CITY OF MONTGOMERY, TEXAS LONE STAR RIDGE PHASE 1

Sheet Number	Sheet Title
01	COVER SHEET
02	CONSTRUCTION NOTES & LEGEND 1 OF 2
03	CONSTRUCTION NOTES & LEGEND 2 OF 2
04	EXISTING CONDITIONS SURVEY & DEMOLITION PL
05	OVERALL SUBDIVISION INDEX
06	TRAFFIC & PAVING PLAN 1 OF 2
07	TRAFFIC & PAVING PLAN 2 OF 2
08	WATER & SANITARY PLAN 1 OF 3
09	WATER & SANITARY PLAN 2 OF 3
10	WATER & SANITARY PLAN 3 OF 3
11	OVERALL GRADING PLAN
12	GRADING PLAN 1 OF 2
13	GRADING PLAN 2 OF 2
14	CROSS SECTIONS
15	STORM SEWER PLAN 1 OF 3
16	STORM SEWER PLAN 2 OF 3
17	STORM SEWER PLAN 3 OF 3
18	DRAINAGE PLAN 1 OF 2
19	DRAINAGE PLAN 2 OF 2
20	DRAINAGE CALCULATIONS 1 OF 3
21	DRAINAGE CALCULATIONS 2 OF 3
22	DRAINAGE CALCULATIONS 3 OF 3
23	WESTLAKE HOLLOW DRIVE STA 0+00 TO 7+00
24	AUGUST WIND LANE STA 0+00 TO 7+00
25	HONEY SUNSET ST STA $7+00$ TO $15+50$
26	WARM BREEZE LANE STA 15+50 TO 19+00
27	LAVENDER WIND LANE STA 0+00 TO 2+50
28	ROCKY CREEK LANE STA 5+00 TO 10+00
29	CEDAR PARK DRIVE 10+00 TO 17+00
30	WESTWOOD PASS LANE 0+00 TO 5+50
31	SEWER EXTENSION STA 0+00 TO 3+50
32	SEWER EXTENSION STA 3+50 TO 10+00
33	SEWER EXTENSION STA 10+00 TO 16+00
34	WATERLINE EXTENSION 0+00 TO 12+00
35	STORM PLAN & PROFILE
36	SANITARY LEAD TABLE
37	SWPP PLAN 1 OF 2
38	SWPP PLAN 2 OF 2
39	SWPP PLAN 3 OF 3
40	SWPP DETAILS
41	SANITARY SEWER DETAILS
42	STORM SEWER DETAILS
43	WATER DETAILS 1 OF 2
44	WATER DETAILS 2 OF 2
45	PAVING DETAILS 1 OF 2
46	PAVING DETAILS 2 OF 2

TO MONTGOMERY ONE STAR

VICINITY MAP SCALE: 1" = 1000'

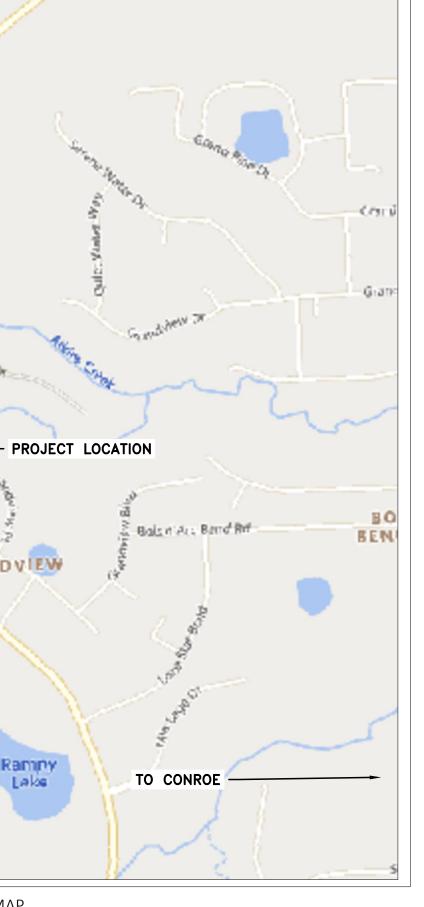
WATER, SEWER, DRAINAGE & PAVING

ON BEHALF OF MC MUD 179

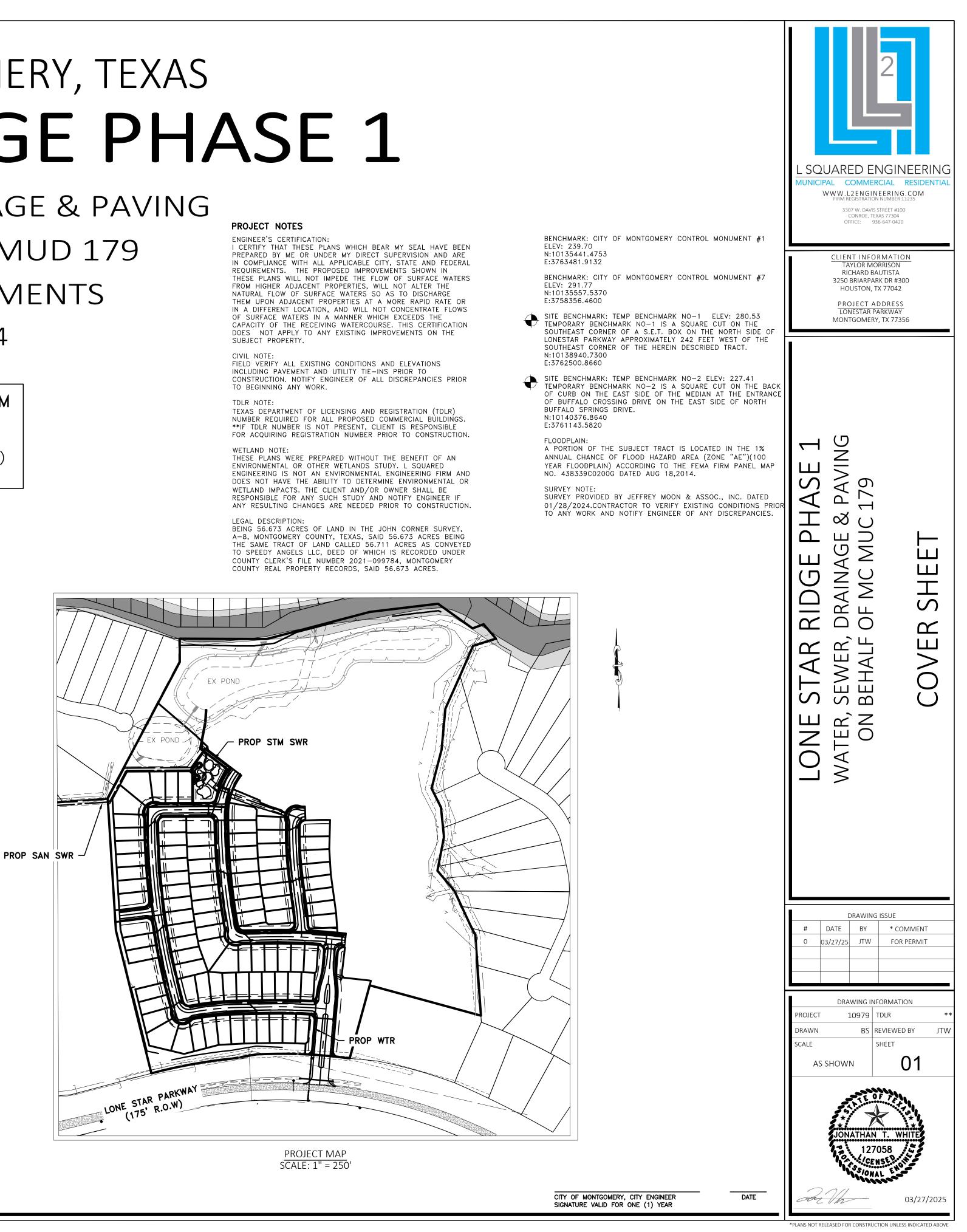
PUBLIC IMPROVEMENTS

DEV NO. 2404

ONE-CALL NOTIFICATION SYSTEM CALL BEFORE YOU DIG!!! (713) 223-4567 (in Houston) (New Statewide Number Outside Houston) 1-800-545-6005







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

MATERIALS, CONSTRUCTION AND TESTING TO BE IN ACCORDANCE WITH THE GOVERNING ENTITY'S ORDINANCES AND SPECIFICATIONS, LATEST PRINTING AND AMENDMENTS THERETO.

CONTRACTOR TO OBTAIN ALL DEVELOPMENT AND CONSTRUCTION PERMITS REQUIRED BY ALL ENTITIES AT HIS EXPENSE PRIOR TO COMMENCEMENT OF WORK.

CONTRACTOR SHALL GIVE NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES OR RAILROADS AFFECTED BY HIS OPERATIONS 48 HOURS PRIOR TO COMMENCEMENT OF WORK IN STREET RIGHTS-OF-WAY OR EASEMENTS.

ALL EXISTING UNDERGROUND UTILITIES SHOWN ARE NOT GUARANTEED TO BE COMPLETED OR DEFINITE, BUT WERE OBTAINED FROM THE BEST INFORMATION AVAILABLE. CONTRACTOR HAS SOLE RESPONSIBILITY FOR FIELD VERIFICATION OF ALL EXISTING FACILITIES SHOWN ON DRAWINGS. CONTRACTOR SHALL COORDINATE ALL CONFLICTS WITH THE APPROPRIATE GOVERNING AGENCY.

THE LOCATION OF LUFKIN-CONROE TELEPHONE EXCHANGE OR AT&T COMPANY, ENTEX, AND ENTERGY-GSU (GULF STATES UTILITIES) UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL REQUEST THE EXACT LOCATION OF THESE FACILITIES BY CALLING THE UTILITY COMPANIES, AT LEAST 48 HOURS BEFORE COMMENCING WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE WHICH OCCURS DUE TO HIS FAILURE TO REQUEST THE LOCATION AND PRESERVATION OF THESE UNDERGROUND FACILITIES. ANY DAMAGE TO EXISTING FACILITIES INCURRED AS A RESULT OF CONSTRUCTION OPERATIONS WILL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

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.

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.

DETAILS SHOWN DO NOT EXTEND OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE 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.

CONTRACTOR SHALL COVER OPEN EXCAVATIONS WITH ANCHORED STEEL PLATES DURING NON-WORKING HOURS, ALONG EXISTING ROADWAYS AND TRAFFIC AREAS.

10. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE GOVERNING ENTITY. ALL CONSTRUCTION RUNOFF SHALL COMPLY WITH STORM WATER MANAGEMENT FOR CONSTRUCTION ACTIVITIES AND THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS.

11. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE FLAGMEN, SIGNING, STRIPING AND WARNING DEVICES, ETC., DURING CONSTRUCTION IN ACCORDANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OF TRAFFIC IN EACH DIRECTION DURING WORKING HOURS OR PROVIDE ALL-WEATHER DETOURS AROUND CONSTRUCTION SITE, PROVIDE PUBLIC NOTIFICATION, AND USE UNIFORMED POLICE OFFICERS TO CONTROL TRAFFIC.

12. EXISTING PAVEMENTS, CURBS, SIDEWALKS AND DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO THE GOVERNING ENTITY'S STANDARDS. ALL ASPHALT AND CONCRETE DRIVEWAYS EXCAVATED DURING CONSTRUCTION SHALL BE BACKFILLED WITH STABILIZED MATERIAL AND RETURNED TO EXISTING CONDITIONS. ALL STATE AND COUNTY HIGHWAY PAVEMENT AND RAILROAD RIGHT-OF-WAYS TO BE BORED ACCORDING TO THE RULES, REGULATIONS AND REQUIREMENTS FOR APPROVAL AND ACCEPTANCE BY SAID AGENCIES.

13. EXISTING ROADS AND/OR RIGHT-OF-WAYS DISTURBED DURING CONSTRUCTION SHALL BE AS GOOD OR BETTER THAN THE CONDITION PRIOR TO STARTING THE WORK, UPON COMPLETION OF THE PROJECT.

14. AFTER DISTURBED AREAS HAVE BEEN COMPLETED TO THE LINES, GRADES, AND CROSS-SECTIONS SHOWN ON THE PLANS, SEEDING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS TO ESTABLISH ADEQUATE VEGETATION COVERAGE TO ELIMINATE EROSION. IF NO PROVISION FOR 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."

15. ALL TRENCHES, INCLUDING TRENCHES FOR LEADS AND STUBS UNDER PAVEMENT AND TO A POINT ONE (1) FOOT BACK OF ALL CURBS SHALL BE BACKFILLED WITH CEMENT STABILIZED SAND AS PER SPECIFICATION TO A POINT IMMEDIATELY BELOW THE SUBGRADE. TRENCHES OTHER THAN UNDER PAVEMENT SHALL BE BACKFILLED WITH SUITABLE EARTH MATERIAL IN 6 INCH LAYERS AND MECHANICALLY COMPACTED TO A DENSITY OF NOT LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR COMPACTION TEST (ASTM DESIGNATION D-698/AASHTO T99). MOISTURE CONTENT OF BACKFILL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CEMENT STABILIZED SAND SPECIFICATIONS. SEE GOVERNING ENTITY'S STANDARD DETAIL SHEETS FOR BEDDING AND OTHER DESIGN REQUIREMENTS.

16. CONTRACTOR TO REMOVE EXISTING PLUGS AND CONNECT TO EXISTING UTILITY LINES AS INDICATED ON PLANS. 17. UNLESS OTHERWISE NOTED ON PLANS, WHERE MANHOLES ARE LOCATED WITHIN THE UTILITY EASEMENTS, THE CONTRACTOR SHALL SET RIM ELEVATIONS TWO INCHES ABOVE FINISHED GROUND ELEVATIONS.

18. WHEN TRENCH CONDITION REQUIRES THE USE OF WELL POINTS, THIS 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.

SANITARY SEWER CONSTRUCTION NOTES:

SANITARY SEWERS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST SPECIFICATIONS FOR SEWER CONSTRUCTION, AND TESTED AS SPECIFIED FROM THE LATEST TEST PROCEDURE FOR EITHER LIQUID OR AIR, INCLUDING ALL AMENDMENTS AND REVISIONS THERETO, BACKFILL AND BEDDING FOR SANITARY SEWERS MUST MEET ALL MINIMUM ASPECTS OF ASTM D-2321 AND MUST BE PLACED IN ACCORDANCE WITH THE APPLICABLE ENTITY'S SPECIFICATIONS.

ALL SANITARY SEWER MANHOLES SHALL BE STANDARD THE APPLICABLE ENTITY 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.

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.

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.

SEWER LINES SHALL BE LOCATED ON THE OPPOSITE SIDE OF THE STREET FROM WHERE WATER IS LOCATED. SEWER LINE AND WATER LINE SEPARATION SHALL BE IN ACCORDANCE WITH TEXAS NATURAL RESOURCE CONSERVATION COMMISSION RULES, CHAPTER 317.13 APPENDIX E.

NO SEWER PIPE SHALL BE LAID ON AN UNSTABLE FOUNDATION. SELECTED MATERIAL SHALL BE USED AND/OR WET SAND CONSTRUCTION DETAILS, WHICHEVER APPLIES IN THE OPINION OF THE ENGINEER. NO PIPE SHALL BE COVERED WITHOUT APPROVAL OF THE ENGINEER OR HIS REPRESENTATIVE. SANITARY SEWERS CONSTRUCTED IN WET SAND SHALL HAVE A SPECIAL PROCEDURE AND SHALL BE CONSTRUCTED AS PER THE APPLICABLE ENTITY STANDARDS. WHEN THE NATURAL GROUND LEVEL AROUND MANHOLE LIES BELOW THE 100 YEAR FLOODPLAIN ELEVATION, THE MANHOLE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SEALED AND VENTED MANHOLE DETAIL.

A DEFLECTION TEST SHALL BE REQUIRED AFTER THE BACKFILL HAS BEEN IN PLACE A MINIMUM OF 30 DAYS. THIS TEST SHALL BE DONE BY PULLING A HAND LINE WITH AN ATTACHED MANDREL FROM MAN-HOLE TO MANHOLE. THE MANDREL SHALL HAVE AN OUTSIDE DIAMETER THAT IS AT LEAST 95% OF THE ORIGINAL INSIDE DIAMETER OF THE PIPE. MANDREL TO BE MANUFACTURED WITH A MINIMUM OF SEVEN (7) RUNNERS, WITH EACH RUNNER BEING A MINIMUM OF 5 INCHES LONG. ANY PIPE NOT MEETING EST REQUIREMENTS TO BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.

9. INFILTRATION/EXFILTRATION NOT TO EXCEED 200 GALLONS PER INCH DIAMETER PER MILE OF PIPE FOR 24 HOURS UNDER A MINIMUM OF 2 FEET OF HEAD, OR AN AIR TEST SHALL BE REQUIRED IN ACCORDANCE WITH ASTM C-828.

10. WHERE A SEWER LINE HAS LESS THAN (2) FEET OF COVER, PROVIDE CEMENT STABILIZED SAND BACKFILL MATERIAL.

MYLAR DRAWINGS MUST SHOW THE EXACT LOCATION.

ALL DOUBLE SERVICE LEADS TO BE 6 INCH. STORM WATER QUALITY NOTES:

IF THE PROJECT DISTURBS 10 ACRES, COVERAGE IS REQUIRED UNDER THE TPDES GENERAL PERMIT TXR150000 FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION, INSPECTION, AND MAINTENANCE OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. THE COSTS TO IMPLEMENT, INSPECT, AND MAINTAIN THE SWPPP SHALL BE CONSIDERED INCIDENTAL TO THE SWPPP BID ITEMS.

COPIES OF THE CONTACTOR'S NOI AND CONSTRUCTION SITE NOTICE (CSN) SHALL BE POSTED AT THE SITE BY THE CONTRACTOR. COPIES SHALL ALSO BE SUBMITTED TO THE PROJECT OWNER AND ENGINEER. THE CONTRACTOR SHALL LAMINATE AND POST THE TWO NOIS, TWO CSNS AND ANY "SECONDARY OPERATOR" CSNS ON THE PROJECT SITE AT A LOCATION WITH EASY ACCESS TO THE PUBLIC FOR CLEAR VIEWING AND AS APPROVED BY THE ENGINEER. THE COST OF LAMINATION AND POSTING OF THE NOIS & CSNS SHALL BE CONSIDERED INCIDENTAL TO THE SWPPP BID

4. UPON COMPLETION OF CONSTRUCTION ACTIVITIES AND FINAL STABILIZATION OF THE SITE, AS DEFINED BY THE TPDES GENERAL PERMIT, A NOTICE OF TERMINATION (NOT) IS REQUIRED TO BE SUBMITTED TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ). WHEN DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PROVIDE A COPY OF THE CONTRACTOR'S NOTICE OF TERMINATION (NOT) AND PROOF THAT IT HAS BEEN SENT TO THE TCEQ.

A RAIN GAUGE SHALL BE KEPT ON THE PROJECT SITE OR WITHIN THE IMMEDIATE PROJECT VICINITY. RECORDS OF RAINFALL EVENTS SHALL BE KEPT BY THE CONTRACTOR TO ASSIST WITH DETERMINING IF AN SWPPP SITE INSPECTION IS REQUIRED. THE COSTS FOR THE RAIN GAUGE SHALL BE CONSIDERED INCIDENTAL TO THE SWPPP BID

6. THE SWPPP, INSPECTION & MAINTENANCE REPORTS, CERTIFICATIONS, RAINFALL RECORDS, MAJOR GRADING DATE RECORDS AND TEMPORARY AND PERMANENT STABILIZATION DATE RECORDS SHALL BE KEPT CURRENT BY THE CONTRACTOR AND IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS. COPIES OF THE ALL SWPPP RECORDS SHALL BE KEPT ON-SITE, IF FEASIBLE, UNTIL THE NOTICE OF TERMINATION HAS BEEN SUBMITTED TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY. THE SWPPP RECORDS SHALL BE MADE READILY AVAILABLE TO ENGINEER AND REGULATORY AUTHORITIES UPON AN ON-SITE INSPECTION. THE CONTRACTOR SHALL DELIVER COPIES OF ALL SWPPP RECORDS TO PROJECT OWNER AND ENGINEER AS DIRECTED BY THE ENGINEER." STORM SEWER NOTES:

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 THE GOVERNING ENTITIE'S STANDARDS AND SPECIFICATIONS

NOTE: HDPE PIPE MAY BE USED PROVIDED THAT IT IS BACKFILLED WITH CEMENT STABILIZED SAND (2 SACKS CEMENT/TON), OR OTHER BACKFILL MATERIALS THAT HAVE BEEN APPROVED BY THE GOVERNING ENTITY. SEE NOTES

WALLS UNLESS OTHERWISE NOTED.

3. ALL BOX CULVERTS INSTALLED SHALL BE PLACED ON A MINIMUM OF 6 INCHES OF CEMENT STABILIZED SAND (CEMENT STABILIZED SAND SHALL BE 1¹/₂ SACK CEMENT PER TON). FOR INSTALLATION OF PRE-CASE CONCRETE BOX CULVERTS IN POOR SAIL CONDITIONS, A 7 INCH REINFORCED CONCRETE SLAB SHALL BE INSTALLED. FOR INSTALLATION OF MONOLITHIC REINFORCED CONCRETE BOX CULVERTS IN POOR SOIL CONDITIONS, A 4 INCH THICK CLASS "C" CONCRETE SEAL SLAB SHALL BE INSTALLED, PRIOR TO CONSTRUCTION OF BOX CULVERTS.

ALL INLETS TO BE TO THE DETAIL SPECIFICATIONS SHOWN IN THE PLANS OR APPROVED EQUAL OR UNLESS OTHERWISE STATED ON PLANS. INLETS TO BE STANDARD DEPTH UNLESS OTHERWISE NOTED.

6. ALL STORM SEWER LEADS SHALL BE 18 INCH MINIMUM UNLESS OTHERWISE INDICATED. GRADE DROP ON LEADS BETWEEN INLETS TO BE A MINIMUM OF 0.20 FOOT. GRADE DROP BETWEEN INLET AND MANHOLES TO BE 0.20 FOOT UNLESS OTHERWISE SHOWN. WHEN MANHOLE FRAME AND COVER IS REQUIRED, USE EAST JORDAN 24" FRAME AND COVER (OR EQUAL).

9. FOR ADJUSTMENT OF MANHOLE LIDS USE STANDARD CONCRETE RINGS. 10. CONCRETE USED FOR ALL POURED-IN-PLACE MANHOLES, INLETS, WINGWALLS, HEADWALLS AND OTHER APPURTENANCES TO BE CLASS "A" CONCRETE WITH 3,000 P.S.I. STRENGTH AT 28 DAYS.

11. ALL EXPOSED CORNERS TO BE CHAMFERED 3/4". 12. OTHER BACKFILL MATERIALS MAY BE USED BASED ON THE GEOTECHNICAL REPORT OR PER HDPE

SEE MANUFACTURERS SPECIFICATIONS FOR THE USE OF HIGH DENSITY POLYETHYLENE PIPE FOR STORM DRAINS FOR SPECIFIC TECHNICAL INFORMATION.

WATER CONSTRUCTION NOTES:

CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING TO WITHSTAND TEST PRESSURE AS SPECIFIED IN THE APPLICABLE ENTITY STANDARD DRAWINGS AND REQUIREMENTS FOR WATER MAIN CONSTRUCTION AND MATERIALS. 2. PRIOR TO INSTALLATION OF WATER METER, WATER METER LEAD OR UNMETERED FIRE SPRINKLER LINE, THE

CONTRACTOR SHALL CONTACT THE PERMIT DIVISION.

CONSTRUCTION.

4. SEPARATION DISTANCES FOR ALL WATER MAIN AND SANITARY SEWER MAIN CONSTRUCTION SHALL BE GOVERNED BY THE "TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES AND REGULATIONS FOR DESIGN CRITERIA FOR WATER SYSTEMS", SECTION 290, LATEST PRINTING. REFER TO THE THE APPLICABLE ENTITY DESIGN MANUAL WATER MAIN DESIGN REQUIREMENTS.

5. TWELVE-INCH (12") AND SMALLER MAINS SHALL HAVE A MINIMUM COVER OF FOUR FEET (4') FROM THE TOP OF THE CURB OR FIVE FEET (5') FROM THE MEAN ELEVATION OF THE BOTTOM OF THE NEARBY DITCH AND NEARBY RIGHT-OF-WAY ELEVATION FOR OPEN DITCH SECTIONS.

6. MAINS LARGER THAN TWELVE-INCHES (12") SHALL HAVE A MINIMUM COVER OF FIVE FEET (5') FROM THE TOP OF THE CURB OR SIX FEET (6') FROM THE MEAN ELEVATION FOR OPEN DITCH SECTIONS. 7. ALL WATER MAINS SHALL BE HYDROSTATICALLY TESTED BEFORE BACTERIOLOGICAL TESTING IN ACCORDANCE WITH

AWWA STANDARD C-600. 8. ALL WATER PIPING SHALL BE DISINFECTED AND BACTERIOLOGICALLY TESTED PRIOR TO USE IN ACCORDANCE WITH AWWA STANDARD C-601.

BE C-905 (SDR-18).

11. THE INSTALLATION OF ALL WATER LINES SHALL EXTEND ALONG THE ENTIRE LENGTH OF THE PROPERTY TO BE PAVING NOTES:

INCH HOT MIX ASPHALTIC CONCRETE. EXISTS, USE HORIZONTAL DOWELS PER NOTE #4.

11. CONTRACTOR SHALL KEEP RECORD OF LOCATION OF ALL STACKS, STUBS, SEWER LEADS, ETC. THE AS-BUILT

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

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.

2. IF THE PROJECT DISTURBS GREATER THAN 5 ACRES, A NOTICE OF INTENT (NOI) SHALL BE SUBMITTED TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) AT LEAST 7 DAYS PRIOR TO THE START OF ANY EARTH DISTURBING ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TCEQ COMPLIANCE, PLAN IMPLEMENTATION AND MAINTENANCE DURING CONSTRUCTION. WHEN DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PROVIDE A COPY OF THE CONTRACTOR'S NOTICE OF INTENT (NOI) AND PROOF THAT IT HAS BEEN SENT TO THE TCEQ.

ALL PROPOSED PIPE STUB OUTS FROM MANHOLES OR INLETS ARE TO BE PLUGGED WITH 8 INCH BRICK

4. STORM SEWER MANHOLES SHALL BE STANDARD PRE-CAST, UNLESS OTHERWISE NOTED.

SPECIFICATIONS. BACKFILL MUST BE USED WITH APPROPRIATE COMPACTION.

3. PRIOR TO WATER MAIN CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE GOVERNING ENTITY'S ENGINEER AND COMPLY WITH ALL REQUIREMENTS NECESSARY FOR THE ISSUANCE OF A WORK ORDER FOR THE WATER MAIN

9. ALL WATER MAINS 4" THROUGH 12" SHALL BE C-900 (SDR-18). ALL WATER MAINS 14" THROUGH 36" SHALL

10. PRIOR TO BACKFILLING OF ALL UNDERGROUND WATER LINES, INSTALL A CONTINUOUS #14 COPPER TRACER WIRE, LOCATED DIRECTLY OVER BURIED LINES AND ACCESSIBLE AT EACH VALVE STACK.

SERVED. WATER LINES THAT DEAD END SHALL EXTEND TO THE PROJECT LIMITS FOR FUTURE EXTENSIONS.

IF PROPOSED SEMI-RIGID BASE WITH 2 INCH TYPE "D" HOT MIX ASPHALTIC CONCRETE SURFACING, FOR URBAN ESTATES ONLY, SEMI-RIGID BASE MAY BE 7 INCH CEMENT STABILIZED SHELL, 8 INCH CRUSHED LIMESTONE, OR 6

2. EXPOSE 15 INCHES OF REINFORCING STEEL AT ALL PROPOSED SAWED JOINTS. IF NO REINFORCING STEEL

REQUIRE A ONE (1) INCH REDWOOD EXPANSION BOARD OR PRE-MOLDED NON-EXTRUDING JOINT SIDEWALK AND BACK OF CURB.

4. HORIZONTAL DOWELS SHALL BE NO. 6 BARS, 24 INCHES LONG, DRILLED AND EMBEDDED 8 INCH CENTER OF THE EXISTING SLAB WITH "PO ROC" OR EQUAL. DOWELS SHALL BE 24 INCHES CENTER UNLESS OTHERWISE SPECIFIED.

5. WHEN PROPOSED PAVEMENT ENDS AT A CONSTRUCTION JOINT LEAVE 15 INCHES OF REINFORCING EXPOSED BEYOND PAVEMENT, COAT WITH ASPHALT, AND WRAP WITH BURLAP FOR FUTURE PAVEMENT EXPANSION JOINTS, EXTEND DOWELS 5 INCHES; COAT AND WRAP SAME AS CONSTRUCTION JOINTS.

6. WHEREVER A SIDEWALK IS REQUIRED BY GOVERNING ENTITY'S ORDINANCE , PROVIDE WHEELCHAIR SIDEWALKS IN ACCORDANCE WITH THE "TEXAS DEPARTMENT OF TRANSPORTATION STANDARD WHEELCHAI SIDEWALK DETAILS".

7. ADJUST EXISTING MANHOLE FRAMES AND COVERS TO FIT NEW GRADE.

ADJUST EXISTING WATER VALVE BOXES TO NEW PAVING GRADE. REPLACE ALL MISSING OR DAMA BOXES AND COVERS. 9. PLACE WHITE OR YELLOW PLASTIC MARKER OR PAINT AS SHOWN BY THE UNIFORM TRAFFIC MANU

10. PROVIDE A CONCRETE PAVING HEADER AT THE END OF THE PAVEMENT.

PAVEMENT MARKINGS.

11. T. C. INDICATES TOP OF CURB ELEVATION AND T. P. INDICATES TOP OF PAVEMENT ELEVATION. 12. CURB RADII AT STREET INTERSECTIONS TO BE 24.50 FEET TO BACK OF CURB WITH A MINIMUM

PERCENT GRADE UNLESS OTHERWISE NOTED. 13. GUIDELINES SET FORTH IN THE "TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" WILL BI

14. TRANSVERSE EXPANSION JOINTS SHALL BE INSTALLED AT ALL RADIUS RETURNS AND AT A MAXIMU 60 FOOT INTERVALS.

15. CONTRACTOR WILL USE CONTINUOUS LONGITUDINAL REINFORCING BARS IN CURBS AS SHOWN ON PROVIDED IN CONSTRUCTION DRAWINGS.

16. CYLINDER COMPRESSION TEST OR BEAM FLEXURAL TEST SHALL BE REQUIRED. TWO SAMPLES SH FOR EACH 100 CUBIC YARDS OF CONCRETE POURED. FOR SMALLER QUANTITIES, TWO SAMPLES SHAI REGARDLESS OF THE AMOUNT OF CONCRETE POURED EACH DAY. CONCRETE SHALL HAVE 5 SACKS (CUBIC YARD AND A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI IN 28 DAYS OR A MINIMUM FLEX OF 600 PSI IN 28 DAYS. NO TRAFFIC SHALL BE ALLOWED ON CONCRETE FOR 28 DAYS. IF EXTRA MADE 75% OF THE 28 DAY STRENGTH IS ACHIEVED THE GOVERNING ENTITY'S ENGINEER MAY ALLOW T PAVEMENT IF IT DEEMS NECESSARY.

17. PRIOR TO PLAN APPROVAL, A CERTIFIED LAB SHALL DETERMINE THE PERCENTAGE OF CEMENT CO SUBGRADE STABILIZATION IN SANDY SOILS WITH P.I. LESS THAN 10 TO OBTAIN A COMPRESSIVE STREM IN 28 DAYS. THE LAB SHALL ALSO DETERMINE THE PERCENTAGE OF LIME CONTENT FOR SUBGRADE CLAY SOILS WITH A P.I. GREATER THAN 20. ALL STREETS SHALL BE TESTED EVERY 200 FEET AND SHALL BE STABILIZED UNLESS THE LAB CERTIFIES THE P.I. TO BE BETWEEN 10 AND 20 AND THAT ST NOT NEEDED.

18. A CONCRETE MIX DESIGN BY THE CERTIFIED LAB SHALL BE SUBMITTED TO AND APPROVED BY TH ENTITY'S ENGINEER BEFORE ANY CONCRETE IS POURED.

19. A MINIMUM OF TWO (2) COMPACTION TESTS SHALL BE PERFORMED A MAXIMUM DISTANCE OF 500 FOR EACH 2'-6" MAXIMUM THICK LAYERS OF FILL. IN AREAS WHERE NO FILL IS REQUIRED, TWO (2) SHALL BE TAKEN AT A MAXIMUM DISTANCE OF 500 FEET. ADDITIONAL TESTING SHALL BE PERFORMED NECESSARY BY THE ENGINEER. NO ADDITIONAL LAYERS OF FILL SHALL BE MADE WITHOUT HAVING THE APPROVAL OF COMPLETED LAYERS. PROOF ROLLING SHALL BE REQUIRED BY THE INSPECTOR ON EAC PLACED AND ANY "PUMPING" AREAS SHALL BE REMOVED IMMEDIATELY AND REPLACED OR STABILIZED RE-COMPACTED TO A PASSING DENSITY.

20. CONSTRUCTION OF ITEMS THAT ARE NOT SPECIFICALLY ADDRESSED TO BE IN ACCORDANCE WITH HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS (LATEST REVISION).

21. RIGHT-OF-WAY SHALL BE SLOPED FROM THE PROPERTY TO THE TOP OF CURB AND HYDROMULO SODDED BEFORE FINAL ACCEPTANCE BY THE GOVERNING ENTITY TO CONTROL EROSION INTO THE STRE

22. MEMBRANE CURING TYPE 2, WHITE PIGMENTED, SHALL BE USED FOR CURING ALL CONCRETE SUF IMMEDIATELY AFTER FINISHING OF SURFACES AND SHALL BE IN ACCORDANCE WITH THE TEXAS HIGHWA' STANDARD SPECIFICATIONS ITEM #526.

23. ALL FIRST STAGE INLET CONSTRUCTION SHALL BE PROTECTED WITH 3 INCH THICK BOARDS AT AL 24. ALL SUBGRADE AND EMBANKMENT AREAS SHALL BE STRIPPED OF ALL ORGANIC AND UNSUITABLE BEFORE STABILIZATION OR FILLING IS BEGUN. MATERIAL USED FOR FILL SHALL BE CERTIFIED BY A L PLASTICITY INDEX BETWEEN 10 AND 20.

25. FORMS SHALL BE SET TO THE PROPER GRADE AND PROPERLY SUPPORTED SO THAT NO DISPLACE WITH THE PAVING ACTIVITIES. ALL CONCRETE SHALL BE VIBRATED BY MECHANICAL MEANS TO INSURE COMPACTION AND NO HONEY COMBS

26. CONCRETE SHALL NOT BE PLACED WHEN THE TEMPERATURE IS BELOW 40° F. AND FALLING, BUT PLACED WHEN TEMPERATURE IS ABOVE 35° F. AND RISING. THE TEMPERATURE SHALL BE TAKEN IN AWAY FROM ARTIFICIAL HEAT.

27. THE CONTRACTOR SHALL ERECT AND MAINTAIN BARRICADES TO ADEQUATELY PROTECT THE PAVEME CONTRACTOR SHALL HAVE PERSONNEL ON SITE UNTIL THE PAVEMENT HAS REACHED SUFFICIENT STREM BE DAMAGED BY ANIMALS OR FOOT TRAFFIC.

28. JOINT SEALING MATERIAL SHALL BE A HOT POURED RUBBER TYPE AND SHALL MEET THE REQUIR ACCORDANCE WITH TEST METHOD TEX-525-C, OR AN APPROVED EQUAL. TAR WILL NOT BE ALLOWED 29. JOINTS SHALL BE CLEANED OF ALL SCALE, DIRT, DUST, CURING COMPOUND, AND CONCRETE TO DEPTH OF THE JOINT AND SHALL BE DRY BEFORE SEALING IS PERFORMED.

30. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM 615 GRADE 60 (GRADE 4 BARS REQUIRING BENDING). REINFORCING STEEL SHALL BE SUPPORTED ON CHAIRS STRONG ENOUGH PLACE AND BE TIED.

31. CONCRETE FOR PAVEMENT SHALL MEET TEXAS DEPARTMENT OF HIGHWAY STANDARD SPECIFICATION BE A MINIMUM OF 5 SACK, 3,000 PSI UNLESS STATED SPECIFICALLY BY THE PLANS OR THE SPECIFIC 32. CONCRETE PAVEMENT SHALL BE CORED TO VERIFY THICKNESS OF CONCRETE AT INTERVALS OF FEET PER TRAFFIC LANE, IF REQUIRED BY THE GOVERNING ENTITY ENGINEER.

CITY OF MONTGOMERY GENERAL CONSTRUCTION NOTES

CONTRACTOR SHALL CONTACT CITY OF MONTGOMERY CITY ENGINEER, KATHERINE VU AT (7 MINIMUM OF 48 HOURS PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL CONTACT CITY OF MONTGOMERY DIRECTOR OF PUBLIC WORKS, MIKE

(936) 597-6434 A MINIMUM OF 48 HOURS PRIOR TO COMMENCING CONSTRUCTION TO SET UP AN IN VERIFY CITY'S FACILITIES. CONTRACTOR TO CONTACT CITY OF MONTGOMERY UTILITY OPERATOR PHILIP WRIGHT OF HA

NORTH CORPORATION AT (936) 588-1166 A MINIMUM OF 48 HOURS PRIOR TO COMMENCING CONSTR UP AN INSPECTION TO VERIFY CITY'S FACILITIES.

THE CITY UTILITY OPERATOR AND PUBLIC WORKS FOREMAN SHALL BE NOTIFIED 24 HOURS TO WITNESS AND INSPECT ANY SANITARY SEWER LINE CONNECTION. NO SANITARY SEWER LINES SHALL BEFORE THE CITY'S UTILITY OPERATOR OR PUBLIC WORKS FOREMAN HAS INSPECTED THE CONNECTION. ALL WATERLINES TO BE DEDICATED TO THE PUBLIC SHALL INCLUDE A CONTINUOUS #14 COPPER

LOCATED DIRECTLY OVER BURIED LINES AND ACCESSIBLE AT EACH VALVE STEM. CONTRACTOR SHALL CONTACT THE CITY'S UTILITY OPERATOR OR PUBLIC WORKS FOREMAN ANY VALVES. AT NO TIME IS THE CONTRACTOR OR CONTRACTOR'S REPRESENTATIVE TO OPERATE ANY CITY OF MONTGOMERY WATER SYSTEM.

THE OWNER OR CONTRACTOR SHALL INSTALL AND TEST APPROPRIATE BACKFLOW PREVENT CITY OF MONTGOMERY RULES & REGULATIONS.

8. ALL TAPS TO THE CITY'S SYSTEM SHALL BE MADE BY THE CITY'S OPERATOR AT THE OWNERS EXI STORMWATER POLLUTION PROTECTIONS MUST BE IN PLACE PRIOR TO ANY CONSTRUCTION COMM MUST REMAIN IN PLACE UNTIL CONSTRUCTION HAS CONCLUDED. ALL PROTECTION MEASURES MUST EVERY 30 DAYS, OR AFTER A RAIN EVENT OF ANY SIZE, WHICHEVER IS SOONER.

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

BETWEEN	LEGEND:				
ES INTO THE TO CENTER		EX ADJOINER LINE, ADJ EX SANITARY, SAN			2
g steel Te—In. At		EX WATERLINE, WL EX STORM SEWER, STM			
RAMP AND/OR R RAMP AND		EX DRAINAGE PATH, FL EX HIGH BANK, HB			
GED VALVE JAL FOR	P UG FO T	EX EASEMENT, ESMT EX BUILDING LINE, BL EX OVERHEAD POWER, P EX UNDERGROUND POWER, UG EX FIBER, FO EX TELEPHONE, T		IPAL COMMERC WWW.L2ENGINE FIRM REGISTRATION N 3307 W. DAVIS ST CONROE, TEXAS	REET #100 S 77304
DF ONE (1) E OBSERVED. JM SPACING OF DETAILS	G X 	EX GAS LINE, G EX FENCE, FNC EX ZONE X, 500 YR FLOODPLAIN, FP EX ZONE AE, 100 YR FLOODPLAIN, FI EX FLOODWAY EX WETLANDS NATURAL GROUND, NG PROJECT BOUNDARY LINE, BNDY		OFFICE: 936- CLIENT INFOR TAYLOR MOR RICHARD BAU 3250 BRIARPARK HOUSTON, TX <u>PROJECT AD</u> LONESTAR PAF MONTGOMERY,	RISON ITISTA DR #300 77042 DR E S S RKWAY
HALL BE TAKEN L BE TAKEN EMENT PER (URAL STRENGTH TESTS ARE RAFFIC ON THE INTENT FOR GTH OF 400 PSI STABILIZATION IN SUBGRADE ABILIZATION IS HE GOVERNING 0 FEET, AND SAMPLES 0 IF SEEN E LAB'S WRITTEN CH LAYER AND THE TEXAS CHED OR ET AND STORM RFACES Y DEPARTMENT L TIMES. MATERIAL AB TO HAVE A CEMENT OCCURS PROPER MAY BE 'HE SHADE AND ENT. THE NGTH AS NOT TO		PROP PHASE LINE PROP SANITARY, SAN PROP FORCE MAIN, FM PROP WATERLINE, WL PROP STORM SEWER, STM PROP DRAINAGE PATH, FL PROP DRAINAGE PATH, FL PROP DRAINAGE PATH, FL PROP HIGH BANK, HB PROP EASEMENT, ESMT PROP BUILDING LINE, BL PROP OVERHEAD POWER, P PROP OVERHEAD POWER, UG PROP TELEPHONE, T PROP GAS LINE, G PROP FENCE, FNC PROP FACE OF CURB 4", FC PROP FACE OF CURB 4", FC PROP FACE OF CURB 6", FC PROP CASING FINISHED GRADE, FG INVERT ELEVATION, IE CROWN ELEVATION, CE 100 YEAR FLOODPLAIN FLOODWAY	ONE STAR RIDGE PHASE 1	VATER, SEWER, DRAINAGE & PAVING ON BEHALF OF MC MUC 179	JCTION NOTES & LEGEND 1 OF 2
EMENTS IN THE WIDTH AND HO ONLY FOR TO HOLD IT IN NS AND SHALL CATIONS. ,000 LINEAR	280.53 TEMPORARY BENCHMAR THE SOUTHEAST CORN NORTH SIDE OF LONES	P BENCHMARK NO–1 ELEV: K NO–1 IS A SQUARE CUT ON ER OF A S.E.T. BOX ON THE STAR PARKWAY APPROXIMATELY HE SOUTHEAST CORNER OF THE		4 M	CONSTRU
713)789-1900 A MUCKLEROY AT ISPECTION TO	227.41 TEMPORARY BENCHMAR THE BACK OF CURB O MEDIAN AT THE ENTRA	P BENCHMARK NO-2 ELEV: K NO-2 IS A SQUARE CUT ON N THE EAST SIDE OF THE NCE OF BUFFALO CROSSING IDE OF NORTH BUFFALO	# 0	DRAWING IS DATE BY 03/27/25 JTW 1	SSUE * COMMENT FOR PERMIT
AYS UTLITY UCTION TO SET	FLOODPLAIN: A PORTION OF THE SU	JBJECT TRACT IS LOCATED IN ICE OF FLOOD HAZARD AREA			
S IN ADVANCE BE BACKFILLED	(ZONE "AE")(100 YEAF	R FLOOD HAZARD AREA R FLOODPLAIN) ACCORDING TO . MAP NO. 438339C0200G DATED	PROJECT	10373	DLR **
TRACER WIRE,			DRAWN SCALE		VIEWED BY JTW IEET
TO OPERATE PART OF THE				NONE	02
ION, PER THE					
PENSE.				* JONATHAN	T. WHITE
BE INSPECTED PROVED BY THE CTION				1270 1270 1270 1270 1270	
	CITY OF MONTGOME SIGNATURE VALID F	ERY, CITY ENGINEER DATE FOR ONE (1) YEAR	A	- Uh-	03/27/2025

*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE

	Organized Sewage Collection System General Construction Notes		If no stub-out is present Sheet of (For por			joining lat
The foll	Edwards Aquifer Protection Program Construction Notes – Legal Disclaimer		The private service later on Plan Sheet ofa			
by the l actions as well "constru curtail a	Executive Director, nor do they constitute a comprehensive listing of rules or conditions to be followed during construction. Further may be required to achieve compliance with TCEQ regulations found in Title 30, Texas Administrative Code, Chapters 213 and 217, as local ordinances and regulations providing for the protection of water quality. Additionally, nothing contained in the following/listed action notes" restricts the powers of the Executive Director, the commission or any other governmental entity to prevent, correct, or activities that result or may result in pollution of the Edwards Aquifer or hydrologically connected surface waters. The holder of any is still responsible for compliance with Title 30, Texas Administrative Code,	13.	Sheet of Trenching, bedding and for flexible pipe must c Rigid pipe bedding must A, B or C.	omply	with the standard	ls of AST
Chapte plan im "constru under T injunctie	rs 213 or any other applicable TCEQ regulation, as well as all conditions of an Edwards Aquifer Protection Plan through all phases of obementation. Failure to comply with any condition of the Executive Director's approval, whether or not in contradiction of any inction notes," is a violation of TCEQ regulations and any violation is subject to administrative rules, orders, and penalties as provided itle 30, Texas Administrative Code § 213.10 (relating to Enforcement). Such violations may also be subject to civil penalties and on. The following/listed "construction notes" in no way represent an approved exception by the Executive Director to any part of Title as Administrative Code, Chapters 213 and 217, or any other TCEQ applicable regulation.	14.	Sewer lines must be tes an existing stub or clea stub or clean-out is used may be connected betw conforming with the prov	n-out, d at the veen t	it must be tested e end of the propos the last manhole a	from exis sed sewer nd the cle
 1. 2. 3. 4. 5. 	 This Organized Sewage Collection System (SCS) must be constructed in accordance with 30 Texas Administrative Code (TAC) §213.5(c), the Texas Commission on Environmental Quality's (TCEQ) Edwards Aquifer Rules and any local government standard specifications. All contractors conducting regulated activities associated with this proposed regulated project must be provided with copies of the SCS plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors must be required to keep on-site copies of the plan and the approval letter. A written notice of construction must be submitted to the presiding TCEQ regional office at least 48 hours prior to the start of any regulated activities. This notice must include: the name of the approved project; the activity start date; and the contact information of the prime contractor. Any modification to the activities described in the referenced SCS application following the date of approval may require the submittal of an SCS application to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval. 	15.	must specify an conform to the fo (1) Low Pres (A) A Ar 92 di su (B (B) Fo di	which ify in w nal offi ng me systen infiltra blowing soure A low pr merica 24, or rector, ubpara 3)(ii) of or sect amete sted a b sted a (ii) of pr sect amete (iii) of pr sect amete (iii) of pr sect amete (iii) of pr sect amete (iii) of (iii) of	n must be made avail writing that all wast ice within 30 days ethod will be: n pipe that will tran ation and exfiltratio g requirements:	ailable to tewater lin of test con nsport wa n test or st follow the ting And other pro- ng times a paragraph system pin ocedure in graph (2) essurized pressure of is stabiliz
	control measures must be properly installed and maintained in accordance with the manufacturers specifications. These controls must remain in place until the disturbed areas have been permanently stabilized.		Fauation	C	computed from the	following
6.	If any sensitive features are discovered during the wastewater line trenching activities, all regulated activities near the sensitive feature must be suspended immediately. The applicant must immediately notify the appropriate regional office of the TCEQ of the feature discovered. A geologist's assessment of the location and extent of the feature discovered must be reported to that regional office in writing and the applicant must submit a plan for ensuring the structural integrity of the sewer line or for modifying the proposed collection system alignment around the feature. The regulated activities near the sensitive feature may not proceed until the		Equation W T K D	/here: = t = 0	$T = \frac{0.085 \times D}{Q}$ time for pressure to seconds 0.000419 X D X L, average inside pipe	to drop 1. but not les
TCEQ-	D596 (Rev. July 15, 2015) executive director has reviewed and approved the methods proposed to protect the sensitive	TCEQ-05	96 (Rev. July 15, 2015) L	=	length of line of sar	ne size be
	feature and the Edwards Aquifer from any potentially adverse impacts to water quality while maintaining the structural integrity of the line.		Q	= r s	rate of loss, 0.0015 surface K value of less tha	cubic fee
7.	Sewer lines located within or crossing the 5-year floodplain of a drainage way will be protected from inundation and stream velocities which could cause erosion and scouring of backfill. The trench must be capped with concrete to prevent scouring of backfill, or the sewer lines must be encased in concrete. All concrete shall have a minimum thickness of 6 inches.			ne for	each pipe diamete Minimum Time	r is showr
8.	Blasting procedures for protection of existing sewer lines and other utilities will be in accordance with the National Fire Protection Association criteria. Sand is not allowed as bedding or backfill in trenches that have been blasted. If any existing sewer lines are damaged, the lines must be repaired and retested.		6 8		(seconds) 340 454	Minimu
9.	All manholes constructed or rehabilitated on this project must have watertight size on size resilient connectors allowing for differential settlement. If manholes are constructed within the 100-year floodplain, the cover must have a gasket and be bolted to the ring. Where gasketed manhole covers are required for more than three manholes in sequence or for more than 1500 feet, alternate means of venting will be provided. Bricks are not an acceptable construction material for any portion of the manhole.		10 12 15 18 21 24		567 680 850 1020 1190 1360	
	The diameter of the manholes must be a minimum of four feet and the manhole for entry must have a minimum clear opening diameter of 30 inches. These dimensions and other details showing compliance with the commission's rules concerning manholes and sewer line/manhole inverts described in 30 TAC §217.55 are included on Plan Sheet of		27 30 33		1530 1700 1870	
	It is suggested that entrance into manholes in excess of four feet deep be accomplished by means of a portable ladder. The inclusion of steps in a manhole is prohibited.		fir (E) If	st 25% any p	er may stop a test 6 of the calculated ressure loss or lea	testing tim akage has
10.	Where water lines and new sewer line are installed with a separation distance closer than nine feet (i.e., water lines crossing wastewater lines, water lines paralleling wastewater lines, or water lines next to manholes) the installation must meet the requirements of 30 TAC §217.53(d) (Pipe Design) and 30 TAC §290.44(e) (Water Distribution).		ou (F) W in: pr	utlined astew side di rocedu	period, then the test above or until failu vater collection system iameter may be a ure outlined in this s	ire. stem pipes ir tested a section.
11.	Where sewers lines deviate from straight alignment and uniform grade all curvature of sewer pipe must be achieved by the following procedure which is recommended by the pipe manufacturer:		in (2) Infiltration	ches n n/Exfilt	ng procedure for p must be approved b tration Test.	by the exe
	If pipe flexure is proposed, the following method of preventing deflection of the joint must be used:		e> a	kceed minim	al exfiltration, as de 50 gallons per incl uum test head of 2.0	h of diame
	Specific care must be taken to ensure that the joint is placed in the center of the trench and properly bedded in accordance with 30 TAC §217.54.		(B) Aı pi	n owne pes ar	m manhole. er shall use an infi re installed below th	ne ground
12.	New sewage collection system lines must be constructed with stub outs for the connection of anticipated extensions. The location of such stub outs must be marked on the ground such that their location can be easily determined at the time of connection of the extensions. Such stub outs must be manufactured wyes or tees that are compatible in size and material with both the sewer line and the extension. At the time of original construction, new stub-outs must be constructed sufficiently to extend beyond the end of the street pavement. All stub-outs must be sealed with a manufactured cap to prevent leakage. Extensions that were not anticipated at the time of original construction or that are to be connected to an existing sewer line not furnished with stub outs must be connected using a manufactured saddle and in accordance with accepted plumbing techniques.		e» m m (D) Fo m ho pa (E) If	kceed inimun anhole hichev or cons ours at aragrap the qu	al exfiltration, as de 50 gallons per incl m test head of two e, or at least two fe ver is greater. struction within a 2 ot exceed 10 gallou t the same minimu ph. Jantity of infiltration d, an owner shall	h diamete feet above et above 5-year flo ns per inc um test h
TCEQ-	D596 (Rev. July 15, 2015) Page 2 of 6	TCEQ-05	96 (Rev. July 15, 2015)			

Texas Commission on Environmental Quality

Where T = time for pressure to drop 1.0 pound per square inch gauge in seconds K = 0.000419 X D X L, but not less than 1.0 D = average inside pipe diameter in inches Page 3 of 6 TCEQ-0596 (Rev. July 15, 2015)

L = length of line of same size being tested, in feet rate of loss, 0.0015 cubic feet per minute per square foot internal Q =

Since a K value of less than 1.0 may not be used, the minimum testing time for each pipe diameter is shown in the following Table C.3:

Pipe Diameter (inches)	Minimum Time	Maximum Length for	Time for			
	(seconds)	Minimum Time (feet)	Longer Length			
			(seconds/foot)			
6	340	398	0.855			
8	454	298	1.520			
10	567	239	2.374			
12	680	199	3.419			
15	850	159	5.342			
18	1020	133	7.693			
21	1190	114	10.471			
24	1360	100	13.676			
27	1530	88	17.309			
30	1700	80	21.369			
33	1870	72	25.856			

18		1020	133						
21		1190	114						
24		1360	100						
27		1530	88						
30		1700	80						
33		1870	72						
(D) (E)	first 2 If any testing	wner may stop a test 5% of the calculated pressure loss or lea g period, then the tes ed above or until failu	testing time. akage has occurre at must continue fo						
(F)	Wastewater collection system pipes with a inside diameter may be air tested at each j procedure outlined in this section.								

(F)	Wastewater collection system pipes with a
	inside diameter may be air tested at each ju
	procedure outlined in this section.
(G)	A testing procedure for pipe with an inside
	inches must be approved by the executive dir
Infiltra	tion/Exfiltration Test.
(A)	The total exfiltration, as determined by a hyd
	exceed 50 gallons per inch of diameter per r
	a minimum test head of 2.0 feet above the cr
	upstream manhole.
(B)	An owner shall use an infiltration test in lieu
	pipes are installed below the groundwater lev
(C)	The total exfiltration, as determined by a hyd
	exceed 50 gallons per inch diameter per mil

drostatic head test, must not exceed 50 gallons per inch diameter per mile of pipe per 24 hours at a minimum test head of two feet above the crown of a pipe at an upstream manhole, or at least two feet above existing groundwater level, whichever is greater. must not exceed 10 gallons per inch diameter per mile of pipe per 24 hours at the same minimum test head as in subparagraph (C) of this

paragraph. (E)

If the quantity of infiltration or exfiltration exceeds the maximum quantity specified, an owner shall undertake remedial action in order to reduce

-out is present an alternate method of joining laterals is shown in the detail on Plan te service lateral stub-outs must be installed as shown on the plan and profile sheets heet ___ of ___ and marked after backfilling as shown in the detail on Plan

bedding and backfill must conform with 30 TAC §217.54. The bedding and backfill e pipe must comply with the standards of ASTM D-2321, Classes IA, IB, II or III. bedding must comply with the requirements of ASTM C 12 (ANSI A 106.2) classes

nes must be tested from manhole to manhole. When a new sewer line is connected to ng stub or clean-out, it must be tested from existing manhole to new manhole. If a ean-out is used at the end of the proposed sewer line, no private service attachments connected between the last manhole and the cleanout unless it can be certified as

lines must be tested in accordance with 30 TAC §217.57. The engineer must retain all test results which must be made available to the executive director upon request. neer must certify in writing that all wastewater lines have passed all required testing propriate regional office within 30 days of test completion and prior to use of the new

or a collection system pipe that will transport wastewater by gravity flow, the design ust specify an infiltration and exfiltration test or a low-pressure air test. A test must

(A) A low pressure air test must follow the procedures described in American Society For Testing And Materials (ASTM) C-828, ASTM C-924, or ASTM F-1417 or other procedure approved by the executive director, except as to testing times as required in Table C.3 in subparagraph (C) of this paragraph or Equation C.3 in subparagraph

For sections of collection system pipe less than 36 inch average inside diameter, the following procedure must apply, unless a pipe is to be tested as required by paragraph (2) of this subsection. (i) A pipe must be pressurized to 3.5 pounds per square inch (psi)

greater than the pressure exerted by groundwater above the (ii) Once the pressure is stabilized, the minimum time allowable for

the pressure to drop from 3.5 psi gauge to 2.5 psi gauge is computed from the following equation:

oss has occurred during the

ed during the first 25% of a for the entire test duration as a 27 inch or larger average

joint instead of following the le diameter greater than 33

lirector. drostatic head test, must not mile of pipe per 24 hours at

rown of a pipe at an u of an exfiltration test when

Page 4 of 6 TCEQ-0596 (Rev. July 15, 2015)

17.

the infiltration or exfiltration to an amount within the limits specified. An owner shall retest a pipe following a remediation action. (b) If a gravity collection pipe is composed of flexible pipe, deflection testing is also

required. The following procedures must be followed: (1) For a collection pipe with inside diameter less than 27 inches, deflection measurement requires a rigid mandrel.

- (A) Mandrel Sizing. A rigid mandrel must have an outside diameter (OD) not less than 95% of the base inside diameter (ID) or average ID of a pipe, as specified in the appropriate standard by the ASTMs, American Water Works Association, UNI-BELL, or American
 - National Standards Institute, or any related appendix. If a mandrel sizing diameter is not specified in the appropriate standard, the mandrel must have an OD equal to 95% of the ID of a pipe. In this case, the ID of the pipe, for the purpose of determining the OD of the mandrel, must equal be the average outside diameter minus two minimum wall thicknesses for OD controlled pipe and the average inside diameter for ID controlled pipe.

All dimensions must meet the appropriate standard.

- Mandrel Design. A rigid mandrel must be constructed of a metal or a rigid plastic material that can withstand 200 psi without being deformed. (ii) A mandrel must have nine or more odd number of runners or
- A barrel section length must equal at least 75% of the inside (iii)
- diameter of a pipe. Each size mandrel must use a separate proving ring. (iv)
- (C) Method Options. An adjustable or flexible mandrel is prohibited.

(B)

(3)

16.

- A test may not use television inspection as a substitute for a deflection test
- If requested, the executive director may approve the use of a 8. deflectometer or a mandrel with removable legs or runners on a case-by-case basis.
- (2) For a gravity collection system pipe with an inside diameter 27 inches and greater, other test methods may be used to determine vertical deflection. A deflection test method must be accurate to within plus or minus 0.2%
- deflection An owner shall not conduct a deflection test until at least 30 days after the final
- (4) backfill.
- Gravity collection system pipe deflection must not exceed five percent (5%). If a pipe section fails a deflection test, an owner shall correct the problem and conduct a second test after the final backfill has been in place at least 30 days.

All manholes must be tested to meet or exceed the requirements of 30 TAC §217.58.

All manholes must pass a leakage test. An owner shall test each manhole (after assembly and backfilling) for leakage, separate and independent of the collection system pipes, by hydrostatic exfiltration testing, vacuum testing, or other method approved by the executive director. (1) Hydrostatic Testing.

> Page 5 of 6 (A) The maximum leakage for hydrostatic testing or any alternative test methods is 0.025 gallons per foot diameter per foot of manhole depth 11. per hour

To perform a hydrostatic exfiltration test, an owner shall seal all (B) wastewater pipes coming into a manhole with an internal pipe plug, fill the manhole with water, and maintain the test for at least one hour. (C) A test for concrete manholes may use a 24-hour wetting period before testing to allow saturation of the concrete.

(2) Vacuum Testing. (A) To perform a vacuum test, an owner shall plug all lift holes and exterior joints with a non-shrink grout and plug all pipes entering a manhole.

No grout must be placed in horizontal joints before testing. Stub-outs, manhole boots, and pipe plugs must be secured to prevent (C)

- movement while a vacuum is drawn. (D) An owner shall use a minimum 60 inch/lb torque wrench to tighten the external clamps that secure a test cover to the top of a manhole. (E) A test head must be placed at the inside of the top of a cone section,
- and the seal inflated in accordance with the manufacturer's recommendations.
- There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test.
- (G) A test does not begin until after the vacuum pump is off. (H) A manhole passes the test if after 2.0 minutes and with all valves
- closed, the vacuum is at least 9.0 inches of mercury.

All private service laterals must be inspected and certified in accordance with 30 TAC §213.5(c)(3)(I). After installation of and, prior to covering and connecting a private service lateral to an existing organized sewage collection system, a Texas Licensed Professional Engineer, Texas Registered Sanitarian, or appropriate city inspector must visually inspect the private service lateral and the connection to the sewage collection system, and certify that it is constructed in conformity with the applicable provisions of this section. The owner of the collection system must maintain such certifications for five years and forward copies to the appropriate regional office upon request. Connections may only be made to an approved sewage collection system.

Austin Regional Office	San Antonio Regional Office
12100 Park 35 Circle, Building A	14250 Judson Road
Austin, Texas 78753-1808	San Antonio, Texas 78233-4480
Phone (512) 339-2929	Phone (210) 490-3096
Fax (512) 339-3795	Fax (210) 545-4329

THESE GENERAL CONSTRUCTION NOTES MUST BE INCLUDED ON THE CONSTRUCTION For construction within a 25-year flood plain, the infiltration or exfiltration PLANS PROVIDED TO THE CONTRACTOR AND ALL SUBCONTRACTORS.

TCEQ WATER DISTRIBUTION GENERAL CONSTRUCTION

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

Revised February 2019

Pursuant to 30 TAC §290.44(a)(5), the hydrostatic leakage rate shall not exceed the amount allowed or recommended by the most current AWWA formulas for PVC pipe, cast iron and ductile iron pipe. Include the formulas in the notes on the plans.

• The hydrostatic leakage rate for polyvinyl chloride (PVC) pipe and appurtenances shall not exceed the amount allowed or recommended by formulas in America Water Works Association (AWWA) C-605 as required in 30 TAC §290.44(a)(5). Please ensure that the formula for this calculation is correct and most current formula is in use;

> $LD\sqrt{P}$ $Q = \frac{-1}{148,000}$

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

 $L = \frac{52}{148,000}$

- Where:
- L = the quantity of makeup water in gallons per hour,
- S = the length of the pipe section being tested, in feet,
- D = the nominal diameter of the pipe in inches, and
- P = the average test pressure during the hydrostatic test in pounds per square inch (psi).
- 12. The contractor shall maintain a minimum separation distance in all directions of nine feet between the proposed waterline and wastewater collection facilities including manholes. If this distance cannot be maintained, the contractor must immediately notify the project engineer for further direction. Separation distances, installation methods, and materials utilized must meet §290.44(e)(1)-(4).
- 13. The separation distance from a potable waterline to a wastewater main or lateral manhole or cleanout shall be a minimum of nine feet. Where the nine-foot separation distance cannot be achieved, the potable waterline shall be encased in a joint of at least 150 psi pressure class pipe at least 18 feet long and two nominal sizes larger than the new conveyance. The space around the carrier pipe shall be supported at five-foot intervals with spacers or be filled to the springline with washed sand. The encasement pipe shall be centered on the crossing and both ends sealed with cement grout or manufactured sealant [§290.44(e)(5)].
- 14. Fire hydrants shall not be installed within nine feet vertically or horizontally of any wastewater line, wastewater lateral, or wastewater service line regardless of construction [§290.44(e)(6)].

Page 6 of 6 Revised February 2019

- 15. Suction mains to pumping equipment shall not cross wastewater mains, wastewater laterals, or wastewater service lines. Raw water supply lines shall not be installed within five feet of any tile or concrete wastewater main, wastewater lateral, or wastewater service line [§290.44(e)(7)].
- 16. Waterlines shall not be installed closer than ten feet to septic tank drainfields [§290.44(e)(8)].
- 17. The contractor shall disinfect the new waterlines in accordance with AWWA Standard C-651-14 or most recent, then flush and sample the lines before being placed into service. Samples shall be collected for microbiological analysis to check the effectiveness of the disinfection procedure which shall be repeated if contamination persists. A minimum of one sample for each 1,000 feet of completed waterline will be required or at the next available sampling point beyond 1,000 feet as designated by the design engineer [§290.44(f)(3)].
- 18. Dechlorination of disinfecting water shall be in strict accordance with current AWWA Standard C655-09 or most recent.

Ν	SYSTEM	
	NOTES	

ordance with the current and Regulations for Public er 290 Subchapter D. When t requirement shall be ems must always meet TCEQ's
rm to American National

Page 1 of :

Page **2** of **3**

EX ADJOINER LINE, ADJ EX SANITARY, SAN ----- EX WATERLINE. WL — EX STORM SEWER, STM -----v EX HIGH BANK, HB — — — — — EX EASEMENT, ESMT ---- EX BUILDING LINE, BL P EX OVERHEAD POWER, P UG EX UNDERGROUND POWER, UG ----- FO ----- EX FIBER, FO — T — EX TELEPHONE, ----- G ----- EX GAS LINE, G — X — EX FENCE, FNC EX ZONE X, 500 YR FLOODPLAIN, FP EX ZONE AE, 100 YR FLOODPLAIN, FP EX FLOODWAY EX WETLANDS NATURAL GROUND, NG PROJECT BOUNDARY LINE, BNDY ---- PROP PHASE LINE PROP SANITARY, SAN PROP FORCE MAIN, FM PROP WATERLINE, WL PROP STORM SEWER, STM →···→···→···→ PROP DRAINAGE PATH, FL PROP HIGH BANK, HB ---- PROP EASEMENT, ESMT PROP BUILDING LINE, BL PROP OVERHEAD POWER, P PROP UNDERGND POWER, UG PROP FIBER, FO ----- PROP TELEPHONE, T PROP GAS LINE, G ----- PROP FENCE, FNC PROP PAVEMENT, PVMT BC — — — — — — PROP FACE OF CURB 4", FC --- --- PROP FACE OF CURB 6", FC

LEGEND:

FLOODPLAIN LEGEND:

100 YEAR FLOODPLAIN

FLOODWAY

PROP CASING

FINISHED GRADE, FG

INVERT ELEVATION, IE

CROWN ELEVATION, CE

BENCHMARK: CITY OF MONTGOMERY CONTROL MONUMENT #1 ELEV:239.70 N:10135441.4753

BENCHMARK: CITY OF MONTGOMERY CONTROL MONUMENT #7 ELEV:291.77 N:10135557.5370

E:3758356.4600

SITE BENCHMARK: TEMP BENCHMARK NO-1 ELEV: 280.53 TEMPORARY BENCHMARK NO-1 IS A SQUARE CUT ON THE SOUTHEAST CORNER OF A S.E.T. BOX ON THE NORTH SIDE OF LONESTAR PARKWAY APPROXIMATELY 242 FEET WEST OF THE SOUTHEAST CORNER OF THE HEREIN DESCRIBED TRACT. N:10138940.7300 E:3762500.8660

SITE BENCHMARK: TEMP BENCHMARK NO-2 ELEV: 227.41 TEMPORARY BENCHMARK NO-2 IS A SQUARE CUT ON THE BACK OF CURB ON THE EAST SIDE OF THE MEDIAN AT THE ENTRANCE OF BUFFALO CROSSING DRIVE ON THE EAST SIDE OF NORTH BUFFALO SPRINGS DRIVE. N:10140376.8640

E:3761143.5820 FLOODPLAIN:

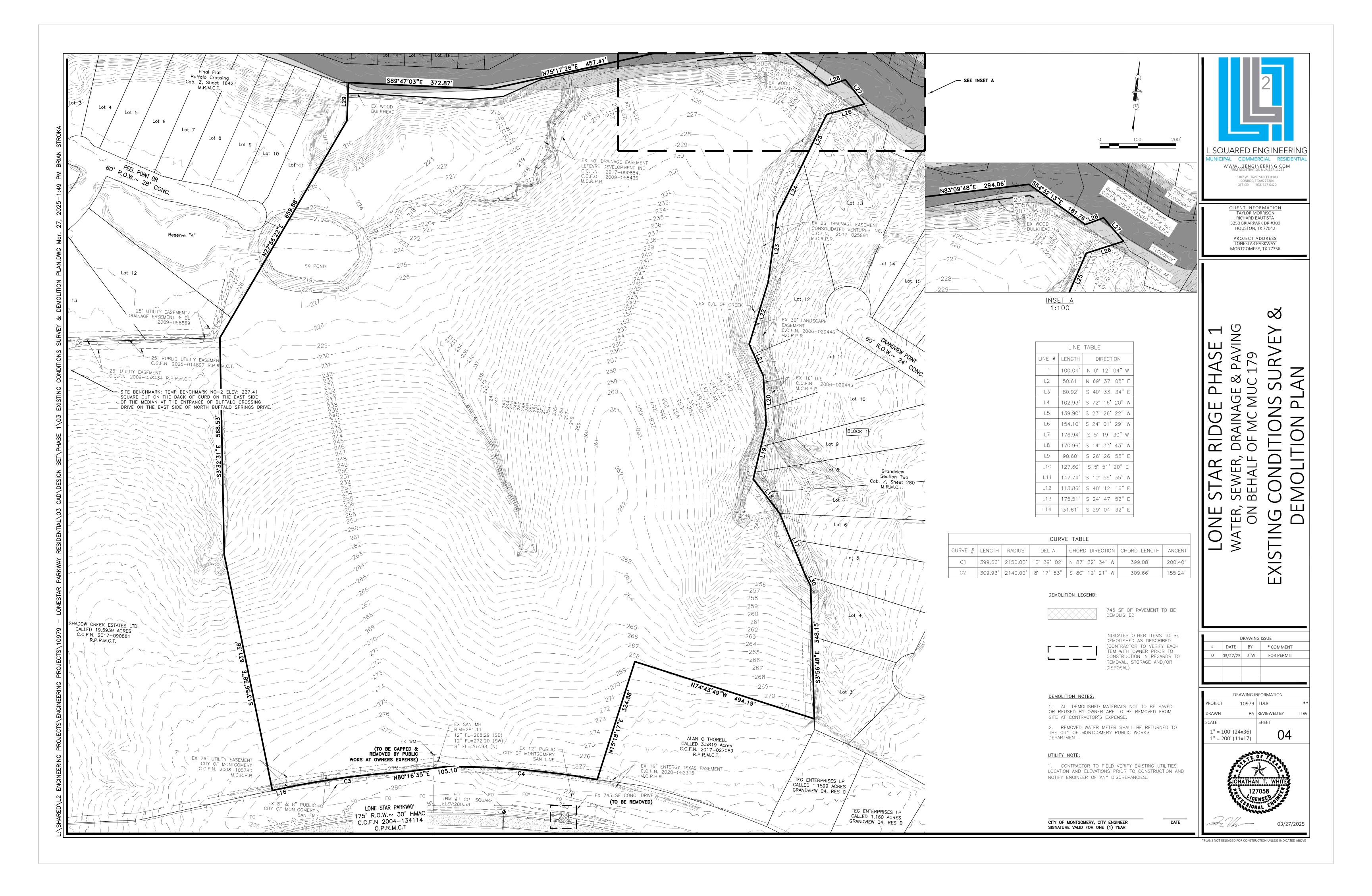
E:3763481.9132

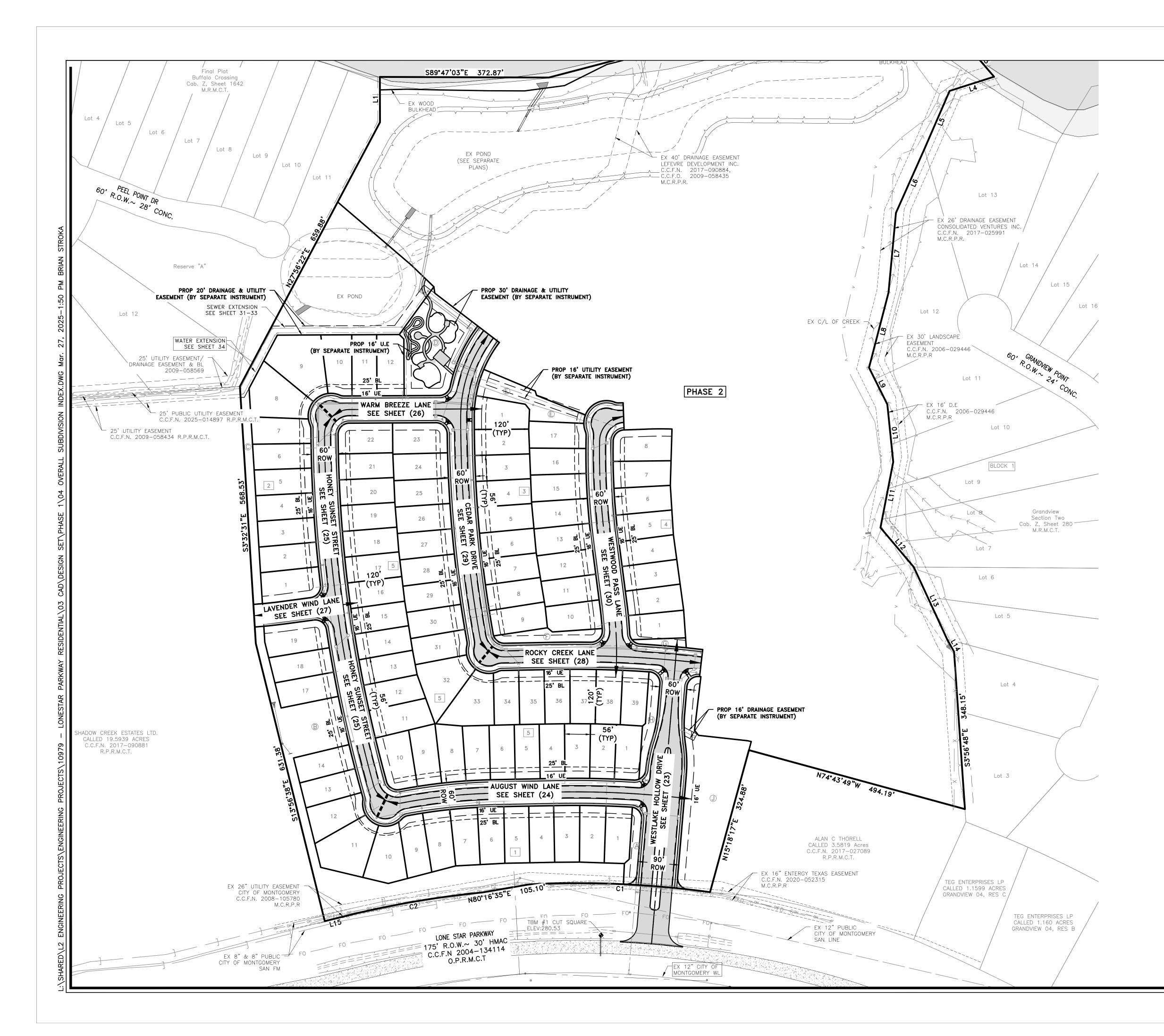
A PORTION OF THE SUBJECT TRACT IS LOCATED IN THE 1% ANNUAL CHANCE OF FLOOD HAZARD AREA (ZONE "AE")(100 YEAR FLOODPLAIN) ACCORDING TO THE FEMA FIRM PANEL MAP NO. 438339C0200G DATED AUG 18,2014.

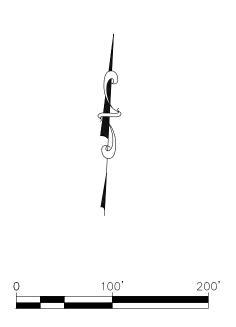
DATE

*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABO



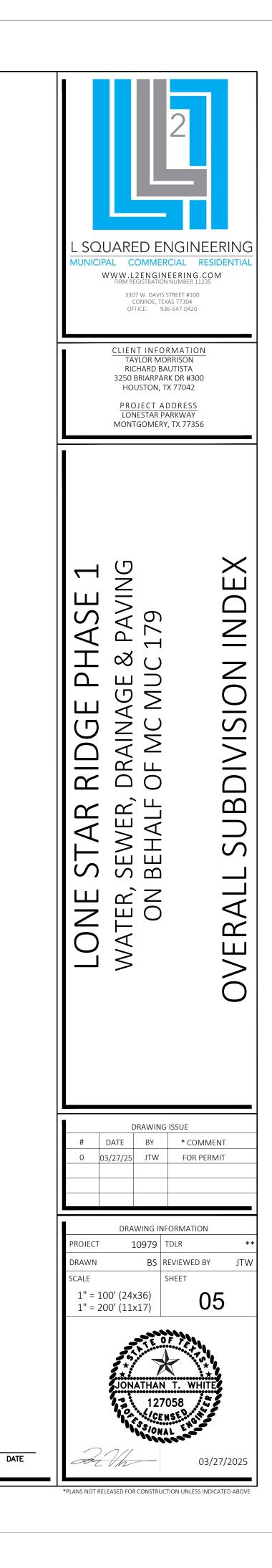


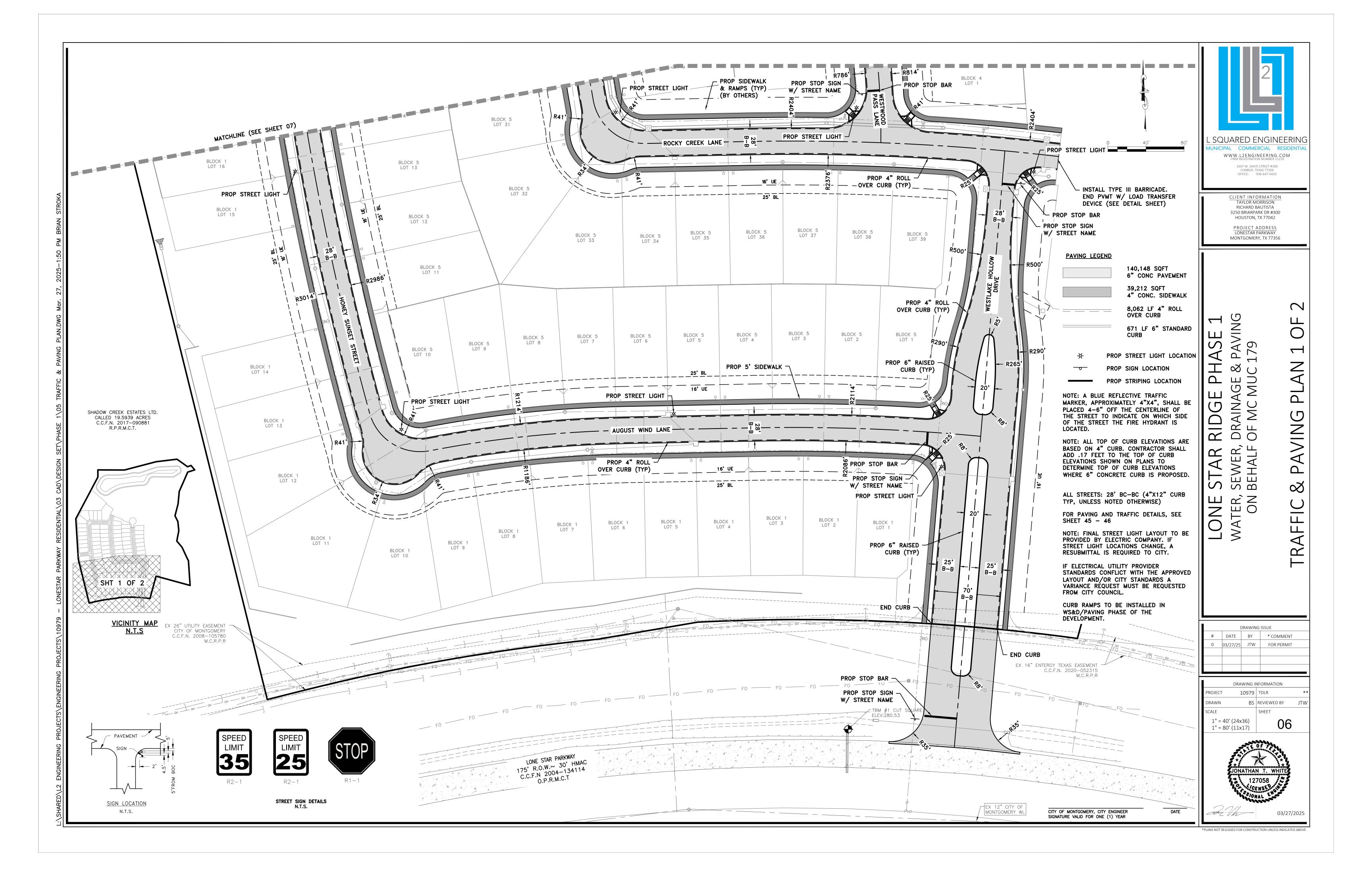


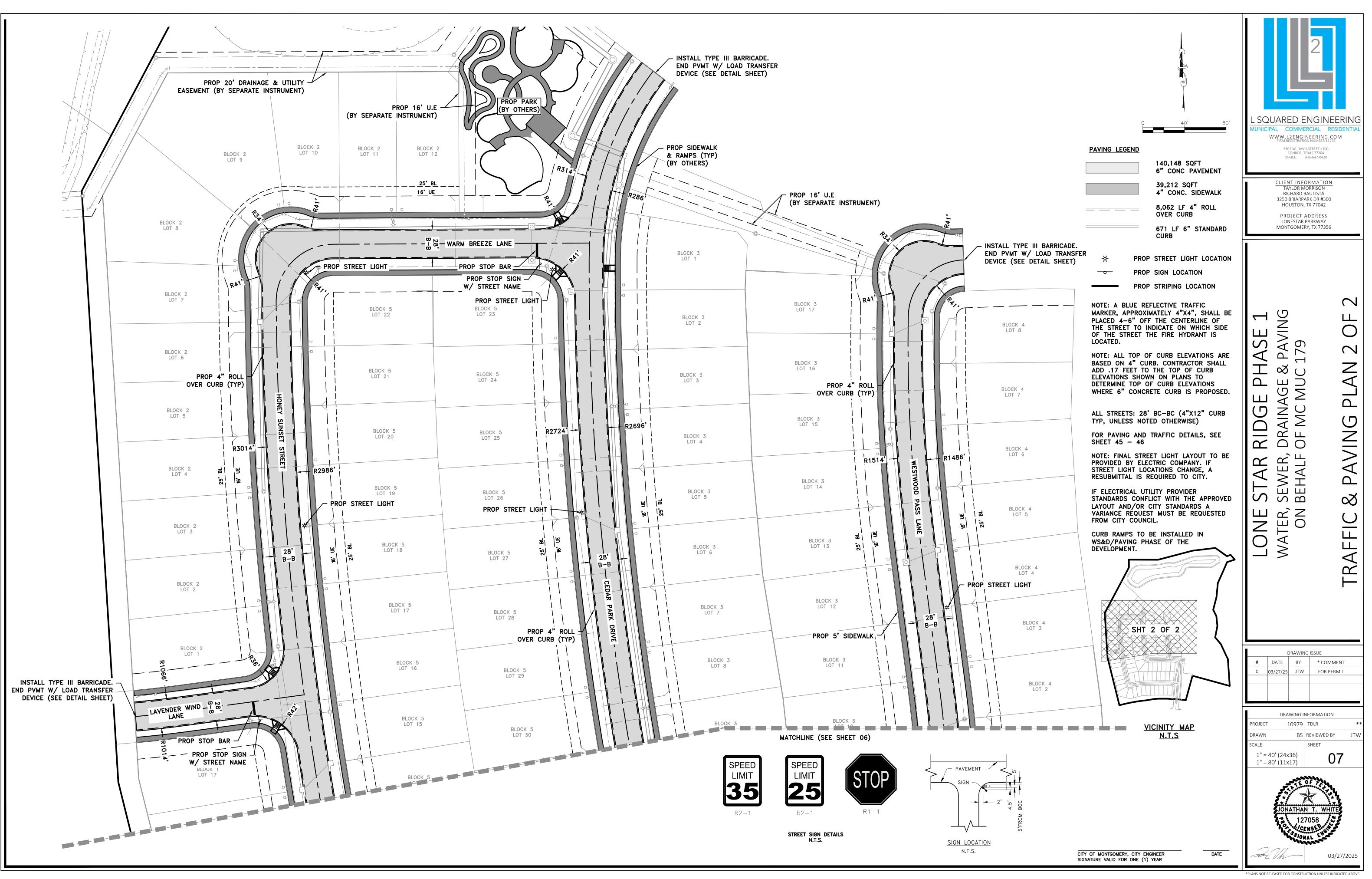


LEGEND:

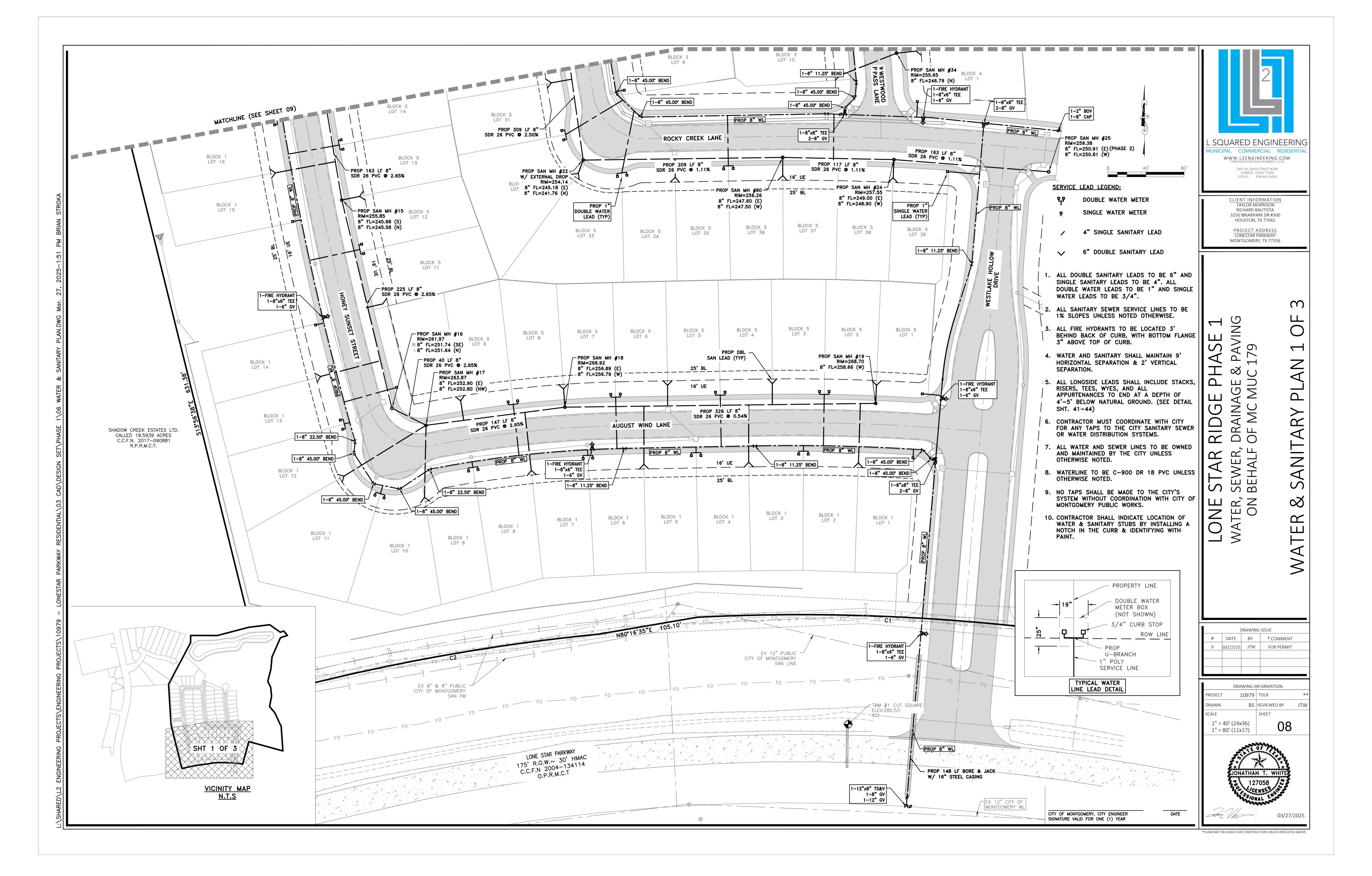
(A)	RESERVE
1	LOT NUMBERS 73 LOTS (PHASE 1)
1	BLOCK NUMBERS

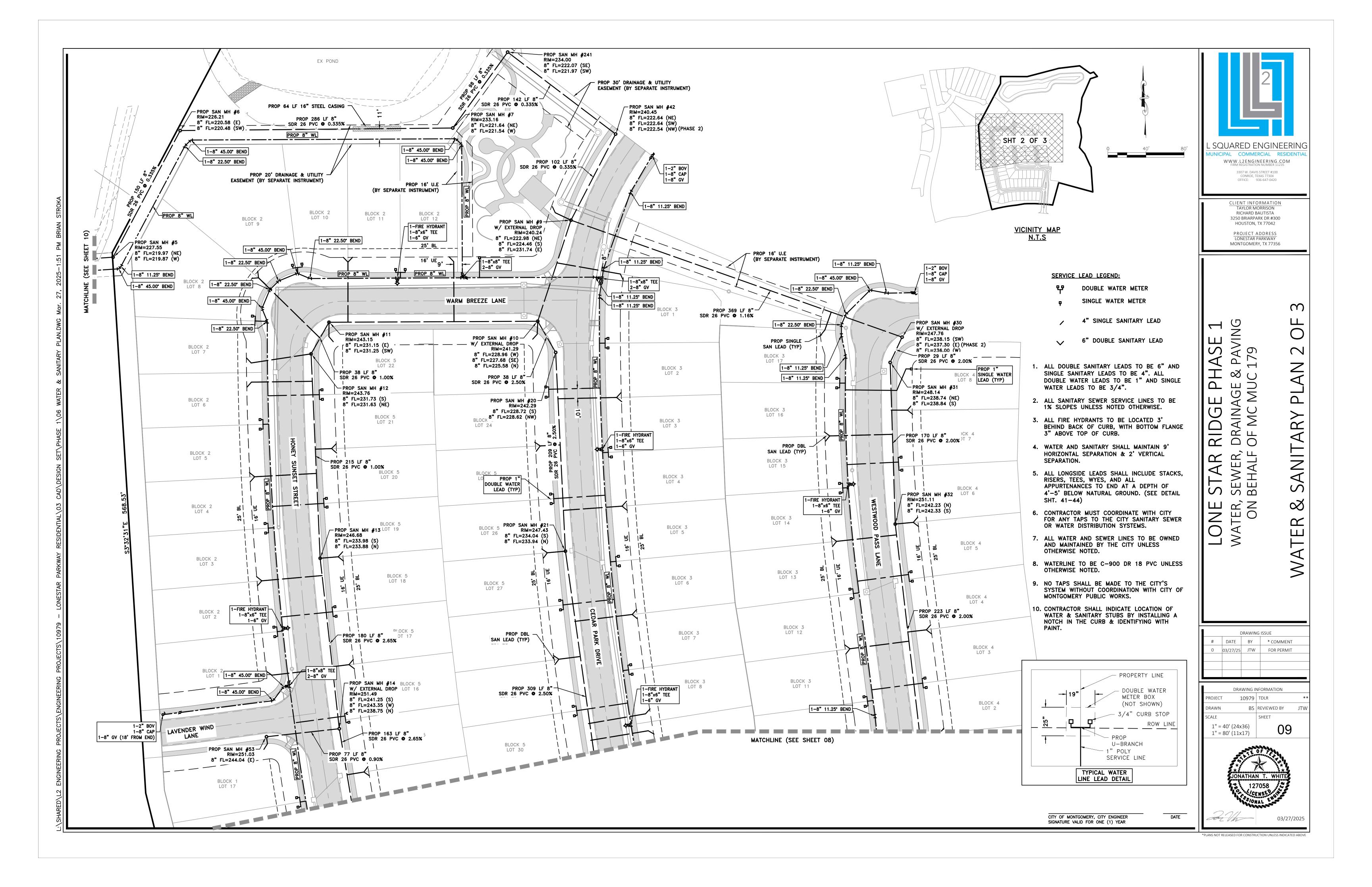


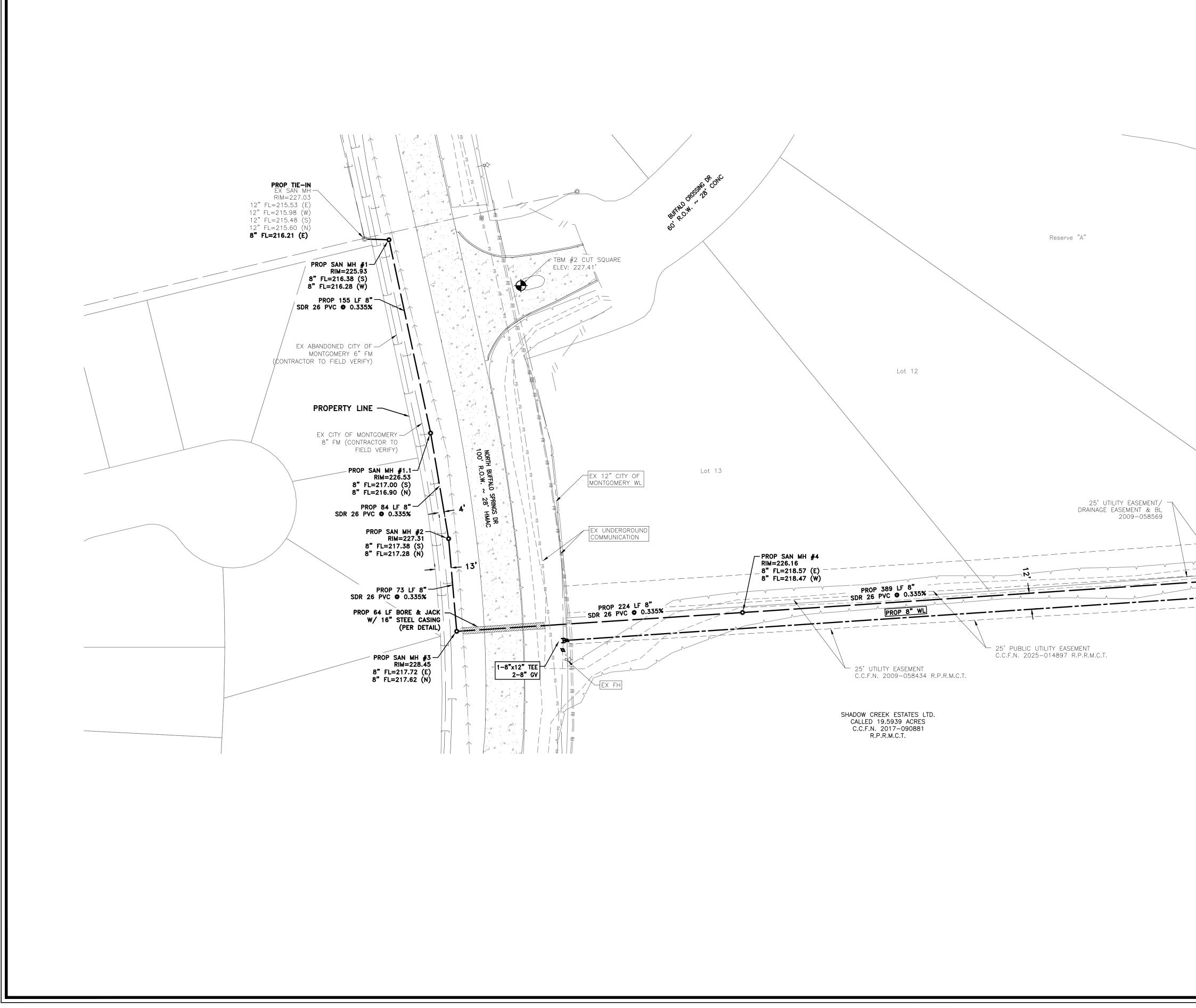


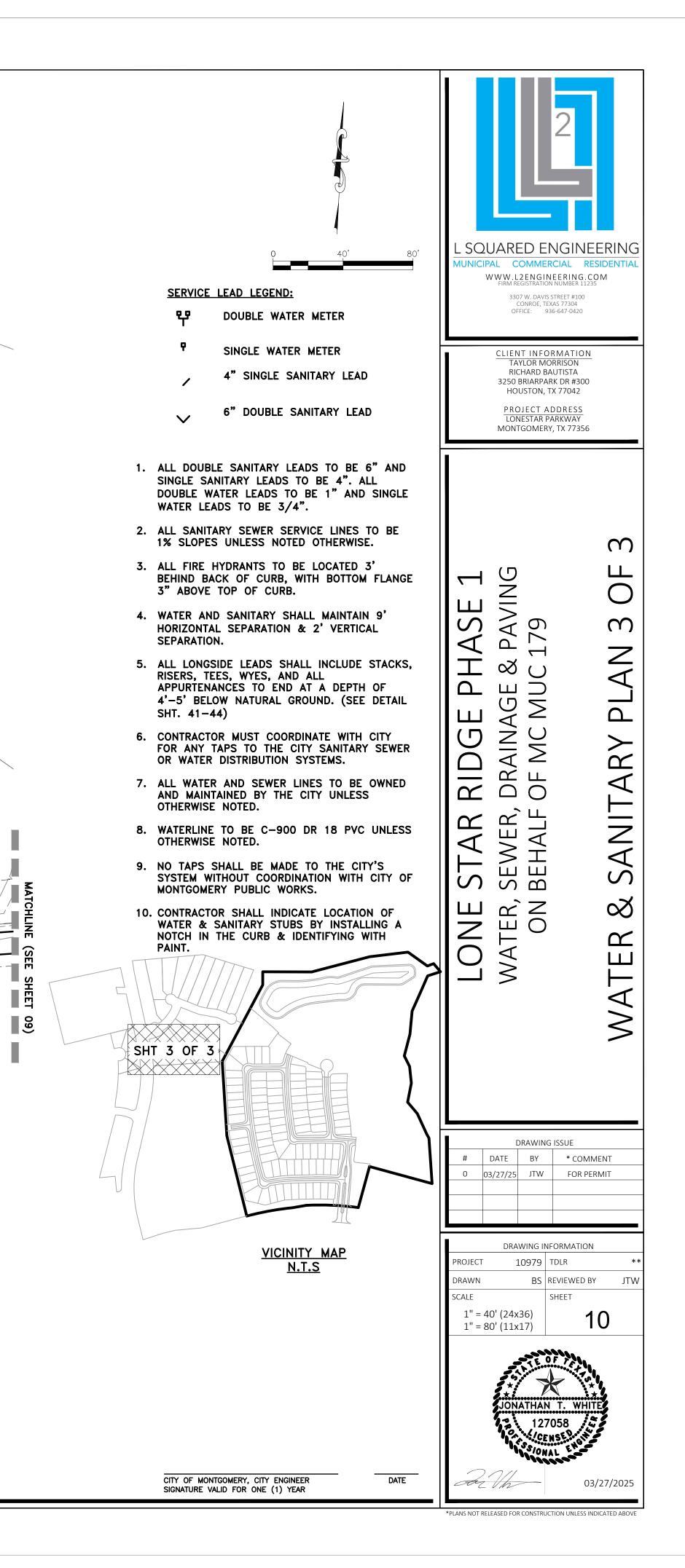








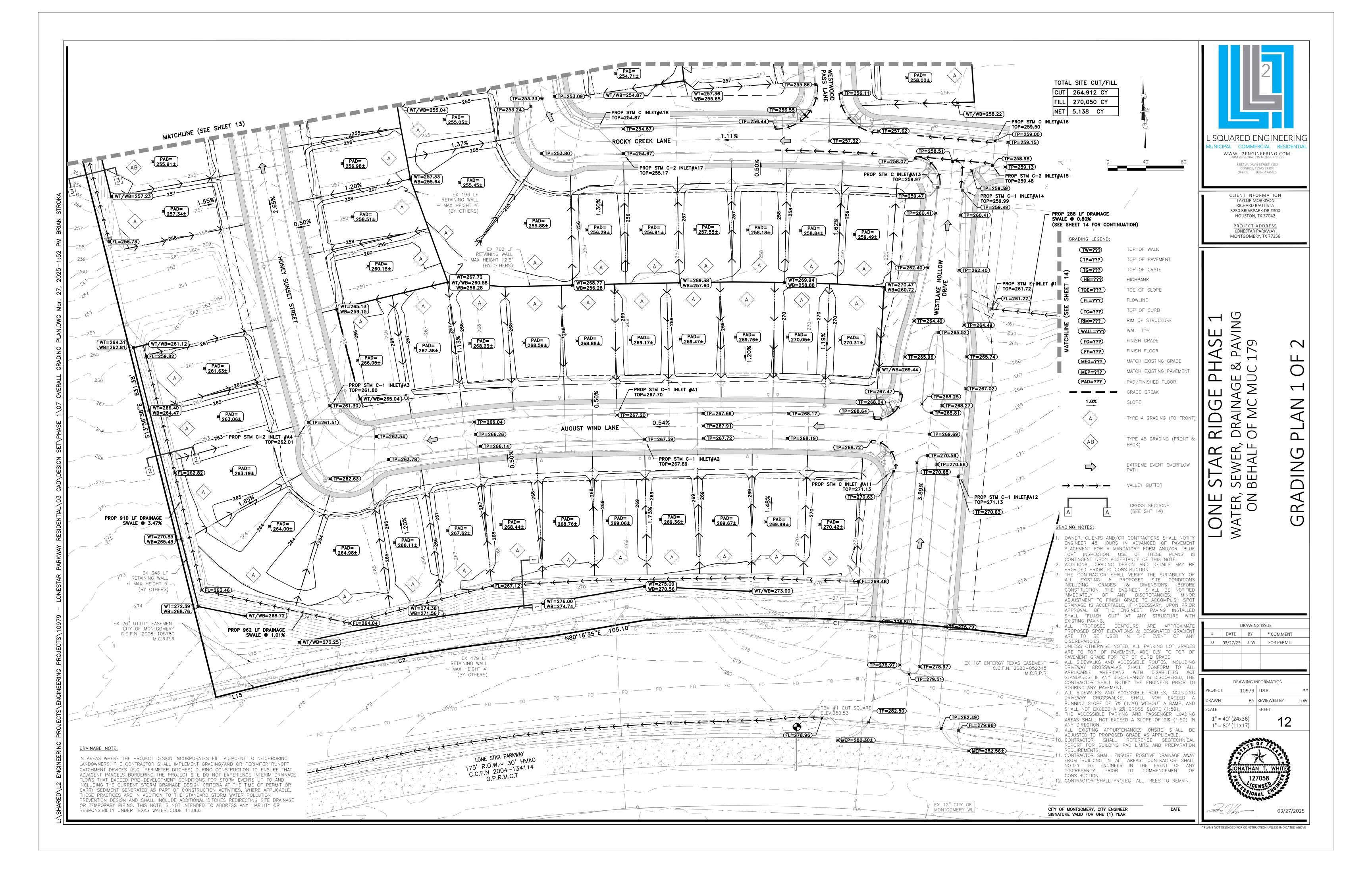


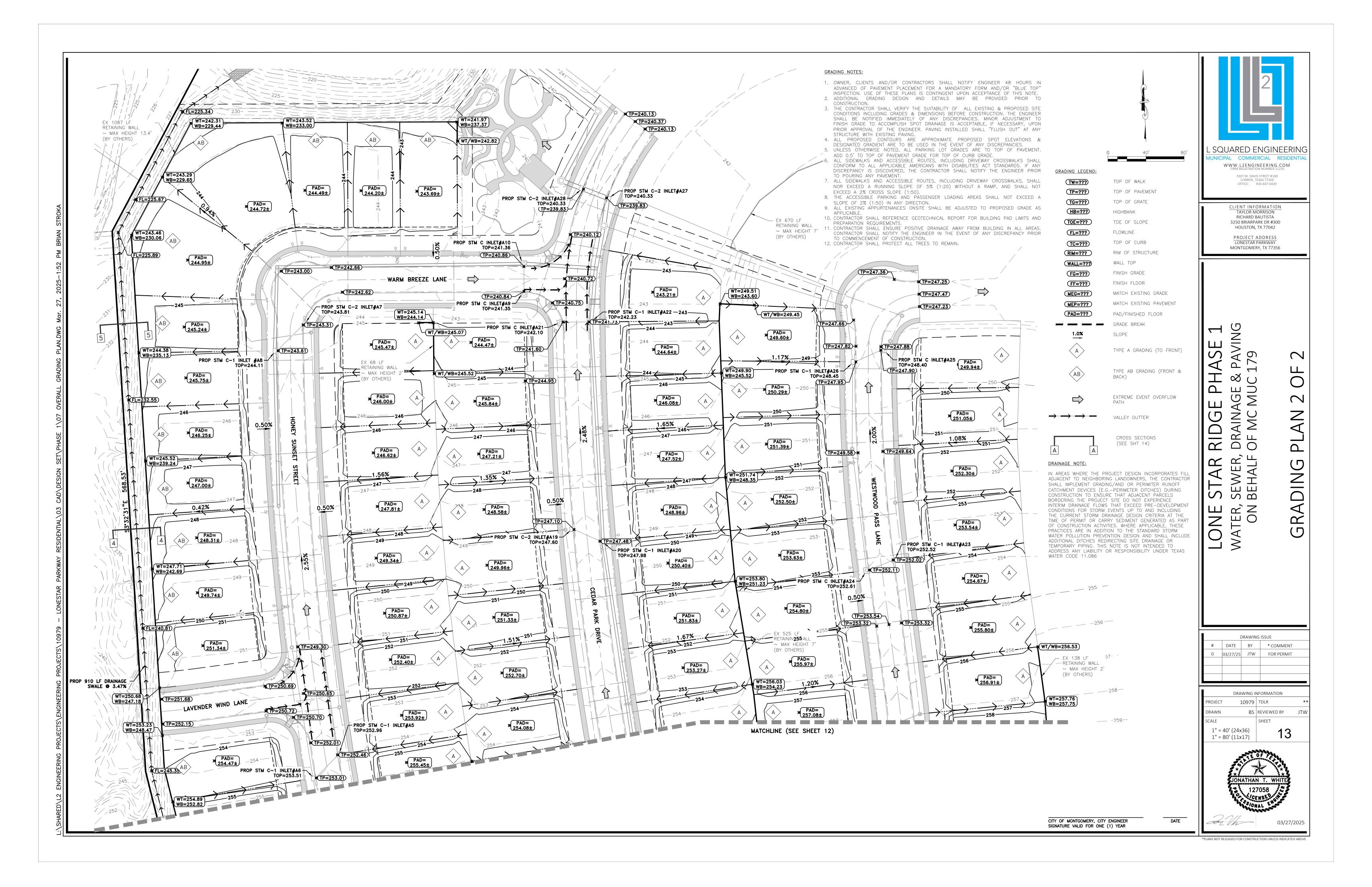


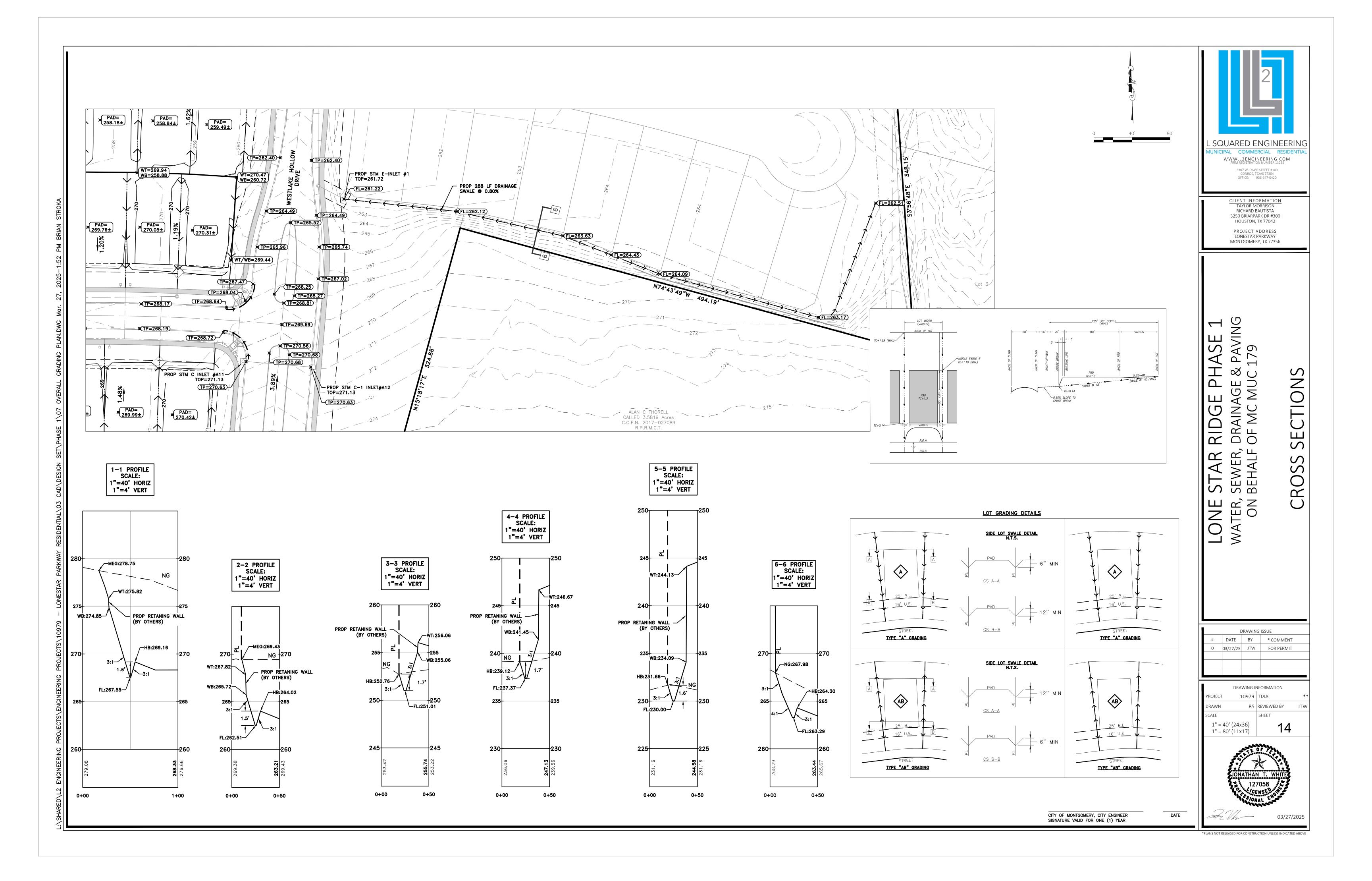


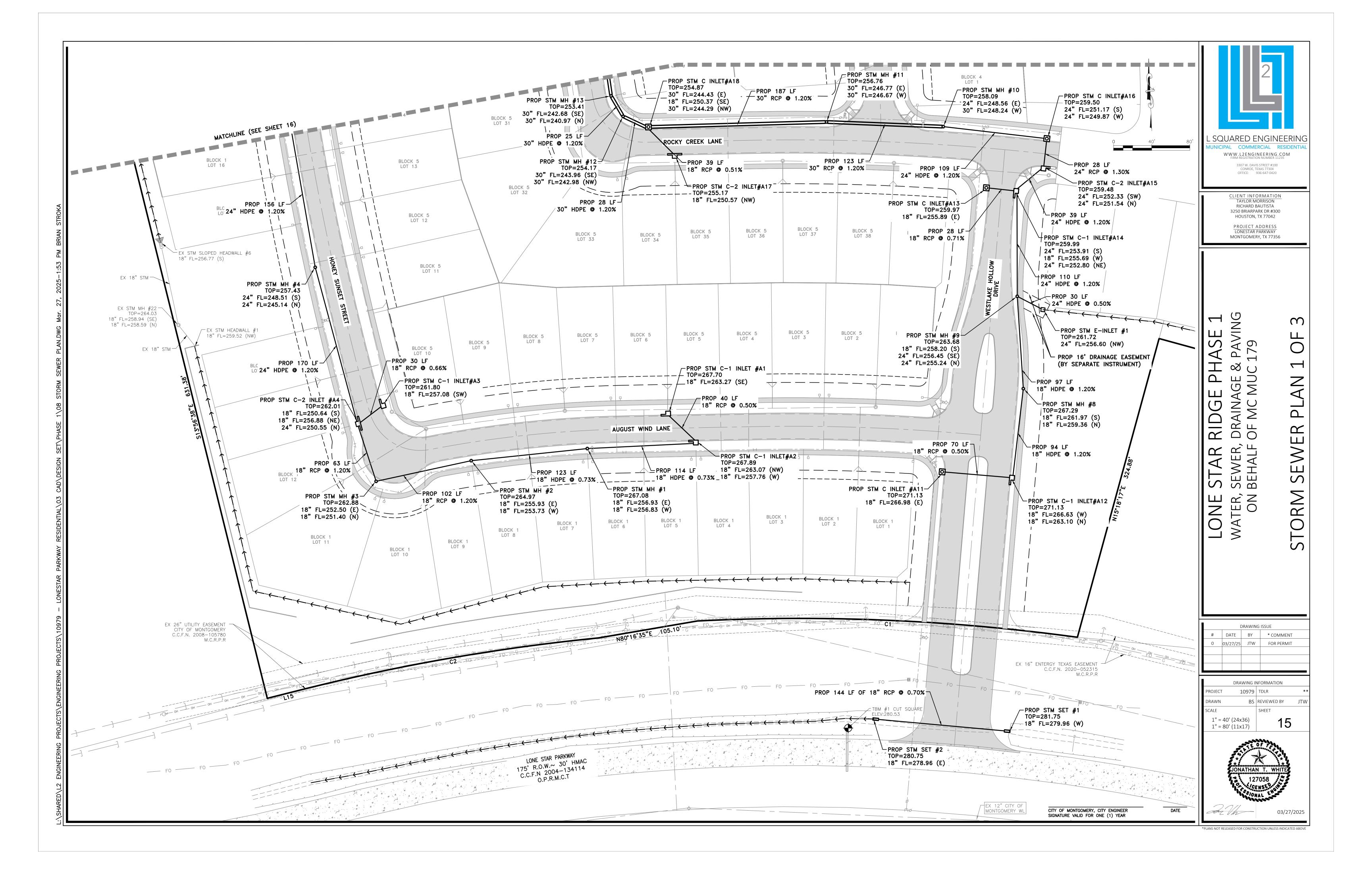
	LIENT INFORMAT TAYLOR MORRISO RICHARD BAUTIST 3250 BRIARPARK DR # HOUSTON, TX 7704 PROJECT ADDRE DORESTAR PARKWA MONTGOMERY, TX 77	RESIDENTIAL N.G. COM IR 11235 11000 4 4220 110N N A 4 3300 12 SS AY
	LONE STAR RIDGE PHASE 1 WATER, SEWER, DRAINAGE & PAVING ON BEHALF OF MC MUC 179	OVERALL GRADING PLAN
CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR	0 03/27/25 JTW FC DRAWING INFORMA DRAWING INFORMA DRAWING INFORMA PROJECT 10979 TDLR DRAWN BS REVIEW SCALE SHEET 1" = 100' (24x36) 1" = 200' (11x17)	COMMENT DR PERMIT

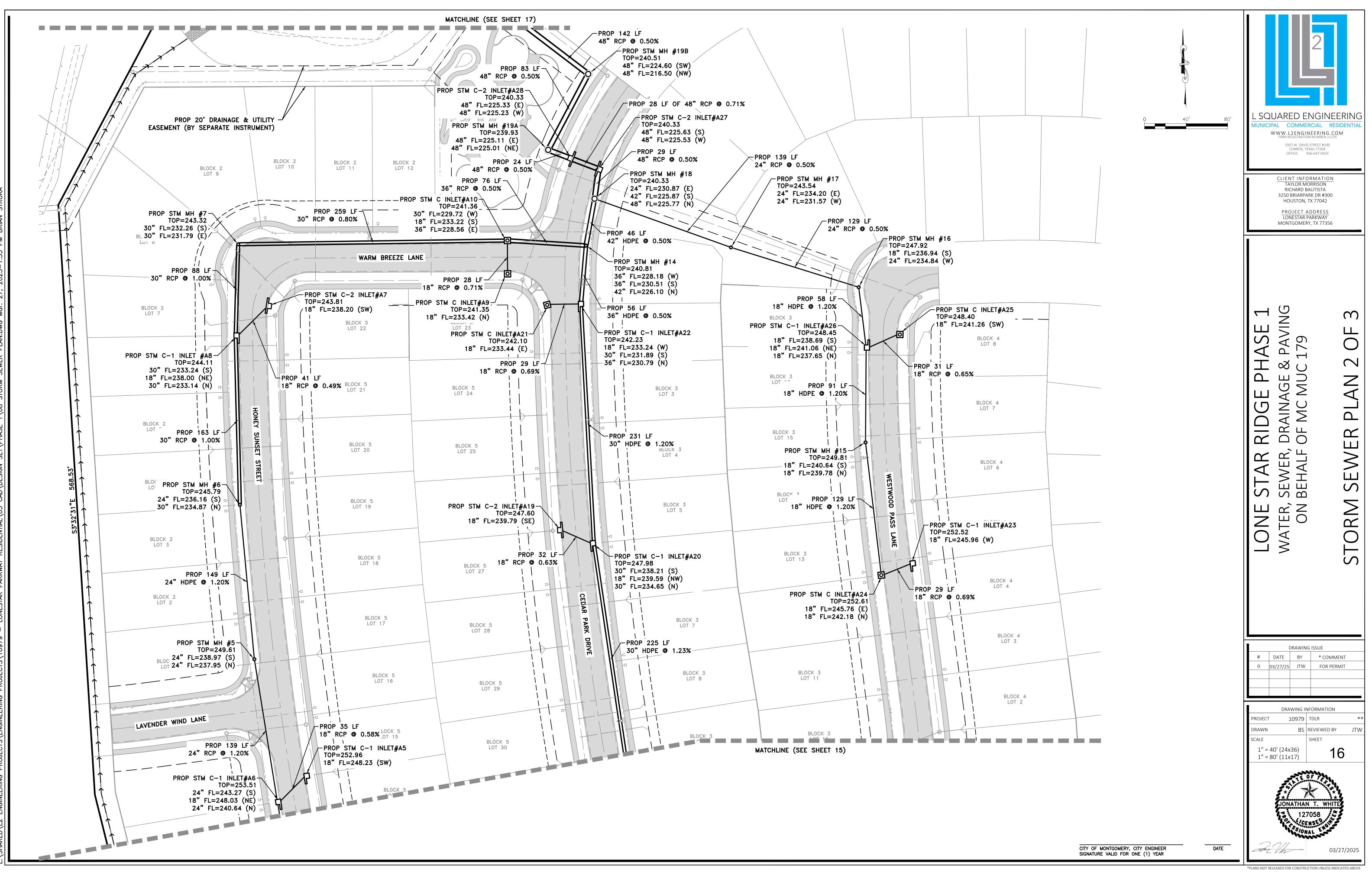
EXIS "LON GRAI

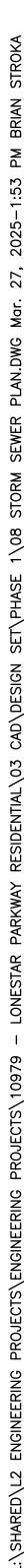


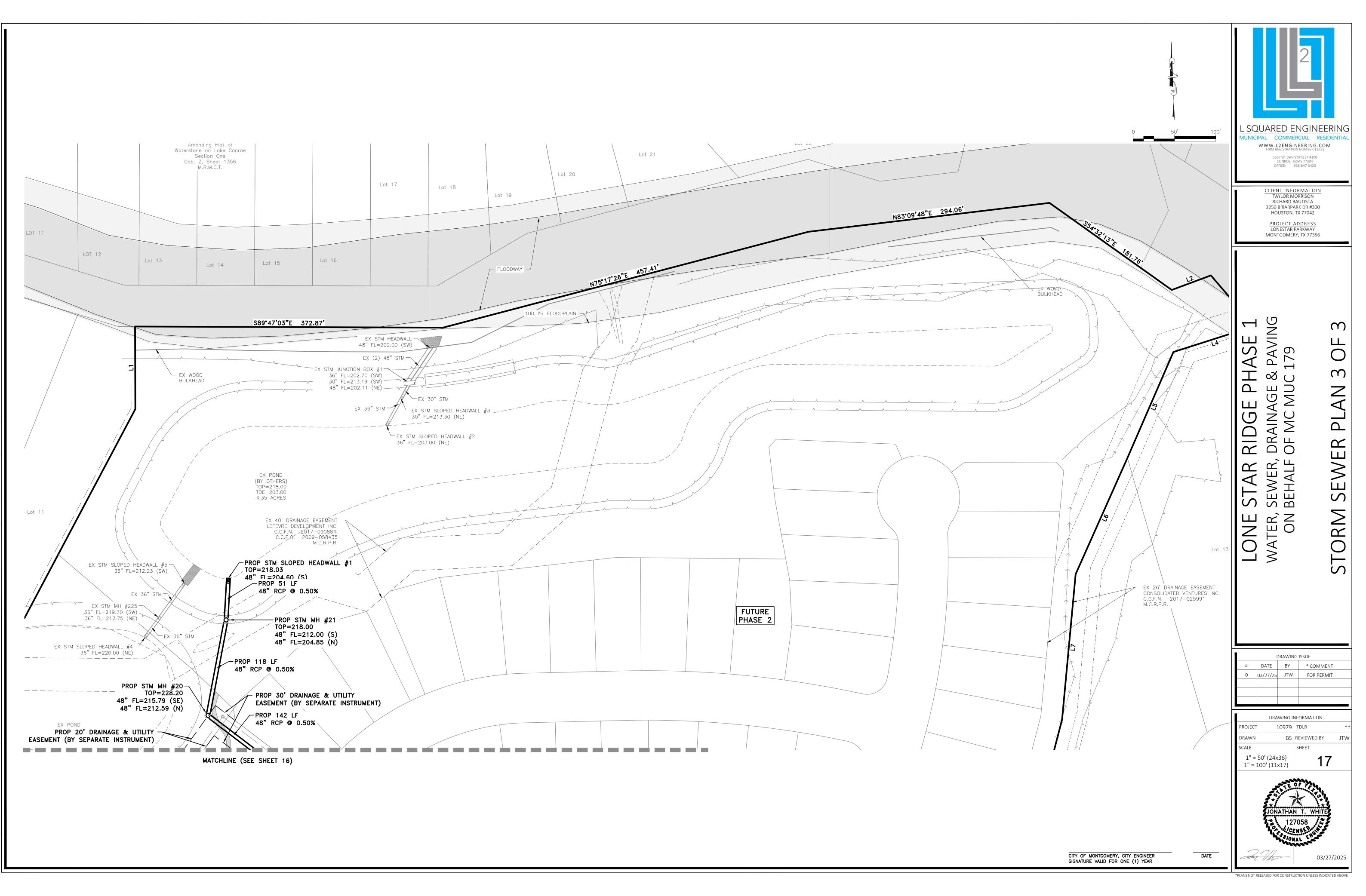




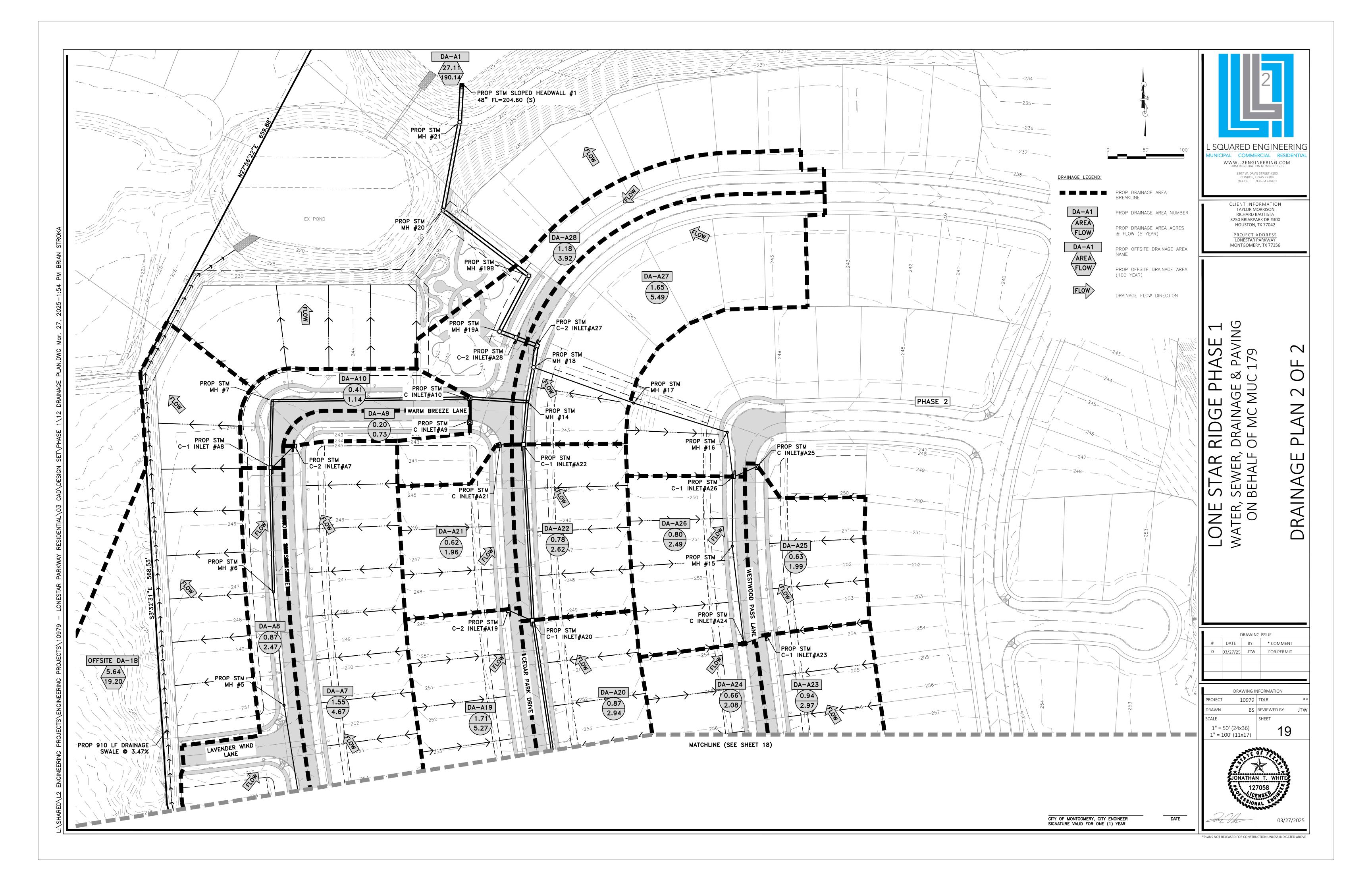












5 Year <u>Inlet Info</u>

			То	otal				Drainage Area Time				Drainage													
		Dra			lunoff Co.	DA	Total	of Conc.	Total Time of			-	Total Flow	Number of C	Culvert Size		l	Perimeter		_ength		Q _{capacity}	${\sf V}_{\sf fullflow}$	Upstream	Downst
	Inlet/MH From Inl	let/MH To Are	ea Ar	rea	"C"	C*A	C*A	(Min)	Conc. (Min) In	tensity (I)	Cf	(cfs)	(cfs)	Barrels	(ft)	Slope	Area (A)	(P)	R=(A/P)	(ft) R	oughness (n)	(CFS)	(FPS)	FL	FL
	INLET A1	INLET A2	0.95	0.95	0.55	0.52	0.52	16.17	16.17	5.50	1.00	2.88	2.88	1	1.5	0.005	1.77	4.71	0.375	40	0.013	7.43	4.20	263.27	2
	INLET A2	MH #1	0.92	1.87	0.55	0.51	1.03	15.85	16.33	5.48	1.00	2.77	5.64	1	1.5	0.007	1.77	4.71	0.375	114	0.012	9.71	5.49	257.76	2
	MH #1	MH #2	0.00	1.87	0.55	0.00	1.03	0.00	16.68	5.43	1.00	0.00	5.58	1	1.5	0.007	1.77	4.71	0.375	123	0.012	9.73	5.51	256.83	2
-	MH #2	MH #3	0.00	1.87	0.55	0.00	1.03	0.00	17.05	5.38	1.00	0.00	5.53	1	1.5	0.012	1.77	4.71	0.375	102	0.013	11.53	6.53	253.73	2
$\frac{2}{2}$	INLET A3	INLET A4	1.02	1.02	0.55	0.56	0.56	16.73	16.73	5.42	1.00	3.04	3.04	1	1.5	0.007	1.77	4.71	0.375	30	0.013	8.57	4.85	257.08	2
	MH #3	INLET A4	0.00	1.87	0.55	0.00	1.03	0.00	17.31	5.34	1.00	0.00	5.49	1	1.5	0.012	1.77	4.71	0.375	63	0.013	11.53	6.53	251.40	2
	INLET A4	MH #4	1.79	4.68	0.55	0.98	2.57	17.61	17.47	5.32	1.00	5.24	13.69	1	2	0.012	3.14	6.28	0.500	170	0.012	26.84	8.54	250.55	2
	INLET A5	INLET A6	0.91	0.91	0.55	0.50	0.50	15.00	17.64	5.29	1.00	2.65	2.65	1	1.5	0.006	1.77	4.71	0.375	35	0.013	7.94	4.49	248.23	2
∑ L	MH #4	INLET A6	0.00	4.68	0.55	0.00	2.57	0.00	17.95	5.25	1.00	0.00	13.52	1	2	0.012	3.14	6.28	0.500	156	0.012	26.83	8.54	245.14	2
	INLET A6	MH #5	1.20	6.79	0.55	0.66	3.73	15.38	18.24	5.21	1.00	3.44	19.47	1	2	0.012	3.14	6.28	0.500	139	0.013	24.79	7.89	240.64	2
	MH #5	MH #6	0.00	6.79	0.55	0.00	3.73	0.00	18.53	5.18	1.00	0.00	19.33	1	2	0.012	3.14	6.28	0.500	149	0.012	26.86	8.55	237.95	2
	INLET A7	INLET A8	1.55	1.55	0.55	0.85	0.85	16.34	16.34	5.48	1.00	4.67	4.67	1	1.5	0.005	1.77	4.71	0.375	41	0.013	7.33	4.15	238.20	2
	MH #6	INLET A8	0.00	6.79	0.55	0.00	3.73	0.00	18.86	5.14	1.00	0.00	19.18	1	2.5	0.010	4.91	7.85	0.625	163	0.013	41.01	8.35	234.87	2
N	INLET A8	MH #7	0.87	9.21	0.55	0.48	5.07	16.62	19.03	5.11	1.00	2.45	25.90	1	2.5	0.010	4.91	7.85	0.625	88	0.013	41.01	8.35	233.14	2
	INLET A9	INLET A10	0.20	0.20	0.55	0.11	0.11	2.89	10.00	6.66	1.00	0.73	0.73	1	1.5	0.007	1.77	4.71	0.375	28	0.013	8.87	5.02	233.42	2
2	MH #7	INLET A10	0.00	9.21	0.55	0.00	5.07	0.00	19.61	5.04	1.00	0.00	25.54	1	2.5	0.008	4.91	7.85	0.625	259	0.013	36.66	7.47	231.79	2
	INLET A10	MH #14	0.41	9.82	0.55	0.23	5.40	11.04	19.80	5.02	1.00	1.13	27.10	1	3	0.005	7.07	9.42	0.750	76	0.013	47.16	6.67	228.56	
	INLET A11	INLET A12	0.29	0.29	0.55	0.16	0.16	1.44	10.00	6.66	1.00	1.06	1.06	1	1.5	0.005	1.77	4.71	0.375	70	0.013	7.43	4.20	266.98	2
	INLET A12	MH #8	0.86	1.15	0.55	0.47	0.63	1.85	10.28	6.59	1.00	3.12	4.17	1	1.5	0.012	1.77	4.71	0.375	94	0.012	12.47	7.06	263.10	2
	E-INLET #1	MH #9	2.35	2.35	0.40	0.94	0.94	15.11	15.11	5.62	1.00	5.28	5.28	1	2	0.005	3.14	6.28	0.500	30	0.012	17.33	5.51	256.60	
2 2	MH #8	MH #9	0.00	1.15	0.55	0.00	0.63	0.00	10.50	6.54	1.00	0.00	4.14		1.5	0.012	1.77	4.71	0.375	97	0.012	12.44	7.04	259.36	
	INLET A13	INLET A14	0.29	0.29	0.55	0.16	0.16	1.54	10.00	6.66	1.00	1.06	1.06	1	1.5	0.007	1.77	4.71	0.375	28	0.013	8.87	5.02	255.89	2
9	MH #9	INLET A14	0.00	3.79	0.55	0.00	2.08	0.00	10.73	6.49	1.00	0.00	13.52	1	2	0.012	3.14	6.28	0.500	110	0.012	26.94	8.58	255.24	2
-	INLET A14	INLET A15	0.68	4.47	0.55	0.37	2.46	7.95	10.94	6.44	1.00	2.41	15.83		2	0.012	3.14	6.28	0.500	39	0.012	26.90	8.56	252.80	2
	INLET A15	INLET A16	1.52	5.99	0.55	0.84	3.29	4.91	11.02	6.42	1.00	5.37	21.16		2	0.013	3.14	6.28	0.500	28	0.013	26.00	8.28	251.54	2
	INLET A16	MH #10	0.05	6.04	0.55	0.03	3.32	1.15	11.08	6.41	1.00	0.18	21.30		2	0.012	3.14	6.28	0.500	109	0.012	26.86	8.55	249.87	2
- N	MH #10	MH #11	0.00	6.04	0.55	0.00	3.32	0.00	11.29	6.37	1.00	0.00	21.15	1	2.5	0.012	4.91	7.85	0.625	123	0.013	44.83	9.13	248.24	2
	INLET A17	INLET A18	1.18	1.18	0.55	0.65	0.65	2.42	10.00	6.66	1.00	4.32	4.32	1	1.5	0.005	1.77	4.71	0.375	39	0.013	7.52	4.26	250.57	2
	MH #11	INLET A18	0.00	6.04	0.55	0.00	3.32	0.00	11.51	6.32	1.00	0.00	20.99	1	2.5	0.012	4.91	7.85	0.625	187	0.013	44.88	9.14	246.67	2
	INLET A18	MH #12	0.23	7.45	0.55	0.13	4.10	1.27	11.85	6.25	1.00	0.79	25.60	1	2.5	0.012	4.91	7.85	0.625	28	0.012	48.23	9.83	244.29	2
5	MH #12	MH #13	0.00	7.45	0.55	0.00	4.10	0.00	11.90	6.24	1.00	0.00	25.56		2.5	0.012	4.91	7.85	0.625	25	0.012	48.67	9.91	242.98	2
$\frac{1}{2}$	INLET A19	INLET A20	1.71	1.71	0.55	0.94	0.94	15.48	15.48	5.61	1.00	5.27	5.27		<u>1.5</u>	0.006	1.77	4.71	0.375	32	0.013	8.30	4.70	239.79	2
	MH #13 INLET A21	INLET A20 INLET A22	0.00	7.45	0.55	0.00	4.10	0.00	11.94	6.23	1.00	0.00	25.53		2.5	0.012	4.91	7.85	0.625	225	0.012	48.67	9.91	240.91	2
	INLET A21	INLET A22	0.87	0.62	0.55 0.55	0.34	0.34 5.52	14.62 14.72	14.62 12.32	5.74 6.16	1.00	1.96 2.95	1.96 33.96		<u>1.5</u> 2.5	0.007	1.77 4.91	4.71 7.85	0.375	29 231	0.013	8.72 48.56	4.93 9.89	233.44 234.65	2
	INLET A20	MH #14	0.78	11.43	0.55	0.48	6.29	14.72	12.32	6.08	1.00	2.93	33.90		2.5	0.012	7.07	9.42	0.750	56	0.012	51.09	7.23	234.03	2
Ā	MH #14	MH # 18	0.00	21.25	0.55	0.00	11.69	0.00	12.71	6.06	1.00	0.00	70.79	<u>_</u> 1	3.5	0.005	9.62	11.00	0.875	46	0.012	77.07	8.01	236.10	2
	INLET A23	INLET A24	0.94	0.94	0.55	0.52	0.52	14.60	14.60	5.75	1.00	2.97	2.97	<u> </u>	1.5	0.007	1.77	4.71	0.375	29	0.012	8.72	4.93	245.96	
	INLET A24	MH #15	0.66	1.60	0.55	0.36	0.88	14.37	14.70	5.73	1.00	2.08	5.04	1	1.5	0.012	1.77	4.71	0.375	129	0.013	12.43	7.03	242.18	
	INLET A25	INLET A26	0.63	0.63	0.55	0.35	0.35	14.61	14.61	5.75	1.00	1.99	1.99		1.5	0.006	1.77	4.71	0.375	31	0.012	8.43	4.77	241.26	
	MH #15	INLET A26	0.00	1.60	0.55	0.00	0.88	0.00	15.00	5.68	1.00	0.00	5.00		1.5	0.012	1.77	4.71	0.375	91	0.012	12.45	7.05	239.78	
2	INLET A26	MH #16	0.80	3.03	0.55	0.44	1.67	14.67	15.22	5.65	1.00	2.49	9.41		1.5	0.012	1.77	4.71	0.375	58	0.012	12.59	7.12	237.65	
	MH #16	MH #17	0.00	3.03	0.55	0.00	1.67	10.00	15.74	5.57	1.00	0.00	9.28		2	0.005	3.14	6.28	0.500	129	0.012	17.26	5.49	234.84	2
2/2	MH #17	MH #18	0.00	3.03	0.55	0.00	1.67	0.00	16.16	5.50	1.00	0.00	9.17	1	2	0.005	3.14	6.28	0.500	139	0.012	17.39	5.53	231.57	2
	MH #18	INLET A27	0.00	24.28	0.55	0.00	13.35	0.00	12.93	6.04	1.00	0.00	80.64	1	4	0.005	12.57	12.57	1.000	29	0.012	108.12	8.60	225.77	
	INLET A27	INLET A28	1.65	25.93	0.55	0.91	14.26	22.91	12.99	6.03	1.00	5.47	85.97		4	0.007	12.57	12.57	1.000	28	0.013	121.40	9.66	225.53	
	INLET A28	MH #19A	1.18	27.11	0.55	0.65	14.91	19.00	13.04	6.02	1.00	3.91	89.75		4	0.005	12.57	12.57	1.000	24	0.013	101.57	8.08	225.23	
	MH #19A	MH #19B	0.00	27.11	0.55	0.00	14.91	0.00	13.09	6.01	1.00	0.00	89.62		4	0.005	12.57	12.57	1.000	83	0.013	100.96	8.03	225.01	
	MH #19B	MH#20	0.00	27.11	0.55	0.00	14.91	0.00	13.26	5.98	1.00	0.00	89.15		4	0.005	12.57	12.57	1.000	142	0.013	101.57	8.08	216.50	
	MH#20	MH#21	0.00	27.11	0.55	0.00	14.91	0.00	13.55	5.93	1.00	0.00	88.37	1	4	0.005	12.57	12.57	1.000	118	0.013	101.57	8.08	212.59	
5 2	MH#21	OUT	0.00	27.11	0.55	0.00	14.91	1.00	13.80	5.88	1.00	0.00	87.74	1	4	0.005	12.57	12.57	1.000	51	0.013	100.57	8.00	204.85	

					2
	HGL				
wnstream	Change In	Hydraulic	Elevation of Hyd. Grad.	Elevation of Hyd. Grad.	L SQUARED ENGINEERING MUNICIPAL COMMERCIAL RESIDENTIAL
FL	Head (ft)	Gradeline %	Upstream (ft)	Downstream(ft)	WWW.L2ENGINEERING.COM FIRM REGISTRATION NUMBER 11235
263.07	0.03	0.07	264.60 258.71	264.57	3307 W. DAVIS STREET #100 CONROE, TEXAS 77304 OFFICE: 936-647-0420
256.93 255.93	0.28	0.23	258.71	258.43 257.43	
252.50		0.28	254.28	254.00	CLIENT INFORMATION TAYLOR MORRISON RICHARD BAUTISTA
256.88	0.03	0.08	258.41	258.38	3250 BRIARPARK DR #300 HOUSTON, TX 77042
250.64	0.17	0.27	252.31	252.14	PROJECT ADDRESS
248.51 248.03	0.53	0.31	251.04 249.55	250.51 249.53	MONTGOMERY, TX 77356
243.27	0.48	0.30	245.75	245.27	
238.97	1.03	0.74	242.00	240.97	
236.16		0.62	240.51	239.58	
238.00		0.20	239.58	239.50	
233.24 232.26		0.22	236.10 235.11	235.74 234.76	
233.22	0.00	0.40	233.11	234.70	
229.72	1.00	0.39	233.22	232.22	
228.18		0.16	231.31	231.18	AVIN 79 1 C
266.63		0.01	268.14	268.13	AS PAV 179 S 1
261.97 256.45	0.13	0.13	263.60 258.46	263.47 258.45	
258.20		0.13	259.83	259.70	
255.69		0.01	257.19	257.19	
253.91	0.33	0.30	256.24	255.91	
252.33		0.42	254.49	254.33	
251.17 248.56	0.25	0.87	253.42 251.38	253.17 250.56	
248.30	0.33	0.26	249.60	230.30	
250.37	0.07	0.17	251.94	251.87	
244.43	0.49	0.26	247.42	246.93	
243.96		0.33	246.55	246.46	
242.68 239.59		0.33	245.26	245.18 241.09	
235.55		0.33	241.45	241.05	
233.24		0.03	234.75	234.74	
231.89	1.35	0.58	235.74	234.39	LON WAT DRAINA
230.51	0.16	0.28	233.67	233.51	\square \square
225.87 245.76	0.19	0.42	229.90 247.28	229.71 247.26	
240.64		0.20	247.28	247.20	
241.06		0.04	242.57	242.56	
238.69		0.19	240.37	240.19	
236.94		0.68	238.84	238.44	
234.20 230.87	0.18	0.14	236.38 233.06	236.20 232.87	DRAWING ISSUE
225.63		0.14	233.00	232.87	
225.33		0.36	229.43	229.33	
225.11	0.09	0.39	229.20	229.11	
224.60		0.39	228.92	228.60	
215.79 212.00		0.38	220.34 216.45	219.79 216.00	DRAWING INFORMATION
204.60		0.37	208.79	208.60	10575 1820
		Starting	gTW Elevation:	208.60	SCALE SHEET
					20 JONATHAN T. WHITE 127058 CENSE SOMAL LONAL
	Cľ	TY OF MONTGOMER` GNATURE VALID FOF	Y, CITY ENGINEER	DATE	03/27/2025

MH From Inlet INLET A1 INLET A2	Di	Tot					Drainage																		GL			
INLET A1 INLET A2	Di	Tot					Diamage																					ļ
INLET A1 INLET A2	Di	101	al			A	Area Time				Drainage															r		evation of
INLET A1 INLET A2	. /	rainage Dra	inage Rui	noff Co.	DA	Total		otal Time of				otal Flow Nu		. (5.)		Pe	erimeter		Length		$Q_{capacity} V$	(ostream Do		Change In I	,	•	lyd. Grad.
INLET A2	,	rea Are	a	<u> </u>	<u>C*A</u>	<u>C*A</u>	· · /	. ,	ntensity (I)		(cfs)	/	Barrels Dia	imeter (ft)	Slope	Area (A)	(P)	R=(A/P)	(ft) RO	ughness (n)	(CFS)	(FPS)	FL		. ,	Gradeline % L		vnstream(ft)
	INLET A2	0.95	0.95	0.55	0.52	0.52	16.17	16.17	9.53	1.25	6.22	6.22	1	1.5	0.005	1.//	4.71	0.375	40	0.013	7.43	4.20	263.27	263.07	0.14	0.35	264.71	264.57
	MH #1	0.92	1.87	0.55	0.51	1.03	15.85	16.33	9.49	1.25	6.00	12.20	1	1.5	0.007	1.77	4.71	0.375	114	0.012	9.71	5.49	257.76	256.93	1.31	1.15	260.13	258.82
MH #1	MH #2	0.00	1.87	0.55	0.00	1.03	0.00	16.68	9.40	1.25	0.00	12.08	1	1.5	0.007	1.77	4.71	0.375	123	0.012	9.73	5.51	256.83	255.93	1.39	1.13	258.82	257.43
MH #2	MH #3	0.00	1.87	0.55	0.00	1.03	0.00	17.05	9.30	1.25	0.00	11.96	1	1.5	0.012	1.77	4.71	0.375	102	0.013	11.53	6.53	253.73	252.50	1.32	1.30	256.84	255.52
	INLET A4	1.02	1.02 1.87	0.55	0.56	0.56	16.73	16.73	9.38	1.25	6.58	6.58	1	1.5	0.007	1.77	4.71	0.375	<u> </u>	0.013	8.57	4.85	257.08	256.88	0.12	0.39	258.50 255.52	258.38
MH #3		0.00		0.55	0.00	1.03	0.00	<u> </u>	9.24	1.25	0.00	11.88	1	1.5	0.012	1.77	4.71	0.375	63	0.013	11.53	6.53	251.40	250.64	0.81		255.52	254.71
LET A5	MH #4 INLET A6	0.01	4.68 0.91	0.55	0.98	2.57	17.61 15.00		9.20	1.25 1.25	<u>11.32</u> 5.73	29.60	1	Z	0.012	3.14	6.28	0.500	170	0.012	26.84	8.54	250.55 248.23	248.51 248.03	0.10	1.46 0.30	254.71	252.23
MH #4	INLET A6	0.91		0.55	0.50	0.50		17.64	9.16			5.73	<u>1</u>	1.5	0.008	2.14	4.71		150		7.94 26.83	4.49 8.54	248.25					250.01
ILET A6	MH #5	0.00	4.68 6.79	0.55	0.00	2.57 3.73	0.00	17.95	9.08	1.25	0.00	29.23	1	2		3.14	6.28	0.500	156	0.012	26.83	7.89	245.14	243.27	2.22 4.81	1.42 3.46	252.23 250.01	250.01
MH #5	MH #5	0.00	6.79	0.55	0.00	3.73	15.38	18.24	9.01	1.25 1.25	0.00	42.08	<u>1</u>	<u> </u>	0.012	3.14	6.28 6.28	0.500	139 149		24.79		240.84	238.97 236.16	4.81		230.01	245.20 240.88
ILET A7	INLET A8	1.55	1.55	0.55	0.00 0.85	0.85	0.00	18.53 16.34	<u>8.95</u> 9.49	1.25	10.11	41.76 10.11	<u>1</u>	1.5	0.012	<u>3.14</u> 1.77	4.71	0.500 0.375	149	0.012	7.33	8.55 4.15	237.95	238.00	0.38	2.90 0.93	245.20	240.88
MH #6	INLET A8	0.00	6.79	0.55	0.83	2 72	0.00	18.86	8.87	1.25	0.00	41.41	<u>1</u>	2.5	0.003	4.91	7.85	0.625	163	0.013	41.01	8.35	238.20	238.00	1.66	1.02	239.88	239.30
LET A8	MH #7	0.00	9.21	0.55	0.00	5.07	16.62	19.03	8.83	1.25	5.28	55.92	1	2.5	0.010	4.91	7.85	0.625	88	0.013	41.01	8.35	234.87	233.24	1.64	1.86	239.21	239.21
LET A9	INLET A10	0.07	0.20	0.55	0.40	0.11	2.89	10.00	11.60	1.25	1.59	1.59	1	1.5	0.010	1 77	4.71	0.375	28	0.013	8.87	5.02	233.42	233.22	0.01	0.02	234.73	234.72
MH #7	INLET A10	0.00	9.21	0.55	0.00	5.07	0.00	19.61	8.70	1.25	0.00	55.10	<u>+</u>	2.5	0.008	4.91	7.85	0.625	259	0.013	36.66	7.47	233.42	229.72	4.68	1.81	237.58	232.90
ET A10	MH #14	0.00	9.82	0.55	0.23	5.40	11.04	19.80	8.66	1.25	2.44	58.48	<u>_</u>	3	0.005	7.07	9.42	0.750	76	0.013	47.16	6.67	228.56	228.18	0.58	0.76	232.90	232.32
ET A11	INLET A12	0.29	0.29	0.55	0.16	0.16	1.44	10.00	11.60	1 25	2.31	2 31	<u>+</u>	1.5	0.005	1 77	<u> </u>	0 375	70	0.013	7 43	4 20	266.98	266.63	0.03	0.05	268.16	268.13
ET A12	MH #8	0.86	1 15	0.55	0.10	0.63	1.85	10.28	11.48	1.25	6.79	9.07	<u>+</u>	1.5	0.012	1 77	4 71	0 375	94	0.012	12.47	7.06	263.10	261.97	0.60	0.63	264.07	263.47
LET #1	MH #9	2.35	2.35	0.40	0.94	0.94	15.11	15.11	9.82	1.25	11.54	11.54	1	2	0.005	3.14	6.28	0.500	30	0.012	17.33	5.51	256.60	256.45	0.07	0.22	258.52	258.45
 MH #8	MH #9	0.00	1.15	0.55	0.00	0.63	0.00	10.50	11.39	1.25	0.00	9.00	1	1.5	0.012	1.77	4.71	0.375	97	0.012	12.44	7.04	259.36	258.20	0.61	0.62	260.31	259.70
ET A13	INLET A14	0.29	0.29	0.55	0.16	0.16	1.54	10.00	11.60	1.25	2.31	2.31	1	1.5	0.007	1.77	4.71	0.375	28	0.012	8.87	5.02	255.89	255.69	0.01	0.05	257.20	257.19
MH #9	INLET A14	0.00	3.79	0.55	0.00	2.08	0.00	10.73	11.29	1.25	0.00	29.43	1	2.0	0.012	3.14	6.28	0.500	110	0.012	26.94	8.58	255.24	253.91	1.59	1.43	258.23	256.64
ET A14	INLET A15	0.68	4.47	0.55	0.37	2.46	7.95	10.94	11.23	1.25	5.24	34.44	1	2	0.012	3.14	6.28	0.500	39	0.012	26.90	8.56	252.80	252.33	0.77	1.96	256.64	255.87
ET A15	INLET A16	1.52	5.99	0.55	0.84	3.29	4.91	11.02	11.18	1.25	11.68	46.04	1	2	0.013	3.14	6.28	0.500	28	0.013	26.00	8.28	251.54	251.17	1.16	4.12	255.87	254.71
ET A16	MH #10	0.05	6.04	0.55	0.03	3.32	1.15	11.08	11.16	1.25	0.38	46.33	1	2	0.012	3.14	6.28	0.500	109	0.012	26.86	8.55	249.87	248.56	3.90	3.55	254.71	250.82
ЛН #10	MH #11	0.00	6.04	0.55	0.00	3.32	0.00	11.29	11.08	1.25	0.00	45.99	1	2.5	0.012	4.91	7.85	0.625	123	0.013	44.83	9.13	248.24	246.77	1.55	1.25	250.82	249.27
ET A17	INLET A18	1.18	1.18	0.55	0.65	0.65	2.42	10.00	11.60	1.25	9.41	9.41	1	1.5	0.005	1.77	4.71	0.375	39	0.013	7.52	4.26	250.57	250.37	0.31	0.80	252.18	251.87
ЛН #11	INLET A18	0.00	6.04	0.55	0.00	3.32	0.00	11.51	10.99	1.25	0.00	45.64	1	2.5	0.012	4.91	7.85	0.625	187	0.013	44.88	9.14	246.67	244.43	2.32	1.23	249.25	246.93
ET A18	MH #12	0.23	7.45	0.55	0.13	4.10	1.27	11.85	10.87	1.25	1.72	55.65	1	2.5	0.012	4.91	7.85	0.625	28	0.012	48.23	9.83	244.29	243.96	0.44	1.56	246.90	246.46
/H #12	MH #13	0.00	7.45	0.55	0.00	4.10	0.00	11.90	10.85	1.25	0.00	55.56	1	2.5	0.012	4.91	7.85	0.625	25	0.012	48.67	9.91	242.98	242.68	0.39	1.56	245.57	245.18
ET A19	INLET A20	1.71	1.71	0.55	0.94	0.94	15.48	15.48	9.72	1.25	11.43	11.43	1	1.5	0.006	1.77	4.71	0.375	32	0.013	8.30	4.70	239.79	239.59	0.38	1.18	241.47	241.09
1H #13	INLET A20	0.00	7.45	0.55	0.00	4.10	0.00	11.94	10.83	1.25	0.00	55.48	1	2.5	0.012	4.91	7.85	0.625	225	0.012	48.67	9.91	240.91	238.21	3.51	1.55	244.27	240.76
ET A21	INLET A22	0.62	0.62	0.55	0.34	0.34	14.62	14.62	9.96	1.25	4.25	4.25	1	1.5	0.007	1.77	4.71	0.375	29	0.013	8.72	4.93	233.44	233.24	0.05	0.16	234.79	234.74
ET A20	INLET A22	0.87	10.03	0.55	0.48	5.52	14.72	12.32	10.70	1.25	6.40	73.78	1	2.5	0.012	4.91	7.85	0.625	231	0.012	48.56	9.89	234.65	231.89	6.37	2.74	240.76	234.39
ET A22	MH #14	0.78	11.43	0.55	0.43	6.29	14.75	12.71	10.57	1.25	5.67	83.02	1	3	0.005	7.07	9.42	0.750	56	0.012	51.09	7.23	230.79	230.51	0.74	1.31	234.25	233.51
1H #14	MH # 18	0.00	21.25	0.55	0.00	11.69	0.00	12.84	10.52	1.25	0.00	153.72	1	3.5	0.005	9.62	11.00	0.875	46	0.012	77.07	8.01	226.10	225.87	0.92	1.98	232.32	231.40
ET A23	INLET A24	0.94	0.94	0.55	0.52	0.52	14.60	14.60	9.97	1.25	6.44	6.44	1	1.5	0.007	1.77	4.71	0.375	29	0.013	8.72	4.93	245.96	245.76	0.11	0.37	247.37	247.26
ET A24	MH #15	0.66	1.60	0.55	0.36	0.88	14.37	14.70	9.94	1.25	4.51	10.94	1	1.5	0.012	1.77	4.71	0.375	129	0.012	12.43	7.03	242.18	240.64	1.19	0.92	243.33	242.14
ET A25	INLET A26	0.63	0.63	0.55	0.35	0.35	14.61	14.61	9.97	1.25	4.32	4.32	1	1.5	0.006	1.77	4.71	0.375	31	0.013	8.43	4.77	241.26	241.06	0.05	0.17	242.61	242.56
1H #15 ET A26	INLET A26 MH #16	0.00	3.03	0.55	0.00	0.88	0.00 14.67	15.00 15.22	9.85 9.79	<u>1.25</u> 1.25	0.00	10.84 20.40	1	1.5	0.012	1.//	4.71	0.375	91 E 0	0.012	12.45 12.59	7.05	239.78 237.65	238.69 236.94	0.83	0.90	241.13 240.30	240.30 238.44
/H #16	MH #17	0.00	3.03	0.55		1.67	14.07	15.74	9.65	1.25	5.39 0.00	20.40	<u>1</u>	<u> </u>	0.012	<u>1.77</u> 3.14	6.28	0.500	58 129	0.012	17.26	5.49	237.03	230.94	0.87	0.67	237.07	236.20
лн #17 ЛН #17	MH #18	0.00	3.03	0.55	0.00	1.67	0.00	16.16	9.53	1.25	0.00	19.86	1	2	0.005	3.14	6.28	0.500	139	0.012	17.39	5.53	231.57	230.87	0.91	0.65	233.78	230.20
/IH #18	INLET A27	0.00	24.28	0.55	0.00	13.35	0.00	12.93	10.49	1.25	0.00	175.11	1	4	0.005	12.57	12.57	1.000	29		108.12	8.60	225.77	225.63	0.37	1.26	231.40	231.04
ET A27	INLET A28	1.65	25.93	0.55	0.91	14.26	22.91	12.99	10.47	1.25	11.88	186.67	1	4	0.007	12.57	12.57	1.000	28	0.013	121.40	9.66	225.53	225.33	0.47	1.68	231.04	230.56
ET A28	MH #19A	1.18	27.11	0.55	0.65	14.91	19.00	13.04	10.46	1.25	8.48	194.87	1	4	0.005	12.57	12.57	1.000	24	0.013	101.57	8.08	225.23	225.11	0.44	1.83	230.56	230.12
H #19A	MH #19B	0.00	27.11	0.55	0.00	14.91	0.00	13.09	10.44	1.25	0.00	194.57	1	4	0.005	12.57	12.57	1.000	83	0.013	100.96	8.03	225.01	224.60	1.52	1.82	230.12	228.60
H #19B	MH#20	0.00	27.11	0.55	0.00	14.91	0.00	13.26	10.38	1.25	0.00	193.52	1	4	0.005	12.57	12.57	1.000	142	0.013		8.08	216.50	215.79	2.58	1.81	222.37	219.79
MH#20 MH#21	MH#21 OUT	0.00	27.11 27.11	0.55	0.00	14.91 14.91	0.00	13.55 13.80	10.29 10.21	1.25 1.25	0.00	191.77 190.35	1	4	0.005	12.57 12.57	12.57 12.57	1.000	118 51	0.013	101.57 100.57	8.08 8.00	212.59 204.85	212.00 204.60	2.10 0.90	<u> </u>	218.10 209.50	216.00 208.60

CRITICAL ELEVATION 267.70 267.89 267.08 264.97 261.80	CLIENT INFORMATION RICHARD BAUTISTA 3250 BRIARPARK DR #300 HOUSTON, TX 77042	DENTIAL
262.88 261.80	PROJECT ADDRESS LONESTAR PARKWAY MONTGOMERY, TX 77356	
252.96 257.71 253.51 249.62 243.81 245.79 244.11 241.35 243.32 241.36 271.13 261.75 267.23 259.97 263.27 259.99 259.48 259.50 256.77 255.17 255.17 255.17 255.17 255.17 255.17 255.17 254.08 247.60 253.41 242.10 247.98 242.23 240.81 252.52 252.61 248.51 249.79 248.45 247.94	LONE STAR RIDGE PHASE 1 WATER, SEWER, DRAINAGE & PAVING ON BEHALF OF MC MUC 179	DRAINAGE CALCULATIONS 2 OF 3
249.44 240.33 240.33 240.33 239.93 232.29	DRAWING ISSUE # DATE BY * COMMEN 0 03/27/25 JTW FOR PERM	
232.39 218.00 219.00		
	DRAWING INFORMATION PROJECT 10979 TDLR DRAWN BS REVIEWED BY SCALE SHEET 2	** JTW 1
DATE	JONATHAN T. WHITE JONATHAN T. WHITE 127058 CENSE VONAL 03/2	7/2025

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

Drainage Area: Of	fsite DA-1A							
Segment:	Flow Type	n	length	slope	Paved?	V, if req'd	>>>> Time (hr) Time (min
	1 sheet	0.24	185	0.0570	no	N/A	0.2	1 12.54
	2 shallow		0	0.0000	no	0) #DIV/0	#DIV/0!
	3 channel		839	Varies	no	3	0.0	4.66
	4 channel		0	Varies	no	3	0.0	0.00
			1024					17.20

Drainage Area: Of	fsite DA-1B								
Segment:	Flow Type	n	length	slope	Paved?	V, if req'd.	>>>>	Time (hr)	Time (min
	1 sheet	0.24	300	0.0230	no	N/A		0.44	26.53
	2 shallow		403	0.0590	no	3.919056		0.03	1.71
	3 channel		415	Varies	no	3		0.04	2.31
	4 channel		0	Varies	no	3		0.00	0.00
			1118						28.84

Weighted C-valu	e Calculation: Offsite DA-1	A	
Material	Acreage		C-Value
Pasture		3.02	0.35
		Weighted C:	0.35

Weighted C-value Calcu	lation: Offsite DA-1B		
Material	Acreage		C-Value
Pasture		4.38	0.35
1/8 Acre Residential		1.26	0.55
		Weighted C:	0.39

Drainage Calculations	<u>s (5-Yr)</u>							
Drainage Area	Area		Тс		С	I	C _f	Q
OFFSITE DA-1A		3.02		17.20	0.35	5.25	1	5.55
OFFSITE DA-1B		5.64		28.84	0.39	4.00	1	8.90
					1			1
Drainage Calculations	<u>s (25-Yr)</u>							
Drainage Area	Area		Тс		С	I	C _f	Q
OFFSITE DA-1A		3.02		17.20	0.35	7.24	1.1	8.42
OFFSITE DA-1B		5.64		28.84	0.39	5.60	1.1	13.71

Drainage Calculations	100-Yr)						
Drainage Area	Area		Тс	С	I	C _f	Q
OFFSITE DA-1A		3.02	17.20	0.35	9.00	1.25	11.89
OFFSITE DA-1B		5.64	28.84	0.39	6.90	1.25	19.20

		Inlet No.	Inlet Type	Slope (%)	100-Yr Flow	Proposed Inlet Size	Proposed Inle Length (ft)
Drainage Ditch (Capacity-OFFSITE 1A Vetted Proposed Right Left	A1	On-Grade		6.22	C-1	10
	MinSideslopeSideslopeBottomTopPerimeterSlope (S)RoughnessQ capacityV full flow50% 100-Yr	A1 A2	On-Grade	0.005	6.00	C-1 C-1	10
ross-Section	Depth (ft):1 (ft):1 Width Width Area (A) (P) R=(A/P) (ft/ft) (n) >>>> (CFS) (FPS) Flow* Capacity?						10
-1	1.50 3 3 1 10.00 8.25 10.49 0.787 0.0136 0.027 45.12 5.47 5.95 yes	A3	On-Grade On-Grade	0.0266		C-1 C-2	
		A4					15
rainage Ditch	Capacity-OFFSITE 1A	A5	On-Grade	0.0266		C-1	10
ramage Diteri	Proposed Right Left Wetted	A6	On-Grade			C-1	10
	Min Sideslope Bottom Top Perimeter Slope (S) Roughness Q capacity V full flow 100-Yr	A7	On-Grade			C-2	15
Cross-Section	Depth (ft):1 (ft):1 Width Width Area (A) (P) R=(A/P) (ft/ft) (n) >>>> (CFS) (FPS) Flow* Capacity?	A8	On-Grade	0.0196		C-1	10
-2	1.50 3 3 1 10.00 8.25 10.49 0.787 0.0264 0.027 62.87 7.62 11.89 yes	A9	On-Grade	0.0196		C	5
		A10	On-Grade	0.0196		C	5
		A11	On-Grade	0.0283	2.31	С	5
orainage Ditch C	Capacity-OFFSITE 1B	A12	On-Grade			C-1	10
	Right Left Wetted 25% 100-Yr Proposed Min Sideslope Sideslope Bottom Top Perimeter Slope (S) Roughness Q _{capacity} V _{full flow} Flow* +	A13	On-Grade	0.0283	2.31	С	5
ross-Section	Depth (ft):1 (ft):1 Width Width Area (A) (P) $R=(A/P)$ (ft/ft) (n) >>>> (CFS) (FPS) OFFSITE 1A Capacity?	A14	On-Grade	0.0283	5.24	C-1	10
3	1.75 3 3 2 12.50 12.69 13.07 0.971 0.0789 0.027 192.31 15.16 16.69 yes	A15	On-Grade	0.0138		C-2	15
		A16	On-Grade	0.0138	0.38	С	5
		A17	On-Grade	0.0138	9.41	C-2	15
rainage Ditch C	Capacity-OFFSITE 1B Right Left Wetted 50% 100-Yr	A18	On-Grade	0.0138	1.72	С	5
	Proposed Min Sideslope Sideslope Bottom Top Perimeter Slope (S) Roughness Q _{capacity} V _{full flow} Flow [*] +	A19	On-Grade	0.0313	11.43	C-2	15
	Depth (ft):1 (ft):1 Width Width Area (A) (P) R=(A/P) (ft/ft) (n) >>>> (CFS) (FPS) OFFSITE 1A Capacity?	A20	On-Grade	0.0313	6.39	C-1	10
ross-Section	1.75 3 3 2 12.50 12.69 13.07 0.971 0.0286 0.027 115.79 9.13 21.49 yes	A21	On-Grade	0.0313	4.25	С	5
		AZI	on orace	0.0515			3
		A21 A22	On-Grade			C-1	10
-4				0.0313	5.66	C-1 C-1	
-4	Capacity-OFFSITE 1B Right Left Wetted 100-Yr	A22	On-Grade	0.0313	5.66 6.44		10
-4 rainage Ditch C	Capacity-OFFSITE 1B Right Left Wetted 100-Yr Proposed Min Sideslope Sideslope Bottom Top Perimeter Slope (S) Roughness Q _{capacity} V _{full flow} Flow* +	A22 A23	On-Grade On-Grade	0.0313 0.0373 0.0373	5.66 6.44 4.51	C-1	10 10
-4 rainage Ditch C ross-Section	Capacity-OFFSITE 1B Right Left Wetted 100-Yr Proposed Min Sideslope Sideslope Bottom Top Perimeter Slope (S) Roughness Q _{capacity} V _{full flow} Flow* + Depth (ft):1 (ft):1 Width Width Area (A) (P) R=(A/P) (ft/ft) (n) >>>> (CFS) (FPS) OFFSITE 1A Capacity?	A22 A23 A24	On-Grade On-Grade On-Grade	0.0313 0.0373 0.0373 0.0373	5.66 6.44 4.51 4.32	C-1 C	10 10 5
Tross-Section -4 Drainage Ditch Ca Cross-Section -5	Capacity-OFFSITE 1B Right Left Wetted 100-Yr Proposed Min Sideslope Sideslope Bottom Top Perimeter Slope (S) Roughness Q _{capacity} V _{full flow} Flow* +	A22 A23 A24 A25	On-Grade On-Grade On-Grade On-Grade	0.0313 0.0373 0.0373 0.0373 0.0373	5.66 6.44 4.51 4.32	C-1 C C	10 10 5 5

			Inlet No.	Inlet Type	Slope (%)	100-Yr Flow	Proposed Inlet Size	Proposed Inle Length (ft)
Drainage Ditch (Capacity-OFFSITE 1A Vetted Proposed Right Left			2 -			C-1	
	Proposed Right Left Wetted Min Sideslope Sideslope Bottom Top Perimeter Slope (S) Roughness Q _{capacity} V _{full flow} 50% 10	00-Yr	A1	On-Grade		6.22		10
Cross-Section	Depth (ft):1 Width Width Area (A) (P) R=(A/P) (ft/ft) (n) >>>> (CFS) (FPS) Flow		A2	On-Grade		6.00	C-1	10
1-1	1.50 3 3 1 10.00 8.25 10.49 0.787 0.0136 0.027 45.12 5.47	5.95 yes	A3	On-Grade	0.0266		C-1	10
			A4	On-Grade			C-2	15
Drainago Ditch (A5	On-Grade	0.0266		C-1	10
Drainage Ditch t	Capacity-OFFSITE 1A Vetted Proposed Right Left		A6	On-Grade			C-1	10
	MinSideslopeSideslopeBottomTopPerimeterSlope (S)RoughnessQ capacityV full flow100-Y	-Yr	A7	On-Grade			C-2	15
Cross-Section	Depth (ft):1 Width Area (A) (P) R=(A/P) (ft/ft) (n) >>>> (CFS) (FPS) Flow	w* Capacity?	A8	On-Grade	0.0196		C-1	10
2-2	1.50 3 3 1 10.00 8.25 10.49 0.787 0.0264 0.027 62.87 7.62 1	11.89 yes	A9	On-Grade			С	5
			A10	On-Grade	0.0196		C	5
			A11	On-Grade	0.0283	2.31	С	5
Drainage Ditch C	apacity-OFFSITE 1B		A12	On-Grade	0.0283	6.79	C-1	10
	Right Left 25% 100 Proposed Min Sideslope Sideslope Bottom Top Perimeter Slope (S) Roughness Q _{capacity} V _{full flow} Flow*		A13	On-Grade	0.0283	2.31	С	5
Cross-Section		E 1A Capacity?	A14	On-Grade	0.0283	5.24	C-1	10
3-3		6.69 yes	A15	On-Grade	0.0138	11.68	C-2	15
			A16	On-Grade	0.0138	0.38	С	5
			A17	On-Grade	0.0138	9.41	C-2	15
Drainage Ditch C	apacity-OFFSITE 1B Right Left 50% 100	0. Vr	A18	On-Grade	0.0138	1.72	С	5
	Right Left Wetted 50% 100 Proposed Min Sideslope Sideslope Bottom Top Perimeter Slope (S) Roughness Q _{capacity} V _{full flow} Flow*		A19	On-Grade	0.0313	11.43	C-2	15
Cross-Section		E 1A Capacity?	A20	On-Grade	0.0313	6.39	C-1	10
4-4	1.75 3 3 2 12.50 13.07 0.971 0.0286 0.027 115.79 9.13 21	1.49 yes	A21	On-Grade	0.0313	4.25	С	5
			A22	On-Grade	0.0313	5.66	C-1	10
Drainage Ditch C	apacity-OFFSITE 1B		A23	On-Grade			C-1	10
	Right Left Wetted 100-Y	ſr	A24	On-Grade			С	5
	Proposed Min Sideslope Sideslope Bottom Top Perimeter Slope (S) Roughness Q _{capacity} V _{full flow} Flow*	[•] +	A25	On-Grade			C	5
Cross-Section		E 1A Capacity?	A26	On-Grade			C-1	10
5-5	1.75 3 3 2 12.50 13.07 0.971 0.0331 0.027 124.56 9.82 31	1.09 yes	A20	Sag		11.87	C-2	15
			A27		0.0313		C-2 C-2	15
			AZO	Sag	0.0212	0.47	C-2	10

																Inlat No	Inlat Type	Slope			Proposed Inle
Drainage Ditch (1.0													Inlet No.	Inlet Type	(%)	Flow	Inlet Size	Length (ft)
	Proposed Min	_	Left Sideslope	Bottom	Тор		Wetted Perimeter		Slope (S)	Roughness		Q capacity	$V_{fullflow}$	50% 100-Yi		A1	On-Grade		6.22	C-1	10
Cross-Section	Depth	(ft):1	(ft):1	Width	Width	Area (A)		R=(A/P)	(ft/ft)	(n)	>>>>	(CFS)	(FPS)	Flow*	Capacity?	A2	On-Grade		6.00	C-1	10
1-1	1.50	. ,	3	1	10.00	. ,		0.787	0.0136			45.12	5.47			A3	On-Grade			C-1	10
																A4	On-Grade			C-2	15
																A5	On-Grade	0.0266	5.72	C-1	10
Drainage Ditch (1) A / a t t a al									A6	On-Grade	0.0266	7.43	C-1	10
	Proposed Min	-	Left Sideslope	Bottom	Тор		Wetted Perimeter		Slope (S)	Roughness		Q _{capacity}	V _{full flow}	100-Yr		A7	On-Grade	0.0196	10.11	C-2	15
Cross-Section	Depth	(ft):1	(ft):1	Width	Width	Area (A)		R=(A/P)	(ft/ft)	(n)	>>>>		(FPS)	Flow*	Capacity?	A8	On-Grade	0.0196	5.28	C-1	10
2-2	1.50		3	1	10.00	8.2	5 10.49	0.787	0.0264	0.027		62.87	7.62	. 11.8		A9	On-Grade	0.0196	1.59	С	5
																A10	On-Grade	0.0196	2.44	С	5
																A11	On-Grade	0.0283	2.31	С	5
Drainage Ditch C	apacity-OFFSI	TE 1B														A12	On-Grade	0.0283	6.79	C-1	10
			-	eft			Wett					_		25% 100-Yr		A13	On-Grade	0.0283	2.31	С	5
Cross-Section	Proposed Depth		eslope Side ft):1 (fi	slope Bott :):1 Wid		op dth Area	Perime	ter R=(A/	• • • •	Roughness		Q _{capacity} (CFS)	V _{full flow} (FPS)	Flow* + OFFSITE 1A	Capacity2	A14	On-Grade	0.0283	5.24	C-1	10
B-3	Берп	1.75	3	3				.07 0.9		(n) 0.027	>>>>	192.31	15.16			A15	On-Grade	0.0138	11.68	C-2	15
		1.75			<u> </u>	2.50	12.05 10	.07 0.2	/1 0.0705	0.027		192.91	15.10	10.05	yes	A16	On-Grade	0.0138	0.38	С	5
																A17	On-Grade	0.0138	9.41	C-2	15
Drainage Ditch C	apacity-OFFSI															A18	On-Grade			С	5
	Proposed		ight Le eslope Side	eft slope Bott	om T		Wett Perime		Slana (S)	Roughness		Q _{capacity}	$V_{fullflow}$	50% 100-Yr Flow* +		A19	On-Grade	0.0313		C-2	15
Cross-Section	Depth		•	:):1 Wid		op dth Area		R=(A/	• • • •	(n)	>>>>	(CFS)	(FPS)	OFFSITE 1A	Capacity?	A20	On-Grade	0.0313	6.39	C-1	10
1-4		1.75	3	3				.07 0.9				115.79	9.13		yes	A21	On-Grade			C	5
																A22	On-Grade			C-1	10
		TE 40														A23	On-Grade			C-1	10
Drainage Ditch C	apacity-OFFSI		ight L	eft			Wett	ed						100-Yr		A24	On-Grade			C	5
	Proposed			slope Bott	om To	р	Perime		Slope (S)	Roughness		$Q_{capacity}$	$V_{fullflow}$	Flow* +		A24	On-Grade			C	5
Cross-Section	Depth	n (†	ft):1 (f	:):1 Wid	dth Wi	dth Area	a (A) (P)	R=(A/	P) (ft/ft)	(n)	>>>>	(CFS)		OFFSITE 1A	Capacity?	A25	On-Grade			C-1	10
5-5		1.75	3	3	2	.2.50 1	12.69 13	.07 0.9	71 0.0331	0.027		124.56	9.82	31.09	yes						
																A27	Sag		11.87		15
																A28	Sag	0.0313	8.47	C-2	15

																Inlet No.	Inlet Type	Slope	100-Yr Flow	Proposed Inlet Size	Proposed Inle
Drainage Ditch (1 . 6														11	(%)			Length (ft)
	Proposed Min	Right Sideslope	Left Sideslope	Bottom	Тор		Wetted Perimeter		Slope (S)	Roughness		Q _{capacity}	V _{full flow}	50% 100-Yr		A1	On-Grade		6.22	C-1	10
Cross-Section	Depth	(ft):1	(ft):1	Width		Area (A)	(P)	R=(A/P)	(ft/ft)	(n)	>>>>	(CFS)	(FPS)		Capacity?	A2	On-Grade		6.00	C-1	10
1-1	1.50		3	8 1	10.00	8.25	5 10.49	0.787	0.0136	0.027		45.12		5.95		A3	On-Grade			C-1	10
																A4	On-Grade			C-2	15
																A5	On-Grade			C-1	10
Drainage Ditch (Left				Wetted									A6	On-Grade			C-1	10
	Proposed Min	Sideslope		Bottom	Тор		Perimeter		Slope (S)	Roughness		Q _{capacity}	V _{full flow}	100-Yr		A7	On-Grade			C-2	15
Cross-Section	Depth	(ft):1	(ft):1	Width	-	Area (A)	(P)	R=(A/P)	(ft/ft)	(n)	>>>>	(CFS)	(FPS)	Flow*	Capacity?	A8	On-Grade	0.0196	5.28	C-1	10
2-2	1.50) 3	3	8 1	10.00	8.25	5 10.49	0.787	0.0264	0.027		62.87	7.62	11.89	ə yes	A9	On-Grade	0.0196	1.59	С	5
																A10	On-Grade	0.0196	2.44	С	5
																A11	On-Grade	0.0283	2.31	С	5
Drainage Ditch C	apacity-OFFS	ITE 1B														A12	On-Grade	0.0283	6.79	C-1	10
	5		-	.eft	-		Wette					0	M	25% 100-Yr		A13	On-Grade	0.0283	2.31	С	5
Cross-Section	Proposed Dept			eslope Boti t):1 Wie	•		Perime (A) (P)	ter R=(A/P		Roughness (n)	>>>>	Q _{capacity} (CFS)	V _{full flow} (FPS)	Flow* + OFFSITE 1A	Capacity?	A14	On-Grade	0.0283	5.24	C-1	10
3-3		1.75	3	3			2.69 13			0.027		192.31		16.69	yes	A15	On-Grade	0.0138	11.68	C-2	15
															,	A16	On-Grade	0.0138	0.38	С	5
																A17	On-Grade	0.0138	9.41	C-2	15
Drainage Ditch C	apacity-OFFS			0										50% 400 V		A18	On-Grade	0.0138	1.72	С	5
	Proposed		-	eft slope Bott	om Top	1	Wette Perime		Slope (S)	Roughness		Q _{capacity}	$V_{fullflow}$	50% 100-Yr Flow* +		A19	On-Grade	0.0313	11.43	C-2	15
Cross-Section	Dept		•	t):1 Wi	•			R=(A/P		(n)	>>>>	(CFS)	(FPS)		Capacity?	A20	On-Grade	0.0313	6.39	C-1	10
4-4		1.75	3	3	2 12	.50 1	2.69 13	.07 0.97	1 0.0286	0.027		115.79	9.13	21.49	yes	A21	On-Grade	0.0313	4.25	С	5
																A22	On-Grade	0.0313	5.66	C-1	10
Drainago Ditch C	anacity OEES	ITE 1D														A23	On-Grade			C-1	10
Drainage Ditch C	αματιιγ-ΟΓΓ3		ght L	.eft			Wette	ed						100-Yr		A24	On-Grade			C	5
	-	d Min Side	slope Side	eslope Bot	-		Perime	ter		Roughness		$Q_{capacity}$	$V_{fullflow}$	Flow* +		A25	On-Grade			C	5
Cross-Section	Dept			t):1 Wi		h Area		R=(A/P		(n)	>>>>	(CFS)		OFFSITE 1A		A26	On-Grade			C-1	10
5-5		1.75	3	3	2 12	.50 1	2.69 13	.07 0.9	/1 0.0331	0.027		124.56	9.82	31.09	yes	A20	Sag	0.0313		C-2	15
																A27		0.0313		C-2	15
																AZO	Sag	0.0513	0.47	C-2	12

Segment	Flow Type	n	len	gth	slope Paved?	V, if req'd.>>>>	Time (hr) T	ime (min
	1 sheet		0.4	100	0.0350 no	N/A	0.23	14.02
	2 shallow			228	0.0460 no	3.460465	0.02	1.10
	3 shallow			287	0.0125 no	1.803892	0.04	2.65
				615				15.11

Weighted C-valu	ue Calculation: Offsite DA-2/	<u>A</u>	
Material	Acreage		C-Value
Pasture		2.35	0.35
		Weighted C:	0.35

Drainage Area	Area		Тс	С
OFFSITE DA-2A		2.35	15.11	

Drainage Area	Area		Тс	С
OFFSITE DA-2A		2.35	15.11	
Drainaga Calculatio	n_{r} (100 Vr)			

Drainage Calculat	<u>ions (100-Yr)</u>			
Drainage Area	Area		Тс	С
OFFSITE DA-2A		2.35	15.11	0.3

Drainage Ditch Capacity-OFFSITE 2A

	Proposed	Right	Left				Wetted		
	Min	Sideslope	Sideslope	Bottom	Тор		Perimeter		S
Cross-Section	Depth	(ft):1	(ft):1	Width	Width	Area (A)	(P)	R=(A/P)	
6-6	1.00	3	3	2	8.00	5.00	8.32	0.601	

5 Year Inlet Info

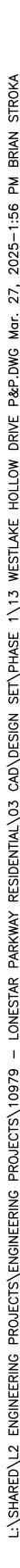
							Drainage	Total	Drainage							l.				
			Total				Area	Time of	Area Time	Total Time			Drainage			Culvert				
	Inlet/MH	Drainage	Drainage	Runoff	DA	Total	Time of	Conc.	of Conc.	of Conc.	Intensity		Area Flow	Total Flow	Number	Size		I	Perimeter	
t/MH From	То	Area	Area	Co. "C"	C*A	C*A	Conc.	(Min)	(Min)	(Min)	(1)	Cf	(cfs)	(cfs)	of Barrels	(ft)	Slope	Area (A)	(P)	R=(A/P)
HEADWALL #1	MH #22	3.02	2 3.02	0.35	1.06	1.06	17.20	17.20	17.20	17.20	5.25	1.00	5.55	5.55	1	1.5	0.021	1.77	4.71	0.375
MH #22	OUT	0.00	0 3.02	0.35	0.00	1.06	15.00	17.20	0.00	17.21	5.35	1.00	0.00	5.66	1	1.5	0.021	1.77	4.71	0.375
1	t/MH From HEADWALL#1	Inlet/MH t/MH From To HEADWALL#1 MH #22	Inlet/MH Drainage t/MH From To Area HEADWALL#1 MH #22 3.02	Total Inlet/MH Drainage Drainage t/MH From To Area Area HEADWALL #1 MH #22 3.02 3.02	Total Inlet/MH Drainage Drainage Runoff t/MH From To Area Area Co. "C" HEADWALL #1 MH #22 3.02 3.02 0.35	Total Inlet/MH Drainage Drainage Runoff DA t/MH From To Area Area Co. "C" C*A HEADWALL #1 MH #22 3.02 3.02 0.35 1.06	Total Inlet/MH Drainage Drainage Runoff DA Total t/MH From To Area Area Co. "C" C*A C*A HEADWALL #1 MH #22 3.02 3.02 0.35 1.06 1.06	Drainage Total Area Inlet/MH Drainage Drainage Runoff DA Total Time of t/MH From To Area Area Co. "C" C*A C*A Conc. HEADWALL #1 MH #22 3.02 3.02 0.35 1.06 1.06 17.20	Drainage Total Total Area Time of Inlet/MH Drainage Drainage Runoff DA Total Time of Conc. t/MH From To Area Area Co. "C" C*A C*A Conc. (Min) HEADWALL #1 MH #22 3.02 3.02 0.35 1.06 1.06 17.20 17.20	Drainage Total Drainage Total Area Time of Area Time Inlet/MH Drainage Drainage Runoff DA Total Time of Conc. of Conc. t/MH From To Area Area Co. "C" C*A C*A Conc. (Min) (Min) HEADWALL #1 MH #22 3.02 3.02 0.35 1.06 1.06 17.20 17.20 17.20	Drainage Total Drainage Total Area Time of Area Time Total Time Inlet/MH Drainage Drainage Runoff DA Total Time of Conc. of Conc. t/MH From To Area Area Co. "C" C*A C*A Conc. (Min) (Min) (Min) HEADWALL #1 MH #22 3.02 3.02 0.35 1.06 1.06 17.20 17.20 17.20 17.20	Drainage Total Drainage Total Total Drainage Inlet/MH Drainage Drainage Runoff DA Total Time of Conc. of Conc. of Conc. Intensity t/MH From To Area Area Co. "C" C*A C*A Conc. (Min) (Min) (Min) (I) HEADWALL #1 MH #22 3.02 3.02 0.35 1.06 1.06 17.20 17.20 17.20 17.20 5.25	Drainage Total Drainage Total Total Area Time of Area Time Total Time Inlet/MH Drainage Drainage Runoff DA Total Time of Conc. of Conc. of Conc. Intensity t/MH From To Area Area Co. "C" C*A C*A Conc. (Min) (Min) (Min) (I) Cf HEADWALL #1 MH #22 3.02 3.02 0.35 1.06 1.06 17.20 17.20 17.20 17.20 5.25 1.00	Drainage Total Drainage Total Drainage Inlet/MH Drainage Drainage Runoff DA Total Time of Conc. of Conc. Intensity Area Flow t/MH From To Area Area Co. "C" C*A C*A Conc. (Min) (Min) (Min) (I) Cf (cfs) HEADWALL #1 MH #22 3.02 3.02 0.35 1.06 1.06 17.20 17.20 17.20 17.20 5.25 1.00 5.55	Drainage Total Drainage Total Drainage Inlet/MH Drainage Drainage Runoff DA Total Time of Conc. of Conc. Intensity Area Flow Total Flow t/MH From To Area Area Co. "C" C*A C*A Conc. (Min) (Min) (Min) (I) Cf (cfs) (cfs) HEADWALL #1 MH #22 3.02 3.02 0.35 1.06 1.06 17.20 17.20 17.20 17.20 5.25 1.00 5.55 5.55	DrainageTotalDrainageTotalAreaTime ofArea Time ofArea TimeDrainageInlet/MHDrainageRunoffDATotalTime ofConc.of Conc.IntensityArea FlowTotal FlowNumbert/MHFromToAreaAreaCo. "C"C*AC*AConc.(Min)(Min)(I)Cf(cfs)of BarrelsHEADWALL #1MH #223.020.351.061.0617.2017.2017.205.251.005.555.551	Drainage Total Drainage Drainage Drainage Drainage Drainage Drainage Culvert Inlet/MH Drainage Runoff DA Total Time of Conc. of Conc. Intensity Area Flow Total Flow Number Size t/MH From To Area Co. "C" C*A C*A Conc. (Min) (Min) (I) Cf (cfs) of Barrels (ft) HEADWALL #1 MH #22 3.02 0.35 1.06 17.20 17.20 17.20 5.25 1.00 5.55 5.55 1 1.5	Drainage Total Drainage Drainage Total Area Time of Area Time Drainage Culvert Inlet/MH Drainage Runoff DA Total Time of Conc. of Conc. Intensity Area Flow Total Number Size t/MH From To Area Co. "C" C*A C*A Conc. (Min) (Min) (I) Cf (cfs) of Barrels (ft) Slope HEADWALL #1 MH #22 3.02 0.35 1.06 1.06 17.20 17.20 17.20 5.25 1.00 5.55 1 1.5 0.021	Drainage Total Drainage Drainage Total Area Time of Area Time Total Time Drainage Culvert Inlet/MH Drainage Runoff DA Total Time of Conc. of Conc. of Conc. Intensity Area Flow Total Flow Number Size Flow t/MH From To Area Co. CMin (Min) (Min) (I) Cf (cfs) (cfs) (ft) Slope Area (A) HEADWALL #1 MH #22 3.02 0.35 1.06 17.20 17.20 17.20 5.25 1.00 5.55 1 1.5 0.021 1.77	Drainage Total Drainage Total Area Time of Area Time of Area Time Drainage Culvert Inlet/MH Drainage Runoff DA Total Time of Conc. of Conc. Intensity Area Flow Total Flow Number Size Perimeter t/MH From To Area Co. "C" C*A C*A Conc. (Min) (Min) (I) Cf (cfs) of Barrels (ft) Slope Area (A) (P) HEADWALL #1 MH #22 3.02 0.35 1.06 1.06 17.20 17.20 17.20 5.25 1.00 5.55 1 1.5 0.021 1.77 4.71

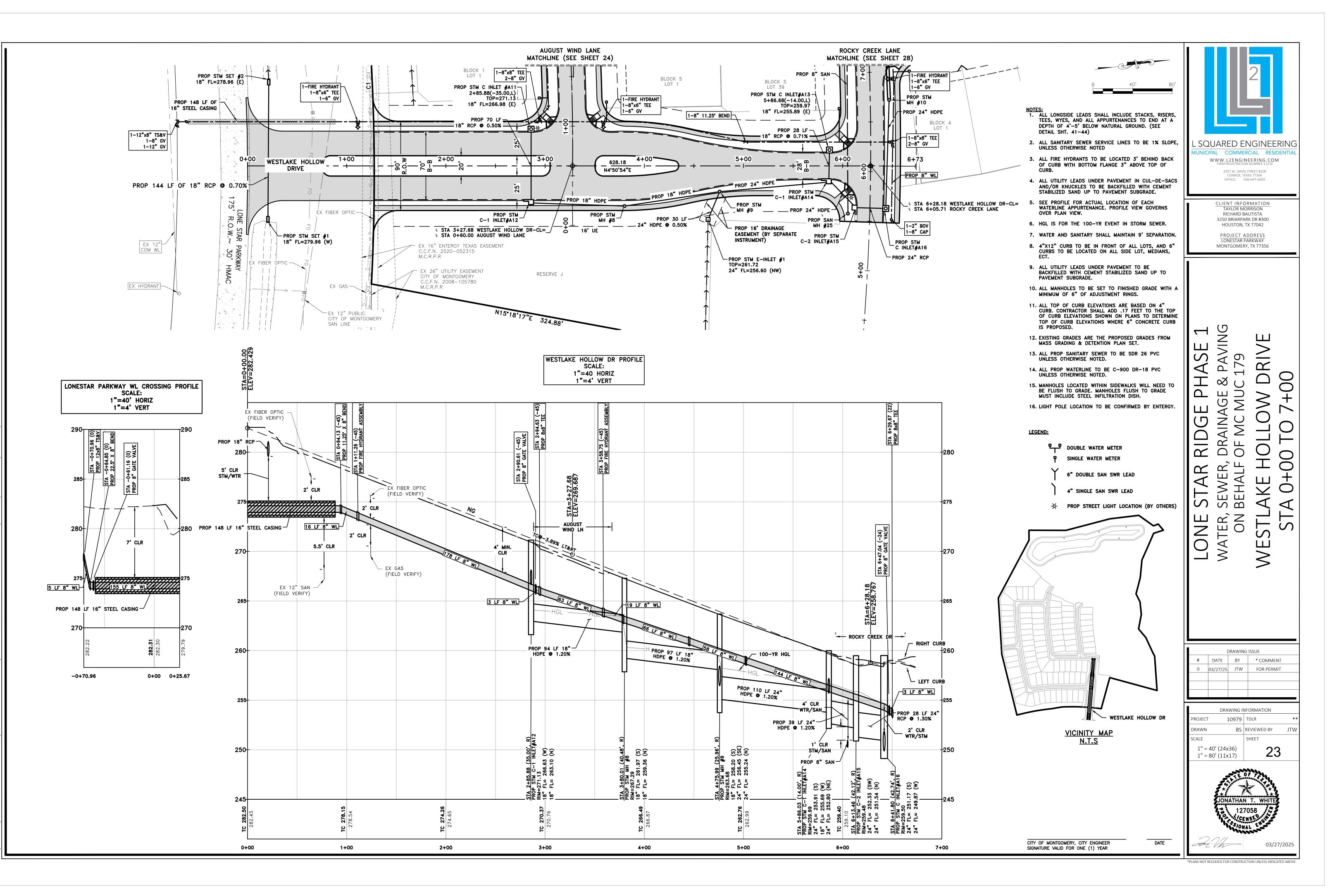
100 Year

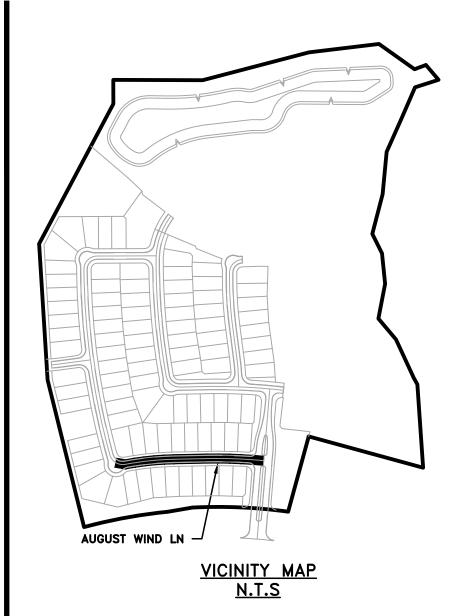
100 1641																															
Inlet Info																												HGL			
								Drainage	Total	Drainage																			E	levation	
			Total					Area	Time of	Area Time	Total Time			Drainage														Change	Hydraulic o	of Hyd.	Elevation of
	Inlet/N	1H Draina	age Drainag	e Run	noff	DA	Total	Time of	Conc.	of Conc.	of Conc.	Intensity		Area Flow	Total Flow	Number	Diameter			Perimeter		Length	Roughness	Q _{capacity}	$V_{fullflow}$	Upstream	Downstream	In Head	Gradeline	Grad.	Hyd. Grad.
Inlet/MH From	То	Area	Area	Co.	"C" (C*A	C*A	Conc.	(Min)	(Min)	(Min)	(1)	Cf	(cfs)	(cfs)	of Barrels	(ft)	Slope	Area (A)	(P)	R=(A/P)	(ft)	(n)	(CFS)	(FPS)	FL	FL	(ft)	% U	pstream [Downstream(ft)
HEADWALL #	#1 MH#	‡ 22 3	3.02 3.)2	0.35	1.06	1.06	17.20	17.20	17.20	17.20	9.00	1.25	11.89	11.89	1	1.5	0.021	. 1.77	4.71	0.375	28	0.013	15.11	8.55	259.52	258.94	0.36	1.28	260.80	260.44
MH #2	22 O	UT (0.00 3.)2	0.35	0.00	1.06	15.00	17.20	0.00	17.21	9.00	1.25	0.00	11.89	1	1.5	0.021	. 1.77	4.71	0.375	88	0.013	15.10	8.55	258.59	256.77	1.13	1.28	259.40	258.27
																															258.27

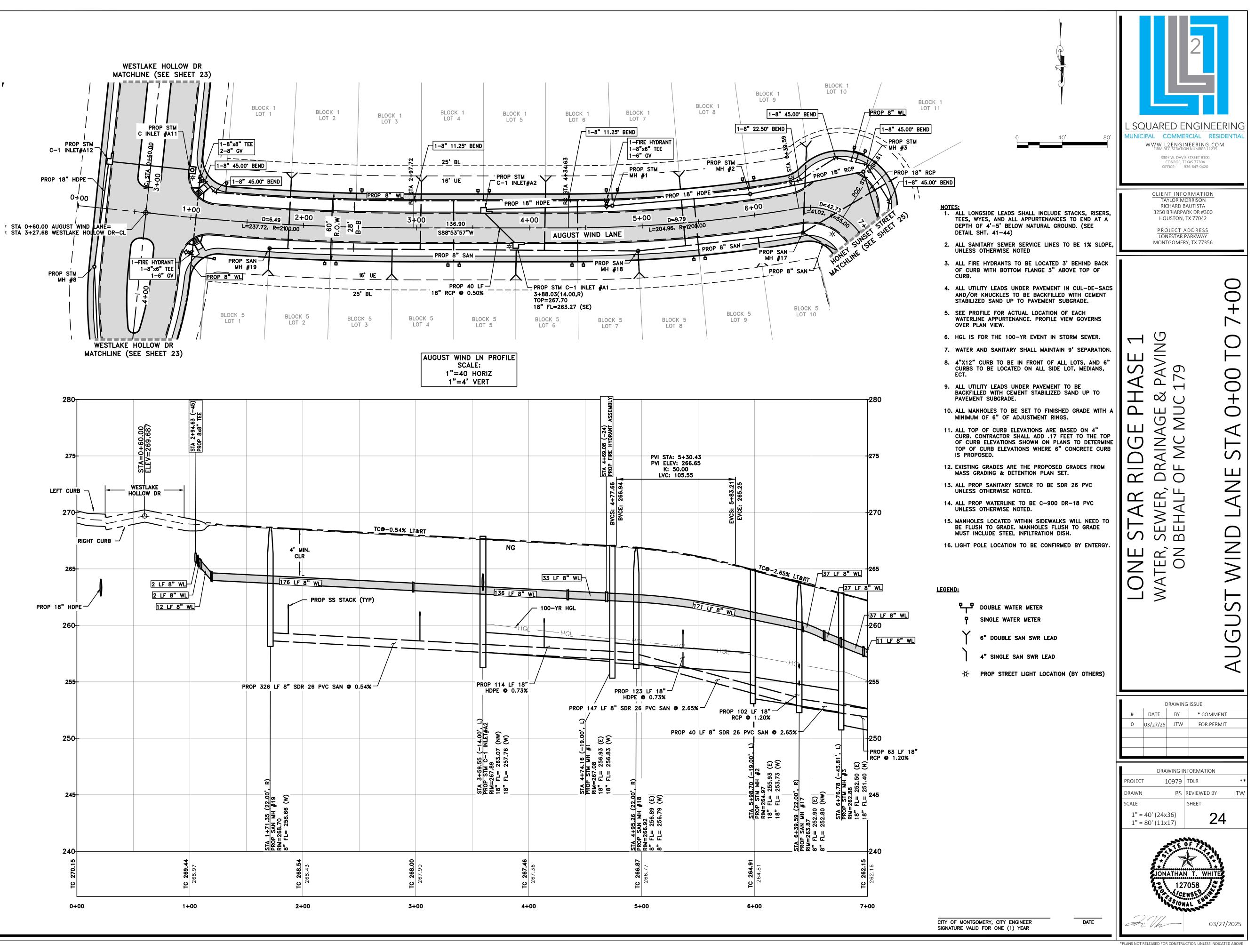
	LISOUARED ENGINE MUNICIPAL COMMERCIAL RES SUBJECT ADDRESS DORROF, TX 77042 CONROC, TEXAS 7730 OFFICE: 936-647-0420	SIDENTIAL
on of Grad. eam(ft) 260.44 258.27 258.27 258.27 on of Grad. eam(ft) 260.44 258.27 258.27 258.27	LONE STAR RIDGE PHASE 1 WATER, SEWER, DRAINAGE & PAVING ON BEHALF OF MC MUC 179	DRAINAGE CALCULATIONS 3 OF 3
	DRAWING ISSUE # DATE BY * COMM 0 03/27/25 JTW FOR PER	
	DRAWING INFORMATION PROJECT 10979 TDLR DRAWN BS REVIEWED BY SCALE SHEET 2	** JTW 2
	JONATHAN T. WHIT 127058 C. S. CENSE S. CENSE S. CONAL	
DATE	*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INE	/27/2025

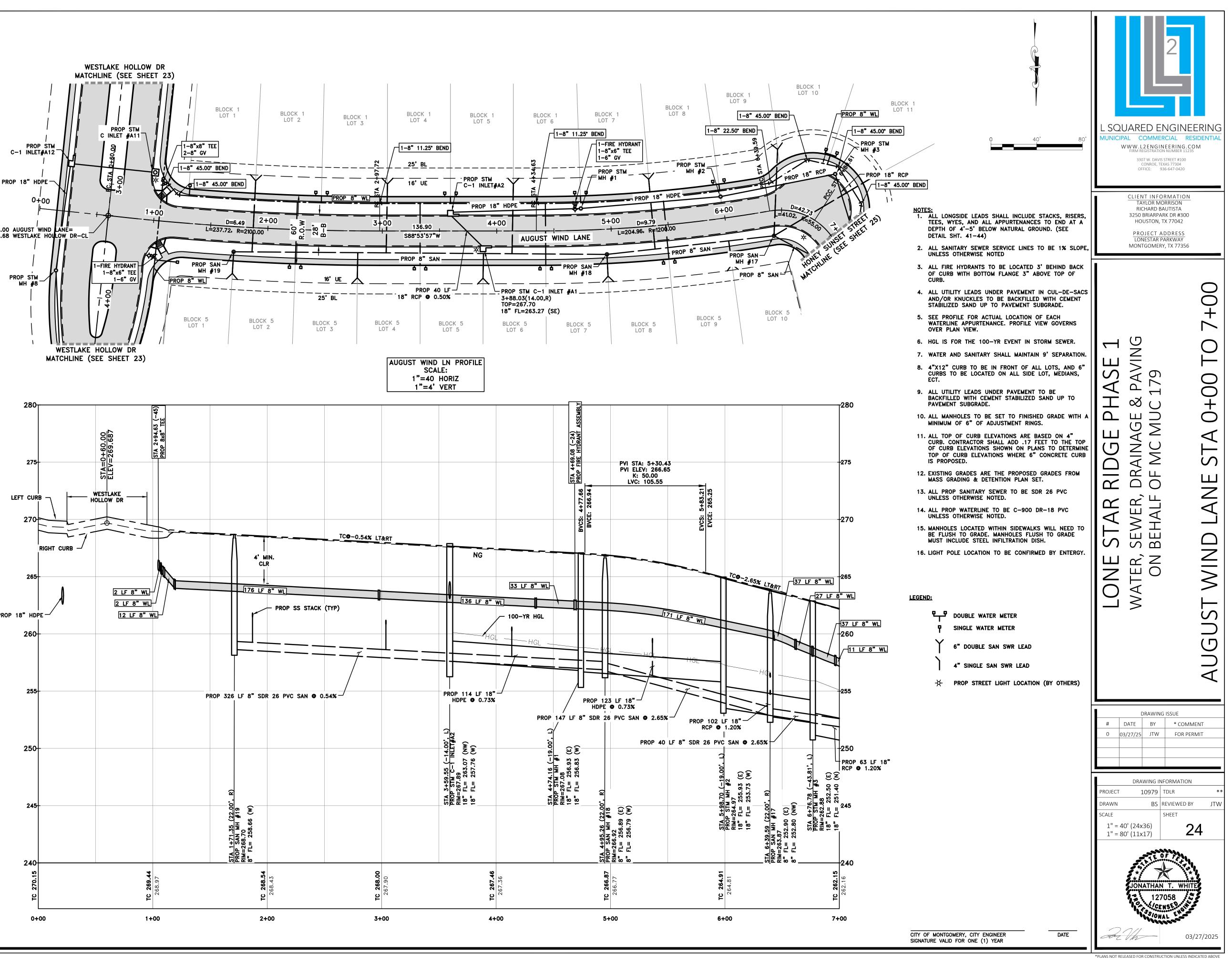
		I		C _f		Q								
	0.35		5.62		1		4.6	52						
						1								
		I		C _f		Q								
	0.35		7.78		1.1		7.0)4						
		I		C _f		Q								
	0.35		9.70		1.25		9.9	97						
	Slop	o (S)	Poug	22000			0		V		100-Y	~		
/P)	Slop (ft/	• •	Rougł (r		>>>		Q _{capa} (CFS			ull flow PS)	Flow		acity?	
<u>, ,</u> 601		0.004	<u>(</u> ,	., 0.027		-	-	2.39		2.48			yes	
													<u> </u>	
										HGL		Elevation		
										Change	Hydraulic		Elevation	۱of
	Length	Rough	ness C	capacity	$V_{\rm fullflow}$	Upstre	eam D	ownstre	eam	In Head	Gradeline	Grad.	Hyd. Gra	ad.
/P)	(ft)	(n)	(CFS)	(FPS)	FL		FL		(ft)	%	Upstream	Downstrea	m(ft)
375	28		0.013	15.11	8.5		9.52		8.94	0.08		260.52		60.44
375	88	8	0.013	15.10	8.5	5 25	8.59	25	6.77	0.26	0.29	258.53		58.27
													25	58.27



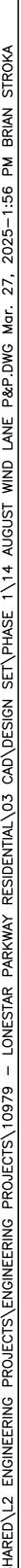


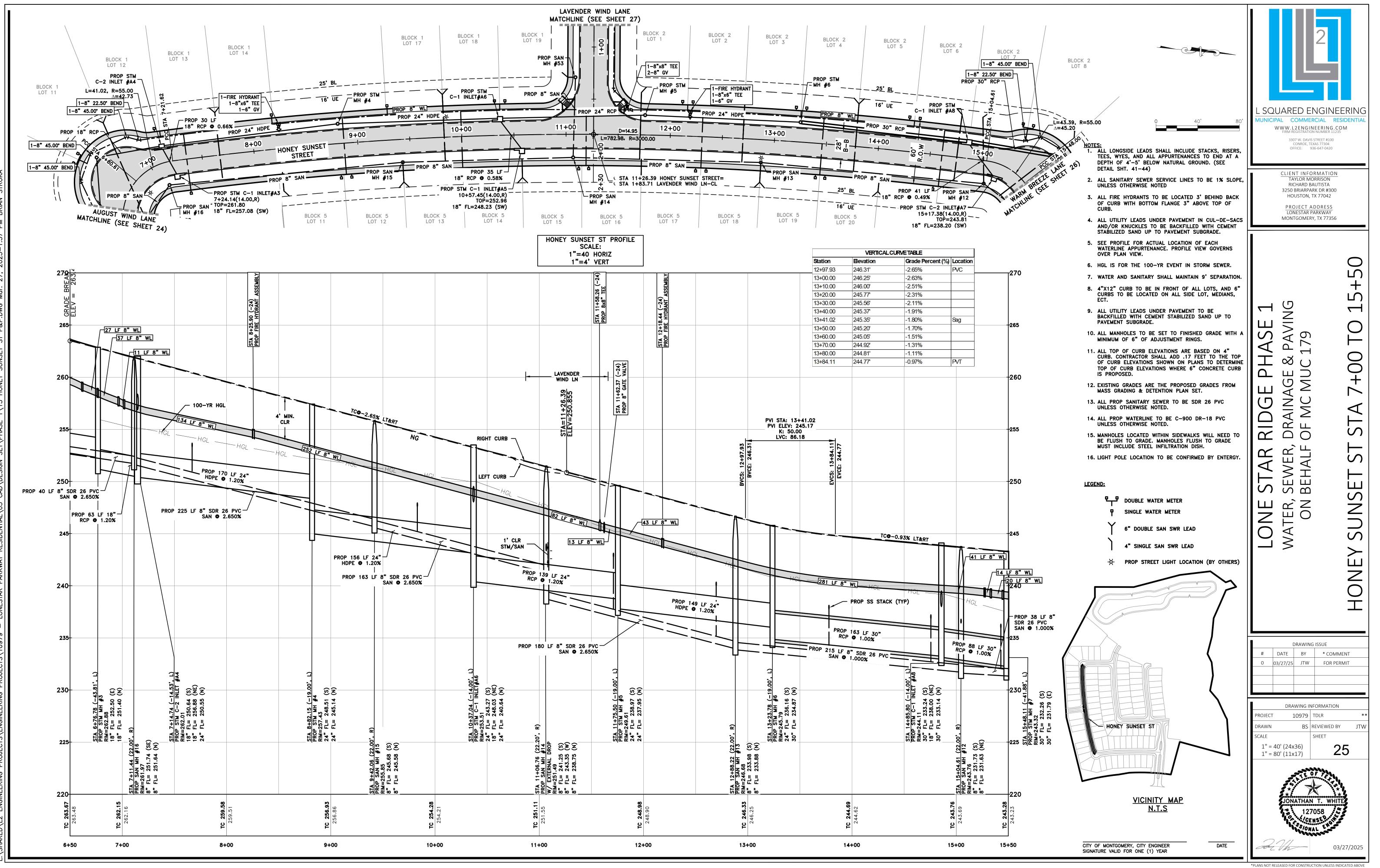






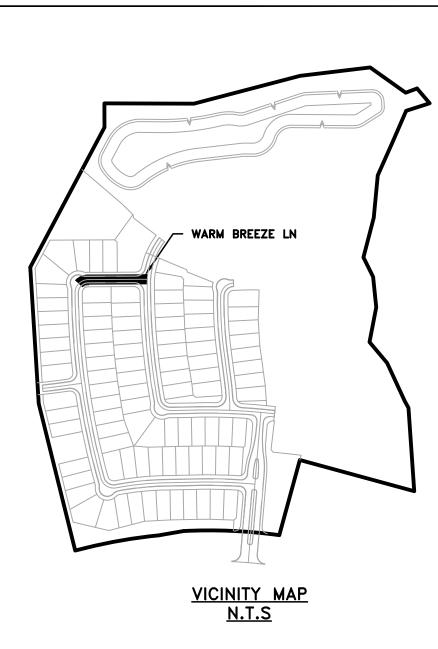
	VERTICAL	CURVE TABLE	
Station	Bevation	Grade Percent (%)	Location
4+77.66	266.94'	-0.54%	PVC
4+80.00	266.92'	-0.56%	
4+90.00	266.85'	-0.69%	
5+00.00	266.77	-0.89%	
5+10.00	266.66'	-1.09%	
5+20.00	266.53'	-1.29%	
5+30.00	266.38'	-1.49%	
5+30.43	266.37	-1.59%	Crest
5+40.00	266.21'	-1.69%	
5+50.00	266.02'	-1.89%	
5+60.00	265.81'	-2.09%	
5+70.00	265.59'	-2.29%	
5+80.00	265.34'	-2.49%	
5+83.21	265.25'	-2.62%	PVT

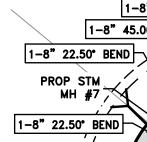


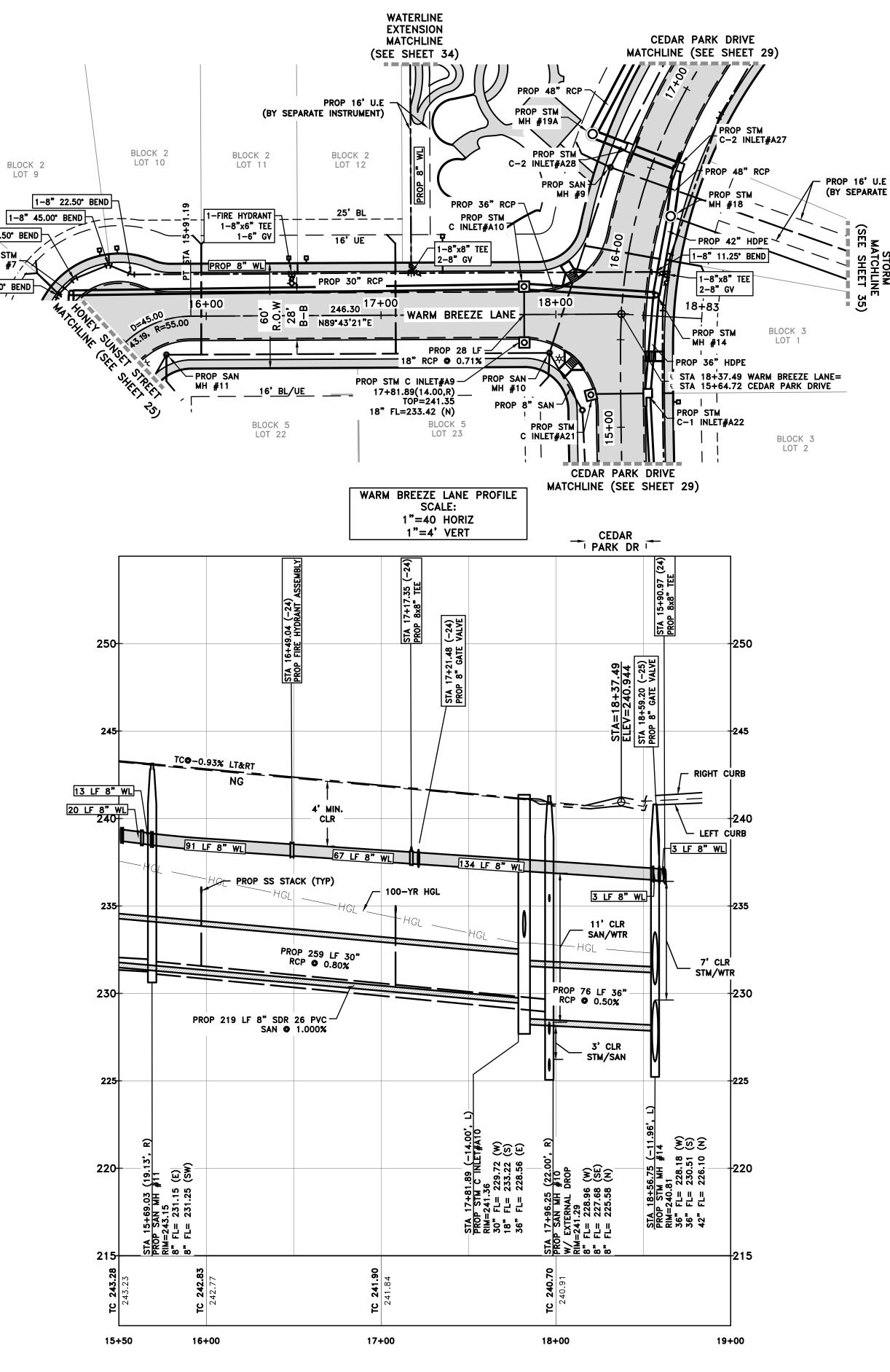












INSTRUMENT)	

(SEE SHEET 33)	SEWER EXTENSION MATCHLINE
----------------	---------------------------------

NOTES: 1. ALL LONGSIDE LEADS SHALL INCLUDE STACKS, RISERS, TEES, WYES, AND ALL APPURTENANCES TO END AT A DEPTH OF 4'-5' BELOW NATURAL GROUND. (SEE DETAIL SHT. 41-44)

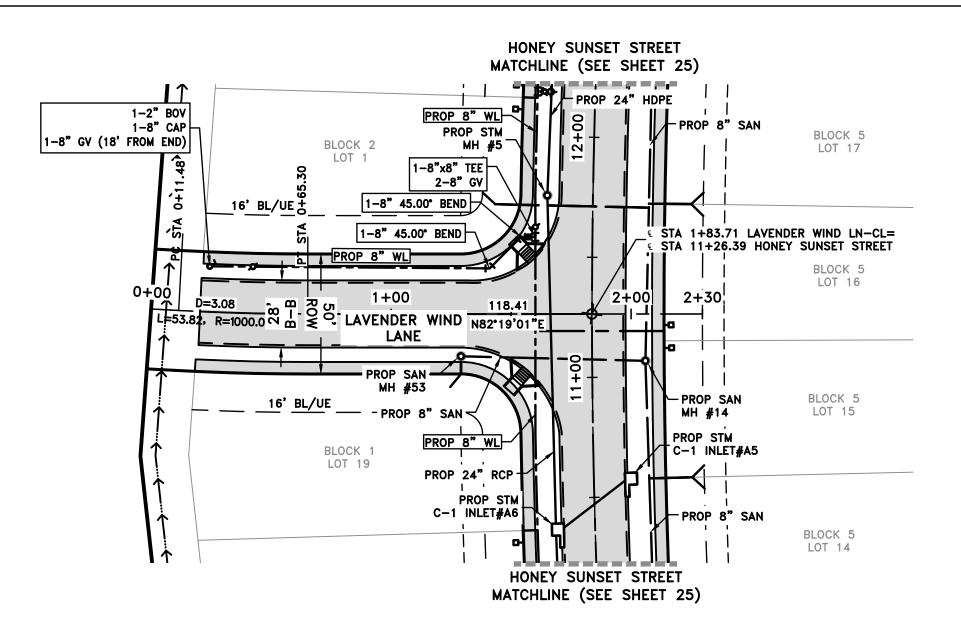
- 2. ALL SANITARY SEWER SERVICE LINES TO BE 1% SLOPE, UNLESS OTHERWISE NOTED
- 3. ALL FIRE HYDRANTS TO BE LOCATED 3' BEHIND BACK OF CURB WITH BOTTOM FLANGE 3" ABOVE TOP OF CURB.
- 4. ALL UTILITY LEADS UNDER PAVEMENT IN CUL-DE-SACS AND/OR KNUCKLES TO BE BACKFILLED WITH CEMENT STABILIZED SAND UP TO PAVEMENT SUBGRADE.
- 5. SEE PROFILE FOR ACTUAL LOCATION OF EACH WATERLINE APPURTENANCE. PROFILE VIEW GOVERNS OVER PLAN VIEW.
- 6. HGL IS FOR THE 100-YR EVENT IN STORM SEWER.
- 7. WATER AND SANITARY SHALL MAINTAIN 9' SEPARATION
- 8. 4"X12" CURB TO BE IN FRONT OF ALL LOTS, AND 6 CURBS TO BE LOCATED ON ALL SIDE LOT, MEDIANS, ECT.
- 9. ALL UTILITY LEADS UNDER PAVEMENT TO BE BACKFILLED WITH CEMENT STABILIZED SAND UP TO PAVEMENT SUBGRADE.
- 10. ALL MANHOLES TO BE SET TO FINISHED GRADE WITH MINIMUM OF 6" OF ADJUSTMENT RINGS.
- 11. ALL TOP OF CURB ELEVATIONS ARE BASED ON 4" CURB. CONTRACTOR SHALL ADD .17 FEET TO THE TOP OF CURB ELEVATIONS SHOWN ON PLANS TO DETERMINE TOP OF CURB ELEVATIONS WHERE 6" CONCRETE CURB IS PROPOSED.
- 12. EXISTING GRADES ARE THE PROPOSED GRADES FROM MASS GRADING & DETENTION PLAN SET.
- 13. ALL PROP SANITARY SEWER TO BE SDR 26 PVC UNLESS OTHERWISE NOTED.
- 14. ALL PROP WATERLINE TO BE C-900 DR-18 PVC UNLESS OTHERWISE NOTED.
- 15. MANHOLES LOCATED WITHIN SIDEWALKS WILL NEED TO BE FLUSH TO GRADE. MANHOLES FLUSH TO GRADE MUST INCLUDE STEEL INFILTRATION DISH.
- 16. LIGHT POLE LOCATION TO BE CONFIRMED BY ENTERGY.

LEGEND:

- 면다. DOUBLE WATER METER
- SINGLE WATER METER

- 6" DOUBLE SAN SWR LEAD
- 4" SINGLE SAN SWR LEAD
- -X- PROP STREET LIGHT LOCATION (BY OTHERS)

40' 80'	Image: Constant of the second state
TACKS, RISERS, TO END AT A IND. (SEE D BE 1% SLOPE,	CLIENT INFORMATION TAYLOR MORRISON RICHARD BAUTISTA 3250 BRIARPARK DR #300 HOUSTON, TX 77042 <u>PROJECT ADDRESS</u> LONESTAR PARKWAY
BEHIND BACK DVE TOP OF	LONESTAR PARKWAY MONTGOMERY, TX 77356
A CUL-DE-SACS WITH CEMENT BGRADE. FEACH EW GOVERNS DRM SEWER. 9' SEPARATION. LOTS, AND 6" OT, MEDIANS, O BE AND UP TO O GRADE WITH A SED ON 4" ET TO THE TOP S TO DETERMINE CONCRETE CURB GRADES FROM 26 PVC 2-18 PVC WILL NEED TO 1 TO GRADE 1. D BY ENTERGY. D FION (BY OTHERS)	LONE STAR RIDGE PHASE 1 WATER, SEWER, DRAINAGE & PAVING ON BEHALF OF MC MUC 179 VARM BREEZE LANE STA 15+50 TO 19+00
	\triangleleft
-	DRAWING ISSUE # DATE BY * COMMENT 0 03/27/25 JTW FOR PERMIT
	DRAWING INFORMATION PROJECT 10979 TDLR ** DRAWN BS REVIEWED BY JTW SCALE SHEET 1" = 40' (24x36) 1" = 80' (11x17) 26
DATE	1 - 30 (11X17) 0



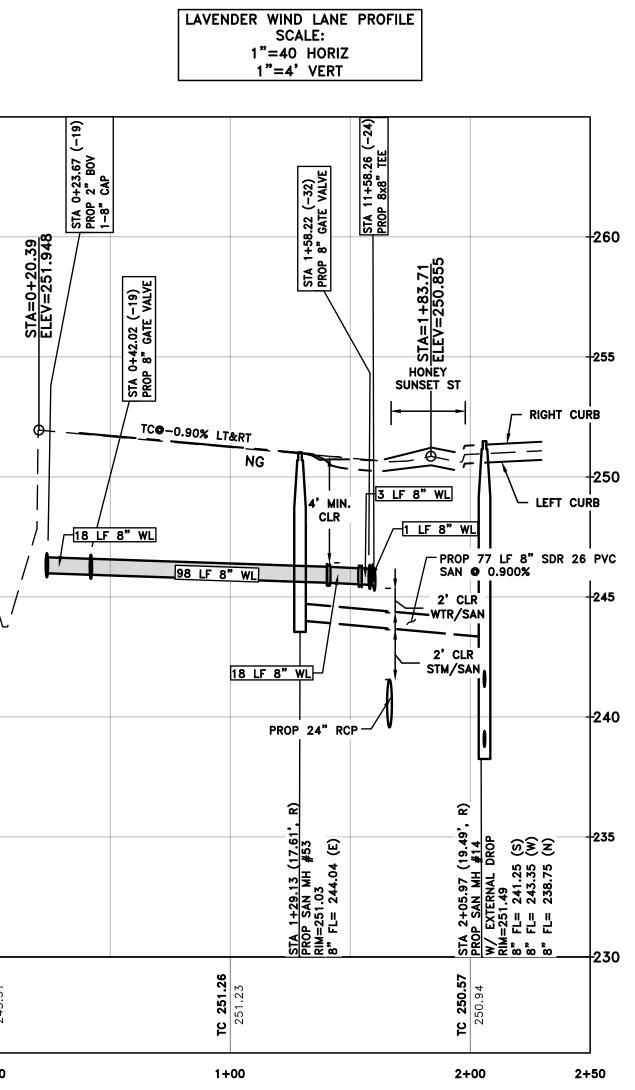


260

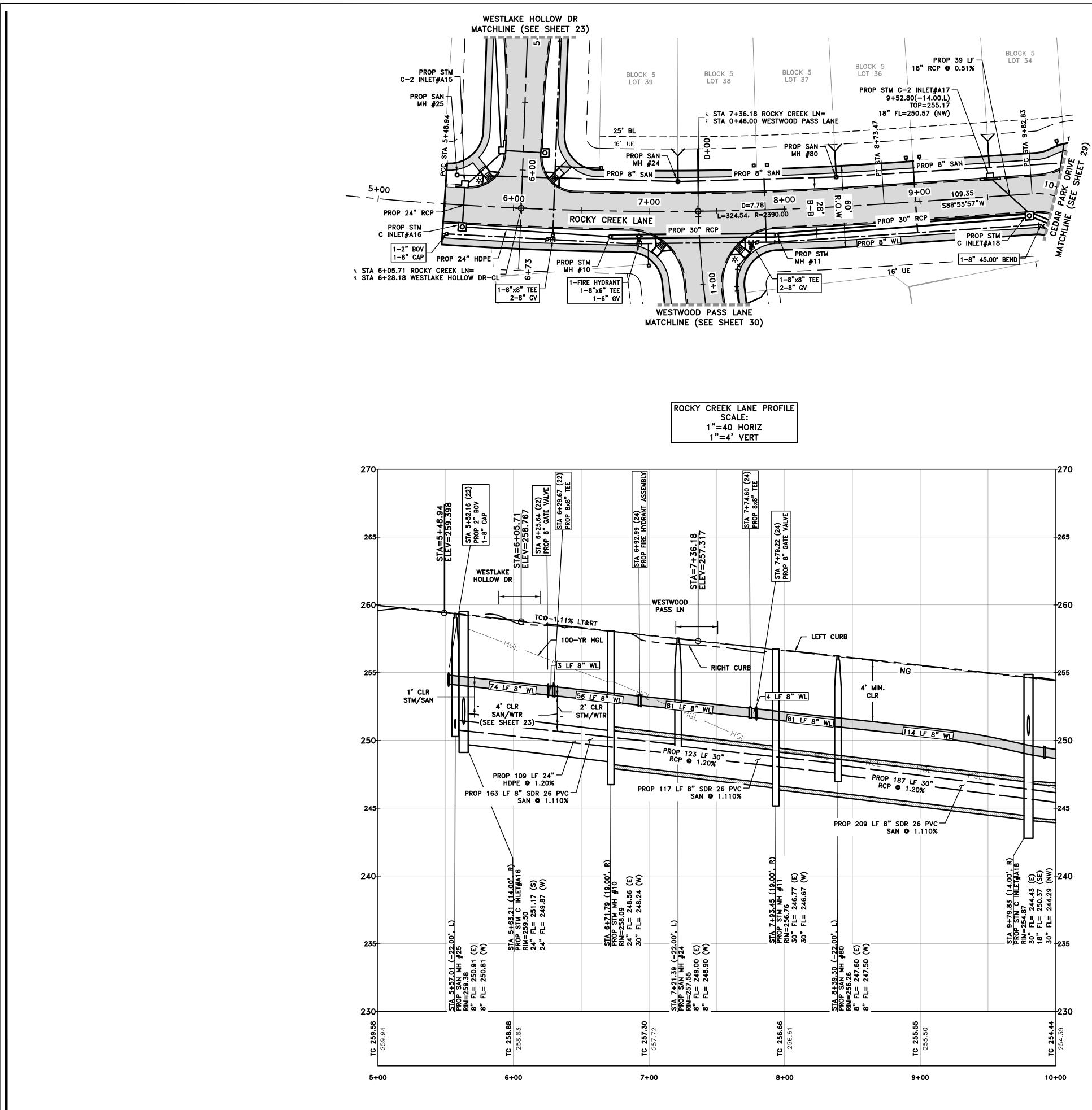
235-230-

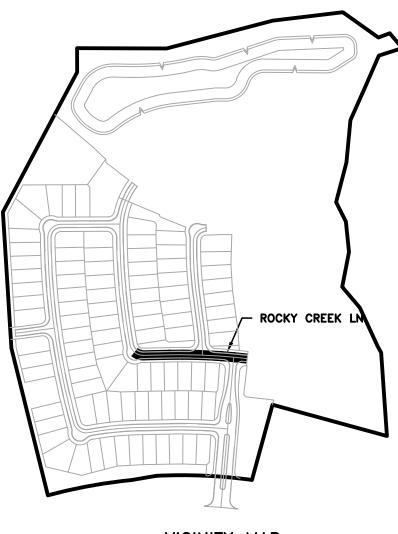
באד ד**ר** 10

0+00



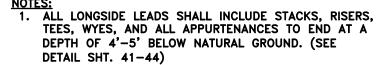
NOTES: 1. ALL LONGSIDE LEADS SHALL INCLUDE STACKS, RISERS, TEES, WYES, AND ALL APPURTENANCES TO END AT A DEPTH OF 4'-5' BELOW NATURAL GROUND. (SEE DETAIL SHT. 41-44) 2. ALL SANITARY SEVER SERVICE LINES TO BE 1% SLOPE, UNLESS OTHERWISE NOTED 3. ALL FIRE HYDRANTS TO BE LOCATED 3' BEHIND BACK OF CURB WITH BOTTOM FLANGE 3'' ABOVE TOP OF CURB. 4. ALL UTILITY LEADS UNDER PAVEMENT IN CUL-DE-SACS AND/OR KNUCKLES TO BE BACKFILLED WITH CEMENT STABILIZED SAND UP TO PAVEMENT SUBGRADE. 5. SEE PROFILE FOR ACTUAL LOCATION OF EACH WATERLINE APPURTENANCE. PROFILE VIEW GOVERNS OVER PLAN VIEW.	<image/>
 HGL IS FOR THE 100-YR EVENT IN STORM SEWER. WATER AND SANITARY SHALL MAINTAIN 9' SEPARATION. 4"X12" CURB TO BE IN FRONT OF ALL LOTS, AND 6" CURBS TO BE LOCATED ON ALL SIDE LOT, MEDIANS, ECT. ALL UTILITY LEADS UNDER PAVEMENT TO BE BACKFILLED WITH CHEMENT STABILIZED SAND UP TO PAVEMENT SUBGRADE. ALL MANHOLES TO BE SET TO FINISHED GRADE WITH A MINIMUM OF 6" OF ADJUSTMENT RINGS. ALL TOP OF CURB ELEVATIONS WHERE 6" CONCRETE CURB IS PROPOSED. LXISTING GRADES ARE THE PROPOSED GRADES FROM MASS GRADING & DETENTION PLAN STOLETENINKE TO POF CURB ELEVATIONS WHERE 6" CONCRETE CURB US SOFTERWISE NOTED. LXISTING GRADES ARE THE PROPOSED GRADES FROM MASS GRADING & DETENTION PLAN SET. ALL PROP SANITARY SEWER TO BE SDR 26 PVC UNLESS OTHERWISE NOTED. ALL PROP SANITARY SEWER TO BE SDR 26 PVC UNLESS OTHERWISE NOTED. ALL PROP SANITARY SEWER TO BE CO-900 DR-18 PVC UNLESS OTHERWISE NOTED. MAINHOLES LOCATED WITHIN SIDEWALKS WILL NEED TO BE FLUSH TO GRADE MAINHOLES FLUSH TO GRADE MAINHOLES FLUSH TO GRADE MUST INCLUDE STEEL INFLITATION DISH. LIGHT POLE LOCATION TO BE CONFIRMED BY ENTERGY. LIGHT POLE LOCATION TO BE CONFIRMED BY ENTERGY. HEGENDE G" DOUBLE WATER METER G " DOUBLE SAN SWR LEAD * PROP STREET LIGHT LOCATION (BY OTHERS) 	LONE STAR RIDGE PHASE 1 WATER, SEWER, DRAINAGE & PAVING ON BEHALF OF MC MUC 179 AVENDER WIND LANE STA 0+00 TO 2+50
LAVENDER WIND LN	DRAWING ISSUE # DATE BY * COMMENT 0 03/27/25 JTW FOR PERMIT 0 03/27/25 JTW FOR PERMIT 0 03/27/25 JTW FOR PERMIT 0 DRAWING INFORMATION EVIEWED BY JTW 0 DRAWING INFORMATION BS REVIEWED BY JTW 0 DRAWN BS REVIEWED BY JTW SCALE SHEET 1" = 40' (24x36) SHEET 1" = 80' (11x17) 27 1000000000000000000000000000000000000
VICINITY MAP N.T.S CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR	JONATHAN T. WHITE JONATHAN T. WHITE 127058 CENSE JONAL SOMAL US/27/2025





VICINITY MAP

<u>N.T.S</u>



- 2. ALL SANITARY SEWER SERVICE LINE UNLESS OTHERWISE NOTED
- 3. ALL FIRE HYDRANTS TO BE LOCATED OF CURB WITH BOTTOM FLANGE 3" CURB.
- 4. ALL UTILITY LEADS UNDER PAVEMEN AND/OR KNUCKLES TO BE BACKFILL STABILIZED SAND UP TO PAVEMENT
- 5. SEE PROFILE FOR ACTUAL LOCATION WATERLINE APPURTENANCE. PROFILE OVER PLAN VIEW.
- 6. HGL IS FOR THE 100-YR EVENT IN
- 7. WATER AND SANITARY SHALL MAINT
- 8. 4"X12" CURB TO BE IN FRONT OF CURBS TO BE LOCATED ON ALL SID ECT.
- 9. ALL UTILITY LEADS UNDER PAVEMEN BACKFILLED WITH CEMENT STABILIZE PAVEMENT SUBGRADE.
- 10. ALL MANHOLES TO BE SET TO FINIS MINIMUM OF 6" OF ADJUSTMENT RI
- 11. ALL TOP OF CURB ELEVATIONS ARE CURB. CONTRACTOR SHALL ADD .17 OF CURB ELEVATIONS SHOWN ON TOP OF CURB ELEVATIONS WHERE IS PROPOSED.
- 12. EXISTING GRADES ARE THE PROPOSE MASS GRADING & DETENTION PLAN
- 13. ALL PROP SANITARY SEWER TO BE UNLESS OTHERWISE NOTED.
- 14. ALL PROP WATERLINE TO BE C-900 UNLESS OTHERWISE NOTED.
- 15. MANHOLES LOCATED WITHIN SIDEWA BE FLUSH TO GRADE. MANHOLES F MUST INCLUDE STEEL INFILTRATION
- 16. LIGHT POLE LOCATION TO BE CONFIR

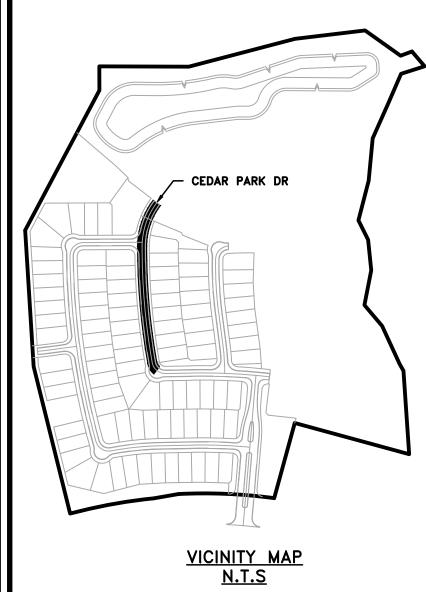
LEGEND:

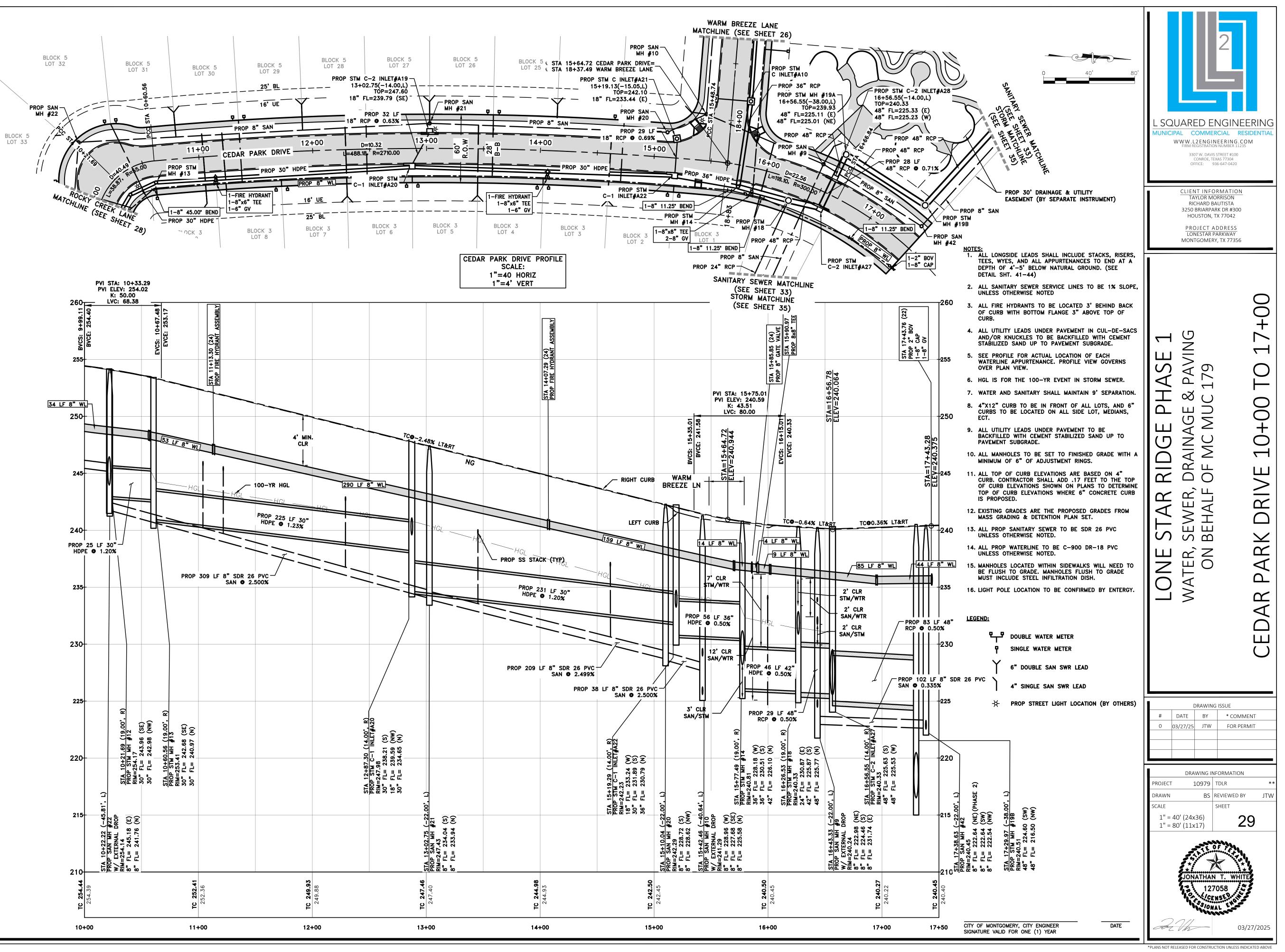
- DOUBLE WATER METER
- SINGLE WATER METER
- 6" DOUBLE SAN SWR LEA
- 4" SINGLE SAN SWR LEA

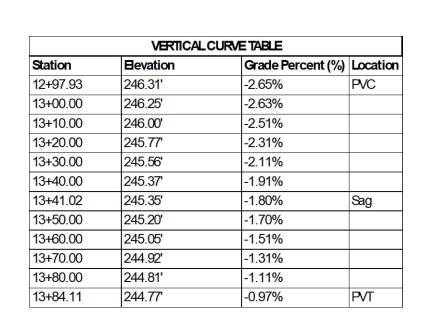
CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR

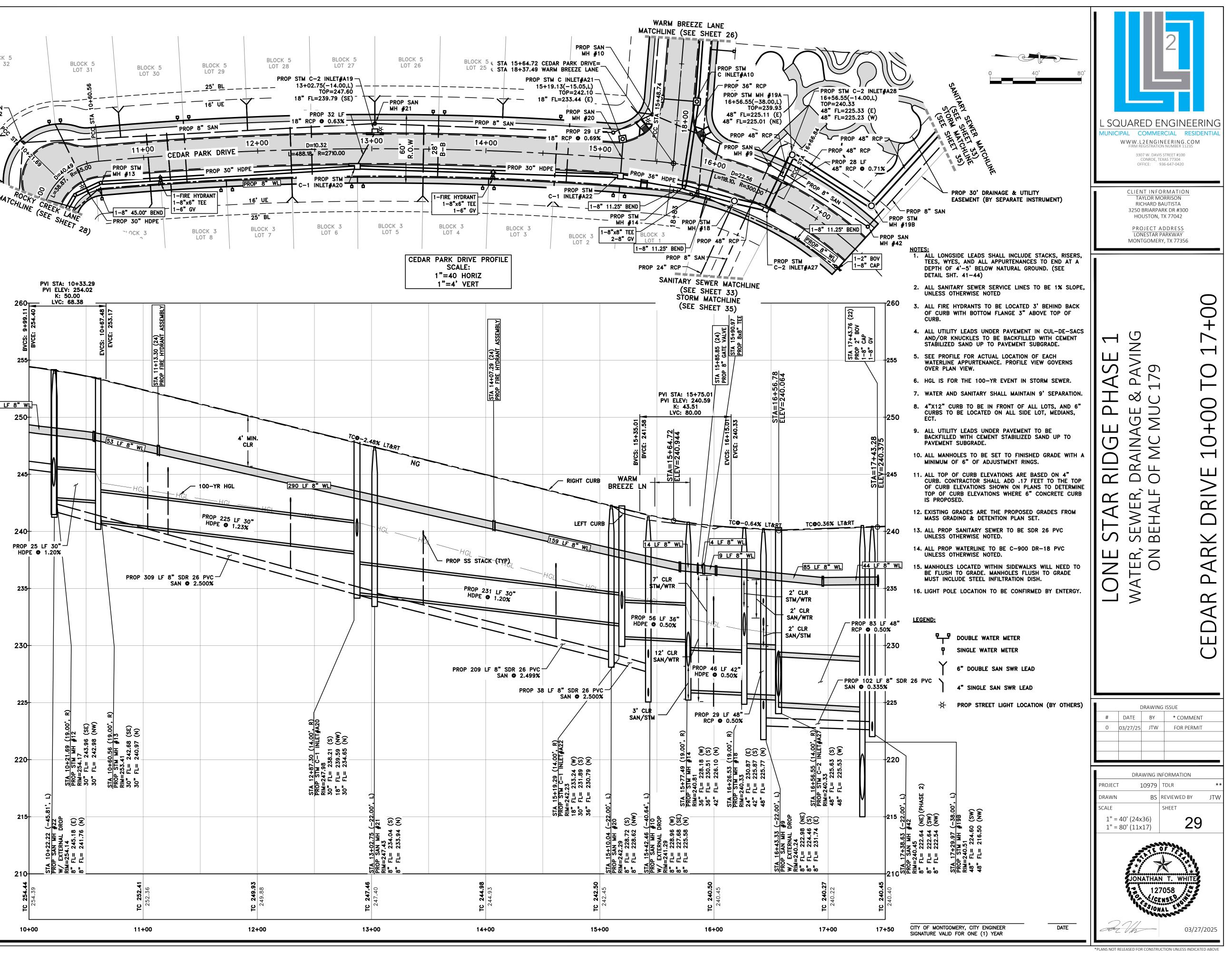
-X- PROP STREET LIGHT LOCA

40' 80' DE STACKS, RISERS, NCES TO END AT A GROUND. (SEE ES TO BE 1% SLOPE,	LSOUARED ENGINEERING MUNICIPAL COMMERCIAL RESIDENTIAL MUNICIPAL COMMERCIAL REGISTRATION NUMBER 11235 MUNICIPAL COMPORTERATION NUMBER 11235			
ED 3' BEHIND BACK ' ABOVE TOP OF NT IN CUL-DE-SACS	HOUSTON, TX 77042 PROJECT ADDRES LONESTAR PARKWAY MONTGOMERY, TX 773	<u>S</u>		
LLED WITH CEMENT r SUBGRADE. N OF EACH E VIEW GOVERNS N STORM SEWER. TAIN 9' SEPARATION. ALL LOTS, AND 6" DE LOT, MEDIANS, NT TO BE ED SAND UP TO ISHED GRADE WITH A RNGS. E BASED ON 4" 7 FEET TO THE TOP PLANS TO DETERMINE 6" CONCRETE CURB SED GRADES FROM SET. SDR 26 PVC 10 DR-18 PVC ALKS WILL NEED TO CLUSH TO GRADE DISH. FIRMED BY ENTERGY. EAD AD CATION (BY OTHERS)	LONE STAR RIDGE PHASE 1 WATER, SEWER, DRAINAGE & PAVING ON BEHALF OF MC MUC 179	ROCKY CREEK LANE STA 5+00 TO 10+00		
		OMMENT R PERMIT		
 DATE	DRAWING INFORMAT PROJECT 10979 TDLR DRAWN BS REVIEWE SCALE SHEET 1" = 40' (24x36) 1" = 80' (11x17) JONATHAN T. W 127058 CENSE SIONAL	**		
	*PLANS NOT RELEASED FOR CONSTRUCTION UNLE	ESS INDICATED ABOVE		

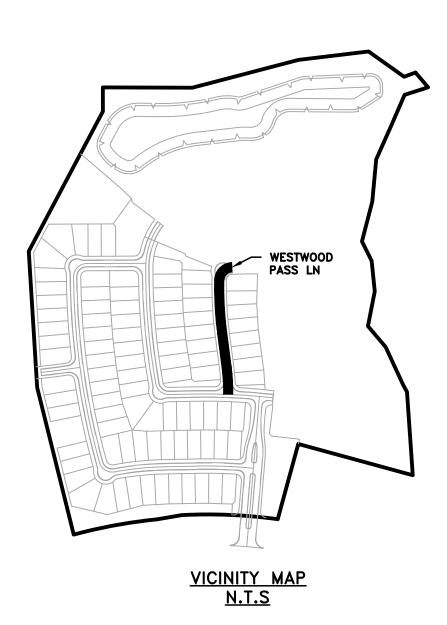


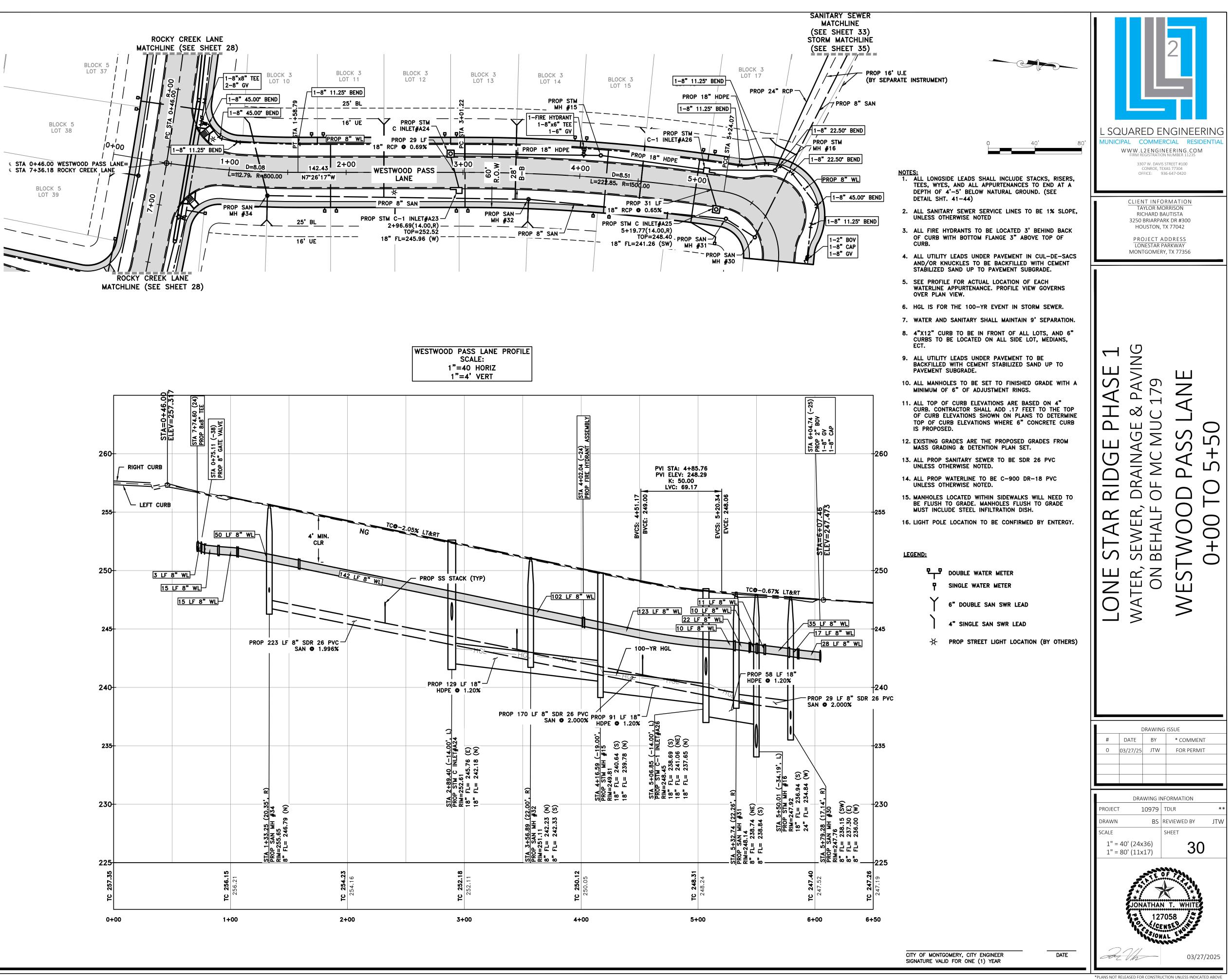




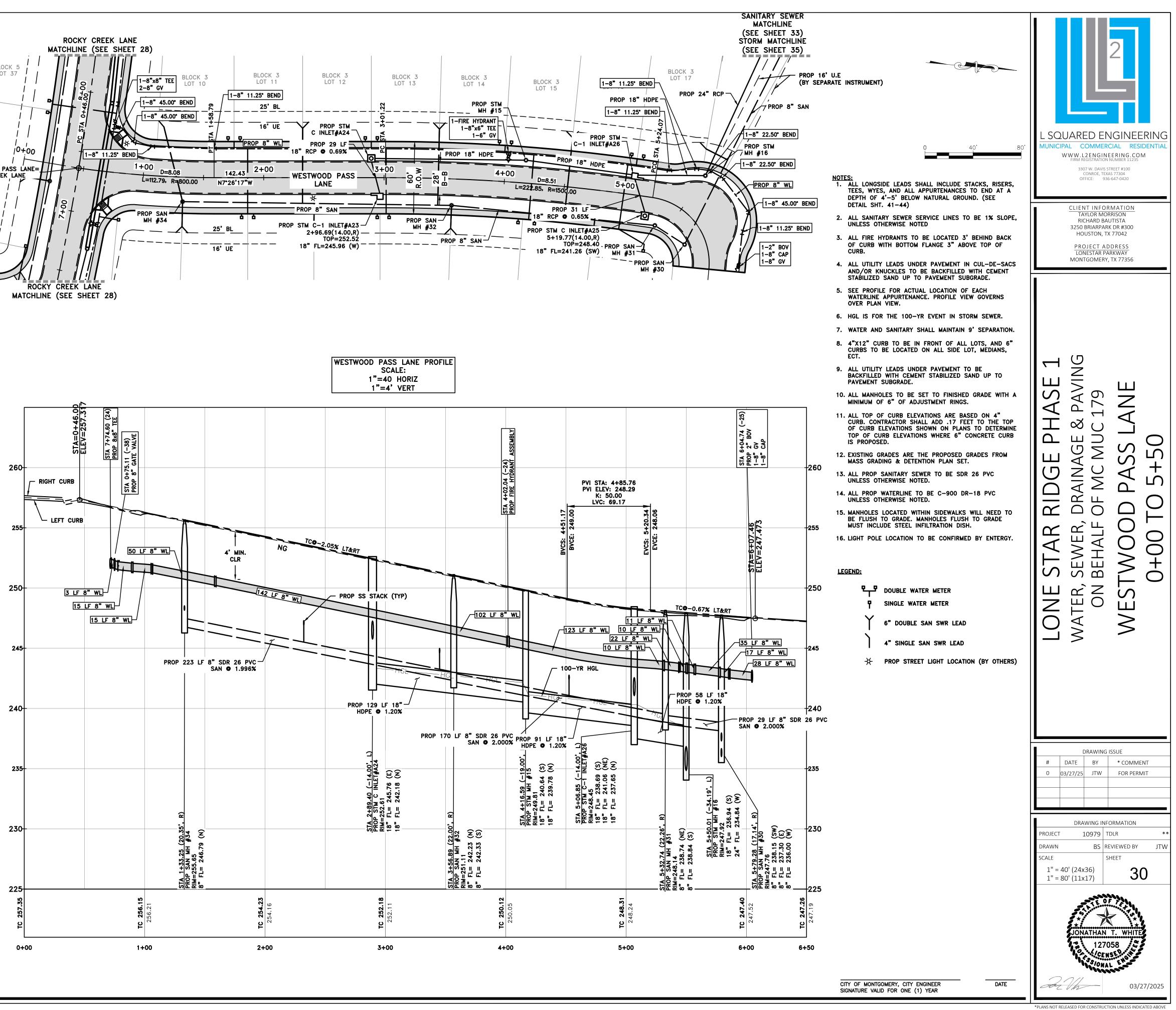


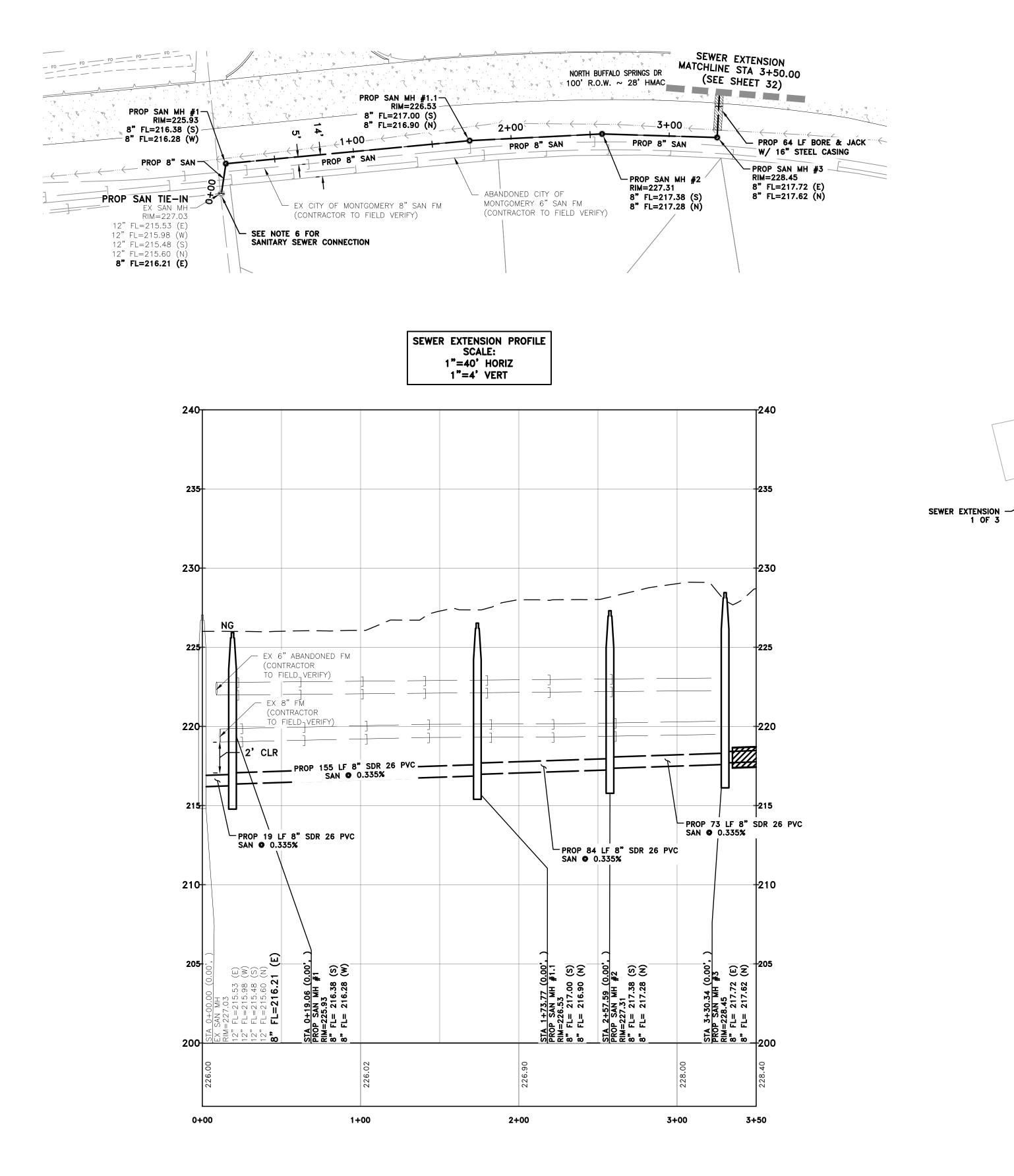


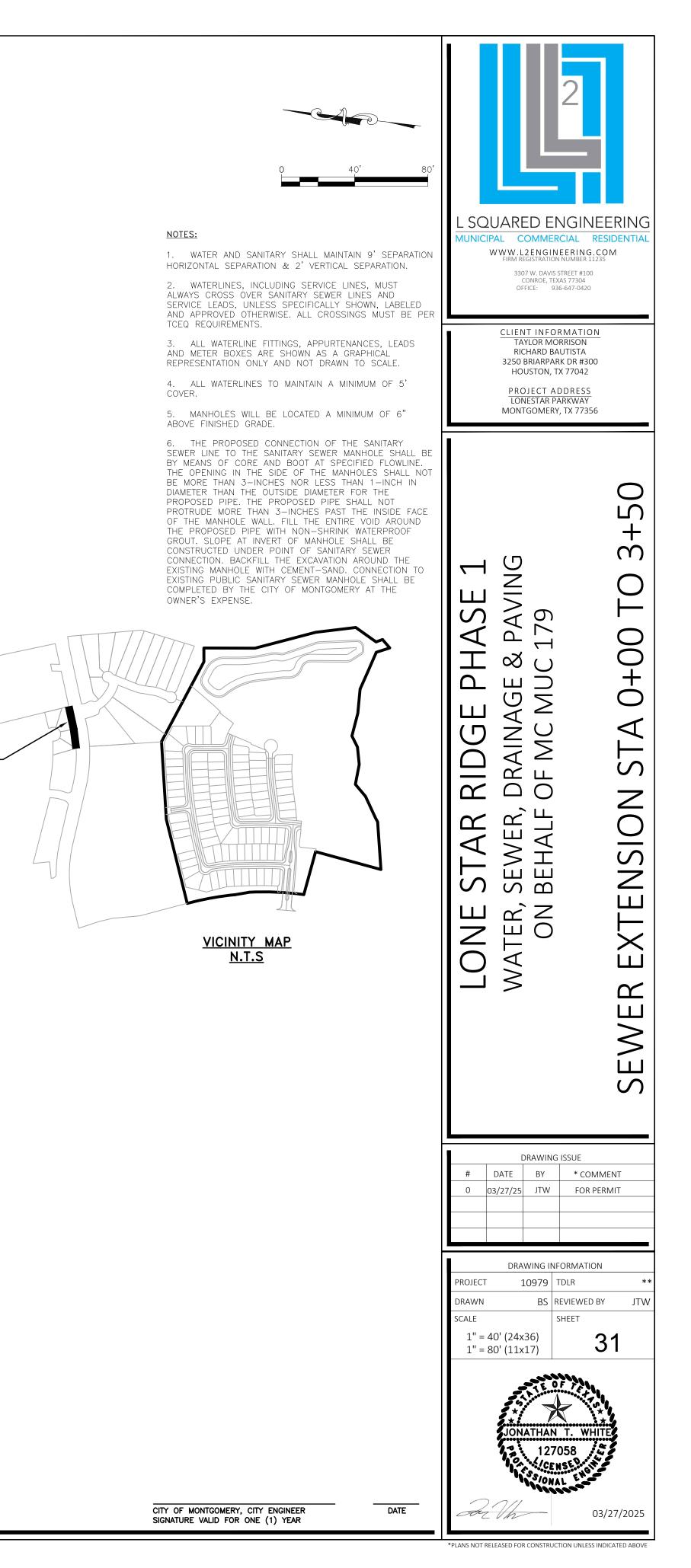


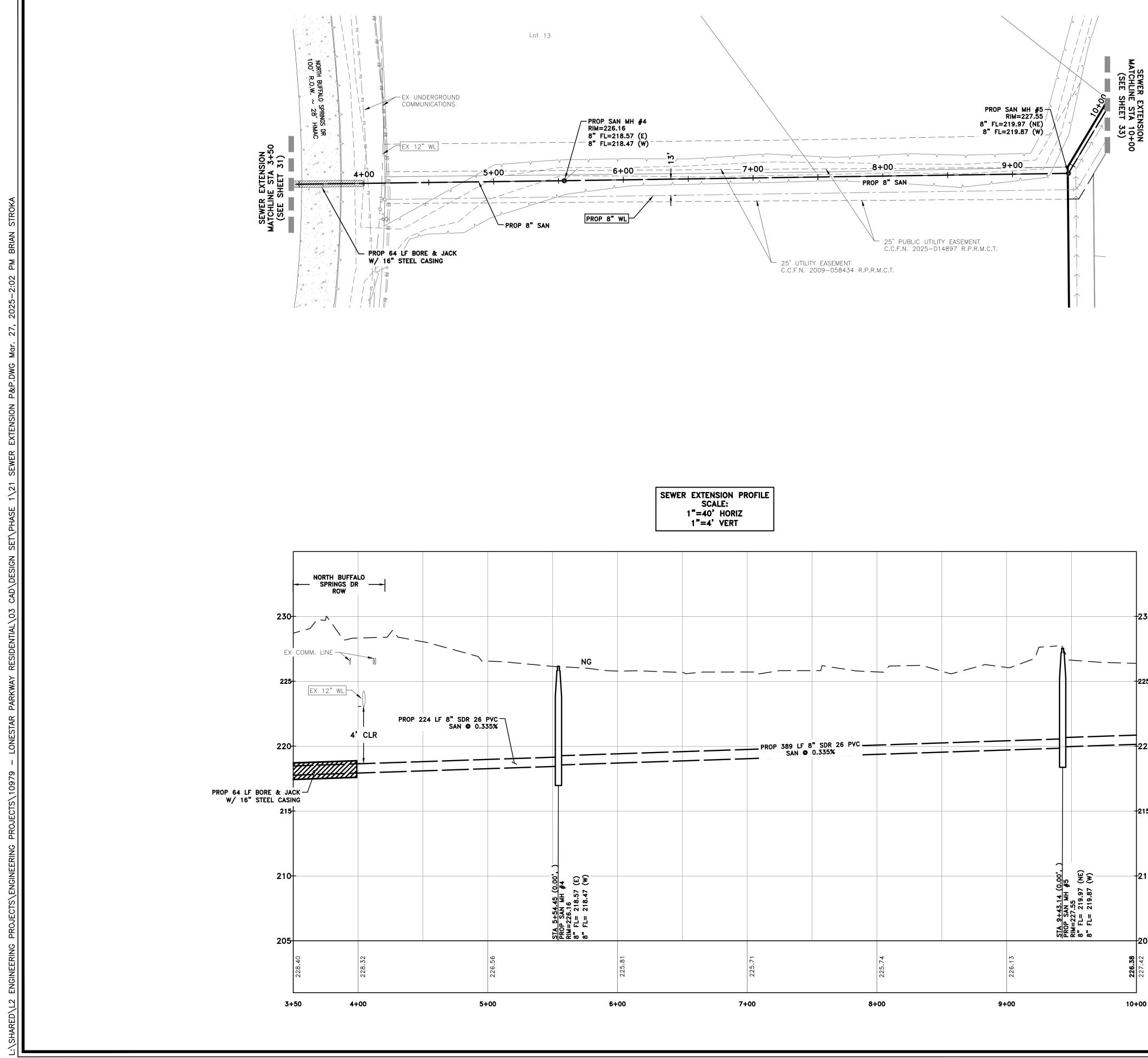


VERTICAL CURVE TABLE Station **Bevation** Grade Percent (%) Location 4+51.17 -2.05% **PVC** 249.00 4+56.00 248.90' -2.01% 4+66.00 248.72 -1.86% 4+76.00 248.55 -1.66% 4+85.76 248.41 -1.46% Sag 4+86.00 248.41 -1.36% 4+96.00 -1.26% 248.28 -1.06% 5+06.00 248.17 5+16.00 -0.86% 248.09 5+20.34 -0.71% **PVT** 248.06



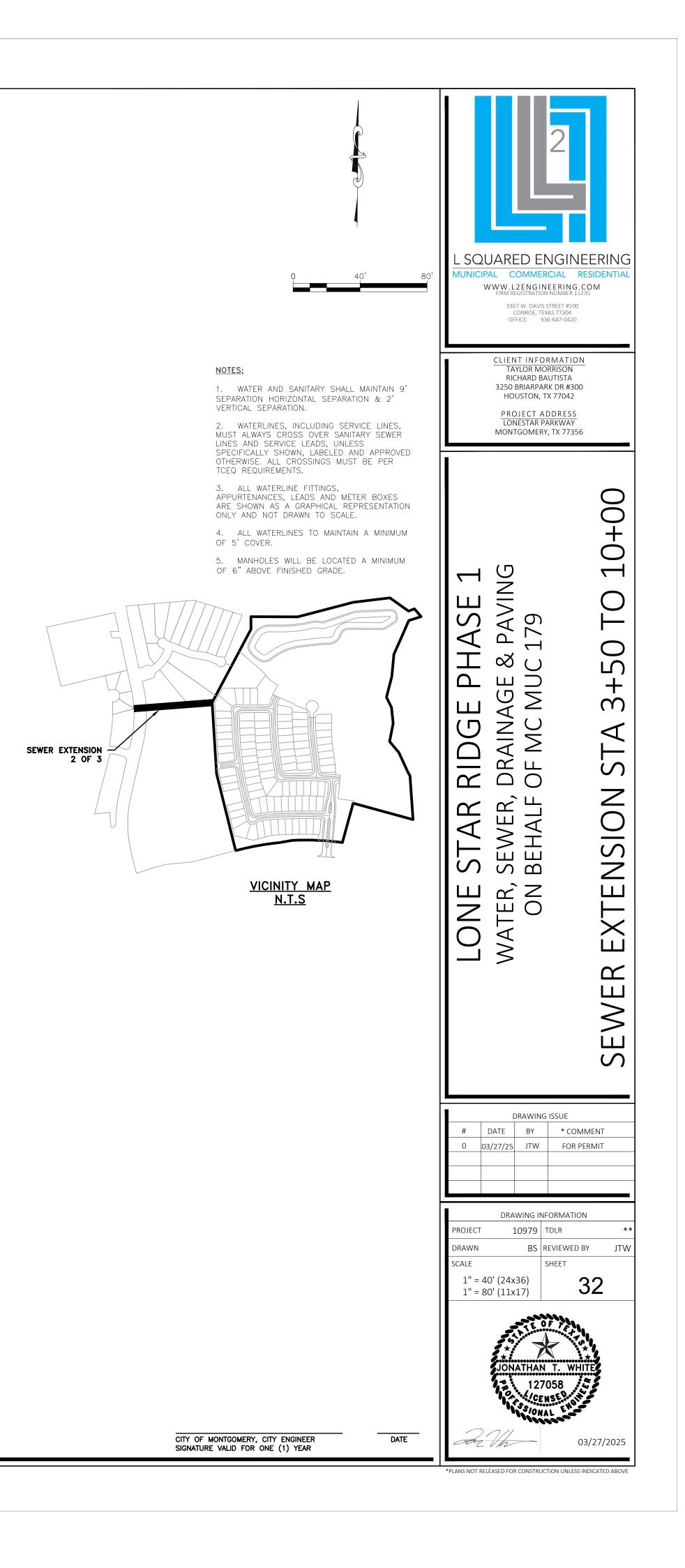




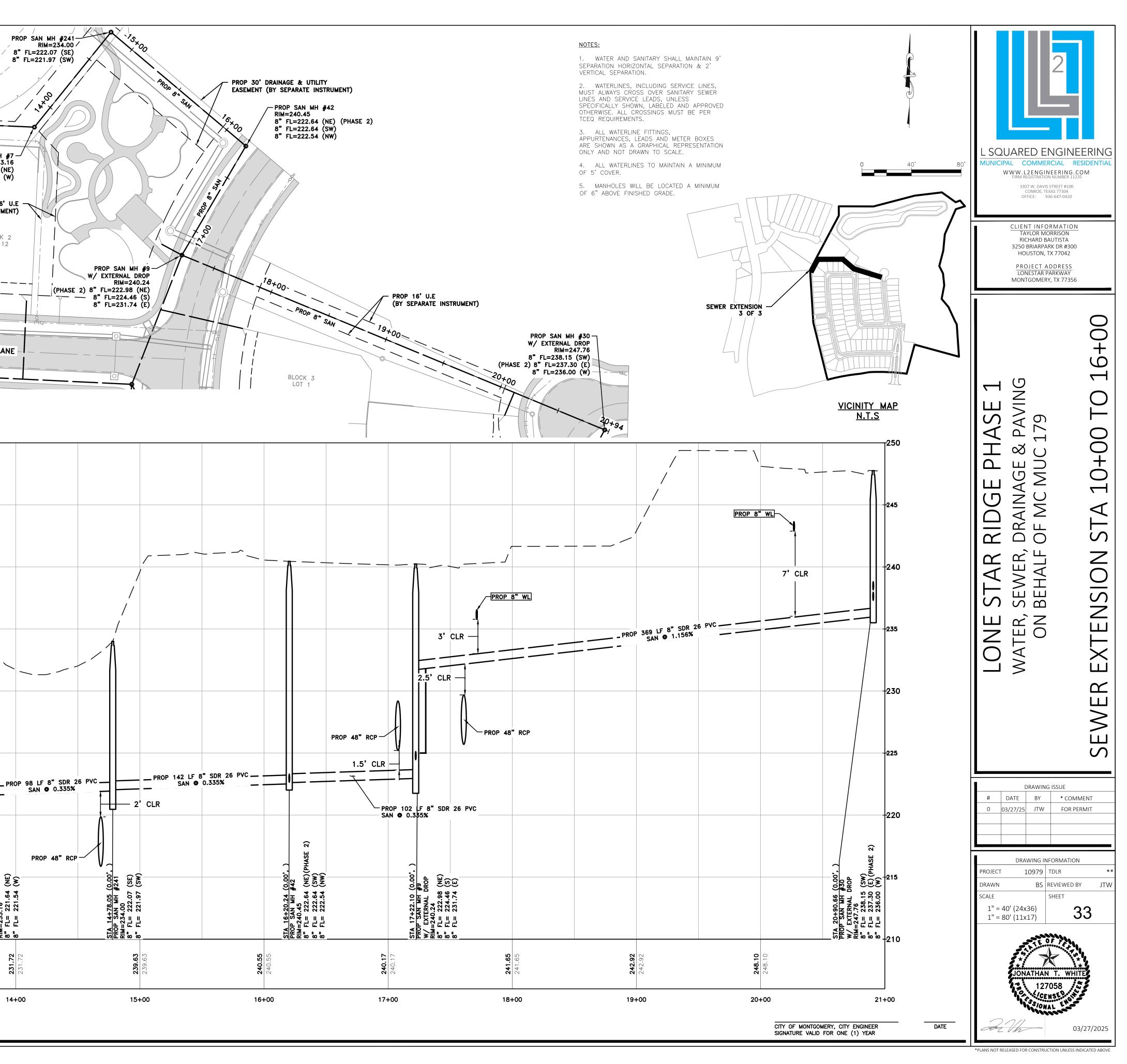


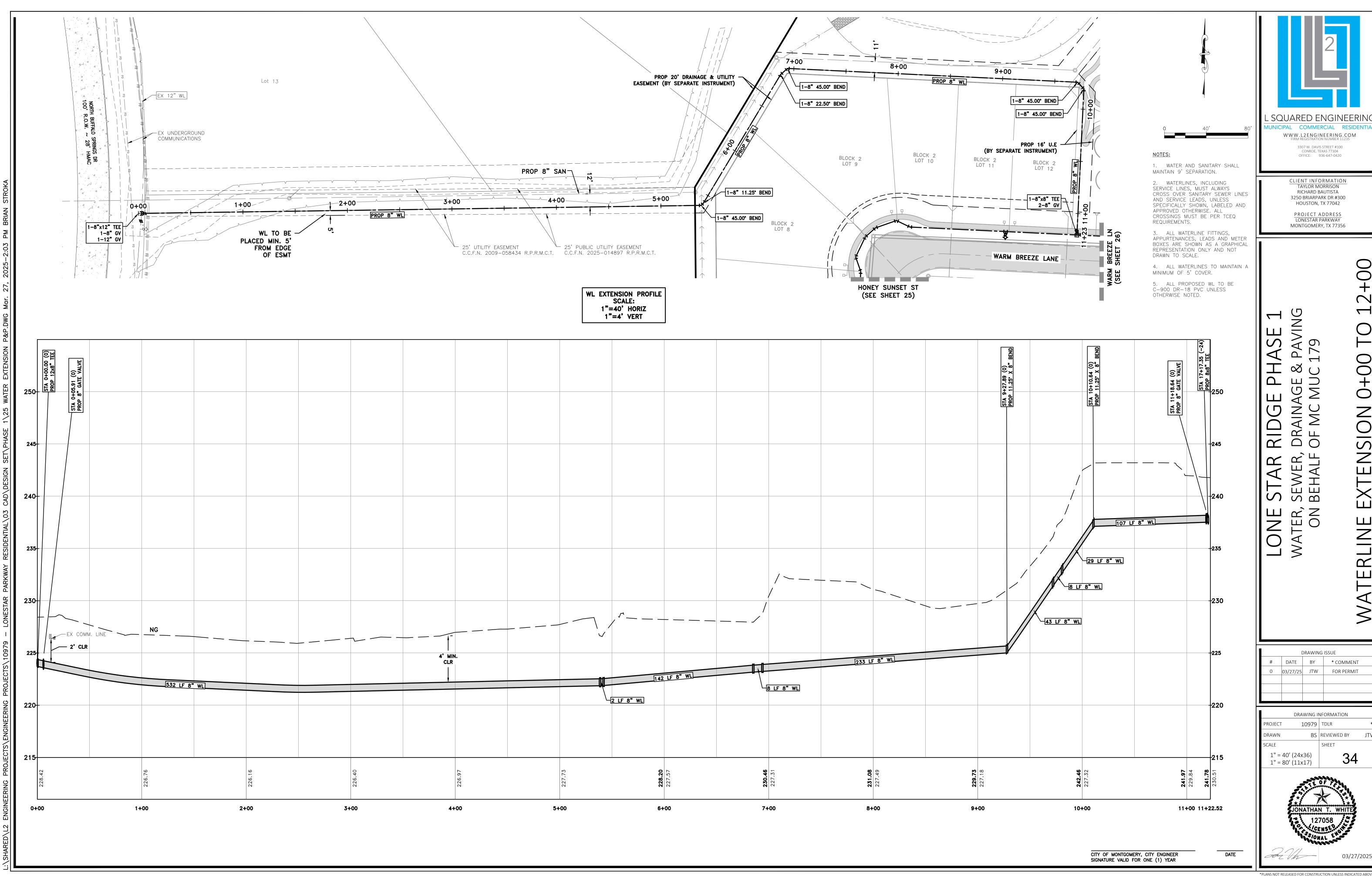
SI	EWER EXTENSION PROFILE SCALE:
	1"=40' HORIZ 1"=4' VERT

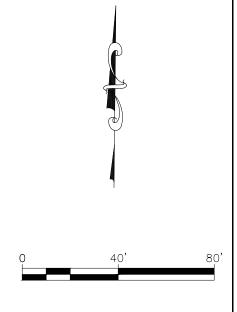
_NG	6+00	7+00	8+00	9+00	10+00
	225.81	225.71	225.74	226.13	226.38 227.42
NG	218.47			STA 9+43.14 (0.00', PROP SAN MH #5	12 12 12 12 12 12 12 12 12 12
					-21
		PROP 389 LF SAN @	8" SDR 26 PVC 0.335%		
	_NG				
					-23



EX POND PROP SAN MH #6-RIM=226.21 PROP 50 LF OF 16" STEEL CASING -BEDDED IN 1¹/₂ CEMENT STABILIZED SAND 8" FL=220.58 (E) 8"FL=220.48 (SW) 13+00 PROP 8" SAN PROP SAN MH #7 PROP 8" WL RIM=233.16 8" FL=221.64 (NE) - PROP 8" SAN 8" FL=221.54 (W) PROP 20' DRAINAGE & UTILITY -EASEMENT (BY SEPARATE INSTRUMENT) PROP 16' U.E -(BY SEPARATE INSTRUMENT) BLOCK 2 BLOCK 2 BLOCK 2 LOT 11 LOT 10 BLOCK 2 LOT 9 LOT 12 SEWE TCHL (SEE BLOCK 2 LOT 8 WARM BREEZE LANE HONEY SUNSET ST (SEE SHEET 25) 250 245 240 235 230 NG 225-1.5'-PROP 286 LF 8" SDR 26 PVC _____ ____ SAN @ 0.335% _____ ___ PROP 150 LF 8" SDR 26 PVC _____ SAN @ 0.335% _____ 220| PROP 50 LF 16" STEEL CASING BEDDED IN 11/2 CEMENT STABILIZED SAND 215-З E 58 48 54 28 v 13+79 <u>P SAN</u> =233.16 FL= 22 FL= 22 STA 10+ PROP SAI RIM=226. 8" FL= 2 8" FL= 2 10+00 12+00 13+00 11+00 14+00

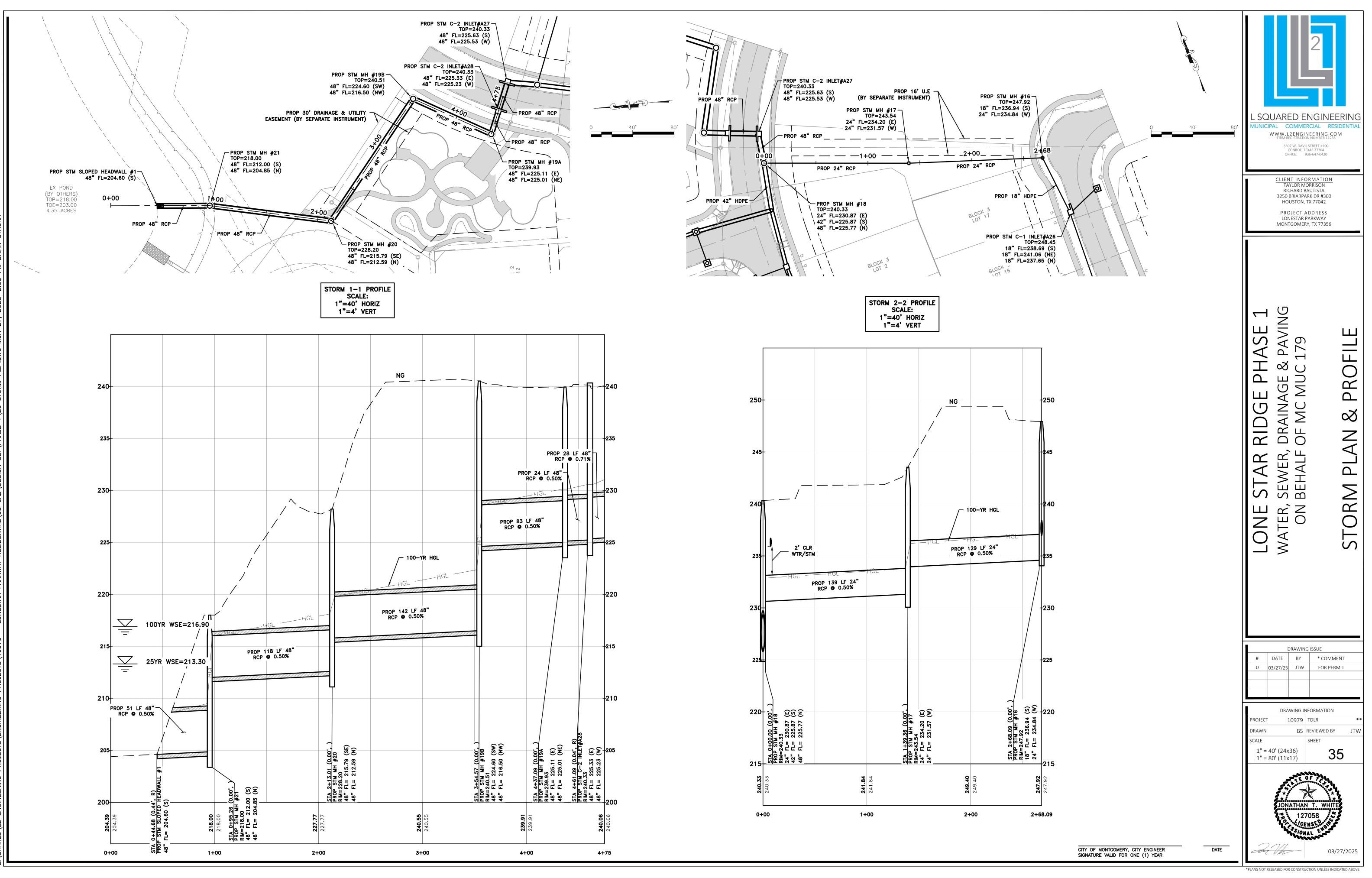






SQUARED ENGINEERING UNICIPAL COMMERCIAL RESIDENTIAI WWW.L2ENGINEERING.COM 3307 W. DAVIS STREET #100 CONROE, TEXAS 77304 OFFICE: 936-647-0420 CLIENT INFORMATION TAYLOR MORRISON RICHARD BAUTISTA 3250 BRIARPARK DR #300 HOUSTON, TX 77042 PROJECT ADDRESS MONTGOMERY, TX 77356 00+ \sim PAVING 79 --Ο \vdash \mathcal{O} \triangleleft Δ 00 - \propto \circ **—** Δ ш⊃ +β \bigcirc \bigcirc AIN Ζ \geq SIO \bigcirc DR, OF ____ \sim Υ Ω[·]L \mathbf{Z} AL ш \triangleleft T SEV BEF Ś X Ш ER, ON ш Ζ Ζ ____ С \triangleleft ERLI \geq \triangleleft \geq DRAWING ISSUE # DATE BY * COMMENT 0 03/27/25 JTW FOR PERMIT DRAWING INFORMATION ROJECT 10979 TDLR BS REVIEWED BY DRAWN JTV SHEET SCALE 1" = 40' (24x36) 34 1" = 80' (11x17) JONATHAN T. WHIT

03/27/2025



AUGUST WIND LANE 0+00 TO 7+00

SAN LEAD TABLE				
STATION & OFFSET	LENGTH	START FL	END FL	
1+71.35, 40.91	18.91	264.45	264.26	
1+87.17, -41.00	62.21	261.89	261.27	
2+78.53, 41.00	22.00	263.87	263.65	
3+04.55, -41.00	60.11	261.26	260.66	
3+88.03, 41.24	21.56	263.28	263.06	
4+14.55, -41.00	60.87	260.66	260.06	
4+95.26, 41.00	19.00	262.67	262.48	
5+36.43, -41.00	61.19	259.66	259.05	
6+00.42, 41.01	20.75	260.65	260.45	
6+47.71, -53.04	75.55	256.99	256.24	
6+91.29, -62.17	101.28	255.74	254.72	

ROCKY CREEK LANE 5+00 TO 10+00

SAN LEAD TABLE			
STATION & OFFSET	LENGTH	START FL	END FL
7+21.39, -41.01	19.01	253.30	253.11
8+39.30, -41.00	19.00	252.01	251.82
9+52.80, -41.00	18.89	250.75	250.56

HONEY SUNSET STREET 7+00 TO 15+50

SAN LEAD TABLE					
STATION & OFFSET LENGTH START FL END F					
7+66.99, -41.00	62.74	253.74	253.11		
8+25.08, 40.73	17.79	254.69	254.51		
9+42.06, 41.00	19.00	251.60	251.41		
9+83.03, -41.00	63.89	248.01	247.37		
10+57.45, 41.00	17.92	248.54	248.36		
11+71.52, -40.62	64.00	243.18	242.54		
11+72.83, 41.00	17.61	245.48	245.30		
12+69.77, -41.00	63.52	240.41	239.78		
12+88.22, 41.00	19.00	242.42	242.23		
13+77.78, -41.00	64.88	238.19	237.54		
14+03.61, 41.00	17.07	240.44	240.27		
14+95.73, -40.97	63.60	237.09	236.45		
15+45.44, -63.75	90.36	236.61	235.70		

CEDAR PARK DRIVE 10+00 TO 17+00

SAN LEAD TABLE				
LENGTH	START FL	END FL		
14.64	249.88	249.72		
20.11	248.66	248.46		
61.16	246.09	245.48		
60.74	245.64	245.03		
21.83	245.92	245.70		
60.61	242.99	242.39		
19.00	243.17	242.98		
61.70	240.12	239.50		
20.99	240.43	240.22		
61.58	237.24	236.63		
67.58	234.35	233.67		
	LENGTH 14.64 20.11 61.16 60.74 21.83 60.61 19.00 61.70 20.99 61.58	LENGTHSTART FL14.64249.8820.11248.6661.16246.0960.74245.6421.83245.9260.61242.9919.00243.1761.70240.1220.99240.4361.58237.24		

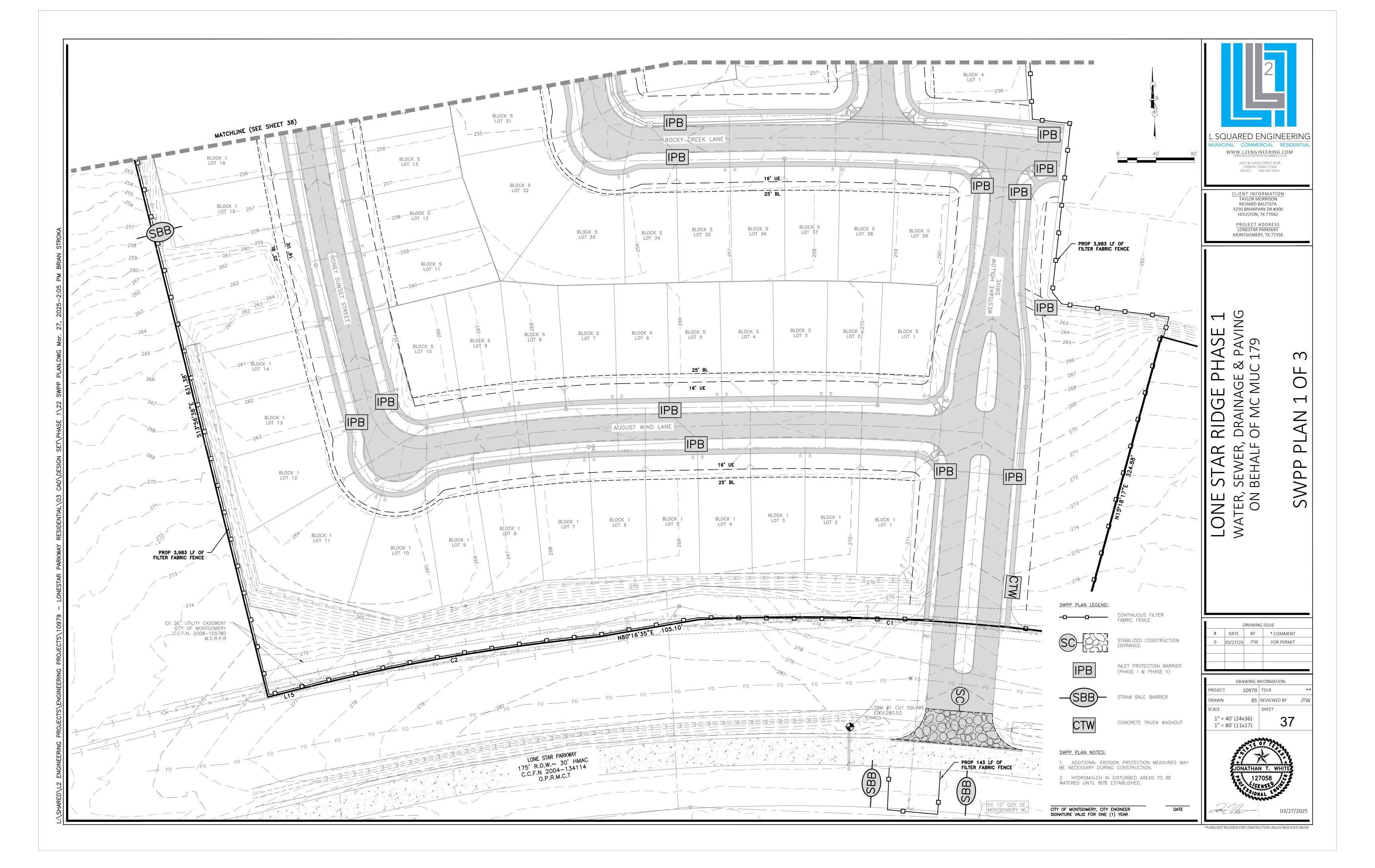
WARM BREEZE LANE 15+50 TO 19+00

SAN LEAD TABLE					
STATION & OFFSET	LENGTH	START FL	END FL		
15+54.33, 32.15	15.10	239.28	239.13		
15+97.35, -41.00	63.00	236.14	235.51		
17+08.35, -41.00	62.99	235.07	234.44		
17+95.60, 35.61	13.63	235.43	235.29		

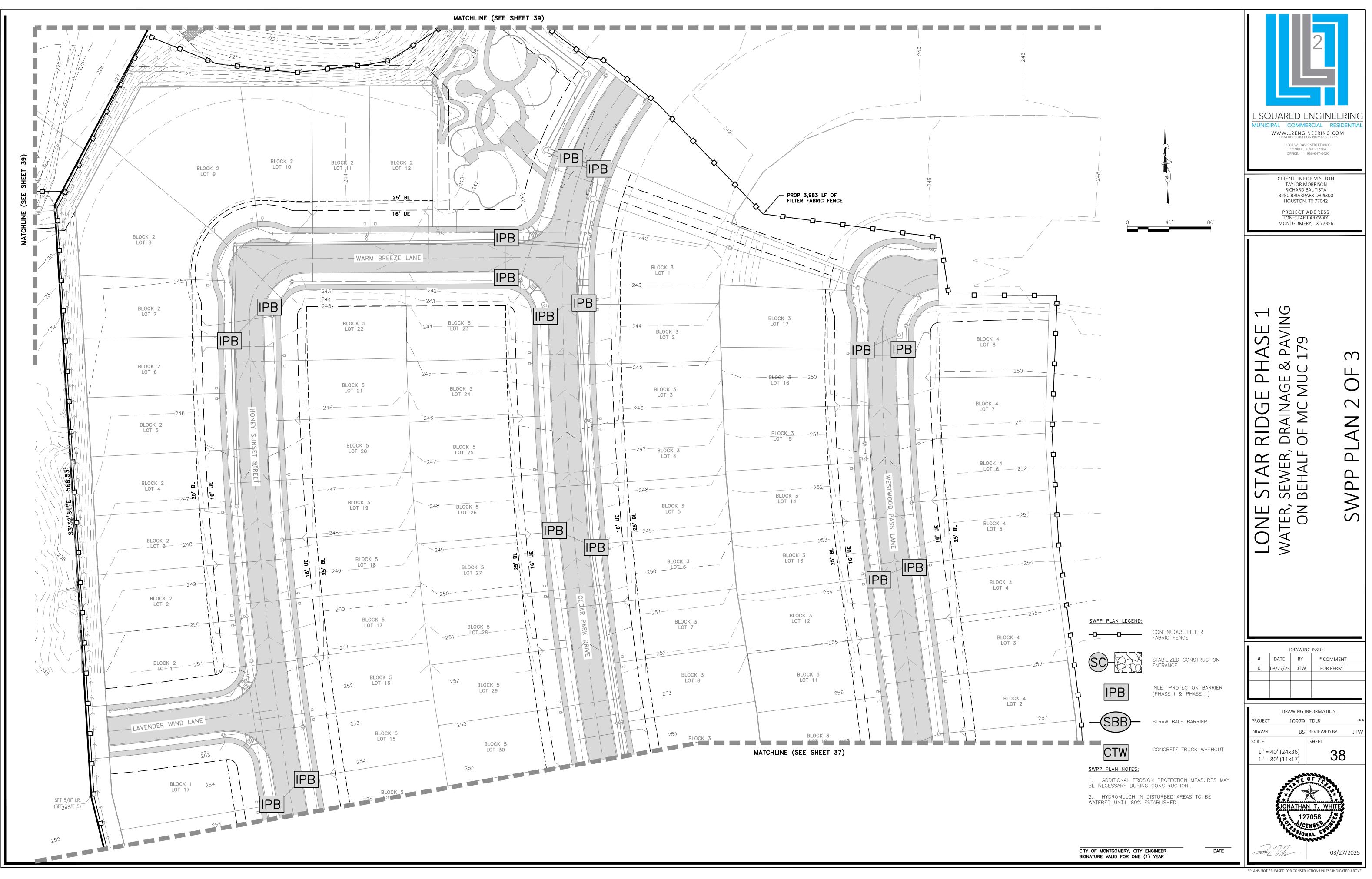
WESTWOOD PASS LANE 0+00 TO 5+50

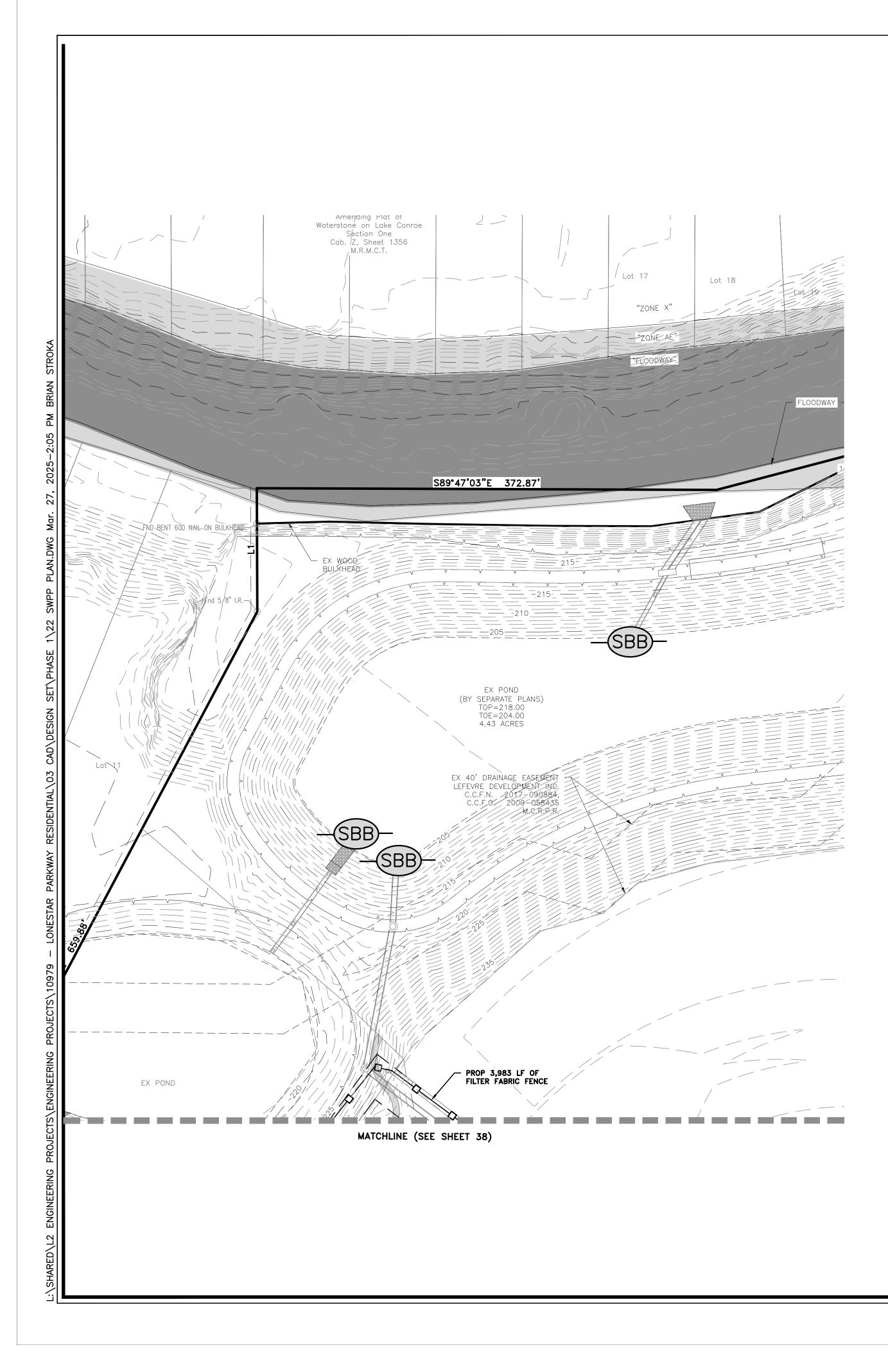
SAN LEAD TABLE				
STATION & OFFSET	LENGTH	START FL	END I	
1+14.86, -40.97	63.95	249.75	249.1	
1+33.43, 41.00	20.66	251.44	251.2	
2+32.41, -41.00	62.31	247.35	246.7	
2+41.69, 41.00	19.56	249.22	249.0	
3+44.81, -40.99	63.22	245.04	244.4	
3+56.89, 41.00	19.00	246.85	246.6	
4+52.84, -40.99	65.36	242.82	242.1	
4+78.22, 41.00	17.03	244.43	244.2	
5+43.75, -53.34	19.90	243.76	243.5	

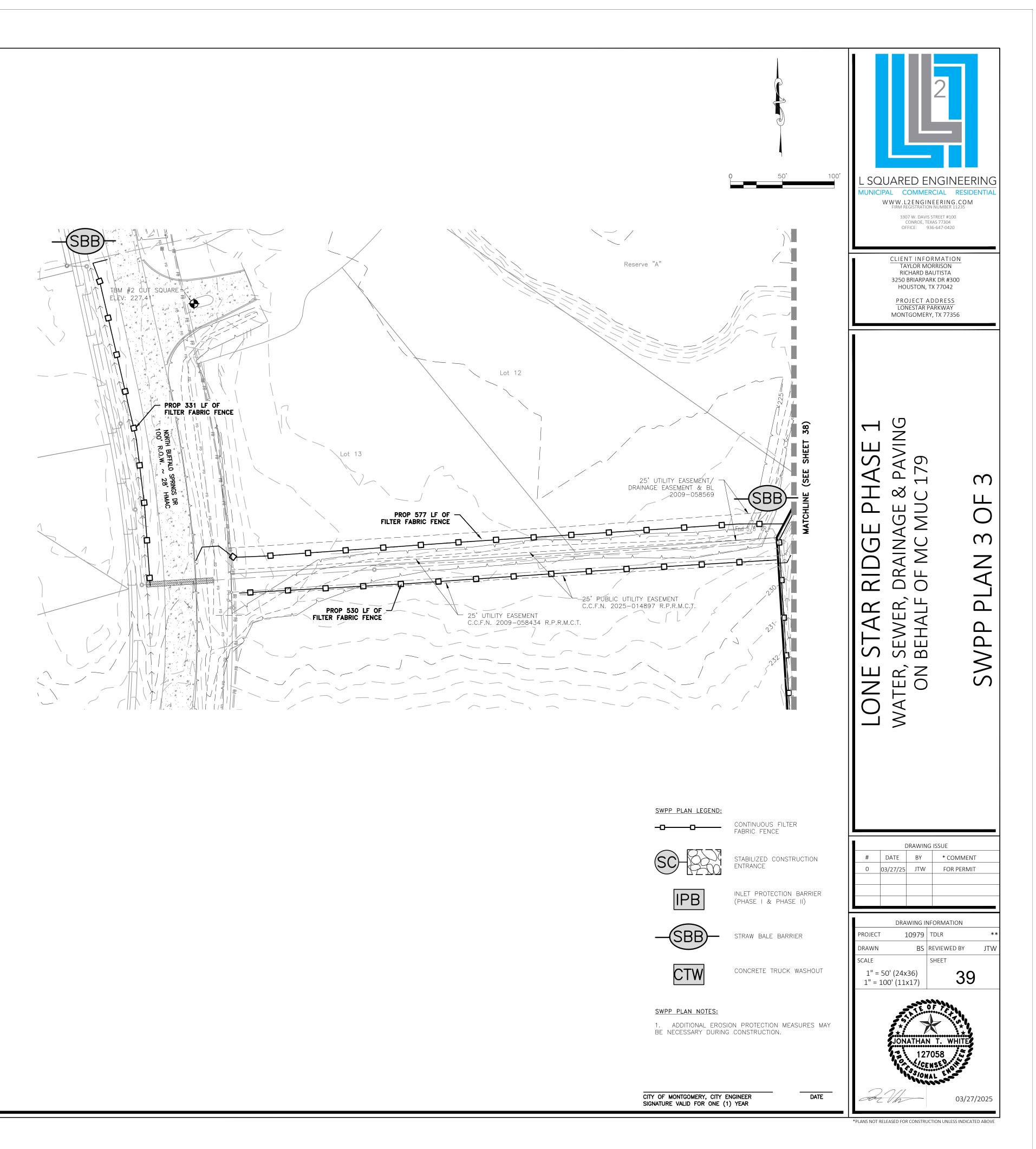
	MUNICIPAL COMMI WWW.L2ENG FIRM REGISTRATI 3307 W. DAV CONROE, OFFICE:	IORRISON BAUTISTA ARK DR #300 , TX 77042 A D D R E S S PARKWAY
	LONE STAR RIDGE PHASE 1 WATER, SEWER, DRAINAGE & PAVING ON BEHALE OF MC MUC 179	
DATE	# DATE BY 0 03/27/25 JTW 0 0 0	NFORMATION TDLR ** REVIEWED BY JTW SHEET 36

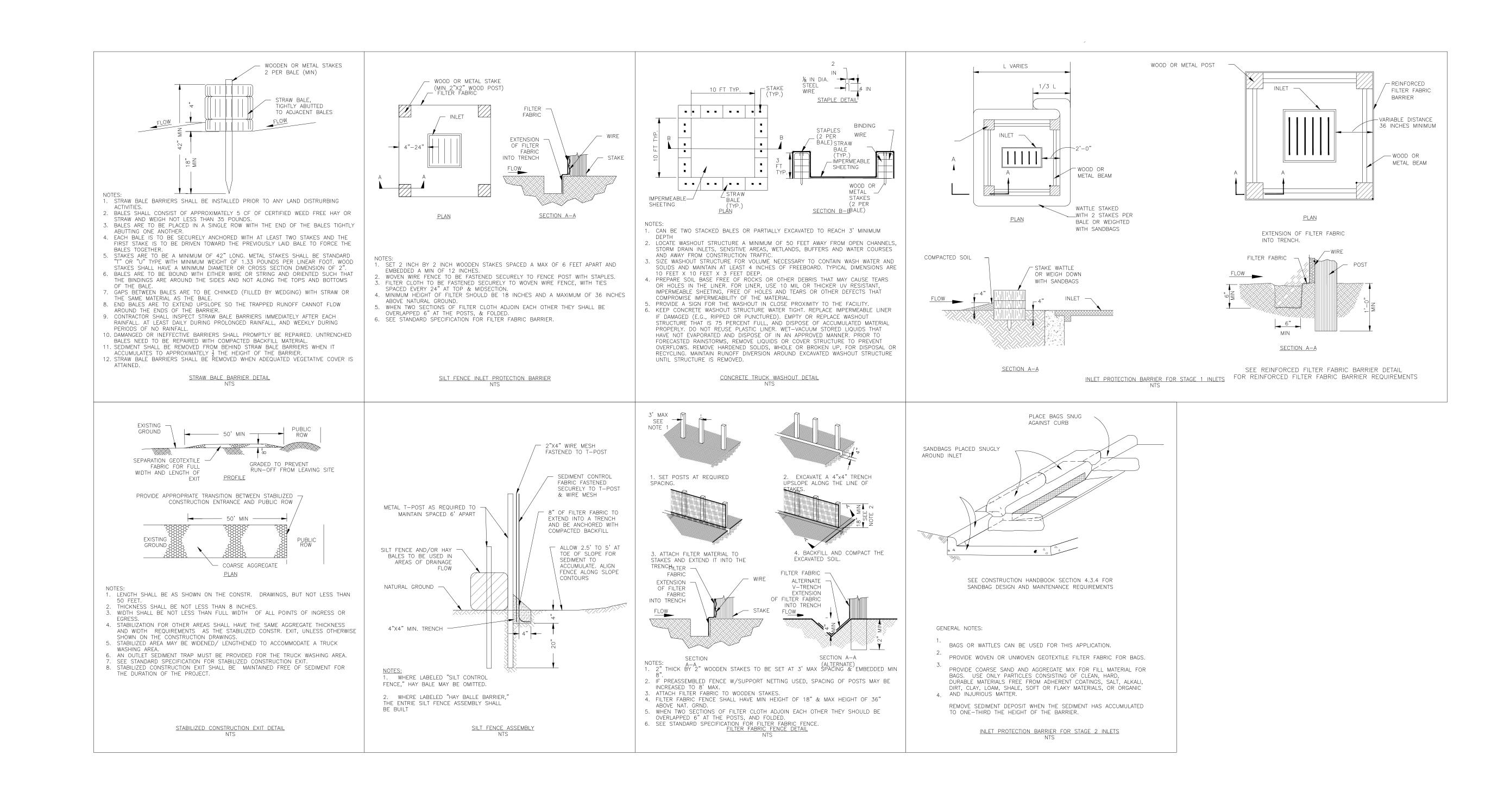


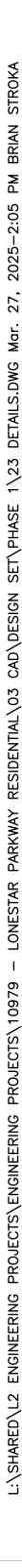








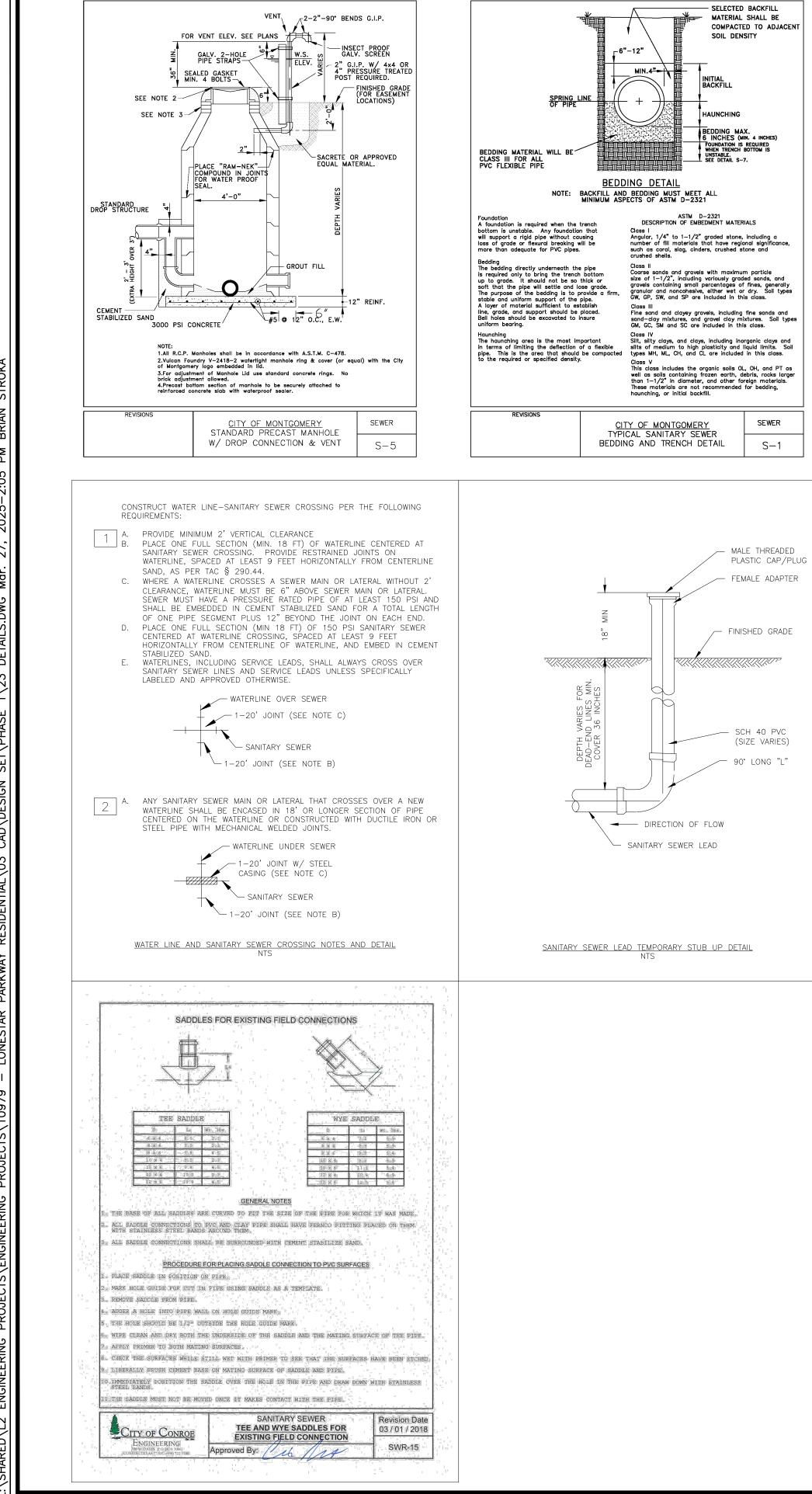


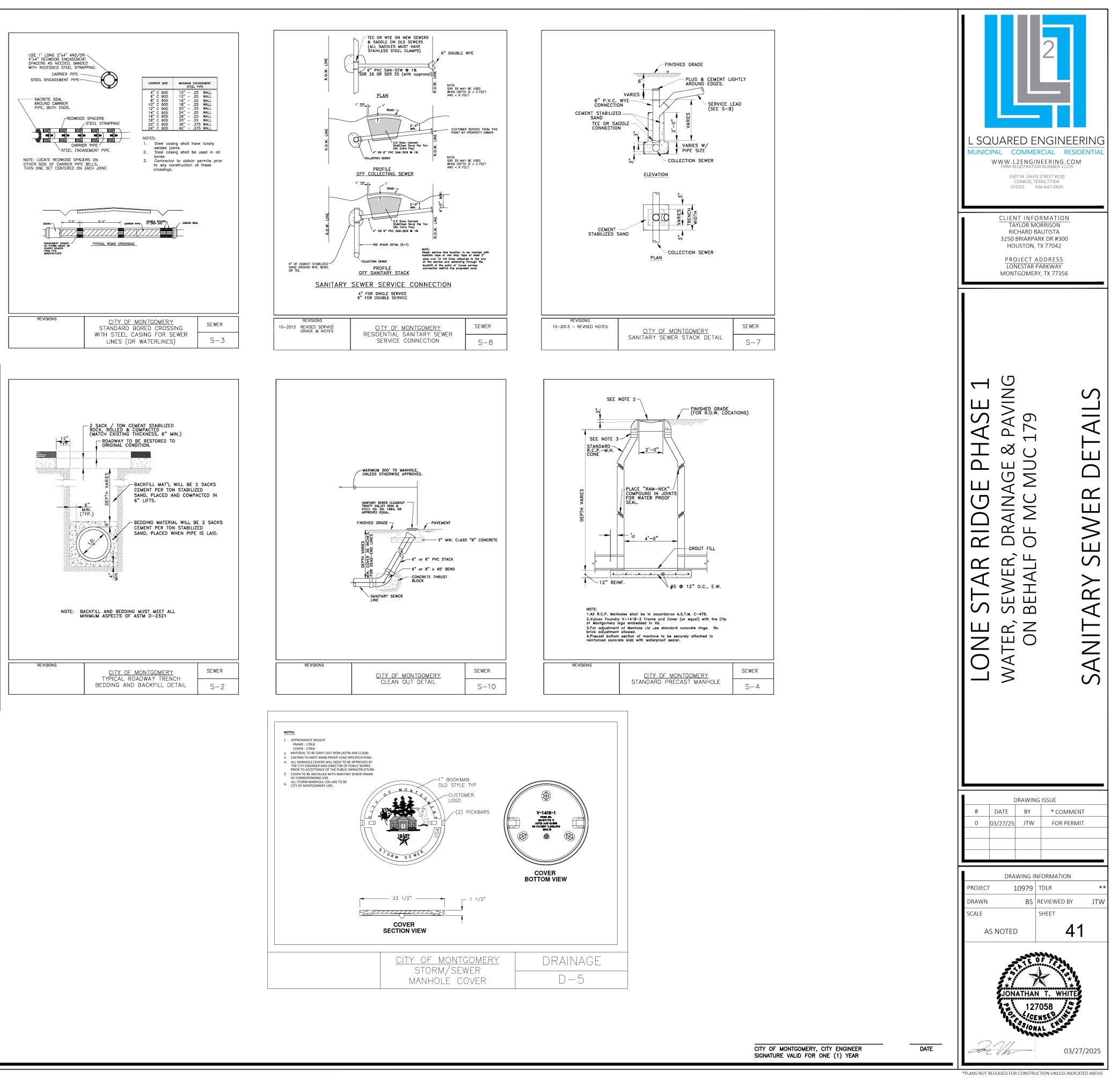


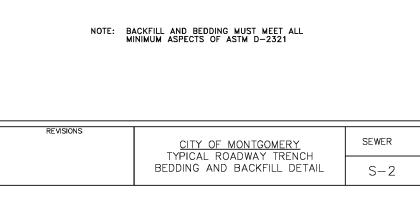


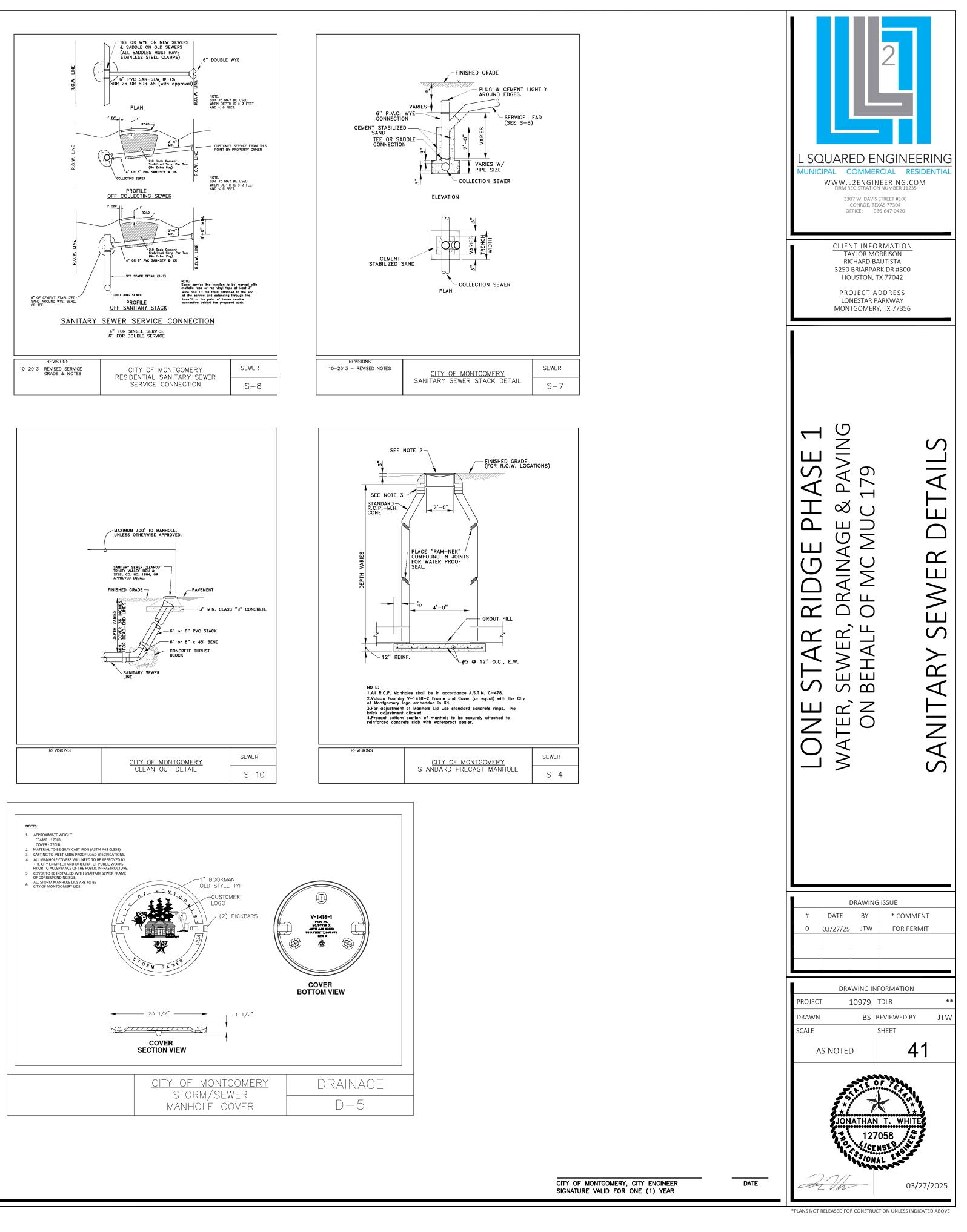
CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR

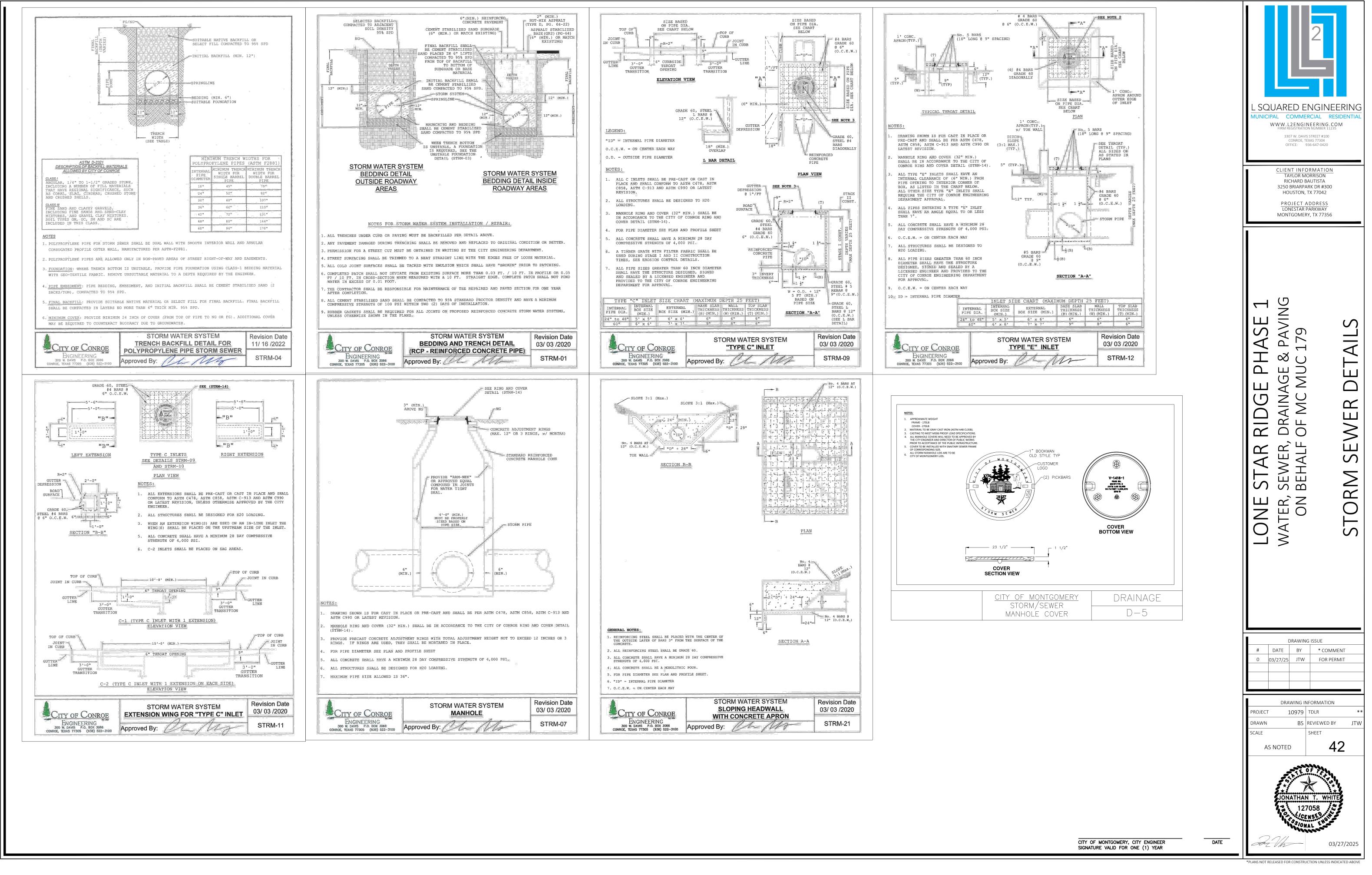
DATE



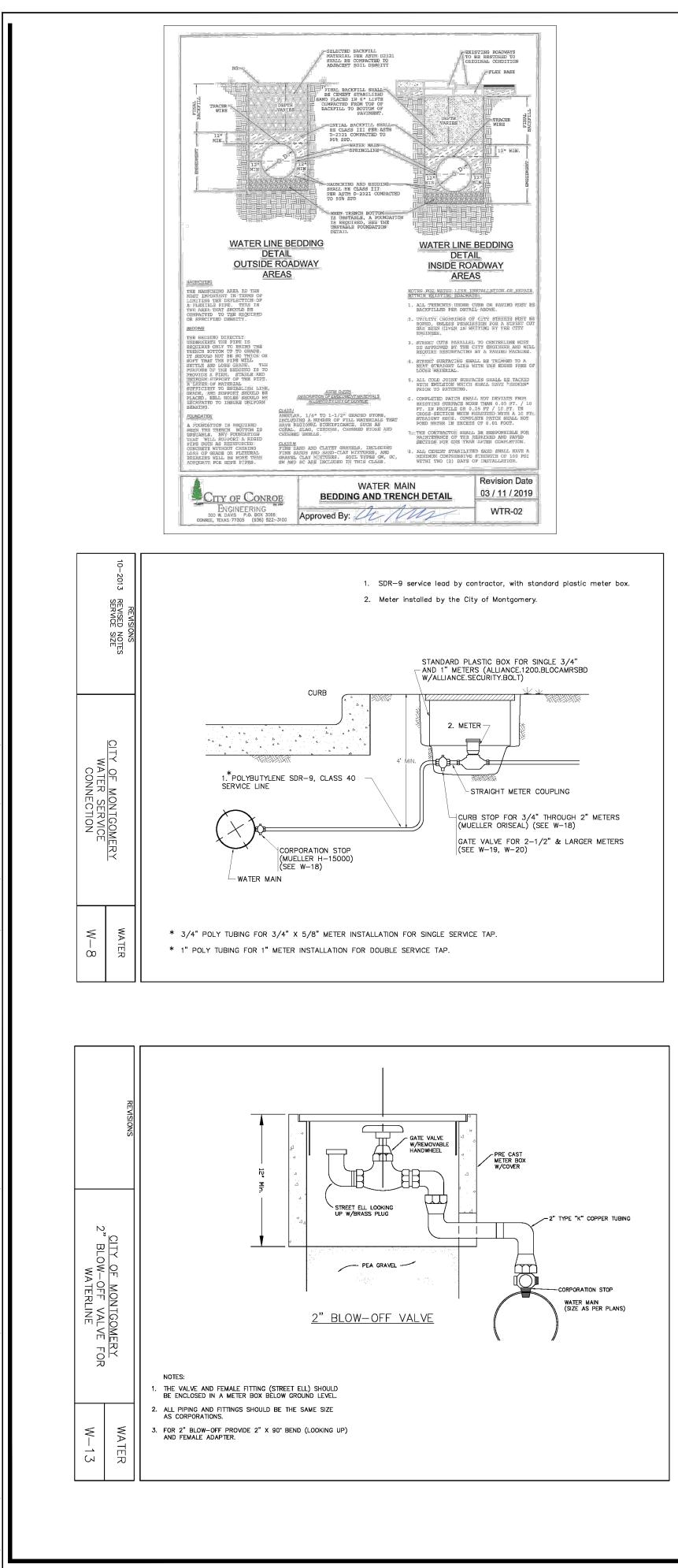


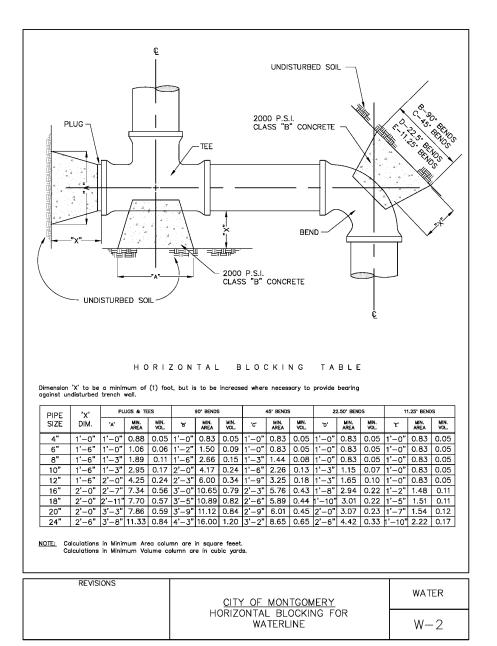


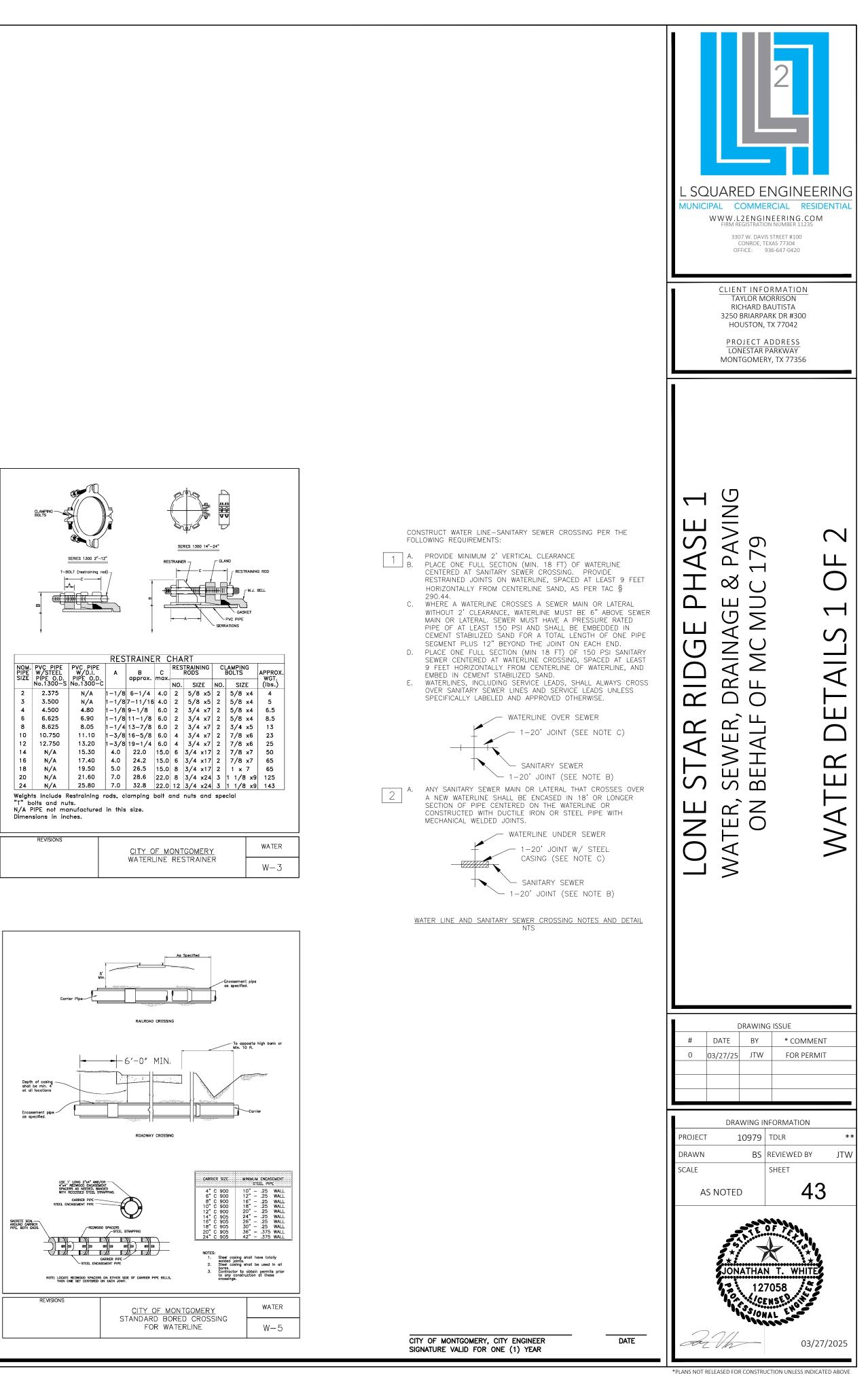


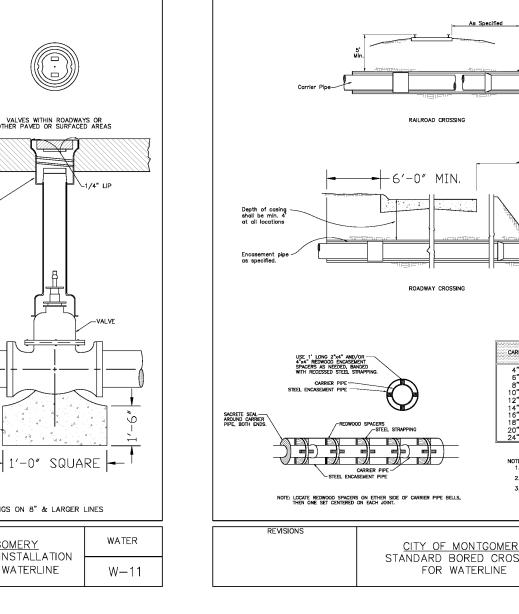


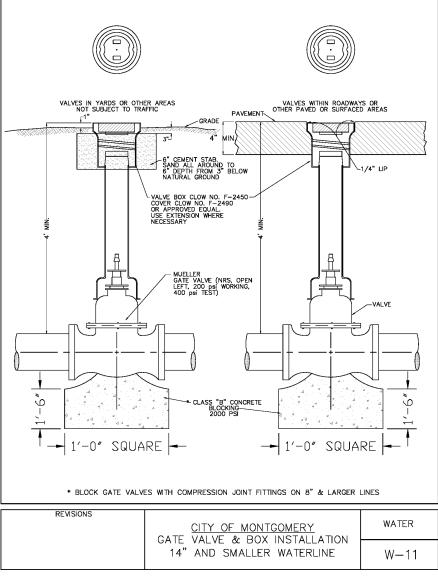
Σ



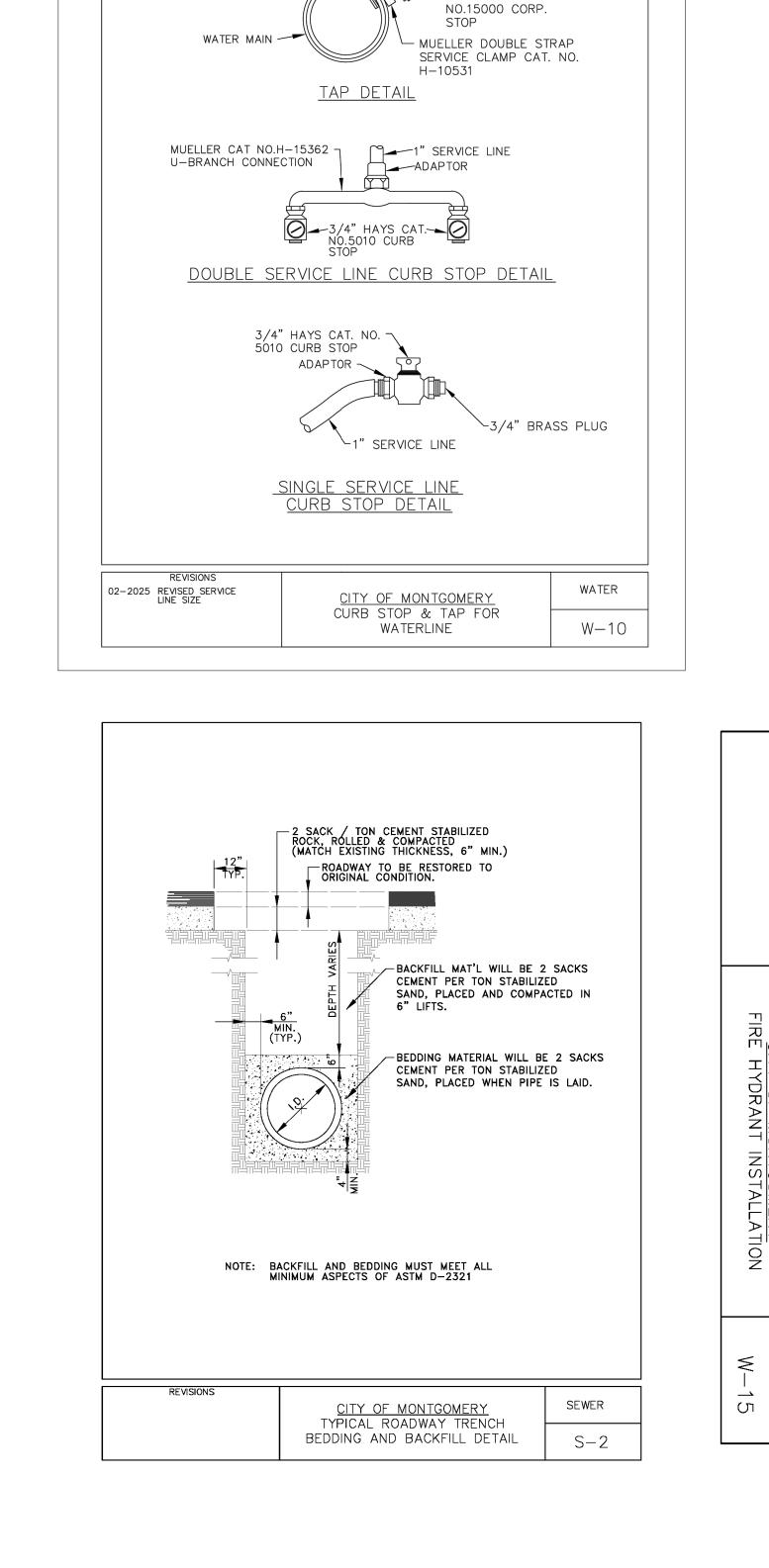










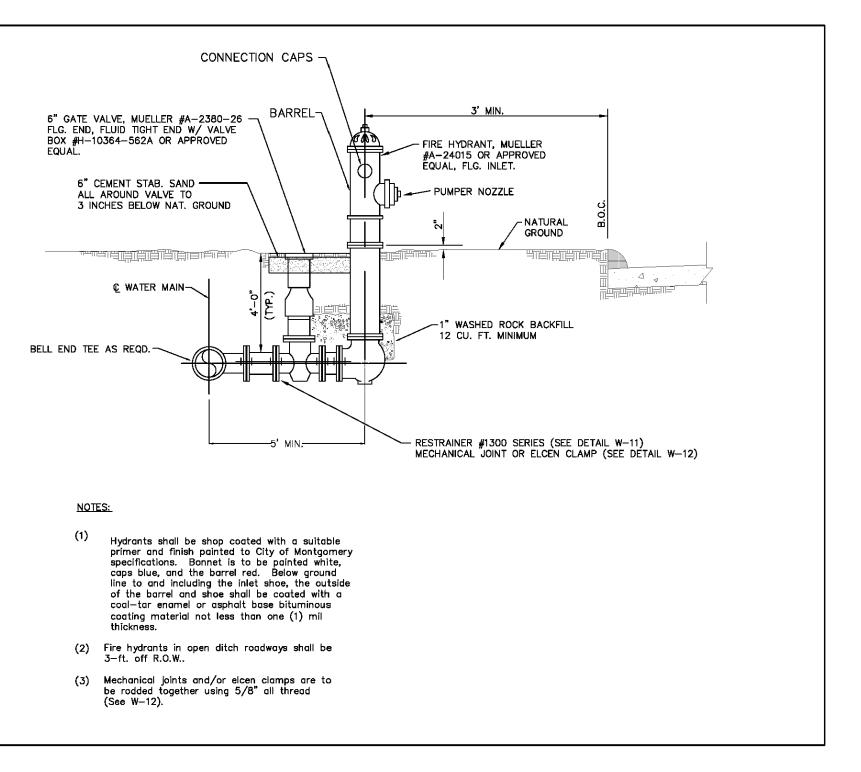


1" SERVICE LINE

ADAPTOR

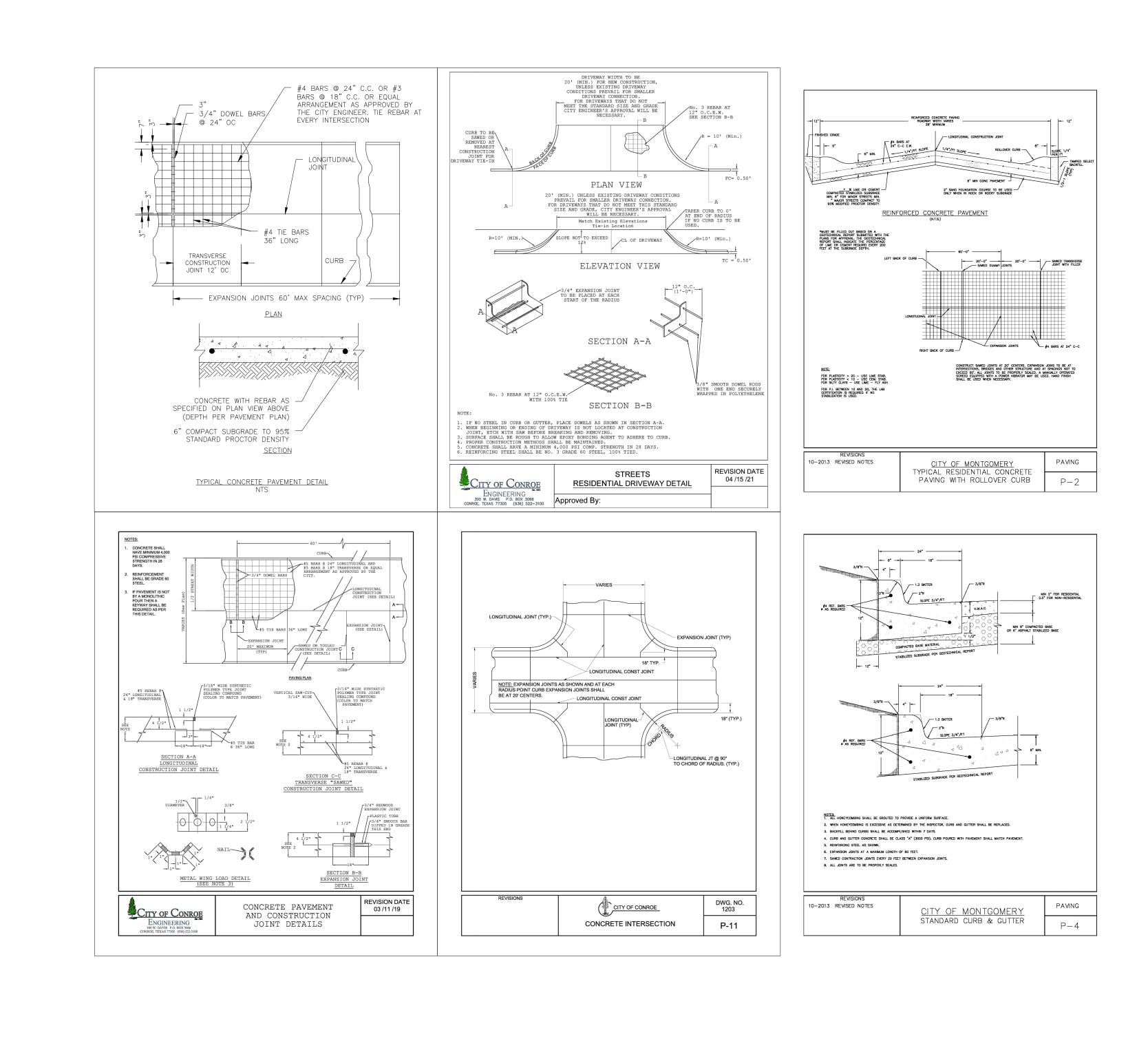
1" MUELLER

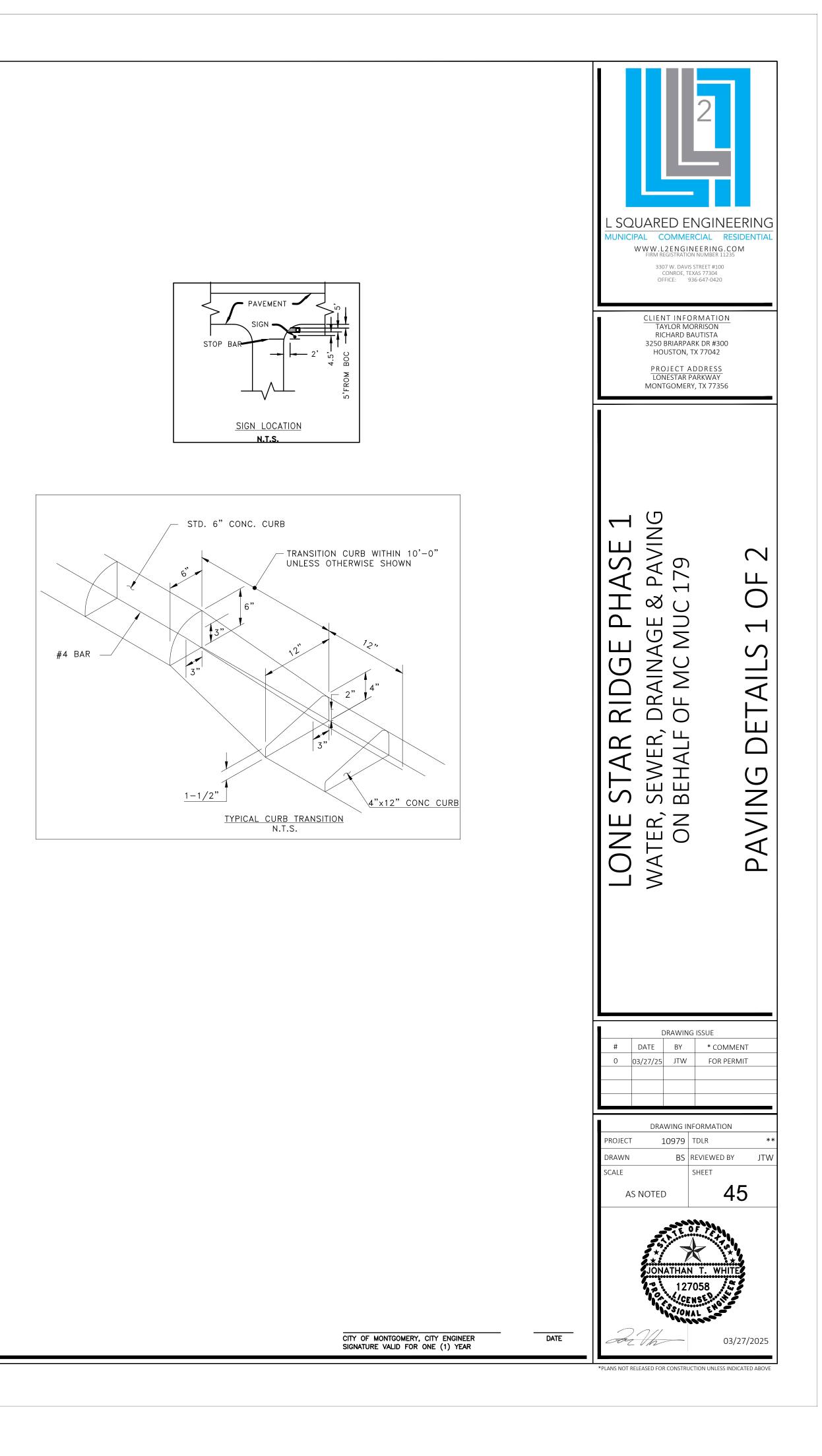
REVISIONS CITY OF MONTGOMERY FIRE HYDRANT INSTALLATION W-15

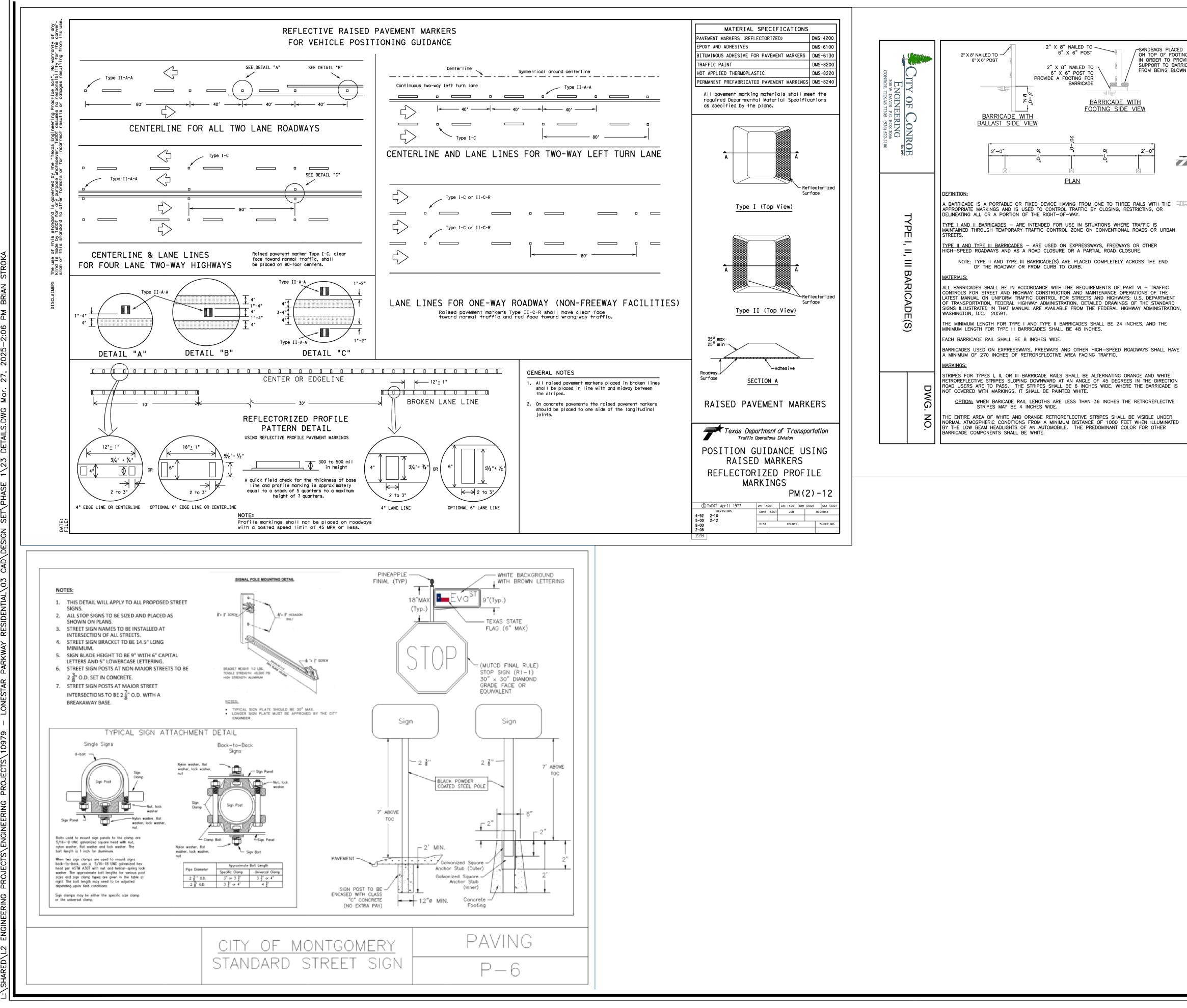


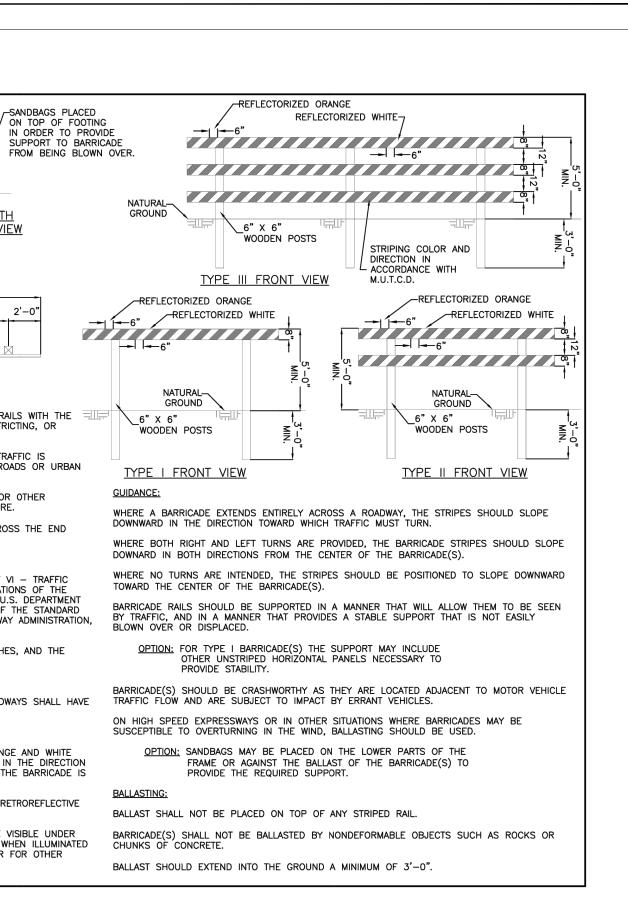
	MUNICIPAL COMME WWW.L2ENGI FIRM REGISTRATI 3307 W. DAV CONROE,	IORRISON BAUTISTA ARK DR #300 . TX 77042 A D D R E S S PARKWAY	
	LONE STAR RIDGE PHASE 1 WATER, SEWER, DRAINAGE & PAVING ON BEHALE OF MC MUC 179	WATER DETAILS 2 OF 2	
DATE	DRAWING ISSUE # DATE BY * COMMENT 0 03/27/25 JTW FOR PERMIT 0 03/27/2025 JTW SCALE SHEET AS NOTED 44 Image: State Stat		

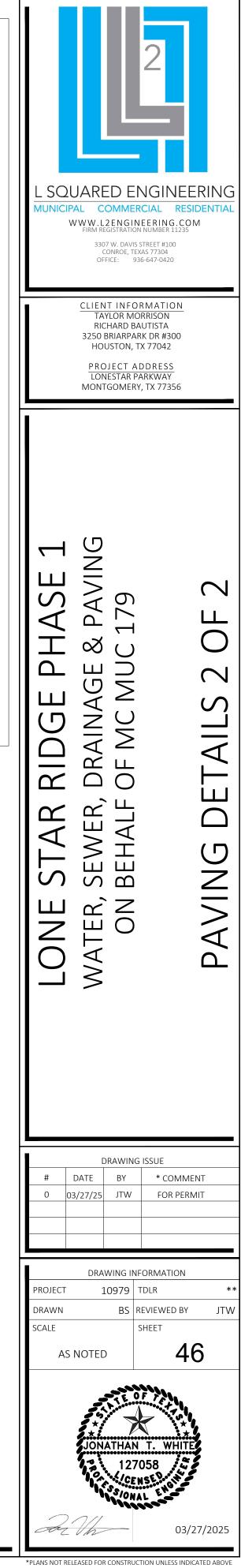












CITY OF MONTGOMERY, CITY ENGINEER SIGNATURE VALID FOR ONE (1) YEAR

DATE