

CITY OF BRYAN, TEXAS

THE MODS

PRIVATE IMPROVEMENTS

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PROJECT NOTES

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

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

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

WETLAND NOTE:
THESE PLANS WERE PREPARED WITHOUT THE BENEFIT OF AN ENVIRONMENTAL OR OTHER WETLANDS STUDY. L SQUARED ENGINEERING IS NOT AN ENVIRONMENTAL ENGINEERING FIRM AND

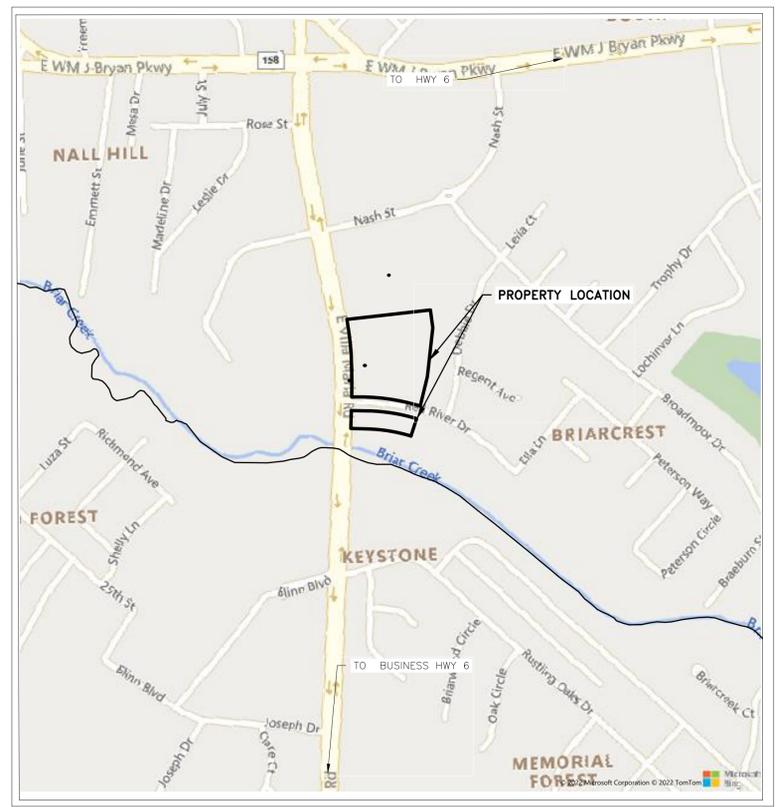
DOES NOT HAVE THE ABILITY TO DETERMINE ENVIRONMENTAL OR WETLAND IMPACTS. THE CLIENT AND/OR OWNER SHALL BE RESPONSIBLE FOR ANY SUCH STUDY AND NOTIFY ENGINEER IF ANY RESULTING CHANGES ARE NEEDED PRIOR TO CONSTRUCTION.

LEGAL DESCRIPTION:
APPROXIMATELY 6.299 ACRES BEING LOT 17 IN BLOCK 14 OF BRIARCREST PARK ADDITION. THE SUBJECT TRACT IS LOCATED IN THE CITY OF BRYAN, (BRAZOS COUNTY PROPERTY ID: 30053).

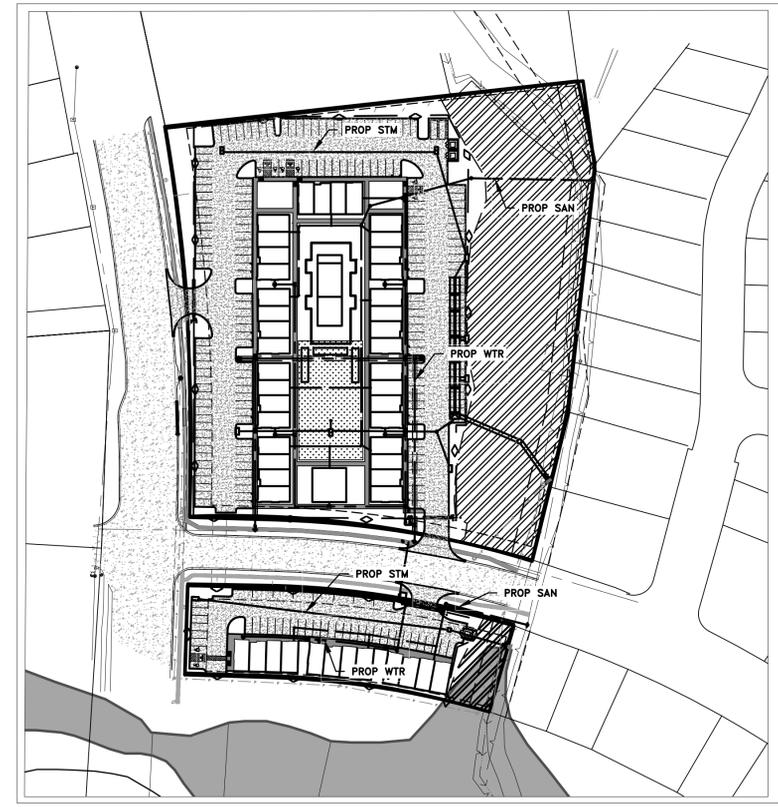
BENCHMARK:
THE BEARINGS SHOWN HEREON ARE BASED ON NAD.83, TEXAS CENTRAL ZONE.

FLOODPLAIN:
THE PROPERTY IS LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION X BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP NO. 48041C0215F, WITH A DATE OF IDENTIFICATION OF APRIL 2, 2014, IN BRAZOS COUNTY, STATE OF TEXAS, IN WHICH THE PROPERTY IS SITUATED.

SURVEY NOTE:
SURVEY PROVIDED BY _____ DATED _____ CONTRACTOR TO VERIFY EXISTING CONDITIONS PRIOR TO ANY WORK AND NOTIFY ENGINEER OF ANY DISCREPANCIES.



KEY MAP 549-228
SCALE: 1" = 500'



PROJECT MAP
SCALE: 1" = 100'



L SQUARED ENGINEERING
MUNICIPAL COMMERCIAL RESIDENTIAL
WWW.L2ENGINEERING.COM
PROFESSIONAL REGISTRATION NUMBER 11235
3307 W. DAVIS STREET #100
CONROE, TEXAS 77384
OFFICE: 936-647-0430
21123 EVA STREET #200
MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
JUSTIN WALTON
713-446-4083
JW@BUILD-OLGY.NET

PROJECT ADDRESS
2539 E VILLA MARIA ROAD
BRYAN, TEXAS 77803

THE MODS
2539 E Villa Maria Rd
The Mods Subd. Block 1, Lot 1 & 2 - 6.23 AC
Bryan, Brazos, County

COVER SHEET

DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	9/27/22	JTW	FOR PERMIT

DRAWING INFORMATION			
PROJECT	10766	TLDR	**
DRAWN	BAS	EIT	JTW
SCALE	SHEET		
AS SHOWN			01



01/10/2023

*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE

REFERENCE SPECIFICATIONS:

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

GENERAL CONSTRUCTION NOTES:

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

STORM WATER QUALITY NOTES:

- 1. COVERAGE IS REQUIRED UNDER THE TPDES GENERAL PERMIT TXR150000 FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION, INSPECTION, AND MAINTENANCE OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. THE COSTS TO IMPLEMENT, INSPECT, AND MAINTAIN THE SWPPP SHALL BE CONSIDERED INCIDENTAL TO THE SWPPP BID ITEMS.
2. IF THE PROJECT DISTURBS GREATER THAN 5 ACRES, A NOTICE OF INTENT (NOI) SHALL BE SUBMITTED TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) AT LEAST 7 DAYS PRIOR TO THE START OF ANY EARTH DISTURBING ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TCEQ COMPLIANCE, PLAN IMPLEMENTATION AND MAINTENANCE DURING CONSTRUCTION, WHEN DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PROVIDE A COPY OF THE CONTRACTOR'S NOTICE OF INTENT (NOI) AND PROOF THAT IT HAS BEEN SENT TO THE TCEQ.
3. COPIES OF THE CONTRACTOR'S NOI AND CONSTRUCTION SITE NOTICE (CSN) SHALL BE POSTED AT THE SITE BY THE CONTRACTOR. COPIES SHALL ALSO BE SUBMITTED TO THE PROJECT OWNER AND ENGINEER. THE CONTRACTOR SHALL LAMINATE AND POST THE TWO NOIS, TWO CSNS AND ANY "SECONDARY OPERATOR" CSNS ON THE PROJECT SITE AT A LOCATION WITH EASY ACCESS TO THE PUBLIC FOR CLEAR VIEWING AND AS APPROVED BY THE ENGINEER. THE COST OF LAMINATION AND POSTING OF THE NOIS & CSNS SHALL BE CONSIDERED INCIDENTAL TO THE SWPPP BID ITEMS.
4. UPON COMPLETION OF CONSTRUCTION ACTIVITIES AND FINAL STABILIZATION OF THE SITE, AS DEFINED BY THE TPDES GENERAL PERMIT, A NOTICE OF TERMINATION (NOT) IS REQUIRED TO BE SUBMITTED TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ). WHEN DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PROVIDE A COPY OF THE CONTRACTOR'S NOTICE OF TERMINATION (NOT) AND PROOF THAT IT HAS BEEN SENT TO THE TCEQ.
5. A RAIN GAUGE SHALL BE KEPT ON THE PROJECT SITE OR WITHIN THE IMMEDIATE PROJECT VICINITY. RECORDS OF RAINFALL EVENTS SHALL BE KEPT BY THE CONTRACTOR TO ASSIST WITH DETERMINING IF AN SWPPP SITE INSPECTION IS REQUIRED. THE COSTS FOR THE RAIN GAUGE SHALL BE CONSIDERED INCIDENTAL TO THE SWPPP BID ITEMS.
6. THE SWPPP, INSPECTION & MAINTENANCE REPORTS, CERTIFICATIONS, RAINFALL RECORDS, MAJOR GRADING DATE RECORDS AND TEMPORARY AND PERMANENT STABILIZATION DATE RECORDS SHALL BE KEPT CURRENT BY THE CONTRACTOR AND IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS. COPIES OF THE ALL SWPPP RECORDS SHALL BE KEPT ON-SITE, IF FEASIBLE, UNTIL THE NOTICE OF TERMINATION HAS BEEN SUBMITTED TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY. THE SWPPP RECORDS SHALL BE MADE READILY AVAILABLE TO ENGINEER AND REGULATORY AUTHORITIES UPON AN ON-SITE INSPECTION. THE CONTRACTOR SHALL DELIVER COPIES OF ALL SWPPP RECORDS TO PROJECT OWNER AND ENGINEER AS DIRECTED BY THE ENGINEER.

SANITARY SEWER CONSTRUCTION NOTES:

- 1. SANITARY SEWERS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST SPECIFICATIONS FOR SEWER CONSTRUCTION, AND TESTED AS SPECIFIED FROM THE LATEST TEST PROCEDURE FOR EITHER LIQUID OR AIR, INCLUDING ALL AMENDMENTS AND REVISIONS THERETO. BACKFILL AND BEDDING FOR SANITARY SEWERS MUST MEET ALL MINIMUM ASPECTS OF ASTM D-2321 AND MUST BE PLACED IN ACCORDANCE WITH THE APPLICABLE ENTITY'S SPECIFICATIONS.
2. ALL SANITARY SEWER MANHOLES SHALL BE STANDARD THE APPLICABLE ENTITY PRE-CAST USING RAM-NECK OR CAST IN PLACE CONCRETE IN ACCORDANCE WITH ASTM C-478. NO BRICK MANHOLES ALLOWED. FOR PVC PIPE, USE MANHOLE WATER STOP GASKET AND CLAMP ASSEMBLY AT MANHOLE CONNECTIONS. SANITARY SEWER MANHOLE RIMS SHALL BE 3 INCHES ABOVE NATURAL GROUND. BACKFILL SHALL BE ADDED AND SLOPED AWAY FROM THE MANHOLE RIM FOR DRAINAGE PURPOSES.
3. MANHOLE CONCRETE BOTTOM FOUNDATION SHALL BE 12" REINFORCED WITH #5 BARS AT 12", ON CENTERS, EACH WAY, WITH A MINIMUM OF 6" EXTRA SLAB LENGTH AROUND THE MANHOLE, IF POURED IN PLACE. APPROVED CHEMICALS SHALL BE USED FOR PATCHING AROUND MANHOLE JOINTS. MORTAR CEMENT WILL NOT BE ACCEPTED.
4. SANITARY SEWER PIPE SHALL BE PVC SDR 26 OR PVC SDR 35 (WITH APPROVAL), IN ACCORDANCE WITH ASTM SPECIFICATIONS D-3034, FOR 4" THROUGH 15" AND ASTM F-879 FOR 18" THROUGH 27". MINIMUM SIZE SANITARY SEWER MAIN IS 6". SDR 35 MAY BE USED WHEN DEPTH IS MORE THAN 3 FEET AND LESS THAN 6 FEET.
5. SEWER LINES SHALL BE LOCATED ON THE OPPOSITE SIDE OF THE STREET FROM WHERE WATER IS LOCATED. SEWER LINE AND WATER LINE SEPARATION SHALL BE IN ACCORDANCE WITH TEXAS NATURAL RESOURCE CONSERVATION COMMISSION RULES, CHAPTER 317.13 APPENDIX E.
6. NO SEWER PIPE SHALL BE LAID ON AN UNSTABLE FOUNDATION. SELECTED MATERIAL SHALL BE USED AND/OR WET SAND CONSTRUCTION DETAILS, WHICHEVER APPLIES IN THE OPINION OF THE ENGINEER. NO PIPE SHALL BE COVERED WITHOUT APPROVAL OF THE ENGINEER OR HIS REPRESENTATIVE. SANITARY SEWERS CONSTRUCTED IN WET SANDS TO SHALL HAVE A SPECIAL PROCEDURE AND SHALL BE CONSTRUCTED AS PER THE APPLICABLE ENTITY STANDARDS.
7. WHEN THE NATURAL GROUND LEVEL AROUND MANHOLE LIES BELOW THE 100 YEAR FLOODPLAIN ELEVATION, THE MANHOLE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SEALED AND VENTED MANHOLE DETAIL.
8. A DEFLECTION TEST SHALL BE REQUIRED AFTER THE BACKFILL HAS BEEN IN PLACE A MINIMUM OF 30 DAYS. THIS TEST SHALL BE DONE BY PULLING A HAND LINE WITH AN ATTACHED MANDREL FROM MAN-HOLE TO MANHOLE. THE MANDREL SHALL HAVE AN OUTSIDE DIAMETER THAT IS AT LEAST 95% OF THE ORIGINAL INSIDE DIAMETER OF THE PIPE. MANDREL TO BE MANUFACTURED WITH A MINIMUM OF SEVEN (7) RUNNERS, WITH EACH RUNNER BEING A MINIMUM OF 5 INCHES LONG. ANY PIPE NOT MEETING TEST REQUIREMENTS TO BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.
9. INFILTRATION/EXFILTRATION NOT TO EXCEED 200 GALLONS PER INCH DIAMETER PER MILE OF PIPE FOR 24 HOURS UNDER A MINIMUM OF 2 FEET OF HEAD, OR AN AIR TEST SHALL BE REQUIRED IN ACCORDANCE WITH ASTM C-828.
10. WHERE A SEWER LINE HAS LESS THAN (2) FEET OF COVER, PROVIDE CEMENT STABILIZED SAND BACKFILL MATERIAL.
11. CONTRACTOR SHALL KEEP RECORD OF LOCATION OF ALL STACKS, STUBS, SEWER LEADS, ETC. THE AS-BUILT MYLAR DRAWINGS MUST SHOW THE EXACT LOCATION.
12. IF SANITARY SERVICE LEADS ARE INSTALLED DURING CONSTRUCTION OF MAIN LINE, ALL LEADS TO HAVE A MINIMUM SLOPE OF 0.70% OR GREATER. ALL PVC LEADS TO BE THE SAME MATERIAL AS MAIN LINE. ALL DOUBLE SERVICE LEADS TO HAVE WYE LOCATED ON THE END OF THE LEAD. ALL SINGLE SERVICE LEADS TO BE 4 INCH, AND ALL DOUBLE SERVICE LEADS TO BE 6 INCH.
13. THE INSTALLATION OF ALL SANITARY SEWER LINES SHALL EXTEND ALONG THE ENTIRE LENGTH OF THE PROPERTY TO BE SERVED. SANITARY SEWER LINES THAT DEAD END SHALL EXTEND TO THE PROJECT LIMITS FOR FUTURE EXTENSIONS, WITH DEPTHS BASED ON ENTIRE SERVICE AREA.

PAVING NOTES:

- 1. IF PROPOSED SEMI-RIGID BASE WITH 2 INCH TYPE "D" HOT MIX ASPHALTIC CONCRETE SURFACING, FOR URBAN ESTATES ONLY, SEMI-RIGID BASE MAY BE 7 INCH CEMENT STABILIZED SHELL, 8 INCH CRUSHED LIMESTONE, OR 6 INCH HOT MIX ASPHALTIC CONCRETE.
2. EXPOSE 15 INCHES OF REINFORCING STEEL AT ALL PROPOSED SAWEED JOINTS. IF NO REINFORCING STEEL EXISTS, USE HORIZONTAL DOWELS PER NOTE #4.
3. REQUIRE A ONE (1) INCH REDWOOD EXPANSION BOARD OR PRE-MOLDED NON-EXTRUDING JOINT BETWEEN SIDEWALK AND BACK OF CURB.
4. HORIZONTAL DOWELS SHALL BE NO. 6 BARS, 24 INCHES LONG, DRILLED AND EMBEDDED 8 INCHES INTO THE CENTER OF THE EXISTING SLAB WITH "PO ROC" OR EQUAL. DOWELS SHALL BE 24 INCHES CENTER TO CENTER UNLESS OTHERWISE SPECIFIED.
5. WHEN PROPOSED PAVEMENT ENDS AT A CONSTRUCTION JOINT LEAVE 15 INCHES OF REINFORCING STEEL EXPOSED BEYOND PAVEMENT. COAT WITH ASPHALT AND WRAP WITH BURLAP FOR FUTURE PAVEMENT TIE-IN. AT EXPANSION JOINTS, EXTEND DOWELS 5 INCHES; COAT AND WRAP SAME AS CONSTRUCTION JOINTS.
6. WHEREVER A SIDEWALK IS REQUIRED BY GOVERNING ENTITY'S ORDINANCE, PROVIDE WHEELCHAIR RAMP AND/OR SIDEWALKS IN ACCORDANCE WITH THE "TEXAS DEPARTMENT OF TRANSPORTATION STANDARD WHEELCHAIR RAMP AND SIDEWALK DETAILS".
7. ADJUST EXISTING MANHOLE FRAMES AND COVERS TO FIT NEW GRADE.
8. ADJUST EXISTING WATER VALVE BOXES TO NEW PAVING GRADE. REPLACE ALL MISSING OR DAMAGED VALVE BOXES AND COVERS.
9. PLACE WHITE OR YELLOW PLASTIC MARKER OR PAINT AS SHOWN BY THE UNIFORM TRAFFIC MANUAL FOR PAVEMENT MARKINGS.
10. PROVIDE A CONCRETE PAVING HEADER AT THE END OF THE PAVEMENT.
11. T. C. INDICATES TOP OF CURB ELEVATION AND T. P. INDICATES TOP OF PAVEMENT ELEVATION.
12. CURB RADIUS AT STREET INTERSECTIONS TO BE 24.50 FEET TO BACK OF CURB WITH A MINIMUM OF ONE (1) PERCENT GRADE UNLESS OTHERWISE NOTED.
13. GUIDELINES SET FORTH IN THE "TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" WILL BE OBSERVED.
14. TRANSVERSE EXPANSION JOINTS SHALL BE INSTALLED AT ALL RADIUS RETURNS AND AT A MAXIMUM SPACING OF 60 FOOT INTERVALS.
15. CONTRACTOR WILL USE CONTINUOUS LONGITUDINAL REINFORCING BARS IN CURBS AS SHOWN ON DETAILS PROVIDED IN CONSTRUCTION DRAWINGS.
16. A CONCRETE MIX DESIGN BY THE CERTIFIED LAB SHALL BE SUBMITTED TO AND APPROVED BY THE GOVERNING ENTITY'S ENGINEER BEFORE ANY CONCRETE IS POURED.
17. CONSTRUCTION OF ITEMS THAT ARE NOT SPECIFICALLY ADDRESSED BY CITY OF BRYAN REQUIREMENTS TO BE IN ACCORDANCE WITH THE TEXAS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS (LATEST REVISION).
18. RIGHT-OF-WAY SHALL BE SLOPED FROM THE PROPERTY TO THE TOP OF CURB AND HYDROMULCHED OR SODDED BEFORE FINAL ACCEPTANCE BY THE GOVERNING ENTITY TO CONTROL EROSION INTO THE STREET AND STORM SEWER.
19. MEMBRANE CURING TYPE 2, WHITE PIGMENTED, SHALL BE USED FOR CURING ALL CONCRETE SURFACES IMMEDIATELY AFTER FINISHING OF SURFACES AND SHALL BE IN ACCORDANCE WITH THE TEXAS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS ITEM #526.
20. ALL FIRST STAGE INLET CONSTRUCTION SHALL BE PROTECTED WITH 3 INCH THICK BOARDS AT ALL TIMES.
21. ALL SUBGRADE AND EMBANKMENT AREAS SHALL BE STRIPPED OF ALL ORGANIC AND UNSUITABLE MATERIAL BEFORE STABILIZATION OR FILLING IS BEGUN. MATERIAL USED FOR FILL SHALL BE CERTIFIED BY A LAB TO HAVE A PLASTICITY INDEX BETWEEN 10 AND 20.
22. FORMS SHALL BE SET TO THE PROPER GRADE AND PROPERLY SUPPORTED SO THAT NO DISPLACEMENT OCCURS WITH THE PAVING ACTIVITIES. ALL CONCRETE SHALL BE VIBRATED BY MECHANICAL MEANS TO INSURE PROPER COMPACTION AND NO HONEY COMBS.
23. CONCRETE SHALL NOT BE PLACED WHEN THE TEMPERATURE IS BELOW 40° F. AND FALLING, BUT MAY BE PLACED WHEN TEMPERATURE IS ABOVE 35° F. AND RISING. THE TEMPERATURE SHALL BE TAKEN IN THE SHADE AND AWAY FROM ARTIFICIAL HEAT.
24. THE CONTRACTOR SHALL ERECT AND MAINTAIN BARRICADES TO ADEQUATELY PROTECT THE PAVEMENT. THE CONTRACTOR SHALL HAVE PERSONNEL ON SITE UNTIL THE PAVEMENT HAS REACHED SUFFICIENT STRENGTH AS NOT TO BE DAMAGED BY ANIMALS OR FOOT TRAFFIC.
25. JOINTS SHALL BE CLEANED OF ALL SCALE, DIRT, DUST, CURING COMPOUND, AND CONCRETE TO THE WIDTH AND DEPTH OF THE JOINT AND SHALL BE DRY BEFORE SEALING IS PERFORMED.
26. ALL IMPROVEMENTS SHALL BE CONSTRUCTED AND TESTED PER CITY OF BRYAN REQUIREMENTS.

STORM SEWER NOTES:

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

WATER CONSTRUCTION NOTES:

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

LEGEND:

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

BENCHMARK:

THE BEARINGS SHOWN HEREON ARE BASED ON NAD83, TEXAS CENTRAL ZONE.

FLOODPLAIN NOTE:

THE PROPERTY IS LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION X BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP NO. 48041C0215F, WITH A DATE OF IDENTIFICATION OF APRIL 2, 2014, IN BRAZOS COUNTY, STATE OF TEXAS, IN WHICH THE PROPERTY IS SITUATED.

LS SQUARED ENGINEERING logo and contact information including website, address, and phone numbers.

CLIENT INFORMATION section listing Justin Walton as the contact person with address and phone details.

THE MODS project title and location: 2539 E Villa Maria Rd, The Mods Subd, Block 1, Lot 1 & 2 - 6.23 AC, Bryan, Brazos, County.

DRAWING ISSUE table with columns for #, DATE, BY, and COMMENT, showing one issue dated 9/27/22 by JTW for PERMIT.

DRAWING INFORMATION table showing project number 10766, TDLR, and sheet number 02.

Professional Engineer seal for Jonathan T. White, License No. 127058, dated 01/10/2023.

*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE

L:\SHARED\L2\ENGINEERING\PROJECTS\ENGINEERING PROJECTS\10766 - THE LUX\03 CAD\DESIGN SET\03 EXISTING CONDITIONS SURVEY & DEMOLITION PLAN.DWG Jan. 10, 2023-7:22 AM



DEMOLITION LEGEND:

INDICATES OTHER ITEMS TO BE DEMOLISHED AS DESCRIBED (CONTRACTOR TO VERIFY EACH ITEM WITH OWNER PRIOR TO CONSTRUCTION IN REGARDS TO REMOVAL, STORAGE AND/OR DISPOSAL.)

DEMOLITION NOTES:

1. ALL DEMOLISHED MATERIALS NOT TO BE SAVED OR REUSED BY OWNER ARE TO BE REMOVED FROM SITE AT CONTRACTOR'S EXPENSE.

L SQUARED ENGINEERING
MUNICIPAL COMMERCIAL RESIDENTIAL
WWW.L2ENGINEERING.COM
3307 W. DAVIS STREET #100
CONROE, TEXAS 77384
OFFICE: 936-647-0430
21123 EVA STREET #200
MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
JUSTIN WALTON
713-446-4083
JW@BUILD-OLGY.NET

PROJECT ADDRESS
2539 E VILLA MARIA ROAD
BRYAN, TEXAS 77803

THE MODS

2539 E Villa Maria Rd
The Mods Subd. Block 1, Lot 1 & 2 - 6.23 AC
Bryan, Brazos, County

EXISTING CONDITIONS SURVEY & DEMOLITION PLAN

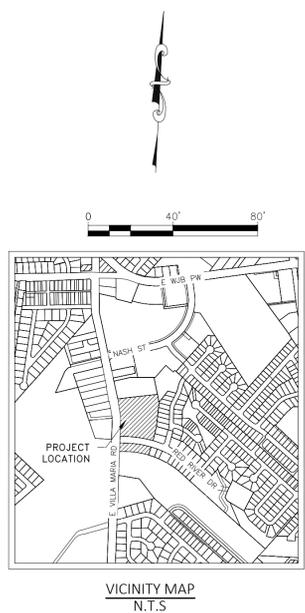
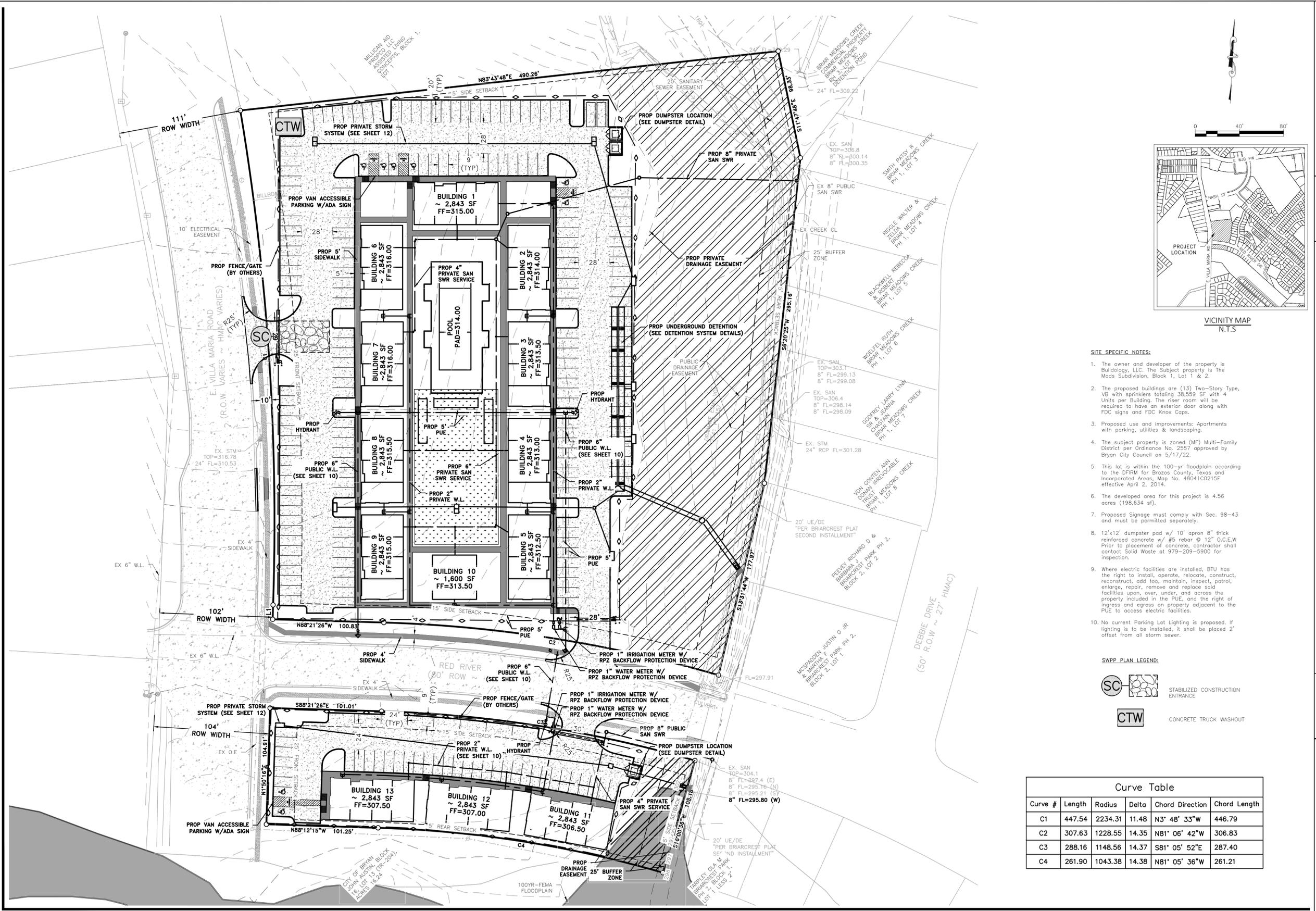
DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	9/27/22	JTW	FOR PERMIT

DRAWING INFORMATION			
PROJECT	10766	TDLR	**
DRAWN	BAS	EIT	JTW
SCALE	SHEET		03
1" = 40' (24x36) 1" = 80' (11x17)			

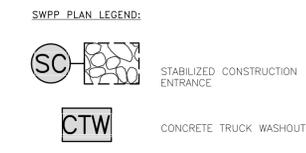


01/10/2023

*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE



- SITE SPECIFIC NOTES:**
- The owner and developer of the property is Buildology, LLC. The Subject property is The Mods Subdivision, Block 1, Lot 1 & 2.
 - The proposed buildings are (13) Two-Story Type, VB with sprinklers totaling 38,559 SF with 4 Units per Building. The riser room will be required to have an exterior door along with FDC signs and FDC Knox Caps.
 - Proposed use and improvements: Apartments with parking, utilities & landscaping.
 - The subject property is zoned (MF) Multi-Family District per Ordinance No. 2557 approved by Bryan City Council on 5/17/22.
 - This lot is within the 100-yr floodplain according to the DIRM for Brazos County, Texas and Incorporated Areas, Map No. 48041C0215F effective April 2, 2014.
 - The developed area for this project is 4.56 acres (198,634 sf).
 - Proposed Signage must comply with Sec. 98-43 and must be permitted separately.
 - 12'x12' dumpster pad w/ 10' apron 8" thick reinforced concrete w/ #5 rebar @ 12" O.C.E.W Prior to placement of concrete, contractor shall contact Solid Waste at 979-209-5900 for inspection.
 - Where electric facilities are installed, BTU has the right to install, operate, relocate, construct, reconstruct, add to, maintain, inspect, patrol, enlarge, repair, remove and replace said facilities upon, over, under, and across the property included in the PUE, and the right of ingress and egress on property adjacent to the PUE to access electric facilities.
 - No current Parking Lot Lighting is proposed. If lighting is to be installed, it shall be placed 2' offset from all storm sewer.



Curve Table

Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	447.54	2234.31	11.48	N3° 48' 33"W	446.79
C2	307.63	1228.55	14.35	N81° 06' 42"W	306.83
C3	288.16	1148.56	14.37	S81° 05' 52"E	287.40
C4	261.90	1043.38	14.38	N81° 05' 36"W	261.21

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CLIENT INFORMATION
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THE MODS

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The Mods Subd. Block 1, Lot 1 & 2 - 6.23 AC
Bryan, Brazos, County

OVERALL SITE PLAN

DRAWING ISSUE

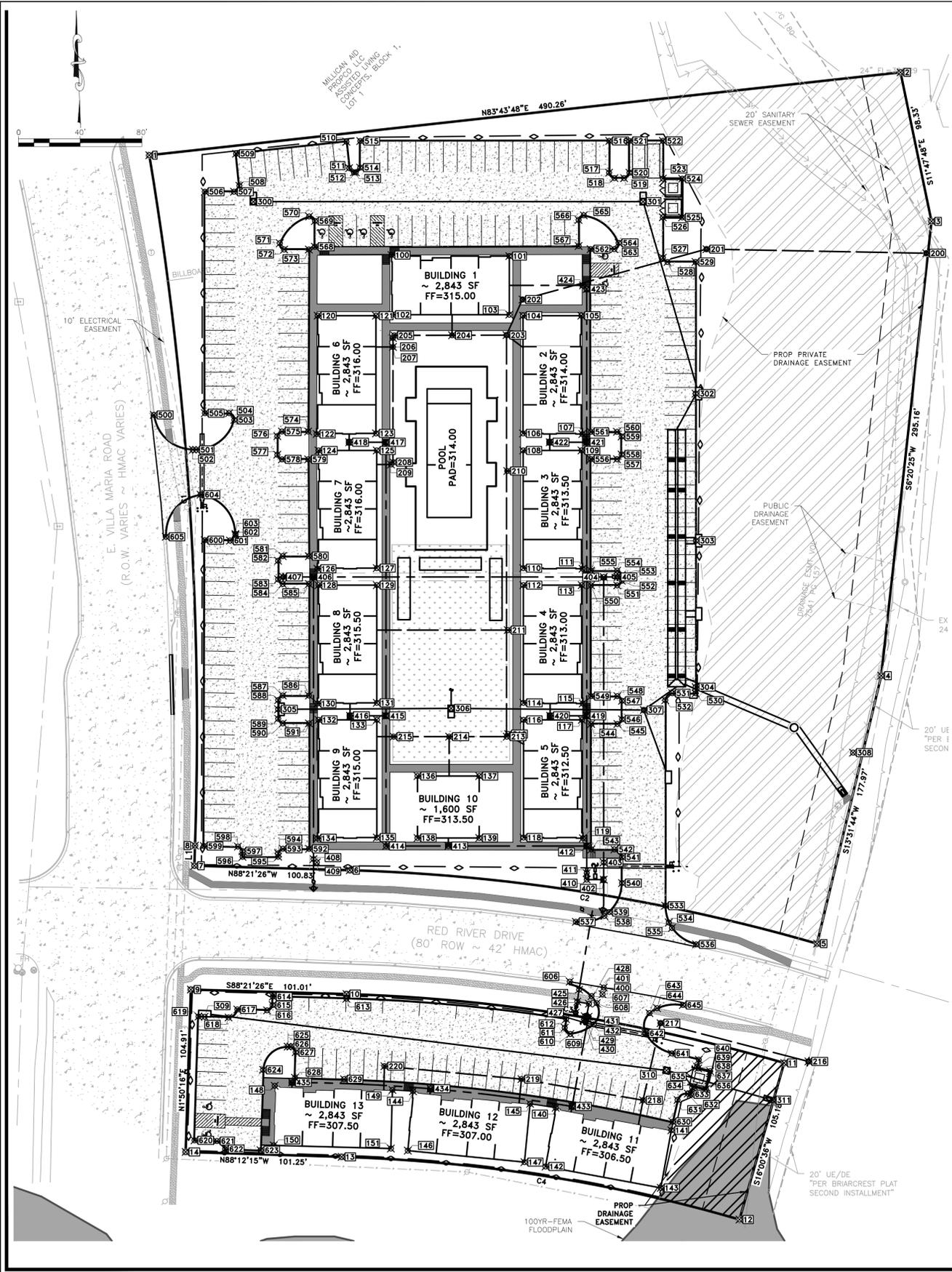
#	DATE	BY	* COMMENT
1	9/27/22	JTW	FOR PERMIT

DRAWING INFORMATION

PROJECT	10766	TDLR	**
DRAWN	BAS	EIT	JTW
SCALE	SHEET		
1" = 40' (24x36)	04		
1" = 80' (11x17)			

JONATHAN T. WHITE
127058
PROFESSIONAL ENGINEER
10/10/2023

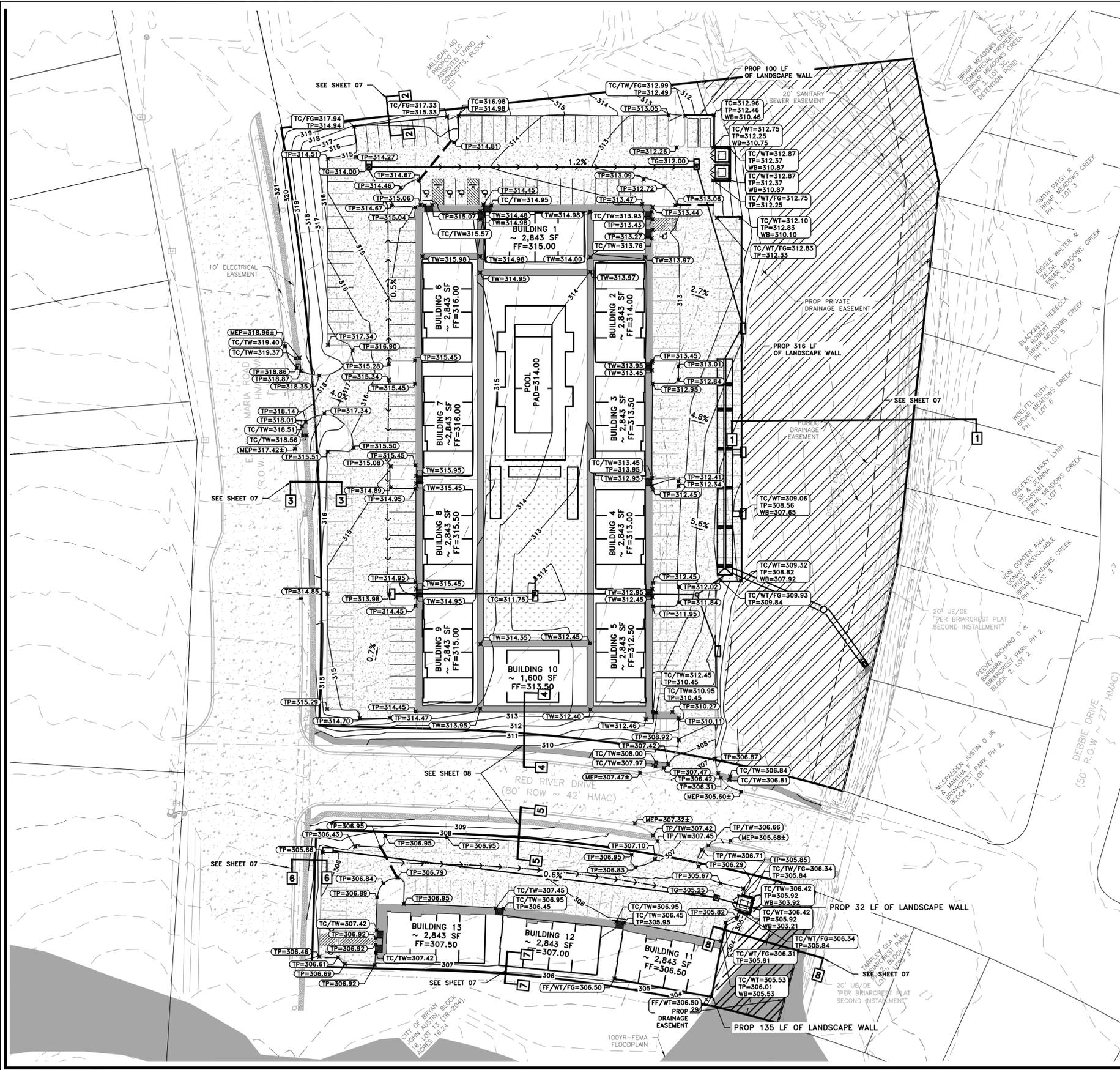
*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE



PAVING COORDINATES			PAVING COORDINATES			PAVING COORDINATES			PAVING COORDINATES			PAVING COORDINATES		
POINT #	NORTHING	EASTING	POINT #	NORTHING	EASTING	POINT #	NORTHING	EASTING	POINT #	NORTHING	EASTING	POINT #	NORTHING	EASTING
500	10228838.0985	3549214.2415	530	10228858.3743	3549565.7272	560	10228827.1872	3549514.6921	590	10228638.9087	3549297.8876	620	10228369.6655	3549240.6487
501	10228815.5998	3549241.7173	531	10228858.3743	3549550.5345	561	10228827.1872	3549497.6841	591	10228638.9010	3549314.8897	621	10228369.2001	3549255.1526
502	10228815.6001	3549239.5612	532	10228853.8743	3549546.0345	562	10228827.1872	3549497.5775	592	10228557.9010	3549314.9147	622	10228364.0270	3549260.4666
503	10228834.8857	3549266.4516	533	10228521.2014	3549545.9300	563	10228845.1351	3549512.9328	593	10228557.9087	3549297.9085	623	10228363.2887	3549283.4774
504	10228839.2386	3549263.0561	534	10228510.2990	3549548.3402	564	10228849.2077	3549515.7346	594	10228554.9100	3549294.9072	624	10228415.2047	3549285.1272
505	10228839.2338	3549247.3566	535	10228506.7922	3549550.3364	565	10228866.9679	3549493.1597	595	10228552.8078	3549294.9062	625	10228430.2060	3549301.0638
506	10228982.2337	3549247.3125	536	10228496.2084	3549565.9883	566	10228963.9888	3549489.7767	596	10228552.7649	3549271.7799	626	10228430.1532	3549302.9047
507	10228982.2396	3549266.2526	537	10228510.7548	3549488.0125	567	10228947.1976	3549489.7974	597	10228556.3916	3549271.7260	627	10228426.5543	3549306.3029
508	10228986.0989	3549269.7331	538	10228514.5797	3549506.5158	568	10228946.6994	3549318.7276	598	10228559.3466	3549268.7792	628	10228410.0611	3549305.8299
509	10229006.7796	3549267.5990	539	10228517.0618	3549509.6971	569	10228963.3260	3549318.7656	599	10228559.7359	3549246.6905	629	10228409.1493	3549337.6217
510	10229014.5379	3549339.1798	540	10228535.7924	3549517.9694	570	10228966.2309	3549314.9903	600	10228757.2271	3549247.2129	630	10228381.6433	3549550.7241
511	10228997.4643	3549340.9417	541	10228552.5110	3549518.0153	571	10228948.9546	3549295.9920	601	10228756.9373	3549263.6490	631	10228395.7597	3549553.9880
512	10228994.7755	3549344.0654	542	10228557.5248	3549513.0153	572	10228944.9082	3549298.8023	602	10228760.4364	3549267.2107	632	10228399.8736	3549560.6098
513	10228994.8290	3549345.2139	543	10228557.5248	3549498.0814	573	10228944.9010	3549314.8247	603	10228761.2610	3549267.2108	633	10228399.4292	3549562.4857
514	10228997.8113	3549348.0742	544	10228638.5248	3549497.9761	574	10228827.4012	3549314.3525	604	10228462.6027	3549244.5750	634	10228403.7069	3549563.5165
515	10229014.9586	3549348.1571	545	10228638.5248	3549514.9722	575	10228827.4089	3549297.3402	605	10228759.4087	3549222.0006	635	10228404.4523	3549564.7220
516	10229015.0368	3549509.6567	546	10228641.5287	3549517.9722	576	10228824.4103	3549294.3388	606	10228472.1396	3549484.0828	636	10228402.6353	3549572.3505
517	10228994.5298	3549509.5576	547	10228653.5287	3549517.9566	577	10228812.4103	3549294.3334	607	10228462.7943	3549498.1895	637	10228414.3040	3549575.1298
518	10228991.0129	3549513.0576	548	10228656.5248	3549514.9566	578	10228809.4089	3549297.3320	608	10228458.2321	3549501.5514	638	10228416.1447	3549567.4018
519	10228991.0129	3549519.2889	549	10228656.5248	3549497.9527	579	10228809.4012	3549314.3562	609	10228444.5778	3549499.6094	639	10228417.3464	3549566.6600
520	10228994.5129	3549522.7889	550	10228728.0248	3549497.8357	580	10228746.9010	3549314.8627	610	10228438.3770	3549484.4541	640	10228421.7818	3549567.7521
521	10229015.0432	3549522.7889	551	10228728.0248	3549514.8318	581	10228746.9087	3549297.8667	611	10228442.4109	3549480.7809	641	10228425.8094	3549550.1767
522	10229015.0537	3549544.4587	552	10228731.0287	3549517.8318	582	10228743.9100	3549294.8653	612	10228447.9177	3549481.6417	642	10228438.7717	3549533.1645
523	10228990.6916	3549544.4587	553	10228734.5287	3549517.8162	583	10228731.9101	3549294.8599	613	10228461.1270	3549339.1456	643	10228451.7816	3549535.7586
524	10228990.6463	3549557.0012	554	10228737.5248	3549514.8162	584	10228728.9087	3549297.8585	614	10228462.4946	3549291.4588	644	10228454.9978	3549540.7471
525	10228965.6560	3549556.9415	555	10228737.5248	3549497.8123	585	10228728.9010	3549314.8661	615	10228456.9969	3549291.5011	645	10228457.0683	3549557.4371
526	10228965.6855	3549544.4230	556	10228809.5248	3549497.7070	586	10228656.9010	3549314.8776	616	10228453.5987	3549287.7022			
527	10228939.5994	3549544.4587	557	10228809.5244	3549514.6995	587	10228656.9087	3549297.8876	617	10228454.1528	3549268.3812			
528	10228936.8737	3549547.4462	558	10228812.5263	3549517.6996	588	10228653.9080	3549294.8862	618	10228448.9986	3549262.7156			
529	10228936.8729	3549565.6442	559	10228824.1891	3549517.6921	589	10228641.9080	3549294.8890	619	10228449.6243	3549243.2143			

SANITARY SEWER COORDINATES			WATERLINE COORDINATES			WATERLINE COORDINATES			BOUNDARY COORDINATES			STORM SEWER COORDINATES		
POINT #	NORTHING	EASTING	POINT #	NORTHING	EASTING	POINT #	NORTHING	EASTING	POINT #	NORTHING	EASTING	POINT #	NORTHING	EASTING
200	10228942.5171	3549715.3364	400	10228464.0453	3549505.3220	418	10228820.4762	3549340.9938	1	10229005.7948	3549211.2950	300	10228975.7829	3549278.8356
201	10228945.1313	3549572.7490	401	10228468.3275	3549506.0646	419	10228643.8314	3549495.0731	2	10229059.3289	3549698.6182	301	10228975.8269	3549531.6217
202	10228912.6448	3549453.3667	402	10228538.0141	3549506.0646	420	10228643.8304	3549471.3341	3	10228963.0755	3549718.7206	302	10228851.8570	3549565.6739
203	10228889.6274	3549443.0186	403	10228549.1498	3549506.0646	421	10228820.4759	3549495.0573	4	10228669.7206	3549686.1245	303	10228756.8742	3549565.8759
204	10228889.5295	3549407.7142	404	10228733.4348	3549506.0646	422	10228820.4759	3549471.0650	5	10228496.6901	3549644.4915	304	10228662.3495	3549565.7153
205	10228889.4642	3549370.2198	405	10228733.4766	3549515.0709	423	10228919.4176	3549495.0498	6	10228544.0980	3549341.3463	305	10228648.0149	3549294.8498
206	10228887.7781	3549369.3412	406	10228733.4555	3549317.8653	424	10228921.7657	3549492.7017	7	10228546.9886	3549240.5585	306	10228648.5973	3549407.1544
207	10228881.9856	3549369.3862	407	10228733.4576	3549298.1723	425	10228466.9741	3549490.1187	8	10228559.9915	3549240.9768	307	10228647.5286	3549532.0549
208	10228807.5458	3549369.6047	408	10228551.2717	3549317.8653	426	10228459.2127	3549488.9420	9	10228467.0214	3549238.2650	308	10228620.0312	3549667.8382
209	10228806.0615	3549368.1195	409	10228549.1498	3549319.9853	427	10228452.1177	3549487.8623	10	10228464.1257	3549339.2335	309	10228449.4961	3549247.2122
210	10228801.8725	3549443.5121	410	10228538.0141	3549495.0820	428	10228457.8783	3549496.4780	11	10228419.6509	3549623.1714	310	10228414.8250	3549546.8475
211	10228699.1645	3549443.8322	411	10228542.2776	3549495.0538	429	10228448.8781	3549493.7321	12	10228318.5505	3549594.1622	311	10228395.6533	3549615.7352
212	10228632.0400	3549444.0738	412	10228559.7152	3549495.0802	430	10228447.9127	3549493.3896	13	10228358.9924	3549336.1020			
213	10228630.3539	3549443.1952	413	10228559.7152	3549405.3016	431	10228449.4633	3549496.2389	14	10228362.1654	3549234.9006			
214	10228630.3539	3549405.8281	414	10228559.7152	3549364.8538	432	10228447.5341	3549495.8241						
215	10228630.3548	3549369.8002	415	10228643.7859	3549364.8538	433	10228391.5590	3549485.5993						
216	10228420.6371	3549638.8770	416	10228643.8314	3549341.5223	434	10228403.0126	3549393.7424						
217	10228445.3348	3549542.9826	417	10228820.4762	3549364.8538	435	10228407.1145	3549303.9258						
218	10228395.5796	3549531.5820												
219	10228409.2152	3549452.7190												
220	10228417.5544	3549363.8177												

BUILDING COORDINATES			BUILDING COORDINATES			BUILDING COORDINATES		
POINT #	NORTHING	EASTING	POINT #	NORTHING	EASTING	POINT #	NORTHING	EASTING
100	10228941.3441	3549368.4156	120	10228902.1849	3549320.5164	140	10228390.7030	3549474.9453
101	10228940.6801	3549444.8337	121	10228902.1849	3549358.3452	141	10228376.1721	3549549.9722
102	10228902.8513	3549368.8284	122	10228825.7667	3549319.8529	142	10228352.7753	3549468.3608
103	10228902.8513	3549444.8337	123	10228826.1795	3549358.3452	143	10228338.9723	3549543.1023
104	10228902.1846	3549453.7135	124	10228815.1852	3549321.0282	144	10228401.3757	3549382.3727
105	10228902.1846	3549491.5424	125	10228815.1852	3549358.8571	145	10228393.2581	3549458.3608
106	10228826.1792	3549453.7135	126	10228738.7671	3549320.3642	146	10228363.0264	3549379.0268
107	10228826.1792	3549492.2064	127	10228739.1799	3549358.8571	147	10228355.6098	3549454.6695
108	10228815.1840	3549						



CUT/FILL TABLE		
CUT: 5,150 CY	FILL: 5,887 CY	NET: 737 CY

- GRADING LEGEND:**
- TW=???** TOP OF WALK
 - TP=???** TOP OF PAVEMENT
 - TG=???** TOP OF GRATE
 - HB=???** HIGHBANK
 - TOE=???** TOE OF SLOPE
 - FL=???** FLOWLINE
 - TC=???** TOP OF CURB
 - RIM=???** RM OF STRUCTURE
 - WT=???** WALL TOP
 - WB=???** WALL BOTTOM
 - FG=???** FINISH GRADE
 - FF=???** FINISH FLOOR
 - MEG=???** MATCH EXISTING GRADE
 - MEP=???** MATCH EXISTING PAVEMENT
- GRADE BREAK** (Symbol)
- 1.0%** SLOPE (Symbol)
- CROSS SECTION** (Symbol)

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

L SQUARED ENGINEERING
 MUNICIPAL COMMERCIAL RESIDENTIAL
 WWW.L2ENGINEERING.COM
 3307 W. DAVIS STREET #100
 CONROE, TEXAS 77384
 OFFICE: 281-647-0420
 21123 EVA STREET #200
 MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
 JUSTIN WALTON
 713-446-4083
 JW@BUILD-OLGY.NET

PROJECT ADDRESS
 2539 E VILLA MARIA ROAD
 BRYAN, TEXAS 77803

THE MODS
 2539 E Villa Maria Rd
 The Mods Subd. Block 1, Lot 1 & 2 - 6.23 AC
 Bryan, Brazos, County

GRADING PLAN

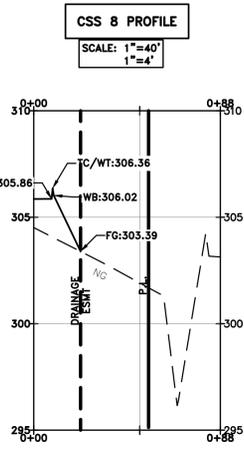
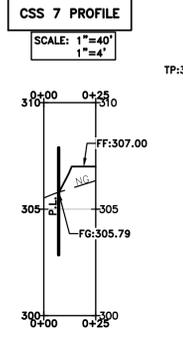
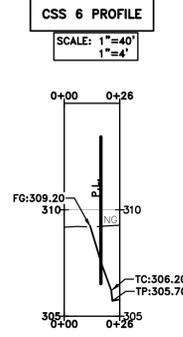
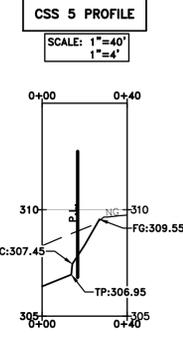
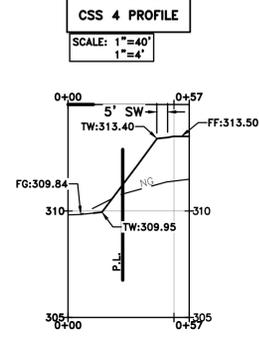
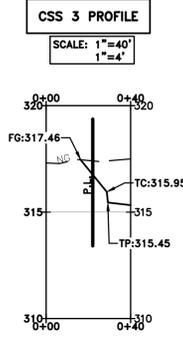
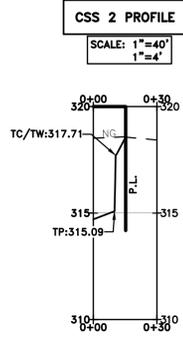
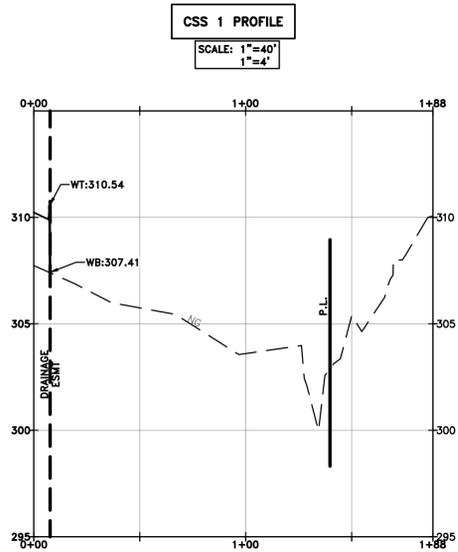
DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	9/27/22	JTW	FOR PERMIT

DRAWING INFORMATION			
PROJECT	10766	TDLR	**
DRAWN	BAS	EDIT	JTW
SCALE	1" = 40' (24x36)	SHEET	07
	1" = 80' (11x17)		

JONATHAN T. WHITE
 127058
 LICENSE
 PROFESSIONAL ENGINEER
 STATE OF TEXAS
 01/10/2023

*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE

L:\SHARED\L2\ENGINEERING PROJECTS\ENGINEERING PROJECTS\10766 - THE LUX\03 CAD\DESIGN SET\09 GRADING PLAN.DWG Jan. 10, 2023-7:25 AM



GRADING LEGEND:

TW=???	TOP OF WALK
TP=???	TOP OF PAVEMENT
TG=???	TOP OF GRATE
HB=???	HIGHBANK
TOE=???	TOE OF SLOPE
FL=???	FLOWLINE
TC=???	TOP OF CURB
RIM=???	RIM OF STRUCTURE
WALL=???	WALL TOP
FG=???	FINISH GRADE
FF=???	FINISH FLOOR
MEG=???	MATCH EXISTING GRADE
MEP=???	MATCH EXISTING PAVEMENT
1.0%	GRADE BREAK
1	SLOPE
1	CROSS SECTION

- GRADING NOTES:**
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 - CONTRACTOR SHALL PROTECT ALL TREES TO REMAIN.

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MUNICIPAL COMMERCIAL RESIDENTIAL
WWW.L2ENGINEERING.COM
3307 W. DAVIS STREET #100
CONROE, TEXAS 77384
OFFICE: 936-647-0430
21123 EVA STREET #200
MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
JUSTIN WALTON
713-446-4083
JW@BUILD-OLGY.NET
PROJECT ADDRESS
2539 E VILLA MARIA ROAD
BRYAN, TEXAS 77803

THE MODS
2539 E Villa Maria Rd
The Mods Subd. Block 1, Lot 1 & 2 - 6.23 AC
Bryan, Brazos, County
CROSS SECTIONS

DRAWING ISSUE

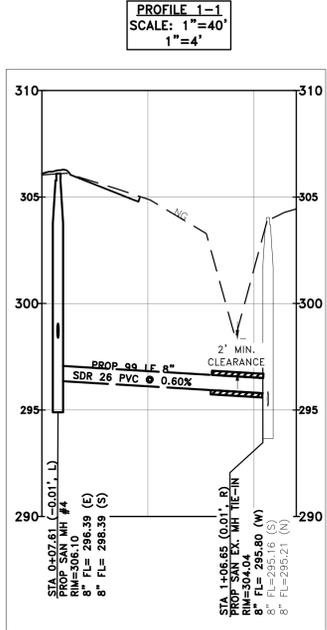
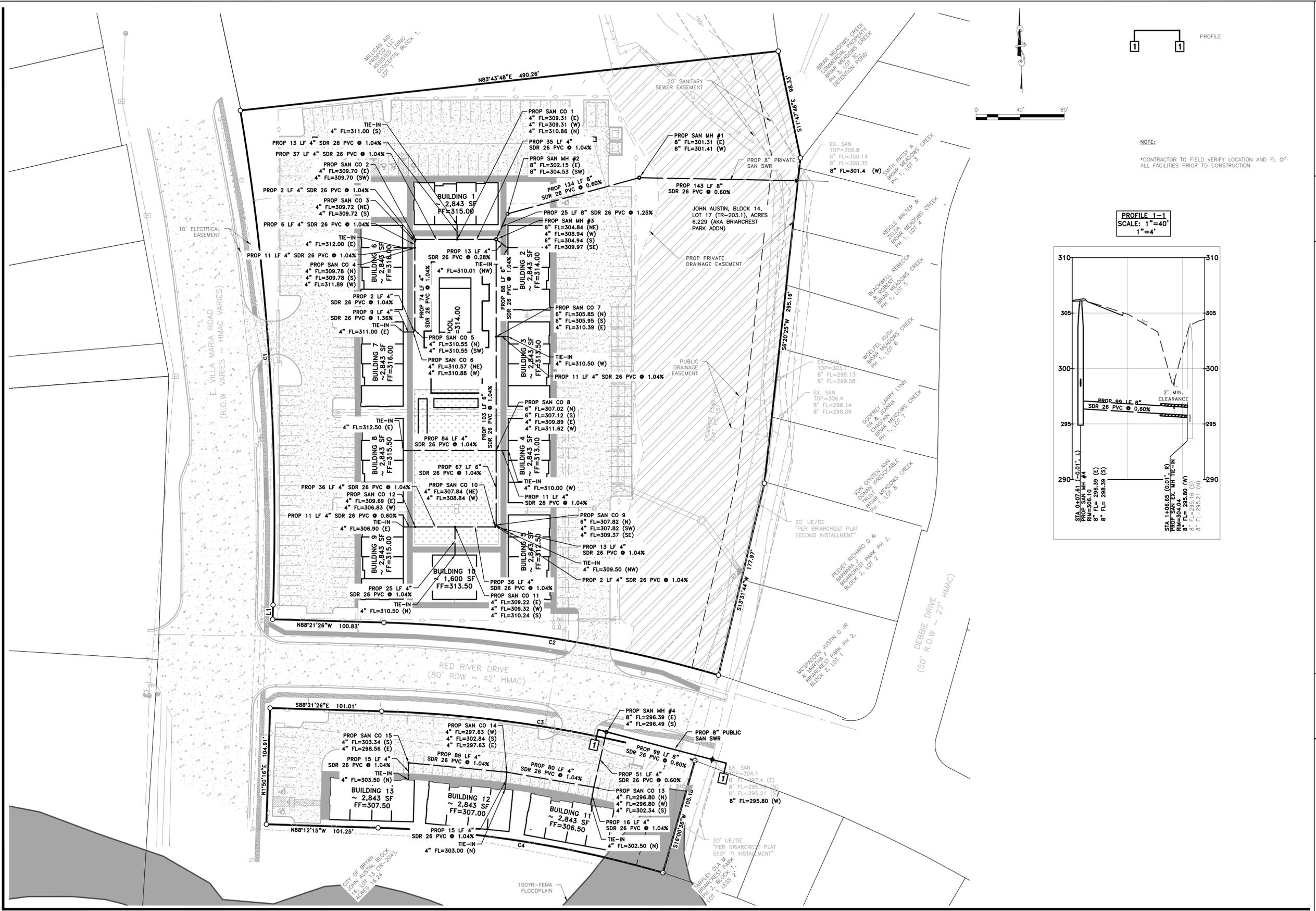
#	DATE	BY	* COMMENT
1	9/27/22	JTW	FOR PERMIT

DRAWING INFORMATION

PROJECT	10766	TDLR	**
DRAWN	BAS	EIT	JTW
SCALE	1" = 40' (24x36)	SHEET	08
	1" = 80' (11x17)		



*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE



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WWW.L2ENGINEERING.COM
3307 W. DAVIS STREET #100
CONROE, TEXAS 77384
OFFICE: 936-647-0430
21123 EVA STREET #200
MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
JUSTIN WALTON
713-446-4083
JW@BUILD-LOGY.NET

PROJECT ADDRESS
2539 E VILLA MARIA ROAD
BRYAN, TEXAS 77803

THE MODS

2539 E Villa Maria Rd
The Mods Subd. Block 1, Lot 1 & 2 - 6.23 AC
Bryan, Brazos, County

SANITARY SEWER PLAN

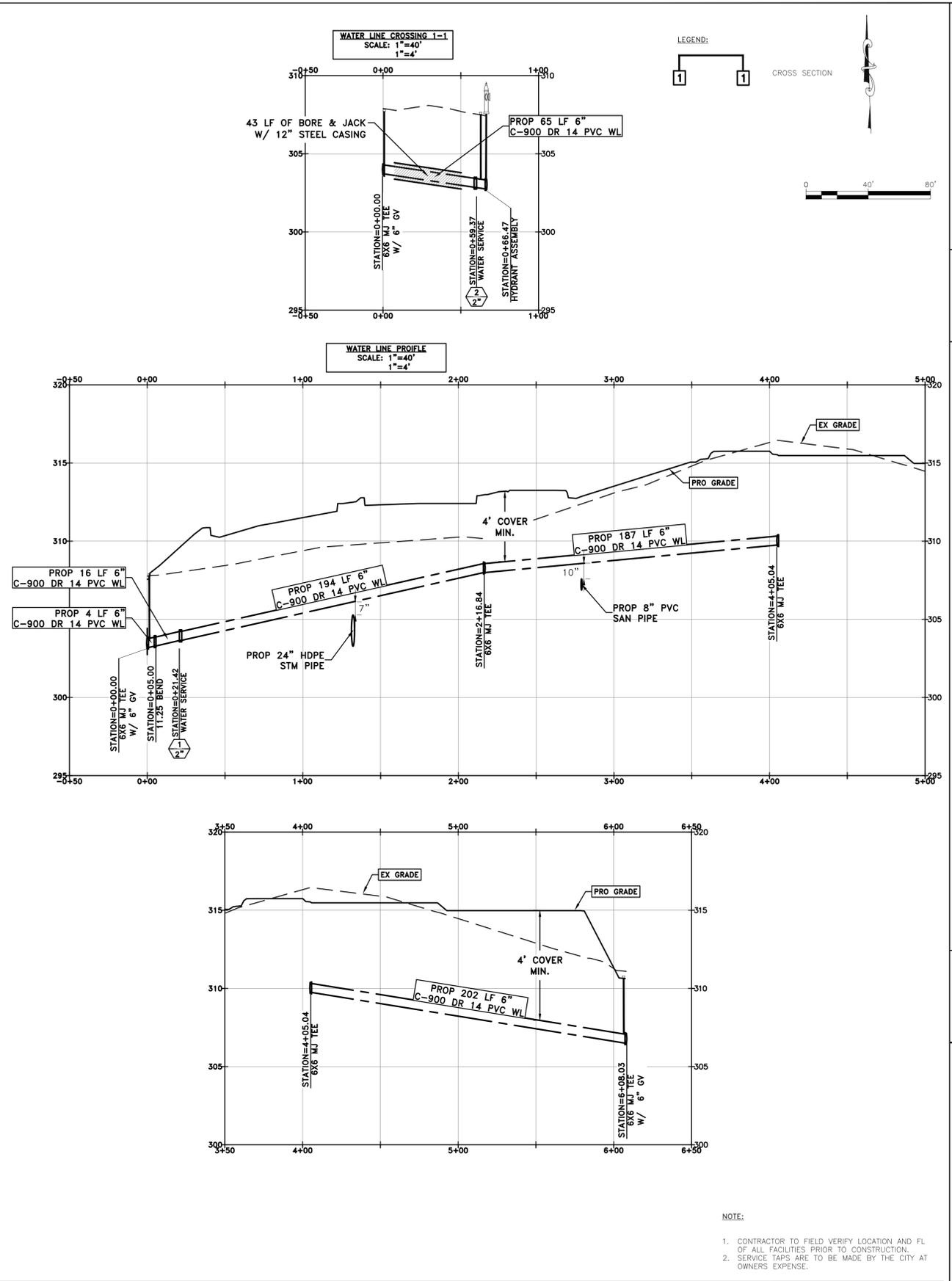
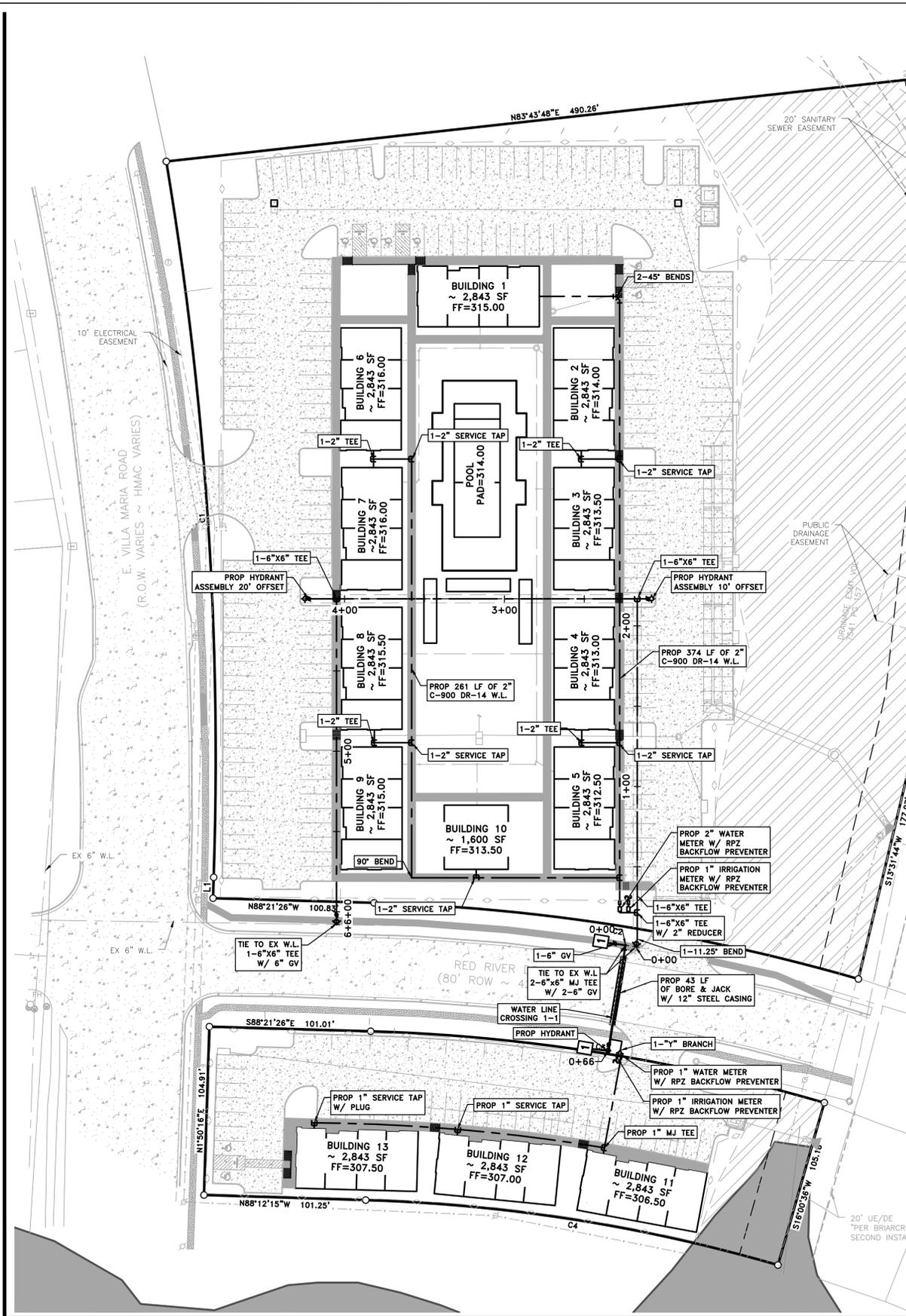
DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	9/27/22	JTW	FOR PERMIT

DRAWING INFORMATION			
PROJECT	10766	TDLR	**
DRAWN	BAS	EIT	JTW
SCALE	SHEET		09
1" = 40' (24x36)	1" = 80' (11x17)		

JONATHAN T. WHITE
127058
PROFESSIONAL ENGINEER
01/10/2023

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NOTE:
 1. CONTRACTOR TO FIELD VERIFY LOCATION AND FL OF ALL FACILITIES PRIOR TO CONSTRUCTION.
 2. SERVICE TAPS ARE TO BE MADE BY THE CITY AT OWNERS EXPENSE.

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 MUNICIPAL COMMERCIAL RESIDENTIAL
 WWW.L2ENGINEERING.COM
 3307 W. DAVIS STREET #100
 CONROE, TEXAS 77384
 OFFICE: 936-647-0430
 21123 EVA STREET #200
 MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
 JUSTIN WALTON
 713-446-4083
 JW@BUILD-LOGY.NET
 PROJECT ADDRESS
 2539 E VILLA MARIA ROAD
 BRYAN, TEXAS 77803

THE MODS
 2539 E Villa Maria Rd
 The Mods Subd. Block 1, Lot 1 & 2 - 6.23 AC
 Bryan, Brazos, County
WATER PLAN

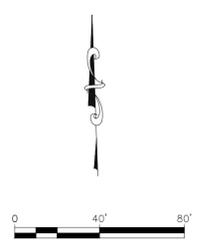
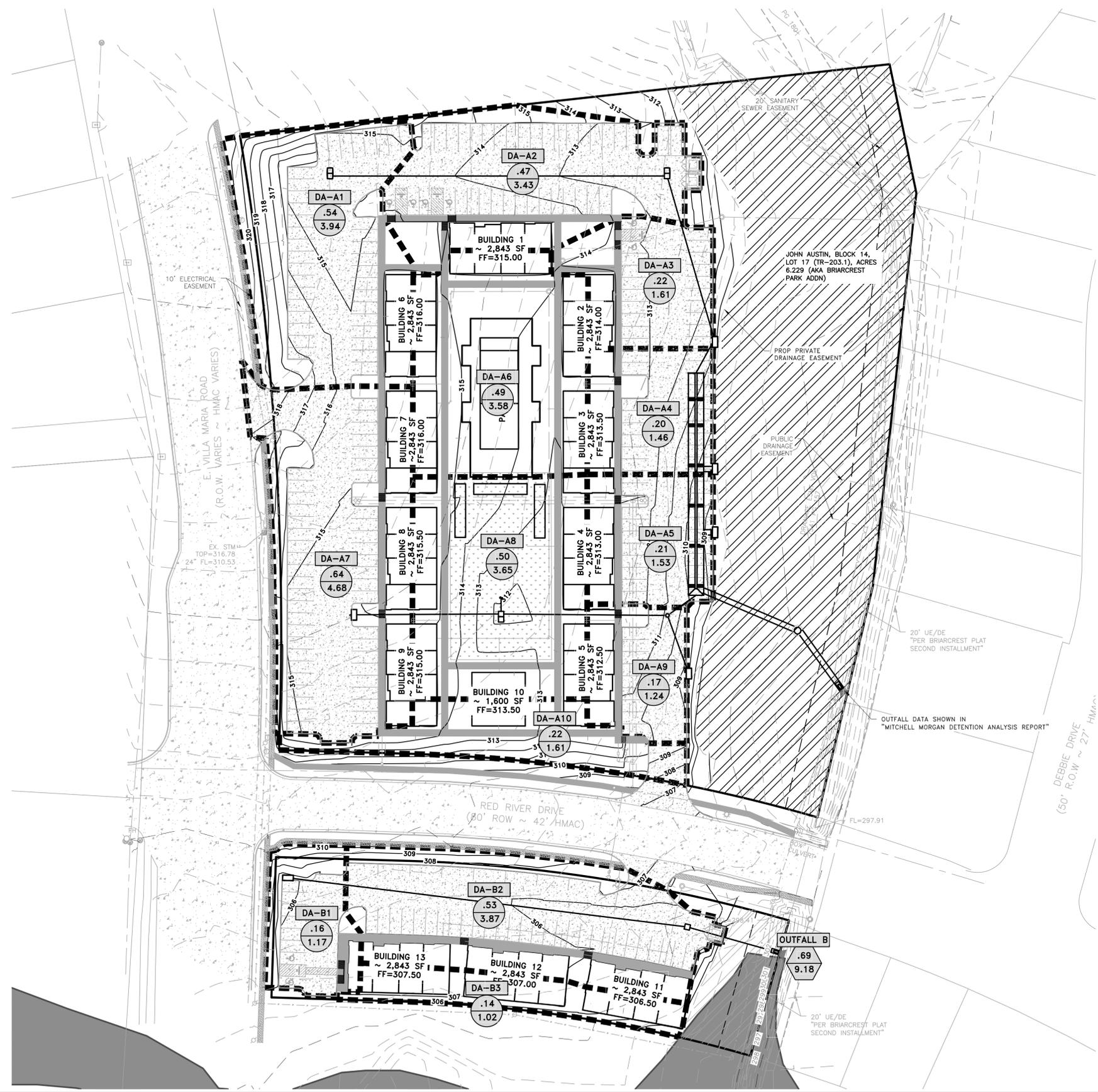
DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	9/27/22	JTW	FOR PERMIT

DRAWING INFORMATION			
PROJECT	10766	TDLR	**
DRAWN	BAS	EIT	JTW
SCALE	SHEET		10
1" = 40' (24x36)		1" = 80' (11x17)	

JONATHAN T. WHITE
 127058
 PROFESSIONAL ENGINEER
 01/10/2023

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L:\SHARED\L2 ENGINEERING PROJECTS\ENGINEERING PROJECTS\10766 - THE LUX 03 CAD\DESIGN SET\08 DRAINAGE AND STORM SEWER PLAN.DWG Jan. 10, 2023--7:27 AM



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3307 W. DAVIS STREET #100
CONROE, TEXAS 77384
OFFICE: 936-647-0430
21123 EVA STREET #200
MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
JUSTIN WALTON
713-446-4083
JW@BUILD-OLGY.NET

PROJECT ADDRESS
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BRYAN, TEXAS 77803

THE MODS

2539 E Villa Maria Rd
The Mods Subd. Block 1, Lot 1 & 2 - 6.23 AC
Bryan, Brazos, County

DRAINAGE PLAN

DRAINAGE LEGEND:

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

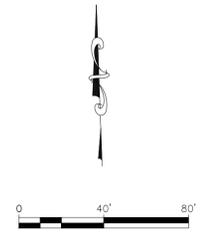
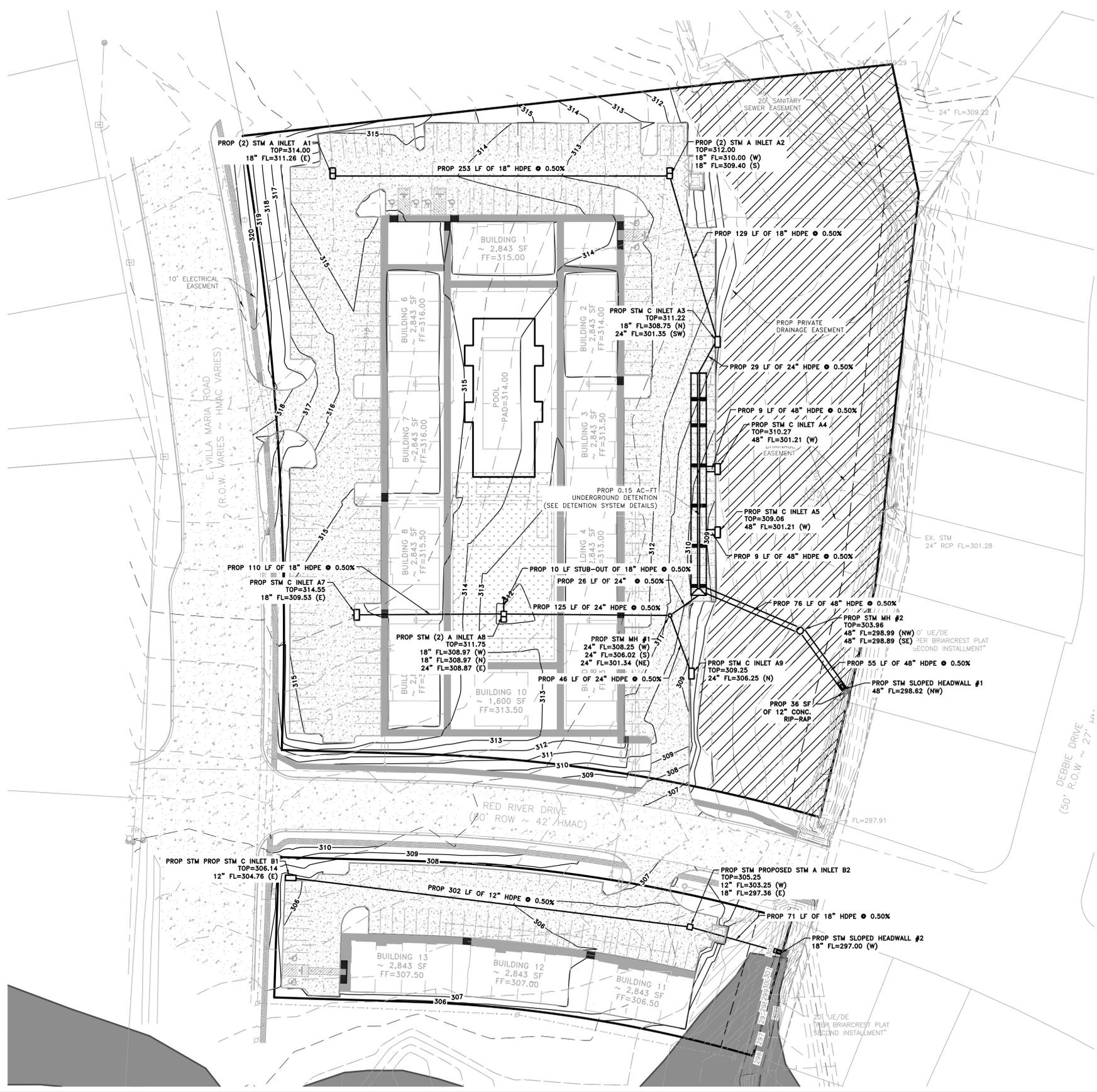
DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	9/27/22	JTW	FOR PERMIT

DRAWING INFORMATION			
PROJECT	10766	TDLR	**
DRAWN	BAS	EIT	JTW
SCALE	SHEET		11
	1" = 40' (24x36)		
	1" = 80' (11x17)		

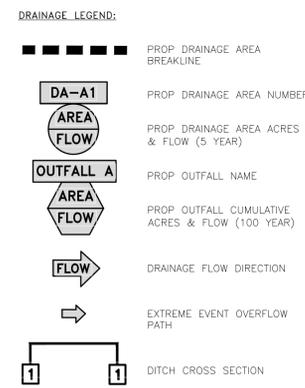
01/10/2023

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L:\SHARED\12 ENGINEERING PROJECTS\ENGINEERING PROJECTS\10766 - THE LUX 03 CAD\DESIGN SET\08 DRAINAGE AND STORM SEWER PLAN.DWG Jan. 10, 2023--7:27 AM



NOTES:
1. POND TO BE PRIVATELY OWNED AND MAINTAINED BY OWNER



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3307 W. DAVIS STREET #100
CONROE, TEXAS 77384
OFFICE: 936-647-0430
21123 EVA STREET #200
MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
JUSTIN WALTON
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JW@BUILD-OLGY.NET

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2539 E VILLA MARIA ROAD
BRYAN, TEXAS 77803

THE MODS

2539 E Villa Maria Rd
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Bryan, Brazos, County

STORM SEWER PLAN

DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	9/27/22	JTW	FOR PERMIT

DRAWING INFORMATION			
PROJECT	10766	TDLR	**
DRAWN	BAS	EIT	JTW
SCALE	SHEET		12
	1" = 40' (24x36)		
	1" = 80' (11x17)		

10/10/2023

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L:\SHARED\L2 ENGINEERING PROJECTS\ENGINEERING PROJECTS\10766 - THE LUX 03 CAD\DESIGN SET\10 DRAINAGE CALCULATIONS.DWG Jan. 10, 2023--7:28 AM

SYSTEM A

*If HGL is ever lower than FL, set HGL at DS equal to the soffit elevation
 **100-YR HGL at DS must be equal to or greater than soffit elevation

5 Year																				HGL			5-YR CAPACITY CHECK	SOFFIT CHECK		
Inlet Info																				Change In	Hydraulic	Elevation of				
Inlet/MH From	Inlet/MH To	Drainage Area	Total Drainage Area	Runoff Co. "C"	DA C*A	Total C*A	Time of Conc. (Min)	Intensity (I)	Drainage Area Flow (cfs)	Total Flow (cfs)	Number of Barrels	Diameter (ft)	Slope	Area (A)	Perimeter (P)	R=(A/P)	Length (ft)	Roughness (n)	Q _{capacity} (CFS)	V _{full flow} (FPS)	Upstream FL	Downstream FL	Head (ft)	%	Upstream (ft)	Downstream (ft)
Inlet A1	Inlet A2	0.54	0.54	0.95	0.51	0.51	10.00	7.69	3.93	3.93	1	1.5	0.005	1.77	4.71	0.375	253	0.011	8.78	4.97	311.26	310.00	0.25	0.10	311.75	311.50
Inlet A2	Inlet A3	0.47	1.01	0.95	0.44	0.95	10.00	7.69	3.42	7.34	1	1.5	0.005	1.77	4.71	0.375	129	0.011	8.78	4.97	309.40	308.75	0.45	0.35	310.70	310.25
Inlet A3	OUT	0.22	1.23	0.95	0.21	1.16	10.00	7.69	1.60	8.94	1	2	0.005	3.14	6.28	0.5	29	0.011	18.90	6.02	301.78	301.64	0.03	0.11	303.67	303.64
Inlet A7	Inlet A8	0.64	0.64	0.95	0.60	0.60	10.00	7.69	4.65	4.65	1	1.5	0.005	1.77	4.71	0.375	110	0.011	8.78	4.97	309.05	308.49	0.15	0.14	310.17	310.02
Stub Out	Inlet A8	0.49	1.13	0.95	0.46	1.07	10.00	7.69	3.56	8.21	1	1.5	0.005	1.77	4.71	0.375	10	0.011	8.78	4.97	308.49	308.49	0.04	0.44	310.06	310.02
Inlet A8	MH 1	0.5	1.63	0.95	0.47	1.54	10.00	7.69	3.63	11.85	1	2	0.005	3.14	6.28	0.5	125	0.011	18.90	6.02	308.39	307.77	0.25	0.20	310.02	309.77
Inlet A9	MH 1	0.17	1.30	0.95	0.16	1.23	10.00	7.69	1.24	9.45	1	2	0.005	3.14	6.28	0.5	46	0.011	18.90	6.02	309.25	307.02	0.06	0.12	309.08	309.02
MH 1	OUT	0.17	1.80	0.95	0.16	1.70	10.00	7.69	1.24	13.09	1	2	0.005	3.14	6.28	0.5	26	0.011	18.90	6.02	306.55	306.42	0.06	0.24	308.48	308.42

Starting TW Elevation: 308.42

100 Year																				HGL			CRITICAL ELEVATION	SOFFIT CHECK	Overtopping?	
Inlet Info																				Change In	Hydraulic	Elevation of				
Inlet/MH From	Inlet/MH To	Drainage Area	Total Drainage Area	Runoff Co. "C"	DA C*A	Total C*A	Time of Conc. (Min)	Intensity (I)	Drainage Area Flow (cfs)	Total Flow (cfs)	Number of Barrels	Diameter (ft)	Slope	Area (A)	Perimeter (P)	R=(A/P)	Length (ft)	Roughness (n)	Q _{capacity} (CFS)	V _{full flow} (FPS)	Upstream FL	Downstream FL	Head (ft)	%	Upstream (ft)	Downstream (ft)
Inlet A1	Inlet A2	0.54	0.54	0.95	0.51	0.51	10.00	11.64	5.94	5.94	1	1.5	0.005	1.77	4.71	0.375	253	0.011	8.78	4.97	311.26	310.00	0.58	0.23	311.86	311.28
Inlet A2	Inlet A3	0.47	1.01	0.95	0.44	0.95	10.00	11.64	5.17	11.11	1	1.5	0.005	1.77	4.71	0.375	129	0.011	8.78	4.97	309.40	308.75	1.03	0.80	311.28	310.25
Inlet A3	OUT	0.22	1.23	0.95	0.21	1.16	10.00	11.64	2.42	13.53	1	2	0.005	3.14	6.28	0.5	29	0.011	18.90	6.02	301.78	301.64	0.07	0.25	305.71	305.64
Inlet A7	Inlet A8	0.64	0.64	0.95	0.60	0.60	10.00	11.64	7.04	7.04	1	1.5	0.005	1.77	4.71	0.375	110	0.011	8.78	4.97	309.05	308.49	0.35	0.32	310.69	310.33
Stub Out	Inlet A8	0.49	1.13	0.95	0.46	1.07	10.00	11.64	5.39	12.43	1	1.5	0.005	1.77	4.71	0.375	10	0.011	8.78	4.97	308.49	308.49	0.10	1.00	310.43	310.33
Inlet A8	MH 1	0.5	1.63	0.95	0.47	1.54	10.00	11.64	5.50	17.93	1	2	0.005	3.14	6.28	0.5	125	0.011	18.90	6.02	308.39	307.77	0.56	0.45	310.33	309.77
Inlet A9	MH 1	0.17	1.30	0.95	0.16	1.23	10.00	11.64	1.87	14.30	1	2	0.005	3.14	6.28	0.5	46	0.011	18.90	6.02	309.25	307.02	0.13	0.28	309.15	309.02
MH 1	OUT	0.17	1.80	0.95	0.16	1.70	10.00	11.64	1.87	19.80	1	2	0.005	3.14	6.28	0.5	26	0.011	18.90	6.02	306.55	306.42	0.14	0.55	308.56	308.42

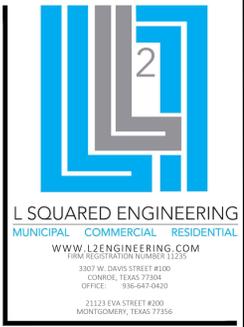
Starting TW Elevation: 308.42

SYSTEM B

5 Year																							
Inlet Info																							
Inlet/MH From	Inlet/MH To	Drainage Area	Total Drainage Area	Runoff Co. "C"	DA C*A	Total C*A	Time of Conc. (Min)	Intensity (I)	Drainage Area Flow (cfs)	Total Flow (cfs)	Number of Barrels	Diameter (ft)	Slope	Area (A)	Perimeter (P)	R=(A/P)	Length (ft)	Roughness (n)	Q _{capacity} (CFS)	V _{full flow} (FPS)	Upstream FL	Downstream FL	
Inlet 12	Inlet B2	0.17	0.17	0.95	0.16	0.16	10.00	11.64	1.25	1.24	1.00	1.0	0.005	0.79	3.14	0.25	92	0.012	2.73	3.47	302.70	302.24	
Inlet B2	Inlet B3	0.16	0.33	0.95	0.15	0.31	10.00	7.69	1.00	1.17	2.41	1	1	0.005	0.79	3.14	0.25	89	0.012	2.73	3.47	302.24	301.79
Inlet B3	Inlet B4	0.16	0.49	0.95	0.15	0.47	10.00	7.69	1.00	1.17	3.58	1	1.5	0.005	1.77	4.71	0.375	47	0.012	8.04	4.55	301.79	301.56
Inlet B4	Inlet B4	0.04	0.53	0.95	0.04	0.50	10.00	7.69	1.00	0.29	3.87	1	1.5	0.005	1.77	4.71	0.375	60	0.012	8.04	4.55	301.56	301.26
Inlet B4	OUT	0.07	0.60	0.95	0.07	0.57	10.00	7.69	1.00	0.51	4.38	1	1.5	0.005	1.77	4.71	0.375	32	0.012	8.04	4.55	301.26	301.10

100 Year																							
Inlet Info																							
Inlet/MH From	Inlet/MH To	Drainage Area	Total Drainage Area	Runoff Co. "C"	DA C*A	Total C*A	Time of Conc. (Min)	Intensity (I)	Drainage Area Flow (cfs)	Total Flow (cfs)	Number of Barrels	Diameter (ft)	Slope	Area (A)	Perimeter (P)	R=(A/P)	Length (ft)	Roughness (n)	Q _{capacity} (CFS)	V _{full flow} (FPS)	Upstream FL	Downstream FL	
Inlet 12	Inlet B2	0.17	0.17	0.95	0.16	0.16	10.00	11.64	1.25	2.35	2.35	1	1	0.005	0.79	3.14	0.25	92	0.012	2.73	3.47	302.70	302.24
Inlet B2	Inlet B3	0.16	0.33	0.95	0.15	0.31	10.00	11.64	1.25	2.21	4.56	1	1	0.005	0.79	3.14	0.25	89	0.012	2.73	3.47	302.24	301.79
Inlet B3	Inlet B4	0.16	0.49	0.95	0.15	0.47	10.00	11.64	1.25	2.21	6.77	1	1.5	0.005	1.77	4.71	0.375	47	0.012	8.04	4.55	301.79	301.56
Inlet B4	Inlet B5	0.04	0.53	0.95	0.04	0.50	10.00	11.64	1.25	0.55	7.33	1	1.5	0.005	1.77	4.71	0.375	60	0.012	8.04	4.55	301.56	301.26
Inlet B5	OUT	0.07	0.60	0.95	0.07	0.57	10.00	11.64	1.25	0.97	8.29	1	1.5	0.005	1.77	4.71	0.375	32	0.012	8.04	4.55	301.26	301.10

DETENTION NOTES:
 1. 0.15 AC-FT OF DETENTION PROVIDED VIA UNDERGROUND DETENTION PER "THE MODS DETENTION ANALYSIS, OCT 2022" BY MITCHELL & MORGAN.



CLIENT INFORMATION
 JUSTIN WALTON
 713-446-4083
 JW@BUILD-OLGY.NET
 PROJECT ADDRESS
 2539 E VILLA MARIA ROAD
 BRYAN, TEXAS 77803

THE MODS
 2539 E Villa Maria Rd
 The Mods Subd. Block 1, Lot 1 & 2 - 6.23 AC
 Bryan, Brazos, County

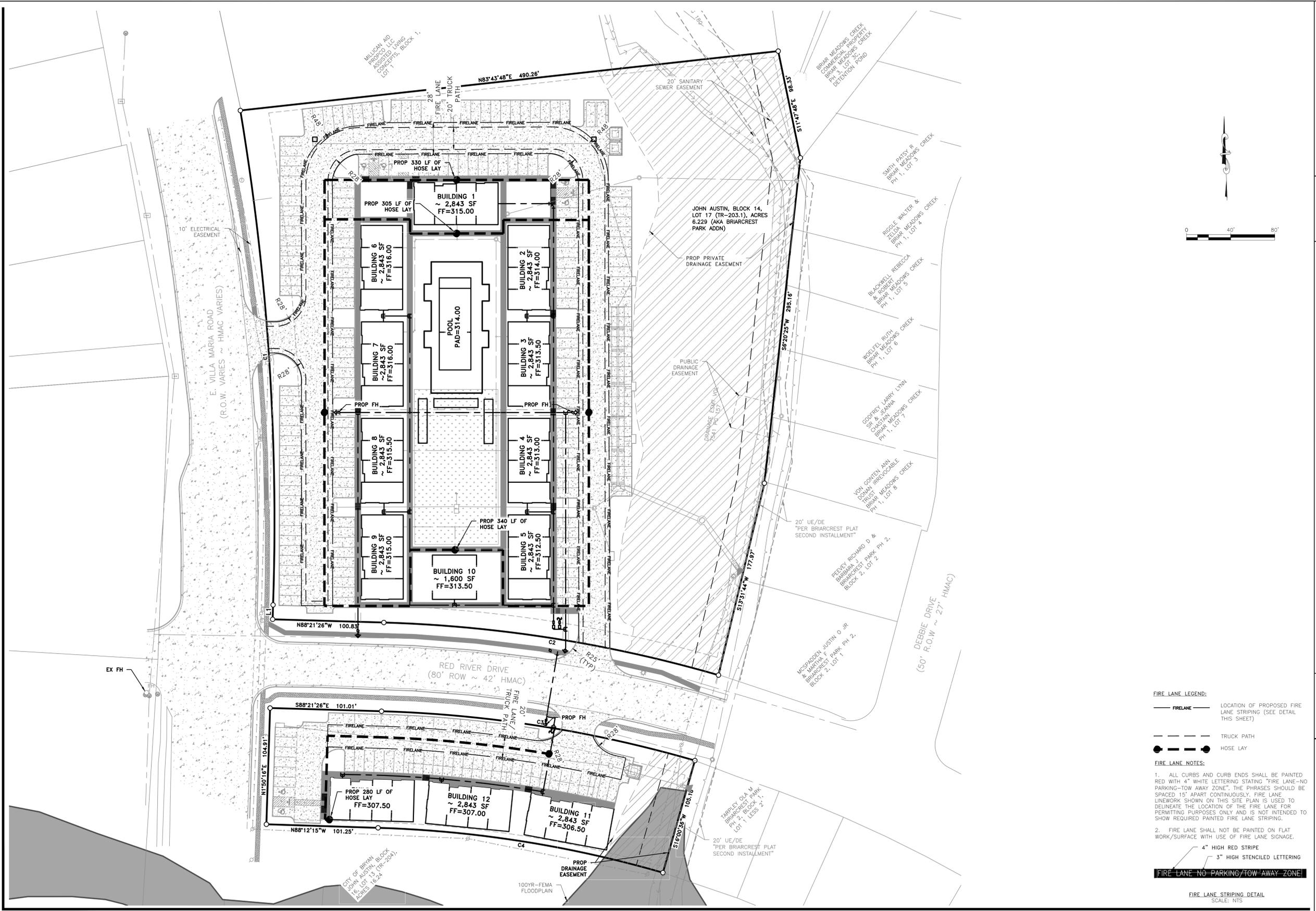
DRAINAGE CALCULATIONS

DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	9/27/22	JTW	FOR PERMIT

DRAWING INFORMATION			
PROJECT	10766	TDLR	**
DRAWN	BAS	EIT	JTW
SCALE	SHEET		
13			



*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE



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WWW.L2ENGINEERING.COM
3307 W. DAVIS STREET #100
CONROE, TEXAS 77384
OFFICE: 936-647-0420
21123 EVA STREET #200
MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
JUSTIN WALTON
713-446-4083
JW@BUILD-OLGY.NET
PROJECT ADDRESS
2539 E VILLA MARIA ROAD
BRYAN, TEXAS 77803

THE MODS

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Bryan, Brazos, County

FIRE LANE PLAN

FIRE LANE LEGEND:
FIRE LANE NOTES:
 1. ALL CURBS AND CURB ENDS SHALL BE PAINTED RED WITH 4" WHITE LETTERING STATING "FIRE LANE-NO PARKING-TOW AWAY ZONE". THE PHRASES SHOULD BE SPACED 15' APART CONTINUOUSLY. FIRE LANE LINEWORK SHOWN ON THIS SITE PLAN IS USED TO DELINEATE THE LOCATION OF THE FIRE LANE FOR PERMITTING PURPOSES ONLY AND IS NOT INTENDED TO SHOW REQUIRED PAINTED FIRE LANE STRIPING.
 2. FIRE LANE SHALL NOT BE PAINTED ON FLAT WORK/SURFACE WITH USE OF FIRE LANE SIGNAGE.
 4" HIGH RED STRIPE
 3" HIGH STENCILED LETTERING
FIRE LANE-NO PARKING/TOW-AWAY-ZONE!
 FIRE LANE STRIPING DETAIL
 SCALE: NTS

DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	9/27/22	JTW	FOR PERMIT

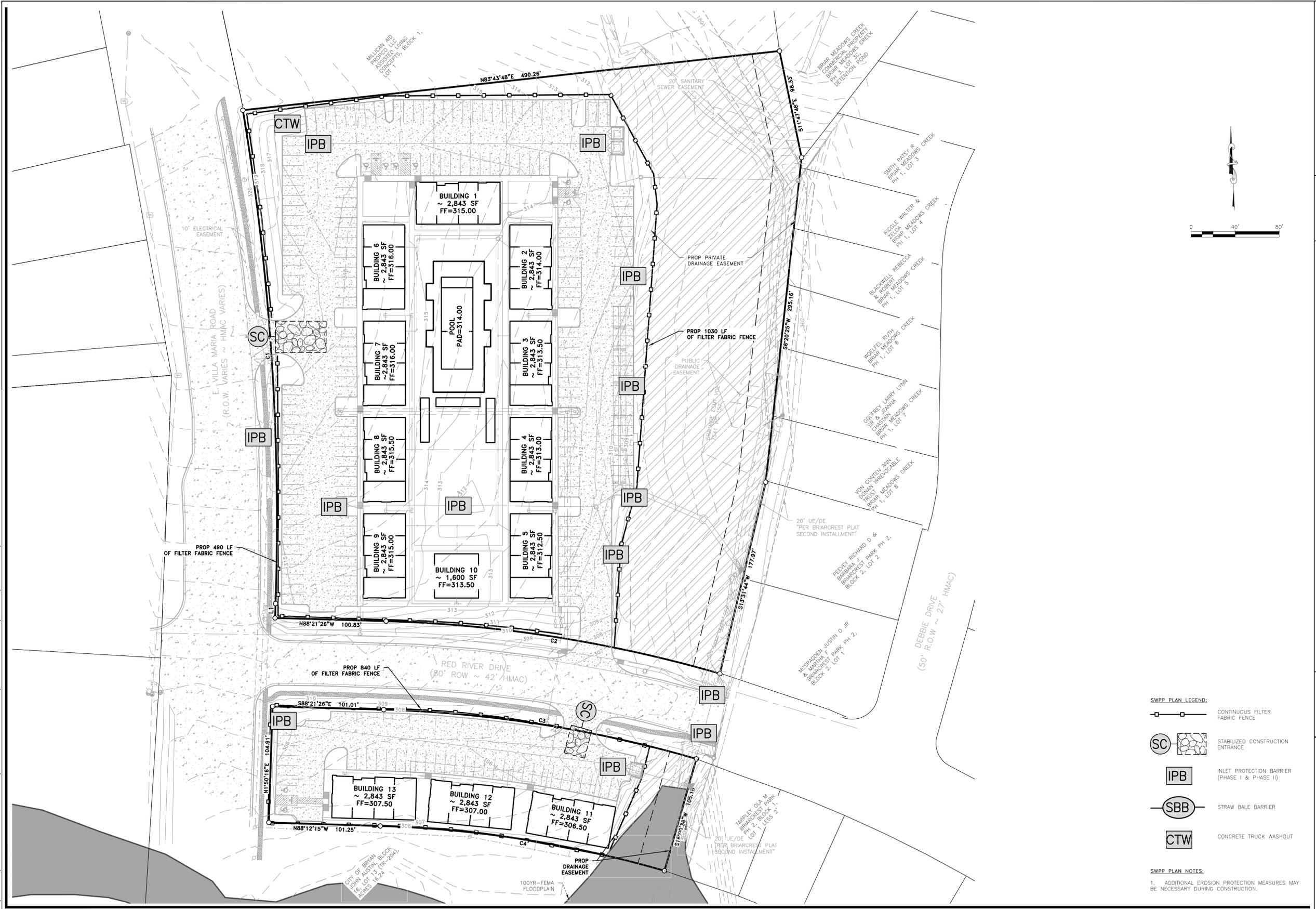
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DRAWN	BAS	EIT	JTW
SCALE	1" = 40' (24x36)	SHEET	14
	1" = 80' (11x17)		



10/10/2023

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L:\SHARED\L2 ENGINEERING PROJECTS\ENGINEERING PROJECTS\10766 - THE LUX 03 CAD\DESIGN SET\12 SWPP PLAN.DWG Jan. 10, 2023--7:28 AM



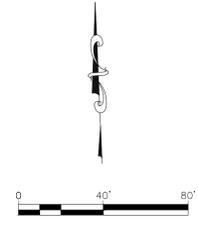
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WWW.L2ENGINEERING.COM
3307 W. DAVIS STREET #100
CONROE, TEXAS 77384
OFFICE: 936-647-0430
21123 EVA STREET #200
MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
JUSTIN WALTON
713-446-4083
JW@BUILD-OLGY.NET
PROJECT ADDRESS
2539 E VILLA MARIA ROAD
BRYAN, TEXAS 77803

THE MODS

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SWPP PLAN



- SWPP PLAN LEGEND:**
- CONTINUOUS FILTER FABRIC FENCE
 - STABILIZED CONSTRUCTION ENTRANCE
 - INLET PROTECTION BARRIER (PHASE I & PHASE II)
 - STRAW BALE BARRIER
 - CONCRETE TRUCK WASHOUT

SWPP PLAN NOTES:
1. ADDITIONAL EROSION PROTECTION MEASURES MAY BE NECESSARY DURING CONSTRUCTION.

DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	9/27/22	JTW	FOR PERMIT

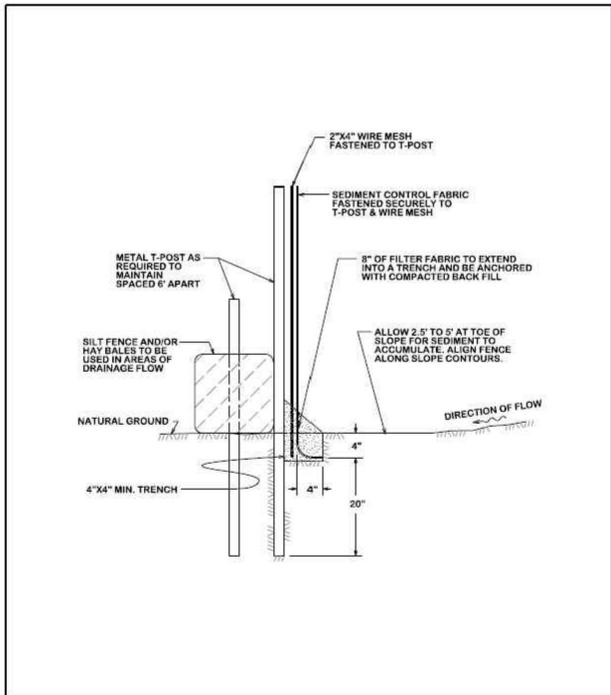
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DRAWN	BAS	EIT	JTW
SCALE	SHEET		15
1" = 40' (24x36)			
1" = 80' (11x17)			



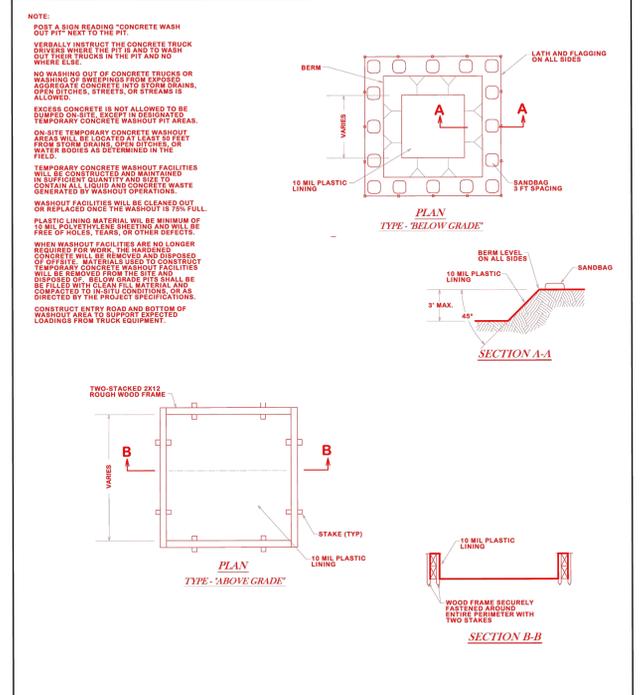
01/10/2023

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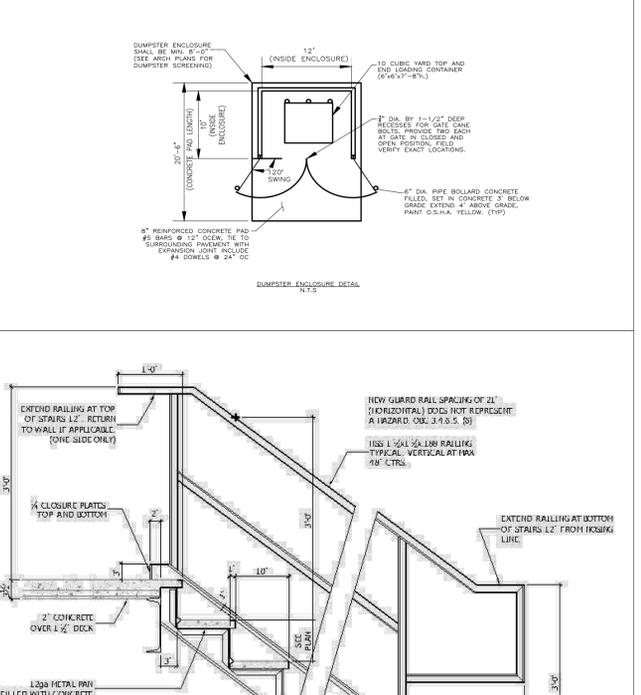
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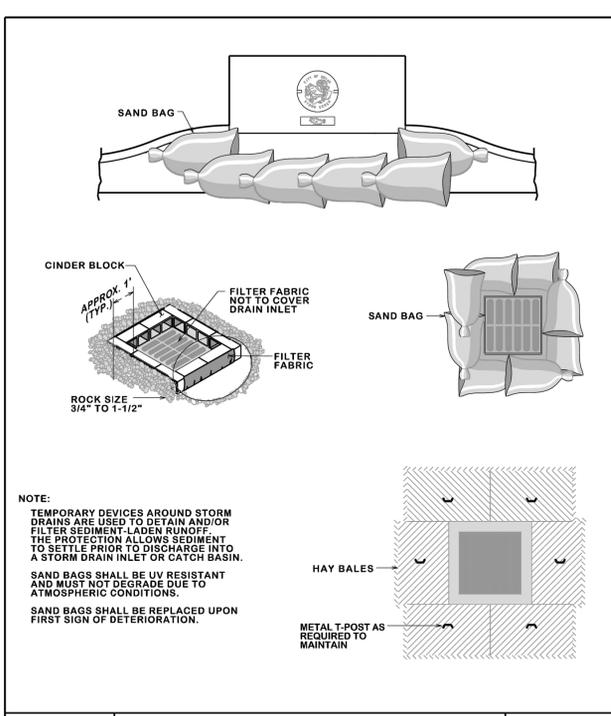
SILT FENCE ASSEMBLY
 DATE: **AUG. 2012** | B/C/S UNIFIED STANDARD DETAIL | DETAIL NO. **SWPP1-03**
 CITY OF BRYAN | CITY OF COLLEGE STATION



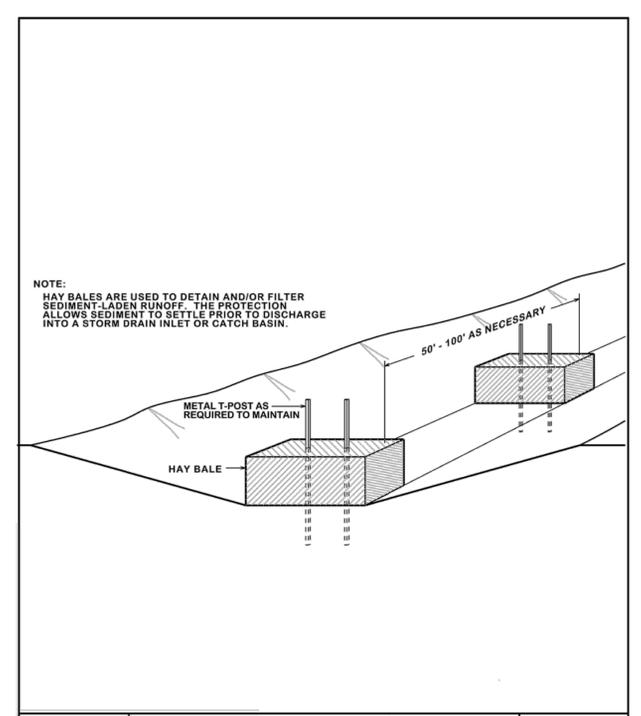
CONCRETE WASHOUT
 DATE: **DECEMBER 2020** | B/C/S UNIFIED STANDARD DETAIL | DETAIL NO. **SWPP1-04**
 CITY OF BRYAN | CITY OF COLLEGE STATION



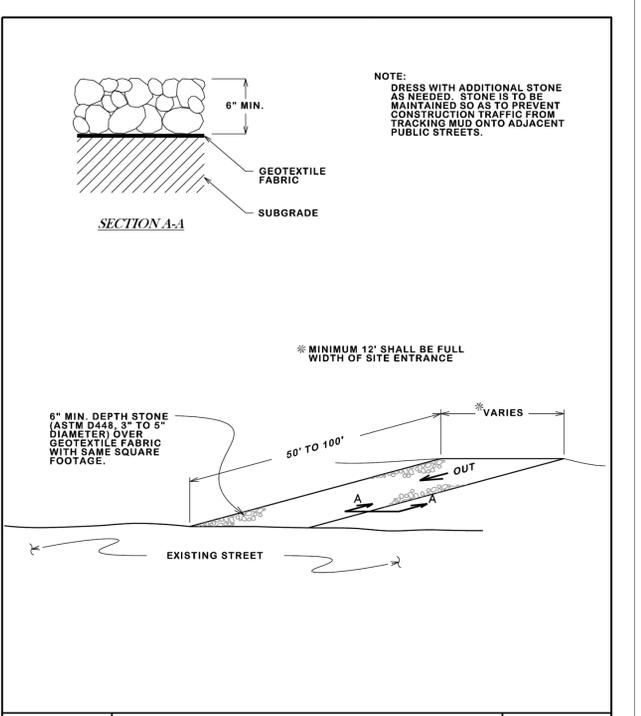
STAIR #1 DETAIL
 CITY OF BRYAN | CITY OF COLLEGE STATION



STORM DRAIN INLET PROTECTION
 DATE: **AUG. 2012** | B/C/S UNIFIED STANDARD DETAIL | DETAIL NO. **SWPP1-00**
 CITY OF BRYAN | CITY OF COLLEGE STATION



EROSION CONTROL ALONG DITCH
 DATE: **AUG. 2012** | B/C/S UNIFIED STANDARD DETAIL | DETAIL NO. **SWPP1-01**
 CITY OF BRYAN | CITY OF COLLEGE STATION



CONSTRUCTION EXIT SLIT CONTROL
 DATE: **AUG. 2012** | B/C/S UNIFIED STANDARD DETAIL | DETAIL NO. **SWPP1-02**
 CITY OF BRYAN | CITY OF COLLEGE STATION

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 3307 W. DAVIS STREET #100
 CONROE, TEXAS 77384
 OFFICE: 936-647-0430
 21123 EVA STREET #200
 MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
 JUSTIN WALTON
 713-446-4083
 JW@BUILD-OLGY.NET
 PROJECT ADDRESS
 2539 E VILLA MARIA ROAD
 BRYAN, TEXAS 77803

THE MODS
 2539 E Villa Maria Rd
 The Mods Subd. Block 1, Lot 1 & 2 - 6.23 AC
 Bryan, Brazos, County

SWPP & MISC. DETAILS

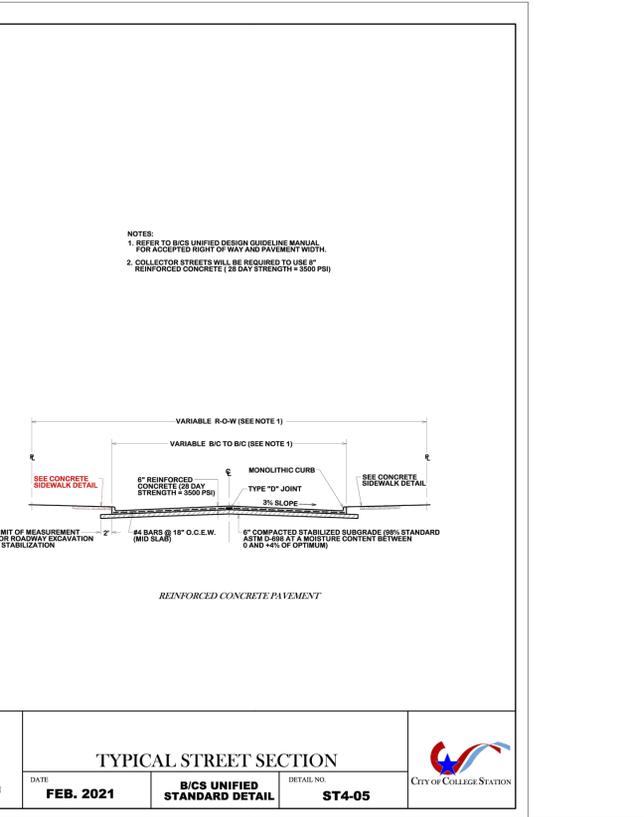
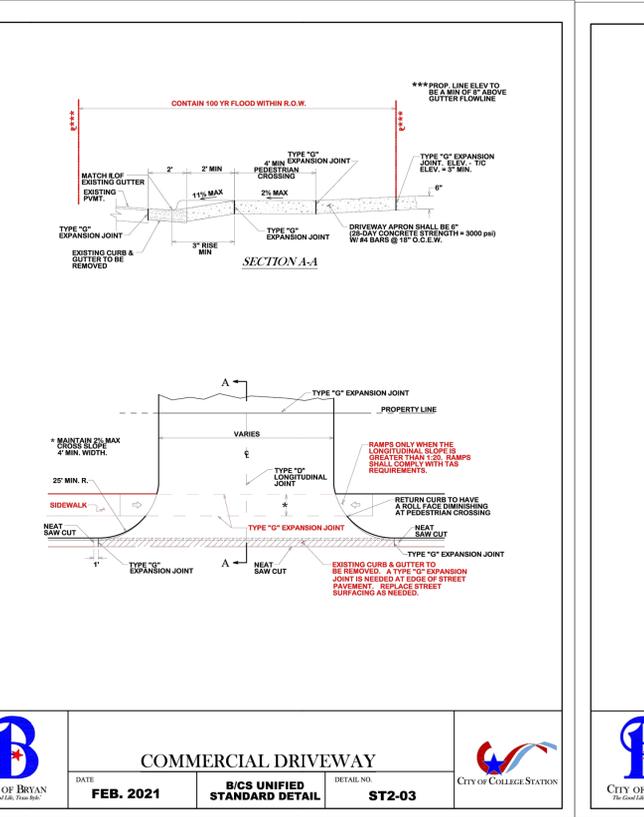
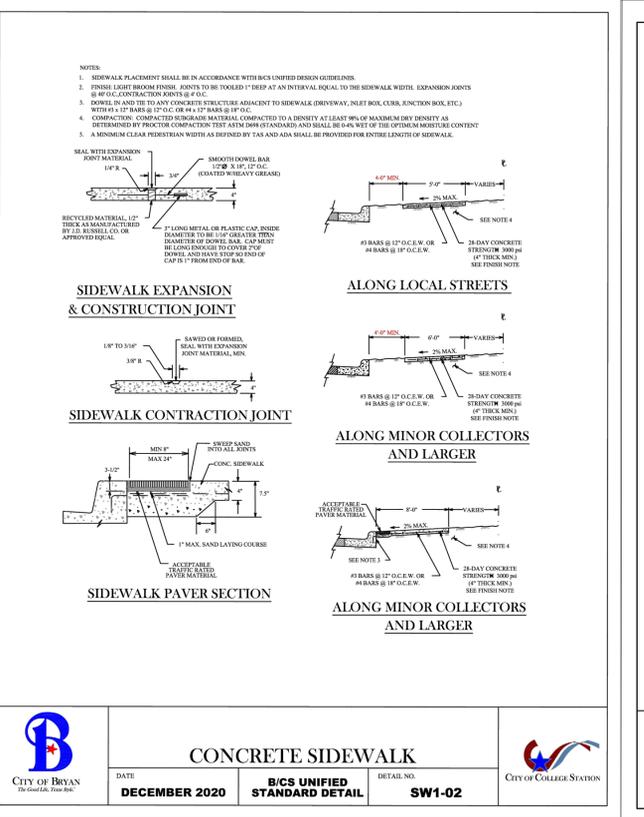
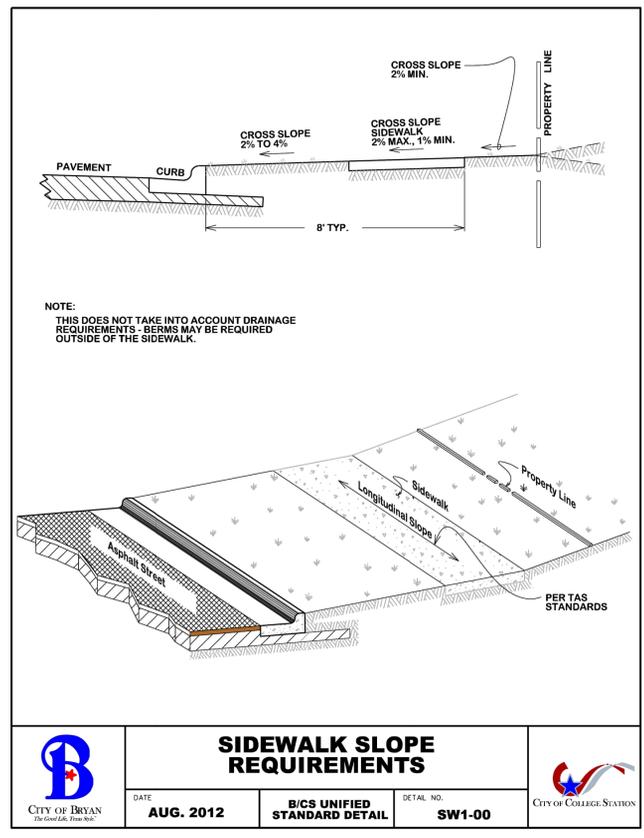
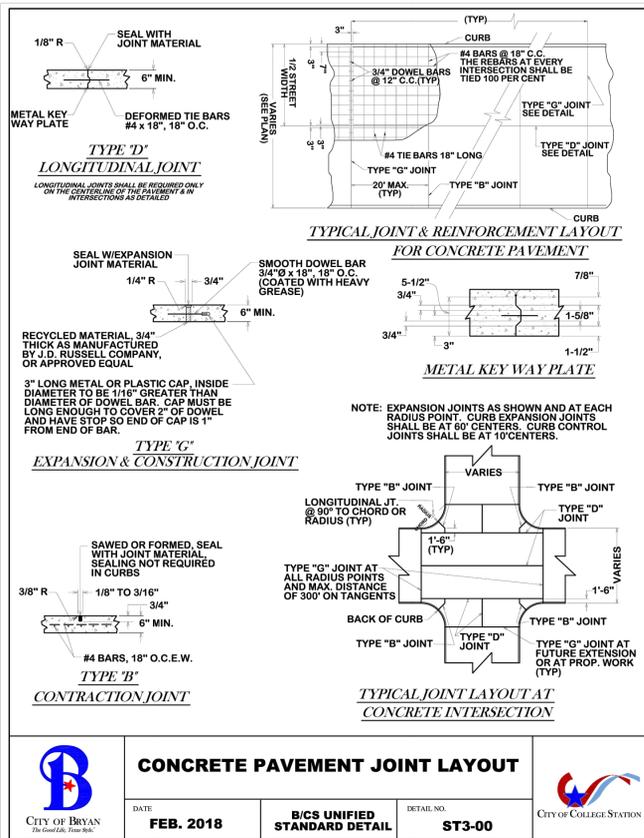
DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	9/27/22	JTW	FOR PERMIT

DRAWING INFORMATION			
PROJECT	10766	TDLR	**
DRAWN	BAS	EIT	JTW
SCALE	SHEET		
AS NOTED			16

JONATHAN T. WHITE
 127058
 PROFESSIONAL ENGINEER
 STATE OF TEXAS

01/10/2023
 *PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE

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3307 W. DAVIS STREET #100
CONROE, TEXAS 77384
OFFICE: 936-647-0430
21123 EVA STREET #200
MONTGOMERY, TEXAS 77356

CLIENT INFORMATION
JUSTIN WALTON
713-446-4083
JW@BUILD-OLGY.NET

PROJECT ADDRESS
2539 E VILLA MARIA ROAD
BRYAN, TEXAS 77803

THE MODS
2539 E Villa Maria Rd
The Mods Subd. Block 1, Lot 1 & 2 - 6.23 AC
Bryan, Brazos, County

PAVING DETAILS

DRAWING ISSUE			
#	DATE	BY	* COMMENT
1	9/27/22	JTW	FOR PERMIT

DRAWING INFORMATION			
PROJECT	10766	TDLR	**
DRAWN	BAS	ET	JTW
SCALE	AS NOTED	SHEET	17

10/10/2023

*PLANS NOT RELEASED FOR CONSTRUCTION UNLESS INDICATED ABOVE

NOTES:

1. A MAX. OF 2 AND A MIN. OF 3 THREAT RINGS OR DRAINING SCOT OF MANHOLE IN NEW DRAINAGE AREAS OF APPROVED DESIGN.
2. USE AREA ELEVATION OF APPROVED DESIGN BETWEEN MANHOLE ADAPTER SEAL AND PERIPHERAL STARTER HOLES.
3. MANHOLE BASE THICKNESS AND FOUNDATION FROM CENTER TO CENTER AS FOLLOWS:
 MANHOLE DEPTH (FT.) | BASE THICKNESS (IN.)
 4.5 - 10 | 12"
 10 - 15 | 18"
 15 - 20 | 24"
 20 - 25 | 30"
 25 - 30 | 36"
 30 - 35 | 42"
 35 - 40 | 48"
 40 - 45 | 54"
 45 - 50 | 60"
 50 - 55 | 66"
 55 - 60 | 72"
 60 - 65 | 78"
 65 - 70 | 84"
 70 - 75 | 90"
 75 - 80 | 96"
 80 - 85 | 102"
 85 - 90 | 108"
 90 - 95 | 114"
 95 - 100 | 120"
 100 - 105 | 126"
 105 - 110 | 132"
 110 - 115 | 138"
 115 - 120 | 144"
 120 - 125 | 150"
 125 - 130 | 156"
 130 - 135 | 162"
 135 - 140 | 168"
 140 - 145 | 174"
 145 - 150 | 180"
 150 - 155 | 186"
 155 - 160 | 192"
 160 - 165 | 198"
 165 - 170 | 204"
 170 - 175 | 210"
 175 - 180 | 216"
 180 - 185 | 222"
 185 - 190 | 228"
 190 - 195 | 234"
 195 - 200 | 240"
 200 - 205 | 246"
 205 - 210 | 252"
 210 - 215 | 258"
 215 - 220 | 264"
 220 - 225 | 270"
 225 - 230 | 276"
 230 - 235 | 282"
 235 - 240 | 288"
 240 - 245 | 294"
 245 - 250 | 300"
 250 - 255 | 306"
 255 - 260 | 312"
 260 - 265 | 318"
 265 - 270 | 324"
 270 - 275 | 330"
 275 - 280 | 336"
 280 - 285 | 342"
 285 - 290 | 348"
 290 - 295 | 354"
 295 - 300 | 360"
 300 - 305 | 366"
 305 - 310 | 372"
 310 - 315 | 378"
 315 - 320 | 384"
 320 - 325 | 390"
 325 - 330 | 396"
 330 - 335 | 402"
 335 - 340 | 408"
 340 - 345 | 414"
 345 - 350 | 420"
 350 - 355 | 426"
 355 - 360 | 432"
 360 - 365 | 438"
 365 - 370 | 444"
 370 - 375 | 450"
 375 - 380 | 456"
 380 - 385 | 462"
 385 - 390 | 468"
 390 - 395 | 474"
 395 - 400 | 480"
 400 - 405 | 486"
 405 - 410 | 492"
 410 - 415 | 498"
 415 - 420 | 504"
 420 - 425 | 510"
 425 - 430 | 516"
 430 - 435 | 522"
 435 - 440 | 528"
 440 - 445 | 534"
 445 - 450 | 540"
 450 - 455 | 546"
 455 - 460 | 552"
 460 - 465 | 558"
 465 - 470 | 564"
 470 - 475 | 570"
 475 - 480 | 576"
 480 - 485 | 582"
 485 - 490 | 588"
 490 - 495 | 594"
 495 - 500 | 600"
 500 - 505 | 606"
 505 - 510 | 612"
 510 - 515 | 618"
 515 - 520 | 624"
 520 - 525 | 630"
 525 - 530 | 636"
 530 - 535 | 642"
 535 - 540 | 648"
 540 - 545 | 654"
 545 - 550 | 660"
 550 - 555 | 666"
 555 - 560 | 672"
 560 - 565 | 678"
 565 - 570 | 684"
 570 - 575 | 690"
 575 - 580 | 696"
 580 - 585 | 702"
 585 - 590 | 708"
 590 - 595 | 714"
 595 - 600 | 720"
 600 - 605 | 726"
 605 - 610 | 732"
 610 - 615 | 738"
 615 - 620 | 744"
 620 - 625 | 750"
 625 - 630 | 756"
 630 - 635 | 762"
 635 - 640 | 768"
 640 - 645 | 774"
 645 - 650 | 780"
 650 - 655 | 786"
 655 - 660 | 792"
 660 - 665 | 798"
 665 - 670 | 804"
 670 - 675 | 810"
 675 - 680 | 816"
 680 - 685 | 822"
 685 - 690 | 828"
 690 - 695 | 834"
 695 - 700 | 840"
 700 - 705 | 846"
 705 - 710 | 852"
 710 - 715 | 858"
 715 - 720 | 864"
 720 - 725 | 870"
 725 - 730 | 876"
 730 - 735 | 882"
 735 - 740 | 888"
 740 - 745 | 894"
 745 - 750 | 900"
 750 - 755 | 906"
 755 - 760 | 912"
 760 - 765 | 918"
 765 - 770 | 924"
 770 - 775 | 930"
 775 - 780 | 936"
 780 - 785 | 942"
 785 - 790 | 948"
 790 - 795 | 954"
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 800 - 805 | 966"
 805 - 810 | 972"
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 975 - 980 | 1176"
 980 - 985 | 1182"
 985 - 990 | 1188"
 990 - 995 | 1194"
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 1020 - 1025 | 1230"
 1025 - 1030 | 1236"
 1030 - 1035 | 1242"
 1035 - 1040 | 1248"
 1040 - 1045 | 1254"
 1045 - 1050 | 1260"
 1050 - 1055 | 1266"
 1055 - 1060 | 1272"
 1060 - 1065 | 1278"
 1065 - 1070 | 1284"
 1070 - 1075 | 1290"
 1075 - 1080 | 1296"
 1080 - 1085 | 1302"
 1085 - 1090 | 1308"
 1090 - 1095 | 1314"
 1095 - 1100 | 1320"
 1100 - 1105 | 1326"
 1105 - 1110 | 1332"
 1110 - 1115 | 1338"
 1115 - 1120 | 1344"
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 1260 - 1265 | 1518"
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 1270 - 1275 | 1530"
 1275 - 1280 | 1536"
 1280 - 1285 | 1542"
 1285 - 1290 | 1548"
 1290 - 1295 | 1554"
 1295 - 1300 | 1560"
 1300 - 1305 | 1566"
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 1315 - 1320 | 1584"
 1320 - 1325 | 1590"
 1325 - 1330 | 1596"
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 1345 - 1350 | 1620"
 1350 - 1355 | 1626"
 1355 - 1360 | 1632"
 1360 - 1365 | 1638"
 1365 - 1370 | 1644"
 1370 - 1375 | 1650"
 1375 - 1380 | 1656"
 1380 - 1385 | 1662"
 1385 - 1390 | 1668"
 1390 - 1395 | 1674"
 1395 - 1400 | 1680"
 1400 - 1405 | 1686"
 1405 - 1410 | 1692"
 1410 - 1415 | 1698"
 1415 - 1420 | 1704"
 1420 - 1425 | 1710"
 1425 - 1430 | 1716"
 1430 - 1435 | 1722"
 1435 - 1440 | 1728"
 1440 - 1445 | 1734"
 1445 - 1450 | 1740"
 1450 - 1455 | 1746"
 1455 - 1460 | 1752"
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 1465 - 1470 | 1764"
 1470 - 1475 | 1770"
 1475 - 1480 | 1776"
 1480 - 1485 | 1782"
 1485 - 1490 | 1788"
 1490 - 1495 | 1794"
 1495 - 1500 | 1800"
 1500 - 1505 | 1806"
 1505 - 1510 | 1812"
 1510 - 1515 | 1818"
 1515 - 1520 | 1824"
 1520 - 1525 | 1830"
 1525 - 1530 | 1836"
 1530 - 1535 | 1842"
 1535 - 1540 | 1848"
 1540 - 1545 | 1854"
 1545 - 1550 | 1860"
 1550 - 1555 | 1866"
 1555 - 1560 | 1872"
 1560 - 1565 | 1878"
 1565 - 1570 | 1884"
 1570 - 1575 | 1890"
 1575 - 1580 | 1896"
 1580 - 1585 | 1902"
 1585 - 1590 | 1908"
 1590 - 1595 | 1914"
 1595 - 1600 | 1920"
 1600 - 1605 | 1926"
 1605 - 1610 | 1932"
 1610 - 1615 | 1938"
 1615 - 1620 | 1944"
 1620 - 1625 | 1950"
 1625 - 1630 | 1956"
 1630 - 1635 | 1962"
 1635 - 1640 | 1968"
 1640 - 1645 | 1974"
 1645 - 1650 | 1980"
 1650 - 1655 | 1986"
 1655 - 1660 | 1992"
 1660 - 1665 | 1998"
 1665 - 1670 | 2004"
 1670 - 1675 | 2010"
 1675 - 1680 | 2016"
 1680 - 1685 | 2022"
 1685 - 1690 | 2028"
 1690 - 1695 | 2034"
 1695 - 1700 | 2040"
 1700 - 1705 | 2046"
 1705 - 1710 | 2052"
 1710 - 1715 | 2058"
 1715 - 1720 | 2064"
 1720 - 1725 | 2070"
 1725 - 1730 | 2076"
 1730 - 1735 | 2082"
 1735 - 1740 | 2088"
 1740 - 1745 | 2094"
 1745 - 1750 | 2100"
 1750 - 1755 | 2106"
 1755 - 1760 | 2112"
 1760 - 1765 | 2118"
 1765 - 1770 | 2124"
 1770 - 1775 | 2130"
 1775 - 1780 | 2136"
 1780 - 1785 | 2142"
 1785 - 1790 | 2148"
 1790 - 1795 | 2154"
 1795 - 1800 | 2160"
 1800 - 1805 | 2166"
 1805 - 1810 | 2172"
 1810 - 1815 | 2178"
 1815 - 1820 | 2184"
 1820 - 1825 | 2190"
 1825 - 1830 | 2196"
 1830 - 1835 | 2202"
 1835 - 1840 | 2208"
 1840 - 1845 | 2214"
 1845 - 1850 | 2220"
 1850 - 1855 | 2226"
 1855 - 1860 | 2232"
 1860 - 1865 | 2238"
 1865 - 1870 | 2244"
 1870 - 1875 | 2250"
 1875 - 1880 | 2256"
 1880 - 1885 | 2262"
 1885 - 1890 | 2268"
 1890 - 1895 | 2274"
 1895 - 1900 | 2280"
 1900 - 1905 | 2286"
 1905 - 1910 | 2292"
 1910 - 1915 | 2298"
 1915 - 1920 | 2304"
 1920 - 1925 | 2310"
 1925 - 1930 | 2316"
 1930 - 1935 | 2322"
 1935 - 1940 | 2328"
 1940 - 1945 | 2334"
 1945 - 1950 | 2340"
 1950 - 1955 | 2346"
 1955 - 1960 | 2352"
 1960 - 1965 | 2358"
 1965 - 1970 | 2364"
 1970 - 1975 | 2370"
 1975 - 1980 | 2376"
 1980 - 1985 | 2382"
 1985 - 1990 | 2388"
 1990 - 1995 | 2394"
 1995 - 2000 | 2400"
 2000 - 2005 | 2406"
 2005 - 2010 | 2412"
 2010 - 2015 | 2418"
 2015 - 2020 | 2424"
 2020 - 2025 | 2430"
 2025 - 2030 | 2436"
 2030 - 2035 | 2442"
 2035 - 2040 | 2448"
 2040 - 2045 | 2454"
 2045 - 2050 | 2460"
 2050 - 2055 | 2466"
 2055 - 2060 | 2472"
 2060 - 2065 | 2478"
 2065 - 2070 | 2484"
 2070 - 2075 | 2490"
 2075 - 2080 | 2496"
 2080 - 2085 | 2502"
 2085 - 2090 | 2508"
 2090 - 2095 | 2514"
 2095 - 2100 | 2520"
 2100 - 2105 | 2526"
 2105 - 2110 | 2532"
 2110 - 2115 | 2538"
 2115 - 2120 | 2544"
 2120 - 2125 | 2550"
 2125 - 2130 | 2556"
 2130 - 2135 | 2562"
 2135 - 2140 | 2568"
 2140 - 2145 | 2574"
 2145 - 2150 | 2580"
 2150 - 2155 | 2586"
 2155 - 2160 | 2592"
 2160 - 2165 | 2598"
 2165 - 2170 | 2604"
 2170 - 2175 | 2610"
 2175 - 2180 | 2616"
 2180 - 2185 | 2622"
 2185 - 2190 | 2628"
 2190 - 2195 | 2634"
 2195 - 2200 | 2640"
 2200 - 2205 | 2646"
 2205 - 2210 | 2652"
 2210 - 2215 | 2658"
 2215 - 2220 | 2664"
 2220 - 2225 | 2670"
 2225 - 2230 | 2676"
 2230 - 2235 | 2682"
 2235 - 2240 | 2688"
 2240 - 2245 | 2694"
 2245 - 2250 | 2700"
 2250 - 2255 | 2706"
 2255 - 2260 | 2712"
 2260 - 2265 | 2718"
 2265 - 2270 | 2724"
 2270 - 2275 | 2730"
 2275 - 2280 | 2736"
 2280 - 2285 | 2742"
 2285 - 2290 | 2748"
 2290 - 2295 | 2754"
 2295 - 2300 | 2760"
 2300 - 2305 | 2766"
 2305 - 2310 | 2772"
 2310 - 2315 | 2778"
 2315 - 2320 | 2784"
 2320 - 2325 | 2790"
 2325 - 2330 | 2796"
 2330 - 2335 | 2802"
 2335 - 2340 | 2808"
 2340 - 2345 | 2814"
 2345 - 2350 | 2820"
 2350 - 2355 | 2826"
 2355 - 2360 | 2832"
 2360 - 2365 | 2838"
 2365 - 2370 | 2844"
 2370 - 2375 | 2850"
 2375 - 2380 | 2856"
 2380 - 2385 | 2862"
 2385 - 2390 | 2868"
 2390 - 2395 | 2874"
 2395 - 2400 | 2880"
 2400 - 2405 | 2886"
 2405 - 2410 | 2892"
 2410 - 2415 | 2898"
 2415 - 2420 | 2904"
 2420 - 2425 | 2910"
 2425 - 2430 | 2916"
 2430 - 2435 | 2922"
 2435 - 2440 | 2928"
 2440 - 2445 | 2934"
 2445 - 2450 | 2940"
 2450 - 2455 | 2946"
 2455 - 2460 | 2952"
 2460 - 2465 | 2958"
 2465 - 2470 | 2964"
 2470 - 2475 | 2970"
 2475 - 2480 | 2976"
 2480 - 2485 | 2982"
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 2490 - 2495 | 2994"
 2495 - 2500 | 3000"
 2500 - 2505 | 3006"
 2505 - 2510 | 3012"
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 2515 - 2520 | 3024"
 2520 - 2525 | 3030"
 2525 - 2530 | 3036"
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 2540 - 2545 | 3054"
 2545 - 2550 | 3060"
 2550 - 2555 | 3066"
 2555 - 2560 | 3072"
 2560 - 2565 | 3078"
 2565 - 2570 | 3084"
 2570 - 2575 | 3090"
 2575 - 2580 | 3096"
 2580 - 2585 | 3102"
 2585 - 2590 | 3108"
 2590 - 2595 | 3114"
 2595 - 2600 | 3120"
 2600 - 2605 | 3126"
 2605 - 2610 | 3132"
 2610 - 2615 | 3138"
 2615 - 2620 | 3144"
 2620 - 2625 | 3150"
 2625 - 2630 | 3156"
 2630 - 2635 | 3162"
 2635 - 2640 | 3168"
 2640 - 2645 | 3174"
 2645 - 2650 | 3180"
 2650 - 2655 | 3186"
 2655 - 2660 | 3192"
 2660 - 2665 | 3198"
 2665 - 2670 | 3204"
 2670 - 2675 | 3210"
 2675 - 2680 | 3216"
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 2685 - 2690 | 3228"
 2690 - 2695 | 3234"
 2695 - 2700 | 3240"
 2700 - 2705 | 3246"
 2705 - 2710 | 3252"
 2710 - 2715 | 3258"
 2715 - 2720 | 3264"
 2720 - 2725 | 3270"
 2725 - 2730 | 3276"
 2730 - 2735 | 3282"
 2735 - 2740 | 3288"
 2740 - 2745 | 3294"
 2745 - 2750 | 3300"
 2750 - 2755 | 3306"
 2755 - 2760 | 3312"
 2760 - 2765 | 3318"
 2765 - 2770 | 3324"
 2770 - 2775 | 3330"
 2775 - 2780 | 3336"
 2780 - 2785 | 3342"
 2785 - 2790 | 3348"
 2790 - 2795 | 3354"
 2795 - 2800 | 3360"
 2800 - 2805 | 3366"
 2805 - 2810 | 3372"
 2810 - 2815 | 3378"
 2815 - 2820 | 3384"
 2820 - 2825 | 3390"
 2825 - 2830 | 3396"
 2830 - 2835 | 3402"
 2835 - 2840 | 3408"
 2840 - 2845 | 3414"
 2845 - 2850 | 3420"
 2850 - 2855 | 3426"
 2855 - 2860 | 3432"
 2860 - 2865 | 3438"
 2865 - 2870 | 3444"
 2870 - 2875 | 3450"
 2875 - 2880 | 3456"
 2880 - 2885 | 3462"
 2885 - 2890 | 3468"
 2890 -

PROJECT SUMMARY

CALCULATION DETAILS

- LOADING = HS20/HS25
- APPROX. LINEAR FOOTAGE = 334 LF

STORAGE SUMMARY

- STORAGE VOLUME REQUIRED = 6,534 CF
- PIPE STORAGE VOLUME = 6,548 CF
- BACKFILL STORAGE VOLUME = 0 CF
- TOTAL STORAGE PROVIDED = 6,548 CF

PIPE DETAILS

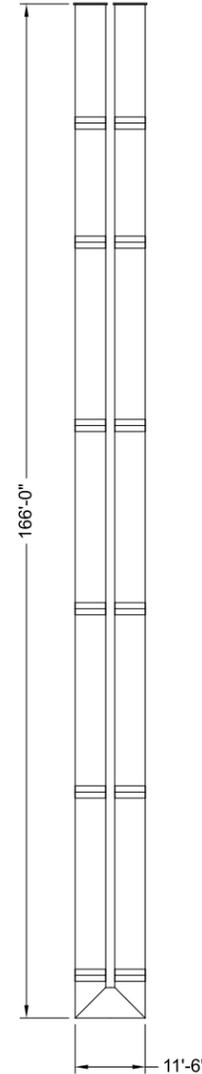
- DIAMETER = 60"
- CORRUGATION = 5x1
- GAGE = 16
- COATING = ALT2
- WALL TYPE = SOLID
- BARREL SPACING = 18"

BACKFILL DETAILS

- WIDTH AT ENDS = 12"
- ABOVE PIPE = 0"
- WIDTH AT SIDES = 12"
- BELOW PIPE = 0"

NOTES

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE 2²/₃" x 1¹/₂" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BAND TYPE TO BE DETERMINED UPON FINAL DESIGN.
- THE PROJECT SUMMARY IS REFLECTIVE OF THE DYODS DESIGN, QUANTITIES ARE APPROX. AND SHOULD BE VERIFIED UPON FINAL DESIGN AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT CONSIDER ALL VARIABLES SUCH AS SHORING AND ONLY ACCOUNTS FOR MATERIAL WITHIN THE ESTIMATED EXCAVATION FOOTPRINT.
- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.



ASSEMBLY
SCALE: 1" = 30'

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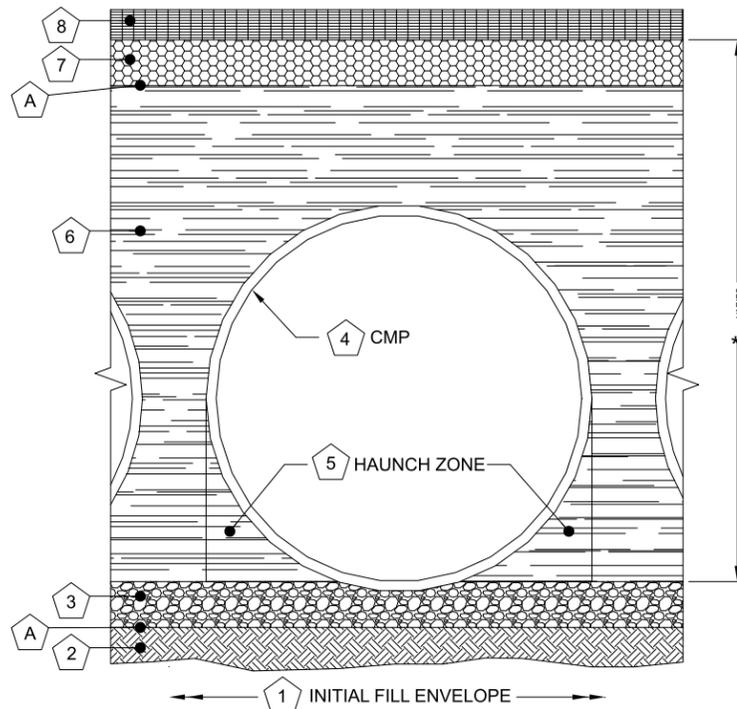
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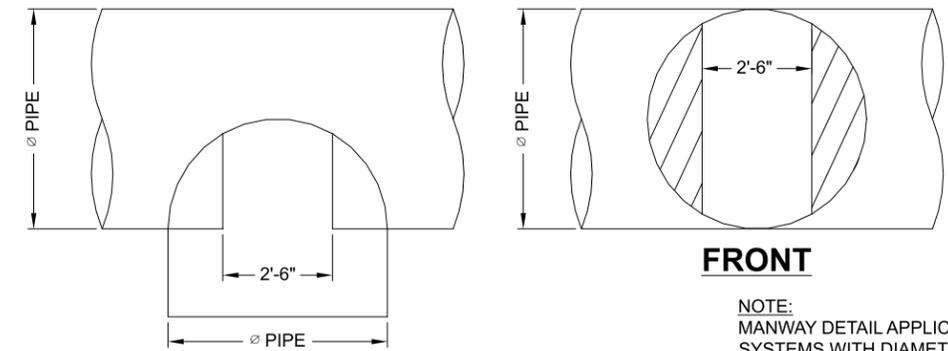

CMP DETENTION SYSTEMS
 CONTECH
DYODS
 DRAWING

DY020336 The Lux
 60" diameter Solid CMP
 Bryan, TX
 DETENTION SYSTEM

PROJECT No.: 13173	SEQ. No.: 20336	DATE: 8/17/2022
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.:		1

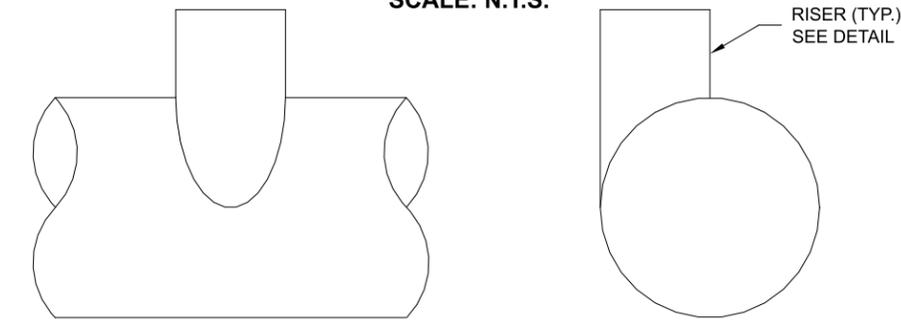


DETENTION SYSTEMS - CMP DETENTION / CMP DRAINAGE			
Material Location	Description	Material Designation	Designation
8	Rigid or Flexible Pavement (if applicable)		
7	Road Base (if applicable)		
A	Geotextile Layer	Non-Woven Geotextile	CONTECH C-40 or C-45
6	Backfill	Well graded granular material which may contain small amounts of silt or clay.	AASHTO M 145- A-1, A-2, A-3
6	Bedding Stone	Well graded granular bedding material w/maximum particle size of 3"	AASHTO M43 - 3,357,4,467, 5, 56, 57
3			Engineer to determine if bedding is required. Pipe may be placed on the trench bottom of a relatively loose, native suitable well graded & granular material. For Arch pipes it is recommended to be shaped to a relatively flat bottom or fine-grade the foundation to a slight v-shape. Unsuitable material should be over-excavated and re-placed with a 4"-6" layer of well graded & granular stone per the material designation. See AASHTO 26.3.8.1 / 26.5.3 Bedding info.
A	Geotextile Layer	Non-Woven Geotextile	CONTECH C-40 or C-45
* Note: Backfill using controlled low-strength material (CLSM, "flash fill" or "flowable fill") when the spacing between the pipes will not allow for placement and adequate compaction of the backfill.			



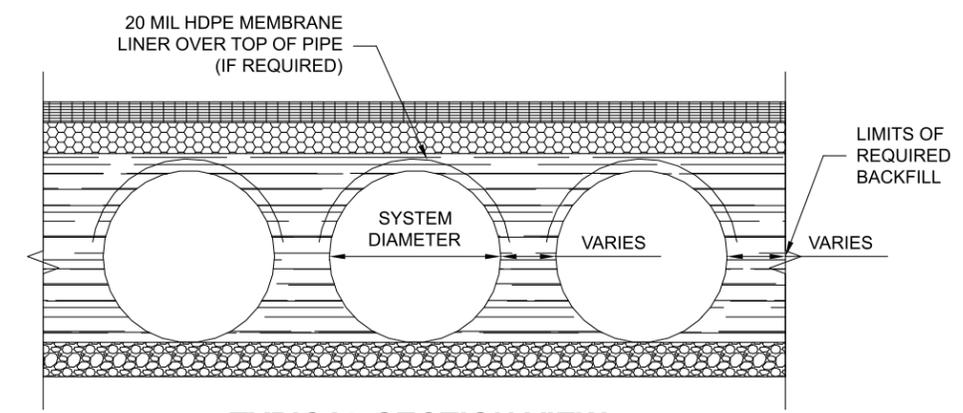
PLAN
TYPICAL MANWAY DETAIL

NOTE: MANWAY DETAIL APPLICABLE FOR CMP SYSTEMS WITH DIAMETERS 48" AND LARGER. MANWAYS MAY BE REQUIRED ON SMALLER SYSTEMS DEPENDING ON ACTUAL SITE SPECIFIC CONDITIONS.



ELEVATION
TYPICAL RISER DETAIL

END
NOTE: LADDERS ARE OPTIONAL AND ARE NOT REQUIRED FOR ALL SYSTEMS.



TYPICAL SECTION VIEW
LINER OVER ROWS
SCALE: N.T.S.

NOTE: IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PROJECT, AN HDPE MEMBRANE LINER IS RECOMMENDED WITH THE SYSTEM. THE IMPERMEABLE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.

1 MINIMUM WIDTH DEPENDS ON SITE CONDITIONS AND ENGINEERING JUDGEMENT

FOUNDATION/BEDDING PREPARATION

2 PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND BROUGHT BACK TO THE GRADE WITH A FILL MATERIAL AS APPROVED BY THE ENGINEER.

5 HAUNCH ZONE MATERIAL SHALL BE PLACED AND UNIFORMLY COMPACTED WITHOUT SOFT SPOTS.

BACKFILL

WHEN PLACING THE FIRST LIFTS OF BACKFILL IT IS IMPORTANT TO MAKE SURE THAT THE BACKFILL IS PROPERLY COMPACTED UNDER AND AROUND THE PIPE HAUNCHES. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A TWO LIFT (16") DIFFERENTIAL BETWEEN ANY OF THE PIPES AT ANY TIME DURING THE BACKFILL PROCESS. THE BACKFILL SHALL BE ADVANCED ALONG THE LENGTH OF THE DETENTION SYSTEM AT THE SAME RATE TO AVOID DIFFERENTIAL LOADING ON THE PIPE.

OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS, AS APPROVED BY SITE ENGINEER.

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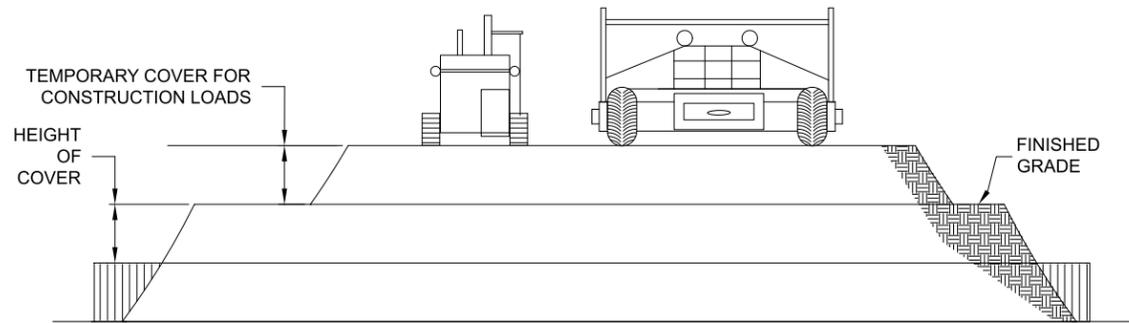
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CONTECH
CMP DETENTION SYSTEMS
CONTECH
DYODS
DRAWING

DYO20336 The Lux
60" diameter Solid CMP
Bryan, TX
DETENTION SYSTEM

PROJECT No.: 13173	SEQ. No.: 20336	DATE: 8/17/2022
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.:		1



CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

CONSTRUCTION LOADING DIAGRAM

SCALE: N.T.S.

SPECIFICATION FOR DESIGNED DETENTION SYSTEM:

SCOPE

THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE DESIGNED DETENTION SYSTEM DETAILED IN THE PROJECT PLANS.

MATERIAL

THE MATERIAL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-274 OR ASTM A-92.

THE GALVANIZED STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-218 OR ASTM A-929.

THE POLYMER COATED STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-246 OR ASTM A-742.

THE ALUMINUM COILS SHALL CONFORM TO THE APPLICABLE OF AASHTO M-197 OR ASTM B-744.

CONSTRUCTION LOADS

CONSTRUCTION LOADS MAY BE HIGHER THAN FINAL LOADS. FOLLOW THE MANUFACTURER'S OR NCSPA GUIDELINES.

PIPE

THE PIPE SHALL BE MANUFACTURED IN ACCORDANCE TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2: AASHTO M-36 OR ASTM A-760

GALVANIZED: AASHTO M-36 OR ASTM A-760

POLYMER COATED: AASHTO M-245 OR ASTM A-762

ALUMINUM: AASHTO M-196 OR ASTM B-745

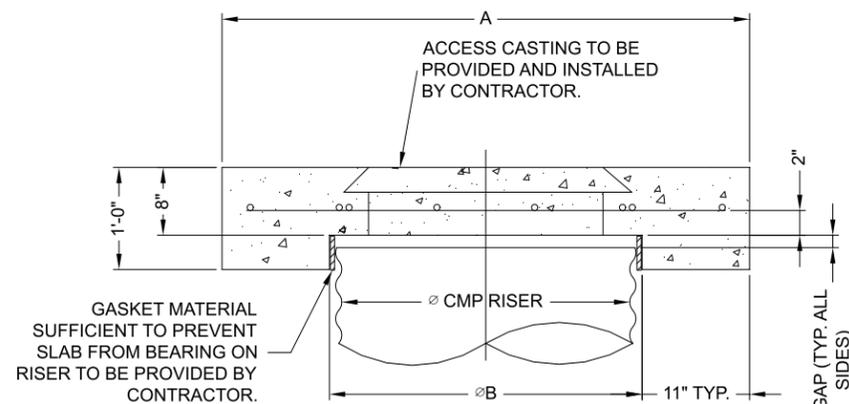
APPLICABLE HANDLING AND ASSEMBLY

SHALL BE IN ACCORDANCE WITH NCSP'S (NATIONAL CORRUGATED STEEL ASSOCIATION) FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL. SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR ALUMINUM PIPE.

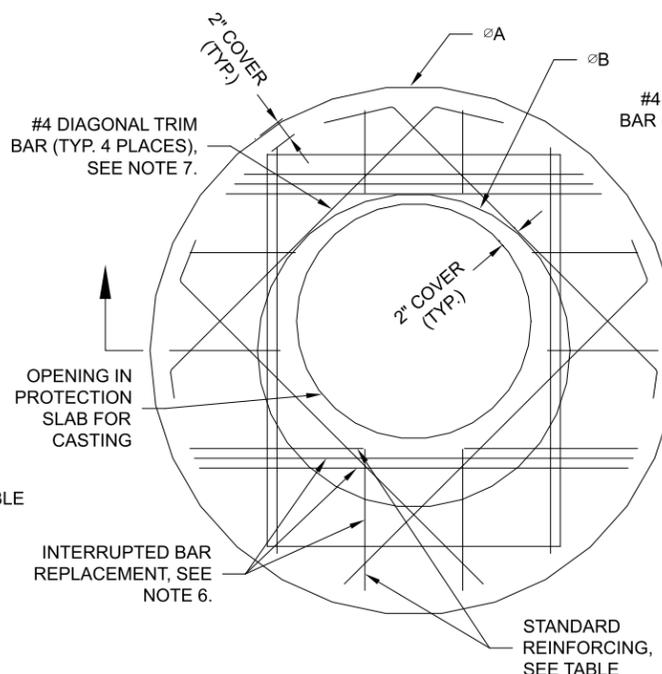
INSTALLATION

SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II DIVISION II OR ASTM A-798 (FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL) OR ASTM B-788 (FOR ALUMINUM PIPE) AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

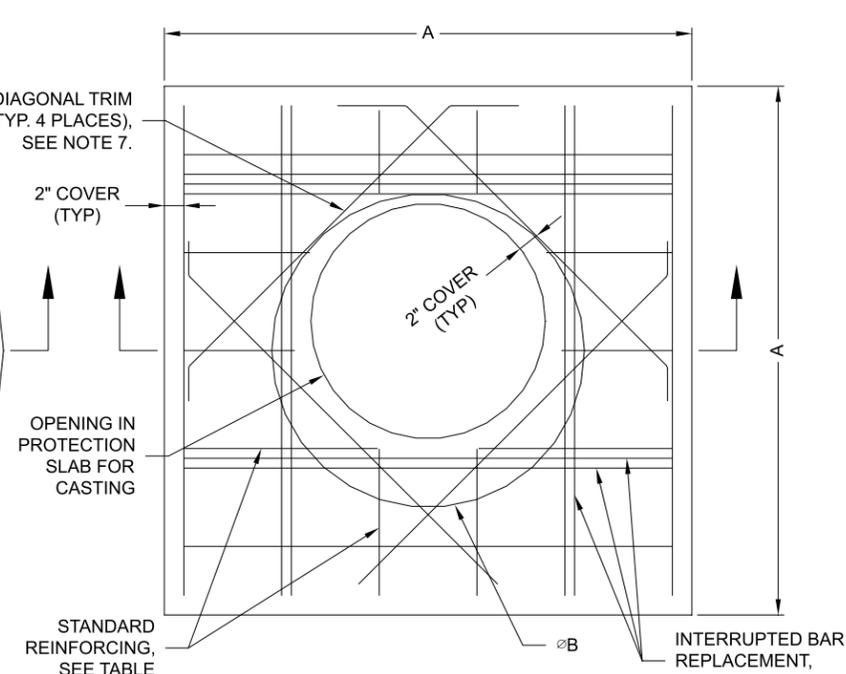
IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.



SECTION VIEW



ROUND OPTION PLAN VIEW



SQUARE OPTION PLAN VIEW

NOTES:

- DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.
- DESIGN LOAD HS25.
- EARTH COVER = 1' MAX.
- CONCRETE STRENGTH = 3,500 psi
- REINFORCING STEEL = ASTM A615, GRADE 60.
- PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
- TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
- PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
- DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON, NY.

MANHOLE CAP DETAIL

SCALE: N.T.S.

Ø CMP RISER	A	Ø B	REINFORCING	**BEARING PRESSURE (PSF)
24"	Ø 4' 4'X4'	26"	#5 @ 12" OCEW #5 @ 12" OCEW	2,410 1,780
30"	Ø 4'-6" 4'-6" X 4'-6"	32"	#5 @ 12" OCEW #5 @ 12" OCEW	2,120 1,530
36"	Ø 5' 5' X 5'	38"	#5 @ 10" OCEW #5 @ 10" OCEW	1,890 1,350
42"	Ø 5'-6" 5'-6" X 5'-6"	44"	#5 @ 10" OCEW #5 @ 9" OCEW	1,720 1,210
48"	Ø 6' 6' X 6'	50"	#5 @ 9" OCEW #5 @ 8" OCEW	1,600 1,100

** ASSUMED SOIL BEARING CAPACITY

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DYO20336 The Lux
60" diameter Solid CMP
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SHEET NO.:		1

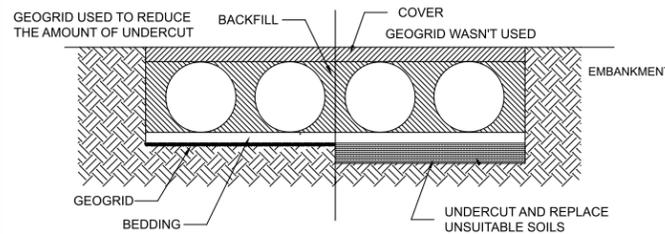
CMP DETENTION INSTALLATION GUIDE

PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM WILL ENSURE LONG-TERM PERFORMANCE. THE CONFIGURATION OF THESE SYSTEMS OFTEN REQUIRES SPECIAL CONSTRUCTION PRACTICES THAT DIFFER FROM CONVENTIONAL FLEXIBLE PIPE CONSTRUCTION. CONTECH ENGINEERED SOLUTIONS STRONGLY SUGGESTS SCHEDULING A PRE-CONSTRUCTION MEETING WITH YOUR LOCAL SALES ENGINEER TO DETERMINE IF ADDITIONAL MEASURES, NOT COVERED IN THIS GUIDE, ARE APPROPRIATE FOR YOUR SITE.

FOUNDATION

CONSTRUCT A FOUNDATION THAT CAN SUPPORT THE DESIGN LOADING APPLIED BY THE PIPE AND ADJACENT BACKFILL WEIGHT AS WELL AS MAINTAIN ITS INTEGRITY DURING CONSTRUCTION.

IF SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPETENT BACKFILL MATERIAL. THE STRUCTURAL FILL MATERIAL GRADATION SHOULD NOT ALLOW THE MIGRATION OF FINES, WHICH CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE. IF THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE UNDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOGRID REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES.

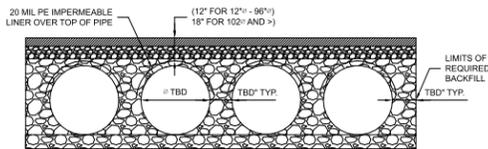


GRADE THE FOUNDATION SUBGRADE TO A UNIFORM OR SLIGHTLY SLOPING GRADE. IF THE SUBGRADE IS CLAY OR RELATIVELY NON-POROUS AND THE CONSTRUCTION SEQUENCE WILL LAST FOR AN EXTENDED PERIOD OF TIME, IT IS BEST TO SLOPE THE GRADE TO ONE END OF THE SYSTEM. THIS WILL ALLOW EXCESS WATER TO DRAIN QUICKLY, PREVENTING SATURATION OF THE SUBGRADE.

GEOMEMBRANE BARRIER

A SITE'S RESISTIVITY MAY CHANGE OVER TIME WHEN VARIOUS TYPES OF SALTING AGENTS ARE USED, SUCH AS ROAD SALTS FOR DEICING AGENTS. IF SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE, A GEOMEMBRANE BARRIER IS RECOMMENDED WITH THE SYSTEM. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM THE USE OF SUCH AGENTS INCLUDING PREMATURE CORROSION AND REDUCED ACTUAL SERVICE LIFE.

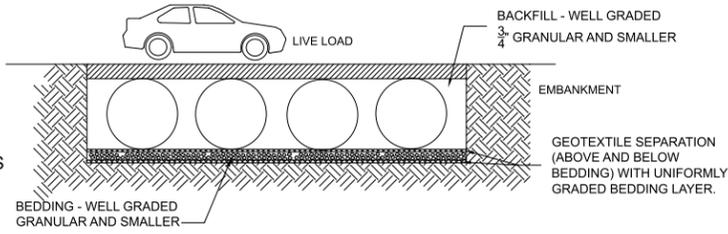
THE PROJECT'S ENGINEER OF RECORD IS TO EVALUATE WHETHER SALTING AGENTS WILL BE USED ON OR NEAR THE PROJECT SITE, AND USE HIS/HER BEST JUDGEMENT TO DETERMINE IF ANY ADDITIONAL PROTECTIVE MEASURES ARE REQUIRED. BELOW IS A TYPICAL DETAIL SHOWING THE PLACEMENT OF A GEOMEMBRANE BARRIER FOR PROJECTS WHERE SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE.



IN-SITU TRENCH WALL

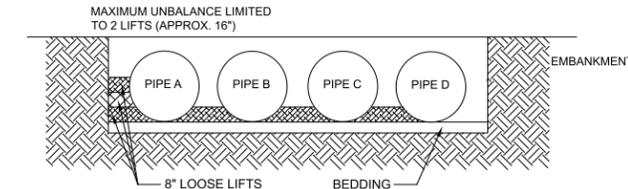
IF EXCAVATION IS REQUIRED, THE TRENCH WALL NEEDS TO BE CAPABLE OF SUPPORTING THE LOAD THAT THE PIPE SHEDS AS THE SYSTEM IS LOADED. IF SOILS ARE NOT CAPABLE OF SUPPORTING THESE LOADS, THE PIPE CAN DEFLECT. PERFORM A SIMPLE SOIL PRESSURE CHECK USING THE APPLIED LOADS TO DETERMINE THE LIMITS OF EXCAVATION BEYOND THE SPRING LINE OF THE OUTER MOST PIPES.

IN MOST CASES THE REQUIREMENTS FOR A SAFE WORK ENVIRONMENT AND PROPER BACKFILL PLACEMENT AND COMPACTION TAKE CARE OF THIS CONCERN.



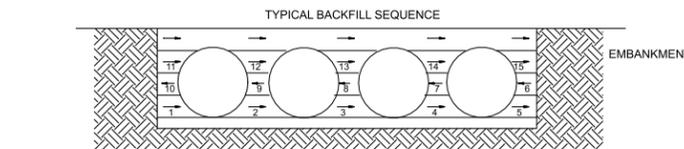
BACKFILL PLACEMENT

MATERIAL SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL-SLICING, RODDING, AIR TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS.

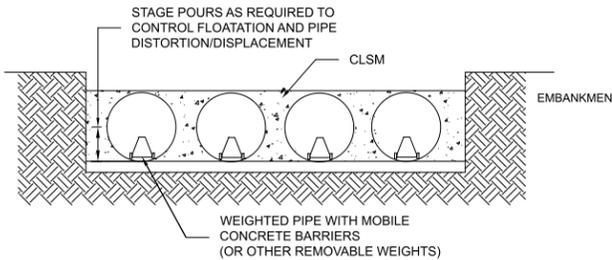


IF AASHTO T99 PROCEDURES ARE DETERMINED INFEASIBLE BY THE GEOTECHNICAL ENGINEER OF RECORD, COMPACTION IS CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE GEOTECHNICAL ENGINEER OF RECORD (OR REPRESENTATIVE THEREOF) IS SATISFIED WITH THE LEVEL OF COMPACTION.

FOR LARGE SYSTEMS, CONVEYOR SYSTEMS, BACKHOES WITH LONG REACHES OR DRAGLINES WITH STONE BUCKETS MAY BE USED TO PLACE BACKFILL. ONCE MINIMUM COVER FOR CONSTRUCTION LOADING ACROSS THE ENTIRE WIDTH OF THE SYSTEM IS REACHED, ADVANCE THE EQUIPMENT TO THE END OF THE RECENTLY PLACED FILL, AND BEGIN THE SEQUENCE AGAIN UNTIL THE SYSTEM IS COMPLETELY BACKFILLED. THIS TYPE OF CONSTRUCTION SEQUENCE PROVIDES ROOM FOR STOCKPILED BACKFILL DIRECTLY BEHIND THE BACKHOE, AS WELL AS THE MOVEMENT OF CONSTRUCTION TRAFFIC. MATERIAL STOCKPILES ON TOP OF THE BACKFILLED DETENTION SYSTEM SHOULD BE LIMITED TO 8- TO 10- FEET HIGH AND MUST PROVIDE BALANCED LOADING ACROSS ALL BARRELS. TO DETERMINE THE PROPER COVER OVER THE PIPES TO ALLOW THE MOVEMENT OF CONSTRUCTION EQUIPMENT SEE TABLE 1, OR CONTACT YOUR LOCAL CONTECH SALES ENGINEER.



WHEN FLOWABLE FILL IS USED, YOU MUST PREVENT PIPE FLOATATION. TYPICALLY, SMALL LIFTS ARE PLACED BETWEEN THE PIPES AND THEN ALLOWED TO SET-UP PRIOR TO THE PLACEMENT OF THE NEXT LIFT. THE ALLOWABLE THICKNESS OF THE CLSM LIFT IS A FUNCTION OF A PROPER BALANCE BETWEEN THE UPLIFT FORCE OF THE CLSM, THE OPPOSING WEIGHT OF THE PIPE, AND THE EFFECT OF OTHER RESTRAINING MEASURES. THE PIPE CAN CARRY LIMITED FLUID PRESSURE WITHOUT PIPE DISTORTION OR DISPLACEMENT, WHICH ALSO AFFECTS THE CLSM LIFT THICKNESS. YOUR LOCAL CONTECH SALES ENGINEER CAN HELP DETERMINE THE PROPER LIFT THICKNESS.

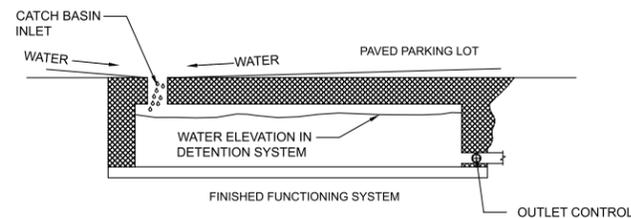


CONSTRUCTION LOADING

TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H-20 LIVE LOAD. BECAUSE CONSTRUCTION LOADS OFTEN EXCEED DESIGN LIVE LOADS, INCREASED TEMPORARY MINIMUM COVER REQUIREMENTS ARE NECESSARY. SINCE CONSTRUCTION EQUIPMENT VARIES FROM JOB TO JOB, IT IS BEST TO ADDRESS EQUIPMENT SPECIFIC MINIMUM COVER REQUIREMENTS WITH YOUR LOCAL CONTECH SALES ENGINEER DURING YOUR PRE-CONSTRUCTION MEETING.

ADDITIONAL CONSIDERATIONS

BECAUSE MOST SYSTEMS ARE CONSTRUCTED BELOW-GRADE, RAINFALL CAN RAPIDLY FILL THE EXCAVATION; POTENTIALLY CAUSING FLOATATION AND MOVEMENT OF THE PREVIOUSLY PLACED PIPES. TO HELP MITIGATE POTENTIAL PROBLEMS, IT IS BEST TO START THE INSTALLATION AT THE DOWNSTREAM END WITH THE OUTLET ALREADY CONSTRUCTED TO ALLOW A ROUTE FOR THE WATER TO ESCAPE. TEMPORARY DIVERSION MEASURES MAY BE REQUIRED FOR HIGH FLOWS DUE TO THE RESTRICTED NATURE OF THE OUTLET PIPE.



CMP DETENTION SYSTEM INSPECTION AND MAINTENANCE

UNDERGROUND STORMWATER DETENTION AND INFILTRATION SYSTEMS MUST BE INSPECTED AND MAINTAINED AT REGULAR INTERVALS FOR PURPOSES OF PERFORMANCE AND LONGEVITY.

INSPECTION

INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE OF CMP DETENTION SYSTEMS AND IS EASILY PERFORMED. CONTECH RECOMMENDS ONGOING, ANNUAL INSPECTIONS. SITES WITH HIGH TRASH LOAD OR SMALL OUTLET CONTROL ORIFICES MAY NEED MORE FREQUENT INSPECTIONS. THE RATE AT WHICH THE SYSTEM COLLECTS POLLUTANTS WILL DEPEND MORE ON SITE SPECIFIC ACTIVITIES RATHER THAN THE SIZE OR CONFIGURATION OF THE SYSTEM.

INSPECTIONS SHOULD BE PERFORMED MORE OFTEN IN EQUIPMENT WASHDOWN AREAS, IN CLIMATES WHERE SANDING AND/OR SALTING OPERATIONS TAKE PLACE, AND IN OTHER VARIOUS INSTANCES IN WHICH ONE WOULD EXPECT HIGHER ACCUMULATIONS OF SEDIMENT OR ABRASIVE/ CORROSIVE CONDITIONS. A RECORD OF EACH INSPECTION IS TO BE MAINTAINED FOR THE LIFE OF THE SYSTEM

MAINTENANCE

CMP DETENTION SYSTEMS SHOULD BE CLEANED WHEN AN INSPECTION REVEALS ACCUMULATED SEDIMENT OR TRASH IS CLOGGING THE DISCHARGE ORIFICE.

ACCUMULATED SEDIMENT AND TRASH CAN TYPICALLY BE EVACUATED THROUGH THE MANHOLE OVER THE OUTLET ORIFICE. IF MAINTENANCE IS NOT PERFORMED AS RECOMMENDED, SEDIMENT AND TRASH MAY ACCUMULATE IN FRONT OF THE OUTLET ORIFICE. MANHOLE COVERS SHOULD BE SECURELY SEATED FOLLOWING CLEANING ACTIVITIES. CONTECH SUGGESTS THAT ALL SYSTEMS BE DESIGNED WITH AN ACCESS/INSPECTION MANHOLE SITUATED AT OR NEAR THE INLET AND THE OUTLET ORIFICE. SHOULD IT BE NECESSARY TO GET INSIDE THE SYSTEM TO PERFORM MAINTENANCE ACTIVITIES, ALL APPROPRIATE PRECAUTIONS REGARDING CONFINED SPACE ENTRY AND OSHA REGULATIONS SHOULD BE FOLLOWED.

ANNUAL INSPECTIONS ARE BEST PRACTICE FOR ALL UNDERGROUND SYSTEMS. DURING THIS INSPECTION, IF EVIDENCE OF SALTING/DE-ICING AGENTS IS OBSERVED WITHIN THE SYSTEM, IT IS BEST PRACTICE FOR THE SYSTEM TO BE RINSED, INCLUDING ABOVE THE SPRING LINE SOON AFTER THE SPRING THAW AS PART OF THE MAINTENANCE PROGRAM FOR THE SYSTEM.

MAINTAINING AN UNDERGROUND DETENTION OR INFILTRATION SYSTEM IS EASIEST WHEN THERE IS NO FLOW ENTERING THE SYSTEM. FOR THIS REASON, IT IS A GOOD IDEA TO SCHEDULE THE CLEANOUT DURING DRY WEATHER.

THE FOREGOING INSPECTION AND MAINTENANCE EFFORTS HELP ENSURE UNDERGROUND PIPE SYSTEMS USED FOR STORMWATER STORAGE CONTINUE TO FUNCTION AS INTENDED BY IDENTIFYING RECOMMENDED REGULAR INSPECTION AND MAINTENANCE PRACTICES. INSPECTION AND MAINTENANCE RELATED TO THE STRUCTURAL INTEGRITY OF THE PIPE OR THE SOUNDNESS OF PIPE JOINT CONNECTIONS IS BEYOND THE SCOPE OF THIS GUIDE.

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CONTECH
ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH
CMP DETENTION SYSTEMS
CONTECH
DYODS
DRAWING

DYO20336 The Lux
60" diameter Solid CMP
Bryan, TX
DETENTION SYSTEM

PROJECT No.: 13173	SEQ. No.: 20336	DATE: 8/17/2022
DESIGNED: DYO	DRAWN: DYO	
CHECKED: DYO	APPROVED: DYO	
SHEET NO.:		1

L:\SHARED\L2 ENGINEERING PROJECTS\ENGINEERING PROJECTS\10766 - THE LUX 03 CAD\DESIGN SET\24 ELECTRICAL LOAD SUMMARY.DWG Jcn. 10. 2023-7:29 AM

ESTIMATED ELECT. LOAD SUMMARY LEFT UNIT (2335 SF)
120/240V, 1Ø, 3W

DESCRIPTION	VA				
LIGHTING/SMALL APPLIANCE					
3 VA/SQ. FT.	7005				
LAUNDRY	4500				
WTR HTR	4500				
DRYER	15000				
OVEN/RANGE	12000				
KITCHEN SMALL APPLIANCE	3000				
TOTAL KVA = 46.0					
TOTAL GENERAL LOAD VA	46005	KVA	DF	L1	L2
FIRST 10 KW @ 100%	10000	10.0	1.00	42	42
REMAINDER @ 40%	36005	36.0	0.4	60	60
HVAC (5 KVA / 1000 SQ FT)		11.7	1.00	49	49
TOTAL DEMAND LOAD				151	151

ESTIMATED ELECT. LOAD SUMMARY CENTER LEFT UNIT (2063 SF)
120/240V, 1Ø, 3W

DESCRIPTION	VA				
LIGHTING/SMALL APPLIANCE					
3 VA/SQ. FT.	6189				
LAUNDRY	3000				
WTR HTR	4500				
DRYER	10000				
OVEN/RANGE	12000				
KITCHEN SMALL APPLIANCE	3000				
TOTAL KVA = 38.7					
TOTAL GENERAL LOAD VA	38689	KVA	DF	L1	L2
FIRST 10 KW @ 100%	10000	10.0	1.00	42	42
REMAINDER @ 40%	28689	28.7	0.4	48	48
HVAC (5 KVA / 1000 SQ FT)		10.3	1.00	43	43
TOTAL DEMAND LOAD				133	133

ESTIMATED ELECT. LOAD SUMMARY CENTER RIGHT UNIT (2279 SF)
120/240V, 1Ø, 3W

DESCRIPTION	VA				
LIGHTING/SMALL APPLIANCE					
3 VA/SQ. FT.	6837				
LAUNDRY	4500				
WTR HTR	4500				
DRYER	15000				
OVEN/RANGE	12000				
KITCHEN SMALL APPLIANCE	3000				
TOTAL KVA = 45.8					
TOTAL GENERAL LOAD VA	45837	KVA	DF	L1	L2
FIRST 10 KW @ 100%	10000	10.0	1.00	42	42
REMAINDER @ 40%	35837	35.8	0.4	60	60
HVAC (5 KVA / 1000 SQ FT)		11.4	1.00	48	48
TOTAL DEMAND LOAD				150	150

ESTIMATED ELECT. LOAD SUMMARY RIGHT UNIT (2085 SF)
120/240V, 1Ø, 3W

DESCRIPTION	VA				
LIGHTING/SMALL APPLIANCE					
3 VA/SQ. FT.	6255				
LAUNDRY	3000				
WTR HTR	4500				
DRYER	10000				
OVEN/RANGE	12000				
KITCHEN SMALL APPLIANCE	3000				
TOTAL KVA = 38.8					
TOTAL GENERAL LOAD VA	38755	KVA	DF	L1	L2
FIRST 10 KW @ 100%	10000	10.0	1.00	42	42
REMAINDER @ 40%	28755	28.8	0.4	48	48
HVAC (5 KVA / 1000 SQ FT)		10.4	1.00	43	43
TOTAL DEMAND LOAD				133	133

ESTIMATED ELECT. LOAD SUMMARY HOUSE PANEL (AT EACH APT BLDG)
120/240V, 1Ø, 3W

DESCRIPTION	KVA	DF	L1	L2
LIGHTING	2.0	1.25	10	10
RECEPT	2.0	1.00	8	8
MISC. LOAD (EST)	5.0	1.00	21	21
TOTAL DEMAND LOAD	9 KVA		39	39

ELECTRICAL SERVICE METER LOAD:

13 BUILDINGS, EACH WITH:

- 1 LEFT UNIT
- 1 CENTER LEFT UNIT
- 1 CENTER RIGHT UNIT
- 1 RIGHT UNIT
- 1 HOUSE PANEL

ESTIMATED ELECT. LOAD SUMMARY PER BUILDING
120/240V, 1Ø, 3W

DESCRIPTION	VA	KVA	DF	L1	L2
TOTAL GENERAL LOAD VA	169286				
FIRST 10 KW/UNIT @ 100%	40000	40.0	1.00	167	167
REMAINDER @ 40%	129286	129.3	0.4	216	216
HVAC (5 KVA / 1000 SQ FT)		43.8	1.00	183	183
HOUSE PANEL LIGHTING	2.0	1.25	10	10	
HOUSE PANEL RECEPT	2.0	1.00	8	8	
HOUSE PANEL MISC. LOAD (EST)	5.0	1.00	21	21	
TOTAL DEMAND LOAD				605	605



CLIENT INFORMATION
JUSTIN WALTON
713-446-4083
JW@BUILD-OLGY.NET

PROJECT ADDRESS
2539 E VILLA MARIA ROAD
BRYAN, TEXAS 77803

THE MODS
2539 E Villa Maria Rd
The Mods Subd. Block 1, Lot 1 & 2 - 6.23 AC
Bryan, Brazos, County

SWOBODA ELECTRICAL LOAD SUMMARY

DRAWING ISSUE

#	DATE	BY	* COMMENT
1	9/27/22	JTW	FOR PERMIT

DRAWING INFORMATION

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