65 7.66 | 0.00 | 36 | 24 | 0.55% 1.25% | 0.013 0.013 | 16.84 25.29 | 5.4 | 1.5 | 0.20 | 0.00 | 310.54 310.34 | 310.34 310.24 | 2.0 | 312.54 312.34 | 312.34 312.24 | 0.55 1.25 | 316.20 316.20 | 24 | X | 3.14 | 6.28 | 0.50 | | 3500636.055 25 3500636.055 25 | |
| A-105 | 105 | _ <u> </u> | 1.11 | 2.1 | 4 | 26.94 | 1.00 | 0.55 | 5.08 | 3.10 | 0.00 | 7.00 | 0.00 | 8 | | 1.25% | 0.013 | 25.29 | 8.1 | 2.4 | 0.10 | 0.00 | 310.34 | 310.24 | 2.0 | 312.34 | 312.24 | 1.25 | 316.20 | 24 | | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 25 | 3485.154 IVI |
| A-106 | 106 | 7 | 1.64 | 1.6 | 4 | 25.91 | 1.00 | 0.55 | 5.19 | 4.68 | 0.00 | 4.68 | 0.00 | 33 | 24 | 0.61% | 0.013 | 17.61 | 5.6 | 1.5 | 0.20 | 0.00 | 306.50 | 306.30 | 2.0 | 308.50 | 308.30 | 0.61 | 311.57 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 25 | 5485.154 M |
| | | <u> </u> | 1.51 | | | | | 0.00 | | | | | 1 0.00 | 1 | | 0.0170 | 0.0.0 | | | | | | | | | | 1 000.00 | 0.01 | | | | | | | | 1 000000000 20 | <u>/////////////////////////////////////</u> |
| A-117 | 117 | 118 | 1.32 | 1.3 | | 25.50 | 1.00 | 0.55 | 5.23 | 3.80 | 0.00 | 3.80 | 0.00 | 28 | 24 | 0.71% | 0.013 | 19.08 | 6.1 | 1.2 | 0.20 | 0.00 | 300.12 | 299.92 | 2.0 | 302.12 | 301.92 | 0.71 | 314.96 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 25 | |
| A-118 | 118 | 10 | | | | 26.68 | 1.00 | 0.55 | 5.11 | 3.09 | 0.00 | 6.80 | 0.00 | 6 | 24 | 1.67% | 0.013 | 29.21 | 9.3 | 2.2 | 0.10 | 0.00 | 299.92 | 299.82 | 2.0 | 301.92 | 301.82 | 1.67 | 314.96 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 25 | |
| - | 10 | 9 | 0.00 | 2.4 | .2 | 26.68 | 1.00 | 0.55 | 5.11 | 0.00 | 0.00 | 6.80 | 0.00 | 21 | 24 | 1.24% | 0.013 | 25.20 | 8.0 | 2.2 | 0.26 | 0.00 | 296.74 | 296.48 | 2.0 | 298.74 | 298.48 | 1.24 | 314.96 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 25 | 5485.154 M |
| A 107 | 107 | 108 | 1.00 | 1.0 | 0 | 26.20 | 1.00 | 0.55 | 5 16 | E 30 | 0.00 | 5 30 | 0.00 | 20 | 24 | 0.70% | 0.013 | 10.00 | T 60 | 17 | 1 0.20 | 1 000 | 214.42 | 314 22 | 2.0 | 316.43 | 316.23 | 0.70 | 318.34 | 24 | | 7 314 | 6.20 | 0.50 | 2.00 | 3500636.055 25 | E405 154 NA |
| A-107 A-108 | 107 | 11 | 1.90 0.84 | 1.9 | | 26.20 26.94 | 1.00 1.00 | 0.55 0.55 | 5.16 5.08 | 5.39 2.35 | 0.00 | 5.39 7.66 | 0.00 | 28 | 24 | 0.70% 1.67% | 0.013 0.013 | 18.99 29.21 | 9.3 | 2.4 | 0.20 | 0.00 | 314.43 314.23 | 314.23 314.13 | 2.0 | 316.23 | 316.23 | 0.70 1.25 | 318.34 | 24 | x | 3.14 3.14 | 6.28 | 0.50 0.50 | 2.00 | 3500636.055 25 | |
| - | 11 | 12 | 0.00 | 2.7 | 4 | 26.94 | 1.00 | 0.55 | 5.08 | 0.00 | 0.00 | 7.66 | 0.00 | 188 | 24 | 0.30% | 0.013 | 12.35 | 3.9 | 2.4 | 0.56 | 0.00 | 314.11 | 313.55 | 2.0 | 316.11 | 315.55 | 0.30 | 318.34 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | 55485.154 M |
| - | 12 | 13 | 0.00 | 4.1 | 6 | 27.85 | 1.00 | 0.55 | 5.00 | 0.00 | 0.00 | 11.43 | 0.00 | 83 | 24 | 0.30% | 0.013 | 12.42 | 4.0 | 3.6 | 0.25 | 0.00 | 313.55 | 313.30 | 2.0 | 315.55 | 315.30 | 0.30 | 317.91 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 25 | 5485.154 M |
| - | 13 | 14 | 0.00 | | | | 1.00 | 0.55 | | | | 11.43 | | 167 | 24 | 1.24% | | 25.22 | | 3.6 | | | | 311.22 | | | 313.22 | | 315.94 | 24 | Х | 3.14 | | | | 3500636.055 25 | 5485.154 M |
| - | 14 | 15 | 0.00 | | | 27.85 | 1.00 | 0.55 | 5.00 | 0.00 | 0.00 | 11.43 | 0.00 | 67 | 24 | 1.24% | 0.013 | 25.19 | 8.0 | 3.6 | 0.83 | 0.00 | 307.84 | 307.01 | 2.0 | 309.84 | 309.01 | 1.24 | 311.81 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 25 | |
| - | 15 | 16 | | | | 29.23 | 1.00 | 0.55 | 4.87 | 0.00 | | 19.86 | 0.00 | 65 | 24 | 1.24% | 0.013 | 25.20 | 8.0 | 6.3 | 0.81 | 0.00 | 307.01 | 306.20 | 2.0 | 309.01 | 308.20 | 1.24 | 310.52 | 24 | X | 3.14 | 6.28 | 0.50 | | 3500636.055 25 | |
| - | 16 17 | 17 | | | | 29.23 29.23 | 1.00 1.00 | 0.55 0.55 | 4.87 4.87 | 0.00 | 0.00 | 19.86 19.86 | 0.00 | 109 71 | 24 24 | 1.24% 1.24% | 0.013 0.013 | 25.24 25.17 | 8.0 8.0 | 6.3 6.3 | 1.35 0.87 | 0.00 | 304.40 303.04 | 303.04 302.17 | 2.0 2.0 | 306.40 305.04 | 305.04 304.17 | 1.24 1.24 | 308.66 307.67 | 24 24 | X | 3.14 3.14 | 6.28 6.28 | 0.50 0.50 | | 3500636.055 25 3500636.055 25 | |
| - | 18 | 19 | | | 9 | 29.45 | 1.00 | 0.55 | 4.85 | 0.00 | 0.00 | 21.57 | 0.00 | 200 | 30 | 0.95% | 0.013 | 40.01 | 8.1 | 4.4 | 1.89 | 0.00 | 301.59 | 299.69 | 2.5 | 304.09 | 302.19 | 0.95 | 307.67 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 25 | .5485.154 M |
| _ | 19 | | 0.00 | | | 29.78 | 1.00 | 0.55 | 4.82 | | | 24.41 | 0.00 | 63 | 30 | 0.95% | 0.013 | 40.03 | 8.2 | 5.0 | 0.60 | 0.00 | 296.97 | 296.37 | | 299.47 | | | 305.21 | | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 25 | 5485.154 M |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A-109 | 109 | | 0.71 | 0.7 | | 24.41 | 1.00 | 0.55 | 5.36 5.22 | 2.09 | 0.00 | 2.09 4.08 | 0.00 | 31 | 24 24 | 0.64% | 0.013 | 18.07 | 5.8 | 0.7 | 0.20 0.10 | 0.00 | 313.89 | 313.69 | 2.0 2.0 | 315.89 | 315.69 | 0.64 | 312.88 | 24 | Х | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 25 | 5485.154 M |
| A-110 | 110 | 12 | 0.71 | 1.4 | 2 | 25.64 | 1.00 | 0.55 | 5.22 | 2.04 | 0.00 | 4.08 | 0.00 | 6 | 24 | 1.67% | 0.013 | 29.21 | 9.3 | 1.3 | 0.10 | 0.00 | 313.69 | 313.59 | 2.0 | 315.69 | 315.59 | 1.67 | 312.88 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 25 | 5485.154 M |
| 0 444 | 1 444 | 1 44 | 0.00 | | | 20.20 | 4.00 | 0.55 | T 45 | T 75 | 1 000 | T = 75 | 1 000 | 1 00 | 1 24 | 0.740/ | 0.040 | 4040 | | 10 | 1 000 | 1 000 | 007.04 | 207.44 | 20 | 200.04 | 00044 | 0.74 | 200.40 | 24 | | 7 044 | 0.00 | 0.50 | 1 000 | L acassas accil ac | F405 454 NA |
| A-111 A-112 | 111 | 112 | | | | 26.33 27.31 | 1.00 1.00 | 0.55 0.55 | 5.15 5.05 | 5.75 3.41 | 0.00 | 5.75 9.05 | 0.00 | 28 | 24 24 | 0.71% 1.67% | 0.013 0.013 | 19.12 29.21 | 6.1 9.3 | 1.8 2.9 | 0.20 0.10 | 0.00 | 307.31 307.11 | 307.11 | 2.0 2.0 | 309.31 309.11 | 309.11 309.01 | 0.71 1.67 | 308.48 308.48 | 24 24 | X | 3.14 3.14 | 6.28 6.28 | 0.50 0.50 | 2.00 | 3500636.055 25 | 5485.154 M 5485.154 M |
| M-112 | 112 | <u> 15</u> | 1.23 | 3.2 | .0 | 21.31 | 1.00 | 0.55 | 0.05 | 3.41 | J 0.00 | J 9.05 | 1 0.00 | 1 0 | | 1.07% | 0.013 | ∠9.∠1 | J 5.3 | | 1 0.10 | 1 0.00 | 307.11 | 307.01 | 2.0 | 308.11 | 308.01 | 1.07 | 500.48 | 24 | ^ | 3.14 | 0.∠8 | 1 0.50 | | 3300030.035 25 | 7400.104 IVI |
| A-113 | 113 | 114 | 0.44 | 0.4 | 4 | 23.65 | 1.00 | 0.55 | 5.44 | 1.32 | 0.00 | 1.32 | 0.00 | 28 | 24 | 0.71% | 0.013 | 19.12 | 6.1 | 0.4 | 0.20 | 0.00 | 303.09 | 302.89 | 2.0 | 305.09 | 304.89 | 0.71 | 305.71 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 25 | .5485.154 M |
| A-114 | | | | | | 24.32 | 1.00 | 0.55 | 5.37 | 0.68 | 0.00 | 1.98 | 0.00 | 8 | 24 | 1.25% | 0.013 | 25.29 | | 0.6 | 0.10 | 0.00 | | 302.79 | | | | | 305.71 | | Х | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 25 | 5485.154 M |
| | | | | | | | | | | | | | | | | _ | | | | | _ | | . ' | | | | | | | | | _ | | | • | | <u> </u> |
| A-115 | _ | | | 0.9 | 8 | 24.96 | 1.00 | 0.55 | 5.29 | 2.85 | 0.00 | 2.85 | 0.00 | 28 | 24 | 0.71% | 0.013 | 19.12 | 6.1 | 0.9 | 0.20 | 0.00 | 300.65 | 300.45 | 2.0 | 302.65 | 302.45 | 0.71 | 305.24 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 25 | 5485.154 M 5485.154 M |
| A-116 | 116 | 19 | 0.14 | 1.1 | 2 | 25.20 | 1.00 | 0.55 | 5.27 | 0.41 | 0.00 | 3.24 | 0.00 | 8 | 24 | 1.25% | 0.013 | 25.29 | 8.1 | 1.0 | 0.10 | 0.00 | 300.45 | 300.35 | 2.0 | 302.45 | 302.35 | 1.25 | 305.24 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 25 | 5485.154 M |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| 10 YEAR FRE | QUENCY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|---------------------------------------|------------|------|-------|-------|-----------|------|-----------|--------|------------|---------|--------|-------|------|-------|-------|--------|--------|--------|----------|-------|---------|---------|------|---------|-------------|-------|--------|------|-------------|------|-----------|--------|----------|------------------|---------------|
| Area | VIANHOLES/ N | /IANHOLES/ | Area | Total | tc | Frequency | С | Intensity | Q | Additional | Total Q | Q Pass | Reach | L | INE | | DE | SIGN | Actual | Friction | Minor | FLOV | VLINES | Line | | HYDR, GRAD. | | TC/NG | Pipe | BOX CULVERT | AREA | WETTED | | | | |
| | INLETS | INLETS | | Area | | Factor | | 1 | | Q | | | | size | slope | 1 | Q | V | 7 v | Loss | Loss | upstrm. | dnstrm. | Size | upstrm. | dnstrm. | slope | 1 | Size | SIZE | | PERIMETER | RADIUS | DIAMETER | | |
| | from | to | ac. | ac. | min. | f | | in./hr. | c.f.s. | c.f.s. | c.f.s. | c.f.s. | ft. | in. | % | n | c.f.s. | f.p.s. | f.p.s. | ft. | ft. | elev. | elev. | ft. | elev. | elev. | % | | | | | | | | X-Coord Y-C | oord Junction |
| B-200 | 200 | 201 | 1.30 | 1.30 | 25.47 | 1.00 | 0.55 | 5.24 | 3.74 | 0.00 | 3.74 | 0.00 | 28 | 24 | 0.71% | 0.013 | 19.09 | 6.1 | 1.2 | 0.20 | 0.00 | 307.95 | 307.75 | 2.0 | 309.95 | 309.75 | 0.71 | 312.81 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2554 | 85.154 M |
| B-201 | 201 | 20 | 1.69 | 2.99 | 27.13 | 1.00 | 0.55 | 5.07 | 4.71 | 0.00 | 8.33 | 0.00 | 7 | 24 | 1.43% | 0.013 | 27.04 | 8.6 | 2.7 | 0.10 | 0.00 | 307.75 | 307.65 | 2.0 | 309.75 | 309.65 | 1.43 | 312.81 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2554 | 85.154 M |
| - | 20 | 21 | 0.00 | 2.99 | 27.13 | 1.00 | 0.55 | 5.07 | 0.00 | 0.00 | 8.33 | 0.00 | 97 | 24 | 0.35% | 0.013 | 13.40 | 4.3 | 2.7 | 0.34 | 0.00 | 307.61 | 307.27 | 2.0 | 309.61 | 309.27 | 0.35 | 312.81 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | 85.154 M |
| - | 21 | 22 | 0.00 | 2.99 | 27.13 | 1.00 | 0.55 | 5.07 | 0.00 | 0.00 | 8.33 | 0.00 | 153 | 24 | 0.35% | 0.013 | 13.31 | 4.2 | 2.7 | 0.53 | 0.00 | 305.16 | 304.63 | 2.0 | 307.23 | 306.70 | 0.34 | 311.53 | 24 | Х | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2554 | 35.154 M |
| - | 22 | 23 | 0.00 | 3.75 | 27.62 | 1.00 | 0.55 | 5.02 | 0.00 | 0.00 | 10.35 | 0.00 | 230 | 24 | 0.35% | 0.013 | 13.34 | 4.2 | 3.3 | 0.80 | 0.00 | 303.22 | 302.42 | 2.0 | 306.70 | 305.91 | 0.35 | 308.10 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | 85.154 M |
| - | 23 | 24 | 0.00 | 5.64 | 28.56 | 1.00 | 0.55 | 4.93 | 0.00 | 0.00 | 15.29 | 0.00 | 157 | 30 | 0.45% | 0.013 | 27.55 | 5.6 | 3.1 | 0.71 | 0.00 | 302.42 | 301.71 | 2.5 | 305.91 | 305.20 | 0.45 | 308.34 | | Х | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 2554 | |
| - | 24 | 25 | 0.00 | 5.64 | 28.56 | 1.00 | 0.55 | 4.93 | 0.00 | 0.00 | 15.29 | 0.00 | 101 | 30 | 0.45% | 0.013 | 27.37 | 5.6 | 3.1 | 0.45 | 0.00 | 301.71 | 301.26 | 2.5 | 305.20 | 304.75 | 0.44 | | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 2554 | 85.154 M |
| - | 25 | 26 | 0.00 | 5.64 | 28.56 | 1.00 | 0.55 | 4.93 | 0.00 | 0.00 | 15.29 | 0.00 | 125 | 30 | 0.45% | 0.013 | 27.63 | 5.6 | 3.1 | 0.56 | 0.00 | 301.26 | 300.69 | 2.5 | 304.75 | 304.19 | 0.45 | 307.60 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 2554 | |
| - | 26 | 27 | 0.00 | 19.67 | 31.90 | 1.00 | 0.55 | 4.64 | 0.00 | 0.00 | 50.21 | 0.00 | 178 | 42 | 0.39% | 0.013 | 62.64 | 6.5 | 5.2 | 0.69 | 0.00 | 300.69 | 300.00 | 3.5 | 304.19 | 303.50 | 0.39 | 307.30 | 42 | X | 9.62 | 11.00 | 0.88 | 3.50 | | 85.154 M |
| - | 27 | 2000 | 1.43 | 21.10 | 32.11 | 1.00 | 0.55 | 4.62 | 3.64 | 0.00 | 53.67 | 0.00 | 215 | 42 | 0.39% | 0.013 | 62.82 | 6.5 | 5.6 | 0.84 | 0.00 | 294.84 | 294.00 | 3.5 | 298.34 | 297.50 | 0.39 | 307.27 | 42 | X | 9.62 | 11.00 | 0.88 | 3.50 | 3500636.055 2554 | 85.154 M |
| | | | | | | | | | | | | | | _ | | | _ | | | | _ | | | | | | | | | | | 1 | | | | |
| B-202 | 202 | | | 0.76 | | | 0.55 | | | 0.00 | 2.23 | 0.00 | 33 | 24 | 0.61% | 0.013 | 17.61 | 5.6 | 0.7 | 0.20 | 0.00 | | 303.30 | 2.0 | | 306.78 | | 307.86 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2554 | |
| - | 35 | 22 | 0.00 | 0.76 | 24.53 | 1.00 | 0.55 | 5.34 | 0.00 | 0.00 | 2.23 | 0.00 | 22 | 24 | 0.35% | 0.013 | 13.44 | 4.3 | 0.7 | 0.08 | 0.00 | 303.30 | 303.22 | 2.0 | 306.78 | 306.70 | 0.30 | 307.68 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2554 | 85.154 M |
| | | | | | | | | | | | | | _ | | | | • | | | | | | | | | | | | | | | | | | | |
| B-203 | 203 | 204 | 1.27 | 1.27 | 25.43 | 1.00 | 0.55 | 5.24 | 3.66 | 0.00 | 3.66 | 0.00 | 33 | 24 | 0.60% | 0.013 | 17.58 | 5.6 | 1.2 | 0.20 | 0.00 | | 303.69 | 2.0 | 306.21 | 306.01 | 0.60 | 308.34 | | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2554 | |
| B-204 | 204 | 23 | 0.62 | 1.89 | 26.19 | 1.00 | 0.55 | 5.16 | 1.76 | 0.00 | 5.37 | 0.00 | 7 | 24 | 1.43% | 0.013 | 27.04 | 8.6 | 1.7 | 0.10 | 0.00 | 303.69 | 303.59 | 2.0 | 306.01 | 305.91 | 1.42 | 308.34 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2554 | 85.154 M |
| | | | | | | | | | | | | | | _ | | | _ | | | | | | | | | | | | | | _ | 1 | | | | |
| B-205 | 205 | 206 | 1.61 | 1.61 | 25.87 | 1.00 | 0.55 | 5.19 | 4.60 | 0.00 | 4.60 | 0.00 | 26 | 24 | 0.78% | 0.013 | 19.94 | 6.3 | 1.5 | 0.20 | 0.07 | 302.80 | 302.60 | 2.0 | 304.80 | | 0.78 | 307.83 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2554 | |
| B-206 | 206 | 26 | 3.27 | 4.88 | 28.22 | 1.00 | 0.55 | 4.96 | 8.92 | 0.00 | 13.31 | 0.00 | 8 | 24 | 1.25% | 0.013 | 25.29 | 8.1 | 4.2 | 0.10 | 0.00 | 302.60 | 302.50 | 2.0 | 304.60 | 304.50 | 1.25 | 307.83 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2554 | 85.154 M |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B-207 | 207 | 208 | 1.56 | 1.56 | 25.81 | 1.00 | 0.55 | 5.20 | | 0.00 | 4.46 | 0.00 | 24 | 24 | 0.83% | 0.013 | 20.62 | 6.6 | 1.4 | 0.20 | 0.12 | 306.05 | 305.85 | 2.0 | 308.38 | 308.18 | 0.83 | 310.55 | | X | 3.14 | 6.28 | 0.50 | | 3500636.055 2554 | |
| B-208 | 208 | 36 | 3.76 | 5.32 | 28.42 | 1.00 | 0.55 | 4.94 | 10.22 | 0.00 | 14.46 | 0.00 | 8 | 24 | 1.25% | 0.013 | 25.29 | 8.1 | 4.6 | 0.10 | 0.00 | 305.85 | 305.75 | 2.0 | 308.18 | 308.08 | 1.24 | 310.55 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2554 | |
| - | 36 | 28 | 0.00 | 5.32 | 28.42 | 1.00 | 0.55 | 4.94 | 0.00 | 0.00 | 14.46 | 0.00 | 60 | 30 | 0.30% | 0.013 | 22.47 | 4.6 | 2.9 | 0.18 | 0.00 | 305.58 | 305.40 | 2.5 | 308.08 | 307.90 | 0.30 | 310.55 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 2554 | |
| - | 28 | 29 | 0.00 | 5.32 | 28.42 | 1.00 | 0.55 | 4.94 | 0.00 | 0.00 | 14.46 | 0.00 | 270 | 30 | 0.30% | 0.013 | 22.48 | 4.6 | 2.9 | 0.81 | 0.00 | 305.40 | 304.59 | 2.5 | 307.90 | 307.09 | 0.30 | 310.78 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 2554 | 35.154 M |
| - | 29 | 30 | 0.00 | 6.78 | 29.01 | 1.00 | 0.55 | 4.89 | 0.00 | 0.00 | 18.23 | 0.00 | 196 | 30 | 0.30% | 0.013 | 22.48 | 4.6 | 3.7 | 0.59 | 0.00 | 304.59 | 304.00 | 2.5 | 307.09 | 306.50 | 0.30 | 311.15 | | X | 4.91 | 7.85 | 0.63 | | 3500636.055 2554 | |
| - | 30 | 31 | 0.00 | 9.15 | 29.77 | 1.00 | 0.55 | 4.82 | 0.00 | 0.00 | 24.26 | 0.00 | 152 | 30 | 0.55% | 0.013 | 30.33 | 6.2 | 4.9 | 0.83 | 0.00 | 304.00 | 303.17 | 2.5 | 306.50 | 305.67 | 0.55 | 310.47 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 2554 | |
| - | 31 | 32 | 0.00 | 9.15 | 29.77 | 1.00 | 0.55 | 4.82 | 0.00 | 0.00 | 24.26 | 0.00 | 69 | 30 | 0.55% | 0.013 | 30.48 | 6.2 | 4.9 | 0.38 | 0.00 | 303.17 | 302.79 | 2.5 | 305.67 | 305.29 | 0.55 | 308.91 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 2554 | |
| - | 32 | 26 | 0.00 | 9.15 | 29.77 | 1.00 | 0.55 | 4.82 | 0.00 | 0.00 | 24.26 | 0.00 | 75 | 30 | 0.55% | 0.013 | 30.55 | 6.2 | 4.9 | 0.41 | 0.00 | 302.79 | 302.37 | 2.5 | 305.29 | 304.87 | 0.55 | 307.84 | 30 | Х | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 2554 | 85.154 M |
| ⊃n ≥ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | _ | | | | | |
| B-209 | 209 | 29 | 1.46 | 1.46 | 25.69 | 1.00 | 0.55 | 5.21 | 4.19 | 0.00 | 4.19 | 0.00 | 33 | 24 | 0.61% | 0.013 | 17.61 | 5.6 | 1.3 | 0.20 | 0.00 | 306.60 | 306.40 | 2.0 | 308.60 | 308.40 | 0.61 | 311.15 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2554 | 85.154 M |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B-210 | 210 | 211 | 1.46 | 1.46 | 25.69 | 1.00 | 0.55 | 5.21 | 4.19 | 0.00 | 4.19 | 0.00 | 24 | 24 | 0.83% | 0.013 | 20.65 | 6.6 | 1.3 | 0.20 | 0.00 | 305.97 | 305.77 | 2.0 | 307.97 | 307.77 | 0.83 | 310.49 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2554 | 85.154 M |
| B-211 | 211 | 30 | 0.91 | 2.37 | 26.64 | 1.00 | 0.55 | 5.12 | 2.56 | 0.00 | 6.67 | 0.00 | 8 | 24 | 1.25% | 0.013 | 25.29 | 8.1 | 2.1 | 0.10 | 0.00 | 305.77 | 305.67 | 2.0 | 307.77 | 307.67 | 1.25 | 310.49 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 2554 | 85.154 M |
| | · · · · · · · · · · · · · · · · · · · | | | | | | • | • | • | | • | • | • | • | • | • | • | | • | • | • | | | | | • | | | | | 1 | | | • | | |

BENCHMARK: ALL ELEVATIONS SET TO NGS. NAVD 88.

MONUMENT 1 DESIGNATION ELEV. 239.00 BRASS DISC SET IN CONCRETE LOCATED BY COORDINATES X = 376,481.91322 Y = 10,135,441.47530MONUMENT 2 DESIGNATION ELEV. 301.880

COORDINATES X = 3,757,800.73970 Y = 10,131,535.69490100YR. W.S.E.= 298.83' AT OUTFALL #1000 100YR. W.S.E.= 298.83' AT OUTFALL #2000 FIRM PANEL NO.48339C0200G & 48339C0350G EFFECTIVE DATE: AUGUST 18, 2014 THIS AREA LIES IN ZONE "X".

BRASS DISC SET IN CONCRETE LOCATED BY

1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED. 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.

4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL OVERFLOW SWALES MINIMUM EVERY 50'.

5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL.

6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215. 7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL

GROUND. 8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED

FROM CITY COUNCIL. 9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB.

10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB. 10a) SIDEWALKS TO BE LOCATED A MINIMUM OF 5' FROM THE BACK OF CURB WHERE LIGHT POLES ARE PRESENT.

10b) CONSTRUCT SIDEWALKS AND CURB RAMPS IN CONFORMANCE WITH THE TEXAS ACCESSIBILITY STANDARDS (TAS) AND THE AMERICAN WITH DISABILITIES ACT (ADA).

10c) DO NOT PLACE SIDEWALK OVER PARALLEL UTILITY LINES.

10d) AT DRIVEWAYS, ALIGN A MINIMUM 5 FOOT WIDE SIDÉWALK SECTION MEETING TAS AND ADA AS THE SIDEWALK CROSSES THE DRIVEWAY.

11) AS-BUILT ELECTRICAL PLANS TO BE SUBMITTED WITH THE AS-BUILT DRAWINGS FOR THE SUBDIVISION. 12) CONTRACTOR SHALL CLEAR, GRUB, ROOT RAKE, BACK DRAG, CHIP AND DISPOSE OFFSITE OF ALL CLEARED AND GRUBBED MATERIAL.

13) SIDEWALK RAMPS AND SIDEWALKS WITHIN COMMON AREAS TO BE CONSTRUCTED WITH WS&D. SIDEWALKS IN

FRONT OF HOMES TO BE CONSTRUCTED BY HOMEBUILDERS.
ALL SIDEWALKS TO BE INSTALLED BY END OF 1 YEAR
WARRANTY PERIOD.

14) CONTRACTOR TO STAMP THE FACE OF THE CURB WITH AN "S" AT THE LOCATION OF EACH SANITARY SEWER LEAD AND "W" AT THE LOCATION OF EACH WATER LEAD.

REVISION

DATE

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

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

MONTGOMERY COUNTY MUNICIPAL UTILITY
DISTRICT NO. 215

BRIARLEY PHASE 1B

10 YEAR STORM CALCULATIONS



| JA Engineering, Inc. | LJA |
|---|--|
| 600 W Sam Houston Parkway S uite 600 | Phone 713.953.5200 Fax 713.953.5026 |
| ouston, Texas 77042 | FRN - F-1386 |
| JA PROJECT NO.: | 2980-0104 |
| AMAL R.D.R. /F.M. DESIGNE R.D.R. /F.M. | DATE: APRIL 2025 |

2980-0104 DATE: APRIL 2025

SHEET NO. 7A of 30

| 100 YEAR FR SYSTEM A | QUENCY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------|-------------|--------------|--------|-------|----------------|-----------|--------------|-----------|--------------|-----------|---------------|--------|-----------|------|----------------|---------|----------------|------------|--------|----------|--------|------------------|------------------|------|------------------|------------------|--------|------------------|------|-------------|----------|--------|------------|-----------|----------------------------|------------------------------|
| | I A NHOLES/ | MANHOLES | / Area | Total | tc | Frequency | ТС | Intensity | T Q | Additiona | I Total Q | QPass | Reach | L | INE | Ι | l DE | SIGN | Actual | Friction | Minor | T FLOV | VLINES | Line | T | HYDR. GRAD |). | TC/NG | Pipe | BOX CULVERT | AREA | WETTED | THYDRAULIC | HYDRAULIC | : | |
| | INLETS | INLETS | | Area | | Factor | | | | Q | | | 1.0.2.0 | size | slope | - | Q | V V | \ v | Loss | Loss | upstrm. | dnstrm. | Size | upstrm. | dnstrm. | slope | | Size | SIZE | / | 1 | R RADIUS | I | | |
| | from | to | ac. | ac. | min. | f | | in./hr. | c.f.s. | c.f.s. | c.f.s. | c.f.s. | ft. | in. | % | n | c.f.s. | f.p.s. | f.p.s. | ft. | ft. | elev. | elev. | ft. | ele v. | elev. | % | | | | | | | | X-Coord | Y-Coord Junction |
| A-100 | 100 | 101 | 0.43 | 0.43 | 23.62 | 1.25 | 0.55 | 8.04 | 2.38 | 0.00 | 2.38 | 0.00 | 30 | 24 | 0.66% | 0.013 | 18.38 | 5.9 | 0.8 | 0.20 | 0.07 | 313.35 | 313.15 | 2.0 | 318.01 | 317.81 | 0.66 | 318.91 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| A-101 | 101 | 1 | 1.26 | 1.69 | 25.97 | 1.25 | 0.55 | 7.67 | 6.64 | 0.00 | 8.91 | 0.00 | 8 | 24 | 1.21% | 0.013 | 24.88 | 7.9 | 2.8 | 0.10 | 0.00 | 313.15 | 313.05 | 2.0 | 317.81 | 317.71 | 1.25 | 318.91 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| - | 1 | 2 | 0.00 | 1.69 | 25.97 | 1.25 | 0.55 | 7.67 | 0.00 | 0.00 | 8.91 | 0.00 | 138 | 24 | 0.45% | 0.013 | 15.18 | 4.8 | 2.8 | 0.62 | 0.00 | 313.15 | 312.53 | 2.0 | 317.71 | 317.09 | 0.45 | 318.91 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| - | 2 | 3 | 0.00 | 1.69 | 25.97 | 1.25 | 0.55 | 7.67 | 0.00 | 0.00 | 8.91 | 0.00 | 138 | 24 | 0.45% | 0.013 | 15.16 | 4.8 | 2.8 | 0.62 | 0.00 | 312.53 | 311.91 | 2.0 | 317.09 | 316.48 | 0.45 | 318.62 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| - | 3 | 4 | 0.00 | 1.69 | 25.97 | 1.25 | 0.55 | 7.67 | 0.00 | 0.00 | 8.91 | 0.00 | 59 | 24 | 0.45% | 0.013 | 15.20 | 4.8 | 2.8 | 0.26 | 0.00 | 311.91 | 311.64 | 2.0 | 316.48 | 316.21 | 0.45 | 317.85 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| - | 4 | 5 | 0.00 | 1.69 | 25.97 | 1.25 | 0.55 | 7.67 | 0.00 | 0.00 | 8.91 | 0.00 | 59 | 24 | 0.45% | 0.013 | 15.13 | 4.8 | 2.8 | 0.26 | 0.46 | 311.64 | 311.38 | 2.0 | 316.21 | 315.95 | 0.44 | 317.24 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| - | 5 | | 0.00 | | 28.34 | 1.25 | 0.55 | | 0.00 | 0.00 | 25.93 | 0.00 | 273 | 24 | 0.45% | 0.013 | 15.17 | 4.8 | 8.3 | 3.57 | 0.00 | 310.93 | 309.70 | 2.0 | 315.95 | 312.38 | 1.31 | 316.64 | 24 | X | 3.14 | 6.28 | | 2.00 | 3500636.055 | |
| - | 6 | 7 | 0.00 | | 29.38 | 1.25 | 0.55 | | 0.00 | 0.00 | 39.03 | 0.00 | 140 | 24 | 0.95% | 0.013 | 22.04 | 7.0 | 12.4 | 4.15 | 0.00 | 307.56 | 306.23 | 2.0 | 312.38 | 308.23 | 2.96 | 316.42 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| - | 1 | 8 | 0.00 | 9.52 | 29.87 | 1.25 | 0.55 | 7.14 | 0.00 | 0.00 | 46.76 | 0.00 | 80 | 30 | 0.95% | 0.013 | 39.96 | 8.1 | 9.5 | 1.04 | 0.00 | 303.52 | 302.76 | 2.5 | 306.30 | 305.26 | 1.29 | 316.20 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 | 255485.154 M |
| - | 8 | 9 | 0.00 | 9.52 | 29.87 | 1.25 | 0.55 0.55 | 7.14 | 0.00 | 0.00 | 46.76 | 0.00 | 141 | 30 | 0.95% | 0.013 | 39.92 | 8.1 | 9.5 | 1.82 | 0.00 | 300.99 294.60 | 299.66 294.25 | 2.5 | 303.98 | 298.47 | 1.29 | 314.95 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 3500636.055 | 255485.154 M |
| - | 24 | 34 | 0.00 | 21.15 | 32.12 | 1.25 | | 6.88 | | 0.00 | 100.10 | 0.00 | 135 | 42 | 0.26% | 0.013 | 51.24 | 5.3 | 10.4 | 1.33 | 0.00 | | + | 3.5 | 299.79 | | 0.98 | 311.38 | 42 | X | 9.62 | 11.00 | 0.88 | 3.50 | | 255485.154 M |
| - | 34 | 1000 | 0.00 | 21.15 | 32.12 | 1.25 | 0.55 | 6.88 | 0.00 | 0.00 | 100.10 | 0.00 | 98 | 42 | 0.26% | 0.013 | 50.81 | 5.3 | 10.4 | 0.97 | 0.00 | 294.25 | 294.00 | 3.5 | 298.47 | 297.50 | 0.98 | 306.84 | 42 | X | 9.62 | 11.00 | 0.88 | 3.50 | 3500030.055 | 255485.154 M |
| A 402 T | 102 | 102 | 1.25 | 1.25 | 25.40 | 1.25 | 0.55 | 7.75 | T 666 | 1 000 | T 6 66 | T 0.00 | 74 | 1 24 | 1 0 0204 | 0.012 | 20.65 | T 66 | T 2.1 | 1 0.20 | 1 0.02 | 211.65 | 1 211.15 1 | 2.0 | 216.25 | 216.05 | T n 02 | 217.05 | 24 | | 3.14 | 6.28 | 0.50 | 1 200 | 2500626 055 | 255485.154 M |
| A-102 A-103 | 102 | 103 | 2.20 | 3.45 | 25.40 27.44 | 1.25 | 0.55 0.55 | 7.46 | 6.66 | 0.00 | 6.66 17.69 | 0.00 | 24 | 24 | 0.83% 1.19% | 0.013 | 20.65 24.67 | 6.6 7.9 | 5.6 | 0.20 | 0.03 | 311.65 | 311.45 311.35 | 2.0 | 316.25 316.05 | 316.05 315.95 | 0.83 | 317.85 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| V-102 | 100 | | 2.20 | 3.43 | 27.44 | 1.25 | 0.55 | 7.40 | 11.20 | 1 0.00 | 17.09 | 1 0.00 | · | | 1.1970 | 0.013 | 24.07 | 1 7.9 | 3.0 | 0.10 | 0.00 | 311.43 | 311.55 | 2.0 | 310.03 | 313.33 | 1.10 | 317.03 | 24 | | 3.14 | 0.20 | 0.50 | 2.00 | 3300030.033 | 255405.154 |
| Δ-104 | 104 | 105 | 1.63 | 1.63 | 25.90 | 1.25 | 0.55 | 7.68 | 8.60 | 0.00 | 8.60 | 0.00 | 36 | 24 | 0.55% | 0.013 | 16.84 | 5.4 | 2.7 | 0.20 | 0.00 | 310.54 | 310.34 | 2.0 | 312.68 | 312.48 | 0.55 | 316.20 | 24 | T × T | 3.14 | 6.28 | 0.50 | 2.00 | 3500636 055 | 255485.154 M |
| A-105 | 105 | 6 | 1.11 | 2.74 | 26.94 | 1.25 | 0.55 | 7.53 | 5.74 | 0.00 | 14 18 | 0.00 | 8 | 24 | 1.25% | 0.013 | 25.29 | 8.1 | 4.5 | 0.10 | 0.00 | 310.34 | 310.24 | 2.0 | 312.48 | 312.38 | 1.24 | 316.20 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| 71 100 | 100 | | 1 | 2.1.1 | 20.01 | 1.20 | 0.00 | 1.00 | 0.11 | 0.00 | 11.10 | 0.00 | <u> </u> | | 1.2070 | 0.010 | 20.20 | 1 • | 1.0 | 0.10 | 0.00 | 1 010.01 | 0.10.21 | 2.0 | 012.10 | 012.00 | 1.21 | 010.20 | 21 | | 0.11 | 0.20 | 0.00 | 2.00 | 0000000.000 | 200100.101 |
| A-106 | 106 | 7 | 1.64 | 1.64 | 25.91 | 1.25 | 0.55 | 7.68 | 8.66 | 0.00 | 8.66 | 0.00 | 33 | 24 | 0.61% | 0.013 | 17.61 | 5.6 | 2.8 | 0.20 | 0.00 | 306.50 | 306.30 | 2.0 | 308.50 | 308.30 | 0.61 | 311.57 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| I | | 1 | | 1 | | | | | 1 | | | 1 | 1 | | 1 | 1 | | 1 | 1 | 1 | | | | | 1 | | | | | | I | 1 | | | | |
| A-117 | 117 | 118 | 1.32 | 1.32 | 25.50 | 1.25 | 0.55 | 7.74 | 7.02 | 0.00 | 7.02 | 0.00 | 28 | 24 | 0.71% | 0.013 | 19.08 | 6.1 | 2.2 | 0.20 | 0.00 | 300.12 | 299.92 | 2.0 | 302.12 | 301.92 | 0.71 | 314.96 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| A-118 | 118 | 10 | 1.10 | 2.42 | 26.68 | 1.25 | 0.55 | 7.56 | 5.72 | 0.00 | 12.58 | 0.00 | 6 | 24 | 1.67% | 0.013 | 29.21 | 9.3 | 4.0 | 0.10 | 0.00 | 299.92 | 299.82 | 2.0 | 301.92 | 301.82 | 1.67 | 314.96 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| - | 10 | 9 | 0.00 | 2.42 | 26.68 | 1.25 | 0.55 | 7.56 | 0.00 | 0.00 | 12.58 | 0.00 | 21 | 24 | 1.24% | 0.013 | 25.20 | 8.0 | 4.0 | 0.26 | 0.00 | 296.74 | 296.48 | 2.0 | 300.05 | 299.79 | 1.23 | 314.96 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| | | • | | | - | | | • | • | • | | | • | • | • | • | | • | • | • | | • | • | | • | | ' | • | | , | <u>'</u> | • | - | - | • | · |
| A-107 | 107 | 108 | 1.90 | 1.90 | 26.20 | 1.25 | 0.55 | 7.63 | 9.97 | 0.00 | 9.97 | 0.00 | 28 | 24 | 0.70% | 0.013 | 18.99 | 6.0 | 3.2 | 0.20 | 0.00 | 314.43 | 314.23 | 2.0 | 317.05 | 316.86 | 0.70 | 318.34 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| A-108 | 108 | 11 | 0.84 | 2.74 | 26.94 | 1.25 | 0.55 | | 4.35 | 0.00 | 14.18 | 0.00 | 6 | 24 | 1.67% | 0.013 | 29.21 | 9.3 | 4.5 | 0.10 | 0.00 | 314.23 | 314.13 | 2.0 | 316.86 | 316.76 | 1.25 | 318.34 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | 255485.154 M |
| - | 11 | 12 | 0.00 | 2.74 | 26.94 | 1.25 | 0.55 | 7.53 | 0.00 | 0.00 | 14.18 | 0.00 | 188 | 24 | 0.30% | 0.013 | 12.35 | 3.9 | 4.5 | 0.73 | 0.00 | 314.11 | 313.55 | 2.0 | 316.76 | 316.02 | 0.39 | 318.34 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| - | 12 | 13 | 0.00 | 4.16 | 27.85 | 1.25 | 0.55 | 7.40 | 0.00 | 0.00 | 21.17 | 0.00 | 83 | 24 | 0.30% | 0.013 | 12.42 | 4.0 | 6.7 | 0.72 | 0.00 | 313.55 | 313.30 | 2.0 | 316.02 | 315.30 | 0.87 | 317.91 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| - | 13 | 14 | 0.00 | 4.16 | 27.85 | 1.25 | 0.55 | 7.40 | 0.00 | 0.00 | 21.17 | 0.00 | 167 | 24 | 1.24% | 0.013 | 25.22 | 8.0 | 6.7 | 2.07 | 0.00 | 313.30 | 311.22 | 2.0 | 315.30 | 313.22 | 1.24 | 315.94 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| - | 14 | 15 | 0.00 | 4.16 | 27.85 | 1.25 | 0.55 | 7.40 | 0.00 | 0.00 | 21.17 | 0.00 | 67 | 24 | 1.24% | 0.013 | 25.19 | 8.0 | 6.7 | 0.83 | 0.00 | 307.84 | 307.01 | 2.0 | 311.47 | 310.64 | 1.23 | 311.81 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| - | 15 | 16 | 0.00 | 7.42 | 29.23 | 1.25 | 0.55 | | 0.00 | 0.00 | 36.85 | 0.00 | 65 | 24 | 1.24% | 0.013 | 25.20 | 8.0 | 11.7 | 1.72 | 0.00 | 307.01 | 306.20 | 2.0 | 310.64 | | 2.64 | 310.52 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| - | 16 | 17 | 0.00 | 7.42 | 29.23 | 1.25 | 0.55 | 7.22 | 0.00 | 0.00 | 36.85 | 0.00 | 109 | 24 | 1.24% | 0.013 | 25.24 | 8.0 | 11.7 | 2.89 | 0.00 | 304.40 | 303.04 | 2.0 | 308.92 | 306.03 | 2.64 | 308.66 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| - | 17 | 18 | 0.00 | 7.42 | 29.23 | 1.25 | 0.55 | 7.22 | 0.00 | 0.00 | 36.85 | 0.00 | 71 | 24 | 1.24% | 0.013 | 25.17 | 8.0 | 11.7 | 1.86 | 0.00 | 303.04 | 302.17 | 2.0 | | 304.17 | 2.64 | 307.67 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | 255485.154 M |
| - | 18 | 19 | 0.00 | 8.09 | 29.45 | 1.25 | 0.55 | 7.20 | 0.00 | 0.00 | 40.03 | 0.00 | 200 | 30 | 0.95% | 0.013 | 40.01 | 8.1 | 8.2 | 1.89 | 0.00 | 301.59 | 299.69 | 2.5 | 304.09 | 302.19 | 0.95 | 307.67 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 | 255485.154 M |
| - | 19 | 9 | 0.00 | 9.21 | 29.78 | 1.25 | 0.55 | 7.16 | 0.00 | 0.00 | 45.31 | 0.00 | 63 | 30 | 0.95% | 0.013 | 40.03 | 8.2 | 9.2 | 0.76 | 0.00 | 296.97 | 296.37 | 2.5 | 300.56 | 299.79 | 1.21 | 305.21 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 | 255485.154 M |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A-109 | 109 | | | 0.71 | | 1.25 | 0.55 | | 3.86 | 0.00 | 3.86 | 0.00 | 31 | 24 | 0.64% | | 18.07 | 5.8 | 1.2 | 0.20 | 0.00 | 313.89 | 313.69 | 2.0 | | | | 312.88 | 24 | X | 3.14 | 6.28 | | 2.00 | | 255485.154 M |
| A-110 | 110 | 12 | 0.71 | 1.42 | 25.64 | 1.25 | 0.55 | 7.72 | 3.77 | 0.00 | 7.53 | 0.00 | 6 | 24 | 1.67% | 0.013 | 29.21 | 9.3 | 2.4 | 0.10 | 0.00 | 313.69 | 313.59 | 2.0 | 316.12 | 316.02 | 1.66 | 312.88 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| | | | | | | | | | | | | | | | | | | _ | | | | | | | | | | | | | | | | | | |
| A-111 | 111 | | | 2.03 | | | 0.55 | | 10.63 | 0.00 | 10.63 | 0.00 | 28 | 24 | 0.71% | 0.013 | 19.12 | 6.1 | 3.4 | 0.20 | 0.00 | 307.31 | 307.11 | 2.0 | 310.94 | 310.74 | | 308.48 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | 255485.154 M |
| A-112 | 112 | 15 | 1.23 | 3.26 | 27.31 | 1.25 | 0.55 | 7.48 | 6.32 | 0.00 | 16.76 | 0.00 | <u> 6</u> | 24 | 1.67% | 0.013 | 29.21 | 9.3 | 5.3 | 0.10 | 0.00 | 307.11 | 307.01 | 2.0 | 310.74 | 310.64 | 1.66 | 308.48 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 | 255485.154 M |
| A 440 T | 440 | 1 444 | 1 011 | | 1 00 05 | 1 4 25 | 0.55 | 1 | 1 0 40 | 1 000 | 1 242 | 1 000 | 1 00 | | 1 0 7404 | 1 0040 | 10.40 | 1 04 | 1 00 | 1 000 | 1 000 | 1 000 00 | 1 00000 1 | 2.2 | 1 005.00 | 004.00 | 1 074 | 1 005.74 | | | | 1 0.00 | 0.50 | 1 000 | 1 0500000 055 | 055405 454 1 |
| A-113 | 113 | | 0.44 | 0.44 | 23.65 | 1.25 | 0.55 | | 2.43 | 0.00 | 2.43 | 0.00 | 28 | 24 | U./1% | 0.013 | 19.12 | 6.1 | 0.8 | 0.20 | 0.00 | 303.09 | 302.89 | 2.0 | 305.09 | 304.89 304.79 | | 305.71 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | | 255485.154 M 255485.154 M |
| A-114 | 114 | 18 | 0.23 | 0.67 | 24.32 | 1.25 | 0.55 | 7.92 | 1.25 | 0.00 | 3.65 | 0.00 | | | 1.25% | 0.013 | 25.29 | ل X.1 | 1.2 | 0.10 | U.00 | 302.89 | 302.79 | 2.0 | 304.89 | 304.79 | 1.25 | 305.71 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636,055 | ZDD485.154 M |
| A 115 T | 115 | 116 | 1 000 | 1 000 | 24.06 | 1.25 | 0.55 | 7 0 0 | F 27 | 1 0.00 | 5 27 | I 0.00 | 1 20 | 24 | T 0.7404 | I 0.042 | 10.12 | T 61 | 1 1 7 | I 0.20 | I 0.00 | 1 300.65 | 1 200 45 T | 2.0 | 202.65 | 202.45 | 0.74 | 205.24 | 24 | | 2 11 | I 620 | 0.50 | 2.00 | 1 2500626 055 I | 255495 454 T M |
| A-115 | 115 | | | 0.98 | | 1.25 | 0.55 0.55 | | 5.27 0.75 | 0.00 | 5.27 | 0.00 | 28 | 24 | 0.71% 1.25% | | 19.12 | 6.1 | 1./ | 0.20 | 0.00 | 300.65 | 300.45 300.35 | 2.0 | 302.00 | | | 305.24 305.24 | | ^ | 3.14 | 6.28 | 0.50 | | 3500030.035 3500636.055 | 255485.154 M 255485.154 M |
| A-116 | 116 | I 18 | 0.14 | 1.12 | 25.20 | 1.25 | 0.55 | 1.18 | 0.75 | 0.00 | 5.99 | 0.00 | Ŏ | | 1.25% | 0.013 | 20.29 | 0.1 | 1.9 | 0.10 | 0.00 | 300.45 | 300.35 | 2.0 | 302.45 | 302.33 | 1.25 | 303.24 | 24 | X | 3.14 | 0.28 | 0.50 | 2.00 | 3000030,005 | 200400.104 IVI |

| 100 YEAR F SYSTEM B | REQUENCY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|-------------|----------|---------|--------|---------|-----------|------|-----------|--------|------------|---------|--------|-------|------|--------|---------|---------|--------|--------|----------|-------|----------|----------|-------|----------|------------|--------|------------|------|-------------|------|--------|-----------|-----------|----------------------------|---------------|
| Area | M A NHOLES/ | MANHOLES | 3/ Area | Total | tc | Frequency | , C | Intensity | Q | Additional | Total Q | Q Pass | Reach | L | INE | | DE | SIGN | Actual | Friction | Minor | FLOV | VLINES | Line | | HYDR. GRAD |). | TC/NG | Pipe | BOX CULVERT | AREA | WETTED | HYDRAULIC | HYDRAULIC | : | $\overline{}$ |
| | INLETS | INLETS | | Area | | Factor | | 1 1 | | Q | | | | size | slope | 1 | Q | ٧ | 1 v | Loss | Loss | upstrm. | dnstrm. | Size | upstrm. | dnstrm. | slope | † | Size | SIZE | | | RADIUS | | | |
| | from | to | ac. | ac. | m in. | f | | in./hr. | c.f.s. | c.f.s. | c.f.s. | c.f.s. | ft. | in. | % | n | c.f.s. | f.p.s. | f.p.s. | ft. | ft. | elev. | elev. | ft. | elev. | elev. | % | | | | | | | | X-Coord Y-Coord Ju | Junction |
| B-200 | 200 | 201 | 1.30 | 1.30 | 25.47 | 1.25 | 0.55 | 7.74 | 6.92 | 0.00 | 6.92 | 0.00 | 28 | 24 | 0.71% | 0.013 | 19.09 | 6.1 | 2.2 | 0.20 | 0.00 | 307.95 | 307.75 | 2.0 | 310.02 | 309.82 | 0.71 | 312.81 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 255485.154 | М |
| B-201 | 201 | 20 | 1.69 | 2.99 | 27.13 | 1.25 | 0.55 | 7.50 | 8.72 | 0.00 | 15.42 | 0.00 | 7 | 24 | 1.43% | 0.013 | 27.04 | 8.6 | 4.9 | 0.10 | 0.00 | 307.75 | 307.65 | 2.0 | 309.82 | 309.72 | 1.42 | 312.81 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 255485.154 | М |
| - | 20 | 21 | 0.00 | 2.99 | 27.13 | 1.25 | 0.55 | 7.50 | 0.00 | 0.00 | 15.42 | 0.00 | 97 | 24 | 0.35% | 0.013 | 13.40 | 4.3 | 4.9 | 0.45 | 0.00 | 307.61 | 307.27 | 2.0 | 309.72 | 309.27 | 0.46 | 312.81 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 255485.154 | М |
| - | 21 | 22 | 0.00 | 2.99 | 27.13 | 1.25 | | 7.50 | 0.00 | 0.00 | 15.42 | 0.00 | 153 | 24 | 0.35% | 0.013 | 13.31 | 4.2 | 4.9 | 0.71 | 0.00 | 305.16 | 304.63 | 2.0 | 309.20 | 308.49 | 0.46 | 311.53 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 255485.154 | М |
| - | 22 | 23 | 0.00 | 3.75 | 27.62 | 1.25 | 0.55 | 7.43 | 0.00 | 0.00 | 19.17 | 0.00 | 230 | 24 | 0.35% | 0.013 | 13.34 | 4.2 | 6.1 | 1.64 | 0.00 | 303.22 | 302.42 | 2.0 | 308.49 | 306.85 | 0.71 | 308.10 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 255485.154 | М |
| - | 23 | 24 | 0.00 | 5.64 | 28.56 | | 0.55 | 7.31 | 0.00 | 0.00 | 28.34 | 0.00 | 157 | 30 | 0.45% | 0.013 | 27.55 | 5.6 | 5.8 | 0.75 | 0.00 | 302.42 | 301.71 | 2.5 | 306.85 | 306.10 | 0.47 | 308.34 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 255485.154 | М |
| - | 24 | 25 | 0.00 | 5.64 | 28.56 | 1.25 | 0.55 | 7.31 | 0.00 | 0.00 | 28.34 | 0.00 | 101 | 30 | 0.45% | 0.013 | 27.37 | 5.6 | 5.8 | 0.48 | 0.00 | 301.71 | 301.26 | 2.5 | 306.10 | 305.62 | 0.47 | 307.87 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 255485.154 | М |
| - | 25 | 26 | 0.00 | 5.64 | 28.56 | 1.25 | 0.55 | 7.31 | 0.00 | 0.00 | 28.34 | 0.00 | 125 | 30 | 0.45% | 0.013 | 27.63 | 5.6 | 5.8 | 0.59 | 0.00 | 301.26 | 300.69 | 2.5 | 305.62 | 305.03 | 0.47 | 307.60 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 255485.154 | М |
| - | 26 | 27 | 0.00 | 19.67 | 31.90 | | 0.55 | 6.91 | 0.00 | 0.00 | 93.42 | 0.00 | 178 | 42 | 0.39% | 0.013 | 62.64 | 6.5 | 9.7 | | 0.00 | 300.69 | 300.00 | 3.5 | 305.03 | | 0.86 | 307.30 | 42 | X | 9.62 | 11.00 | 0.88 | 3.50 | 3500636.055 255485.154 | М |
| - | 27 | 2000 | 1.43 | 21.10 | 32.11 | 1.25 | 0.55 | 6.89 | 6.77 | 0.00 | 99.88 | 0.00 | 215 | 42 | 0.39% | 0.013 | 62.82 | 6.5 | 10.4 | 2.11 | 0.00 | 294.84 | 294.00 | 3.5 | 299.61 | 297.50 | 0.98 | 307.27 | 42 | X | 9.62 | 11.00 | 0.88 | 3.50 | 3500636.055 255485.154 | М |
| | | | | | _ | | | | _ | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| B-202 | 202 | 35 | 0.76 | 0.76 | 24.53 | | 0.55 | 7.89 | 4.12 | 0.00 | 4.12 | 0.00 | 33 | 24 | 0.61% | 0.013 | 17.61 | 5.6 | 1.3 | 0.20 | 0.00 | 303.50 | 303.30 | 2.0 | 308.77 | 308.57 | 0.60 | 307.86 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 255485.154 | M |
| - | 35 | 22 | 0.00 | 0.76 | 24.53 | 1.25 | 0.55 | 7.89 | 0.00 | 0.00 | 4.12 | 0.00 | 22 | 24 | 0.35% | 0.013 | 13.44 | 4.3 | 1.3 | 0.08 | 0.00 | 303.30 | 303.22 | 2.0 | 308.57 | 308.49 | 0.30 | 307.68 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 255485.154 | М |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B-203 | 203 | 204 | 1.27 | 1.27 | 25.43 | | 0.55 | 7.75 | 6.77 | 0.00 | 6.77 | 0.00 | 33 | 24 | 0.60% | 0.013 | 17.58 | 5.6 | 2.2 | 0.20 | 0.00 | 303.89 | 303.69 | 2.0 | 307.15 | 306.95 | 0.60 | 308.34 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 255485.154 | М |
| B-204 | 204 | 23 | 0.62 | 1.89 | 26.19 | 1.25 | 0.55 | 7.64 | 3.25 | 0.00 | 9.92 | 0.00 | 7 | 24 | 1.43% | 0.013 | 27.04 | 8.6 | 3.2 | 0.10 | 0.00 | 303.69 | 303.59 | 2.0 | 306.95 | 306.85 | 1.42 | 308.34 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 255485.154 | M |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | T | |
| B-205 | 205 | 206 | 1.61 | 1.61 | 25.87 | | 0.55 | 7.68 | 8.50 | 0.00 | 8.50 | 0.00 | 26 | 24 | 0.78% | 0.013 | 19.94 | 6.3 | 2.7 | 0.20 | 0.24 | 302.80 | 302.60 | 2.0 | 305.33 | 305.13 | 0.77 | 307.83 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 255485.154 | M |
| B-206 | 206 | 26 | 3.27 | 4.88 | 28.22 | 1.25 | 0.55 | 7.35 | 16.53 | 0.00 | 24.67 | 0.00 | 8 | 24 | 1.25% | 0.013 | 25.29 | 8.1 | 7.9 | 0.10 | 0.00 | 302.60 | 302.50 | 2.0 | 305.13 | 305.03 | 1.24 | 307.83 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 255485.154 | M |
| | | | 1 | 1 | 1 25.04 | 1.05 | | 1 700 | T | | 1 | | | | T | | | | 1 | | 1 | 1 | | | 1 | T | 1 | 1 | 7. | | | | | | Y | |
| B-207 | 207 | 208 | 1.56 | 1.56 | 25.81 | | 0.55 | 7.69 | 8.25 | 0.00 | 8.25 | 0.00 | 24 | 24 | 0.83% | 0.013 | 20.62 | 6.6 | 2.6 | 0.20 | 0.43 | 306.05 | 305.85 | 2.0 | 311.61 | 311.41 | 0.83 | 310.55 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 255485.154 | M |
| B-208 | 208 | 36 | 3.76 | 5.32 | 28.42 | 1.25 | 0.55 | 7.33 | 18.94 | 0.00 | 26.80 | 0.00 | 8 | 24 | 1.25% | 0.013 | 25.29 | 8.1 | 8.5 | 0.11 | 0.00 | 305.85 | 305.75 | 2.0 | 311.41 | 311.30 | 1.40 | 310.55 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 255485.154 | M |
| | 36 | 28 | 0.00 | 5.32 | 28.42 | | 0.55 | 7.33 | 0.00 | 0.00 | 26.80 | 0.00 | 60 | 30 | 0.30% | 0.013 | 22.47 | 4.6 | 5.5 | 0.25 | 0.00 | 305.58 | 305.40 | 2.5 | 311.30 | 311.04 | 0.42 | 310.55 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 255485.154 | M |
| - | 28 | 29 | 0.00 | 5.32 | 28.42 | 1.25 | 0.55 | 7.33 | 0.00 | 0.00 | 26.80 | 0.00 | 270 | 30 | 0.30% | 0.013 | 22.48 | 4.6 | 5.5 | 1.14 | 0.00 | 305.40 | 304.59 | 2.5 | 311.04 | 309.90 | 0.42 | 310.78 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 255485.154 | M |
| - | 29 | 30 | 0.00 | 6.78 | 29.01 | | 0.55 | 7.25 | 0.00 | 0.00 | 33.80 | 0.00 | 196 | 30 | 0.30% | 0.013 | 22.48 | 4.6 | 6.9 | 1.33 | 0.00 | 304.59 | 304.00 | 2.5 | 309.90 | 308.57 | 0.68 | 311.15 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 255485.154 | M |
| - | 30 | 31 | 0.00 | 9.15 | 29.77 | 1.25 | 0.55 | 7.16 | 0.00 | 0.00 | 45.02 | 0.00 | 152 | 30 | 0.55% | 0.013 | 30.33 | 6.2 | 9.2 | 1.82 | 0.00 | 304.00 | 303.17 | 2.5 | 308.57 | 306.75 | 1.20 | 310.47 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 255485.154 | M |
| - | 31 | 32 | 0.00 | 9.15 | 29.77 | 1.25 | 0.55 | 7.16 | 0.00 | 0.00 | 45.02 | 0.00 | 69 | 30 | 0.55% | 0.013 | 30.48 | 6.2 | 9.2 | 0.82 | 0.00 | 303.17 | 302.79 | 2.5 | 306.75 | 305.92 | 1.20 | 308.91 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 255485.154 | M |
| - | 32 | 26 | 0.00 | 9.15 | 29.77 | 1.25 | 0.55 | 7.16 | 0.00 | 0.00 | 45.02 | 0.00 | /5 | 30 | 0.55% | 0.013 | 30.55 | 6.2 | 9.2 | 0.90 | 0.00 | 302.79 | 302.37 | 2.5 | 305.92 | 305.03 | 1.20 | 307.84 | 30 | X | 4.91 | 7.85 | 0.63 | 2.50 | 3500636.055 255485.154 | M |
| D 000 | 1 000 | 200 | 1 440 | 1 4 40 | 05.00 | 4.05 | 0.55 | 1 774 | T 774 | 1 000 | 1 774 | 0.00 | | 0.4 | 0.0404 | I 0.040 | 1 47.04 | T 50 | 1 05 | 1 000 | 1 000 | 1 000 00 | 1 200 40 | | 1 040.00 | I 200 00 | 1 0.00 | 1 04445 1 | 04 | | | 1 0.00 | | 0.00 | Lapanaga | |
| B-209 | 209 | 29 | 1.46 | 1.46 | 25.69 | 1.25 | 0.55 | 7.71 | 7.74 | 0.00 | 7.74 | 0.00 | 33 | 24 | 0.61% | 0.013 | 17.61 | 5.6 | 2.5 | 0.20 | 0.00 | 306.60 | 306.40 | 2.0 | 310.09 | 309.90 | 0.60 | 311.15 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 255485.154 | М |
| D 040 | 1 040 | 044 | 1 4 40 | 1 4 40 | 05.00 | 4.05 | 0.55 | 774 | 774 | T 0.00 | 7 74 | 0.00 | - 04 | 0.4 | 0.000/ | T 0.040 | T 00.05 | 1 00 | 1 05 | T 0.00 | 1 000 | T 205.07 | 20577 | _ ^ ^ | 1 200 07 | 1 200 07 | T 0.00 | 1 240 40 1 | 24 | | 0.44 | 1 6.00 | 0.50 | 2.00 | 1 2500020 055 255405 454 | - N.A 7 |
| B-210 | 210 | 211 | 1.46 | 1.46 | 25.69 | 1.25 | 0.55 | 7./1 | 1.74 | 0.00 | 1.14 | 0.00 | 24 | 24 | 0.83% | 0.013 | 20.65 | 6.6 | 2.5 | 0.20 | 0.00 | 305.97 | 305.77 | 2.0 | 308.87 | 308.67 | 0.83 | 310.49 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 255485.154 | M |
| B-211 | 211 | 30 | 0.91 | 2.37 | 26.64 | 1.25 | 0.55 | 7.57 | 4.74 | 0.00 | 12.33 | 0.00 | 8 | 24 | 1.25% | 0.013 | 25.29 | 8.1 | 3.9 | 0.10 | 0.00 | 305.77 | 305.67 | 2.0 | 308.67 | 308.57 | 1.24 | 310.49 | 24 | X | 3.14 | 6.28 | 0.50 | 2.00 | 3500636.055 255485.154 | M |

FIRM PANEL NO.48339C0200G & 48339C0350G EFFECTIVE DATE: AUGUST 18, 2014 THIS AREA LIES IN ZONE "X". 1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED. 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. 3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE. 4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL OVERFLOW SWALES MINIMUM EVERY 50'. 5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL. 6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215. 7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL GROUND. 8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL. 9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB. 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB. 10a) SIDEWALKS TO BE LOCATED A MINIMUM OF 5' FROM THE BACK OF CURB WHERE LIGHT POLES ARE PRESENT. 10b) CONSTRUCT SIDEWALKS AND CURB RAMPS IN CONFORMANCE WITH THE TEXAS ACCESSIBILITY STANDARDS (TAS) AND THE AMERICAN WITH DISABILITIES ACT (ADA). 10c) DO NOT PLACE SIDEWALK OVER PARALLEL UTILITY LINES. 10d) AT DRIVEWAYS, ALIGN A MINIMUM 5 FOOT WIDE SIDÉWALK SECTION MEETING TAS AND ADA AS THE SIDEWALK CROSSES THE DRIVEWAY. 11) AS-BUILT ELECTRICAL PLANS TO BE SUBMITTED WITH THE AS-BUILT DRAWINGS FOR THE SUBDIVISION. 12) CONTRACTOR SHALL CLEAR, GRUB, ROOT RAKE, BACK DRAG, CHIP AND DISPOSE OFFSITE OF ALL CLEARED AND GRUBBED MATERIAL. 13) SIDEWALK RAMPS AND SIDEWALKS WITHIN COMMON AREAS TO BE CONSTRUCTED WITH WS&D. SIDEWALKS IN FRONT OF HOMES TO BE CONSTRUCTED BY HOMEBUILDERS. ALL SIDEWALKS TO BE INSTALLED BY END OF 1 YEAR WARRANTY PERIOD. 14) CONTRACTOR TO STAMP THE FACE OF THE CURB WITH AN "S" AT THE LOCATION OF EACH SANITARY SEWER LEAD AND "W" AT THE LOCATION OF EACH WATER LEAD. REVISION CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR DATE

BENCHMARK:

ALL ELEVATIONS SET TO NGS. NAVD 88. MONUMENT 1 DESIGNATION ELEV. 239.00

MONUMENT 2 DESIGNATION ELEV. 301.880 BRASS DISC SET IN CONCRETE LOCATED BY

100YR. W.S.E.= 298.83' AT OUTFALL #1000 100YR. W.S.E.= 298.83' AT OUTFALL #2000

BRASS DISC SET IN CONCRETE LOCATED BY COORDINATES X = 376,481.91322 Y = 10,135,441.47530

COORDINATES X = 3,757,800.73970 Y = 10,131,535.69490

04/24/2025 SCALE: N.T.S.

100 YEAR STORM CALCULATIONS

MONTGOMERY COUNTY MUNICIPAL UTILITY DISTRICT NO. 215

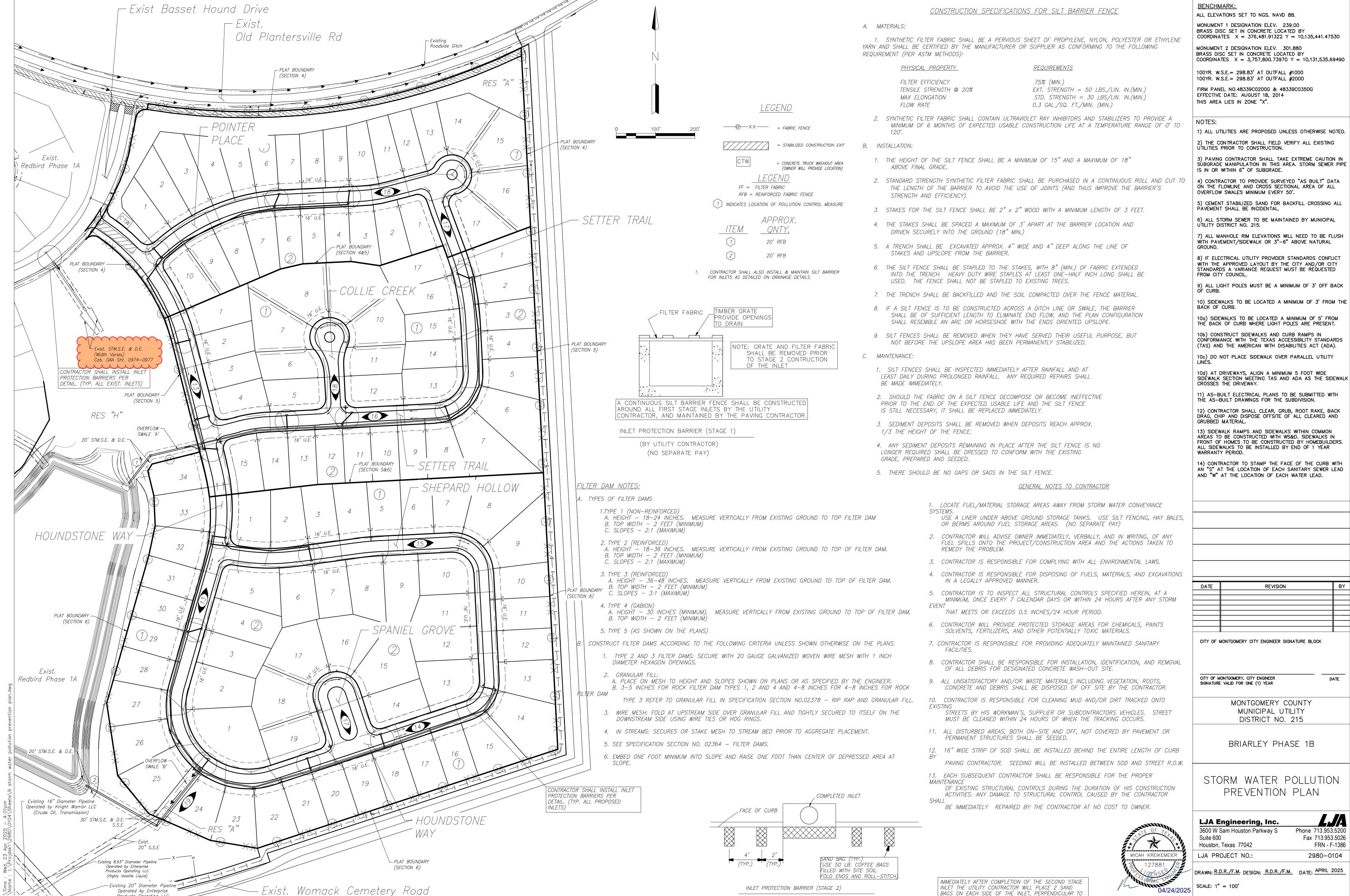
BRIARLEY PHASE 1B

Phone 713.953.5200 LJA Engineering, Inc.
3600 W Sam Houston Parkway S Suite 600 Houston, Texas 77042 LJA PROJECT NO.:

Fax 713.953.5026 FRN - F-1386 2980-0104

DRAWN: R.D.R./F.M. DESIGN: R.D.R./F.M. DATE: APRIL 2025

SHEET NO. 8 OF 30



(BY UTILITY CONTRACTOR)

Products Operating LLC

(Highly Volatile Liquid)

BAGS ON EACH SIDE OF THE INLET, PERPENDICULAR TO THE CURB, AS SHOWN BELOW

SHEET NO. 9 OF 30



MONUMENT 1 DESIGNATION ELEV. 239.00
BRASS DISC SET IN CONCRETE LOCATED BY
COORDINATES X = 376,481.91322 Y = 10,135,441.47530

1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.

3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.

7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL

8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL.

9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB.

10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.

(TAS) AND THE AMERICAN WITH DISABILITIES ACT (ADA).

12) CONTRACTOR SHALL CLEAR, GRUB, ROOT RAKE, BACK DRAG, CHIP AND DISPOSE OFFSITE OF ALL CLEARED AND GRUBBED MATERIAL.

13) SIDEWALK RAMPS AND SIDEWALKS WITHIN COMMON AREAS TO BE CONSTRUCTED WITH WS&D. SIDEWALKS IN FRONT OF HOMES TO BE CONSTRUCTED BY HOMEBUILDERS. ALL SIDEWALKS TO BE INSTALLED BY END OF 1 YEAR WARRANTY PERIOD.

14) CONTRACTOR TO STAMP THE FACE OF THE CURB WITH AN "S" AT THE LOCATION OF EACH SANITARY SEWER LEAD AND "W" AT THE LOCATION OF EACH WATER LEAD.

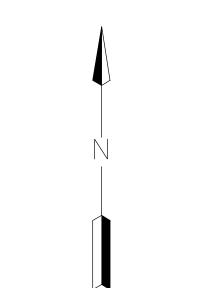
CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

DRAWN: R.D.R./F.M. DESIGN: R.D.R./F.M. DATE: APRIL 2025

SHEET NO. 10 OF 30

2980-0104





INDICATES TREE POSITION

LANDSCAPING FOR RESERVES WILL BE PROVIDED IN A SEPARATE PLAN SET

WARNING! HIGH PRESSURE PIPELINE

ENTERPRISE PRODUCTS OPERATING LLC.

EXCAVATION AND/OR CONSTRUCTION PROHIBITED WITHOUT PRIOR WRITTEN PERMISSION FROM

NOTES:

BENCHMARK:

ALL ELEVATIONS SET TO NGS. NAVD 88. MONUMENT 1 DESIGNATION ELEV. 239.00

MONUMENT 2 DESIGNATION ELEV. 301.880 BRASS DISC SET IN CONCRETE LOCATED BY

100YR. W.S.E.= 298.83' AT OUTFALL #1000 100YR. W.S.E.= 298.83' AT OUTFALL #2000

EFFECTIVE DATE: AUGUST 18, 2014 THIS AREA LIES IN ZONE "X".

FIRM PANEL NO.48339C0200G & 48339C0350G

1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.

BRASS DISC SET IN CONCRETE LOCATED BY COORDINATES X = 376,481.91322 Y = 10,135,441.47530

COORDINATES X = 3,757,800.73970 Y = 10,131,535.69490

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3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.

4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL OVERFLOW SWALES MINIMUM EVERY 50'.

5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL.

6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215.

7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH

WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL 8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY

STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL.

9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB. 10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.

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10b) CONSTRUCT SIDEWALKS AND CURB RAMPS IN CONFORMANCE WITH THE TEXAS ACCESSIBILITY STANDARDS

(TAS) AND THE AMERICAN WITH DISABILITIES ACT (ADA). 10c) DO NOT PLACE SIDEWALK OVER PARALLEL UTILITY LINES.

10d) AT DRIVEWAYS, ALIGN A MINIMUM 5 FOOT WIDE SIDEWALK SECTION MEETING TAS AND ADA AS THE SIDEWALK CROSSES THE DRIVEWAY.

11) AS-BUILT ELECTRICAL PLANS TO BE SUBMITTED WITH THE AS-BUILT DRAWINGS FOR THE SUBDIVISION.

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AN "S" AT THE LOCATION OF EACH SANITARY SEWER LEAD AND "W" AT THE LOCATION OF EACH WATER LEAD.

| DATE | REVISION | BY |
|---------|--|----|
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| | | |
| | | |
| CITY OF | MONTGOMERY CITY ENGINEER SIGNATURE BLOCK | |

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

MONTGOMERY COUNTY MUNICIPAL UTILITY DISTRICT NO. 215

DATE

BRIARLEY PHASE 1B

LANDSCAPE PLAN

MICAH KREIKEMEIER

04/24/2025

LJA Engineering, Inc. 3600 W Sam Houston Parkway S

Houston, Texas 77042 LJA PROJECT NO.:

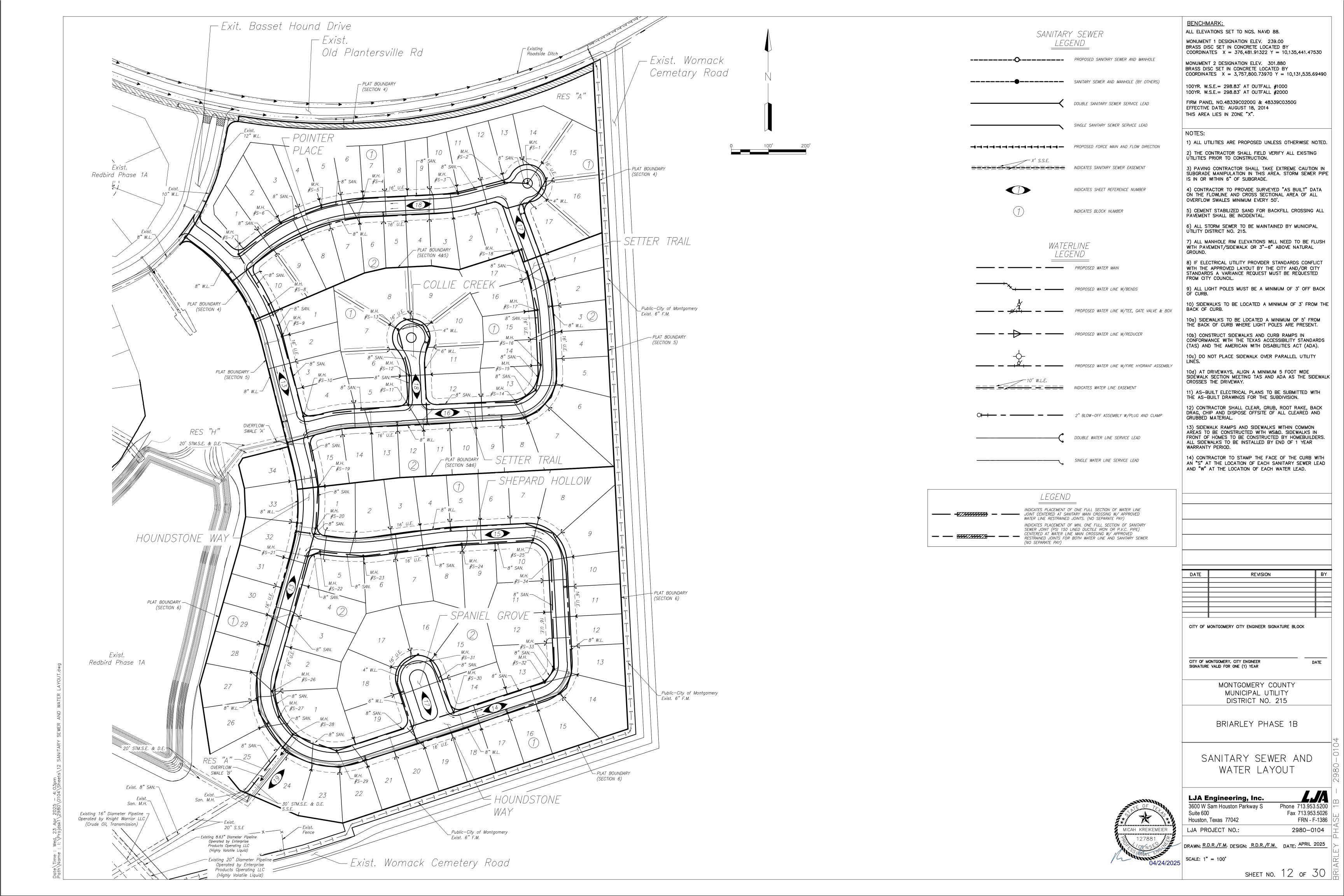
2980-0104 DRAWN: R.D.R./F.M. DESIGN: R.D.R./F.M. DATE: APRIL 2025

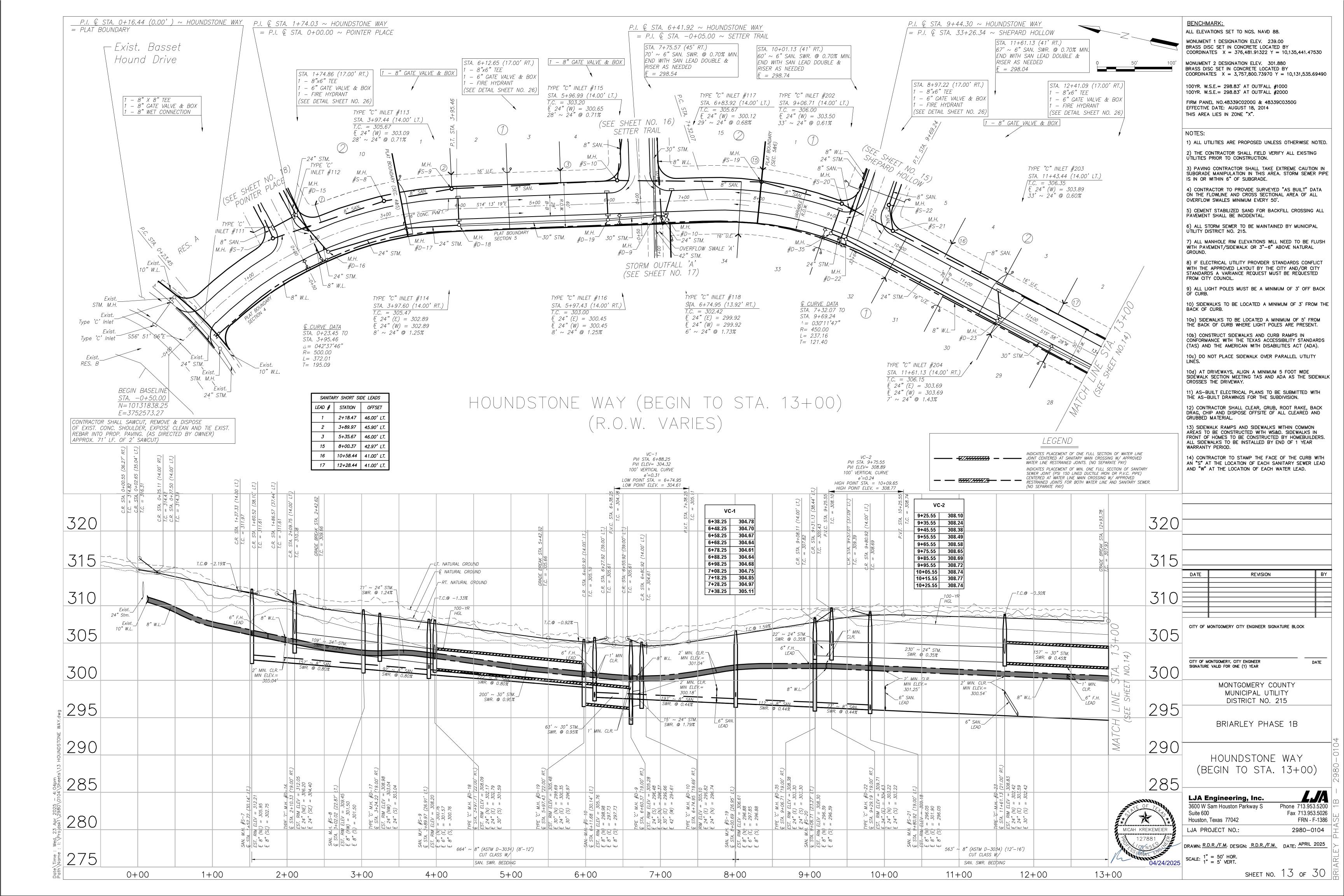
SCALE: 1" = 100'

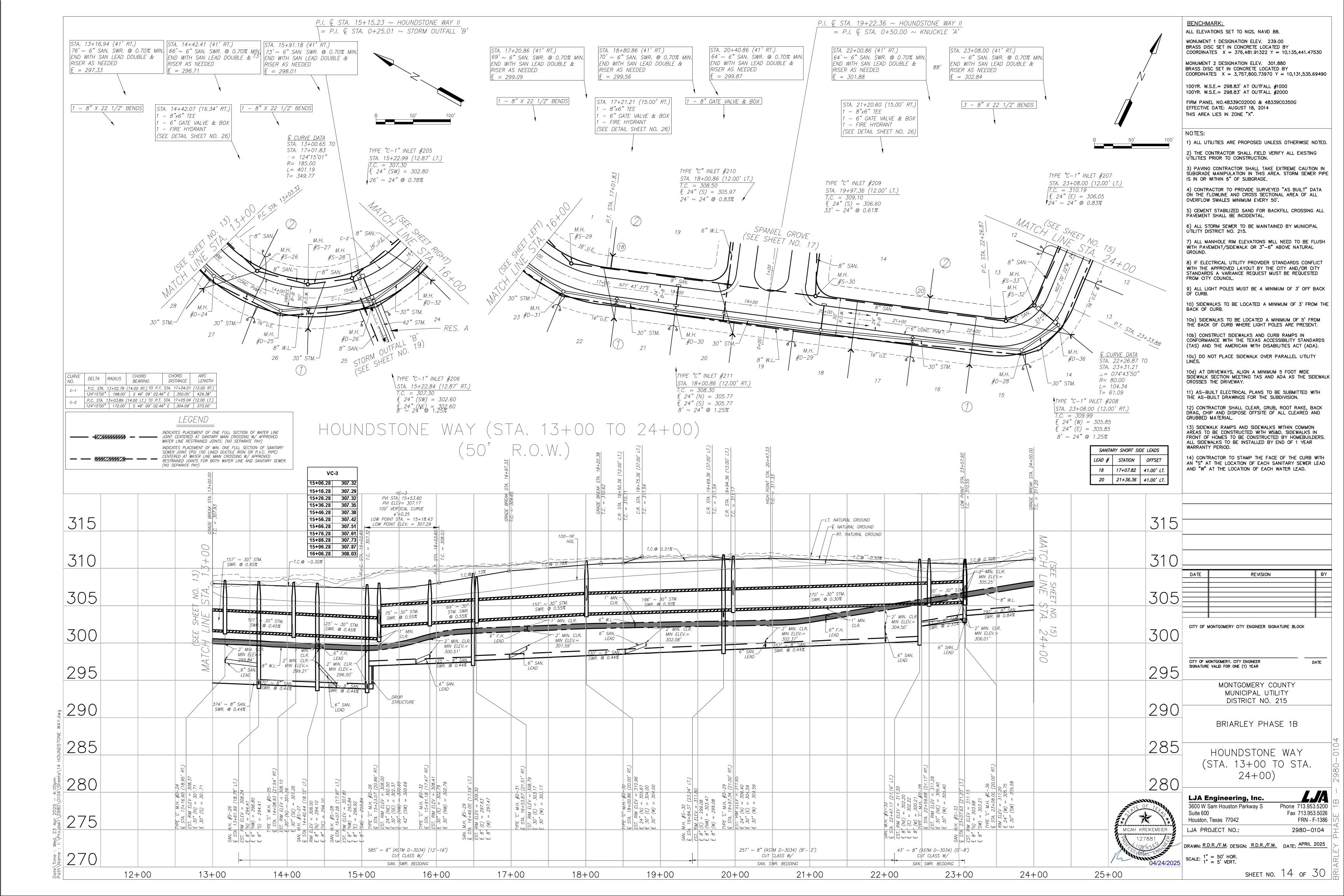
SHEET NO. 11 OF 30

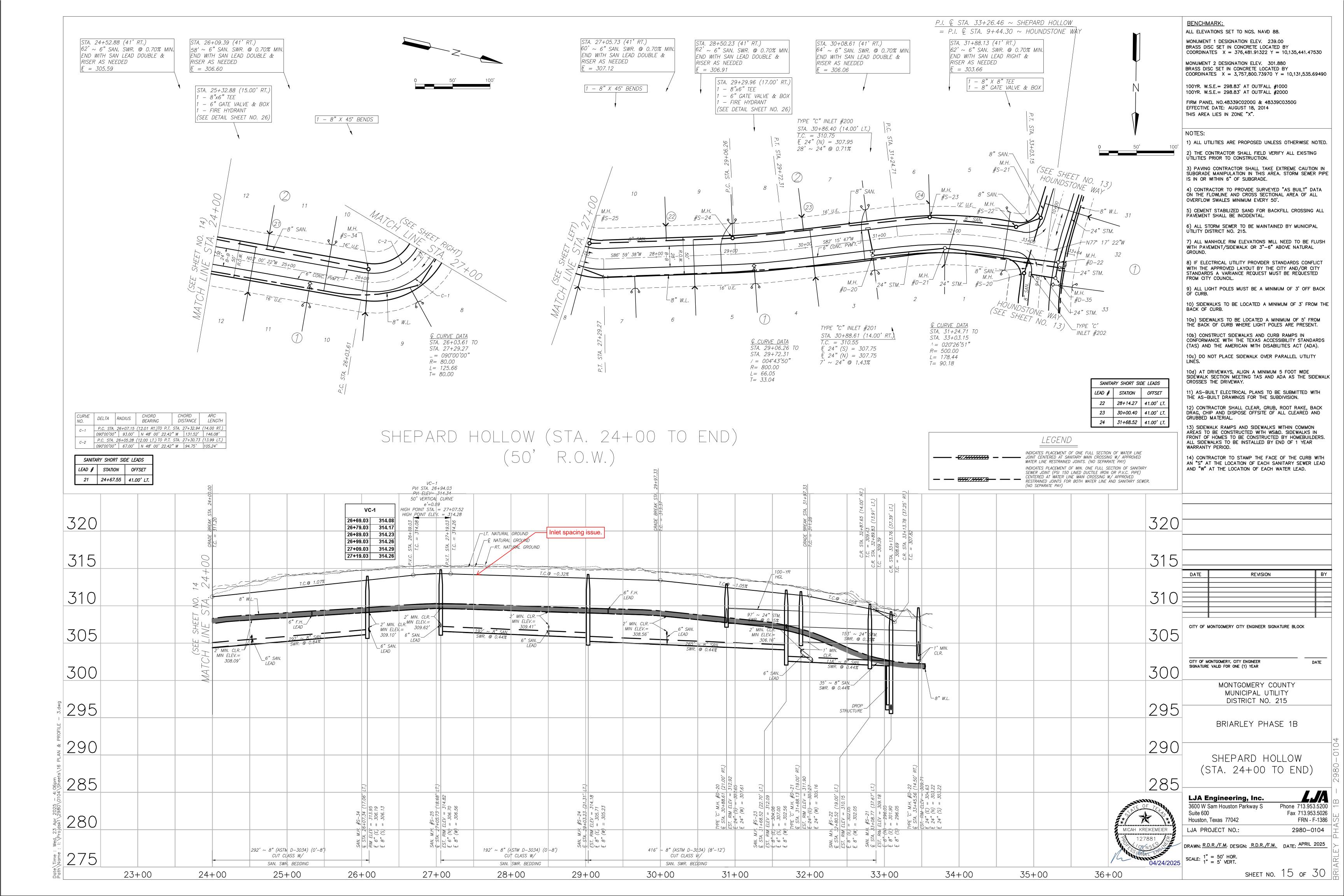
Phone 713.953.5200 Fax 713.953.5026

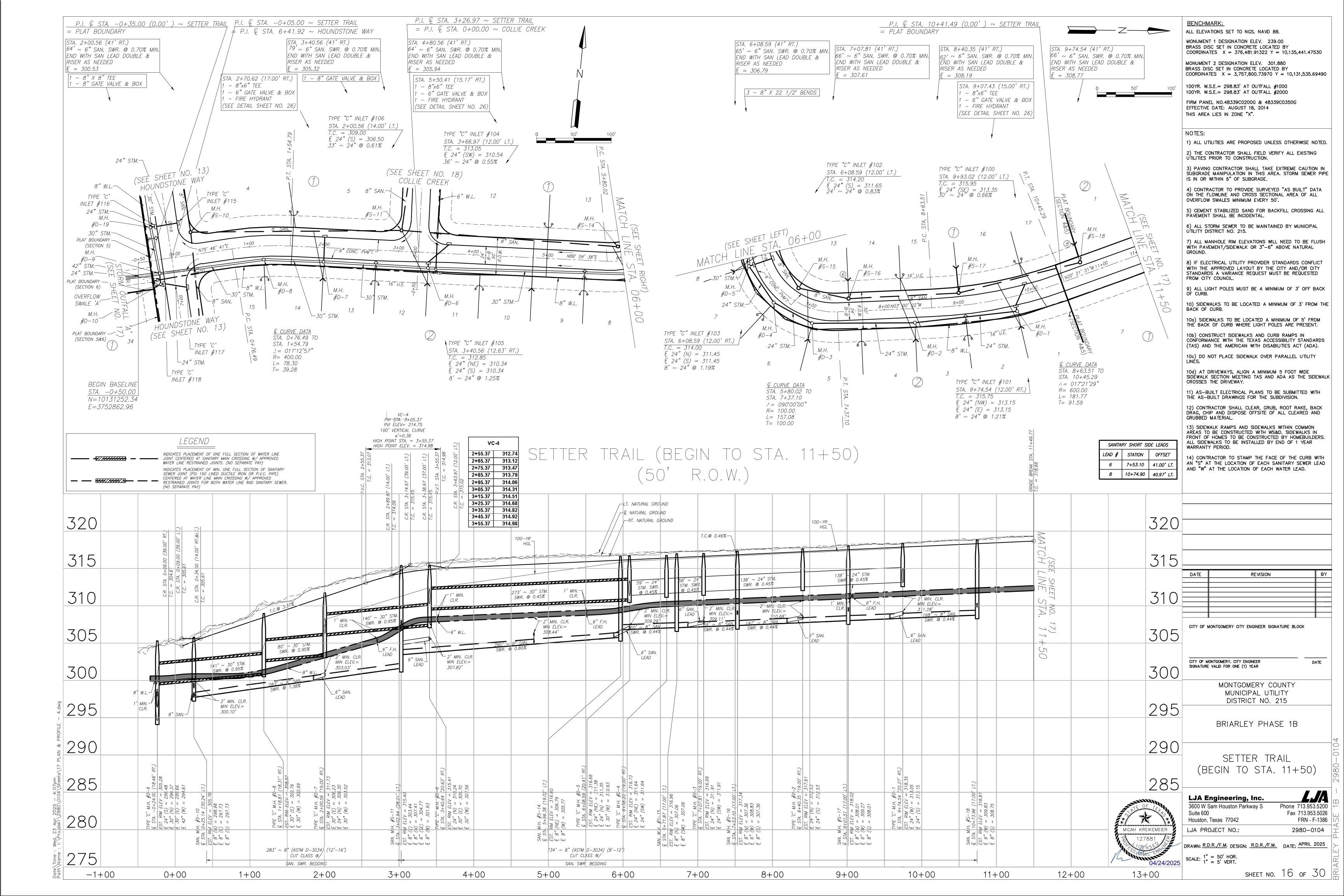
FRN - F-1386

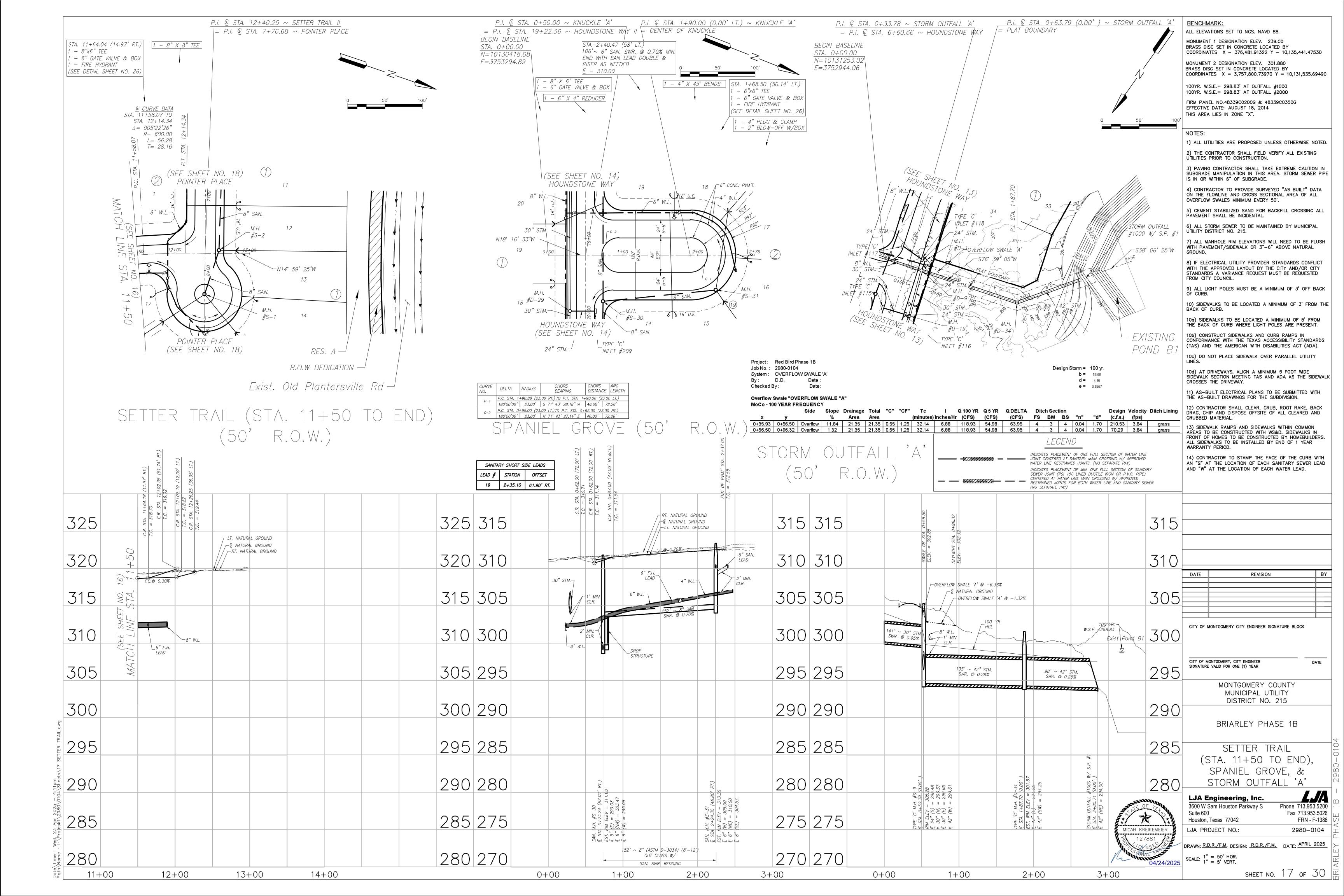


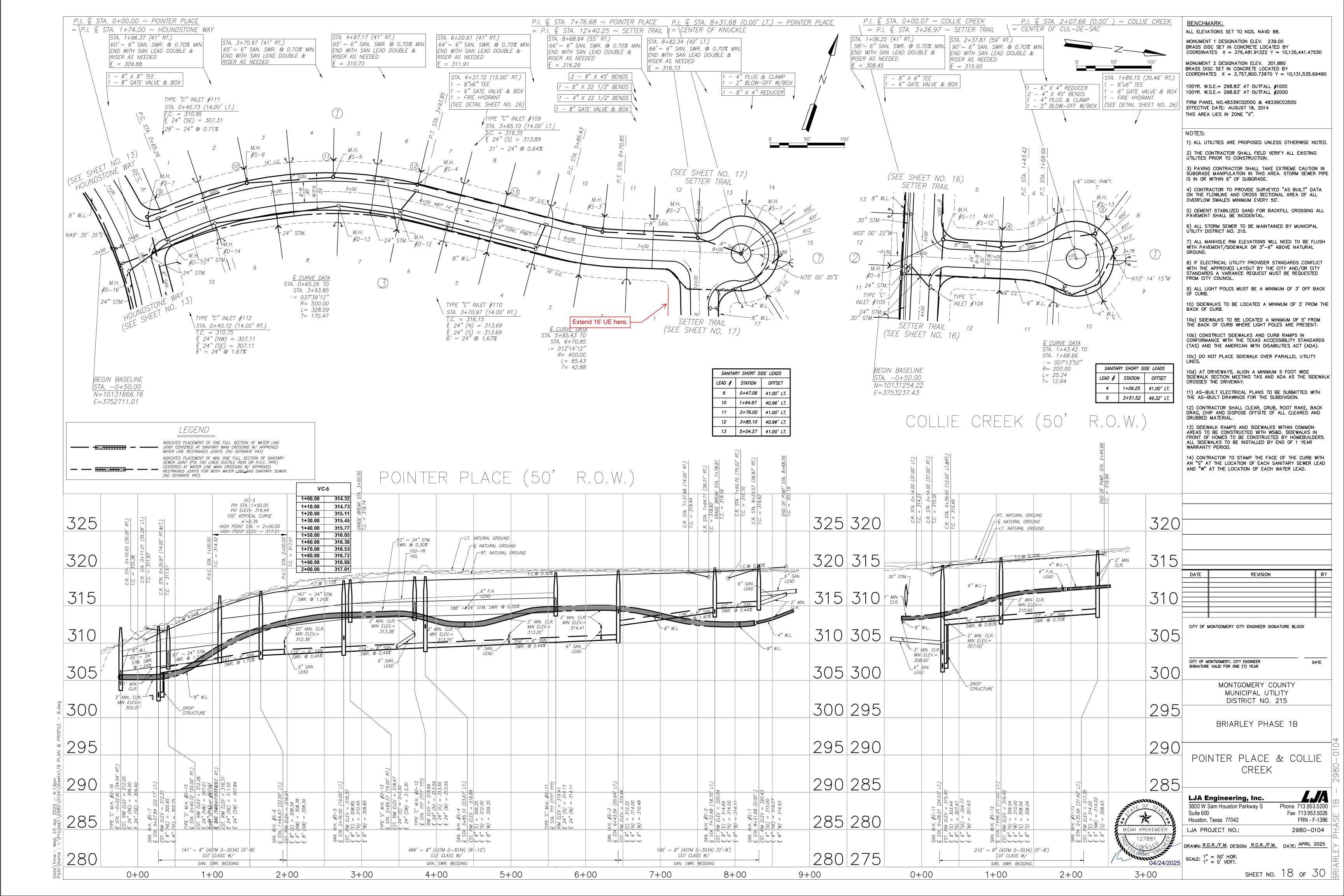


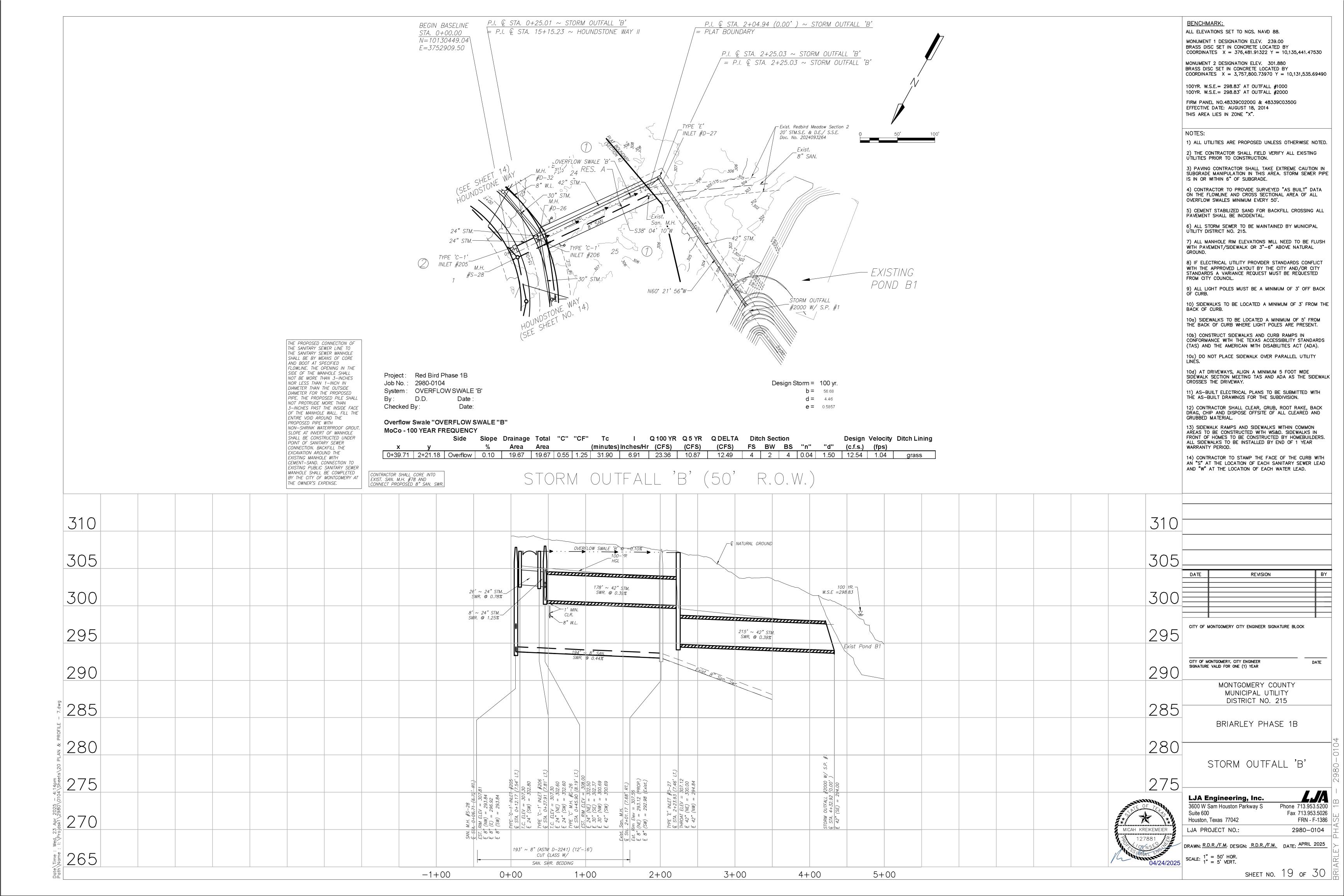


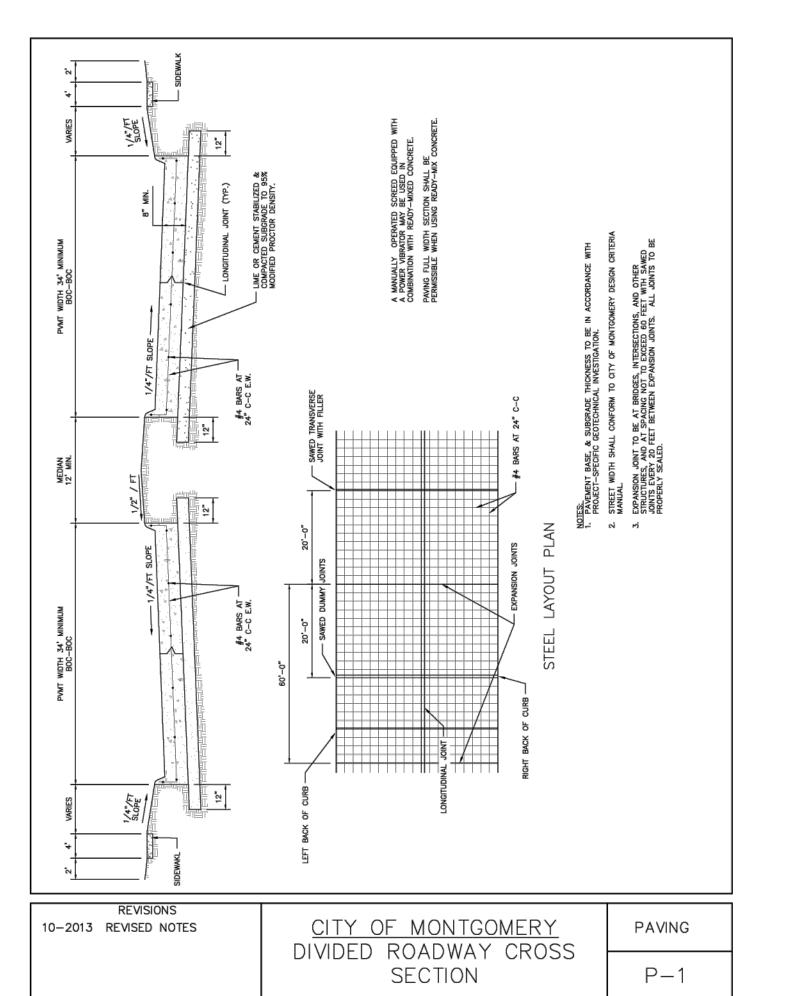


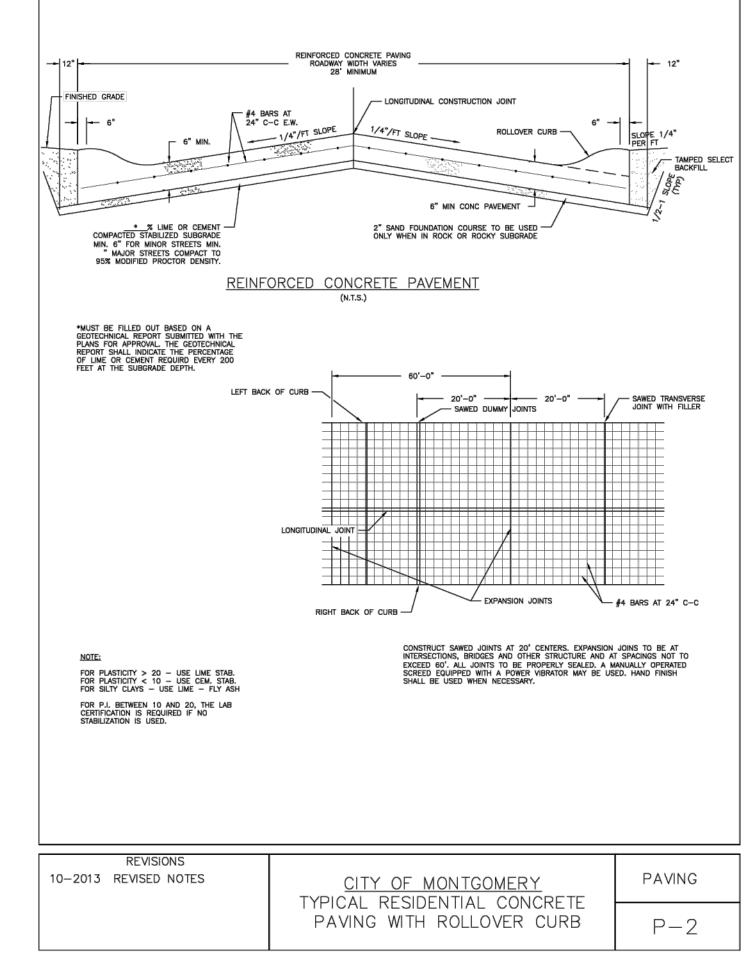


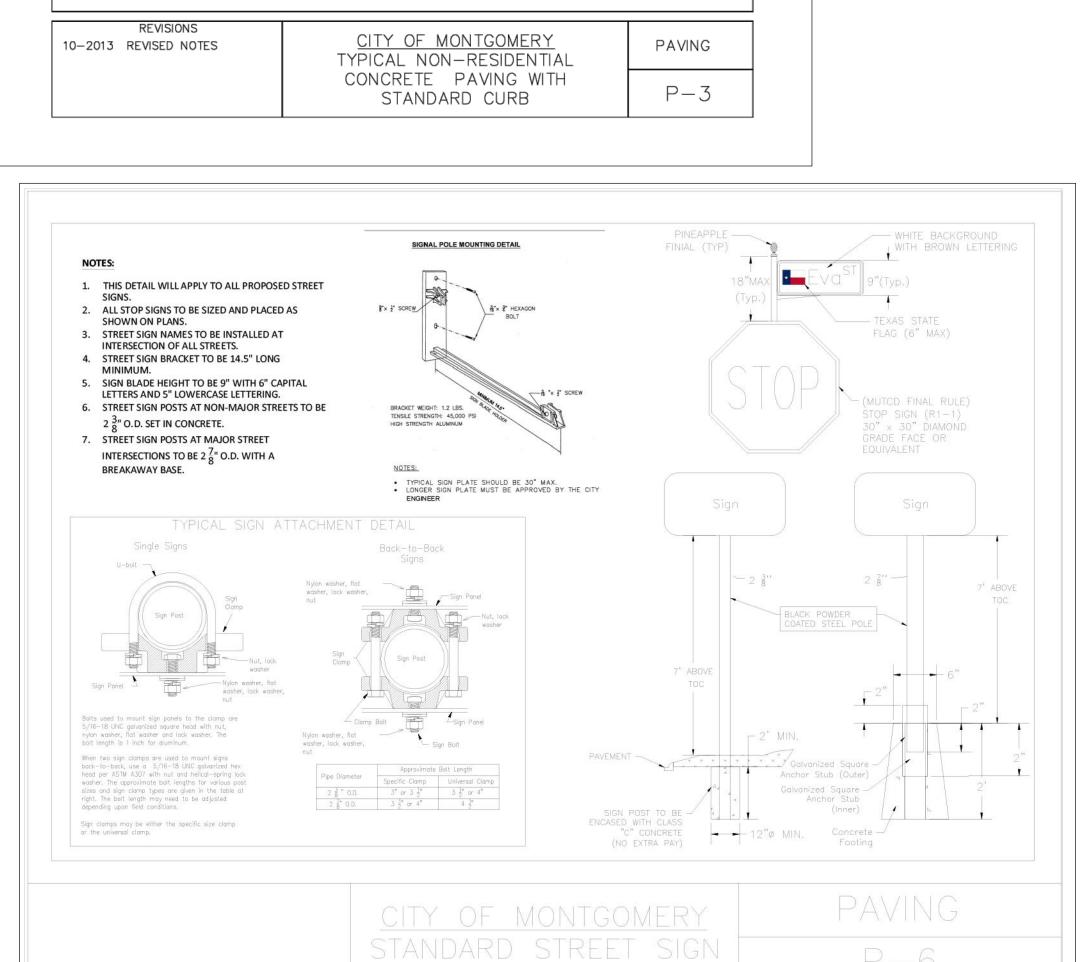












LONGITUDINAL CONSTRUCTION JOINT

SAWED DUMMY JOINTS

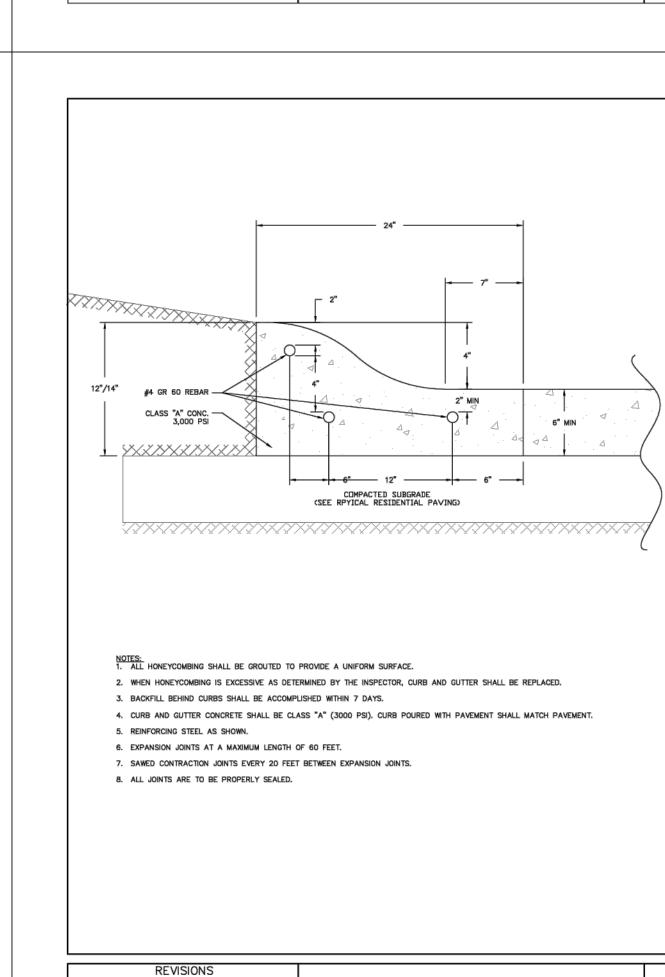
EXCEED 60'. ALL JOINTS TO BE PROPERLY SEALED. A MANUALLY OPERATED SCREED EQUIPPED WITH A POWER VIBRATOR MAY BE USED. HAND FINISH SHALL BE USED WHEN NECESSARY.

REINFORCED CONCRETE PAVEMENT

LEFT BACK OF CURB -

* % LIME OR CEMENT COMPACTED STABILIZED SUBGRADE
MIN. 6" FOR MINOR STREETS MIN.
" MAJOR STREETS COMPACT TO
95% MODIFIED PROCTOR DENSITY.

*MUST BE FILLED OUT BASED ON A GEOTECHNICAL REPORT SUBMITTED WITH THE PLANS FOR APPROVAL. THE GEOTECHNICAL REPORT SHALL INDICATE THE PERCENTAGE OF LIME OR CEMENT REQUIRD EVERY 200 FEET AT THE SUBGRADE DEPTH.



PAVING

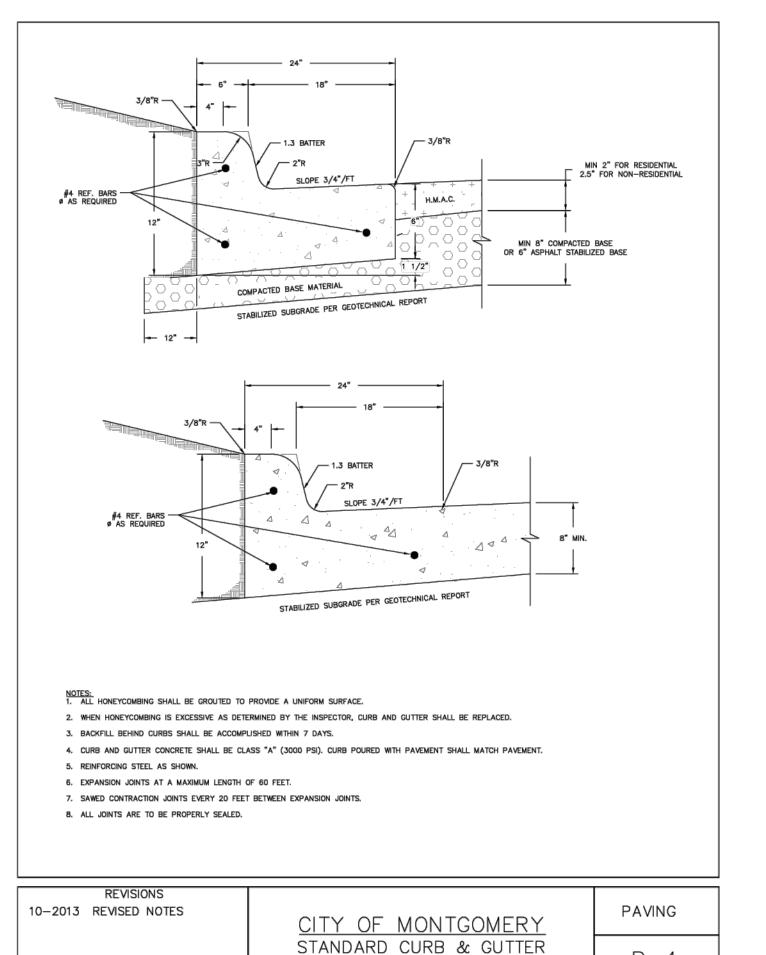
P-5

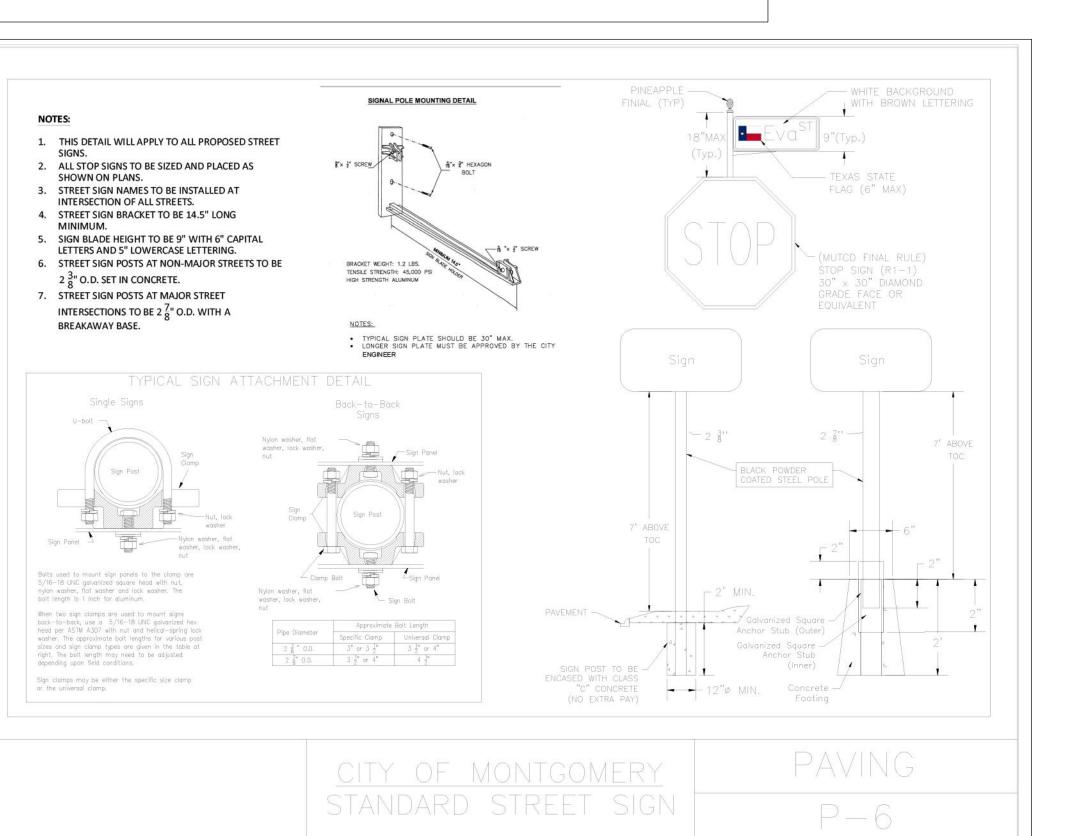
CITY OF MONTGOMERY

ROLLOVER CURB & GUTTER

10-2013 REVISED NOTES

P-4





DATE REVISION CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR MONTGOMERY COUNTY MUNICIPAL UTILITY DISTRICT NO. 215 BRIARLEY PHASE 1B PAVING DETAILS LJA Engineering, Inc. 3600 W Sam Houston Parkway S Phone 713.953.5200 Fax 713.953.5026 Suite 600

Houston, Texas 77042 MICAH KREIKEMEIER LJA PROJECT NO.: DRAWN: R.D.R./F.M. DESIGN: R.D.R./F.M. SCALE: N.T.S.

ALL ELEVATIONS SET TO NGS. NAVD 88. MONUMENT 1 DESIGNATION ELEV. 239.00 BRASS DISC SET IN CONCRETE LOCATED BY COORDINATES X = 376,481.91322 Y = 10,135,441.47530MONUMENT 2 DESIGNATION ELEV. 301.880

BRASS DISC SET IN CONCRETE LOCATED BY

100YR. W.S.E.= 298.83' AT OUTFALL #1000 100YR. W.S.E.= 298.83' AT OUTFALL #2000

EFFECTIVE DATE: AUGUST 18, 2014 THIS AREA LIES IN ZONE "X".

UTILITIES PRIOR TO CONSTRUCTION.

IS IN OR WITHIN 6" OF SUBGRADE.

FROM CITY COUNCIL.

CROSSES THE DRIVEWAY.

GRUBBED MATERIAL.

WARRANTY PERIOD.

BÁCK OF CURB.

OVERFLOW SWALES MINIMUM EVERY 50'.

FIRM PANEL NO.48339C0200G & 48339C0350G

COORDINATES X = 3,757,800.73970 Y = 10,131,535.69490

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SIDÉWALK SECTION MEETING TAS AND ADA AS THE SIDEWALK

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THE AS-BUILT DRAWINGS FOR THE SUBDIVISION.

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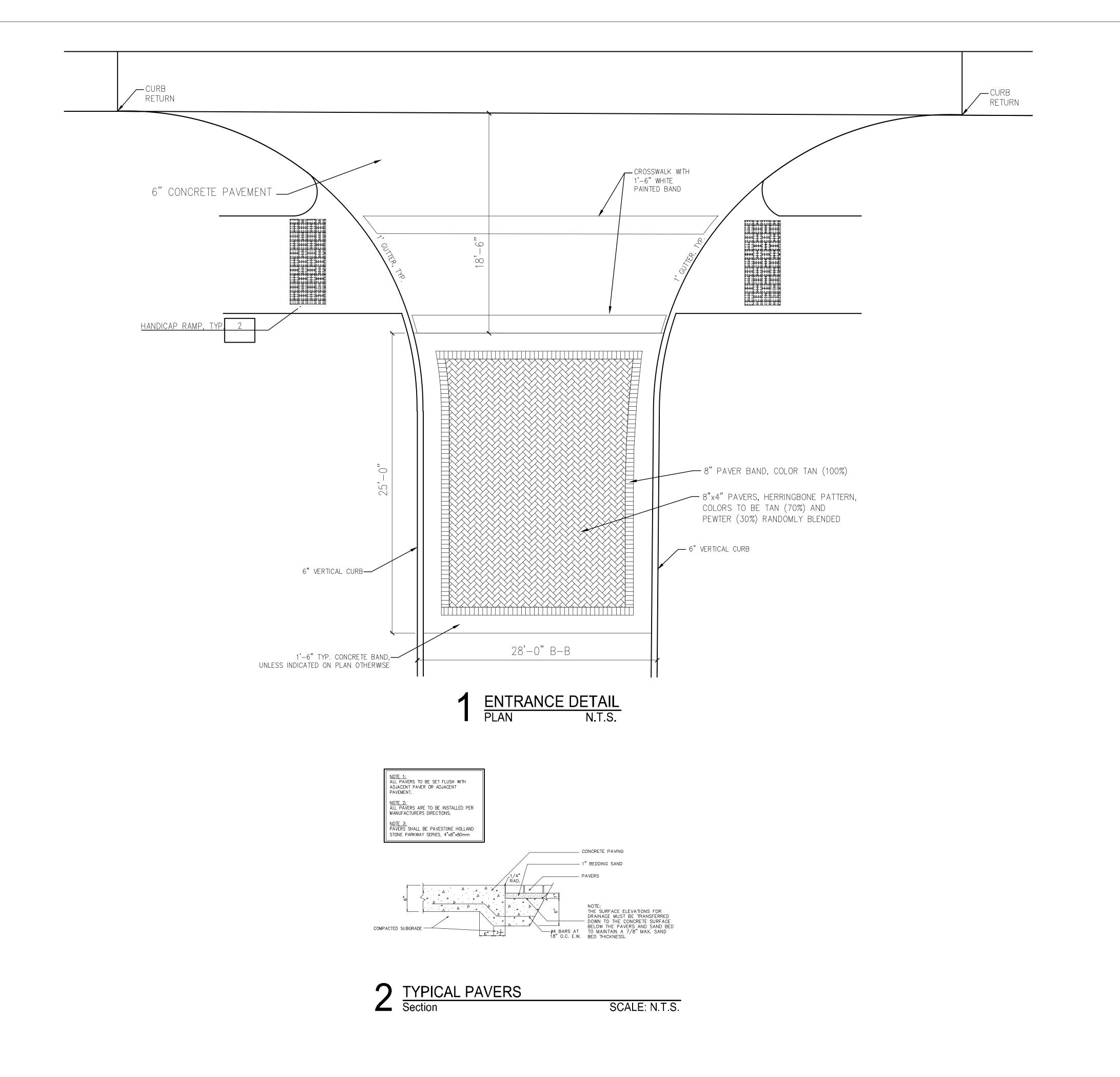
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BENCHMARK:

SHEET NO. 20 OF 30

FRN - F-1386

2980-0104



BENCHMARK:

ALL ELEVATIONS SET TO NGS. NAVD 88.

MONUMENT 1 DESIGNATION ELEV. 239.00

BRASS DISC SET IN CONCRETE LOCATED BY

COORDINATES X = 376,481.91322 Y = 10,135,441.47530

MONUMENT 2 DESIGNATION ELEV. 301.880
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COORDINATES X = 3,757,800.73970 Y = 10,131,5

COORDINATES X = 3,757,800.73970 Y = 10,131,535.69490

100YR. W.S.E. = 298.83' AT OUTFALL #1000

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DATE REVISION BY

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

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

MONTGOMERY COUNTY
MUNICIPAL UTILITY
DISTRICT NO. 215

DATE

BRIARLEY PHASE 1B

PAVING DETAILS II

LJA Eng
3600 W Sam
Suite 600
Houston, Texa

LJA PROJEC

DRAWN: R.D.R./F.

SCALE: N.T.S.

LJA Engineering, Inc.

3600 W Sam Houston Parkway S
Suite 600

Phone 713.953.5200
Fax 713.953.5026

 Suite 600
 Fax 713.953.5026

 Houston, Texas 77042
 FRN - F-1386

 LJA PROJECT NO.:
 2980-0104

 DRAWN: R.D.R./F.M. DESIGN: R.D.R./F.M. DATE: APRIL 2025

S.

SHEET NO. 21 OF 30

bottom is unstable. Any foundation that will support a rigid pipe without causing loss of grade or flexural breaking will be more than adequate for PVC pipes.

The bedding directly underneath the pipe is required only to bring the trench bottom up to grade. It should not be so thick or soft that the pipe will settle and lose grade. The purpose of the bedding is to provide a firm, stable and uniform support of the pipe. A layer of material sufficient to establish line, grade, and support should be placed. Bell holes should be excavated to insure uniform bearing.

The haunching area is the most important in terms of limiting the deflection of a flexible pipe. This is the area that should be compacted to the required or specified density.

SEE NOTE 2-

PLACE "RAM-NEK"-

COMPOUND IN JOINTS FOR WATER PROOF

1.All R.C.P. Manholes shall be in accordance A.S.T.M. C-478.

2. Vulcan Foundry V-1418-2 Frame and Cover (or equal) with the City of Montgomery logo embedded in Iid.

CITY OF MONTGOMERY

STANDARD PRECAST MANHOLE

3. For adjustment of Manhole Lid use standard concrete rings. No

4.Precast bottom section of manhole to be securely attached to reinforced concrete slab with waterproof sealer.

' REINF.

brick adjustment allowed.

REVISIONS

SEE NOTE 3-

STANDARD — R.C.P.-M.H. CONE

Angular, 1/4" to 1-1/2" graded stone, including a number of fill materials that have regional significance, such as coral, slag, cinders, crushed stone and

Coarse sands and gravels with maximum particle size of 1-1/2", including variously graded sands, and gravels containing small percentages of fines, generally granular and noncohesive, either wet or dry. Soil types GW, GP, SW, and SP are included in this class. Fine sand and clayey gravels, including fine sands and

sand-clay mixtures, and gravel clay mixtures. Soil types GM, GC, SM and SC are included in this class. Silt, 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.

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.

FINISHED GRADE (FOR R.O.W. LOCATIONS)

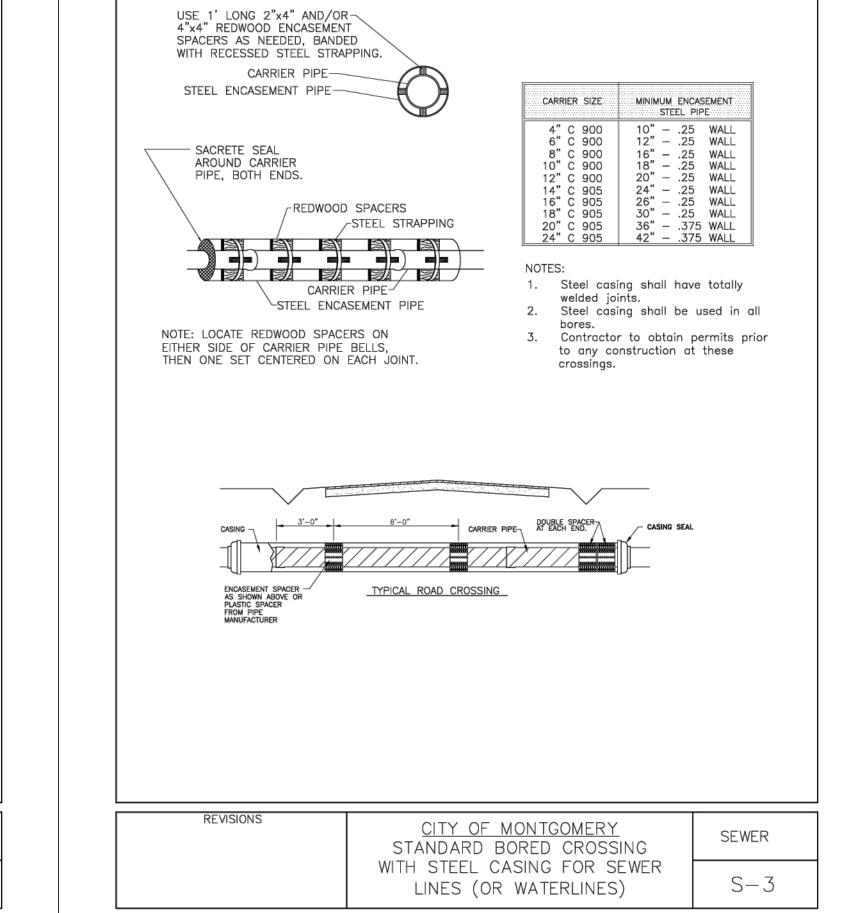
- GROUT FILL

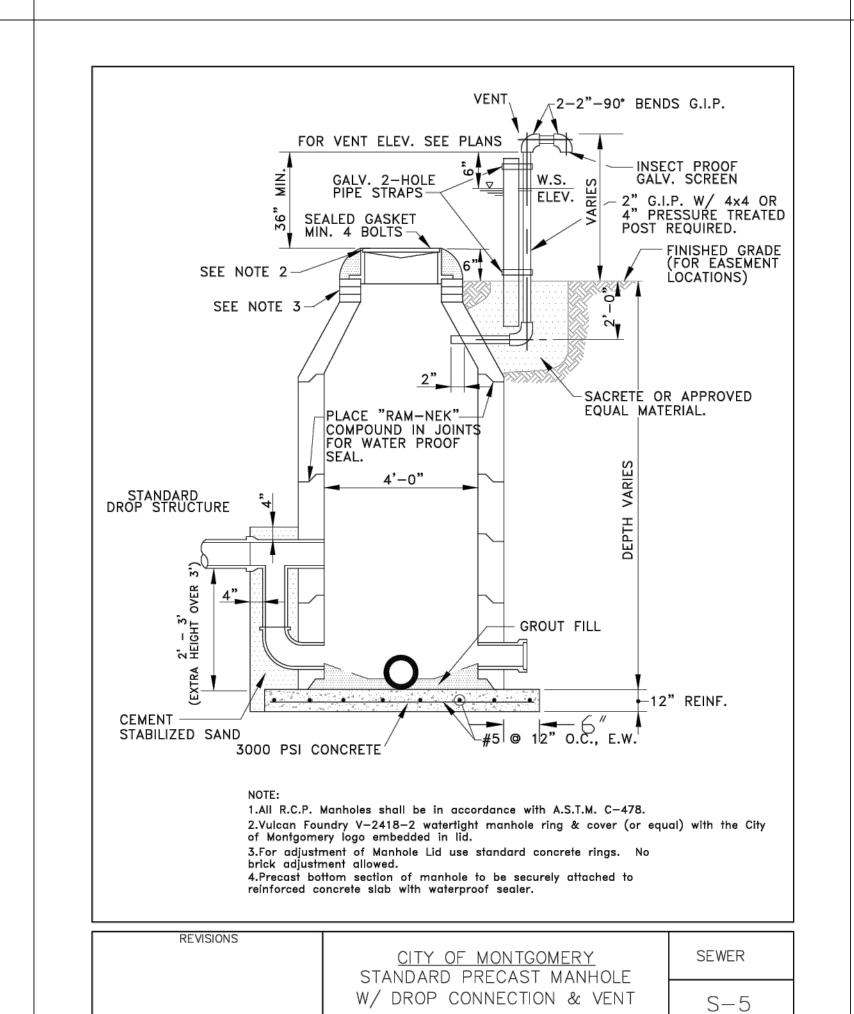
-#5 @ 12" O.C., E.W.

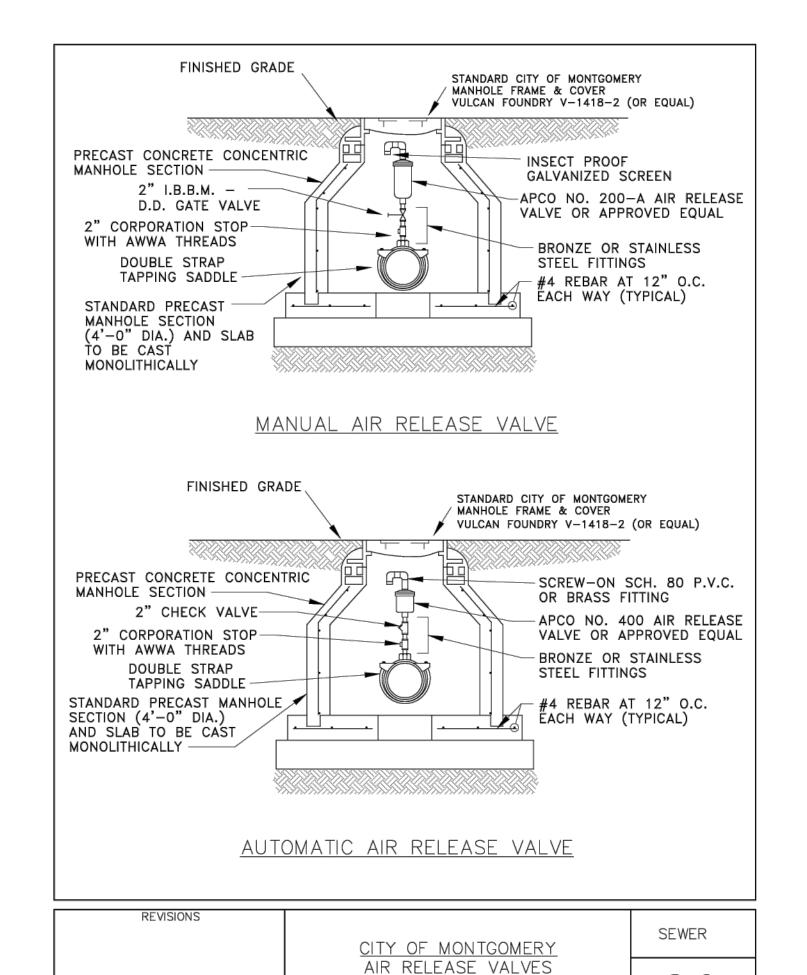
SEWER

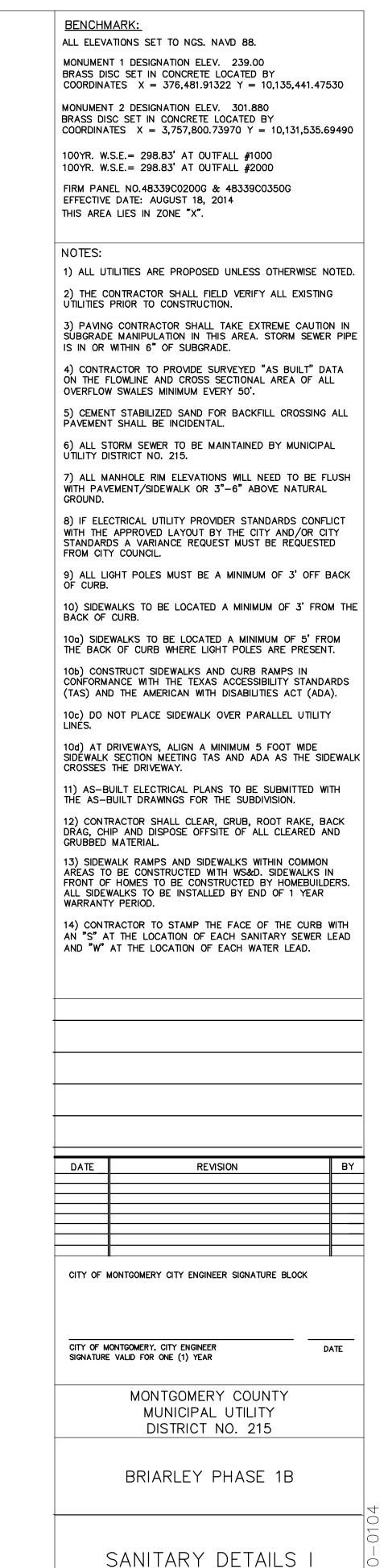
REVISIONS SEWER CITY OF MONTGOMERY TYPICAL SANITARY SEWER BEDDING AND TRENCH DETAIL

-2 SACK / TON CEMENT STABILIZED ROCK, ROLLED & COMPACTED (MATCH EXISTING THICKNESS, 6" MIN.) -ROADWAY TO BE RESTORED TO ORIGINAL CONDITION. BACKFILL MAT'L WILL BE 2 SACKS CEMENT PER TON STABILIZED SAND, PLACED AND COMPACTED IN (TYP.) 7 770 31745 1731 16 BEDDING MATERIAL WILL BE 2 SACKS CEMENT PER TON STABILIZED SAND, PLACED WHEN PIPE IS LAID. NOTE: BACKFILL AND BEDDING MUST MEET ALL MINIMUM ASPECTS OF ASTM D-2321 SEWER CITY OF MONTGOMERY TYPICAL ROADWAY TRENCH BEDDING AND BACKFILL DETAIL









MICAH KREIKEMEIER SCALE: N.T.S.

S-6

LJA Engineering, Inc. 3600 W Sam Houston Parkway S Suite 600

Houston, Texas 77042

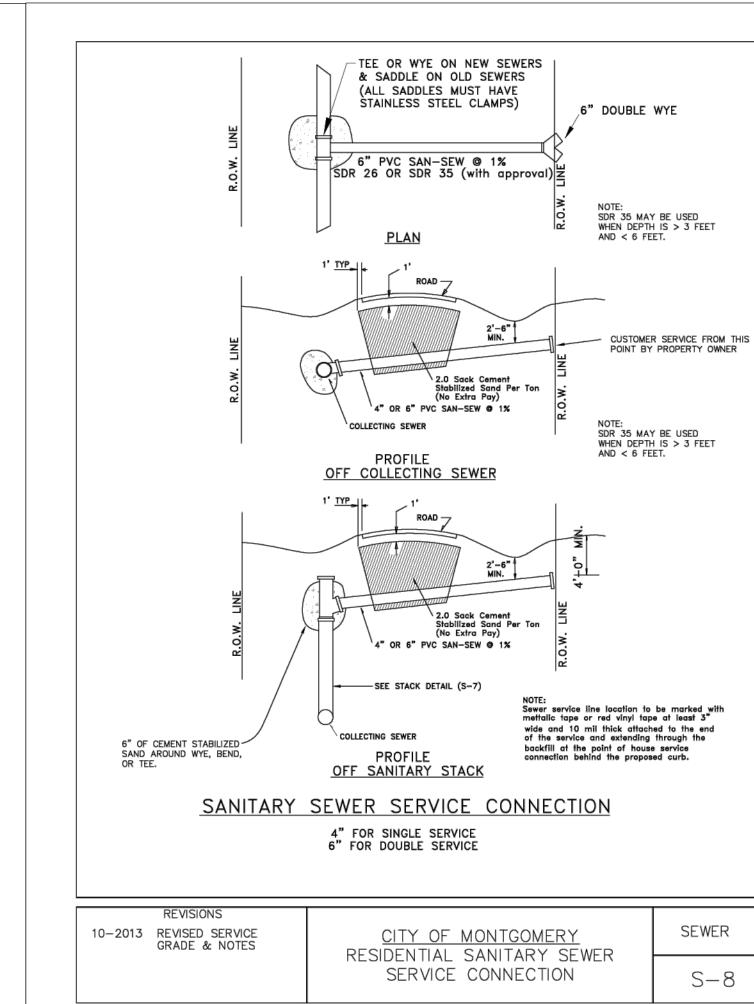
LJA PROJECT NO .: 2980-0104 DATE: APRIL 2025 DRAWN: R.D.R./F.M. DESIGN: R.D.R./F.M.

SHEET NO. 22 OF 30

Phone 713.953.5200

Fax 713.953.5026

FRN - F-1386



of the pipe.

REVISIONS

5. Apply primer to both mating surfaces. Check the PVC surfaces while still

6. While the surfaces are still wet with primer, liberally brush cement base

7. Immediately position the saddle over the hole in the pipe and draw down with stainless steel straps. The saddle must not be moved once it makes

CITY OF MONTGOMERY

TEE & WYE SADDLES FOR

PVC PIPE

wet with primer to see that the surfaces have been etched.

on mating surface of saddle and pipe.

contact with the pipe.

FINISHED GRADE

VARIES-

6" P.V.C. WYE—

CONNECTION

TEE OR SADDLE-CONNECTION

CEMENT

10-2013 - REVISED NOTES

REVISIONS

STABILIZED SAND

CEMENT STABILIZED.

PLUG & CEMENT LIGHTLY

SERVICE LEAD

SEWER

(SEE S-8)

AROUND EDGES.

VARIES W/

PIPE SIZE

COLLECTION SEWER

COLLECTION SEWER

CITY OF MONTGOMERY

SANITARY SEWER STACK DETAIL

MAXIMUM 300' TO MANHOLE, UNLESS OTHERWISE APPROVED.

-PAVEMENT

-6" or 8" PVC STACK

CONCRETE THRUST

3" MIN. CLASS "B" CONCRETE

SEWER

S-10

SANITARY SEWER CLEANOUT TRINITY VALLEY IRON & STEEL CO. NO. 1684, OR APPROVED EQUAL.

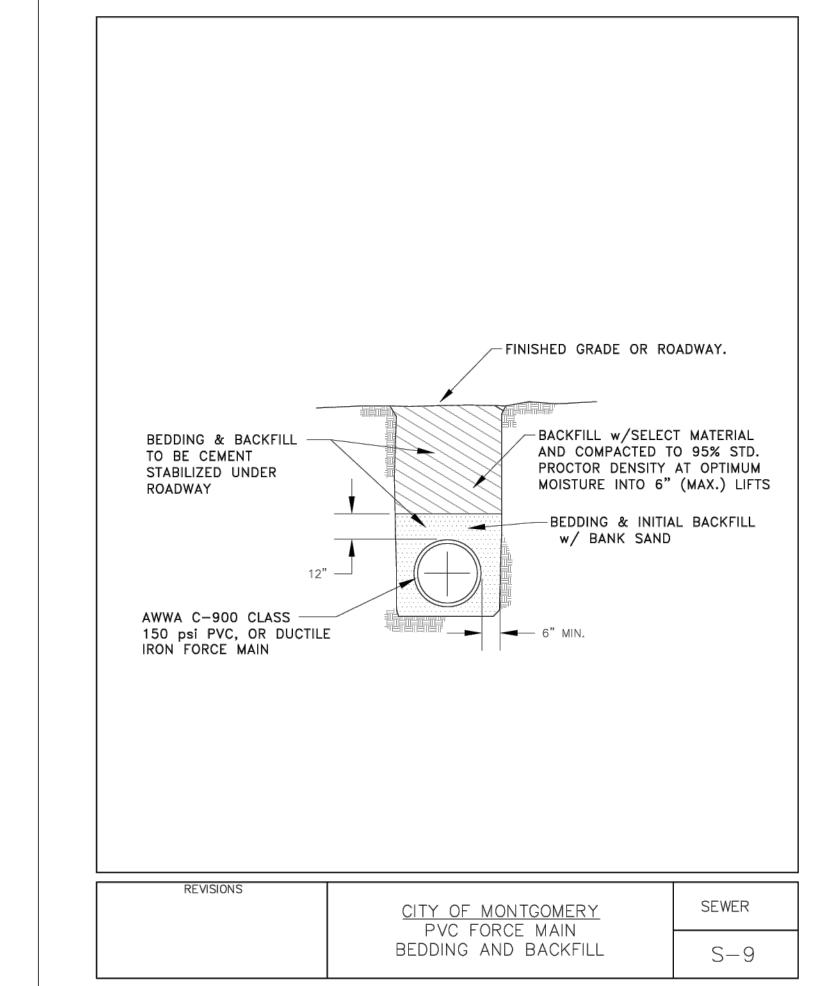
SANITARY SEWER

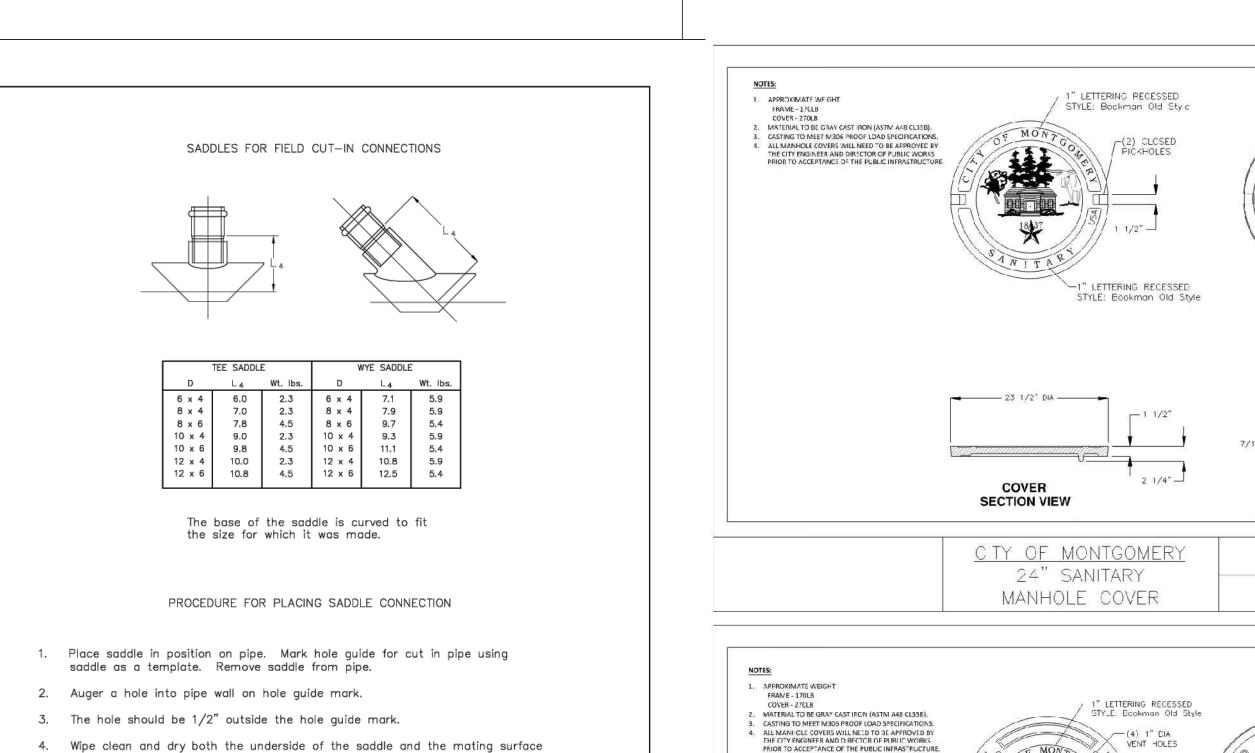
CITY OF MONTGOMERY

CLEAN OUT DETAIL

FINISHED GRADE -

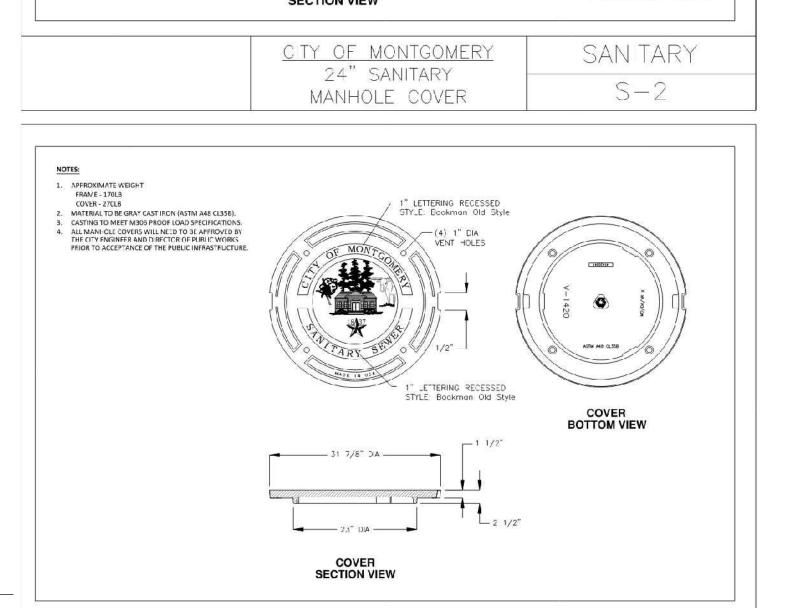
ELEVATION



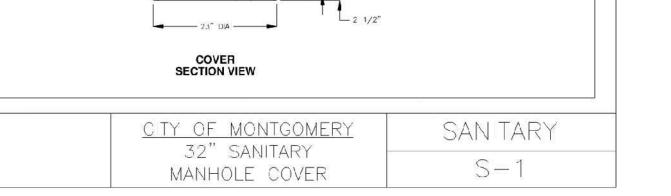


SEWER

S-11



SAN TARY CTY OF MONTGOMERY 32" SANITARY



(3) STACKING LUGS

41418167 MU/UA/YR X ASTM A48 CL353

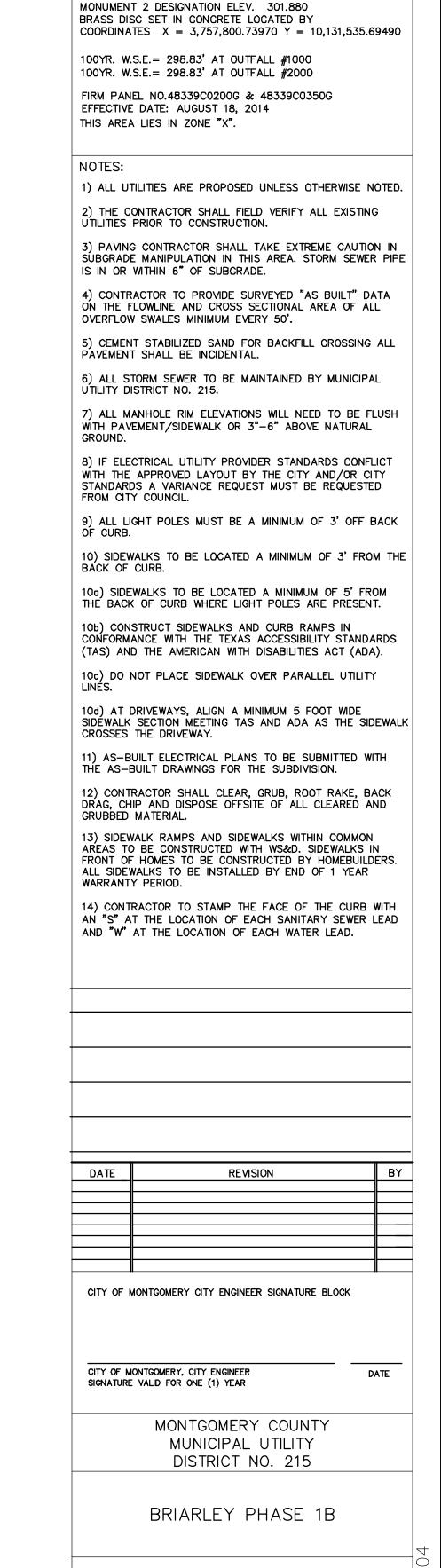
COVER

BOTTOM VIEW

2 1/4"

1 3/8" ---

PICKHOLE DETAIL



BENCHMARK:

ALL ELEVATIONS SET TO NGS. NAVD 88.

MONUMENT 1 DESIGNATION ELEV. 239.00

BRASS DISC SET IN CONCRETE LOCATED BY

COORDINATES X = 376,481.91322 Y = 10,135,441.47530

Phone 713.953.5200 Fax 713.953.5026 FRN - F-1386 2980-0104

DATE: APRIL 2025

LJA PROJECT NO.: DRAWN: R.D.R./F.M. DESIGN: R.D.R./F.M. SCALE: N.T.S.

LJA Engineering, Inc.

Suite 600

MICAH KREIKEMEIER

Houston, Texas 77042

3600 W Sam Houston Parkway S

SANITARY DETAILS II

SHEET NO. 23 OF 30

100YR. W.S.E.= 298.83' AT OUTFALL #1000 100YR. W.S.E.= 298.83' AT OUTFALL #2000 FIRM PANEL NO.48339C0200G & 48339C0350G

EFFECTIVE DATE: AUGUST 18, 2014

THIS AREA LIES IN ZONE "X".

1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED. 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE IS IN OR WITHIN 6" OF SUBGRADE.

4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL OVERFLOW SWALES MINIMUM EVERY 50'.

5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL. 6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL

UTILITY DISTRICT NO. 215. 7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL GROUND.

8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL.

9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB.

BACK OF CURB. 10a) SIDEWALKS TO BE LOCATED A MINIMUM OF 5' FROM THE BACK OF CURB WHERE LIGHT POLES ARE PRESENT.

10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE

10b) CONSTRUCT SIDEWALKS AND CURB RAMPS IN CONFORMANCE WITH THE TEXAS ACCESSIBILITY STANDARDS (TAS) AND THE AMERICAN WITH DISABILITIES ACT (ADA).

10c) DO NOT PLACE SIDEWALK OVER PARALLEL UTILITY

SIDÉWALK SECTION MEETING TAS AND ADA AS THE SIDEWALK CROSSES THE DRIVEWAY.

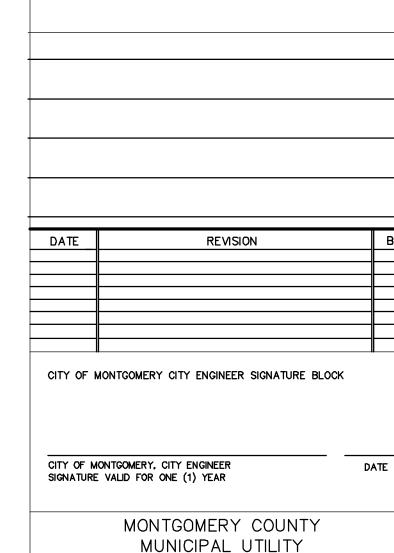
11) AS-BUILT ELECTRICAL PLANS TO BE SUBMITTED WITH THE AS-BUILT DRAWINGS FOR THE SUBDIVISION.

12) CONTRACTOR SHALL CLEAR, GRUB, ROOT RAKE, BACK DRAG, CHIP AND DISPOSE OFFSITE OF ALL CLEARED AND GRUBBED MATERIAL.

13) SIDEWALK RAMPS AND SIDEWALKS WITHIN COMMON AREAS TO BE CONSTRUCTED WITH WS&D. SIDEWALKS IN FRONT OF HOMES TO BE CONSTRUCTED BY HOMEBUILDERS. ALL SIDEWALKS TO BE INSTALLED BY END OF 1 YEAR

WARRANTY PERIOD. 14) CONTRACTOR TO STAMP THE FACE OF THE CURB WITH AN "S" AT THE LOCATION OF EACH SANITARY SEWER LEAD

AND "W" AT THE LOCATION OF EACH WATER LEAD.



DISTRICT NO. 215

BRIARLEY PHASE 1B

WATER DETAILS I

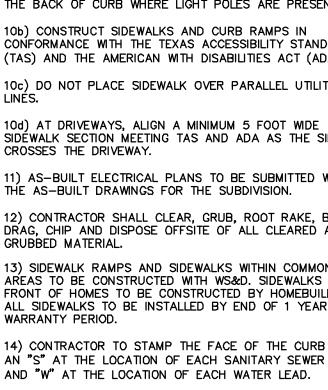
LJA Engineering, Inc. 3600 W Sam Houston Parkway S Phone 713.953.5200 Suite 600 Houston, Texas 77042

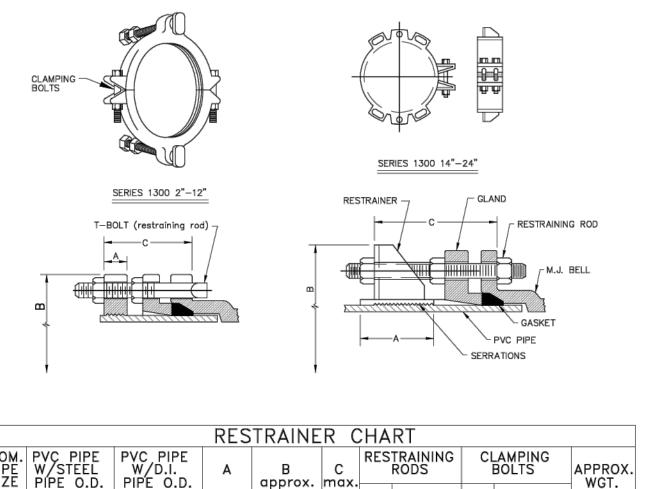
MICAH KREIKEMEIER

Fax 713.953.5026 FRN - F-1386 LJA PROJECT NO .: 2980-0104 DATE: APRIL 2025

SHEET NO. 24 OF 30

DRAWN: R.D.R./F.M. DESIGN: R.D.R./F.M. SCALE: N.T.S.





| | | | RES | TRAINE | R C | CHA | RT | | | |
|----------------------|----------------------------------|---------------------------------|-------|--------------|-----------|-----|------------------|-----|------------------|---------|
| NOM. PIPE SIZE | PVC PIPE W/STEEL PIPE O.D. | PVC PIPE W/D.I. PIPE O.D. | Α | B approx. | C max. | | TRAINING RODS | | LAMPING BOLTS | APPROX. |
| | No.1300-S | No.1300-C | | | | NO. | SIZE | NO. | SIZE | (lbs.) |
| 2 | 2.375 | N/A | 1-1/8 | 6-1/4 | 4.0 | 2 | 5/8 x5 | 2 | 5/8 x4 | 4 |
| 3 | 3.500 | N/A | 1-1/8 | 7-11/16 | 4.0 | 2 | 5/8 x5 | 2 | 5/8 x4 | 5 |
| 4 | 4.500 | 4.80 | 1-1/8 | 9-1/8 | 6.0 | 2 | 3/4 x7 | 2 | 5/8 x4 | 6.5 |
| 6 | 6.625 | 6.90 | 1-1/8 | 11-1/8 | 6.0 | 2 | 3/4 x7 | 2 | 5/8 x4 | 8.5 |
| 8 | 8.625 | 8.05 | 1-1/4 | 13-7/8 | 6.0 | 2 | 3/4 x7 | 2 | 3/4 x5 | 13 |
| 10 | 10.750 | 11.10 | 1-3/8 | 16-5/8 | 6.0 | 4 | 3/4 x7 | 2 | 7/8 x6 | 23 |
| 12 | 12.750 | 13.20 | 1-3/8 | 19-1/4 | 6.0 | 4 | 3/4 x7 | 2 | 7/8 x6 | 25 |
| 14 | N/A | 15.30 | 4.0 | 22.0 | 15.0 | 6 | 3/4 x17 | 2 | 7/8 x7 | 50 |
| 16 | N/A | 17.40 | 4.0 | 24.2 | 15.0 | 6 | 3/4 x17 | 2 | 7/8 x7 | 65 |
| 18 | N/A | 19.50 | 5.0 | 26.5 | 15.0 | 8 | 3/4 x17 | 2 | 1 x 7 | 65 |
| 20 | N/A | 21.60 | 7.0 | 28.6 | 22.0 | 8 | 3/4 x24 | 3 | 1 1/8 x9 | 125 |
| 24 | N/A | 25.80 | 7.0 | 32.8 | 22.0 | 12 | 3/4 x24 | 3 | 1 1/8 x9 | 143 |

Weights include Restraining rods, clamping bolt and nuts and special "T" bolts and nuts. this size.

| /A PIP | E not | manufactured | in |
|--------|-------|--------------|----|
| | | inches. | |
| | | | |
| | | | |

| /ISIONS | |
|---------|------------------------|
| | |
| | CITY OF MONTGOMERY |
| | |
| | l waterline restrainer |
| | |

4" CEM. STAB. SAND 10" BACKFILL OVER TOP OF PIPE PROP. WATER MAIN 6" MIN. BEDDING

50 L.F. CENTERED ON DITCH

NOTE: ALL BEDDING AND BACKFILL SHALL BE BANK SAND

IDENTIFICATION -

REVISIONS

PROP. WATER -

CEM. STAB. SAND

CROSS-SECTION

CITY OF MONTGOMERY

DITCH CROSSING

DETAILS FOR

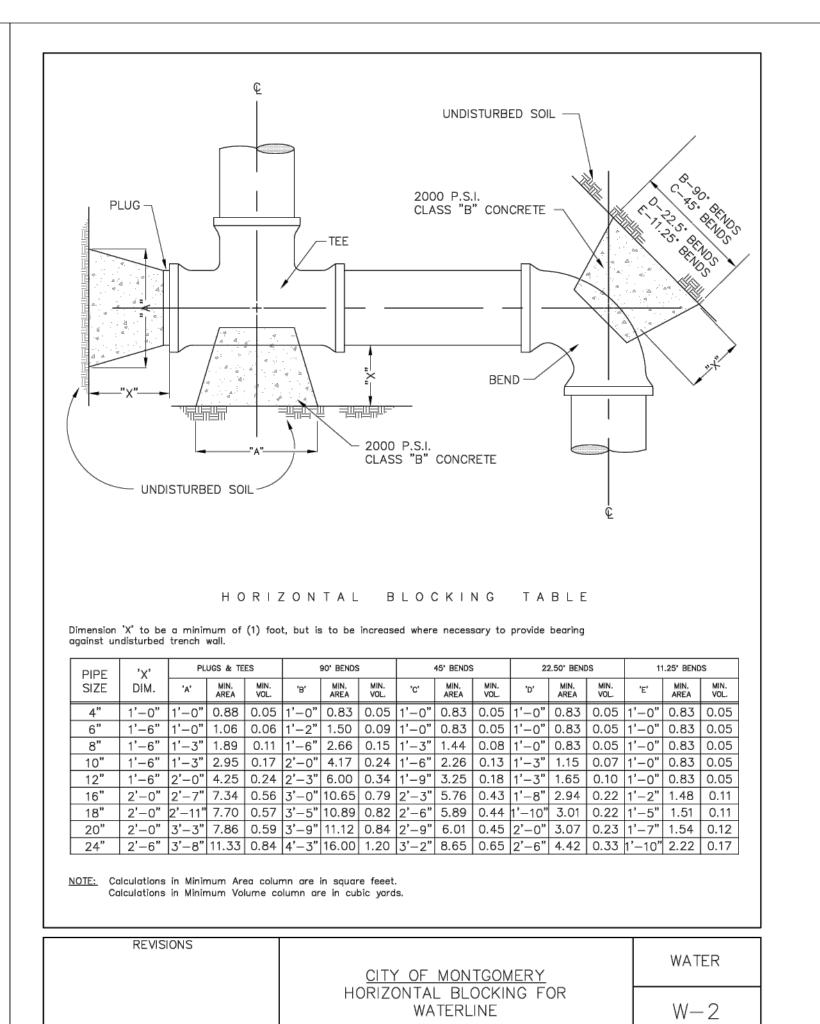
WATERLINE

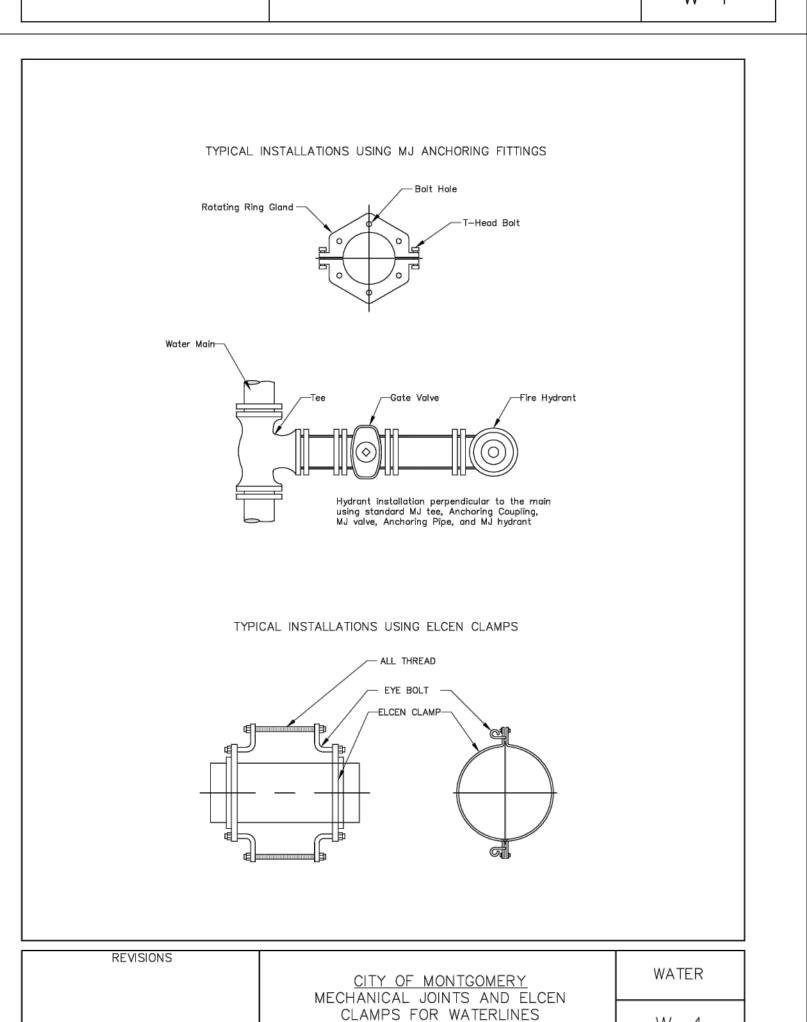
WATER

RESTRAINER #1300 SERIES, MECHANICAL JOINTS, OR ELCEN CLAMPS

WATER

W-6





----MIN. 6"

MIN. 6"→

TYPICAL TRENCH

BEDDING

ASTM D 2321

Angular, 1/4" to 1 1/2" graded stone, including a number of fill materials that have regional

Class II
Coarse sands and gravels with maximum particle size of 1 1/2", including variously graded sands

and gravels containing small percentages of fines,

generally granular and noncohesive, either wet or dry. Soil Types GW, GP, SW, and SP are included

Description of embedment materials

crushed stone and crushed shells.

in this class.

in this class.

CITY OF MONTGOMERY

TYPICAL WATERLINE BEDDING

AND TRENCH DETAIL

significance, such as coral, stag, cinders,

Class III
Fine sand and clayey gravels including fine

sands, sand-clay mixtures, and gravel-clay mixtures. Soil Types GM, GC, SM, and SC sre

Silt, 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

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

WATER

foreign materials. These materials are not recommended for bedding, haunching, or initial

(MIN.4 INCHES)

NOTE: FILL ONLY TO BOTTOM OF PROPOSED SUBGRADE. SEE PVMT. DESIGN ELEVATIONS ON PROFILE SHEETS.

BEDDING AND BACKFILL MATERIAL SHALL BE 2 SACK CEMENT / TON STABILIZED SAND.

TYPICAL ROADWAY

TRENCH BEDDING

A foundation is required when the trench bottom

is unstable. Any foundation that will support a rigid pipe without causing loss of grade or flexural

only to bring the trench bottom up to grade. It

should not be so thick or soft that the pipe will

settle and lose grade. The purpose of the bedding

the pipe. A layer of material sufficient to establish

line, grade, and support should be placed. Bell holes

The haunching area is the most important in terms

NOTE: BACKFILL ABOVE THE BEDDING SHALL CONFORM TO

"TYPICAL WATERLINE BACKFILL AND TRENCH REPAIR"

This is the area that should be compacted to the

is to provide a firm, stable and uniform support of

should be excavated to insure uniform bearing.

of limiting the deflection of a flexible pipe.

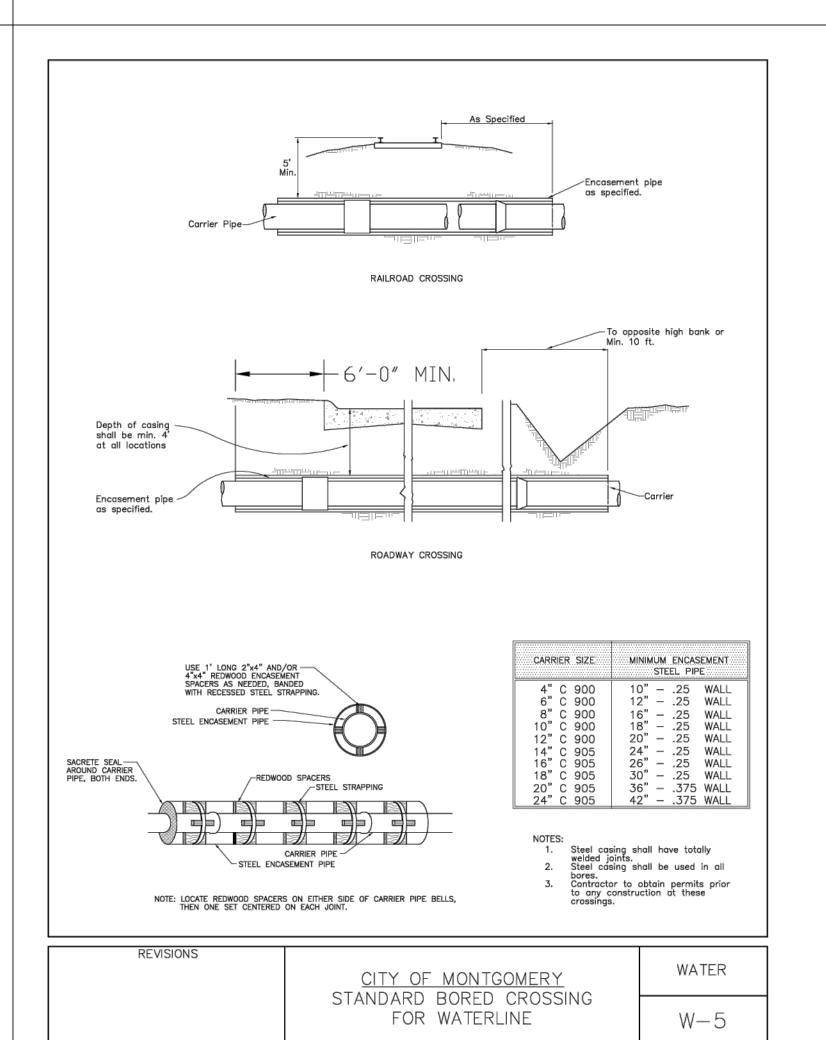
required or specific density.

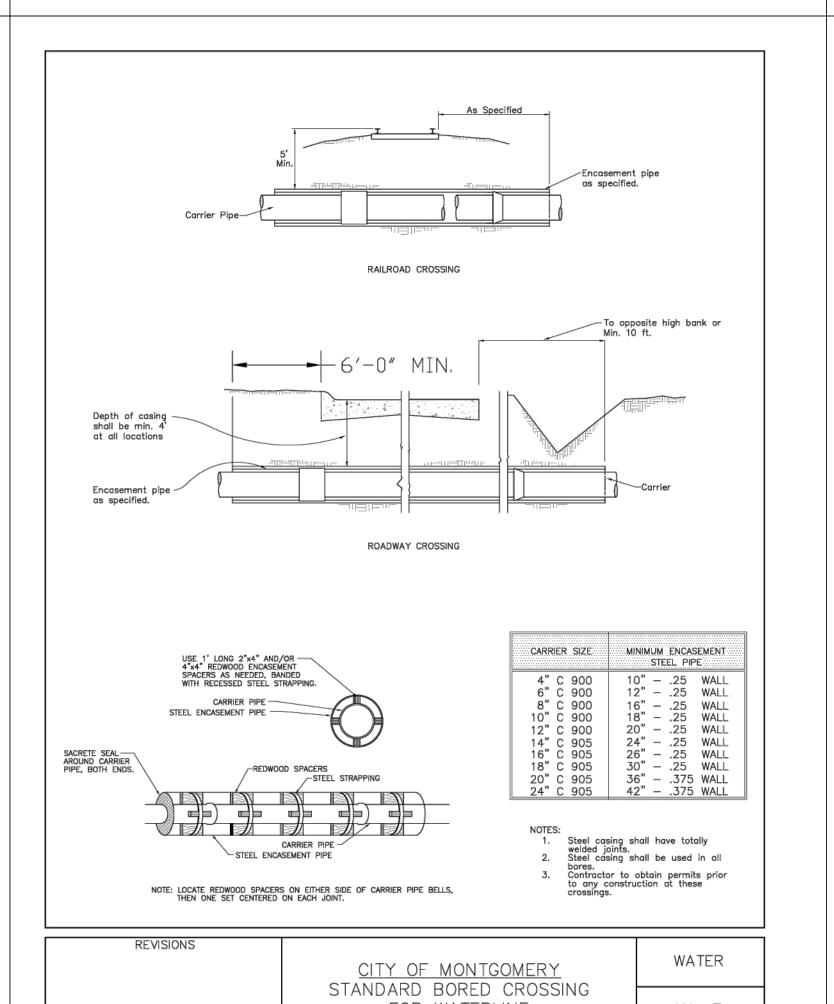
STANDARD DRAWING W-5.

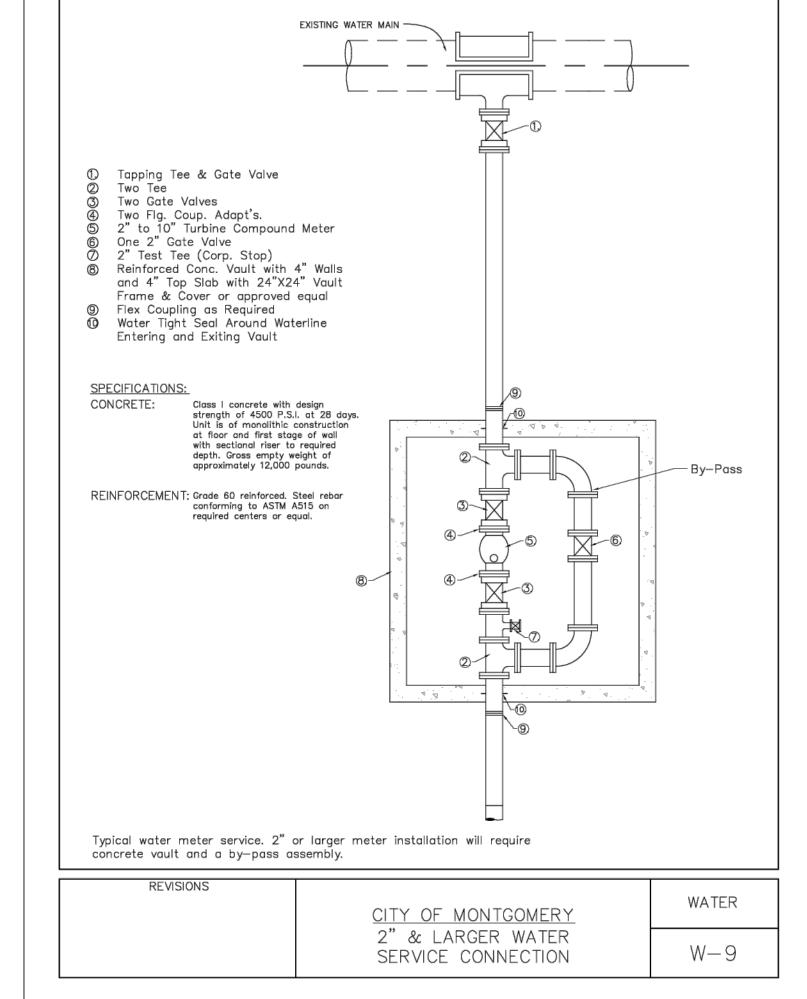
REVISIONS

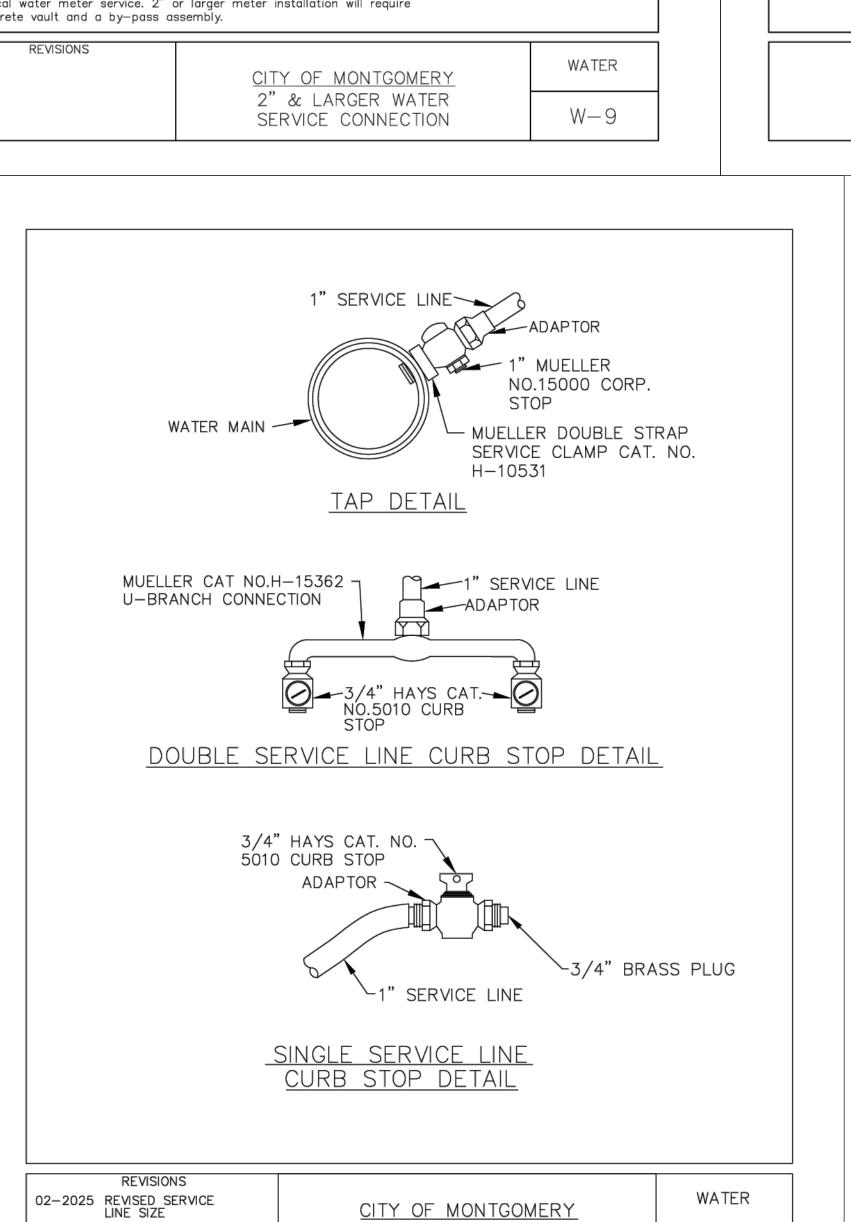
breaking will be more than adequate for PVC pipe.

The bedding directly underneath the pipe is required





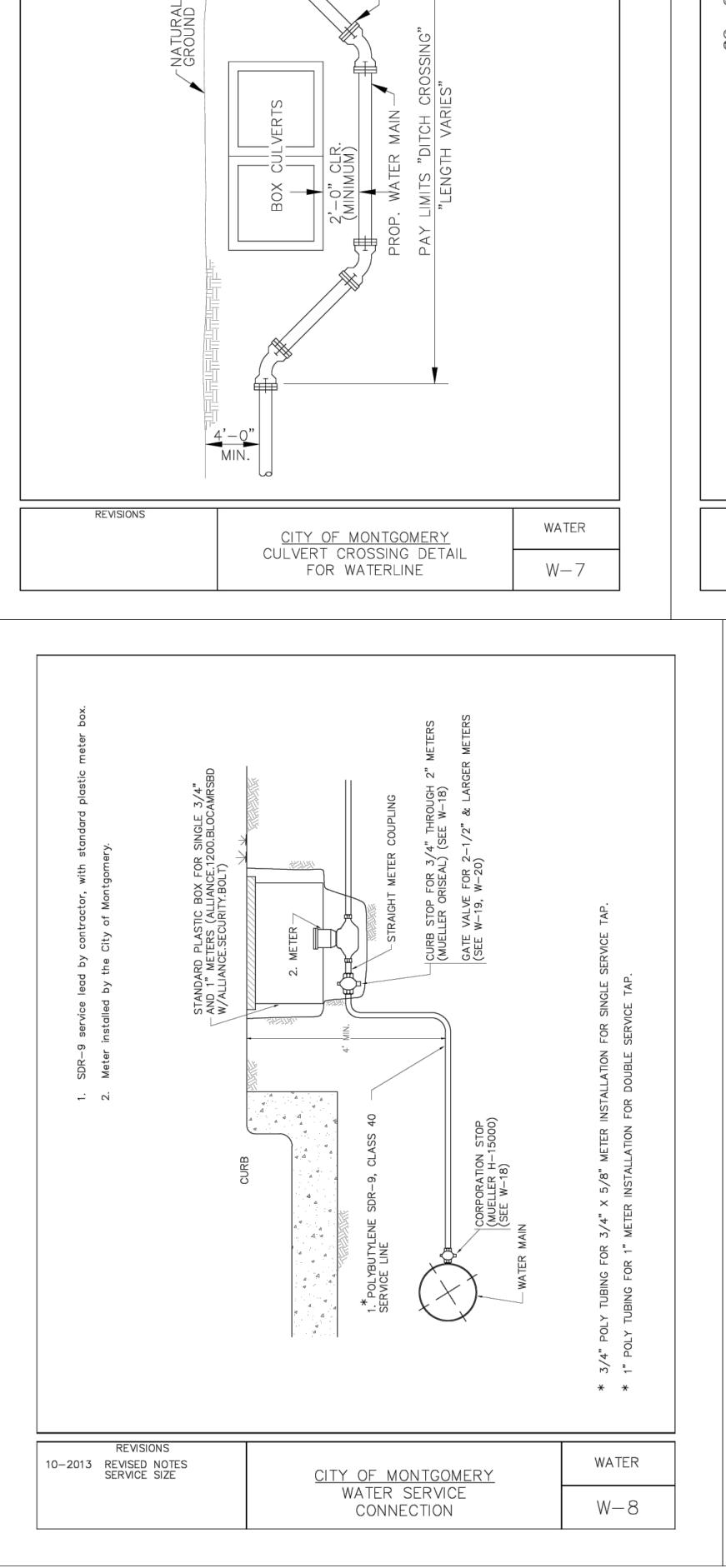


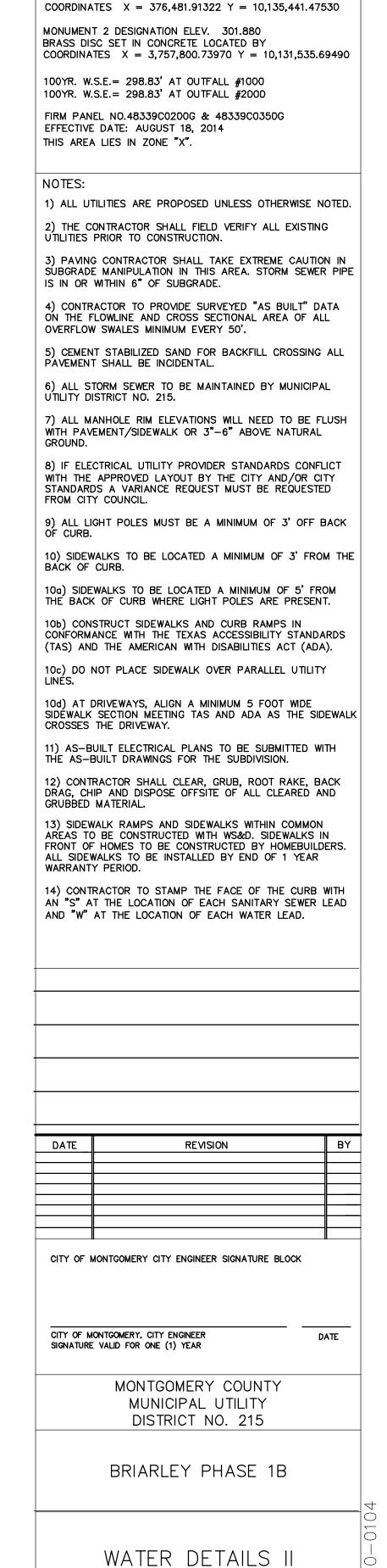


CURB STOP & TAP FOR

WATERLINE

W - 10





BENCHMARK:

ALL ELEVATIONS SET TO NGS. NAVD 88.

MONUMENT 1 DESIGNATION ELEV. 239.00 BRASS DISC SET IN CONCRETE LOCATED BY

MICAH KREIKEMEIER

SCALE: N.T.S.

LJA Engineering, Inc. 3600 W Sam Houston Parkway S Suite 600

Fax 713.953.5026 FRN - F-1386 Houston, Texas 77042 LJA PROJECT NO.: 2980-0104

DATE: APRIL 2025 DRAWN: R.D.R./F.M. DESIGN: R.D.R./F.M.

SHEET NO. 25 OF 30

Phone 713.953.5200

1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED. 2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

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4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL

OVERFLOW SWALES MINIMUM EVERY 50'. 5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL.

6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215.

7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL 8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT

WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL.

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10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE 10a) SIDEWALKS TO BE LOCATED A MINIMUM OF 5' FROM

10b) CONSTRUCT SIDEWALKS AND CURB RAMPS IN CONFORMANCE WITH THE TEXAS ACCESSIBILITY STANDARDS (TAS) AND THE AMERICAN WITH DISABILITIES ACT (ADA).

10c) DO NOT PLACE SIDEWALK OVER PARALLEL UTILITY 10d) AT DRIVEWAYS, ALIGN A MINIMUM 5 FOOT WIDE SIDÉWALK SECTION MEETING TAS AND ADA AS THE SIDEWALK

11) AS-BUILT ELECTRICAL PLANS TO BE SUBMITTED WITH THE AS-BUILT DRAWINGS FOR THE SUBDIVISION.

12) CONTRACTOR SHALL CLEAR, GRUB, ROOT RAKE, BACK DRAG, CHIP AND DISPOSE OFFSITE OF ALL CLEARED AND GRUBBED MATERIAL.

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FRONT OF HOMES TO BE CONSTRUCTED BY HOMEBUILDERS. ALL SIDEWALKS TO BE INSTALLED BY END OF 1 YEAR WARRANTY PERIOD.

14) CONTRACTOR TO STAMP THE FACE OF THE CURB WITH AN "S" AT THE LOCATION OF EACH SANITARY SEWER LEAD AND "W" AT THE LOCATION OF EACH WATER LEAD.

REVISION

DATE

Phone 713.953.5200

SHEET NO. 26 OF 30

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

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

MONTGOMERY COUNTY MUNICIPAL UTILITY DISTRICT NO. 215

BRIARLEY PHASE 1B

WATER DETAILS III

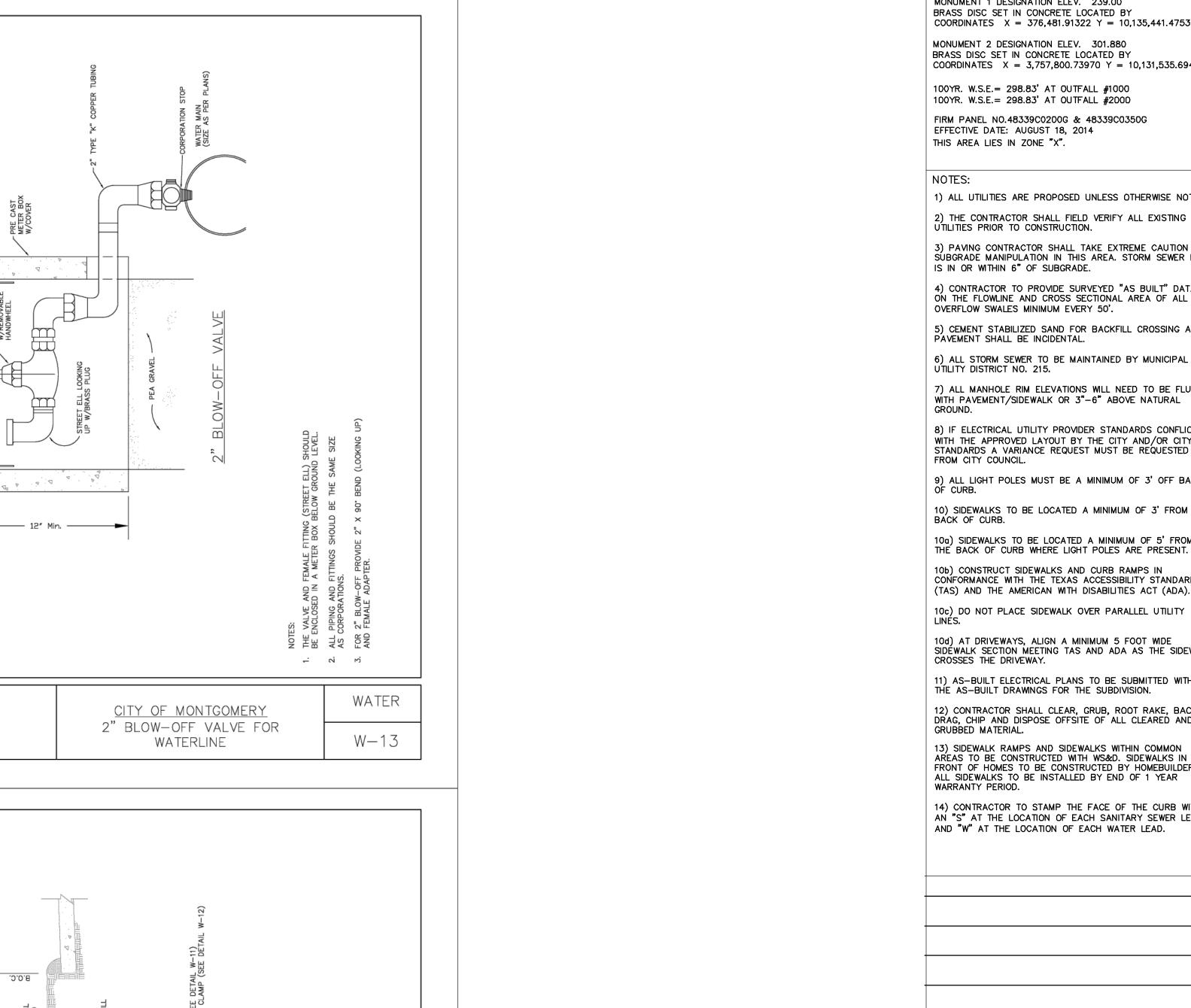
LJA Engineering, Inc. 3600 W Sam Houston Parkway S Suite 600 Houston, Texas 77042

LJA PROJECT NO.:

MICAH KREIKEMEIER

Fax 713.953.5026 FRN - F-1386

2980-0104 DATE: APRIL 2025 DRAWN: R.D.R./F.M. DESIGN: R.D.R./F.M. SCALE: N.T.S.

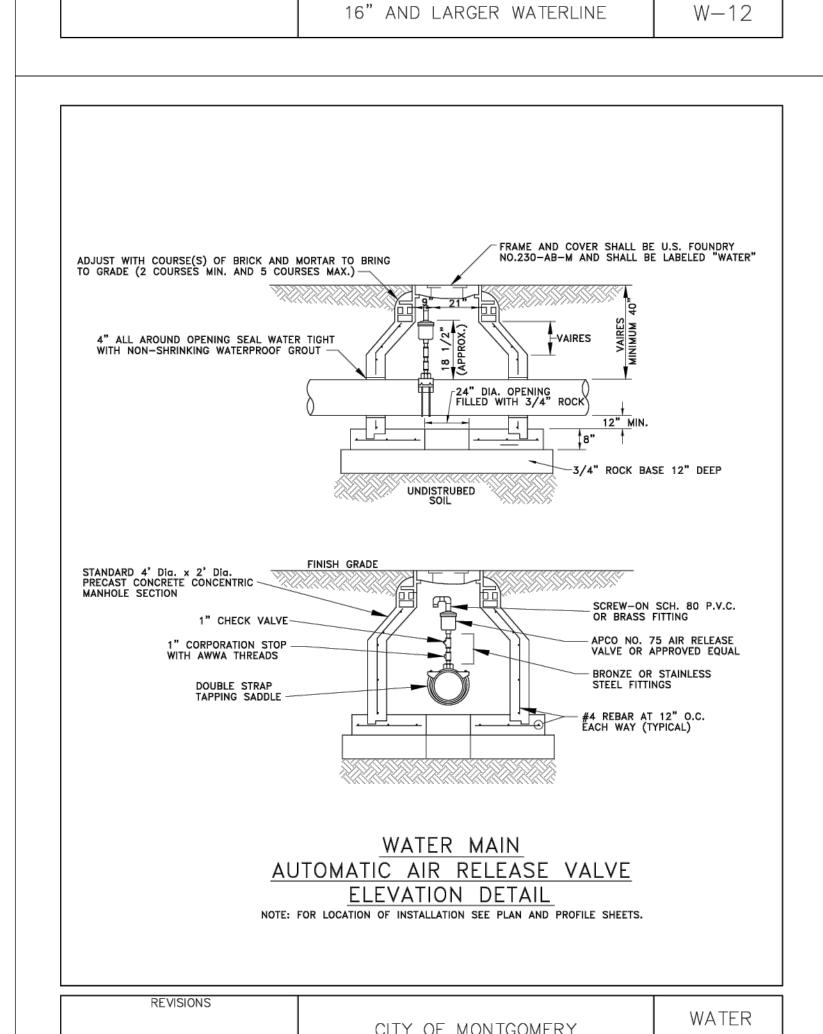


WATER

W - 15

CITY OF MONTGOMERY

FIRE HYDRANT INSTALLATION



24" C.I. MANHOLE RING & COVER NEENAH TYPE B NO. 1415 W/LOCKING DEVICE AND LOCK

- PRECAST CONCRETE TOP SLAB (ASTM - 478)

AIR BLEEDER ASSEMBLY -SEE NOTE NO. 4

SIDE BYPASS & VALVE -

TOP OF PIPE

16" SQ.

18" SQ.

20" SQ.

- CLASS 'B" CONCRETE

TWO #4 BARS EACH WAY

"B"

10" SQ.

12" SQ.

12" SQ.

1. PLACE 1/2" EXPANSION JOINT MATERIAL AROUND WATER PIPE WHERE IT PASSES THROUGH

3. NOTE: LARGER DIAMETER R.C.P. MAY BE REQUIRED DEPENDENT UPON MANUFACTURER'S

5. VALVES, BYPASS, CORPORATION STOP AND PIPING SHALL BE DESIGNED TO OPERATE AT

4. PROVIDE CORPORATION WITH COPPER RISER AND CURB STOP AT A MAXIMUM OF 12" FROM

EACH END OF GATE VALVE AS SHOWN. CORPORATION AND CURB STOP SIZES SHALL BE 1".

CITY OF MONTGOMERY

GATE VALVE & VAULT INSTALLATION

"A"

48"

48"

54"

2. VALVES 18" AND LARGER SHALL HAVE SPUR GEARING WITH GREASE CASE.

THE MAXIMUM PRESSURES AS DESCRIBED IN THE SPECIFICATIONS.

PIPE SIZE

16"

18"

20"

STANDARD SIZE FOR GATE VALVE.

EXTEND RISER TO WITHIN 24" OF TOP OF MANHOLE.

CONCRETE VAULT.

REVISIONS

- CRUSHED STONE BACKFILL TO

WATER

REVISIONS

" CEMENT STAB. SAND ILL AROUND VALVE TO INCHES BELOW NAT. G

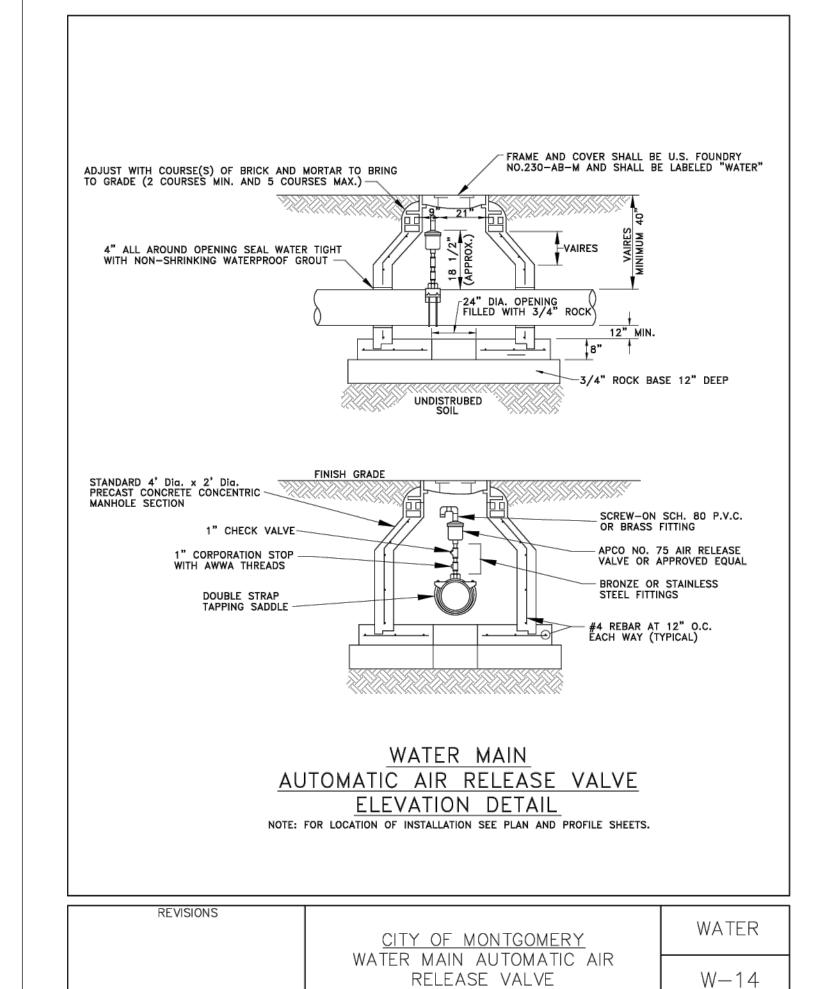
FOUA EQUA

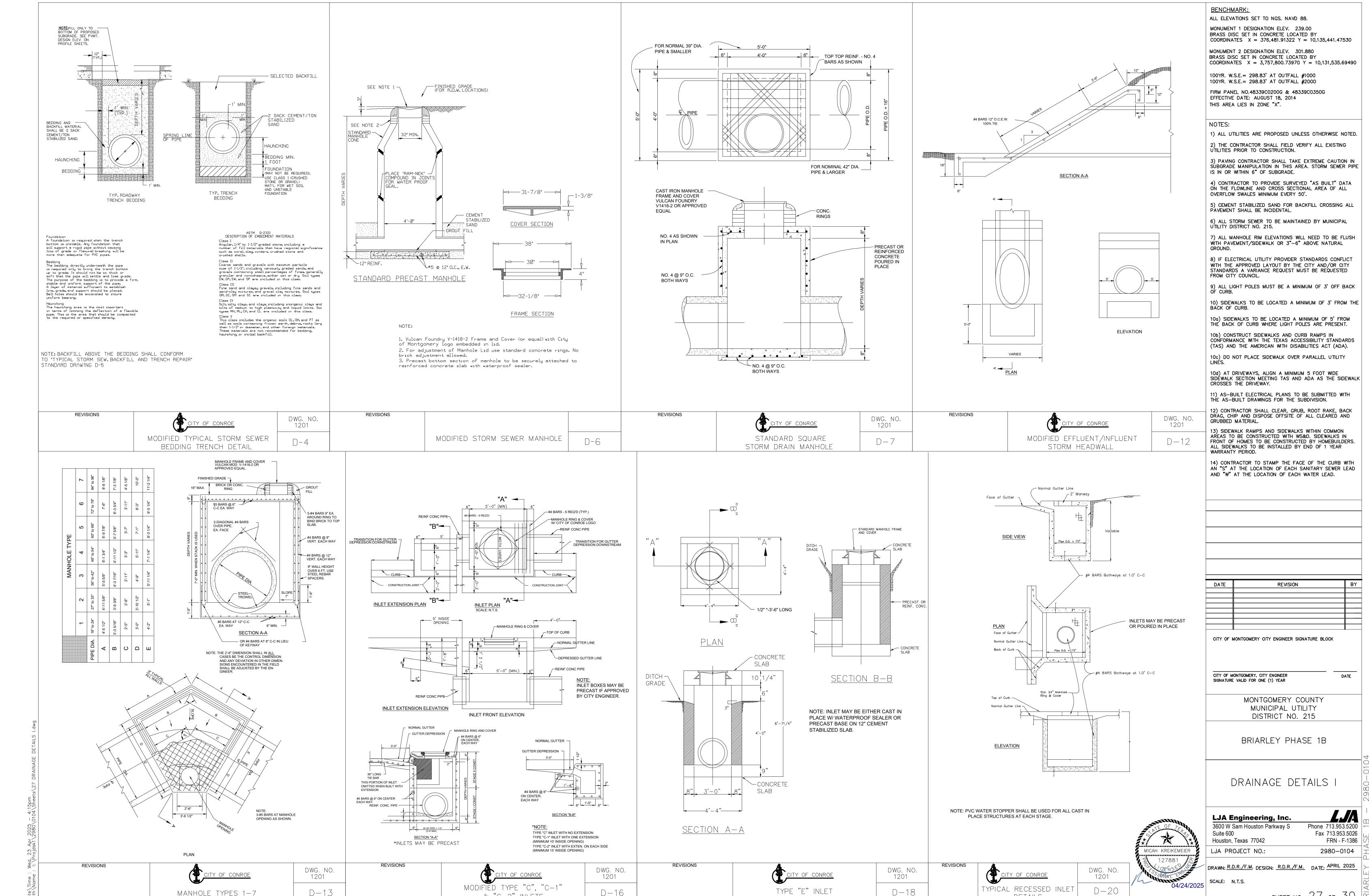
REVISIONS

- GROUT W/CEMENT MORTAR OR

SPUR GEARING W/GREASE CASE –
 SEE NOTE NO. 2

PREFORMED MASTIC MATERIAL





MODIFIED TYPE "C", "C-1" & "C-2" INLETS

D - 16

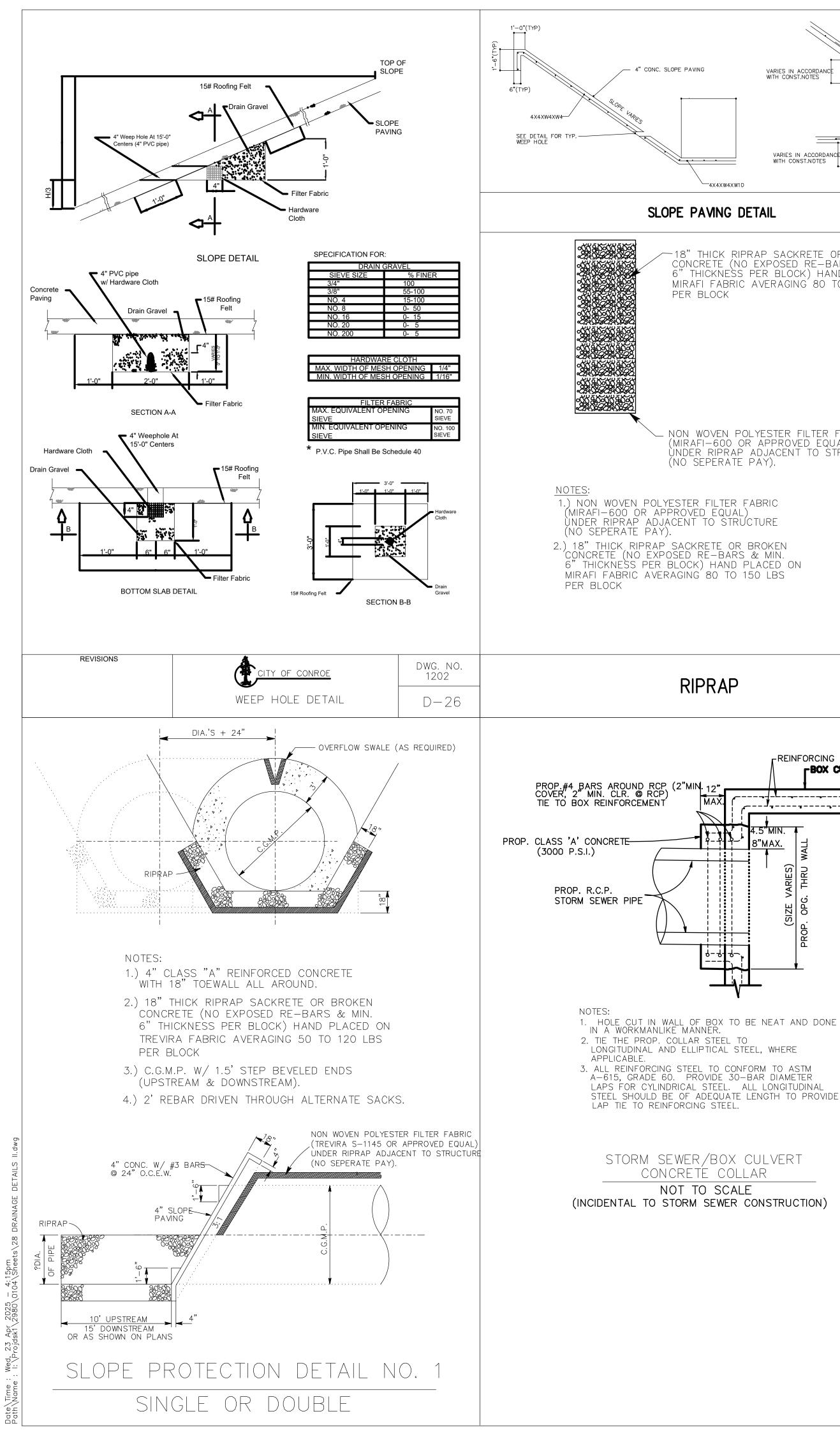
TYPE "E" INLET

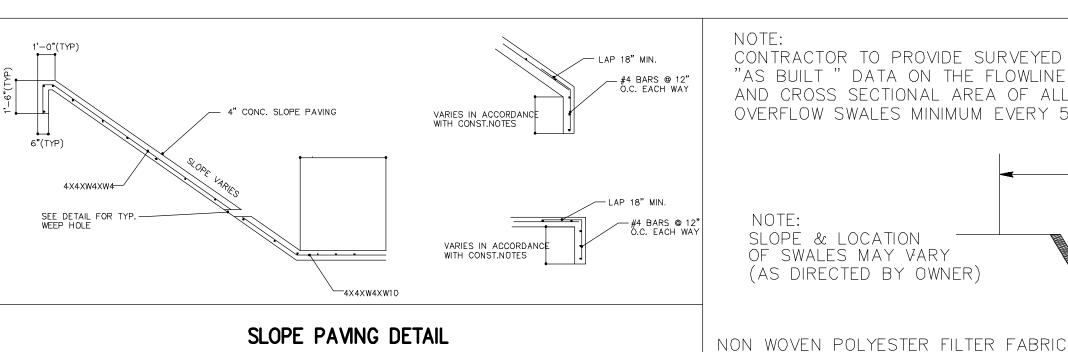
D - 18

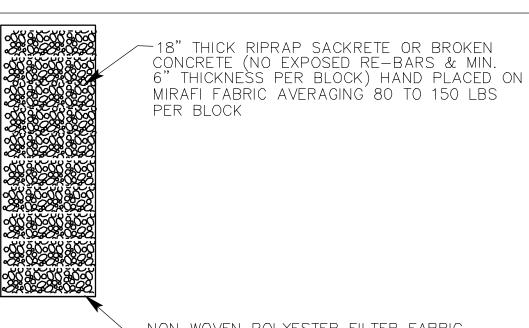
TYPICAL RECESSED INLET DETAILS

D - 20

SHEET NO. 27 OF 30







NON WOVEN POLYESTER FILTER FABRIC (MIRAFI-600 OR APPROVED EQUAL) UNDER RIPRAP ADJACENT TO STRUCTURE (NO SEPERATE PAY).

1.) NON WOVEN POLYESTER FILTER FABRIC (MIRAFI-600 OR APPROVED EQUAL) UNDER RIPRAP ADJACENT TO STRUCTURE (NO SEPERATE PAY). 2.) 18" THICK RIPRAP SACKRETE OR BROKEN

RIPRAP

-REINFORCING STEEL

8"MAX.

BOX CULVERT

STORM CONSTRUCTION NOTES

4" REINFORCED CONC. BASE

CONTRACTOR TO PROVIDE SURVEYED

m "AS built m " data on the flowline

AND CROSS SECTIONAL AREA OF ALL

SLOPE & LOCATION

(NO SEPERATE PAY).

OF SWALES MAY VARY

EDGE OF SHOULDER-

(AS DIRECTED BY OWNER)

(TREVIRA S-1145 OR APPROVED EQUAL)

UNDER RIPRAP ADJACENT TO STRUCTURE

OVERFLOW SWALES MINIMUM EVERY 50'

DRAINAGE ESM'T

VARIËS

OUTFALL DITCH AND

ALL STORM OUTFALLS WILL HAVE OVER FLOW SWALES CONSTRUCTED OVER THE

DRAINAGE PIPE UNLESS OTHERWISE

DIRECTED BY OWNER.

#3 BARS-

STORM SEWER AND LEADS SHALL BE REINFORCED CONCRETE PIPE. ASTM C-76, CLASS III, WITH O-RING RUBBER GASKET JOINTS, AND SHALL BE INSTALLED, BEDDED AND BACKFILLED IN ACCORDANCE WITH CITY OF CONROE STANDARD DETAIL AND DETAILS WITHIN THESE PLANS.

DISTANCE VARIES

(2' TYPICAL)

ALL REINFORCED CONCRETE BOX CULVERTS SHALL CONFORM TO ASTM C 1433 REQUIREMENTS UNLESS SPECIFICALLY ESTABLISHED OTHERWISE IN THE CONSTRUCTION PLANS.

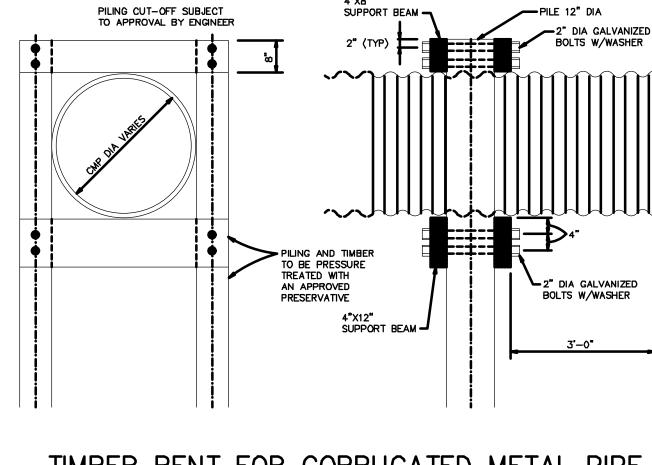
TYPICAL MANHOLE CAP

(N.T.S.)

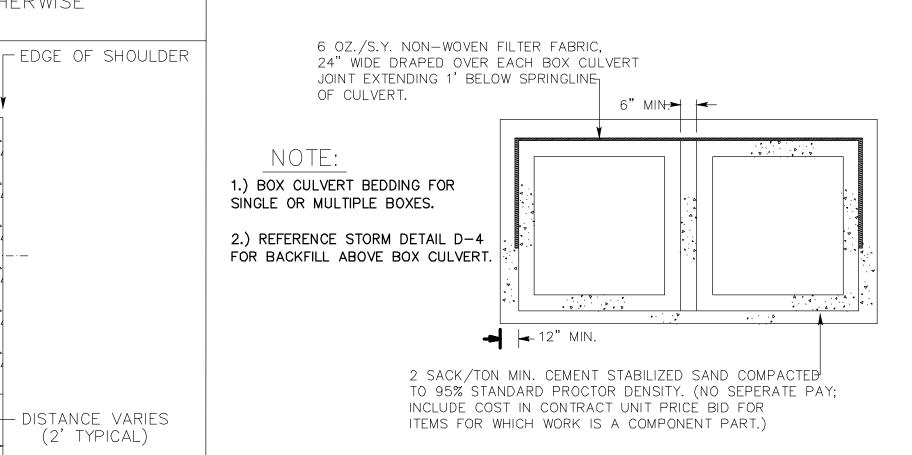
3. ALL PROPOSED PIPE STUB OUTS FROM MANHOLES OR INLETS ARE TO BE PLUGGED WITH 8 INCH BRICK WALLS UNLESS OTHERWISE NOTED. A. ALL BOX CULVERTS INSTALLED SHALL BE PLACED ON A MINIMUM OF 6 INCHES OF CEMENT STABILIZED SAND (CEMENT STABILIZED SAND SHALL BE 2 SACKS CEMENT PER TON).

B. FOR INSTALLATION OF PRE-CAST CONCRETE BOX CULVERTS IN POOR SOIL CONDITIONS, A 7 INCH REINFORCED CONCRETE SLAB SHALL

- 4. C. 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.
- 5. STORM SEWER MANHOLES SHALL BE STANDARD PRE-CAST, CAST IN PLACE OR CONSTRUCTED OF BRICK.
- 6. ALL INLETS TO BE CITY OF CONROE TYPE "C", "C-1" OR "C-2" UNLESS OTHERWISE STATED ON PLANS. ALL INLETS INCLUDE ALL DEPTHS AND ARE TO BE STAGE—CONSTRUCTED. ALL TYPE C INLETS SHALL USE A PRECAST SECTION FOR STAGE I OF THE INLET. STAGE II INLETS MAY BE EITHER PRECAST OR CAST—IN—PLACE.
- 7. ALL STORM SEWER LEADS SHALL BE 24 INCH MINIMUM UNLESS OTHERWISE INDICATED.
- 8. GRADE DROP ON LEAD INLETS TO BE A MINIMUM OF 0.20 FOOT. GRADE DROP BETWEEN INLET AND MANHOLES TO BE 0.10 FOOT UNLESS OTHERWISE SHOWN.
- 9. WHEN MANHOLE FRAME AND COVER IS REQUIRED, USE VULCAN FOUNDRY V-1418-Z FRAME AND COVER (OR EQUAL) WITH THE CITY OF CONROE LOGO EMBEDDED IN LID.
- 10. FOR ADJUSTMENT OF MANHOLE LIDS USE STANDARD CONCRETE RINGS.
- 11. CONCRETE USED FOR ALL POURED—IN—PLACE MANHOLES, INLETS, WINGWALLS, HEADWALLS AND OTHER APPURTENANCES TO BE CLASS "A" CONCRETE WITH 4,000 PSI STRENGTH AT 28 DAYS.
- -12. CORNERS OF ALL EXPOSED CONCRETE STRUCTURES SHALL BE CHAMFERED%".
- 13. CONTRACTOR SHALL PROVIDE A MINIMUM VERTICAL CLEARANCE OF 6 INCHES AND HORIZONTAL CLEARANCE OF 4 FEET FROM PROPOSED STORM SEWER AND OTHER UTILITIES.
- 14. ALL DRIVEWAYS WILL BE LOCATED TO AVOID EXISTING CURB INLET STRUCTURES.
- 15. STORM SEWER MANHOLE RIMS SHALL BE 6 INCHES ABOVE NATURAL GROUND. BACKFILL SHALL BE ADDED AND SLOPED AWAY FROM THE MANHOLE RIM FOR DRAINAGE PURPOSES.
- 16. WHEN STORM SEWER IS UNDER OR WITHIN 1' OF PAVEMENT, STORM SEWER TO BE BACKFILLED WITH CEMENT STABILIZED SAND.



TIMBER BENT FOR CORRUGATED METAL PIPE OUTFALL 48-INCH AND LARGER



BOX CULVERT BEDDING DETAIL

NOT TO SCALE

GRUBBED MATERIAL. 13) SIDEWALK RAMPS AND SIDEWALKS WITHIN COMMON

ALL SIDEWALKS TO BE INSTALLED BY END OF 1 YEAR

14) CONTRACTOR TO STAMP THE FACE OF THE CURB WITH AN "S" AT THE LOCATION OF EACH SANITARY SEWER LEAD AND "W" AT THE LOCATION OF EACH WATER LEAD.

REVISION

MONTGOMERY COUNTY

DATE

DRAINAGE DETAILS II



LJA Engineering, Inc. 3600 W Sam Houston Parkway S Suite 600 Houston, Texas 77042 LJA PROJECT NO .:

DATE: APRIL 2025 DRAWN: R.D.R./F.M. DESIGN: R.D.R./F.M. SCALE: N.T.S.

Phone 713.953.5200

Fax 713.953.5026

2980-0104

FRN - F-1386

BRASS DISC SET IN CONCRETE LOCATED BY COORDINATES X = 3,757,800.73970 Y = 10,131,535.69490100YR. W.S.E.= 298.83' AT OUTFALL #1000

ALL ELEVATIONS SET TO NGS. NAVD 88.

MONUMENT 1 DESIGNATION ELEV. 239.00

MONUMENT 2 DESIGNATION ELEV. 301.880

BRASS DISC SET IN CONCRETE LOCATED BY

COORDINATES X = 376,481.91322 Y = 10,135,441.47530

THIS AREA LIES IN ZONE "X".

100YR. W.S.E.= 298.83' AT OUTFALL #2000 FIRM PANEL NO.48339C0200G & 48339C0350G EFFECTIVE DATE: AUGUST 18, 2014

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8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED

FROM CITY COUNCIL. 9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB.

10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.

10a) SIDEWALKS TO BE LOCATED A MINIMUM OF 5' FROM THE BACK OF CURB WHERE LIGHT POLES ARE PRESENT. 10b) CONSTRUCT SIDEWALKS AND CURB RAMPS IN CONFORMANCE WITH THE TEXAS ACCESSIBILITY STANDARDS

(TAS) AND THE AMERICAN WITH DISABILITIES ACT (ADA). 10c) DO NOT PLACE SIDEWALK OVER PARALLEL UTILITY

10d) AT DRIVEWAYS, ALIGN A MINIMUM 5 FOOT WIDE SIDÉWALK SECTION MEETING TAS AND ADA AS THE SIDEWALK

CROSSES THE DRIVEWAY. 11) AS-BUILT ELECTRICAL PLANS TO BE SUBMITTED WITH THE AS-BUILT DRAWINGS FOR THE SUBDIVISION.

12) CONTRACTOR SHALL CLEAR, GRUB, ROOT RAKE, BACK DRAG, CHIP AND DISPOSE OFFSITE OF ALL CLEARED AND

AREAS TO BE CONSTRUCTED WITH WS&D. SIDEWALKS IN FRONT OF HOMES TO BE CONSTRUCTED BY HOMEBUILDERS.

WARRANTY PERIOD.

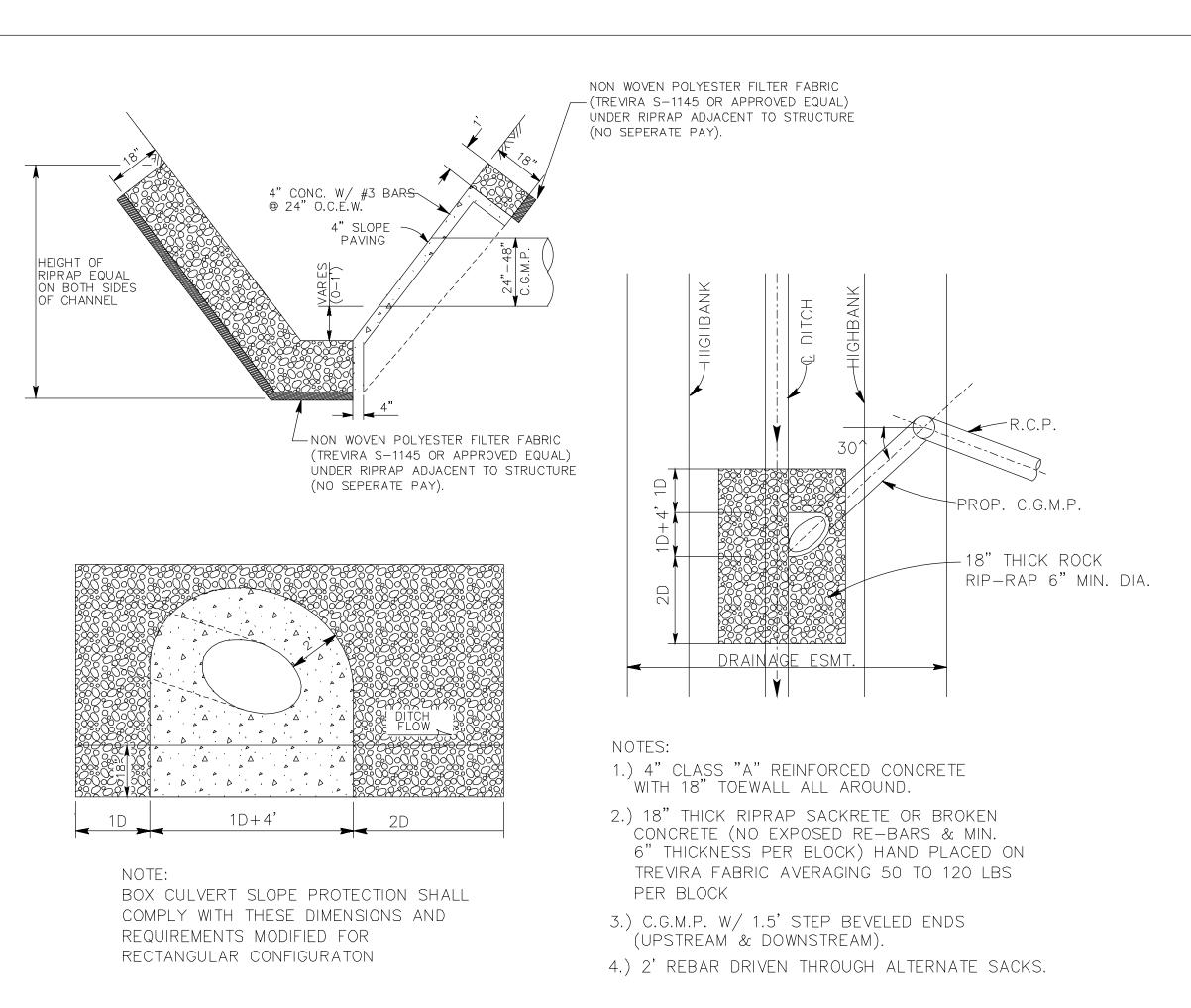
CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

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

> MUNICIPAL UTILITY DISTRICT NO. 215

BRIARLEY PHASE 1B

SHEET NO. 28 OF 30

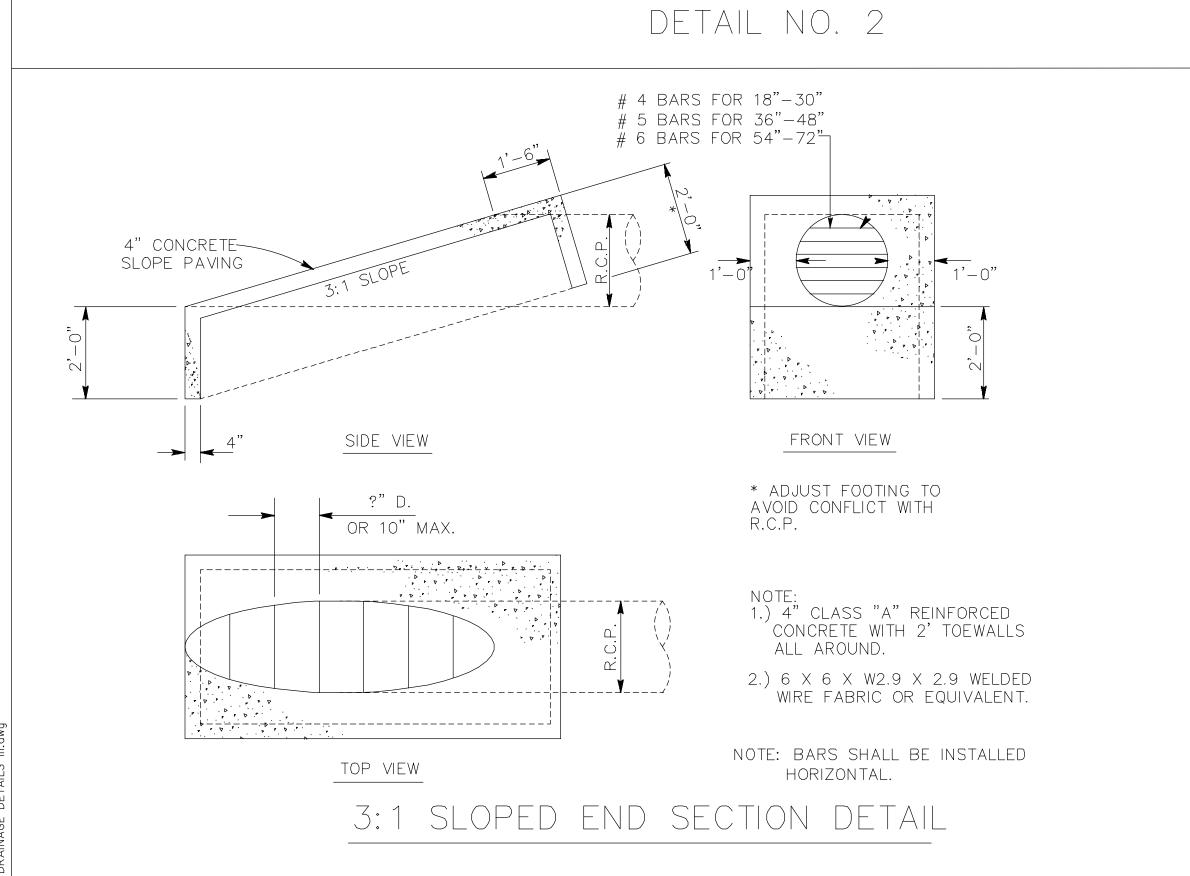


DITCH OUTFALL W/SLOPE PROTECTION

-SLOPE IF NECESSARY, 6" MAX.

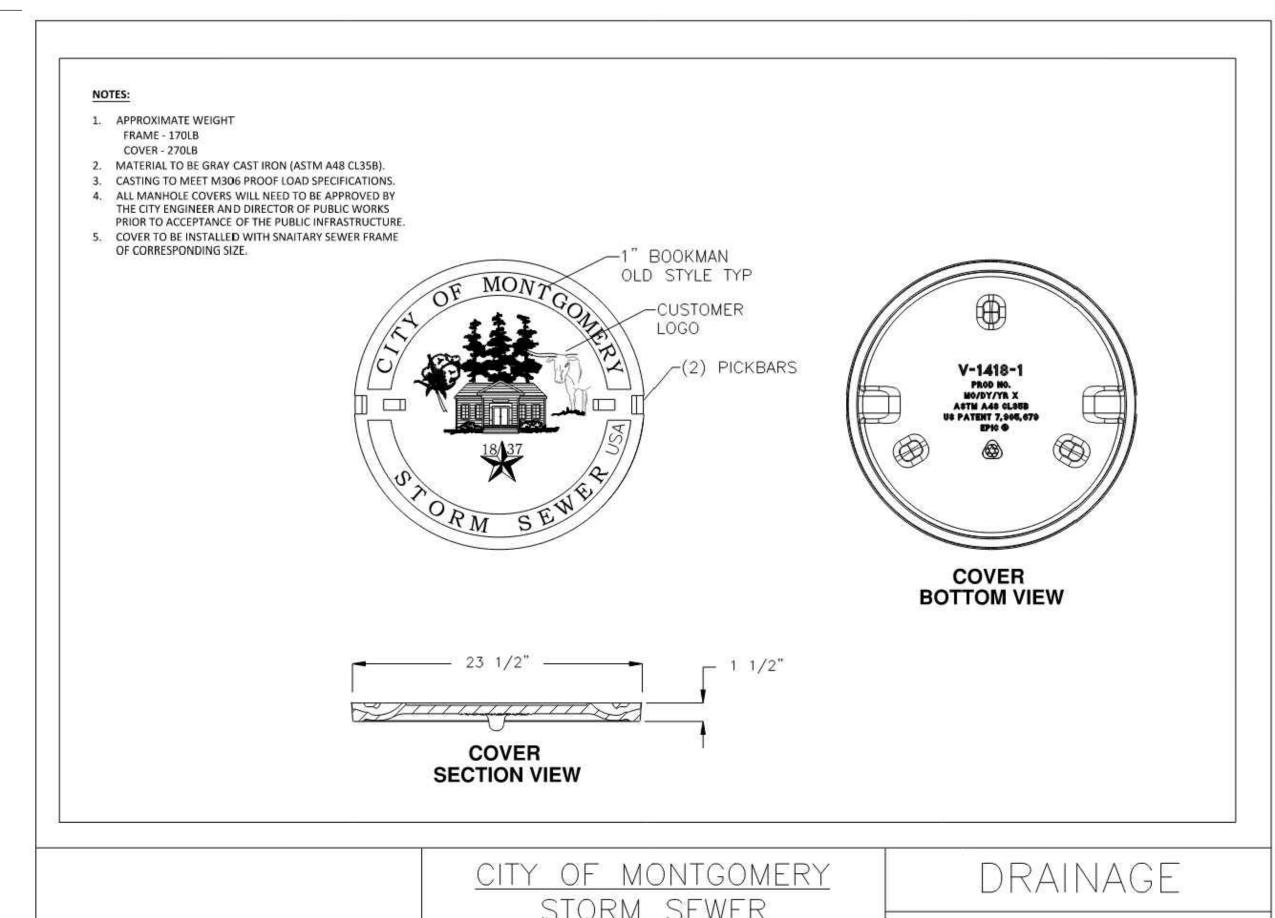
SECTION B-B

- LCBACKSLOPE SWALE



SECTION A-A

BACKSLOPE INLET & OUTFALL



STORM SEWER MANHOLE COVER

D-5

REVISION

DATE

CITY OF MONTGOMERY CITY ENGINEER SIGNATURE BLOCK

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

BENCHMARK:

ALL ELEVATIONS SET TO NGS. NAVD 88.

MONUMENT 1 DESIGNATION ELEV. 239.00

MONUMENT 2 DESIGNATION ELEV. 301.880

BRASS DISC SET IN CONCRETE LOCATED BY

100YR. W.S.E.= 298.83' AT OUTFALL #1000

100YR. W.S.E.= 298.83' AT OUTFALL #2000

EFFECTIVE DATE: AUGUST 18, 2014

UTILITIES PRIOR TO CONSTRUCTION.

IS IN OR WITHIN 6" OF SUBGRADE.

OVERFLOW SWALES MINIMUM EVERY 50'.

THIS AREA LIES IN ZONE "X".

NOTES:

FIRM PANEL NO.48339C0200G & 48339C0350G

BRASS DISC SET IN CONCRETE LOCATED BY COORDINATES X = 376,481.91322 Y = 10,135,441.47530

COORDINATES X = 3,757,800.73970 Y = 10,131,535.69490

1) ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.

3) PAVING CONTRACTOR SHALL TAKE EXTREME CAUTION IN SUBGRADE MANIPULATION IN THIS AREA. STORM SEWER PIPE

4) CONTRACTOR TO PROVIDE SURVEYED "AS BUILT" DATA

ON THE FLOWLINE AND CROSS SECTIONAL AREA OF ALL

5) CEMENT STABILIZED SAND FOR BACKFILL CROSSING ALL PAVEMENT SHALL BE INCIDENTAL.

6) ALL STORM SEWER TO BE MAINTAINED BY MUNICIPAL UTILITY DISTRICT NO. 215.

7) ALL MANHOLE RIM ELEVATIONS WILL NEED TO BE FLUSH WITH PAVEMENT/SIDEWALK OR 3"-6" ABOVE NATURAL

8) IF ELECTRICAL UTILITY PROVIDER STANDARDS CONFLICT

WITH THE APPROVED LAYOUT BY THE CITY AND/OR CITY STANDARDS A VARIANCE REQUEST MUST BE REQUESTED FROM CITY COUNCIL.

9) ALL LIGHT POLES MUST BE A MINIMUM OF 3' OFF BACK OF CURB.

10) SIDEWALKS TO BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.

10a) SIDEWALKS TO BE LOCATED A MINIMUM OF 5' FROM THE BACK OF CURB WHERE LIGHT POLES ARE PRESENT.

10b) CONSTRUCT SIDEWALKS AND CURB RAMPS IN CONFORMANCE WITH THE TEXAS ACCESSIBILITY STANDARDS

(TAS) AND THE AMERICAN WITH DISABILITIES ACT (ADA).

10c) DO NOT PLACE SIDEWALK OVER PARALLEL UTILITY

SIDÉWALK SECTION MEETING TAS AND ADA AS THE SIDEWALK

11) AS-BUILT ELECTRICAL PLANS TO BE SUBMITTED WITH

12) CONTRACTOR SHALL CLEAR, GRUB, ROOT RAKE, BACK

DRAG, CHIP AND DISPOSE OFFSITE OF ALL CLEARED AND

14) CONTRACTOR TO STAMP THE FACE OF THE CURB WITH

AN "S" AT THE LOCATION OF EACH SANITARY SEWER LEAD

AND "W" AT THE LOCATION OF EACH WATER LEAD.

13) SIDEWALK RAMPS AND SIDEWALKS WITHIN COMMON AREAS TO BE CONSTRUCTED WITH WS&D. SIDEWALKS IN FRONT OF HOMES TO BE CONSTRUCTED BY HOMEBUILDERS. ALL SIDEWALKS TO BE INSTALLED BY END OF 1 YEAR WARRANTY PERIOD.

10d) AT DRIVEWAYS, ALIGN A MINIMUM 5 FOOT WIDE

THE AS-BUILT DRAWINGS FOR THE SUBDIVISION.

CROSSES THE DRIVEWAY.

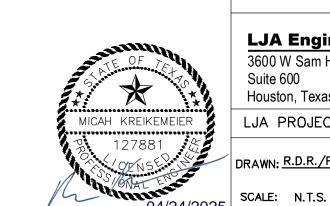
GRUBBED MATERIAL.

2) THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING

MONTGOMERY COUNTY MUNICIPAL UTILITY DISTRICT NO. 215

BRIARLEY PHASE 1B

DRAINAGE DETAILS III

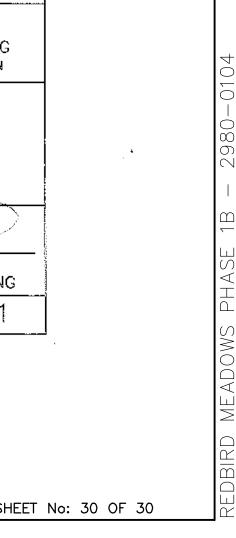


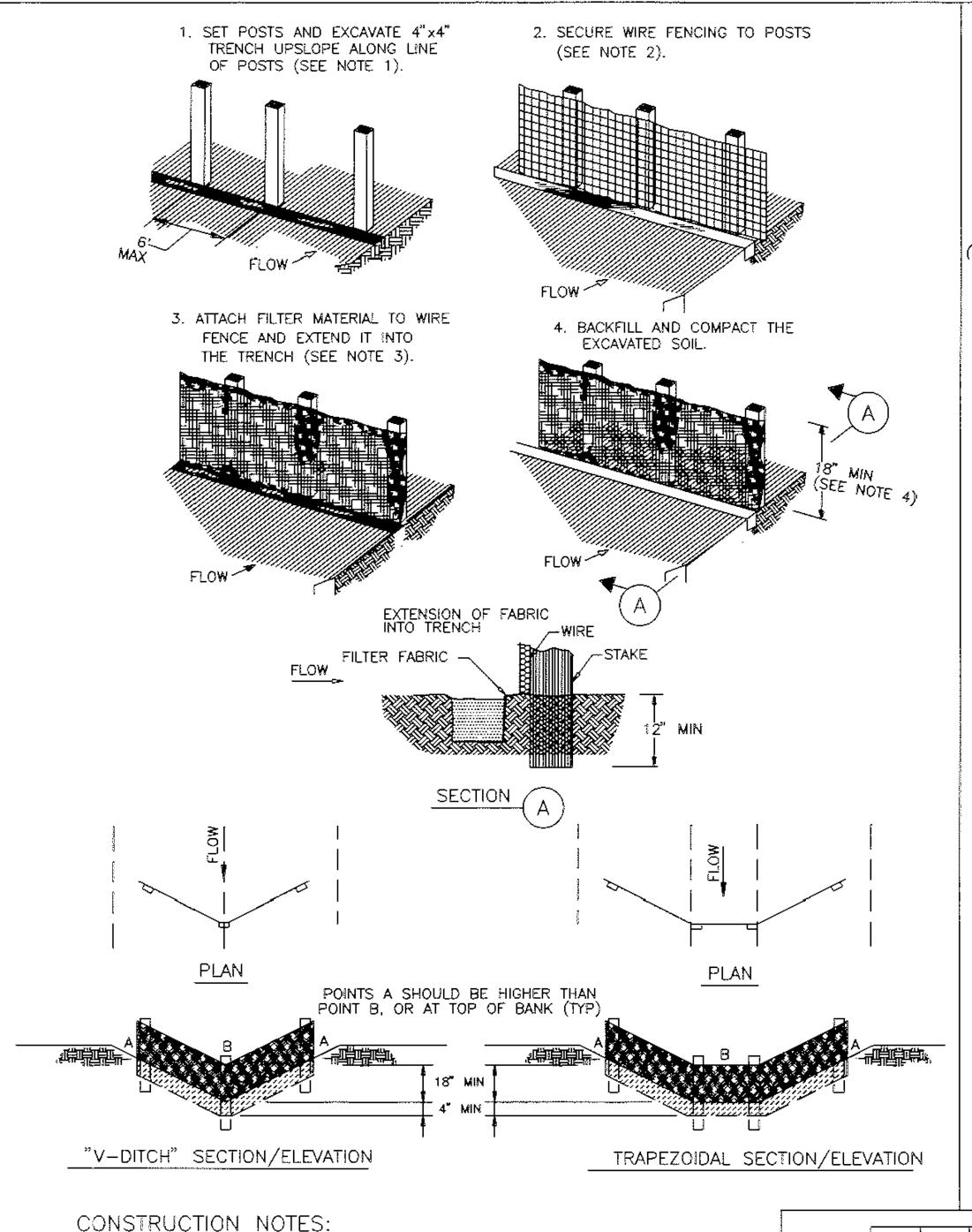
LJA Engineering, Inc. 3600 W Sam Houston Parkway S Phone 713.953.5200 Suite 600 Houston, Texas 77042

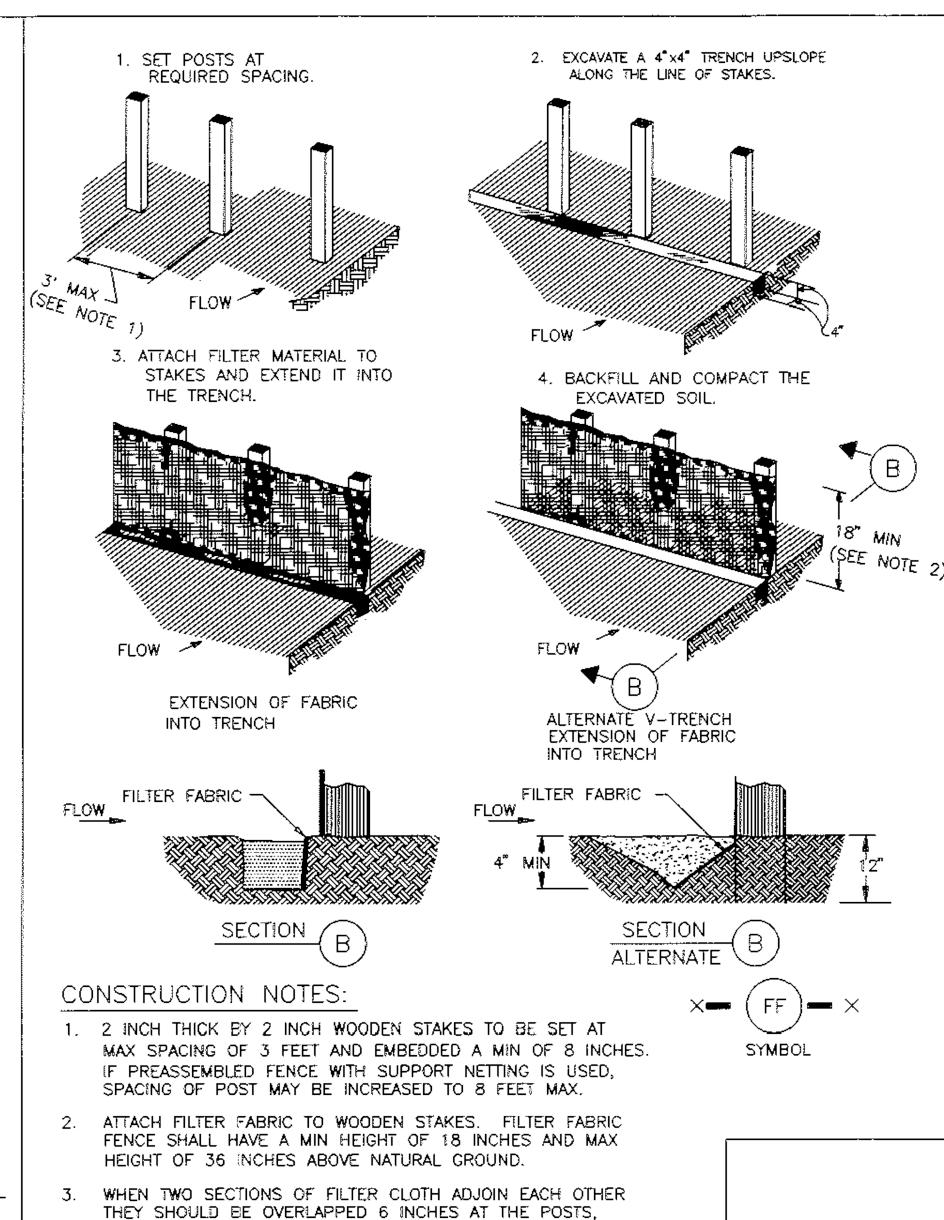
LJA PROJECT NO.: 2980-0104 DRAWN: R.D.R./F.M. DESIGN: R.D.R./F.M. DATE: APRIL 2025

SHEET NO. 29 OF 30

Fax 713.953.5026 FRN - F-1386



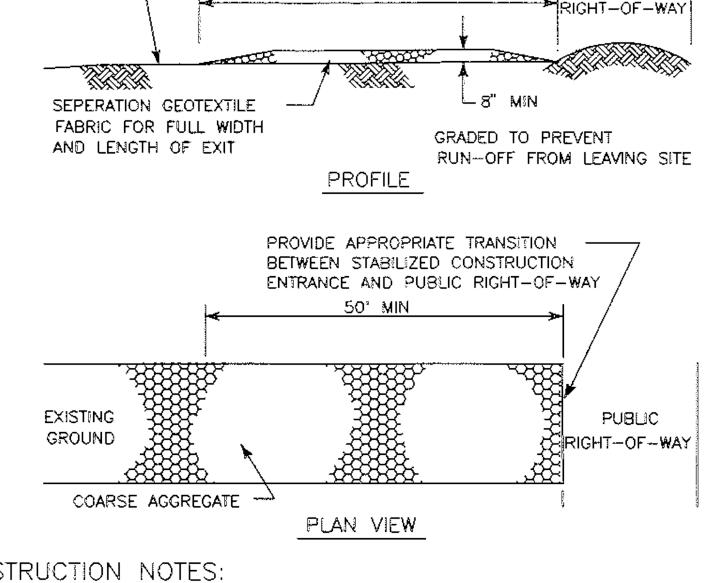




AND FOLDED.

4. SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC FENCE.

FILTER FABRIC FENCE



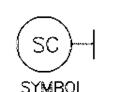
50' MIN

PUBLIC

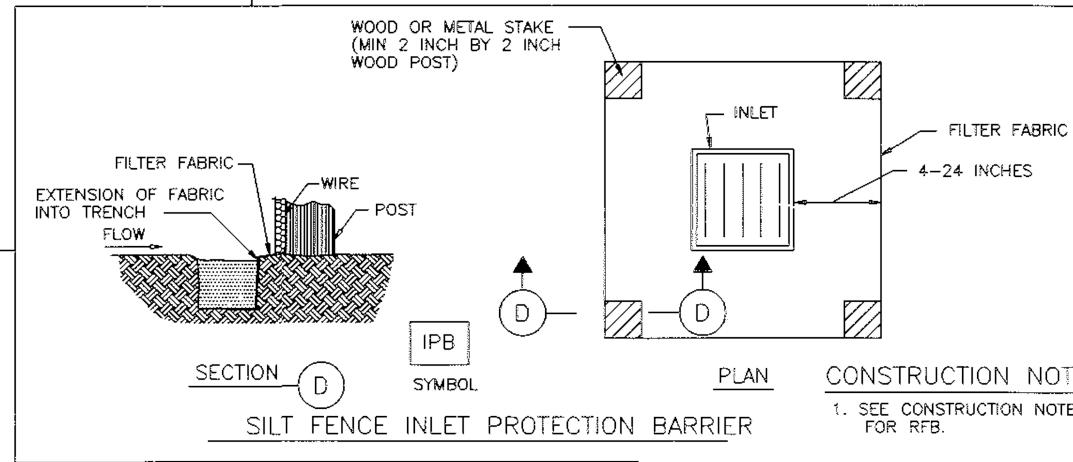
CONSTRUCTION NOTES:

EXISTING GROUND -

- 1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 50 FEET.
- 2. THICKNESS SHALL BE NOT LESS THAN 8 INCHES.
- 3. WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
- 4. STABILIZATION FOR OTHER AREAS SHALL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION EXIT, UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS.
- 5. STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMODATE A TRUCK WASHING AREA. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE TRUCK WASHING AREA.
- 6. SEE COH STANDARD SPECIFICATION FOR STABILIZED CONSTRUCTION EXIT.
- 7. STABILIZED CONSTRUCTION EXIT SHALL BE MAINTAINED FREE OF SEDIMENT FOR THE DURATION OF THE PROJECT.



STABILIZED CONSTRUCTION EXIT

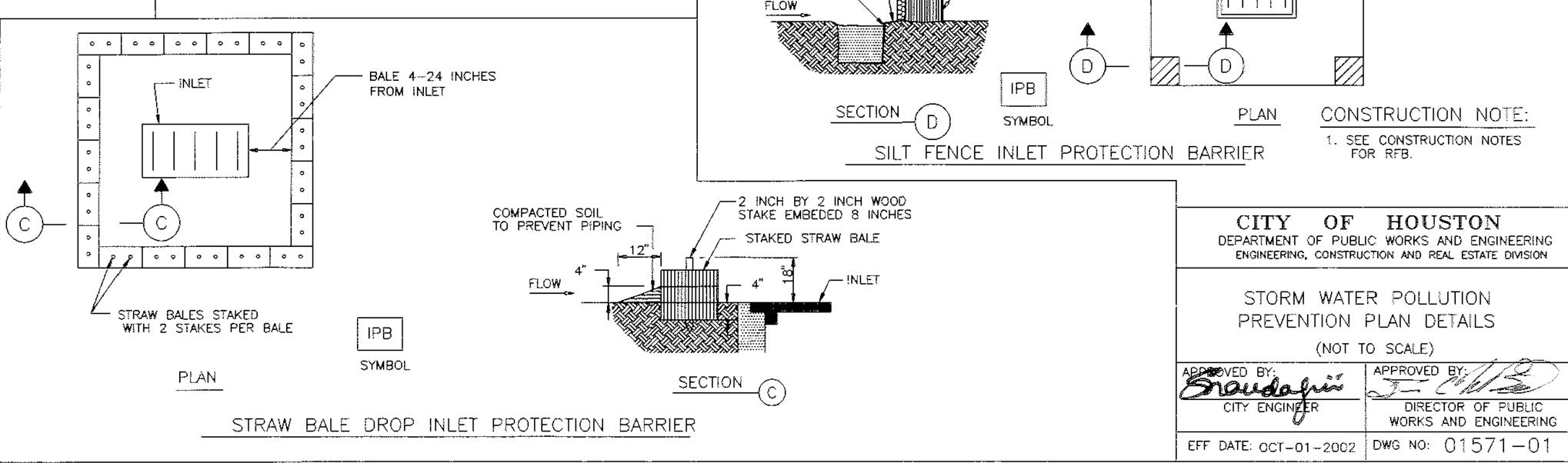


CONSTRUCTION NOTES:

- 1. SET 2 INCH BY 2 INCH WOODEN STAKES SPACED A MAX OF 6 FEET APART AND EMBEDDED A MIN OF 12 INCHES.
- 2. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH STAPLES.
- 3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE, WITH TIES SPACED EVERY 24 INCHES AT TOP AND MIDSECTION.
- 4. MINIMUM HEIGHT OF FILTER SHOULD BE 18 INCHES AND A MAXIMUM OF 36 INCHES ABOVE NATURAL GROUND.
- 5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
- 6. SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC BARRIER.



REINFORCED FILTER FABRIC BARRIER



04/24/2025 SHEET No: 30 OF 30