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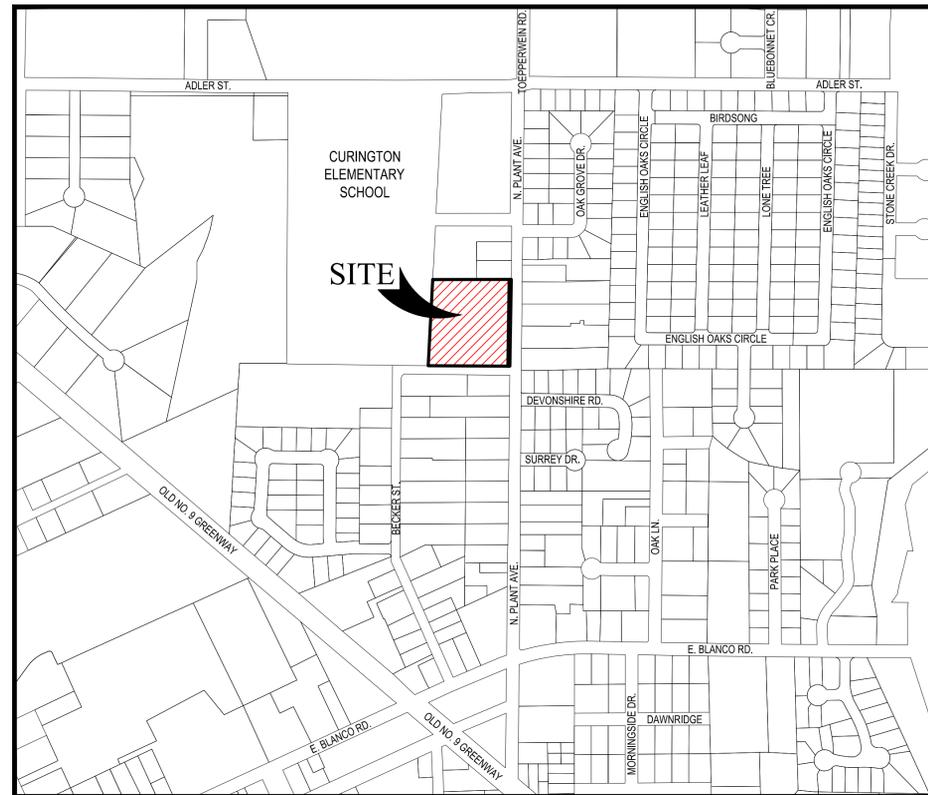
REVIEWED
CITY OF BOERNE
DEVELOPMENT ENGINEERING
BY: *[Signature]* DATE: 07/07/2025
NO COMMENT

REVIEWED
CITY OF BOERNE
Engineering & Mobility
Cheryl J. Rogen
7/8/2025
NO OBJECTIONS

CONSTRUCTION DRAWINGS SUBDIVISION IMPROVEMENTS FOR **SANTI SUBDIVISION** BOERNE, TEXAS

SEQUENCE OF CONSTRUCTION:

1. INSTALL ALL EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED BY THE STORM WATER POLLUTION PREVENTION PLAN. EROSION CONTROL DEVICES ARE TO BE MAINTAINED DURING THE ENTIRE COURSE OF CONSTRUCTION. DETENTION BASIN MUST BE GRADED PRIOR TO GRADING AND CLEARING REMAINDER OF THE SITE. OWNER TO OBTAIN GRADING PERMIT OR CONSTRUCTION RELEASE PERMIT PRIOR TO EARTHWORK.
2. INSTALL ALL TRAFFIC CONTROL DEVICES AS REQUIRED BY CITY OF BOERNE UTILITY AND DRIVEWAY PERMITS. NOTE THAT ALL TRAFFIC CONTROL PROCEDURES SHOULD ADHERE TO SPECIFICATIONS AS SHOWN IN THE 2006 VERSION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
3. HOLD PRE-CONSTRUCTION CONFERENCE WITH THE CITY OF BOERNE, OWNER, PROJECT ENGINEER, CONTRACTOR AND SUB-CONTRACTORS.
4. CONTRACTOR TO COMPLETE ALL STREET, DRAINAGE, & UTILITY IMPROVEMENTS.
5. COMPLETE ALL PERMANENT EROSION CONTROL STRUCTURES AND MEASURES AND FINALIZE THE SITE RESTORATION. CONTRACTOR TO REAPPLY TOP SOIL REMOVED DURING SITE CLEARING TO AID IN ESTABLISHING NEW VEGETATION PER COB EDM SECTION 6.1.5.
6. PROJECT ENGINEER SHALL SCHEDULE FINAL WALK THROUGH WITH CONTRACTOR AND CITY OF BOERNE.
7. FINAL WALK THROUGH AND PUNCH LIST.
8. CONTRACTOR TO COMPLETE PUNCH LIST ITEMS.
9. PROJECT ENGINEER TO WRITE CONCURRENCE LETTER AND SUBMIT PLAN OF RECORD DRAWINGS TO CITY OF BOERNE.
10. FINAL SITE DEVELOPMENT PERMIT ISSUED.
11. REMOVE TEMPORARY EROSION AND SEDIMENTATION CONTROLS. RESTORE ANY AREAS DISTURBED DURING REMOVAL OF TEMPORARY CONTROLS.



LOCATION MAP
SCALE: 1" = 400'

DRAWING INDEX

Sheet Number	Sheet Description	Sheet Title
01	G-001	TITLE SHEET
02	C-001	GENERAL NOTES
03	VF101	EXISTING CONDITIONS & DEMOLITION PLAN
04	CG801	EROSION & SEDIMENTATION CONTROL PLAN
05	CG851	EROSION & SEDIMENTATION CONTROL DETAILS
06	CG701	MASTER DRAINAGE PLAN
07	CG101	MASS GRADING PLAN
08	CP201	STREET PLAN & PROFILE SANTI CIRCLE STA. 1+00 TO END
09	CG702	DETENTION POND PLAN
10	CG201	DRAINAGE PLAN & PROFILE DRAIN 'A' STA. 1+00 TO END
11	CG202	DRAINAGE PLAN AND PROFILE DRAIN 'B' STA. 1+00 TO END
12	CG203	STORM DRAIN 'C' PLAN AND PROFILE STA. 1+00 TO 4+00.00
13	CG501	STREET & DRAINAGE DETAILS (SHEET 1)
14	CG502	STREET & DRAINAGE DETAILS (SHEET 2)
15	CU101	OVERALL UTILITY PLAN
16	CU121	WATER DISTRIBUTION PLAN
17	CU201	SEWER PLAN AND PROFILE (SHEET 1)
18	CU501	CIVIL UTILITY DETAILS (SHEET 1)
19	CU502	CIVIL UTILITY DETAILS (SHEET 2)
20	L-001	LID FACILITIES TITLE SHEET
21	CG211	BMP LAYOUT
22	LD101	SAND FILTER PLAN SHEET
		ELECTRICAL PLANS
01		ELECTRICAL DISTRIBUTION PLAN
02		ELECTRICAL DETAILS



Know what's below.
Call before you dig.

OWNER:

SIN REPOSO LLC
24163 BOERNE STAGE ROAD
SAN ANTONIO, TX 78255

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SAN ANTONIO, TX 78252

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ENGINEER: _____
CODY MORRIS, P.E.

Rev.	Date	Description	App.
1	5/13/25	GEOTECH UPDATES	

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SHEET

G-001

SHEET 01 OF 22

Job No. 3197.01

CITY OF BOERNE NOTES

GENERAL NOTES

- 1. CONSTRUCTION OF ALL FACILITIES TO BE DEDICATED TO THE PUBLIC SHALL BE PERFORMED PER THE REQUIREMENTS OF THE CITY OF BOERNE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION.
2. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE INFRASTRUCTURE DRAWINGS REMAINS WITH THE ENGINEER OF RECORDS. IN APPROVING THESE INFRASTRUCTURE DRAWINGS, THE CITY OF BOERNE MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
3. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE CITY OF BOERNE DEVELOPMENT SERVICES TO SCHEDULE A PRE-CONSTRUCTION MEETING.
4. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS PRIOR TO CONSTRUCTION.
5. THE CONTRACTOR SHALL NOTIFY CITY OF BOERNE DEVELOPMENT SERVICES AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION AT (830) 249-1538.
6. THE CONTRACTOR IS REQUIRED TO SCHEDULE ALL NECESSARY INSPECTIONS AT LEAST 24 HOURS IN ADVANCE.
7. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES THE APPROVED INFRASTRUCTURE DRAWINGS, INCLUDING ALL APPROVED REVISIONS, THE CITY OF BOERNE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, ALL NECESSARY PERMITS, NOTICE OF INTENT, EROSION CONTROL PLANS, AND SWPPP. IT IS ENCOURAGED TO KEEP AN EXTRA COPY OF APPROVED SUBMITTALS ON-SITE.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PUBLIC UTILITIES DURING CONSTRUCTION OF THE PROJECT.
9. THE CONTRACTOR SHALL DETERMINE THE DEPTH AND LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO EXCAVATING, TRENCHING, OR DRILLING AND SHALL BE REQUIRED TO TAKE ANY PRECAUTIONARY MEASURES TO PROTECT ALL LINES SHOWN AND/OR ANY OTHER UNDERGROUND UTILITIES NOT OF RECORD OR NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL PUBLIC AGENCIES AND FRANCHISE UTILITIES 48 HOURS PRIOR TO CONSTRUCTION (TEXAS811 1-800-344-8377). THE CONTRACTOR MAY BE REQUIRED TO EXPOSE THESE FACILITIES AT THEIR OWN COST.
10. THE CONTRACTOR MUST CONTACT CITY OF BOERNE DEVELOPMENT SERVICES IMMEDIATELY IF ANY DAMAGE TO EXISTING UTILITIES OCCURS, ANY DAMAGE TO UTILITIES RESULTING FROM CONTRACTOR'S OPERATIONS SHALL BE RESTORED AT THEIR EXPENSE.
11. THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PRIVATE PROPERTY, INCLUDING, BUT NOT LIMITED TO FENCES, WALLS, PAVEMENT, GRASS, TREES, AND LAWN SPRINKLER AND IRRIGATION SYSTEM AT THEIR OWN COST.
12. ANY DISCREPANCIES ON THE INFRASTRUCTURE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER AND CITY OF BOERNE DEVELOPMENT SERVICES BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM THE INFRASTRUCTURE DRAWINGS ARE PERMITTED WITHOUT WRITTEN APPROVAL FROM THE CITY.
13. STORMWATER MANAGEMENT FACILITIES SHALL BE PROVIDED PRIOR TO SITE CONSTRUCTION OR CLEARING AND BE MAINTAINED DURING THE PROGRESS OF CONSTRUCTION.
14. THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY. ALL WORK REQUIRED SHALL BE CONDUCTED IN CONFORMANCE WITH CURRENT SAFETY CODES AND STANDARDS WITH JURISDICTION OVER THIS PROJECT.
15. THE CONTRACTOR SHALL PROVIDE THE CITY ACCESS TO CITY PROPERTY, EASEMENTS, UTILITIES, AND FACILITIES AT ALL TIMES DURING CONSTRUCTION.
16. THE CONTRACTOR IS RESPONSIBLE FOR REQUIRED CONSTRUCTION SURVEYING AND STAKING AND SHALL NOTIFY THE CITY OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH ANY WORK.
17. THE CONTRACTOR SHALL VERIFY BENCHMARKS AND DATUMS PRIOR TO COMMENCING CONSTRUCTION OR STAKING OF IMPROVEMENTS.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL SURVEY MARKERS INCLUDING IRON RODS, PROPERTY CORNERS, OR SURVEY MONUMENTS WITHIN THE LIMITS OF THE CONSTRUCTION SITE AND OUTSIDE THE RIGHT-OF-WAY DURING CONSTRUCTION. ANY SURVEY MARKERS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR AT THEIR OWN COST.
19. ALL CONCRETE SHALL BE PLANT MIXED MEETING CITY SPECIFICATIONS WITH A MINIMUM OF 4,000 PSI AT 28 DAYS COMPRESSIVE STRENGTH UNLESS OTHERWISE SPECIFIED.
20. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS, AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THESE CONTRACT DOCUMENTS, THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS, AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS, SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
21. CONTRACTOR SHALL FURNISH A SET OF "AS-BUILT" DRAWINGS TO THE CITY OF BOERNE DEVELOPMENT SERVICES AT THE TIME OF FINAL INSPECTION. CONTRACTOR SHALL GIVE CITY AT LEAST TWO WORKING DAYS NOTICE PRIOR TO FINAL INSPECTION.

GEOTECHNICAL TESTING

- 1. ALL COMPACTION, CONCRETE, AND OTHER REQUIRED TEST RESULTS SHALL BE SENT TO THE DESIGN ENGINEER AND CITY DIRECTLY FROM THE TESTING AGENCY.
2. UPON COMPLETION OF CONSTRUCTION, A COPY OF ALL TESTING REPORTS SHALL BE COMPILED AND FORWARDED TO THE CITY OF BOERNE DEVELOPMENT SERVICES DEPARTMENT PRIOR TO FINAL ACCEPTANCE.
3. IT IS THE RESPONSIBILITY OF THE DEVELOPER, CONTRACTOR, SUBCONTRACTORS, BUILDERS, GEOTECHNICAL ENGINEER, AND DESIGN ENGINEER TO IMMEDIATELY NOTIFY THE CITY AND DESIGN ENGINEER IF THE PRESENCE OF GROUNDWATER WITHIN THE SITE IS EVIDENT. UPON NOTIFICATION, THE DESIGN ENGINEER SHALL RESPOND WITH PLAN REVISIONS FOR THE MITIGATION OF THE GROUNDWATER ISSUE. ALL CONSTRUCTION ACTIVITY IMPACTED BY THE DISCOVERY OF GROUNDWATER SHALL BE SUSPENDED UNTIL THE CITY APPROVES THE GROUNDWATER MITIGATION PLAN IN WRITING.

TRAFFIC CONTROL

- 1. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING ALL TEMPORARY AND PERMANENT TRAFFIC CONTROL IN ACCORDANCE WITH THE MINIMUM REQUIREMENTS OF THE LATEST REVISION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) AND TxDOT BARRICADE AND CONSTRUCTION STANDARDS.
2. CONTRACTOR SHALL NOT IMPEDE TRAFFIC ON EXISTING STREETS, DRIVEWAYS, OR FIRE LANES OPEN TO THE PUBLIC.
3. CONTRACTOR TO PROVIDE TRAFFIC CONTROL PLAN TO CITY AT LEAST 3 BUSINESS DAYS IN ADVANCE OF COMPLETING WORK IN A CITY RIGHT-OF-WAY.
4. ALL TEMPORARY SIGNS, BARRICADES, WARNING LIGHTS AND OTHER MISCELLANEOUS TRAFFIC CONTROL MEASURES SHALL BE REMOVED AND ORIGINAL TRAFFIC CONTROL MEASURES REPLACED AT THE END OF THE CONTRACTOR'S CONSTRUCTION OPERATION.

EROSION CONTROL NOTES

- 1. ALL EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE AND SHALL REMAIN IN PLACE UNTIL FINAL GRADING AND PAVING IS COMPLETE AND VEGETATION IS ESTABLISHED WITH 85% COVERAGE ACHIEVED.
2. CONTRACTOR IS RESPONSIBLE FOR PROPER MAINTENANCE OF THE REQUIRED EROSION CONTROL DEVICES THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS. EROSION CONTROLS SHALL BE REPAIRED OR REPLACED AS INSPECTION DEEMS NECESSARY, OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. ACCUMULATED SILT IN ANY EROSION CONTROL DEVICE SHALL BE REMOVED AND SHALL BE DISTRIBUTED ON-SITE IN A MANNER NOT CONTRIBUTING TO ADDITIONAL SILTATION.
3. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT EROSION CONTROL MEASURES AND STORMWATER CONTROL IS SUFFICIENT TO MITIGATE OFF-SITE IMPACTS ARE IN PLACE AT ALL STAGES OF CONSTRUCTION.
4. THE CITY INSPECTOR HAS THE AUTHORITY TO HAVE THE CONTRACTOR MODIFY THE EROSION CONTROLS AT THE DEVELOPER'S EXPENSE. THE DEVELOPER SHALL BE NOTIFIED OF THESE MODIFICATIONS PRIOR TO COMMENCEMENT OF THE MODIFICATIONS.
5. CONSTRUCTION OPERATIONS SHALL BE MANAGED SO THAT AS MUCH OF THE SITE AS POSSIBLE IS LEFT COVERED WITH TOPSOIL AND VEGETATION.
6. CONTRACTOR TO REMOVE GRASS AND STRIP TOPSOIL TO DEPTHS ENCOUNTERED AND STOCKPILE TOPSOIL TO BE DISTRIBUTED DURING FINAL GRADING OF THE DISTURBED AREAS.
7. CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE AT ALL PRIMARY POINTS OF ACCESS. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION TRAFFIC UTILIZES THE STABILIZED CONSTRUCTION ENTRANCES AT ALL TIMES FOR INGRESS/EGRESS TO THE SITE.
8. CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS AND DRIVEWAYS ADJACENT TO THE PROJECT FREE FROM MUD AND DEBRIS AT ALL TIMES. CONTRACTOR SHALL CLEAN AND REMOVE ALL LOOSE MATERIAL RESULTING FROM CONSTRUCTION OPERATIONS.
9. THE CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST.
10. AS INLETS ARE COMPLETED, TEMPORARY SEDIMENT BARRIERS SHALL BE INSTALLED. PRIOR TO FINAL ACCEPTANCE BY THE CITY OF BOERNE, ALL TEMPORARY INLET BARRIERS SHALL BE REMOVED AND REPLACED WITH CONTROLS TO PREVENT SEDIMENT FROM ENTERING THE STREET ROW.
11. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS AND AFTER SIGNIFICANT RAINFALL EVENTS TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.

GRADING NOTES

- 1. CONTRACTOR IS REQUIRED TO OBTAIN AN APPROVED GRADING PERMIT FROM THE CITY, IF APPLICABLE.
2. CONTRACTOR TO ENSURE POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION.
3. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES WHICH ARE TO REMAIN IN PLACE AND UNDISTURBED DURING CONSTRUCTION.
4. CONTRACTOR SHALL NOT PLACE ANY FILL OR WASTE MATERIAL IN THE 100-YEAR FLOODPLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOODPLAIN DEVELOPMENT PERMIT.

PAVING NOTES

- 1. ALL CONSTRUCTION AND TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF BOERNE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION.
2. SUBMITTALS FOR LIME, BASE, PRIME COAT, TACK COAT, AND ASPHALT, AS APPLICABLE, SHALL BE APPROVED PRIOR TO INSTALLATION. INSTALLATION PRIOR TO SUBMITTAL APPROVAL MY REQUIRE REMOVAL/REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
3. NO EARTHWORK, LIME APPLICATION, OR OTHER PREPARATION OF THE SUBGRADE FOR PAVING OF STREETS SHALL BE INITIATED WITHOUT AUTHORIZATION FROM THE CITY OF BOERNE DEVELOPMENT SERVICES. THE CITY WILL AUTHORIZE THE SUBGRADE WORK IN PREPARATION FOR THE PAVING AFTER UTILITY TRENCH BACKFILL TESTING IS COMPLETE AND VERIFIED TO MEET CITY REQUIREMENTS.
4. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING ALL STREETS, CROSSWALKS, SIDEWALKS, DRIVEWAYS, AND ANY OTHER SURFACE RELATED TO AN "ACCESSIBLE ROUTE" PER THE TEXAS ACCESSIBILITY STANDARDS (TAS), LATEST EDITION. THE CONTRACTOR SHALL REMOVE AND REPLACE ANY CONSTRUCTED OR INSTALLED ITEMS NOT MEETING THE CURRENT TAS REQUIREMENTS AT THEIR OWN COST.
5. EMBANKMENT/FILL MATERIAL UNDER PROPOSED STREETS MUST BE FREE OF LARGE STONES (4" WHEN BACKFILL IS 12" OR GREATER IN DEPTH OR 2.5" WHEN FILL IS LESS THAN 12" IN DEPTH), HAVE A PLASTICITY INDEX (PI) LESS THAN 20 PER ASTM D4318, AND BE COMPACTED TO 95%.

- 6. UTILITIES MUST BE MAINTAINED TO PROPER LINE AND GRADE DURING CONSTRUCTION OF THE PAVING FOR THIS PROJECT.
7. FLEXIBLE BASE UNDER ROADWAYS REQUIRES 100% COMPACTION AND MUST EXTEND AT LEAST 18 INCHES BEHIND THE BACK OF CURB.
8. TESTING OF MATERIALS REQUIRED FOR THE CONSTRUCTION OF PAVING IMPROVEMENTS SHALL BE PERFORMED BY A GEOTECHNICAL TESTING COMPANY AND PROVIDE OPPORTUNITY TO BE WITNESSED BY A CITY INSPECTOR. ALL TESTING MUST BE SCHEDULED WITH THE CITY OF BOERNE DEVELOPMENT SERVICES DEPARTMENT.

UTILITIES

GENERAL

- 1. ALL CONSTRUCTION, TESTING, CLEANING, AND DISINFECTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF BOERNE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION.
2. CONTRACTOR SHALL NOT OPERATE AN EXISTING VALVES. THE CITY MUST BE PRESENT DURING ANY WORK COMPLETED ON EXISTING CITY UTILITIES. THE CONTRACTOR IS NOT PERMITTED TO COMPLETE GAS WORK ON EXISTING CITY GAS MAINS AT ANY TIME.
3. THE CONTRACTOR MUST COORDINATE ALL UTILITY TIE-INS WITH THE CITY. NO TIE-INS SHALL BE MADE TO THE EXISTING UTILITY SYSTEM UNTIL ALL TEST RESULTS HAVE BEEN PROVIDED TO THE CITY AND ARE VERIFIED.
4. PRIOR TO RECEIVING BULK WATER, THE CONTRACTOR MUST APPLY FOR A BULK WATER METER. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING A CITY APPROVED BACKFLOW DEVICE.
5. ALL MANHOLES IN STREETS, VALVES, AND BLOW-OFFS SHALL HAVE CONCRETE ENCASEMENTS.
6. ONE DENSITY TEST PER 8-INCH LIFT IS REQUIRED EVERY 500 FEET FOR TRENCHES UP TO 12 FEET IN DEPTH AND EVERY 300 FEET FOR TRENCHES 12 FEET AND DEEPER. DENSITY TESTING MUST BE COMPLETED FOR EACH LIFT. POTHOLES AND STAIR STEPPING IS NOT PERMITTED.
7. ALL VALVE BOXES, METER BOXES, FIRE HYDRANTS, MANHOLES, ETC. ARE REQUIRED TO BE ADJUSTED AS REQUIRED TO MATCH FINAL GRADES.
8. THE CONTRACTOR IS RESPONSIBLE FOR STAKING UTILITIES PRIOR TO THE FINAL INSPECTION TO VERIFY LOCATION, FINISH GRADE, AND DEPTH.

WATER

- 9. WHERE THE MINIMUM NINE FEET SEPARATION BETWEEN WATER AND SANITARY SEWER LINES CANNOT BE MAINTAINED, THE CONTRACTOR MUST MEET THE REQUIREMENTS OF 30 TAC 217.53(D) AND 30 TAC 290.44(E).
10. ALL WATER LINES SHALL BE INSTALLED BETWEEN FOUR AND SIX FEET OR AS SHOWN ON THE APPROVED INFRASTRUCTURE DRAWINGS.
11. ALL WATER MAINS SHALL BE HYDROSTATICALLY TESTED BY THE CONTRACTOR PER CITY REQUIREMENTS.
12. FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, AND THE CITY OF BOERNE RELEASED THE MAIN FOR TIE-IN AND USE.
13. TRACER WIRE LOCATE BOX SHALL BE INSTALLED PER CITY REQUIREMENTS AT ALL WATER VALVES INCLUDING FIRE HYDRANT VALVES AND BLOWOFFS. FOR GROUPING OF VALVES AT ONE GENERAL LOCATION, ONE LOCATE BOX MAY BE USED.
14. NO VALVES, HYDRANTS, BLOWOFFS, ETC., SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

SEWER

- 15. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING NO SANITARY SEWER OVERFLOWS (SSOs) OCCUR AS A RESULT OF WORK. CONTRACTOR SHALL CONTACT THE CITY IMMEDIATELY UPON FINDING A SSO.
16. ALL PVC SEWER PIPE WITH OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH, SDR 26 MINIMUM PIPE STIFFNESS OF 115 PSI FROM MANHOLE TO MANHOLE.
17. ALL SANITARY SEWER MANHOLES REQUIRE CHIMNEY SEALS AND INTERIOR/EXTERIOR COATINGS PER CITY REQUIREMENTS.
18. AFTER COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL CLEAN THE SEWER MAINS AND SERVICE LINES AND TESTING WILL BE DONE BY TV CAMERA AND OBSERVED BY THE CITY OF BOERNE INSPECTOR, WASTEWATER ENGINEERING PERSONNEL, AND CONTRACTOR AS THE CAMERA IS RUN. ANY ABNORMALTIES, SUCH AS BROKEN PIPE OR MISALIGNED JOINTS, MUST BE REPLACED BY THE CONTRACTOR AT THEIR OWN EXPENSE.
19. WHEN SEWER LATERALS ARE TO BE CONNECTED TO EXISTING SEWER MAINS AND NO STUB-OUT HAS BEEN EARLIER PROVIDED, THE CONNECTION MUST BE MADE WITH AN APPROVED SERVICE SADDLE PER CITY REQUIREMENTS.

- 20. NO TESTING WILL BE PERFORMED PRIOR TO 30 DAYS FROM COMPLETE INSTALLATION OF THE SANITARY SEWER LINES. THE FOLLOWING SEQUENCE WILL BE STRICTLY ADHERED TO: (1) MANDREL TEST; (2) AIR TEST; (3) TELEVISIONING.

TREES

- 1. A TREE REMOVAL PERMIT IS REQUIRED PRIOR TO REMOVAL OF ANY TREE WITHIN THE CITY LIMITS.
2. ALL TREES NOT AUTHORIZED TO BE REMOVED MUST BE PROTECTED TO PREVENT DAMAGE AROUND THE ROOT PROTECTION ZONE.

REVEGETATION

- 1. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH. THE CONTRACTOR MUST LOOSEN THE SURFACE OF THE SOIL TO A DEPTH OF 2 INCHES AND REMOVE ALL STONES AND DEBRIS OVER 2 INCHES IN ANY DIMENSION. THE AREA SHALL BE REVEGETATED AND MAINTAINED UNTIL SOIL IS STABILIZED IN ALL AREAS. ANY AREA DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE PROJECT SHALL BE CORRECTED BY THE CONTRACTOR.
2. THE CONTRACTOR MUST CONSTRUCT AND MAINTAIN A PERMANENT STABLE PROTECTIVE COVER (GRASS) FOR EROSION AND SEDIMENT CONTROL ON ALL LAND SURFACES EXPOSED OR DISTURBED BY CONSTRUCTION OF THE PERMITTED PROJECT. THE PROTECTIVE COVER MUST BE INSTALLED WITHIN 14 DAYS AFTER FINAL GRADING OF THE AFFECTED LAND SURFACE. A PERMANENT STABLE COVER MUST BE ESTABLISHED WITHIN 90 DAYS OF ITS INSTALLATION.
3. 85% OF DISTURBED AREAS MUST HAVE VEGETATION ESTABLISHED PRIOR TO ACCEPTANCE BY THE CITY OF BOERNE.
4. DISTURBED AREAS THAT ARE SEEDED OR SODDED SHALL BE CHECKED PERIODICALLY TO SEE THAT GRASS COVERAGE IS PROPERLY MAINTAINED. DISTURBED AREAS SHALL BE WATERED, FERTILIZED, AND RE-SEEDED OR RE-SODDED IF NECESSARY.

RECORD DRAWINGS

- 1. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE DESIGN ENGINEER A COPY OF AS-BUILT PLANS IDENTIFYING ALL DEVIATIONS OR VARIATIONS FROM THE ORIGINAL PLANS.
2. THE DESIGN ENGINEER SHALL PROVIDE TO THE CITY OF BOERNE THE "PLAN OF RECORD", SIGNED AND SEALED BY THE DESIGN ENGINEER.
3. THE "PLAN OF RECORD" MUST INCLUDE PRINT LINE DATA FOR ALL GAS MAINS AND SERVICE LINES.

DIMENSIONAL CONTROL PLAN NOTES:

- 1. ALL DIMENSIONS MUST BE VERIFIED ON THE JOB AND THE ENGINEER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH CONSTRUCTION.
2. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS NECESSARY FOR CONSTRUCTION OF THE PROJECT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING ALL HORIZONTAL CONTROL PER THE CONSTRUCTION DRAWINGS (i.e. NO CONSTRUCTION STAKING WILL BE PROVIDED UNDER THIS CONTRACT).
4. ALL COORDINATE POINTS FOR THE ROADWAY SYSTEM ARE TO FACE OF CURB OR EDGE OF PAVEMENT.
5. ALL TIES TO EXISTING PAVEMENT ARE PER DETAILS ON STREET AND DRAINAGE DETAILS, SHEET CG501.

GRADING NOTES:

- 1. ALL GRADES AND CONTOURS SHOWN ARE FINAL. TOP OF FINISH SURFACE ELEVATIONS, UNLESS OTHERWISE NOTED.
2. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR TO TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
3. UNDER NO CIRCUMSTANCE SHALL THE CONTRACTOR ALLOW STORM WATER TO POND AND SATURATE ANY PREPARED SUBGRADE, EXCAVATION OR EMBANKMENT SOILS. THE CONTRACTOR SHALL IMMEDIATELY PUMP ALL WATER OUT OF AREAS WHICH CANNOT DRAIN BY GRAVITY FLOW WITH SPECIAL ATTENTION REQUIRED TO THE BUILDING PAD AND PAVEMENT SUBGRADE AREAS. ANY LAYER DETERMINED TO BE SATURATED MUST BE DRIED OUT, RE-COMPACTED OR REMOVED AND REPLACE PRIOR TO CONTINUING CONSTRUCTION OF NEXT EMBANKMENT LAYER.
4. CONTRACTOR TO OBTAIN GRADES SHOWN HEREON ± FOUR HUNDRETHS (0.04) OF A FOOT. SHOULD ANY ELEVATIONS BE FOUND TO BE OUT OF LEVEL BEYOND THE STATED TOLERANCE IT SHALL BE CORRECTED AT THE CONTRACTORS EXPENSE.
5. ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND LANDSCAPE DRAWINGS.
6. ALL EARTHEN SLOPES SHALL BE A MAXIMUM OF 3:1 AND A MINIMUM OF 2.0% UNLESS OTHERWISE NOTED.
7. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT WHERE NOT SPECIFICALLY COVERED IN THE PROJECT SPECIFICATIONS SHALL CONFORM TO ALL APPLICABLE LOCAL CODES AND TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (LATEST EDITION).
8. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGES DONE TO EXISTING BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS.
9. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
10. TREE PROTECTION SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT PLANS AND SPECIFICATIONS.
11. ALL EXCAVATION IS UNCLASSIFIED.
12. ALL CURBS ARE STANDARD 7 1/2" CURB UNLESS OTHERWISE NOTED.
13. SITE AREAS REQUIRING FILL PLACEMENT SHALL BE SCARIFIED AND MOISTURE ADJUSTED TO WITHIN ± 3% OF OPTIMUM MOISTURE CONTENT. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY.
14. CONTRACTOR IS REQUIRED TO HAVE A TCEQ TPDES PERMIT ISSUED BY TCEQ. A COPY OF THE PERMIT SHALL BE POSTED ON THE JOBSITE PER TCEQ REQUIREMENTS.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL EXISTING GRATES, VALVES, CLEANOUTS, MANHOLES, VAULT TOPS, ETC. TO THE FINISHED GRADES AS SHOWN ON THE PLANS.

NOTE: GEOTECHNICAL INFORMATION SHOWN FOR REFERENCE ONLY. PLEASE REFERENCE GEOTECHNICAL ENGINEERING STUDY BY INTEC, PROJECT NO. S251110, DATED MAY 02, 2025.

SHEET SIZE: 24" x 36"

5/13/2025



REVISIONS:

GEOTECH UPDATES

Table with 2 columns: No., Description. Contains one entry for GEOTECH UPDATES.



3305 SHELL BOUNDS SUITE 100 BOERNE, TEXAS 78006 CONTACT: 817.868.2244 OFFICE: 312.868.2244 WWW.MATKINHOOVER.COM TEXAS REGISTERED ENGINEERING FIRM # 0045113 SURVEYING FIRM # 1029400

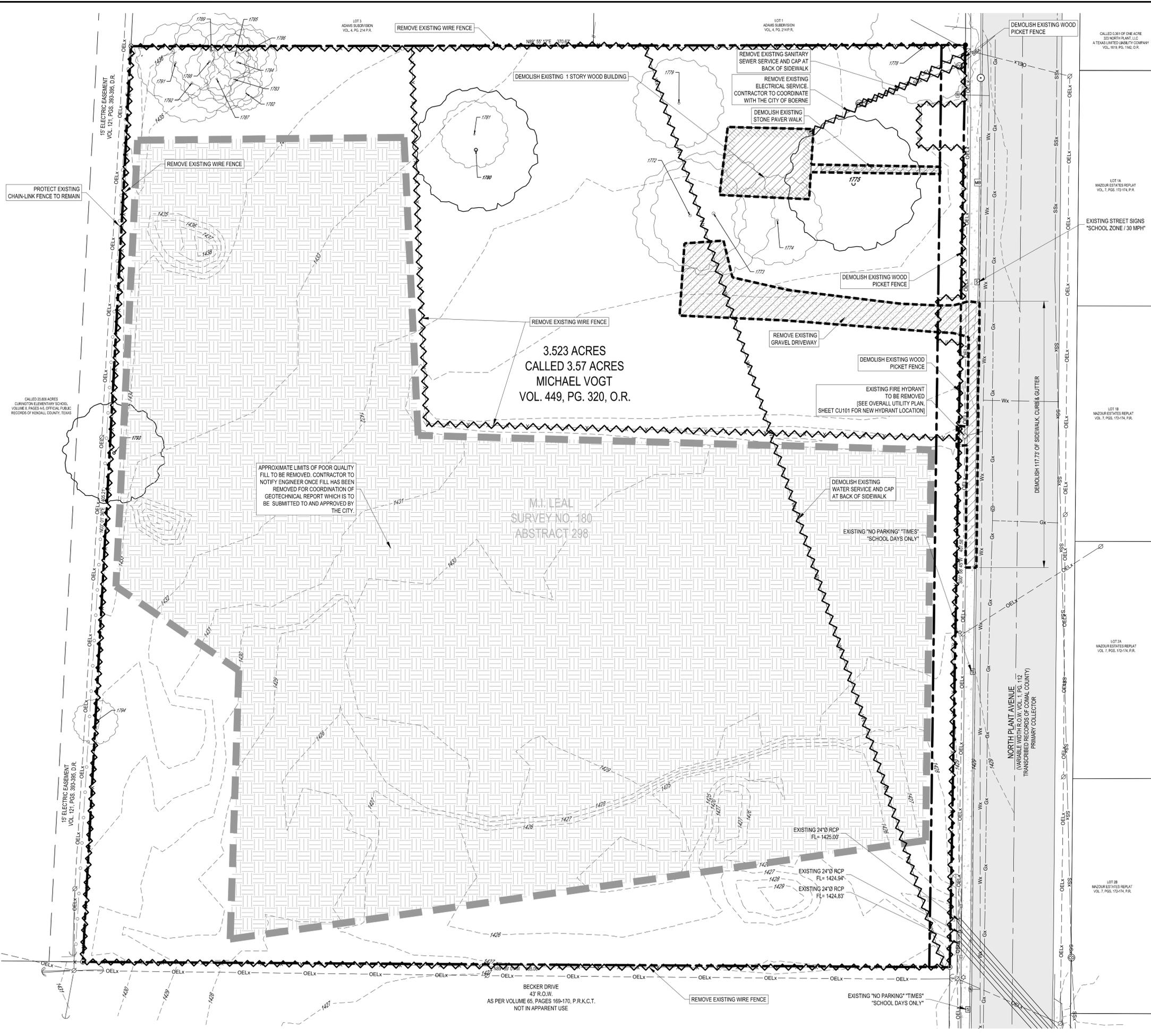
GENERAL NOTES FOR SANTI SUBDIVISION BOERNE, TEXAS

C-001

Table with 2 columns: Field Name, Value. Includes JOB NO. (3197.01), DESIGNED BY (DM), DRAWN BY (DCB), CHECKED BY (JJV), SHEET # (02 OF 22).

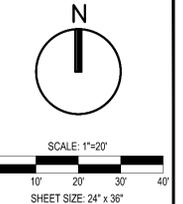
Date: Mar 25, 2025, 4:43pm User ID: cmorris

Z:\PROJECTS\3197 - 322 North Plant Street Townhomes\0303 EXISTING CONDITIONS & DEMOLITION PLAN.dwg



LEGEND

- PROPERTY BOUNDARY
- - - ADJOINING PARCEL BOUNDARIES
- 1435 --- EXISTING 5' CONTOURS
- 1434 --- EXISTING 1' CONTOURS
- Wx --- EXISTING WATER MAIN
- SSx --- EXISTING SANITARY SEWER MAIN
- Gx --- EXISTING NATURAL GAS MAIN
- OELx --- EXISTING OVERHEAD ELECTRICAL
- --- HORIZONTAL/VERTICAL CONTROL POINT
- --- FOUND 12" IRON ROD
- --- FOUND 6" CEDAR POST
- --- FOUND 8" CEDAR POST
- --- FOUND PK NAIL
- --- EXISTING MAIL BOX
- --- EXISTING STREET SIGN
- --- EXISTING SEWER MANHOLE
- --- EXISTING SANITARY SEWER CLEAN-OUT
- --- EXISTING GAS VALVE
- --- EXISTING UTILITY POLE
- --- EXISTING UTILITY POLE w/GUY
- --- EXISTING UTILITY POLE w/TRANSFORMER
- --- EXISTING LIGHT POLE
- --- EXISTING ELECTRIC METER
- --- EXISTING WATER METER
- --- EXISTING WATER VALVE
- --- EXISTING FIRE HYDRANT
- --- DEMO FENCE / UTILITY LINE
- DEMO AREA
- EXISTING ASPHALT PAVING
- EXISTING GRAVEL PAVING
- EXISTING STONE PAVERS
- --- EXISTING TREE TO BE REMOVED
- --- EXISTING TREE TO REMAIN



REVISIONS:

NO.	DATE	DESCRIPTION

MATKINHOOVER
ENGINEERING & SURVEYING

3305 SHELL ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 512.868.2244
CONTACT: 800.456.4567
WWW.MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-004113 SURVEYING FIRM F-1002400

TREE TABLE				
POINT NUMBER	SPECIES	TRUNK CIR. (IN)	SPREAD (FT)	MULTI-TRUNK DIA (IN)
ST 1772	PECAN	56.52"	50'	N/A
ST 1773	PECAN	65.94"	55'	N/A
ST 1774	LIVE OAK	53.38"	40'	N/A
HT 1775	LIVE OAK	98.91"	60'	N/A
ST 1778	LIVE OAK	50.24"	50'	N/A
ST 1779	PECAN	47.1"	40'	N/A
HT 1780	LIVE OAK	78.5"	55'	N/A
ST 1781	LIVE OAK	39.25"	30'	N/A
1782	LIVE OAK	28.26"	15'	N/A
1783	LIVE OAK	29.83"	25'	N/A
ST 1784	LIVE OAK	39.25"	35'	N/A
1785	LIVE OAK	29.83"	20'	N/A
1786	LIVE OAK	28.26"	20'	N/A
1787	LIVE OAK	32.97"	30'	N/A
ST 1788	LIVE OAK	40.82"	35'	N/A
ST 1789	LIVE OAK	40.82"	35'	N/A
ST 1791	LIVE OAK	43.96"	35'	N/A
ST 1792	LIVE OAK	47.1"	35'	N/A
HT 1793	WHITE OAK	81.64"	45'	N/A
ST 1794	LIVE OAK	29.83"	20'	N/A
TREE TO BE REMOVED		TREE TO REMAIN		

NOTE:
HERITAGE TREES ARE DESIGNATED WITH 'HT' IN THE TREE TABLE.
STANDARD TREES ARE DESIGNATED WITH 'ST' IN THE TREE TABLE.

NOTE:
APPROVED TREE REMOVAL PERMIT IS REQUIRED PRIOR TO THE REMOVAL OF ANY TREES.

SURVEY NOTES:

- BEARINGS ARE BASED ON THE STATE PLANE COORDINATE SYSTEM ESTABLISHED FOR THE TEXAS SOUTH CENTRAL ZONE 4204, NORTH AMERICAN DATUM (NAD) OF 1983. DISTANCES SHOWN HEREON ARE GRID UNITS.
 - TITLE COMMITMENT PROVIDED BY STEWART TITLE GUARANTY COMPANY, GF NO. 42934, EFFECTIVE DATE DECEMBER 14, 2020, ISSUED DATE DECEMBER 21, 2020.
- LEGAL DESCRIPTION OF LAND:
BEING 3.551 ACRES, MORE OR LESS, OUT OF THE M.I. LEAL SURVEY NO. 180, ABSTRACT 298, CITY OF BOERNE, KENDALL COUNTY, TEXAS.
- SCHEDULE B:
- RESTRICTIVE COVENANTS OF RECORD:
 - NONE LISTED
 - WATER PIPELINE EASEMENT - APPROXIMATELY SHOWN
 - ALL LEASES, GRANTS, EXCEPTIONS OR RESERVATIONS OF COAL, LIGNITE, OIL, GAS AND OTHER MINERALS, TOGETHER WITH ALL RIGHTS, PRIVILEGES AND IMMUNITIES RELATING THERETO APPEARING IN THE PUBLIC RECORDS - NOT A SURVEY MATTER
 - REFERENCED PROPERTY IS IN ZONE "C" AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS SCALED FROM FEMA FLOOD MAP 415 OF 525, COMMUNITY PANEL NO. 4825900415F, DATED DECEMBER 17, 2010.
 - METES AND BOUNDS WERE PREPARED FOR THIS SURVEY.
 - UNDERGROUND UTILITIES ARE SHOWN AS PER EVIDENCE IN FIELD.
 - VERTICAL DATUM SHOWN HEREON IS PER TRIMBLE VRS NETWORK & THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), GEOID 12A.
 - THERE IS AN EXISTING RESIDENCE ON THE PROPERTY. IT HAS NOT BEEN FIELD LOCATED NOR IS IT SHOWN HEREON AT THE REQUEST OF THE CLIENT.

VERTICAL SITE CONTROL				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
10	13838814.288	2055641.280	1429.16	SET PK NAIL
11	13839292.085	2055646.741	1430.46	SET PK NAIL

EXISTING CONDITIONS & DEMOLITION PLAN

FOR

SANTI SUBDIVISION

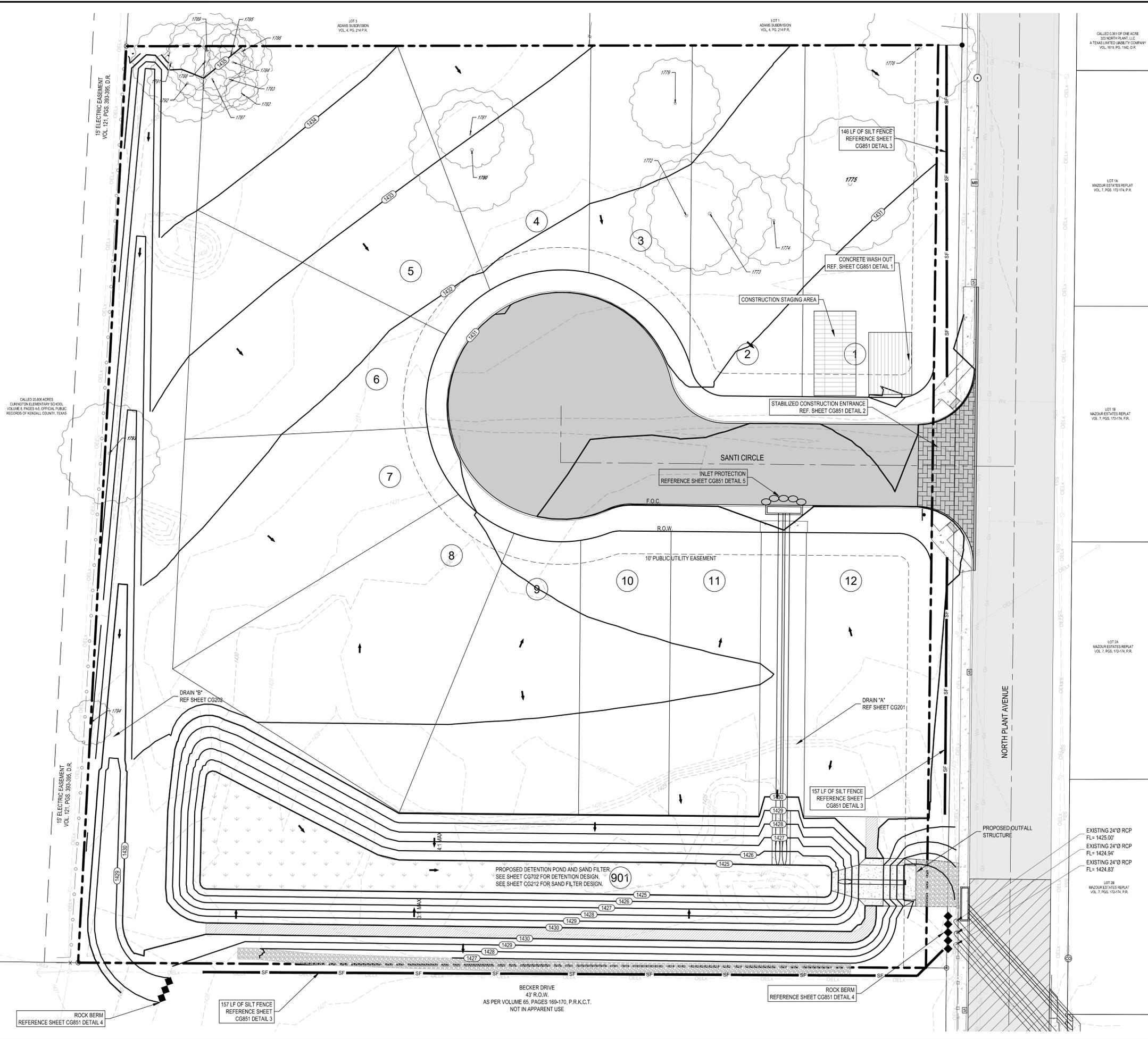
BOERNE, TEXAS

VF101

JOB NO. 3197.01
DESIGNED BY: DM
DRAWN BY: DCB
CHECKED BY: JJV
SHEET # 03 OF 22

Date: Mar 25, 2025, 4:44pm User ID: cmorris

Z:\PROJECTS\3197 - 322 North Plant Street, Tomahawk\CG04 EROSION & SEDIMENTATION CONTROL PLAN.dwg



LEGEND

- PROPERTY BOUNDARY
- EXISTING 1' CONTOURS
- EXISTING 5' CONTOURS
- PROPOSED 1' CONTOURS
- PROPOSED 5' CONTOURS
- DRAINAGE EASEMENT
- FLOW ARROW
- ROCK BERM
- SILT FENCE
- PHASE BOUNDARY
- STABILIZED CONSTRUCTION ENTRANCE
- CONSTRUCTION STAGING AREA
- CONCRETE WASHOUT AREA
- CURB INLET PROTECTION

NOTE: CONTRACTOR IS RESPONSIBLE FOR FOLLOWING ALL LOCAL, STATE, AND FEDERAL REGULATIONS FOR STORM WATER POLLUTION PREVENTION DURING CONSTRUCTION ACTIVITIES. SEE ADDITIONAL NOTES ON GENERAL NOTE SHEET.

NOTE: EROSION CONTROLS MUST REMAIN IN PLACE UNTIL 85% OF ALL DISTURBED AREA IS RE-VEGETATED.

NOTE: CONTRACTOR TO GRADE DETENTION POND PRIOR TO ALL OTHER ACTIVITIES TO UTILIZE POND AS TEMPORARY SEDIMENTATION BASIN.

NOTE: CONTRACTOR TO ESTABLISH FINAL STABILIZATION OF SOILS IN ACCORDANCE WITH CITY OF BOERNE ENGINEERING DESIGN MANUAL SECTION 6.1.5 AND ALL APPLICABLE CITY OF BOERNE STANDARD SPECIFICATIONS.

N

SCALE: 1"=20'

0 10' 20' 30' 40'

SHEET SIZE: 24" x 36"

3/25/2025

STATE OF TEXAS

CODY LEE MORRIS

131472

LICENSED PROFESSIONAL ENGINEER

REVISIONS:

NO.	DATE	DESCRIPTION

MATKINHOOVER
ENGINEERING & SURVEYING

3305 SHELL ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 512.868.2244
CONTACT: 800.456.4567
WWW.MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-004513 SURVEYING FIRM F-1002400

EROSION & SEDIMENTATION CONTROL PLAN
FOR
SANTI SUBDIVISION
BOERNE, TEXAS

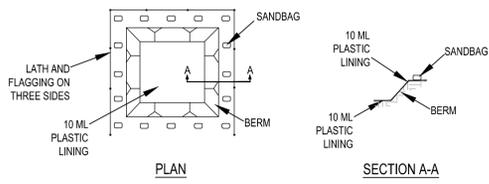
CG801

JOB NO.	3197.01
DESIGNED BY:	DM
DRAWN BY:	DCB
CHECKED BY:	JJV
SHEET #	04 OF 22

PRESERVATION OF PROTECTED TREES:

STANDARD, LEGACY AND HERITAGE TREES SHALL BE PROTECTED UNDER THE FOLLOWING CONDITIONS:

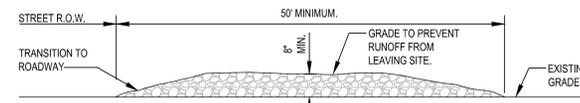
- NO CLEAR-CUTTING IS PERMITTED.
- TREE PROTECTION ZONES (TPZ) SHALL BE ESTABLISHED FOR ALL TREES TO BE PRESERVED DURING CONSTRUCTION. A TPZ IS AN ARBORIST DEFINED AREA SURROUNDING THE TRUNK INTENDED TO PROTECT ROOTS AND SOIL WITHIN THE CRITICAL ROOT ZONE AND BEYOND, TO ENSURE FUTURE TREE HEALTH AND STABILITY. AT A MINIMUM, THE TPZ SHALL HAVE AN AVERAGE RADIUS OF ONE FOOT FOR EACH INCH OF TREE DIAMETER (DBH) MEASURED FROM THE TRUNK PERIMETER. WHERE APPROPRIATE, THE DRIP LINE METHOD MAY BE USED TO ESTABLISH THE TPZ. THE DRIP LINE METHOD USES THE TREE CANOPY'S DRIP LINE TO DEFINE THE BOUNDARY OF THE TPZ. WHERE THE ENTIRE AREA WITHIN THE DRIP LINE IS CONSIDERED THE TPZ, EVEN WHEN THE TPZ IS PLACED AT THE DRIP LINE OR AT THE LOCATION DEFINED BY THE TRUNK DIAMETER METHOD. LARGE PORTIONS OF THE ROOT SYSTEM MAY BE LOST. THE CITY URBAN FORESTER SHALL INSPECT THE TREES AND THE SITE AND MAY ALTER THE TPZ AS NEEDED TO PROVIDE ADEQUATE TREE PROTECTION.
- NO MATERIALS INTENDED FOR THE USE IN CONSTRUCTION OR WASTE MATERIALS ACCUMULATED DUE TO EXCAVATIONS OR DEMOLITION SHALL BE PLACED WITHIN THE LIMITS OF THE TREES' ROOT PROTECTION ZONE.
- NEITHER SUBSTANCES USED TO CLEAN EQUIPMENT NOR OTHER FOREIGN MATERIALS SHALL BE DEPOSITED OR ALLOWED TO FLOW OVERLAND WITHIN THE ROOT PROTECTION ZONE OF A PROTECTED TREE. THIS INCLUDES, WITHOUT LIMITATION, PAINT, FUEL, OIL, HYDRAULIC FLUIDS, SOLVENTS, ASPHALT, CONCRETE, MORTAR OR SIMILAR MATERIALS.
- NO SIGNS, WIRES OR OTHER OBJECTS, OTHER THAN THOSE OF A PROTECTIVE NATURE, SHALL BE ATTACHED TO ANY PROTECTED TREE. HOWEVER, LIGHTING OF A DECORATIVE NATURE MAY BE ATTACHED TO A TREE. THE LIGHTING SHALL BE ATTACHED IN A MANNER SO AS NOT TO DAMAGE THE TREE.
- NO VEHICULAR AND/OR CONSTRUCTION TRAFFIC OR PARKING SHALL TAKE PLACE WITHIN THE LIMITS OF THE ROOT PROTECTION ZONE OF A PROTECTED TREE OTHER THAN ON AN EXISTING PAVED SURFACE. THIS RESTRICTION DOES NOT APPLY TO ACCESS WITHIN THE ROOT PROTECTION ZONE FOR PURPOSES OF CLEARING UNDERBRUSH PERFORMED WITH RUBBER-TIRED EQUIPMENT.
- ALL TREES TO BE RETAINED AS PART OF AN APPROVED TREE PRESERVATION PLAN SHALL BE PROTECTED DURING GRADING AND CONSTRUCTION. A PROTECTIVE BARRIER SHALL BE ERECTED AROUND THE ROOT PROTECTION ZONE BEFORE THE BEGINNING OF GRADING AND CONSTRUCTION, AND THE BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETED. DURING GRADING AND CONSTRUCTION, NO EXCESS SOIL, ADDITIONAL FILL, EQUIPMENT, LIQUIDS OR CONSTRUCTION DEBRIS SHALL BE PLACED INSIDE THE PROTECTIVE BARRIER, AND NO SOIL SHALL BE REMOVED FROM WITHIN THE BARRIER. THE PROPOSED FINISHED GRADE OF THE LAND WITHIN THE ROOT PROTECTION ZONE SHALL NOT BE ALTERED. WELLING AND RETAINING METHODS SHOULD BE USED TO PROTECT THE AREA OUTSIDE THE ROOT PROTECTION ZONE. THE ROOT PROTECTION ZONE SHALL REMAIN UNPAVED. IF WELLS ARE USED TO A PRESERVE A PROTECTED TREE THE WELLS SHALL HAVE A DRAIN INSTALLED OR A PUMP SHALL BE INSTALLED TO ENSURE THAT THE WELL DOES NOT HOLD WATER.
- TREES CLOSE TO CONSTRUCTION ACTIVITIES WHERE THE TRUNK OR BUTTRESS ROOTS MAY BE MECHANICALLY DAMAGED THOSE PARTS SHALL BE PROTECTED. TEMPORARY TRUNK PROTECTION SHOULD BE INSTALLED WITH DIMENSIONAL LUMBER AROUND THE TRUNK AND SECURED WITH STRAPS OR WIRE TO BIND THE PLANKS IN PLACE.
- NO PAVING WITH ASPHALT, CONCRETE OR OTHER IMPERVIOUS MATERIALS SHALL BE PLACED WITHIN THE ROOT PROTECTION ZONE OF A HERITAGE TREE.
- IN SITUATIONS WHERE A PROTECTED TREE IS WITHIN 50 FEET OF A CONSTRUCTION AREA, A PROTECTIVE FENCE, MINIMUM OF FOUR FEET IN HEIGHT, SHALL BE ERECTED AND MAINTAINED OUTSIDE OF THE ROOT PROTECTION ZONE OF EACH PROTECTED TREE OR TREE GROUP.
- OFFSITE TREES WITH ROOT PROTECTION ZONES THAT EXTEND INTO A CONSTRUCTION SITE SHALL HAVE A PROTECTIVE FENCE, MINIMUM OF FOUR FEET IN HEIGHT, ERECTED AND MAINTAINED OUTSIDE OF THE ROOT PROTECTION ZONE.
- CONTRACTOR TO REFER TO SECTION 8.3 OF THE CITY OF BOERNE UNIFIED DEVELOPMENT CODE FOR ADDITIONAL TREE PROTECTION REQUIREMENTS.



NOTES:

- THE LINED WASHOUT PIT SHALL BE SUFFICIENTLY LARGE ENOUGH TO HOLD EXPECTED VOLUME OF WASHOUT MATERIAL.
- WHEN FACILITY IS NO LONGER REQUIRED, HARDENED CONCRETE SHOULD PROPERLY BE REMOVED AND DISPOSED OF.
- CONTRACTOR TO BACKFILL PIT UPON REMOVAL OF LINING.

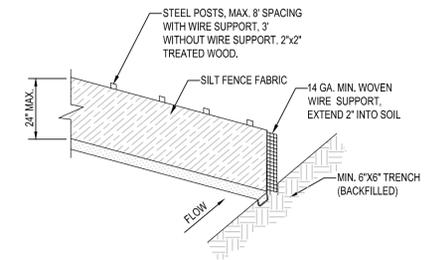
01 CONCRETE WASHOUT DETAIL
SCALE: NTS



NOTES:

- STONE SIZE SHALL BE 4" - 8" OPEN GRADED ROCK.
- THICKNESS OF CRUSHED STONE PAD TO BE NOT LESS THAN 8".
- LENGTH SHALL BE A MINIMUM OF 50' FROM ACTUAL ROADWAY, AND WIDTH NOT LESS THAN FULL WIDTH OF INGRESS/EGRESS.
- ENTRANCE SHALL BE PROPERLY GRADED TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY BY CONTRACTOR.
- AS NECESSARY, WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
- ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.

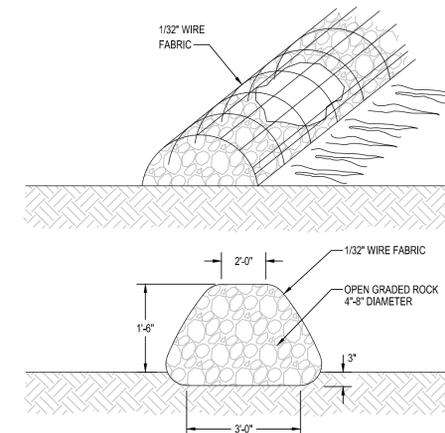
02 STABILIZED CONSTRUCTION ENTRANCE
SCALE: NTS



NOTES:

- POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE.
- THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
- THE TRENCH SHOULD BE A MIN. OF 6" DEEP AND 6" WIDE TO ALLOW FOR THE SILT FENCE TO BE LAID IN THE GROUND AND BACKFILLED.
- SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POSTS.

03 SILT FENCE DETAIL
SCALE: NTS



NOTES:

- USE ONLY OPEN GRADED ROCK 4-8 INCHES DIAMETER FOR STREAM FLOW CONDITION; USE OPEN GRADED ROCK 3-5 INCHES DIAMETER FOR OTHER CONDITIONS.
- THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1 INCH OPENING AND MINIMUM WIRE DIAMETER OF 1/32 INCH.
- THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN WIRE SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
- WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR 12 INCHES, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED SITE AND IN A MANNER AS TO NOT CREATE A SILTATION PROBLEM.
- DAILY INSPECTION SHALL BE MADE ON SERVICE ROCK BERMS. SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6 INCHES.
- WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

04 ROCK BERM DETAIL
SCALE: NTS

GENERAL NOTES:

- ALL TREES SHALL REMAIN UNLESS NOTED ON THE PLANS.
- NO SITE PREPARATION WORK SHALL BE DONE IN AREAS WHERE TREE PRESERVATION AND TREATMENT MEASURES HAVE NOT BEEN COMPLETED AND APPROVED.
- TREE PRESERVATION FENCING SHALL BE MAINTAINED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION.
- THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN THOSE NOTED BY DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF THESE TREES SHALL BE DONE WITH CARE. THE CONTRACTOR SHALL CONTACT THE CITY URBAN FORESTER.
- THE ROOT PROTECTION ZONE IS THAT AREA SURROUNDING A TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUNK, AS NOTED BY THE CITY URBAN FORESTER. A 50-FOOT DIAMETER TREE SHOULD HAVE A 10-FOOT ROOT PROTECTION ZONE. THE CITY URBAN FORESTER SHALL BE CONTACTED FOR TREE PRESERVATION REQUIREMENTS.
- ACCESS TO FENCED AREAS WILL BE PERMITTED ONLY WITH THE APPROVAL OF THE ENGINEER OR CITY INSPECTOR.
- GRADING, IF REQUIRED, SHALL BE LIMITED TO A 3 INCH CUT OR FILL WITHIN THE FENCED ROOT ZONE AREAS.
- TREES DAMAGED OR REMOVED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- TREES DAMAGED OR LOST DUE TO CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED TO THE CONTRACTOR'S SATISFACTION.
- EXPOSED ROOTS SHALL BE COVERED AT THE END OF EACH DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH OR WAX SHIELD.
- ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST PRIOR TO ITS REMOVAL.

1.3 GENERAL NOTES

TREE PROTECTION TABLE

TREE	TPZ/CRPZ	STATION OR LOCATION	TPZ OR CRPZ	REMOVAL
				SEE GENERAL NOTES, ETC.

SEE TREE PRESERVATION PLAN SHEETS

1.3 TREE PROTECTION TABLE

TREE IDENTIFICATION	TPZ/CRPZ	STATION OR LOCATION	REMOVAL
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			

1.3 TREE INVENTORY SUMMARY

TREE IDENTIFICATION	TPZ/CRPZ	STATION OR LOCATION	REMOVAL
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			
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1.3 TREE INVENTORY SUMMARY

TREE IDENTIFICATION	TPZ/CRPZ	STATION OR LOCATION	REMOVAL
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			
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TOTAL NUMBER INCHES DIA.			

1.1 ELEVATION
N.T.S.

1.1.1 LEVEL I & FENCE PROTECTION
N.T.S.

1.1.2 LEVEL II A FENCE PROTECTION
N.T.S.

1.1.3 LEVEL II B FENCE PROTECTION
N.T.S.

1.2 BORING THRU TREE ROOT ZONE
N.T.S.

1.3 TREE REMOVAL DIAGRAM
N.T.S.

1.4 BRANCH PRUNING DETAIL
N.T.S.

1.5 BRANCH CLEARANCE DETAIL
N.T.S.

1.6 NEW TREE PLANTING DETAIL
N.T.S.

GENERAL NOTES:

- REMOVE ONLY THE "THIRDS" AND/OR SHALL SEPARATELY.
- "B" BRANCHES APPROX. 6" FROM THE TRUNK - CUT TO ANCHOR POINT BY AN ANGLE OF 45° TO 90°.
- "C" BRANCHES APPROX. 12" FROM THE TRUNK - CUT TO ANCHOR POINT BY AN ANGLE OF 45° TO 90°.
- "D" BRANCHES APPROX. 18" FROM THE TRUNK - CUT TO ANCHOR POINT BY AN ANGLE OF 45° TO 90°.

1.3 TREE PROTECTION TABLE

TREE	TPZ/CRPZ	STATION OR LOCATION	TPZ OR CRPZ	REMOVAL
				SEE GENERAL NOTES, ETC.

SEE TREE PRESERVATION PLAN SHEETS

1.3 TREE PROTECTION TABLE

TREE IDENTIFICATION	TPZ/CRPZ	STATION OR LOCATION	REMOVAL
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			
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TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			

1.3 TREE INVENTORY SUMMARY

TREE IDENTIFICATION	TPZ/CRPZ	STATION OR LOCATION	REMOVAL
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			

1.3 TREE INVENTORY SUMMARY

TREE IDENTIFICATION	TPZ/CRPZ	STATION OR LOCATION	REMOVAL
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			
TOTAL NUMBER INCHES DIA.			
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TOTAL NUMBER INCHES DIA.			

1.3 TREE INVENTORY SUMMARY

TREE IDENTIFICATION	TPZ/CRPZ	STATION OR LOCATION	REMOVAL
TOTAL NUMBER INCHES DIA.			
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1.3 TREE INVENTORY SUMMARY

TREE IDENTIFICATION	TPZ/CRPZ	STATION OR LOCATION	REMOVAL
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1.3 TREE INVENTORY SUMMARY

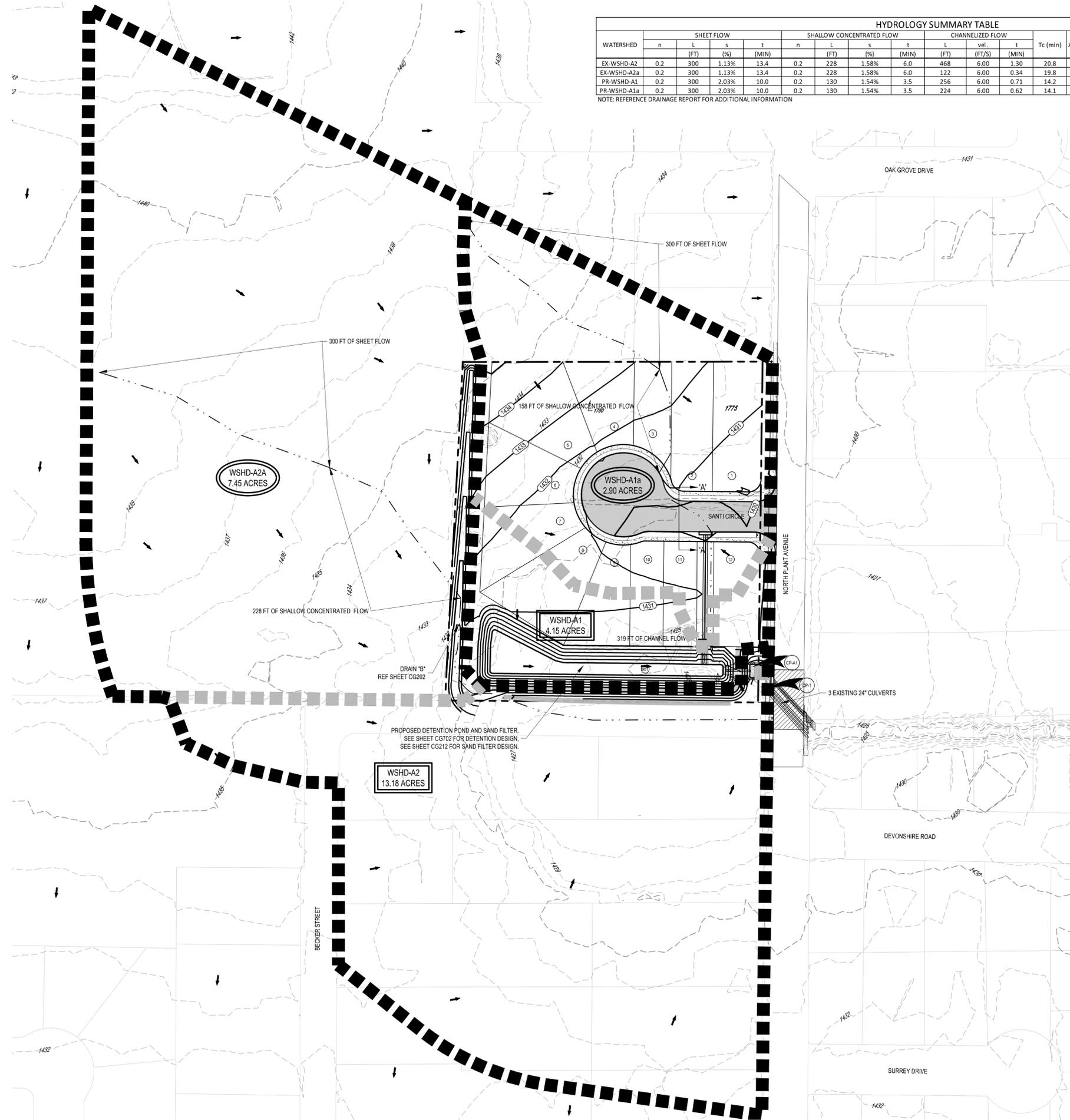
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TOTAL NUMBER INCHES DIA.			

Date: Mar 25, 2025, 4:44pm User ID: cmorris

Z:\PROJECTS\3197 - 322 North Plant Street, Townhomes\CG05 MASTER DRAINAGE PLAN.dwg



HYDROLOGY SUMMARY TABLE

WATERSHED	SHEET FLOW				SHALLOW CONCENTRATED FLOW				CHANNELIZED FLOW			Tc (min)	ACREAGE	RUNOFF COEFFICIENT	Q ₅ (ft ³ /s)	Q ₁₀₀ (ft ³ /s)	OUTFALL DESCRIPTION
	n	L (FT)	s (%)	t (MIN)	n	L (FT)	s (%)	t (MIN)	L (FT)	vel. (FT/S)	t (MIN)						
EX-WSHD-A2	0.2	300	1.13%	13.4	0.2	228	1.58%	6.0	468	6.00	1.30	20.8	13.18	0.63	37.62	81.96	N/A
EX-WSHD-A2a	0.2	300	1.13%	13.4	0.2	228	1.58%	6.0	122	6.00	0.34	19.8	7.45	0.68	23.53	51.26	STORM DRAIN 'B'
PR-WSHD-A1	0.2	300	2.03%	10.0	0.2	130	1.54%	3.5	256	6.00	0.71	14.2	3.97	0.65	14.22	31.02	DETENTION OUTFALL
PR-WSHD-A1a	0.2	300	2.03%	10.0	0.2	130	1.54%	3.5	224	6.00	0.62	14.1	2.90	0.66	10.54	23.01	STORM DRAIN 'A'

NOTE: REFERENCE DRAINAGE REPORT FOR ADDITIONAL INFORMATION

LEGEND

- PROPERTY BOUNDARY
- PROPOSED LOT LINE
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- TIME OF CONCENTRATION FLOW PATH
- RUNOFF COMPUTATION POINT
- WATERSHED IDENTIFIER
DRAINAGE AREA ACREAGE
- WATERSHED BOUNDARY
- SUBWATERSHED BOUNDARY
- FLOW ARROW
- DRAINAGE EASEMENT
- STREET CALCULATION POINT
- SUB-WATERSHED IDENTIFIER

N

SCALE: 1"=20'

SHEET SIZE: 24" x 36"

3/25/2025

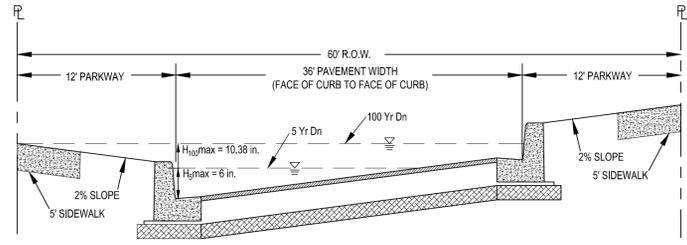
CODY LEE MORRIS
PROFESSIONAL ENGINEER

REVISIONS:

NO.	DATE	DESCRIPTION

MATKINHOOVER
ENGINEERING & SURVEYING

3305 SHELL ROAD SUITE 100
BOERNE, TEXAS 78006
OFFICE: 512.868.2244
CONTACT: 360.456.0000
WWW.MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-004513 SURVEYING FIRM F-10024000



TYPICAL LOCAL RESIDENTIAL STREET CAPACITIES
5 YR & 100 YR STORM FREQUENCY
N.T.S.

NOTE:
SECTIONS A-A. FOR PAVEMENT CROSS SECTIONS, CONTRACTOR SHALL REFER TO THE "ASPHALT PAVEMENT DETAIL" ON THE STREET AND DRAINAGE DETAIL SHEET CG501.

STREET FLOW CAPACITY CALCULATIONS

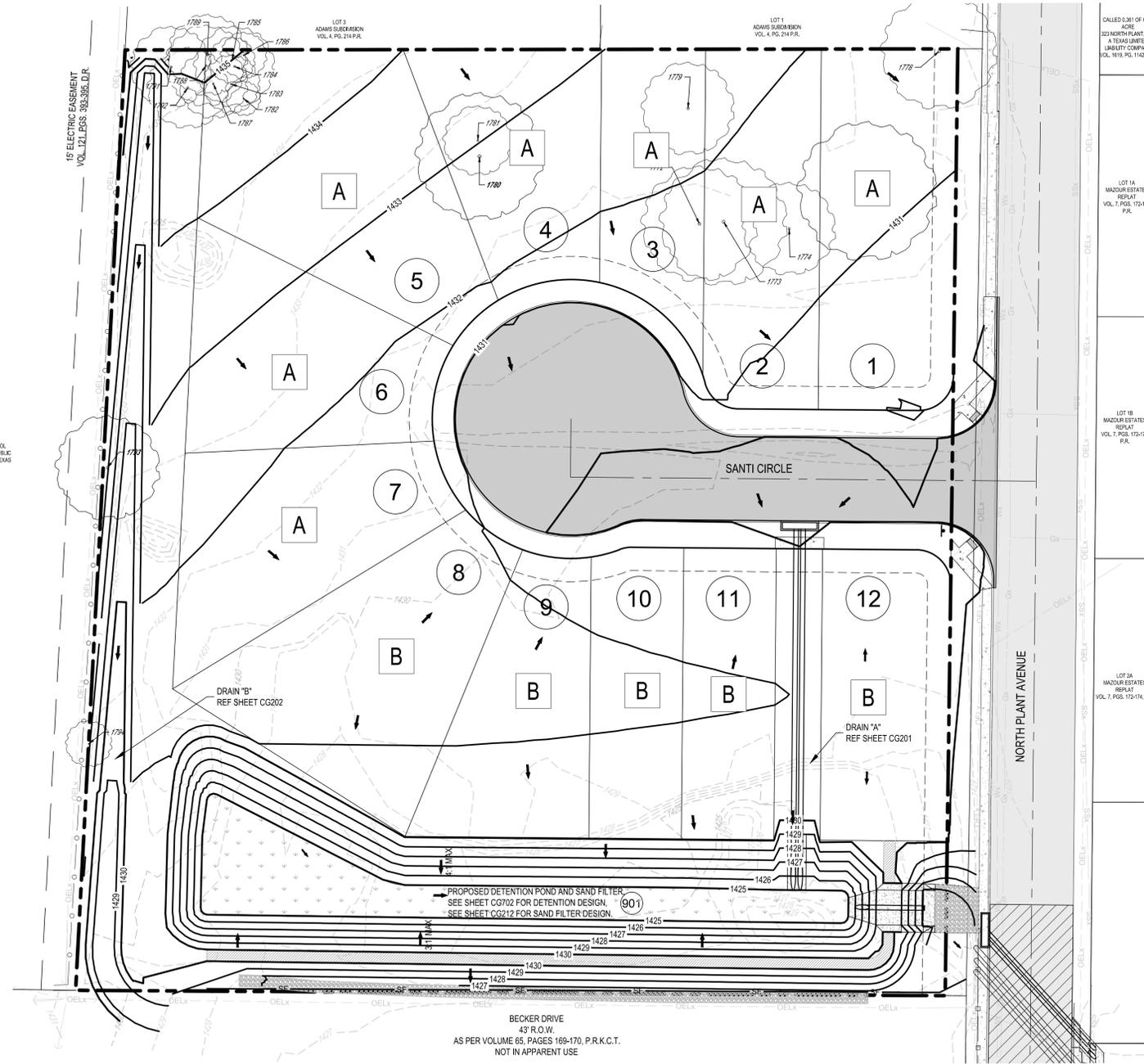
SECTION	STREET NAME	WATERSHED	VELOCITY (FT/S)		FLOW (FT ³ /S)		DEPTH (FT)	
			V ₅	V ₁₀₀	Q ₅	Q ₁₀₀	D ₅	D ₁₀₀
A-A	SANTI CIRCLE	WSHD-A1a	2.15	2.64	10.54	23.01	0.42	0.56

MASTER DRAINAGE PLAN
FOR
SANTI SUBDIVISION
BOERNE, TEXAS

CG701

JOB NO.	3197.01
DESIGNED BY:	DM
DRAWN BY:	DCB
CHECKED BY:	JJV
SHEET #	06 OF 22

CALLED 20.866 ACRES
CURNITON ELEMENTARY SCHOOL
VOLUME 4 PAGE 44, OFFICIAL PUBLIC
RECORDS OF KENDALL COUNTY, TEXAS



LEGEND

PROPERTY BOUNDARY	---
EXISTING 1' CONTOURS	- - - - -
EXISTING 5' CONTOURS	- - - - -
PROPOSED 1' CONTOURS	(1441)
PROPOSED 5' CONTOURS	(1440)
DRAINAGE EASEMENT	---
FLOW ARROW	→
EXISTING TREE	(Symbol)
LOT NUMBER	(1)
LOT GRADING DESIGNATOR	(A)

SCALE: 1"=30'

SHEET SIZE: 24" x 36"

5/13/2025

STATE OF TEXAS
CODY LEE MORRIS
131472
LICENSED PROFESSIONAL ENGINEER

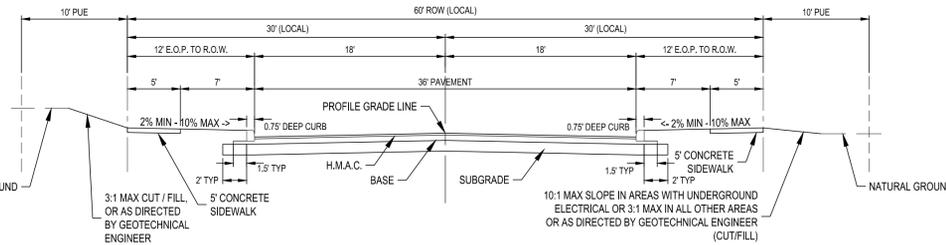
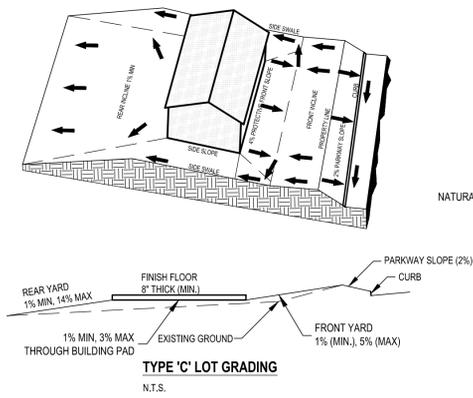
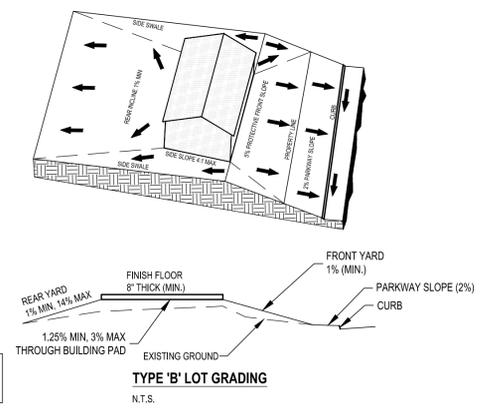
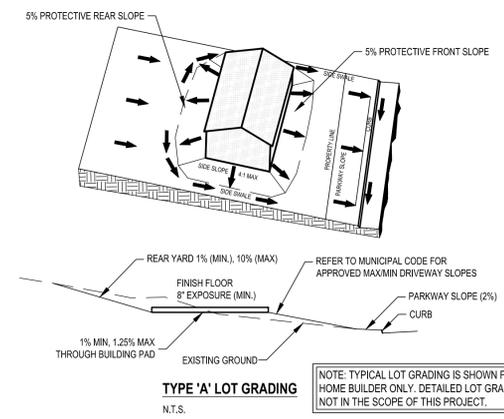
- GENERAL NOTES:**
- BUILDER TO VERIFY INVERTS OF ALL SANITARY SEWER LATERALS WHEN ESTABLISHING THE APPROPRIATE FINISHED FLOOR ELEVATIONS IN ORDER TO ASSURE ADEQUATE DRAINAGE OF HOUSE LATERALS.
 - ALL LOTS SHALL BE GRADED SO THAT NO DRAINAGE SHALL BE ALLOWED TO FLOW ONTO ADJACENT SIDE LOTS.
 - FINISHED FLOOR ELEVATIONS MUST BE A MINIMUM OF 6" ABOVE ADJACENT FINISHED GRADES, 12" ABOVE TOP OF CURB AND 1' ABOVE 100-YEAR FLOODPLAIN.
 - CONTRACTOR SHALL PROVIDE OWNER ALL NECESSARY DENSITY TESTS FOR FILL LOTS AS REQUIRED BY HUD SPECIFICATIONS.
 - HOME BUILDER SHALL REFER TO THE APPROVED SUBDIVISION PLAT TO CONFIRM ALL BUILDING SETBACKS PRIOR TO ANY FOUNDATION WORK.
 - AS SOON AS PRACTICAL, HOME BUILDER SHALL ESTABLISH VEGETATION (HYDROMULCH, SEEDING, SODDING, ETC.) TO PREVENT EROSION FROM OCCURRING.
 - CONTRACTOR SHALL CONTACT ENGINEER REGARDING ANY QUESTIONS ON THE INTENT OF THIS PLAN.
 - POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS AND TOWARDS THE PROPER DRAINAGE EASEMENT OF STREET RIGHT OF WAY ACCORDING TO THE MASTER DRAINAGE PLAN FOR THE PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW PONDING OF WATER.
 - GRADING PLAN IS INTENDED FOR USE IN LOT GRADING ONLY. CONTRACTOR SHOULD REFER TO CONSTRUCTION DRAWINGS FOR ALL OTHER GRADES, INCLUDING, BUT NOT LIMITED TO, CHANNELS, ROADS, AND DETENTION PONDS.
 - CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ALL SWALES.
 - CONTRACTOR SHALL AVOID DAMAGE TO EXISTING SANITARY SEWER SERVICE LATERALS DURING LOT GRADING OPERATIONS, AND ADJUST CLEANOUTS TO FINISH GRADES.

FINISHED FLOOR ELEVATIONS
THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 6 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO THE STORMWATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE STRUCTURE.

* CONTRACTOR SHALL ENSURE DRAINAGE IS DIRECTED TOWARD THE ROADWAY AT DRIVEWAYS AND PARKING STALLS. SEE DRIVEWAY DETAIL.

LOT FILL NOTES:
ALL LOTS WITH FILL SHALL BE COMPACTED IN ACCORDANCE WITH THE 79G PROCEDURE THAT MEETS THE REQUIREMENTS OF THE FHA DATA SHEET. DOCUMENTATION AND EVIDENCE OF COMPACTION SHALL BE FURNISHED TO THE ENGINEER & OWNER, REFERENCE GEOTECHNICAL ENGINEERING STUDY BY INTEC, PROJECT NO. S251110, DATED MAY 02, 2025 FOR OVER EXCAVATION REQUIREMENT

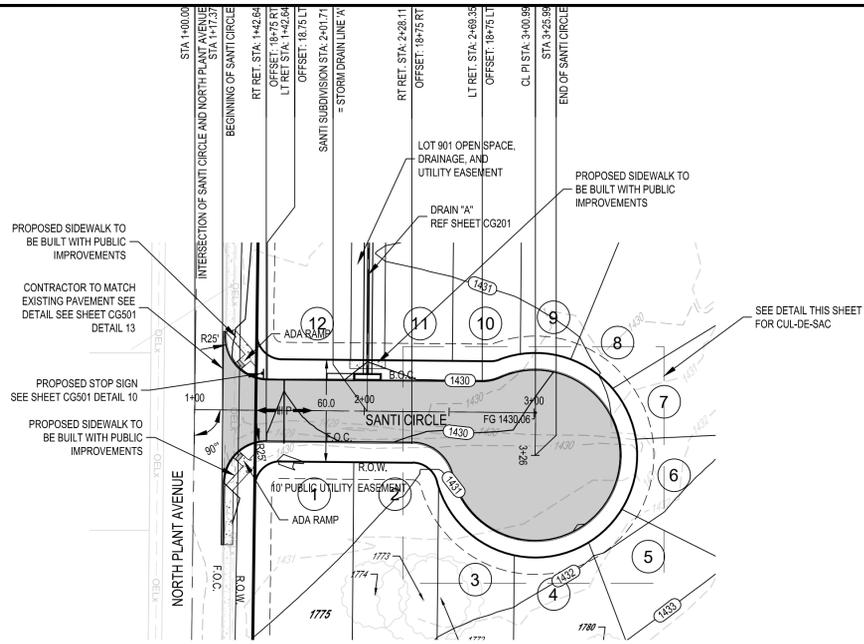
THIS PLAN SET DOES NOT INCLUDE A TREE REMOVAL PERMIT, TREE REMOVAL / PRESERVATION BY SEPARATE PERMIT, A TREE REMOVAL PERMIT IS REQUIRED PRIOR TO REMOVAL OF ANY TREES.



MASS GRADING PLAN
FOR
SANTI SUBDIVISION
BOERNE, TEXAS

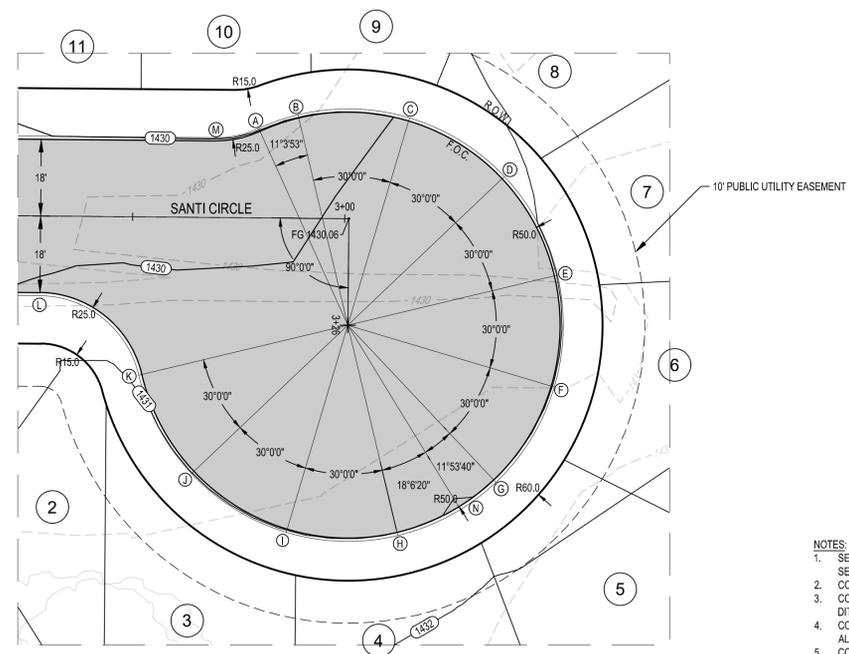
CG101

JOB NO.	3197.01
DESIGNED BY:	DM
DRAWN BY:	DCB
CHECKED BY:	JJV
SHEET #	07 OF 22



NOTE:
IF POOR QUALITY FILL IS REMOVED WITHIN STREET AND R.O.W., CONTRACTOR IS TO REPLACE WITH NEW FILL COMPACTED TO 95% AND HAVING A P.I. OF LESS THAN 20.

CUL-DE-SAC	
POINT ID	TOP OF CURB ELEVATION
A	1430.33
B	1430.43
C	1430.86
D	1430.89
E	1431.11
F	1431.34
G	1431.57
H	1431.54
I	1431.34
J	1431.15
K	1430.95
L	1430.70
M	1430.27
N	1431.66



CUL-DE-SAC DETAIL
SCALE: 1" = 20"

LEGEND

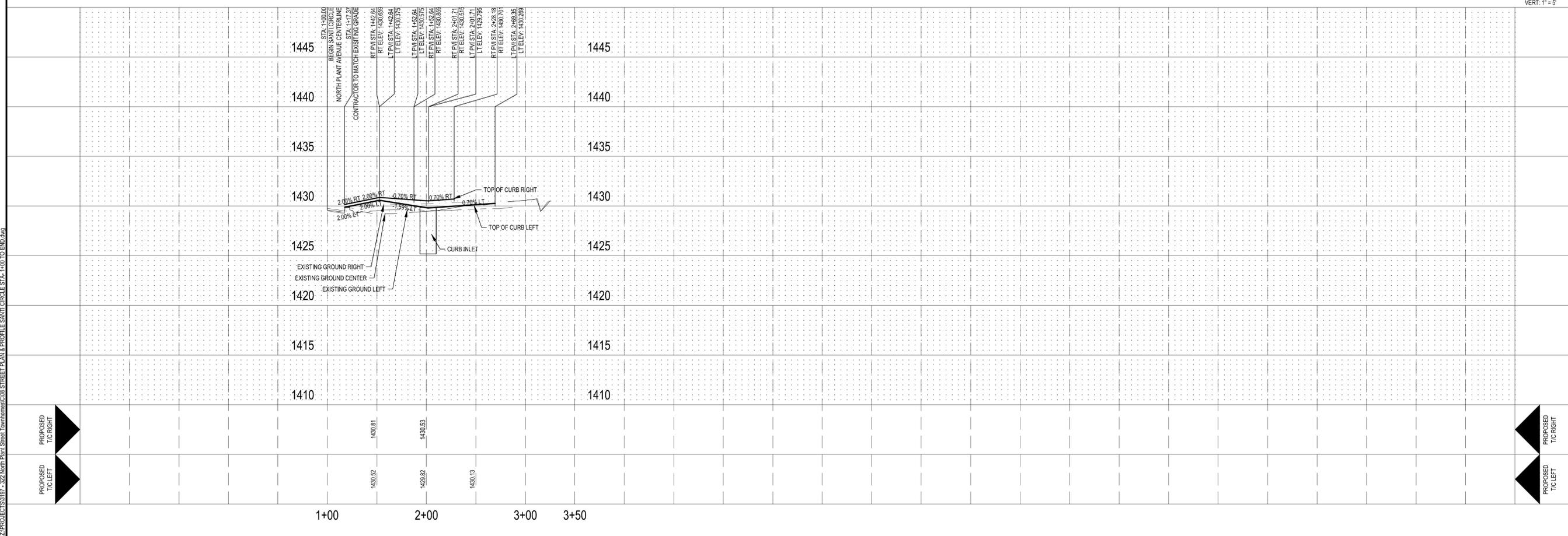
- PROPERTY LINE
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- PUBLIC UTILITY EASEMENT (P.U.E.)
- SIGHT DISTANCE EASEMENT
- HIGH POINT
- RIGHT OF WAY
- FACE OF CURB
- TOP OF CURB ELEVATION
- BOTTOM OF CURB/GUTTER ELEVATION
- PROPOSED SPEED LIMIT SIGN
- PROPOSED STOP SIGN
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT

SCALE: 1" = 50'
SHEET SIZE: 24" x 36"

3/25/2025
STATE OF TEXAS
CODY LEE MORRIS
131472
PROFESSIONAL ENGINEER

- NOTES:**
- SEE STREET & DRAINAGE DETAIL SHEET (CG501) FOR TYPICAL STREET CROSS SECTIONS.
 - CONTRACTOR SHALL CLEAR AND GRUB THE ENTIRE STREET RIGHT OF WAY.
 - CONTRACTOR TO GRADE OR REGRADE ALL AREAS WITHIN ROAD ROW INCLUDING DITCHES FOR POSITIVE DRAINAGE.
 - CONTRACTOR SHALL GRADE TO DRAIN AREAS UPSTREAM AND DOWNSTREAM OF ALL PROPOSED CULVERTS.
 - CONTRACTOR SHALL HYDROMULCH ALL DISTURBED AREAS, INCLUDING RIGHT-OF-WAY, STEEP SLOPES, DRAINAGE DITCHES WHERE SOIL SUBGRADE IS ENCOUNTERED.
 - ALL SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
 - ALL DIMENSIONS ARE TO EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
 - PROPOSED GRADE LINE REPRESENTS ELEVATION ALONG TOP OF CURB. SEE CURB DETAIL ON SHEET CG501.
 - PROPOSED SIDEWALKS AT OPEN SPACE LOTS TO BE CONSTRUCTED WITH THIS PLAN SET. FUTURE SIDEWALKS AT RESIDENTIAL LOTS TO BE CONSTRUCTED BY HOMEOWNER THROUGH BUILDING PERMIT.

SANTI CIRCLE PLAN & PROFILE
STA. 1+00.00 TO END



SCALE:
HORZ: 1" = 50'
VERT: 1" = 5'

MATKINHOOVER
ENGINEERING & SURVEYING

3305 SHELL ROAD SUITE 100
BOERNE, TEXAS 78006
CONTACT: 817.268.2244
WWW.MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-004113 SURVEYING FIRM F-1002400

STREET PLAN & PROFILE SANTI CIRCLE STA. 1+00 TO END
FOR
SANTI SUBDIVISION
BOERNE, TEXAS

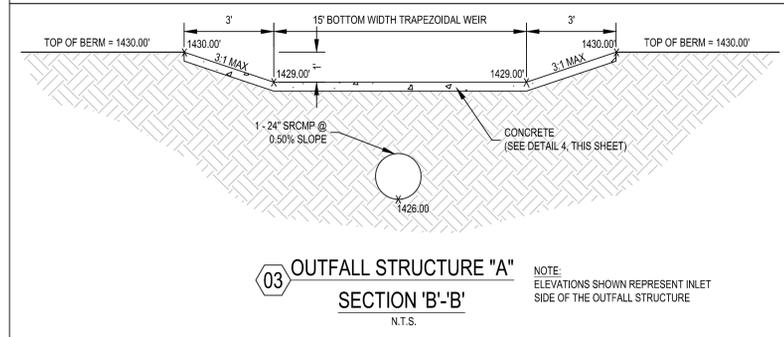
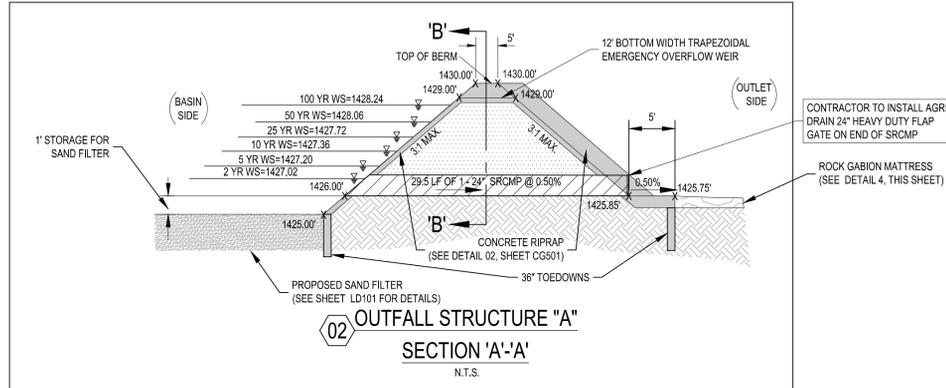
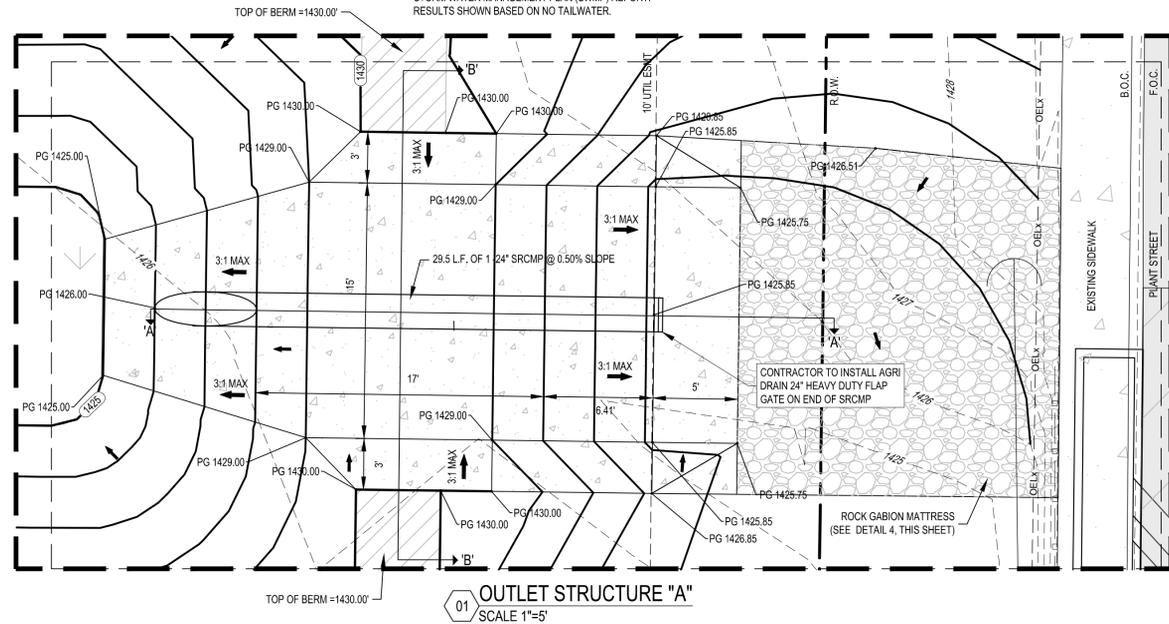
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JOB NO. 3197.01
DESIGNED BY: DM
DRAWN BY: DCB
CHECKED BY: JJV
SHEET # 08 OF 22

Date: Mar 25, 2025, 4:48pm User ID: cmorris

DETENTION ANALYSIS RESULTS					
STORM EVENT	PEAK ELEVATION	PEAK STORAGE	PROPOSED DETAINED DISCHARGE AT OUTFALL	PROPOSED UNDETAINED DISCHARGE AT OUTFALL	EXISTING CONDITIONS DISCHARGE AT OUTFALL
2 YEAR STORM	1427.02	9,388 CUFT	3,489 CFS	11.41 CFS	7,315 CFS
5 YEAR STORM	1427.20	11,528 CUFT	4,327 CFS	14.22 CFS	9,114 CFS
10 YEAR STORM	1427.36	13,348 CUFT	5,007 CFS	16.55 CFS	10,61 CFS
25 YEAR STORM	1427.72	17,448 CUFT	6,321 CFS	21.71 CFS	13,91 CFS
50 YEAR STORM	1428.06	21,552 CUFT	8,030 CFS	26.70 CFS	17,11 CFS
100 YEAR STORM	1428.24	24,135 CUFT	11,35 CFS	31.02 CFS	19,87 CFS

NOTE: FOR FULL DRAINAGE CALCULATIONS SEE STORM WATER MANAGEMENT PLAN (SWMP) REPORT. RESULTS SHOWN BASED ON NO TAILWATER.



LEGEND

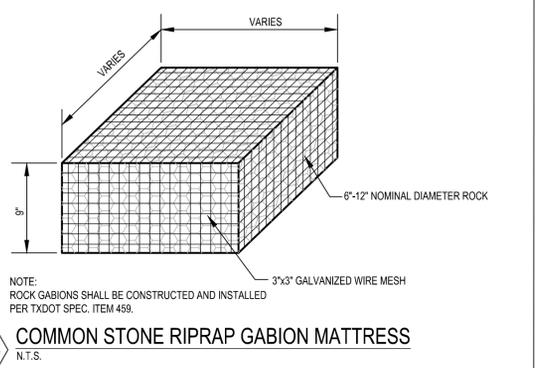
- OVERALL PROPERTY BOUNDARY
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- PROPOSED 1' CONTOUR
- PROPOSED 5' CONTOUR
- PROPOSED SEWER LINE (FUTURE PHASE)
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING GAS LINE
- EXISTING FIBER OPTIC LINE
- EXISTING OVERHEAD ELECTRIC & TELEPHONE LINE
- EXISTING SANITARY SEWER
- EXISTING TELEPHONE BOX
- EXISTING SIGN
- EXISTING UTILITY POLE
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING WATER METER
- FLOW ARROW
- EXISTING PAVEMENT
- PROPOSED CONCRETE
- ROCK GABION MATTRESS

N

SCALE: 1"=20'

SHEET SIZE: 24" x 36"

3/25/2025

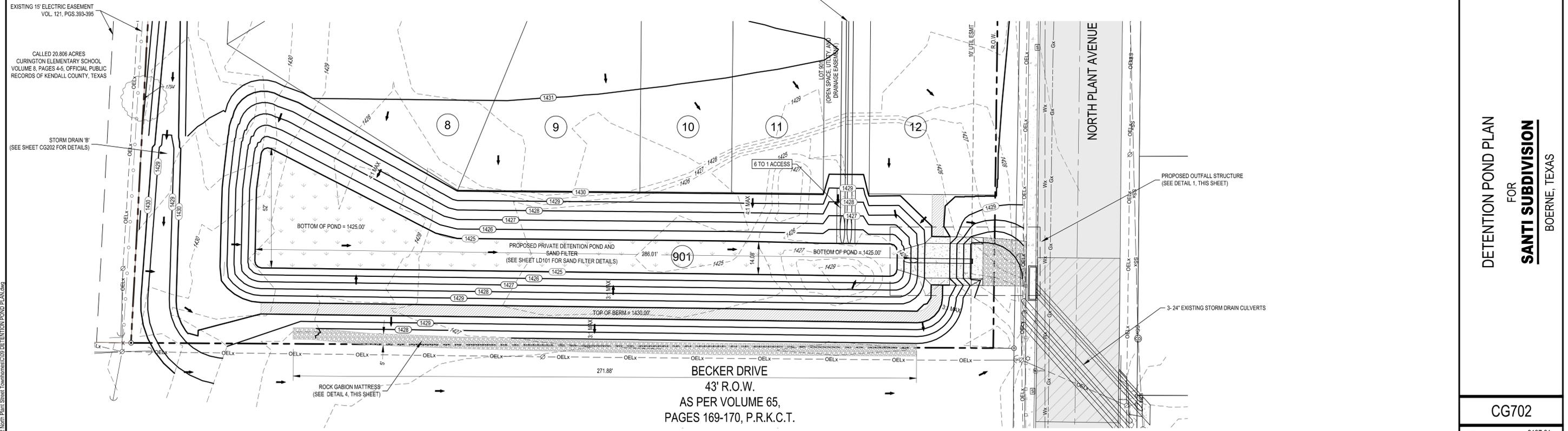


REVISIONS:

NO.	DESCRIPTION

MATKINHOOVER ENGINEERING & SURVEYING

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BOERNE, TEXAS 78006
CONTACT: 409.486.1000
WWW.MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-004113 SURVEYING FIRM F-1002400



EXISTING 15' ELECTRIC EASEMENT VOL. 121, PGS. 393-395

CALLED 20.806 ACRES CURINGTON ELEMENTARY SCHOOL VOLUME 8, PAGES 4-5, OFFICIAL PUBLIC RECORDS OF KENDALL COUNTY, TEXAS

STORM DRAIN 'B' (SEE SHEET CG202 FOR DETAILS)

STORM DRAIN 'A' (SEE SHEET CG201 FOR DETAILS)

LOT 901 (SEE SHEET CG201 FOR DRAINAGE EASEMENT)

10' UTILITY EASEMENT

EXISTING SIDEWALK

PLANT STREET

B.O.C.

F.O.C.

EXISTING 15' ELECTRIC EASEMENT VOL. 121, PGS. 393-395

3-24" EXISTING STORM DRAIN CULVERTS

PROPOSED OUTFALL STRUCTURE (SEE DETAIL 1, THIS SHEET)

ROCK GABION MATTRESS (SEE DETAIL 4, THIS SHEET)

271.88'

43' R.O.W.

AS PER VOLUME 65, PAGES 169-170, P.R.K.C.T.

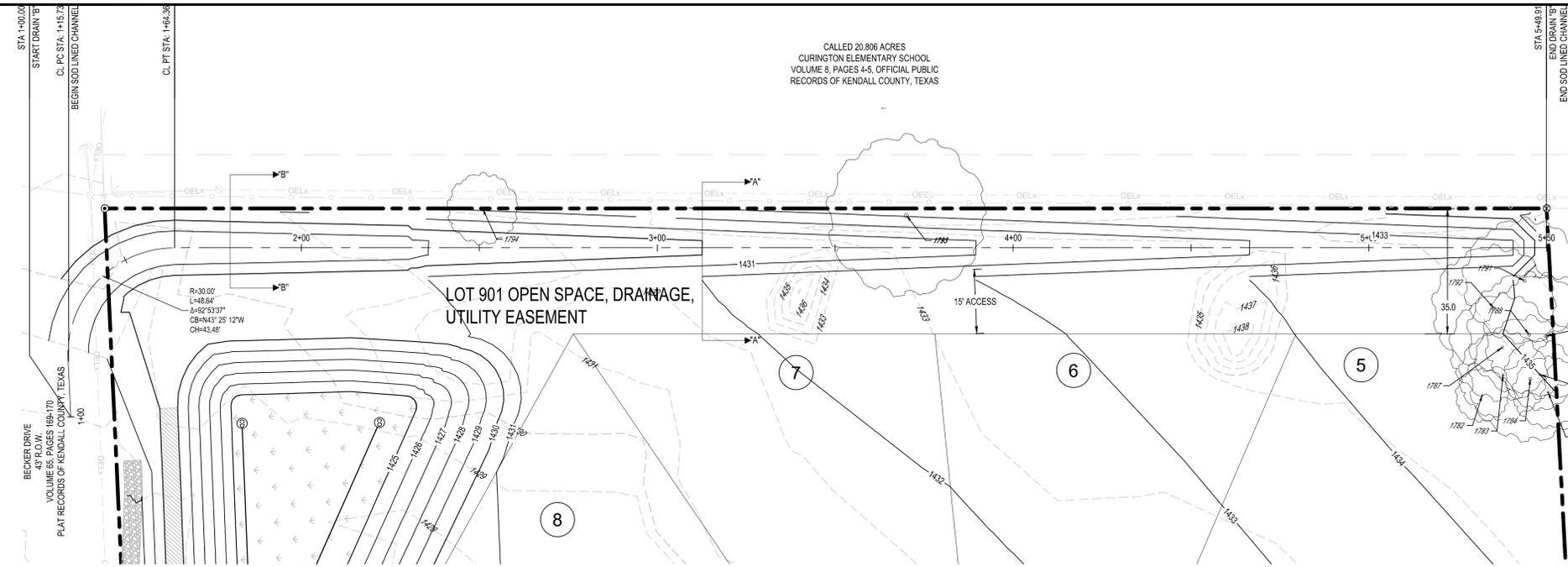
DETENTION POND PLAN FOR SANTI SUBDIVISION BOERNE, TEXAS

CG702

JOB NO.	3197.01
DESIGNED BY:	DM
DRAWN BY:	DCB
CHECKED BY:	JJV
SHEET #	09 OF 22

Z:\PROJECTS\3197 - 322 North Plant Street, Tomahawk\CG09 DETENTION POND PLAN.dwg

Date: Mar 25, 2025, 4:48pm User ID: cmorris



LEGEND

- PROPERTY BOUNDARY
- ADJOINING PARCEL BOUNDARIES
- - - 0.74 --- EXISTING 1' CONTOUR
- - - 0.75 --- EXISTING 5' CONTOUR
- 1444 --- PROPOSED 1' CONTOUR
- 1445 --- PROPOSED 5' CONTOUR
- ① LOT NUMBER
- EXISTING TREE

SCALE: 1"=10'

0 5 10 15 20'

SHEET SIZE: 24" x 36"

3/25/2025

STATE OF TEXAS

CODY LEE MORRIS

131472

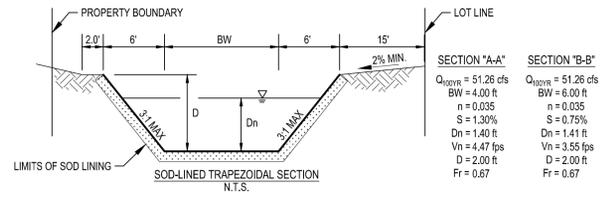
PROFESSIONAL ENGINEER

REVISIONS:

TRENCH EXCAVATION SAFETY PROTECTION

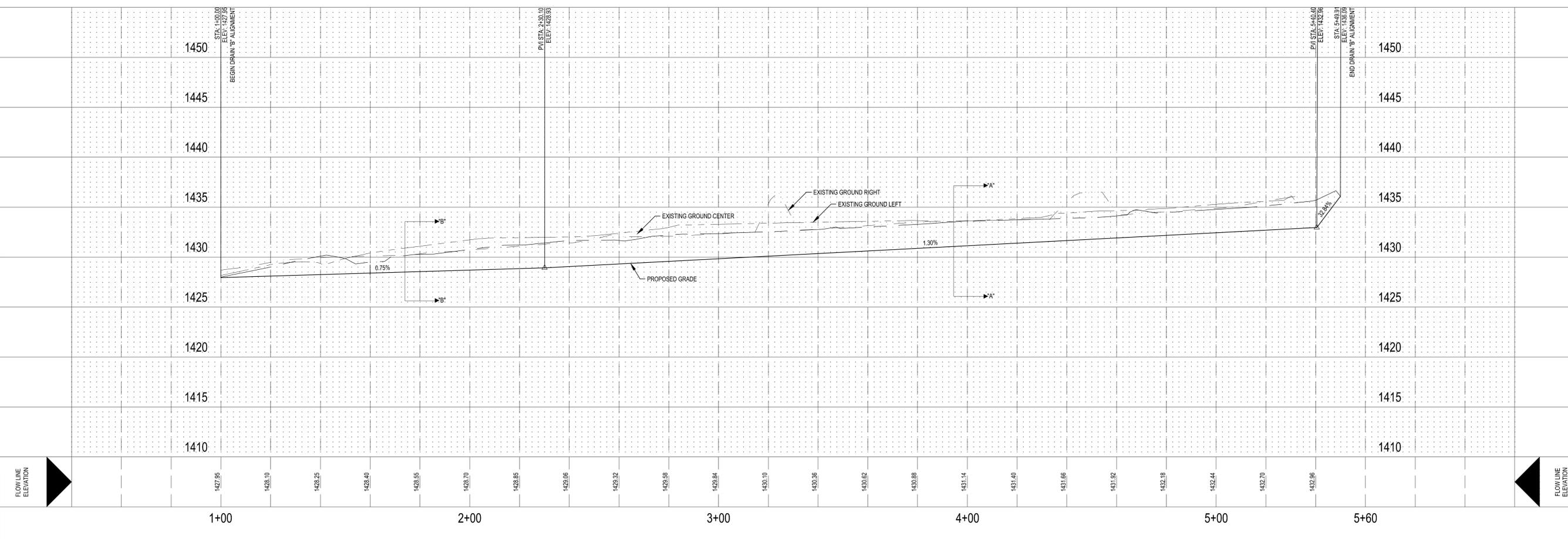
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN / GEOTECHNICAL / SAFETY / EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S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

DRAIN "B" PLAN STA: 1+00 TO END
SCALE: 1" = 20'



WARNING! CONTRACTOR TO FIELD VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION.

Z:\PROJECTS\3197 - 222 North Pleasant Street, Townhomes\CG11 DRAINAGE PLAN AND PROFILE DRAIN B STA 1+00 TO END.dwg



DRAINAGE PLAN AND PROFILE DRAIN 'B' STA 1+00 TO END

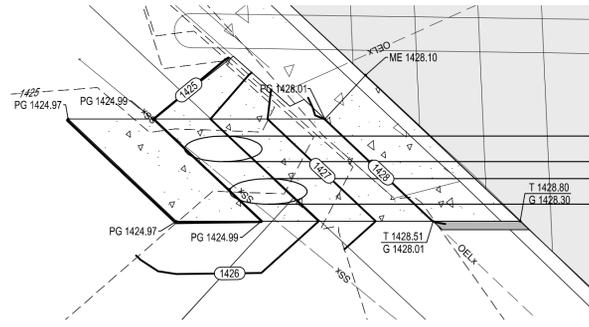
FOR

SANTI SUBDIVISION

BOERNE, TEXAS

CG202

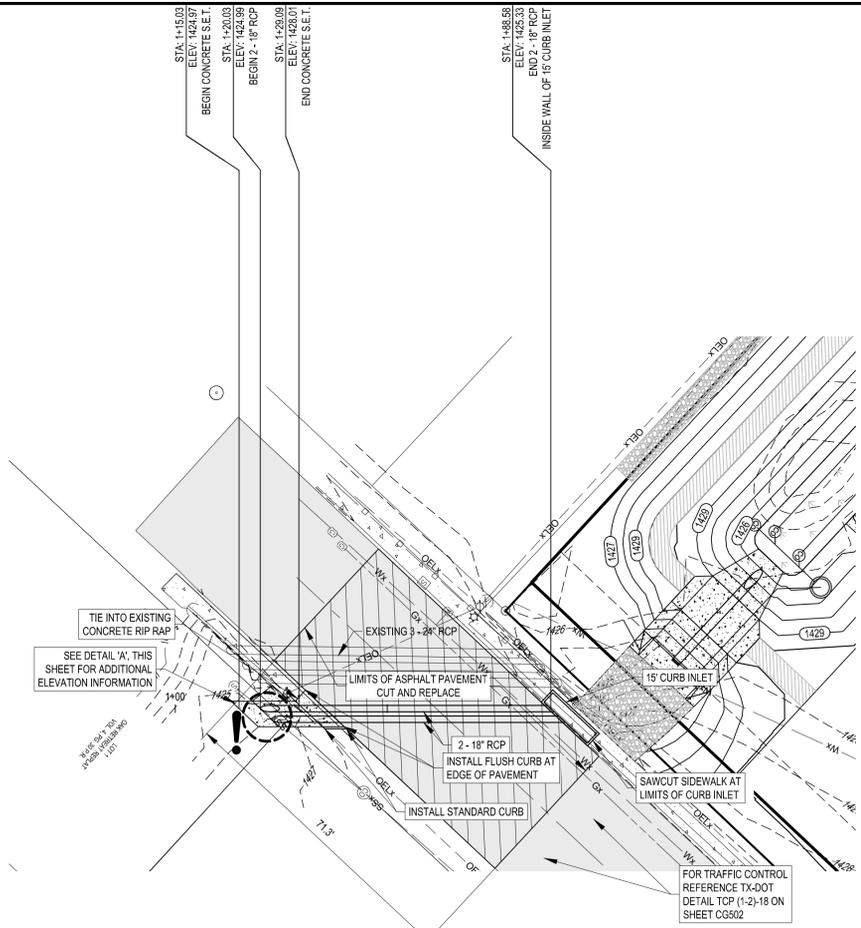
JOB NO.	3197.01
DESIGNED BY:	DM
DRAWN BY:	DCB
CHECKED BY:	JJV
SHEET #	11 OF 22



DETAIL 'A'
SCALE: 1" = 5'

TRENCH EXCAVATION SAFETY PROTECTION

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



DRAIN 'C' PLAN & PROFILE STA: 1+00 TO END

NOTES:
1. STORM SEWER DESIGN BASED ON ROUGH PROPORTIONALITY FOR SANTI SUBDIVISION. STORM SEWER DOES NOT MEET CITY OF BOERNE DESIGN CRITERIA.

LEGEND

- PROPERTY BOUNDARY
- ADJOINING PARCEL BOUNDARIES
- EXISTING 5' CONTOURS
- EXISTING 1' CONTOURS
- PROPOSED 1' CONTOURS
- PROPOSED 5' CONTOURS
- EXISTING WATER MAIN
- EXISTING SANITARY SEWER MAIN
- EXISTING NATURAL GAS MAIN
- EXISTING OVERHEAD ELECTRICAL
- HORIZONTAL/VERTICAL CONTROL POINT
- FOUND 1/2" IRON ROD
- FOUND 6" CEDAR POST
- FOUND 6" CEDAR POST
- FOUND PK NAIL
- EXISTING MAIL BOX
- EXISTING STREET SIGN
- EXISTING SEWER MANHOLE
- EXISTING SANITARY SEWER CLEAN-OUT
- EXISTING GAS VALVE
- EXISTING UTILITY POLE
- EXISTING UTILITY POLE w/GUY
- EXISTING UTILITY POLE w/TRANSFORMER
- EXISTING LIGHT POLE
- EXISTING ELECTRIC METER
- EXISTING WATER METER
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING ASPHALT PAVING
- EXISTING GRAVEL PAVING
- EXISTING STONE PAVERS
- EXISTING TREE TO REMAIN
- NOTES UTILITY CROSSING. SEE [13, CU501] FOR UTILITY CROSSING DETAIL

SCALE: 1"=20'

SHEET SIZE: 24" x 36"

3/25/2025

STATE OF TEXAS

CODY LEE MORRIS

131472

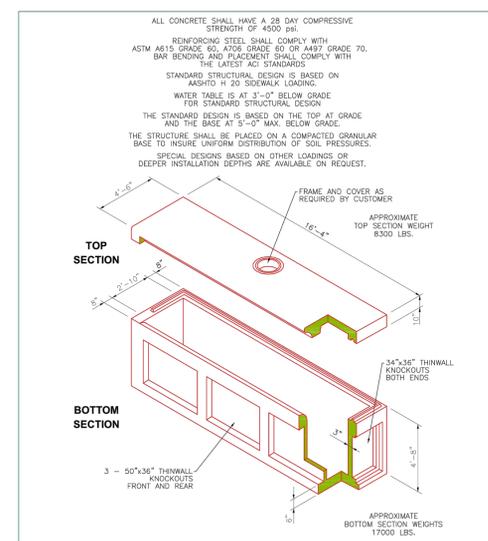
PROFESSIONAL ENGINEER

REVISIONS:

MATKINHOOVER
ENGINEERING & SURVEYING

3305 SHELL BROADS SUITE 100
BOERNE, TEXAS 78006
OFFICE: 512.868.2244
CONTACT: 800.451.4511
WWW.MATKINHOOVER.COM

TEXAS REGISTERED ENGINEERING FIRM F-004513 SURVEYING FIRM F-1002400



Oldcastle Precast

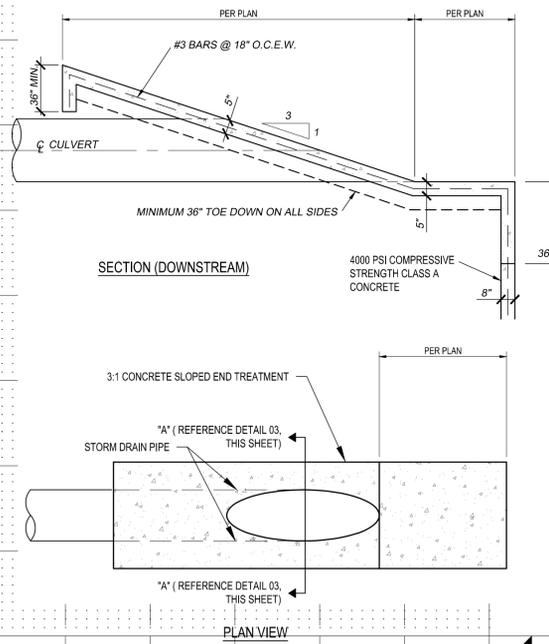
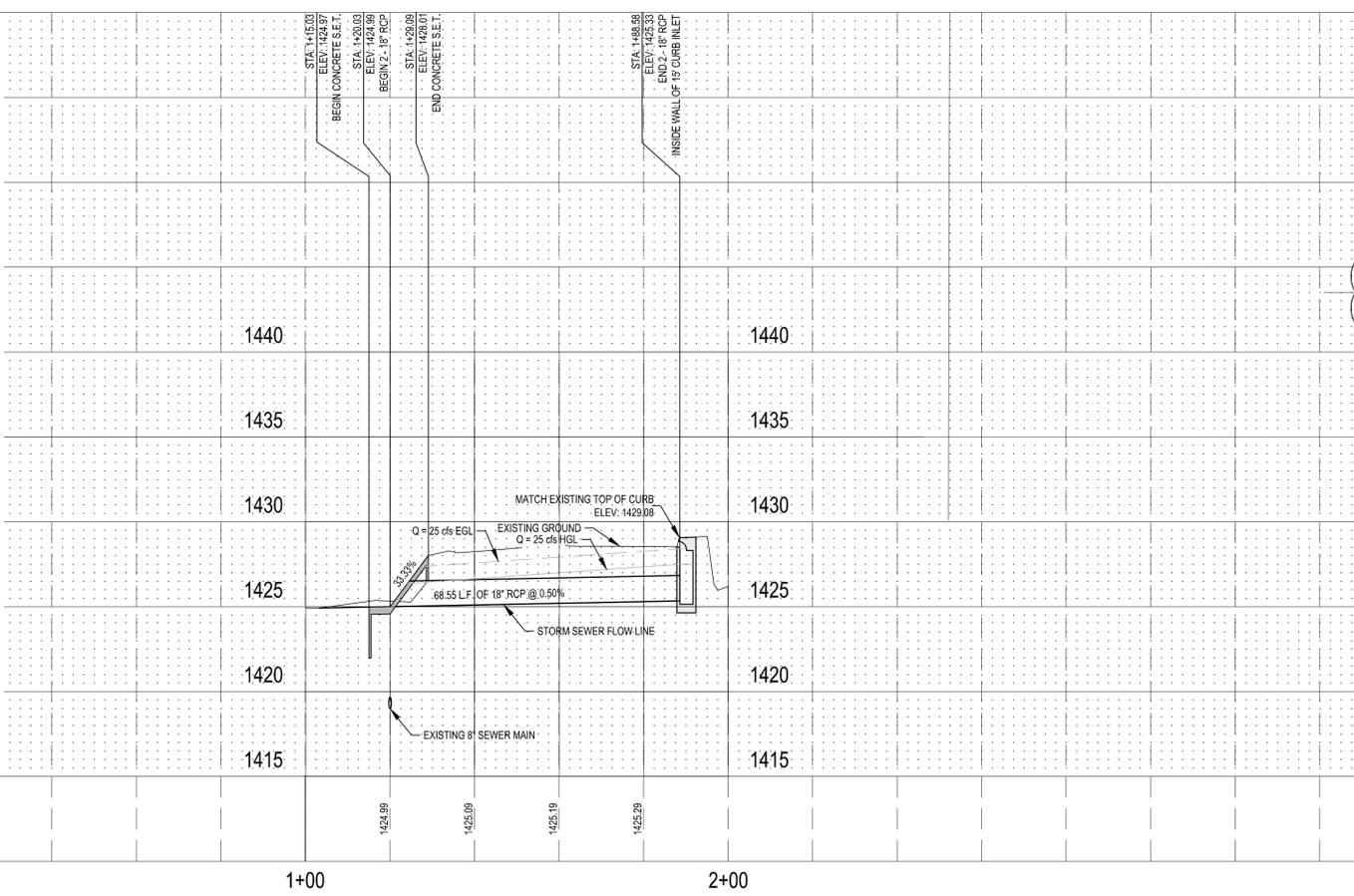
S115-INL5

FILE NAME: SANIN15.dwg

ISSUE DATE: March, 2005

www.oldcastleusa.com

SAN ANTONIO
15 FT. CURB INLET
WITH 5.0 INVERT



STORM DRAIN 'C' PLAN & PROFILE 1+00 TO 4+00

FOR SANTI SUBDIVISION

BOERNE, TEXAS

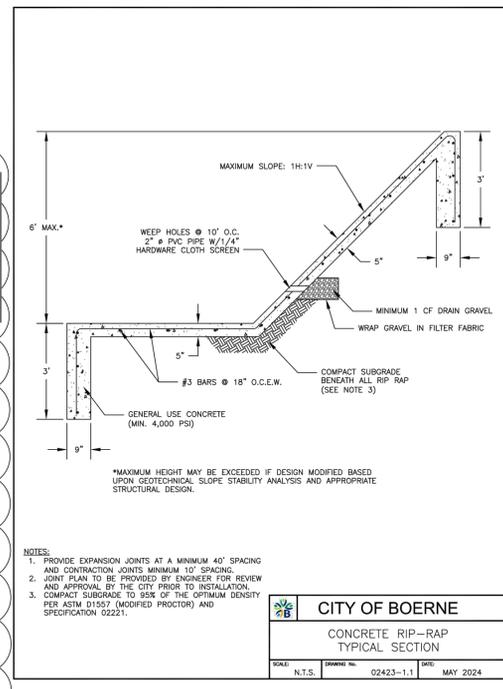
CG203

JOB NO.	3197.01
DESIGNED BY:	DM
DRAWN BY:	DCB
CHECKED BY:	JJV
SHEET #	12 OF 22

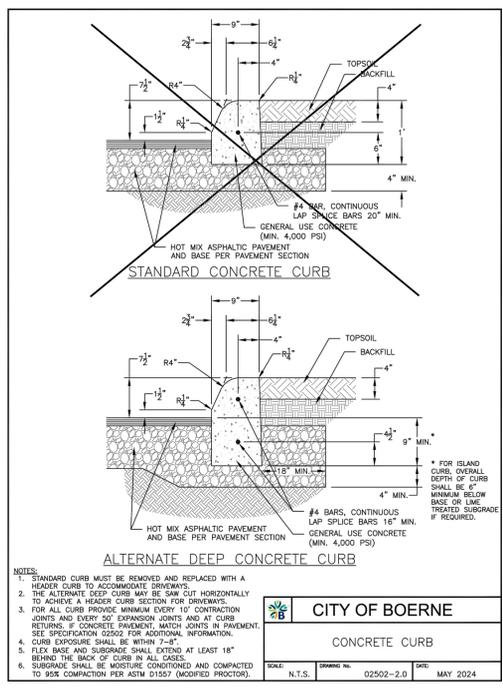
Classification	Asphaltic Concrete, inches	Asphaltic Concrete, inches	Aggregate Base, inches	Geogrid	Subgrade, inches	Structural Number
Neighborhood Local	Type D 2.00	-	12.50	No	8"	3.27
	Type D 2.00	-	10.50	Yes	8"	3.30
	Type D 2.00	Type B 6.00	-	No	8"	3.56

NOTE: GEOTECHNICAL INFORMATION SHOWN FOR REFERENCE ONLY. PLEASE REFERENCE GEOTECHNICAL ENGINEERING STUDY BY INTEC, PROJECT NO. S25110, DATED MAY 02, 2025.

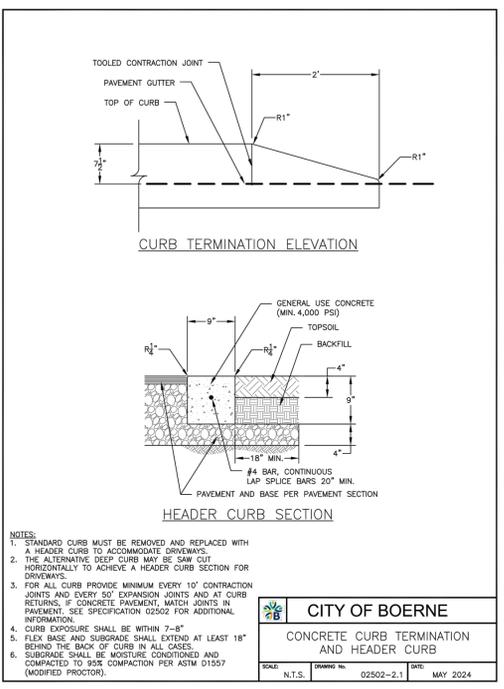
01 ASPHALT PAVEMENT TABLE
N.T.S.



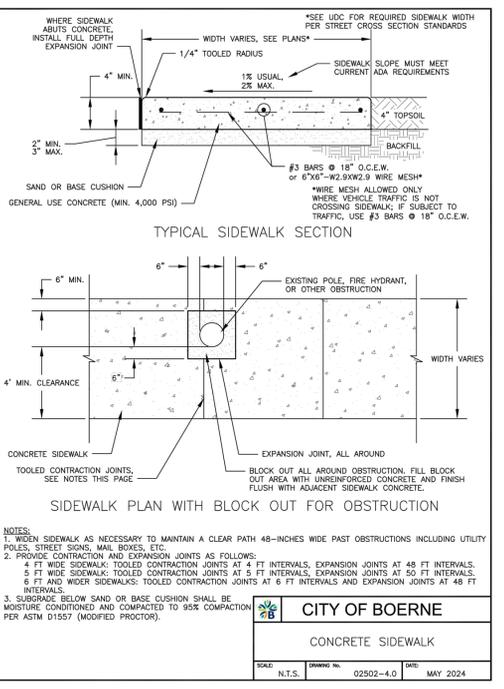
02 CONCRETE RIP RAP DETAILS
N.T.S.



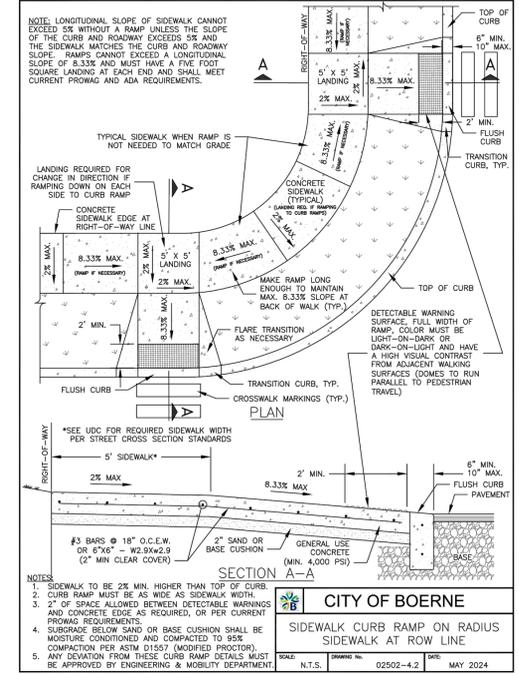
03 CONCRETE CURB DETAILS
N.T.S.



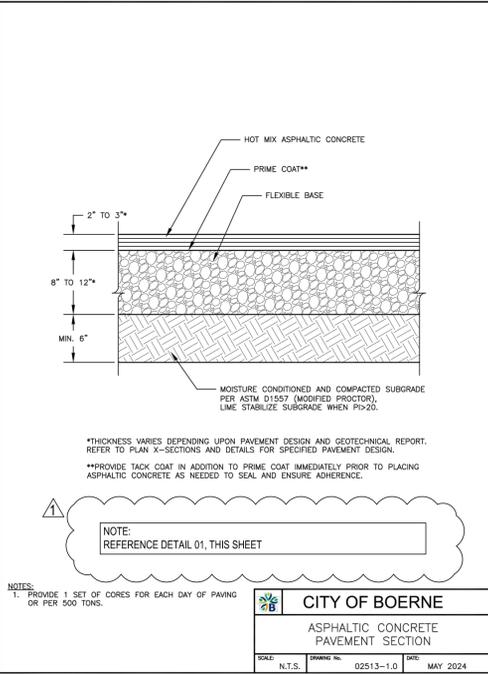
04 CONCRETE CURB TERMINATION & HEADER CURB
N.T.S.



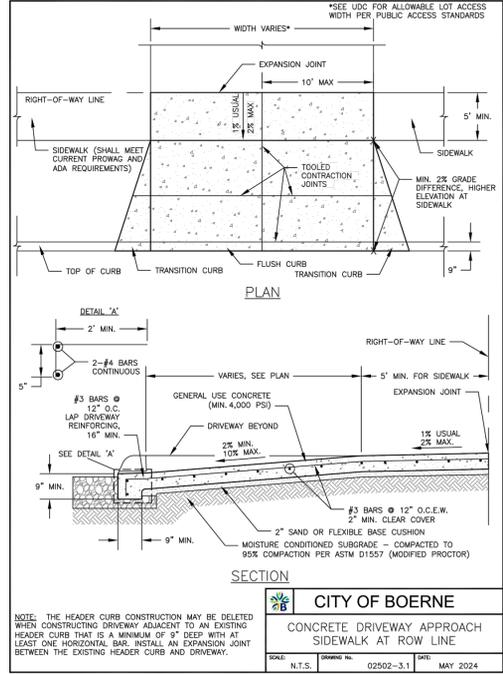
05 CONCRETE SIDEWALK DETAIL
N.T.S.



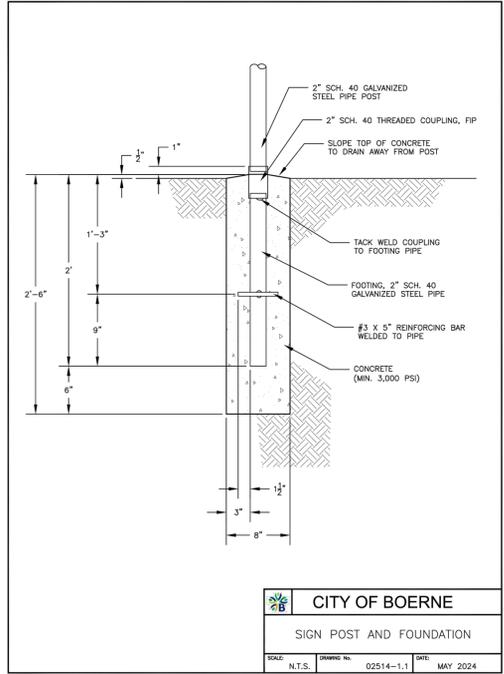
06 SIDEWALK CURB RAMP ON RADIUS DETAIL
N.T.S.



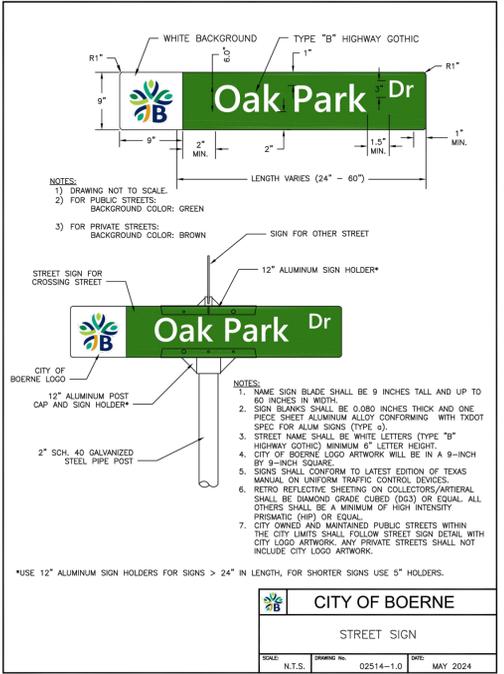
06 ASPHALTIC CONCRETE PAVEMENT DETAIL
N.T.S.



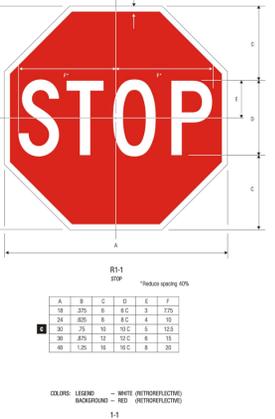
07 CONCRETE DRIVEWAY APPROACH DETAIL
N.T.S.



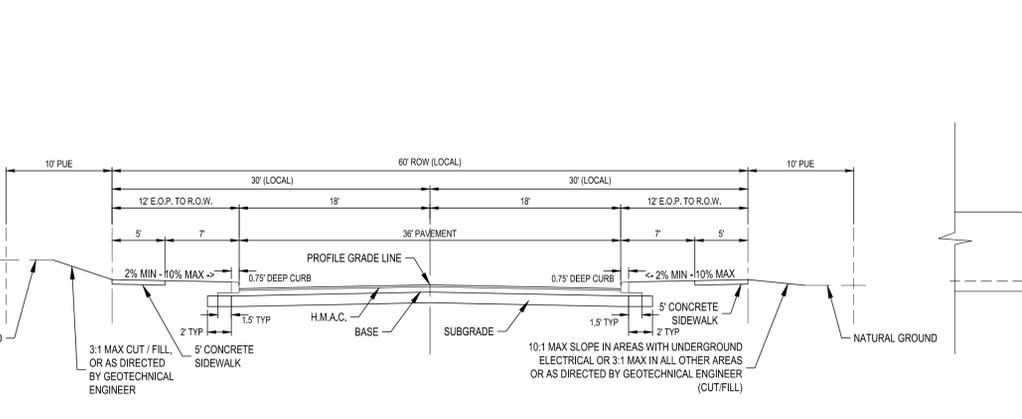
08 SIGN POST & FOUNDATION DETAIL
N.T.S.



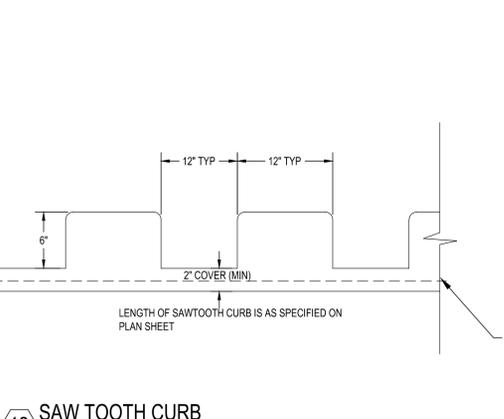
09 STREET SIGN DETAIL
N.T.S.



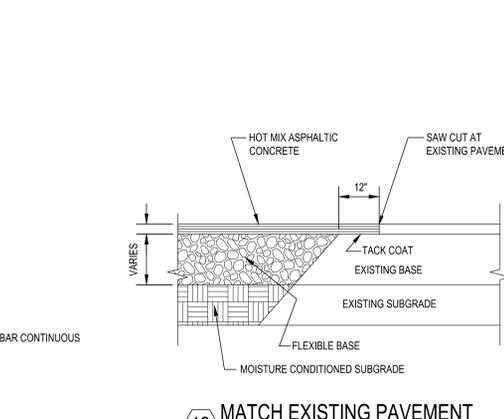
10 STOP SIGN DETAIL
N.T.S.



11 PROPOSED PAVEMENT SECTION
N.T.S.



12 SAW TOOTH CURB
N.T.S.



13 MATCH EXISTING PAVEMENT
N.T.S.

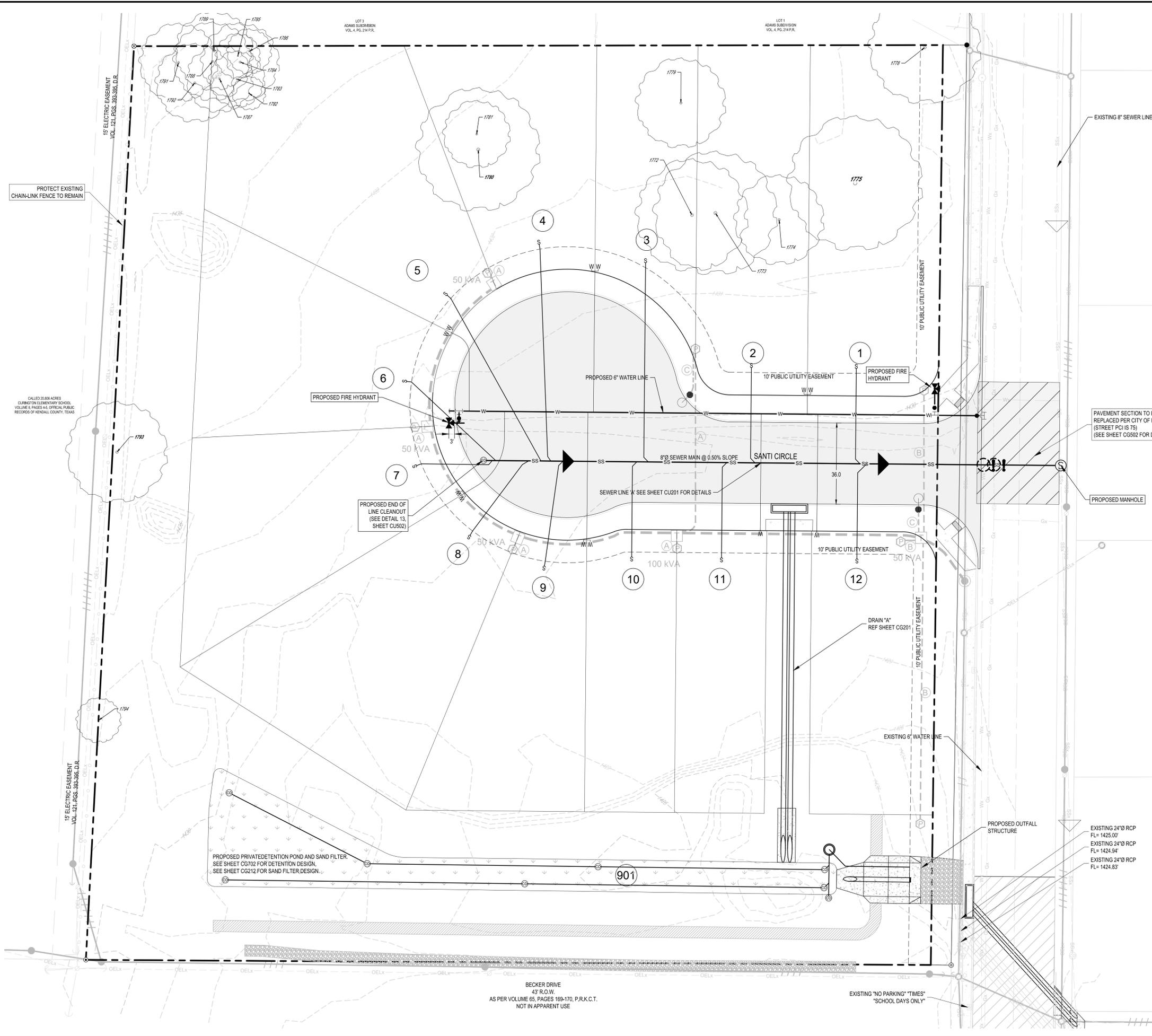


REVISIONS:
GEOTECH UPDATES

MATKINHOOPER
ENGINEERING & SURVEYING
1305 SHELL BOARDS SUITE 3
BOERNE, TEXAS 78006
CONTACT: 817.868.2244
TXAS REGISTERED ENGINEERING FIRM E-004512 SURVEYING FIRM F-1002400

STREET & DRAINAGE DETAILS (SHEET 1)
FOR
SANTI SUBDIVISION
BOERNE, TEXAS

CG501
JOB NO. 3197.01
DESIGNED BY: DM
DRAWN BY: DCB
CHECKED BY: JJV
SHEET # 13 OF 22



LEGEND

- PROPERTY BOUNDARY
- - - - EXISTING 1' CONTOURS
- - - - EXISTING 5' CONTOURS
- - - - PROPOSED 1' CONTOURS
- - - - PROPOSED 5' CONTOURS
- - - - PUBLIC UTILITY EASEMENT (P.U.E.)
- SSx EXISTING SANITARY SEWER LINE
- Wx EXISTING WATER LINE
- Gx EXISTING GAS LINE
- SS PROPOSED SANITARY SEWER LINE
- W PROPOSED WATER LINE
- G PROPOSED GAS LINE
- OELx EXISTING OVERHEAD ELECTRIC
- ⊗ PROPOSED FIRE HYDRANT
- ⊙ EXISTING FIRE HYDRANT
- ⊙ PROPOSED SEWER MANHOLE
- ⊙ EXISTING SEWER MANHOLE
- ⊙ CAUTION: UTILITY CROSSING
- ▨ PROPOSED ASPHALT
- ▨ PROPOSED CONCRETE

- NOTES:**
- SEE SHEET C-001 FOR UTILITY CONSTRUCTION NOTES. REFER TO SHEET CU121 FOR WATER DISTRIBUTION PLAN.
 - REFER TO SHEET CU201 FOR SANITARY SEWER PLAN & PROFILE.
 - REFER TO SHEET CU501 FOR UTILITY DETAILS.
 - ELECTRICAL LAYOUT SHOWN FOR INFORMATION PURPOSES ONLY. REFER TO MCCORD ELECTRICAL PLANS FOR FINAL LAYOUT.
 - UTILITY SECTION DETAIL REFERENCE SHEET CU501

N

SCALE: 1"=20'

SHEET SIZE: 24" x 36"

3/25/2025

STATE OF TEXAS

CODY LEE MORRIS

131472

LICENSED PROFESSIONAL ENGINEER

REVISIONS:

NO.	DESCRIPTION

MATKINHOOVER
ENGINEERING & SURVEYING

3305 SHELL ROAD SUITE 100
BOERNE, TEXAS 78006
CONTACT: 512.868.2244
OFFICE: 512.868.2244

TEXAS REGISTERED ENGINEERING FIRM F-00412 SURVEYING FIRM F-1002400

OVERALL UTILITY PLAN
FOR
SANTI SUBDIVISION
BOERNE, TEXAS

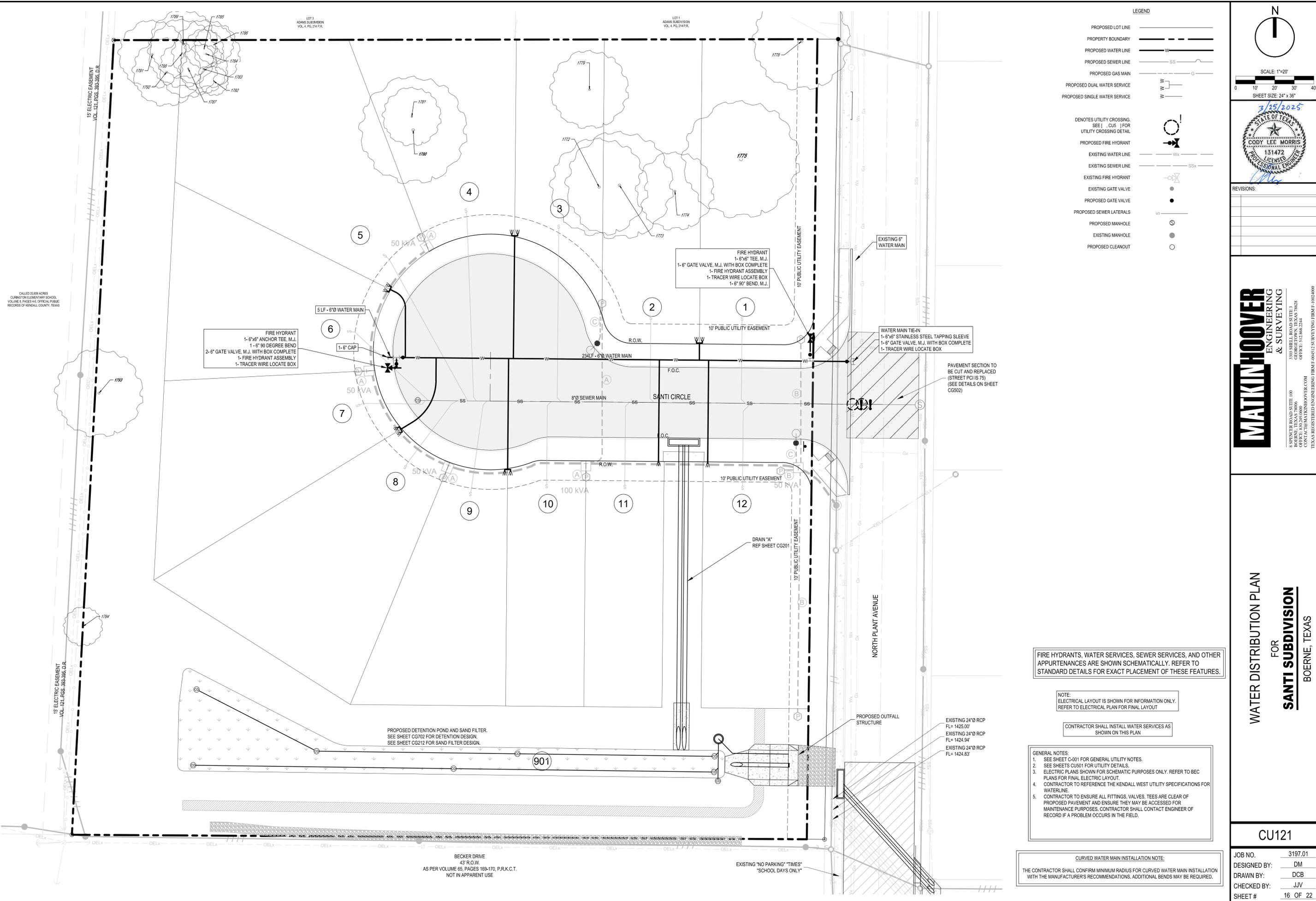
CU101

JOB NO.	3197.01
DESIGNED BY:	DM
DRAWN BY:	DCB
CHECKED BY:	JJV
SHEET #	15 OF 22

BECKER DRIVE
43' R.O.W.
AS PER VOLUME 65, PAGES 169-170, P.R.K.C.T.
NOT IN APPARENT USE

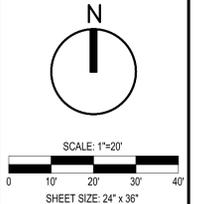
EXISTING 24" RCP
FL= 1425.00'
EXISTING 24" RCP
FL= 1424.94'
EXISTING 24" RCP
FL= 1424.83'

CALLED 25.86 ACRES
CUMINGTON ELEMENTARY SCHOOL
VOLUME 8 PAGES 45, OFFICIAL PUBLIC
RECORDS OF KENDALL COUNTY, TEXAS



LEGEND

- PROPOSED LOT LINE
- PROPERTY BOUNDARY
- PROPOSED WATER LINE
- PROPOSED SEWER LINE
- PROPOSED GAS MAIN
- PROPOSED DUAL WATER SERVICE
- PROPOSED SINGLE WATER SERVICE
- PROPOSED UTILITY CROSSING
SEE [CUS] FOR
UTILITY CROSSING DETAIL
- PROPOSED FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING FIRE HYDRANT
- EXISTING GATE VALVE
- PROPOSED GATE VALVE
- PROPOSED SEWER LATERALS
- PROPOSED MANHOLE
- EXISTING MANHOLE
- PROPOSED CLEANOUT



REVISIONS:

NO.	DATE	DESCRIPTION

MATKINHOOVER
ENGINEERING
& SURVEYING

3305 SHELL ROAD SUITE 100
BOERNE, TEXAS 78006
CONTACT: 512.868.2244
WWW.MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM F-00412 SURVEYING FIRM F-1002400

WATER DISTRIBUTION PLAN
FOR
SANTI SUBDIVISION
BOERNE, TEXAS

FIRE HYDRANTS, WATER SERVICES, SEWER SERVICES, AND OTHER APPURTENANCES ARE SHOWN SCHEMATICALLY. REFER TO STANDARD DETAILS FOR EXACT PLACEMENT OF THESE FEATURES.

NOTE:
ELECTRICAL LAYOUT IS SHOWN FOR INFORMATION ONLY.
REFER TO ELECTRICAL PLAN FOR FINAL LAYOUT

CONTRACTOR SHALL INSTALL WATER SERVICES AS SHOWN ON THIS PLAN

- GENERAL NOTES:
- SEE SHEET C-001 FOR GENERAL UTILITY NOTES.
 - SEE SHEETS CU501 FOR UTILITY DETAILS.
 - ELECTRIC PLANS SHOWN FOR SCHEMATIC PURPOSES ONLY. REFER TO BEC PLANS FOR FINAL ELECTRIC LAYOUT.
 - CONTRACTOR TO REFERENCE THE KENDALL WEST UTILITY SPECIFICATIONS FOR WATERLINE.
 - CONTRACTOR TO ENSURE ALL FITTINGS, VALVES, TEES ARE CLEAR OF PROPOSED PAVEMENT AND ENSURE THEY MAY BE ACCESSED FOR MAINTENANCE PURPOSES. CONTRACTOR SHALL CONTACT ENGINEER OF RECORD IF A PROBLEM OCCURS IN THE FIELD.

CURVED WATER MAIN INSTALLATION NOTE:
THE CONTRACTOR SHALL CONFIRM MINIMUM RADIUS FOR CURVED WATER MAIN INSTALLATION WITH THE MANUFACTURER'S RECOMMENDATIONS. ADDITIONAL BENDS MAY BE REQUIRED.

FIRE HYDRANT
1-6"x6" ANCHOR TEE, M.J.
1-6" 90 DEGREE BEND
2-6" GATE VALVE, M.J. WITH BOX COMPLETE
1- FIRE HYDRANT ASSEMBLY
1- TRACER WIRE LOCATE BOX

FIRE HYDRANT
1-6"x6" TEE, M.J.
1- FIRE HYDRANT ASSEMBLY
1- TRACER WIRE LOCATE BOX
1-6" 90° BEND, M.J.

WATER MAIN TIE-IN
1-6"x6" STAINLESS STEEL TAPPING SLEEVE
1-6" GATE VALVE, M.J. WITH BOX COMPLETE
1- TRACER WIRE LOCATE BOX

PAVEMENT SECTION TO BE CUT AND REPLACED (STREET POI IS 75) (SEE DETAILS ON SHEET CG502)

PROPOSED DETENTION POND AND SAND FILTER.
SEE SHEET CG702 FOR DETENTION DESIGN.
SEE SHEET CG212 FOR SAND FILTER DESIGN.

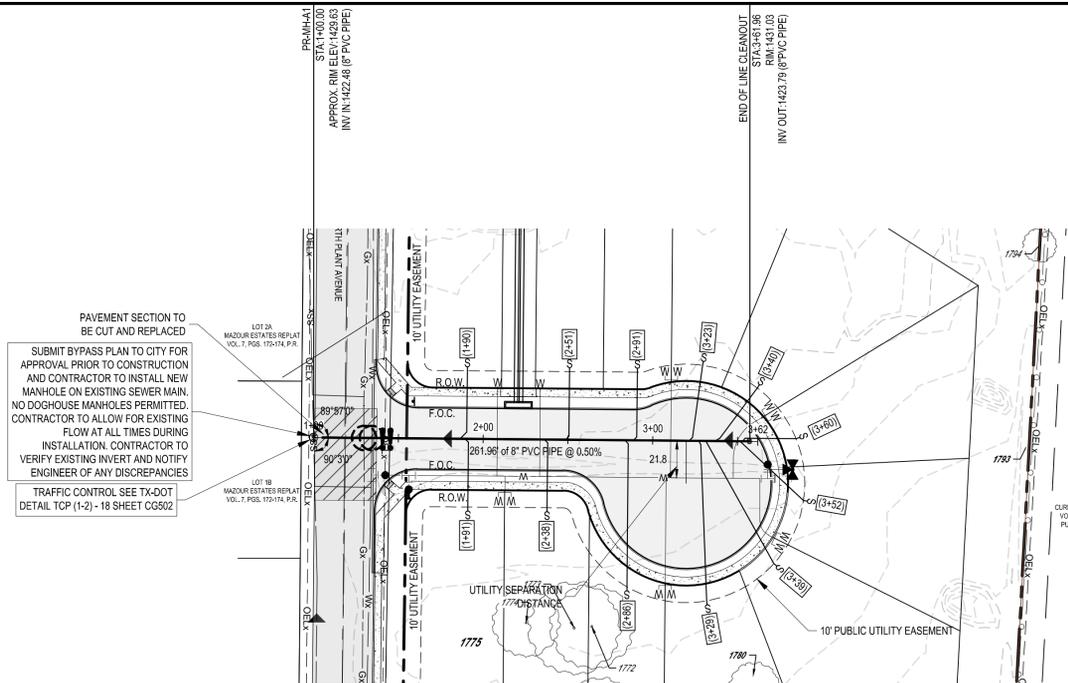
BECKER DRIVE
43' R.O.W.
AS PER VOLUME 65, PAGES 169-170, P.R.K.C.T.
NOT IN APPARENT USE

EXISTING "NO PARKING" TIMES
"SCHOOL DAYS ONLY"

EXISTING 24" RCP
FL= 1425.07
EXISTING 24" RCP
FL= 1424.94
EXISTING 24" RCP
FL= 1424.83

CU121

JOB NO. 3197.01
DESIGNED BY: DM
DRAWN BY: DCB
CHECKED BY: JJV
SHEET # 16 OF 22



SANITARY SEWER LINE "A"
STA 1+00.00 TO END

LEGEND

OVERALL SUBDIVISION BOUNDARY	—
PROPOSED LOT LINE	—
PROPOSED RIGHT OF WAY	—
PHASE LINE LIMITS	—
PUBLIC UTILITY EASEMENT (P.U.E.)	---
EXISTING 1' CONTOUR	874
EXISTING 5' CONTOUR	875
PROPOSED 1' CONTOUR	836
PROPOSED 5' CONTOUR	840
EXISTING FIBER OPTIC LINE	FO
EXISTING OVERHEAD ELECTRIC & TELEPHONE LINE	OET
EXISTING WATER LINE	Wx
PROPOSED WATER LINE	W
EXISTING SANITARY SEWER	SSx
PROPOSED SANITARY SEWER	SS
RIGHT OF WAY	R.O.W.
FACE OF CURB	F.O.C.
EXISTING FIRE HYDRANT	—
PROPOSED FIRE HYDRANT	—
EXISTING TELEPHONE BOX	—
EXISTING SIGN	—
EXISTING UTILITY POLE	—
EXISTING WATER VALVE	—
EXISTING WATER METER	—
EXISTING CLEANOUT	—
EXISTING SEWER MANHOLE	—
PROPOSED SEWER MANHOLE	—
EXISTING GAS VALVE	—
EXISTING ASPHALT PAVEMENT	—
PROPOSED ASPHALT PAVEMENT	—
PROPOSED CONCRETE SIDEWALK	—
PAVEMENT SECTION TO BE CUT AND REPLACED	—
DENOTES UTILITY CROSSING, SEE ITS CURB/RT FOR UTILITY CROSSING DETAIL	—

SCALE: 1"=20'

SHEET SIZE: 24" x 36"

3/25/2025

STATE OF TEXAS

CODY LEE MORRIS

131472

PROFESSIONAL ENGINEER

REVISIONS:

MATKINHOOVER
ENGINEERING & SURVEYING

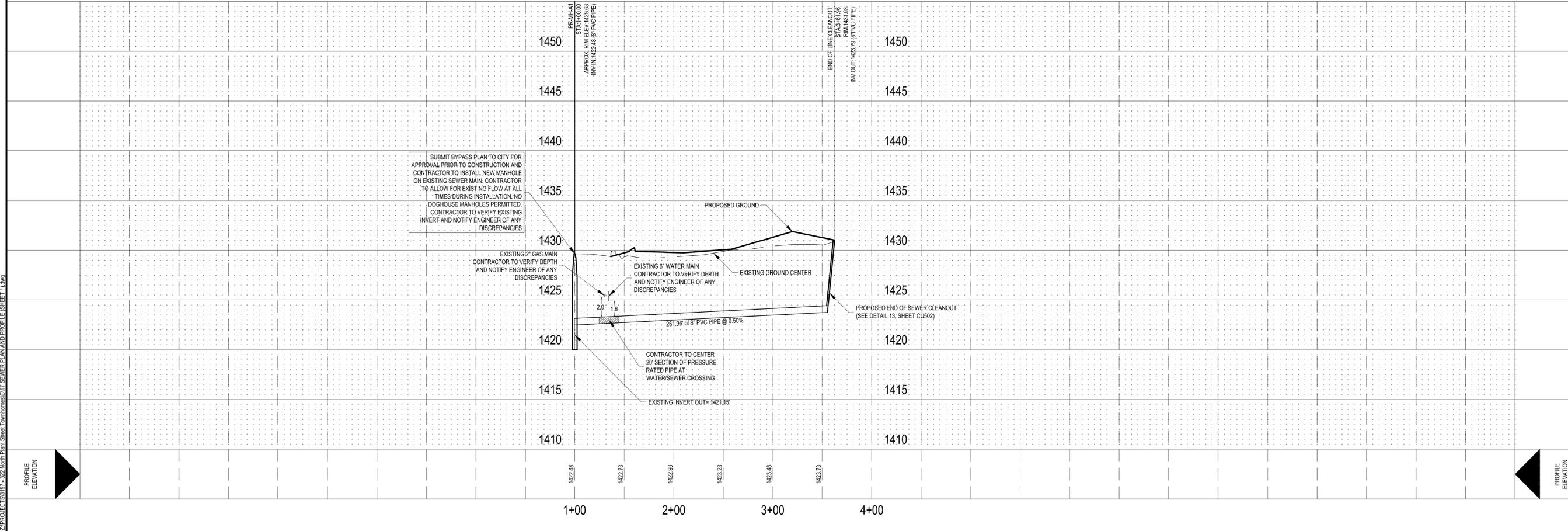
3105 SHELL BROADS SUITE 100
BOERNE, TEXAS 78006
OFFICE: 512.868.2244
CONTACT: 800.444.4444
WWW.MATKINHOOVER.COM

TEXAS REGISTERED ENGINEERING FIRM F-004513 SURVEYING FIRM F-1002400

TRENCH EXCAVATION SAFETY PROTECTION

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

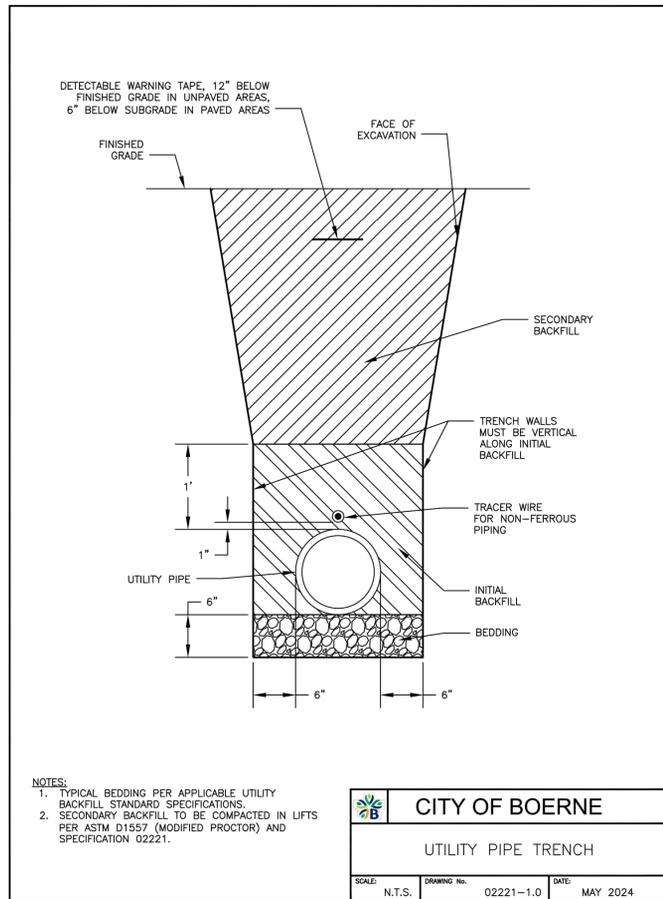
PROFILE SCALE: HORIZ: 1" = 50', VERT: 1" = 5'



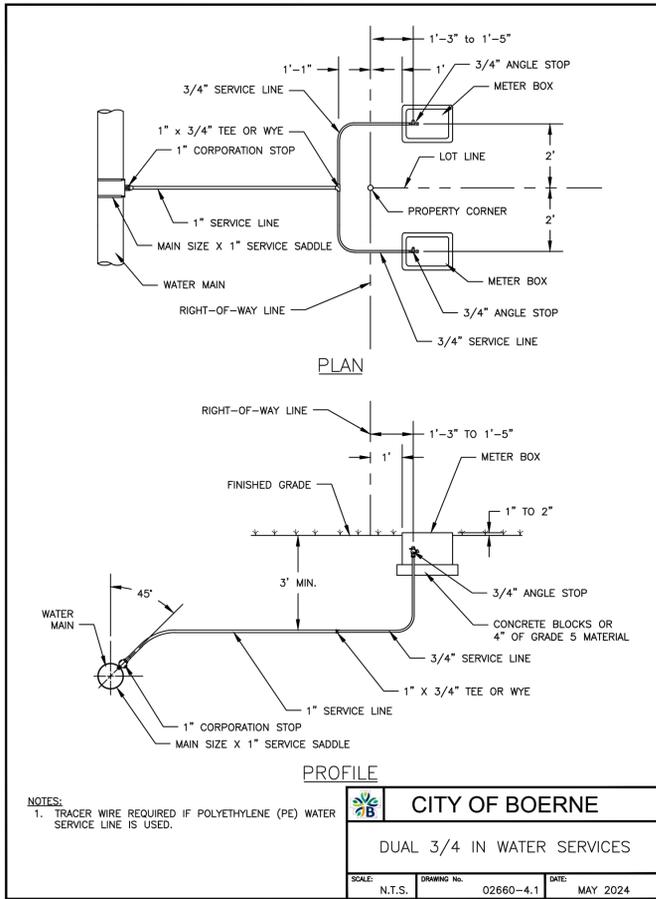
SEWER PLAN AND PROFILE (SHEET 1)
FOR
SANTI SUBDIVISION
BOERNE, TEXAS

CU201

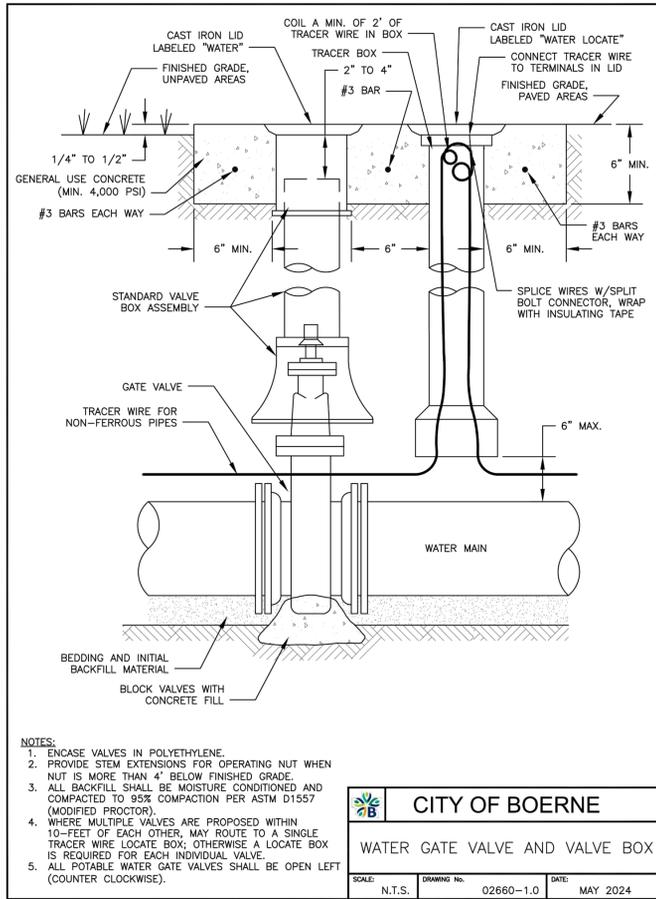
JOB NO.	3197.01
DESIGNED BY:	DM
DRAWN BY:	DCB
CHECKED BY:	JJV
SHEET #	17 OF 22



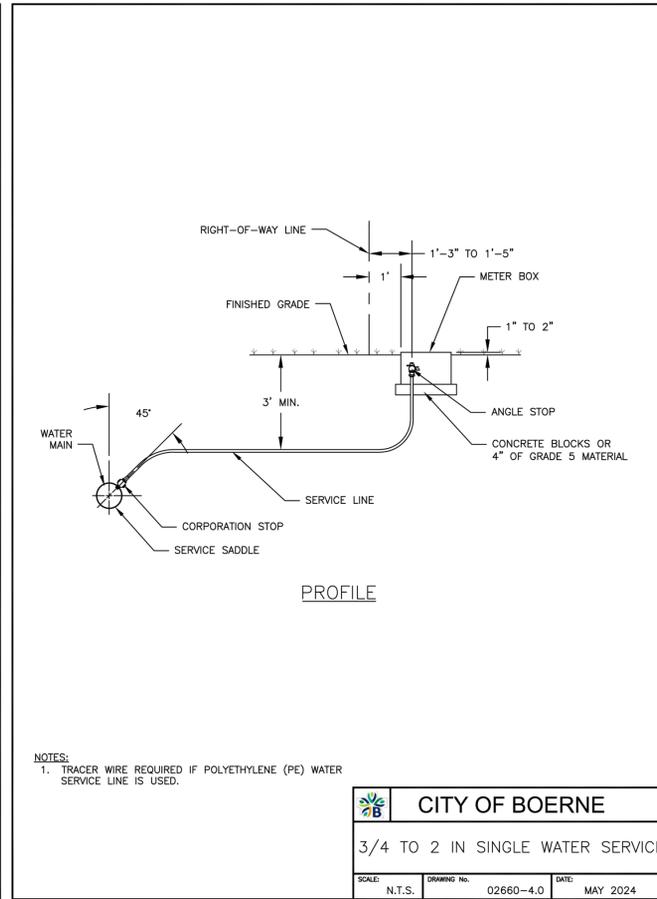
CITY OF BOERNE
UTILITY PIPE TRENCH
SCALE: N.T.S. DRAWING No. 02221-1.0 DATE: MAY 2024



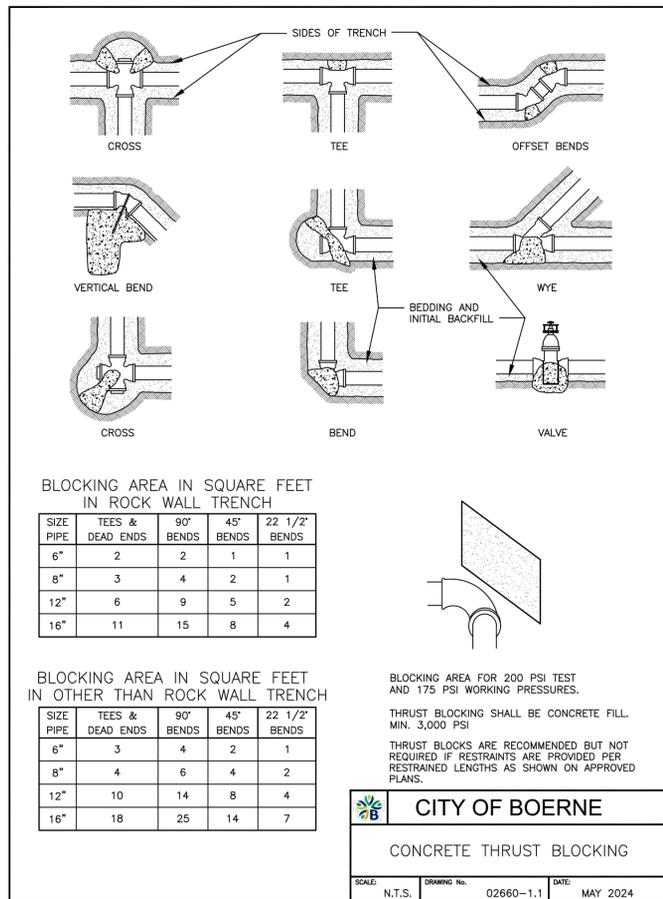
CITY OF BOERNE
DUAL 3/4 IN WATER SERVICES
SCALE: N.T.S. DRAWING No. 02660-4.1 DATE: MAY 2024



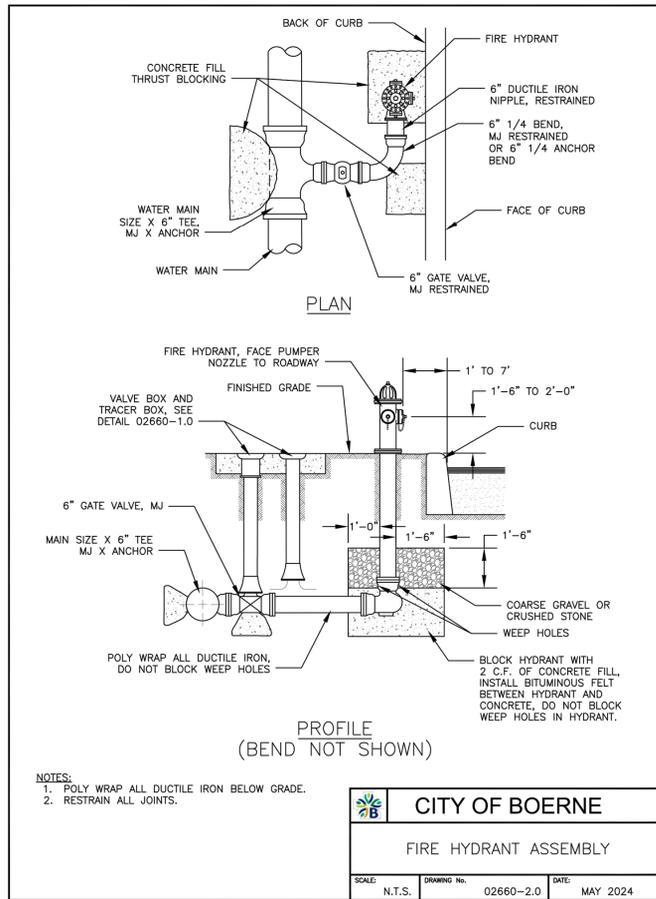
CITY OF BOERNE
WATER GATE VALVE AND VALVE BOX
SCALE: N.T.S. DRAWING No. 02660-1.0 DATE: MAY 2024



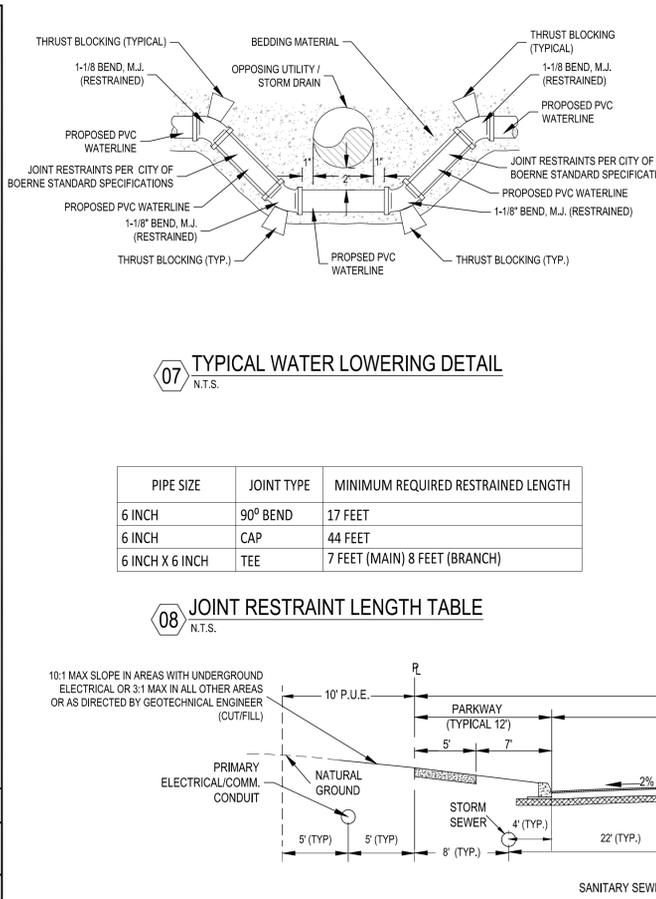
CITY OF BOERNE
3/4 TO 2 IN SINGLE WATER SERVICE
SCALE: N.T.S. DRAWING No. 02660-4.0 DATE: MAY 2024



CITY OF BOERNE
CONCRETE THRUST BLOCKING
SCALE: N.T.S. DRAWING No. 02660-1.1 DATE: MAY 2024

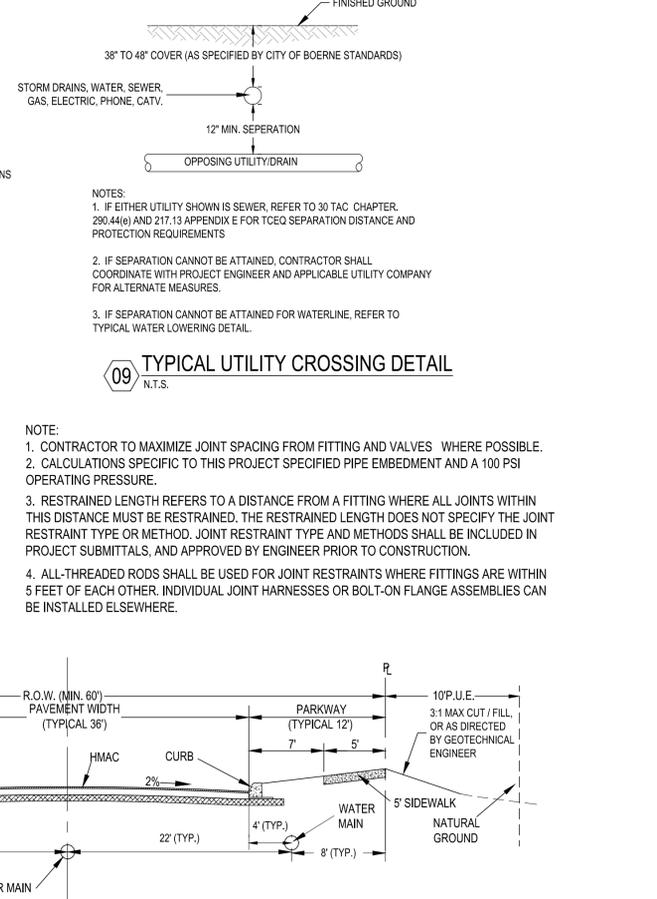


CITY OF BOERNE
FIRE HYDRANT ASSEMBLY
SCALE: N.T.S. DRAWING No. 02660-2.0 DATE: MAY 2024



08 JOINT RESTRAINT LENGTH TABLE

PIPE SIZE	JOINT TYPE	MINIMUM REQUIRED RESTRAINED LENGTH
6 INCH	90° BEND	17 FEET
6 INCH	CAP	44 FEET
6 INCH X 6 INCH	TEE	7 FEET (MAIN) 8 FEET (BRANCH)



09 TYPICAL UTILITY CROSSING DETAIL
SCALE: N.T.S.



10 UTILITY SECTION DETAIL
SCALE: N.T.S.



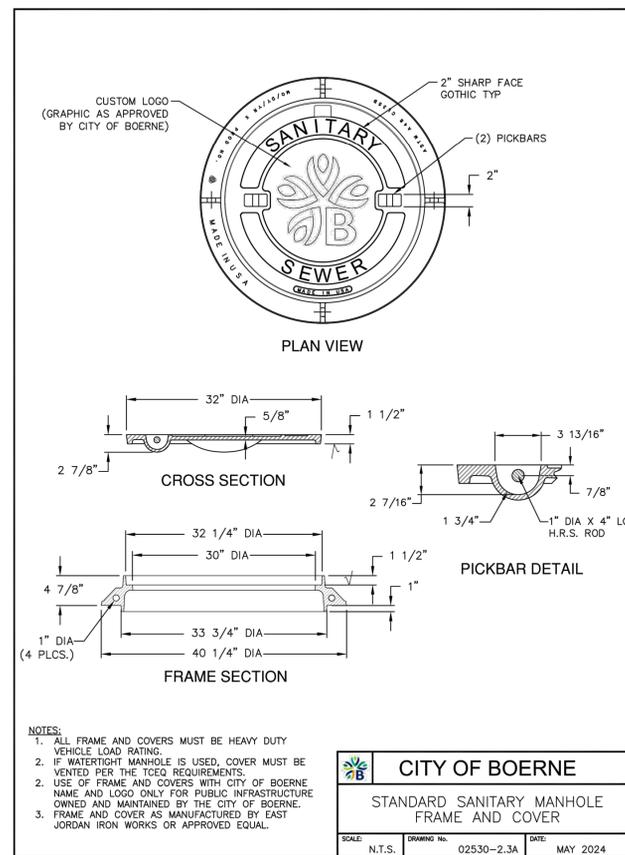
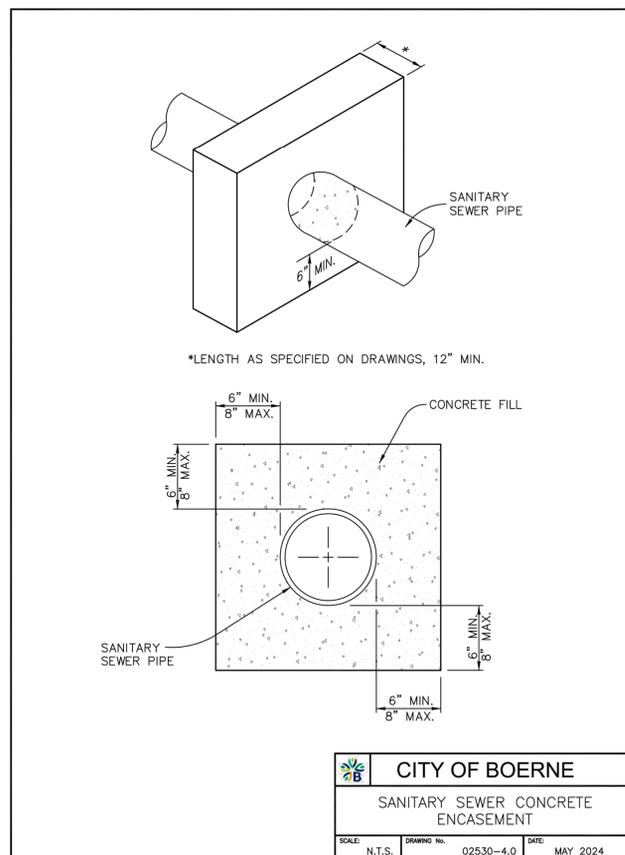
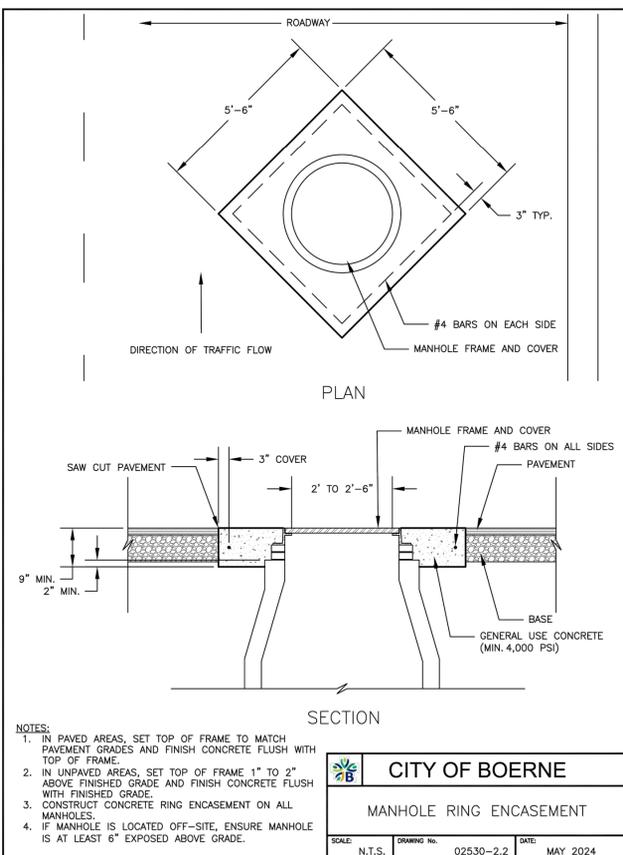
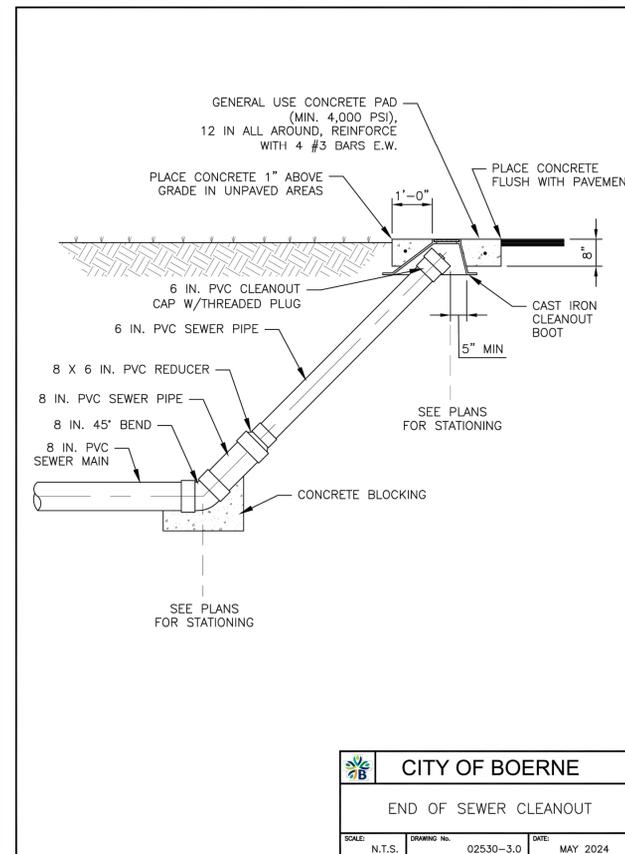
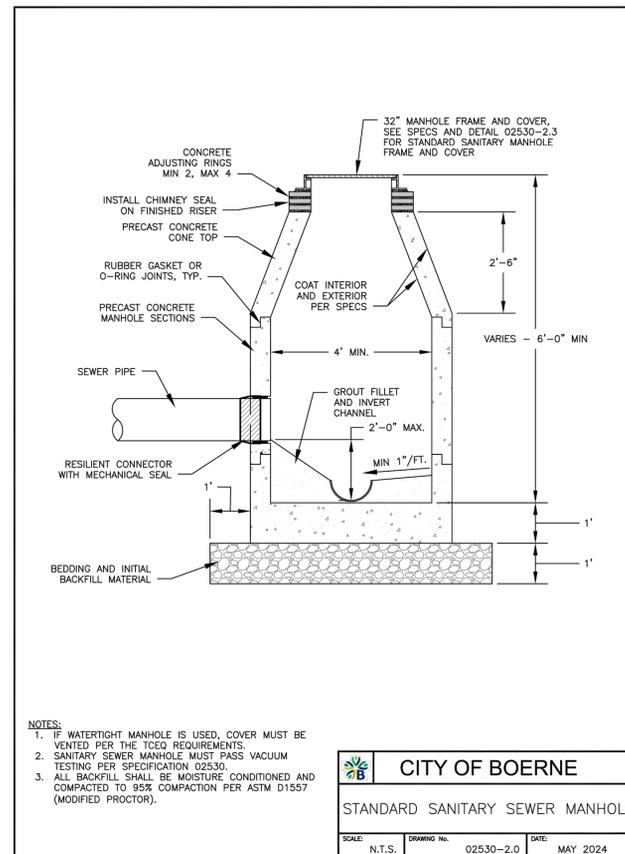
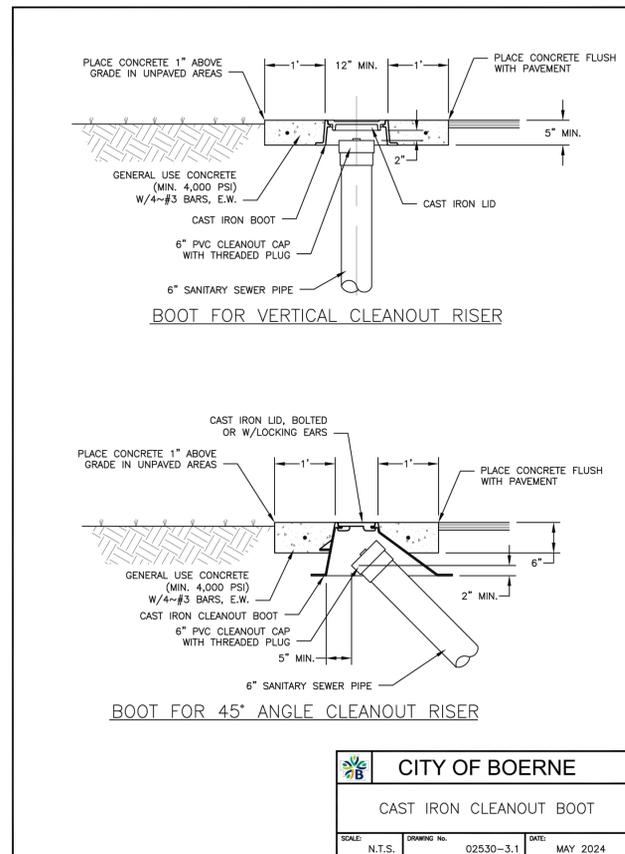
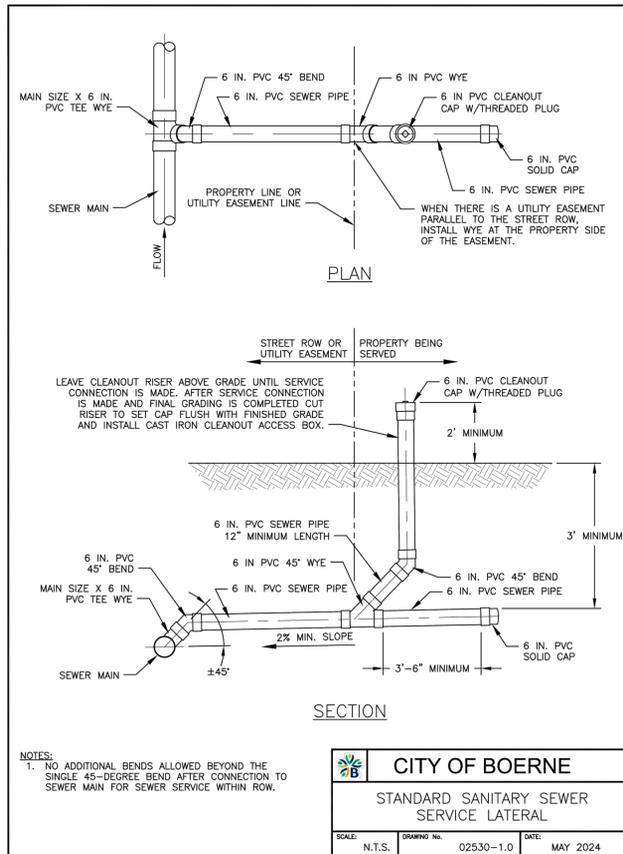
REVISIONS:

NO.	DESCRIPTION

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CIVIL UTILITY DETAILS (SHEET 1)
FOR
SANTI SUBDIVISION
BOERNE, TEXAS

CU501
JOB NO. 3197.01
DESIGNED BY: DM
DRAWN BY: DCB
CHECKED BY: JJV
SHEET # 18 OF 22



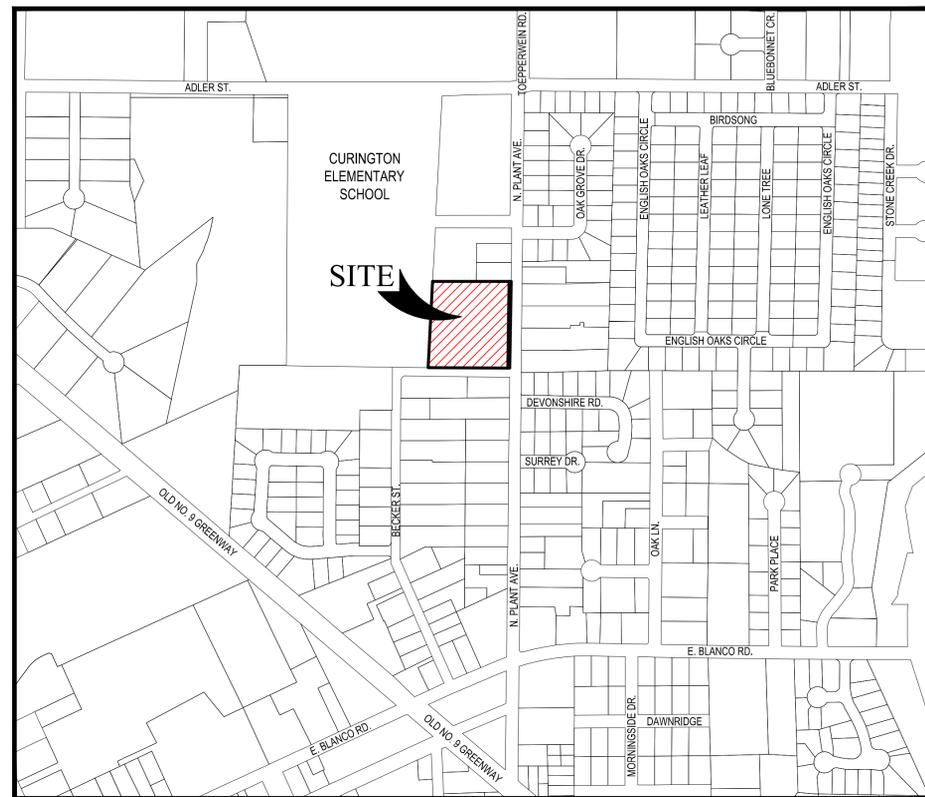
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WWW.MATKINHOOVER.COM
TEXAS REGISTERED ENGINEERING FIRM E-004512 SURVEYING FIRM E-1002400

CIVIL UTILITY DETAILS (SHEET 2)
FOR
SANTI SUBDIVISION
BOERNE, TEXAS

CU502
JOB NO. 3197.01
DESIGNED BY: DM
DRAWN BY: DCB
CHECKED BY: JJV
SHEET # 19 OF 22

LID FACILITIES FOR SANTI SUBDIVISION BOERNE, TEXAS



LOCATION MAP
SCALE: 1" = 400'

DRAWING INDEX

Sheet Number	Sheet Description	Sheet Title
1	L-001	LID FACILITIES TITLE SHEET
2	LD100	BMP LAYOUT
3	LD101	SAND FILTER PLAN SHEET



OWNER:

SIN REPOSO LLC
24163 BOERNE STAGE ROAD
SAN ANTONIO, TX 78255

DEVELOPER:

GRAM VIKAS PARTNERS
ATTN: KELLY LEACH
1141 N LOOP 1604 E, STE 105-605
SAN ANTONIO, TX 78252

ENGINEER & SURVEYOR:

CODY MORRIS, P.E.; KYLE PRESSLER, R.P.L.S
MATKINHOOPER ENGINEERING & SURVEYING
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BOERNE, TX 78006
(830) 249-0600 OFF
(830) 249-0099 FAX

ENGINEER: _____
CODY MORRIS, P.E.



Rev.	Date	Description	App.
1	11/10/22	TREE REVISIONS	

MATKINHOOPER
ENGINEERING
& SURVEYING

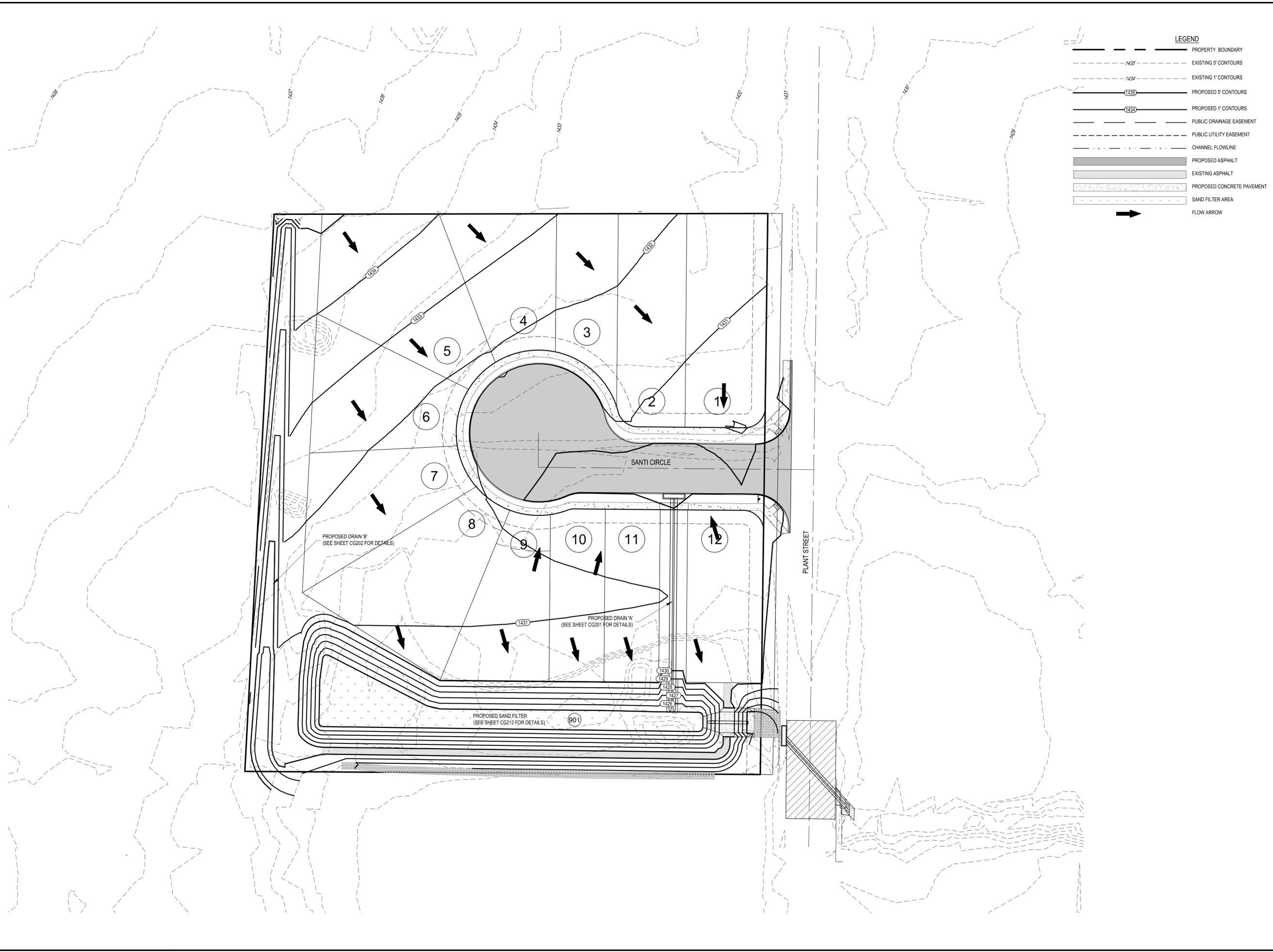
P.O. BOX 54
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CIVIL ENGINEERS SURVEYORS LAND PLANNERS CONSTRUCTION MANAGERS CONSULTANTS

SHEET

L-001

SHEET 1 OF 3

Job No. 3197.01



LEGEND

- — — — — PROPERTY BOUNDARY
- - - - - EXISTING 5' CONTOURS
- - - - - EXISTING 1' CONTOURS
- (1435) — PROPOSED 5' CONTOURS
- (1435) — PROPOSED 1' CONTOURS
- - - - - PUBLIC DRAINAGE EASEMENT
- - - - - PUBLIC UTILITY EASEMENT
- - - - - CHANNEL FLOWLINE
- ▬ PROPOSED ASPHALT
- ▬ EXISTING ASPHALT
- ▬ PROPOSED CONCRETE PAVEMENT
- ▬ SAND FILTER AREA
- ➔ FLOW ARROW

N

SCALE: 1"=30'

SHEET SIZE: 24" x 36"

REVISIONS:

▲	11/10/22 - TREE REVISIONS

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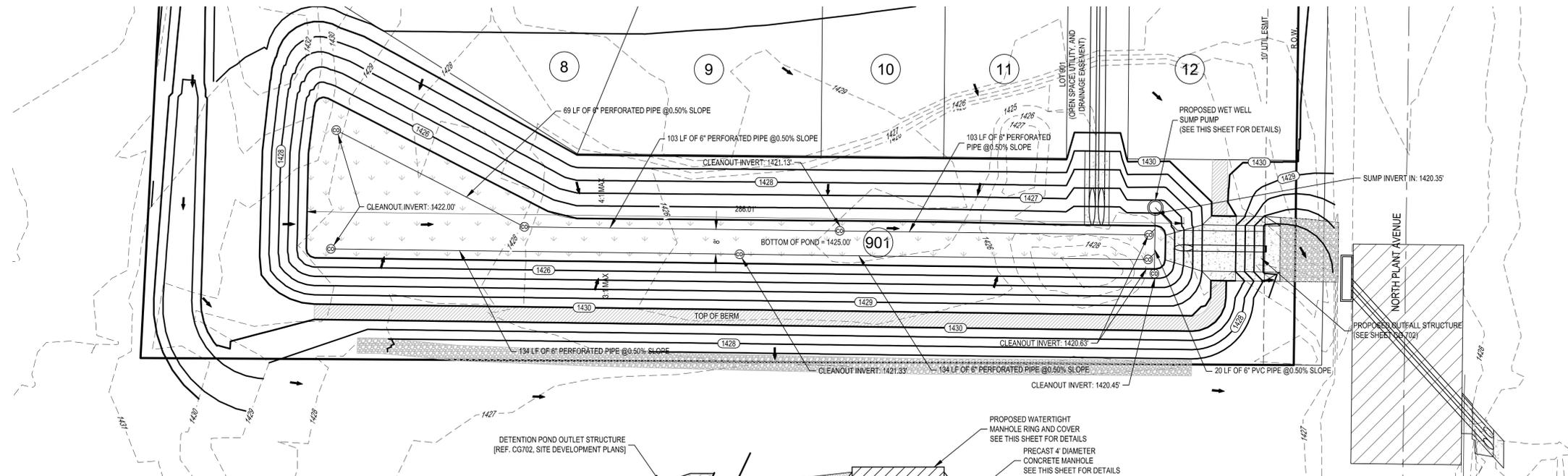
BMP LAYOUT
FOR
322 N. PLANT AVENUE TOWNHOMES
BOERNE, TEXAS

LD100

JOB NO.	3197.00
DESIGNED BY:	GSC
DRAWN BY:	GSC
CHECKED BY:	JJV
SHEET #	2 OF 3

Date: Mar 25, 2025, 4:51pm User ID: cmorris

Z:\PROJECTS\3107 - 322 North Plant Street Tomahawk\022 SAND FILTER PLAN SHEET.dwg



LEGEND

EXISTING 5' CONTOUR	1450
EXISTING 1' CONTOUR	1449
PROPOSED 5' CONTOUR	1450
PROPOSED 1' CONTOUR	1449
BIORETENTION BASIN TREATMENT AREA	[Hatched Pattern]
PYROMAT TURF REINFORCEMENT MAT (REF. 01, CG501)	[Hatched Pattern]
TOP OF BERM/POND	[Line with Arrow]
FLOW ARROW	[Arrow]
PERFORATED PIPE	[Line with Dots]
NON-PERFORATED PIPE	[Solid Line]
GEOMEMBRANE LINER	[Dashed Line]
CLEANOUT	CC

SCALE: 1"=20'

SHEET SIZE: 24" x 36"

3/25/2025

CODY LEE MORRIS
131472
LICENSED PROFESSIONAL ENGINEER

- SAND FILTER OPERATION AND MAINTENANCE NOTES**
- EROSION CONTROL: INSPECT FLOW ENTRANCES, PONDING AREA, AND SURFACE OVERFLOW AREAS PERIODICALLY DURING THE RAINY SEASON, AND REPLACE VEGETATION OR EROSION CONTROL MATERIALS IF EROSION HAS OCCURRED (FOR A SAND FILTER INSPECTION AND MAINTENANCE CHECKLIST, SEE APPENDIX F). PROPERLY DESIGNED FACILITIES WITH APPROPRIATE FLOW VELOCITIES WILL NOT HAVE EROSION PROBLEMS EXCEPT PERHAPS IN EXTREME EVENTS. IF EROSION PROBLEMS OCCUR, THE FOLLOWING MUST BE REASSESSED: (1) FLOW VELOCITIES AND GRADIENTS WITHIN THE FILTER, AND (2) FLOW DISSIPATION AND EROSION PROTECTION STRATEGIES IN THE PRETREATMENT AREA AND FLOW ENTRANCE. IF SEDIMENT OTHER THAN THE DESIGNED SOIL MEDIA IS DEPOSITED IN THE MEDIA CHAMBER, IMMEDIATELY DETERMINE THE SOURCE IN THE CONTRIBUTING AREA, STABILIZE, AND REMOVE EXCESS SURFACE DEPOSITS.
 - INLET: THE INLET SHOULD BE INSPECTED AFTER THE FIRST STORM OF THE SEASON, THEN MONTHLY DURING THE RAINY SEASON TO CHECK FOR SEDIMENT ACCUMULATION AND SEDIMENT CAN ACCUMULATE, ESPECIALLY AT INLETS WHERE BYPASS STRUCTURES ARE USED, AND SHOULD BE INSPECTED REGULARLY. ANY ACCUMULATED SEDIMENT THAT IMPEDES FLOW INTO THE SAND FILTER SHOULD BE REMOVED AND PROPERLY DISPOSED OF. FLOW SPREADERS SHOULD BE CLEANED AND RESET AS NEEDED TO MAINTAIN DIFFUSE FLOWS.
 - OVERFLOW AND UNDERDRAINS: SEDIMENT ACCUMULATION IN THE OVERFLOW DEVICE OR UNDERDRAIN SYSTEM CAN CAUSE PROLONGED PONDING AND POTENTIAL FLOODING. OVERFLOW AND UNDERDRAIN SYSTEMS SHOULD BE INSPECTED AFTER THE FIRST STORM OF THE SEASON, THEN MONTHLY DURING THE RAINY SEASON TO REMOVE SEDIMENT ACCUMULATION AROUND THE OVERFLOW. THE UNDERDRAIN SYSTEM SHOULD BE DESIGNED SO THAT IT CAN BE FLUSHED AND CLEANED AS NEEDED. IF WATER IS PONDING OVER THE FILTER MEDIA FOR MORE THAN 72 HOURS, THE UNDERDRAIN SYSTEM SHOULD BE FLUSHED WITH CLEAN WATER UNTIL PROPER INFILTRATION IS RESTORED. FLOW SPREADERS SHOULD BE CHECKED TO MAINTAIN DIFFUSE FLOW.
 - SAND MEDIA: IF IN QUESTION, HAVE THE SOIL ANALYZED FOR POLLUTANT LEVELS. A SEDIMENT DEPTH INDICATOR MAY BE INSTALLED IN THE SEDIMENTATION CHAMBER TO INDICATE THE DEPTH OF SEDIMENT ACCUMULATION AS AN INDICATION THAT MAINTENANCE IS REQUIRED (ACCORDING TO BARRETT 2005).
 - GENERAL MAINTENANCE: TRASH AND DEBRIS SHOULD BE REMOVED FROM THE SAND FILTER AS NEEDED. ANY VISUAL EVIDENCE OF CONTAMINATION FROM POLLUTANTS SUCH AS OIL AND GREASE SHOULD BE REMOVED AS NEEDED.

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BMP Sizing Comparing Volume Based Methods

Inputs:

Basin Name	Sand Filter
Rainfall Depth (P _i) (in)	1.66"
Contributing Area (ft ²)	172,857
Impervious Cover (%)	50%

Supplemental Inputs (Method 1 ONLY)

C _i (ranges from 0.95 to 1.0)	1
Hydrologic Soil Group	D
Ground Cover (Per Table A-3)	Pasture (lawns)
C _g (based on Soil Group)	0.30

Media Selection

D _{surface} (in)	12
n _{media}	0.4
D _{media} (in)	18
n _{gravel}	0.4
D _{gravel} (in)	12

D_{req} = D_{surface} * (n_{media} / n_{gravel}) * (D_{media} / D_{gravel}) (ft)

D_{req} = 2.00'

Method 1: $WQV = C \cdot \left(\frac{P_i}{12}\right) \cdot A$ (A.4.1)

C = C_i * (%Imp) + C_p * (1 - %Imp)

WQV (ft³) = 15,543

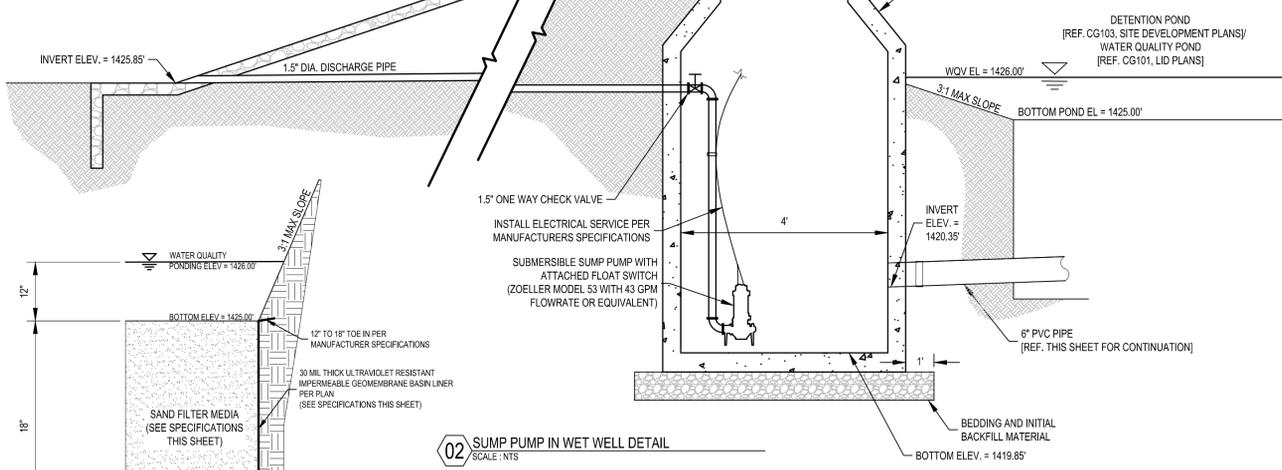
Required Bioretention Footprint: A = $\frac{WQV}{D_{req}}$ = 7,771

Method 2: $WQV = P_i \cdot \frac{C}{12} \cdot A + 1.2$

C = 1.72 * %Imp³ - 1.97 * %Imp² + 1.23 * %Imp + 0.02

WQV (ft³) = 10,258

Required Bioretention Footprint: A = $\frac{WQV}{D_{req}}$ = 5,129



SAND FILTER SOIL MEDIA SPECIFICATIONS

PARAMETER	SPECIFICATIONS
GRADATION	MEDIA IN THE SAND FILTER SHOULD CONSIST OF CLEAN WASHED CONCRETE SAND (PASSING A ONE-QUARTER-INCH SIEVE) PER ASTM C-33
TOTAL PHOSPHORUS	HIGH LEVELS OF PHOSPHORUS IN THE MEDIA HAVE BEEN IDENTIFIED AS THE MAIN CAUSE OF BMPs EXPORTING NUTRIENTS. ALL MEDIA SHOULD BE ANALYZED FOR BACKGROUND LEVELS OF NUTRIENTS. TOTAL PHOSPHORUS SHOULD NOT EXCEED 15PPM

GEOTEXTILE LAYER SPECIFICATIONS

PROPERTY	VALUE	TEST METHOD
TRAPEZOIDAL TEAR (LBS)	40 (MIN)	ASTM D4533
PERMEABILITY (CM/SEC)	0.2 (MIN)	ASTM D4491
ADS (SIEVE SIZE)	#60-#70 (MIN)	ASTM D4751
ULTRAVIOLET RESISTANCE	70% OR GREATER	ASTM D4355

GEOMEMBRANE BASIN LAYER SPECIFICATIONS

PROPERTY	TEST METHOD	UNIT	SPECIFICATIONS
UNIT WEIGHT	-	OZ/YD ²	8
FILTRATION RATE	ASTM D-423 & D-424		0.08
PUNCTURE STRENGTH	ASTM D-751*	LB	125
MULLEN BURST STRENGTH	ASTM D1682	LB	200
EQUIV. OPENING SIZE	US STANDARD SIEVE	NO.	80

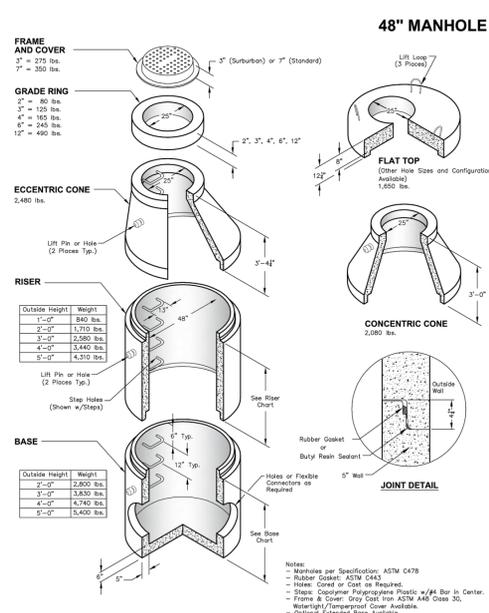
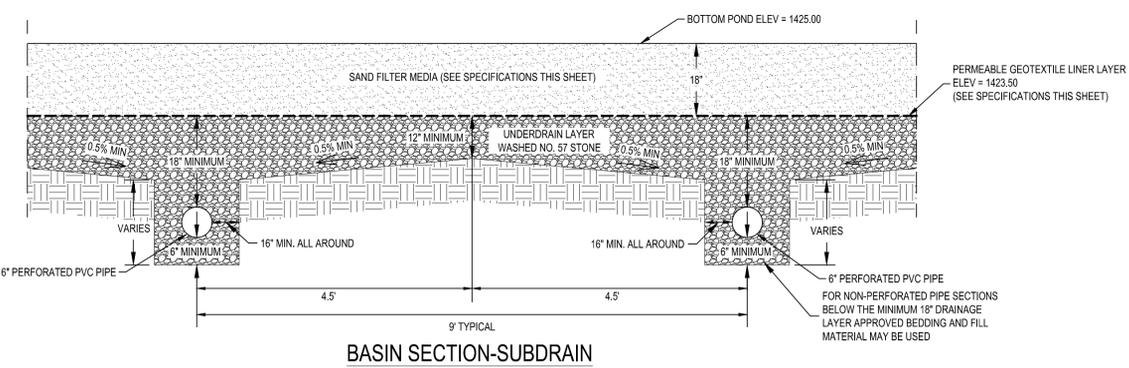
- UNDERDRAIN DESIGN SPECIFICATIONS**
- UNDERDRAINS SHALL BE INSTALLED WHERE THE INFILTRATION RATE IS LESS THAN 0.5 IN/HR. OR IF A SITE IS NEAR A STEEP SLOPE, THEY SHOULD MEET THE FOLLOWING RECOMMENDED SPECIFICATIONS.
- ALL UNDERDRAIN PIPES SHALL BE 4" SCH 40 PVC PIPE UNLESS OTHERWISE NOTED.
 - MATERIAL: PERFORATED SCHEDULE 40 PVC.
 - PERFORATION TYPE: ROUND
 - PERFORATION SPACING AND PLACEMENT: THE MAXIMUM SPACING BETWEEN PERFORATIONS SHOULD NOT EXCEED 6 INCHES. THE PERFORATION CAN BE PLACED CLOSEST TO THE INVERT OF THE PIPE TO ACHIEVE MAXIMUM POTENTIAL FOR DRAINING THE FACILITY. SLOPE: A MINIMUM SLOPE OF 1% TOWARD ALL OUTLETS SHALL BE MAINTAINED FOR ALL UNDERDRAINS.
 - CLEANOUT ACCESS: RIGID, UNPERFORATED OBSERVATION PIPES WITH A DIAMETER EQUAL TO THE UNDERDRAIN DIAMETER SHOULD BE CONNECTED TO EACH INDIVIDUAL UNDERDRAIN (EVERY 250 TO 300 FEET IN LARGER SYSTEMS) TO PROVIDE A CLEANOUT PORT AND AN OBSERVATION WELL TO MONITOR DEWATERING RATES. THE WELLS/CLEANOUTS SHOULD BE CONNECTED TO THE PERFORATED UNDERDRAIN WITH THE APPROPRIATE MANUFACTURED CONNECTIONS. THE WELLS/CLEANOUTS MUST EXTEND 6 INCHES ABOVE THE MULCH OR SOIL LAYER AND BE CAPPED WITH A SCREW CAP TO AVOID DAMAGED FROM MAINTENANCE AND VANDALISM. THE ENDS OF UPGRADIENT, LATERAL UNDERDRAIN PIPES NOT TERMINATING IN AN OBSERVATION WELL/CLEANOUT MUST ALSO BE CAPPED.
 - OUTFALL: ALL UNDERDRAINS SHALL CONNECT TO OVERFLOW OUTFALL STRUCTURE TO ENSURE POSITIVE DRAINAGE THROUGHOUT THE SYSTEM. OUTFALL STRUCTURE SHALL BE ADEQUATELY PROTECTED AGAINST EROSION, AND HIGH VELOCITIES.

SAND FILTER PLAN SHEET

FOR

SANTI SUBDIVISION

BOERNE, TEXAS



Oldcastle Precast

48" MANHOLE

File Name: 020-48MH4

Issue Date: 2016

oldcastleprecast.com/wilsonville

INSPECTION AND MAINTENANCE TASKS FOR SAND FILTERS

TASK	FREQUENCY	INDICATOR MAINTENANCE IS NEEDED	MAINTENANCE NOTES
CATHMENT INSPECTION	WEEKLY OR BIWEEKLY WITH ROUTINE PROPERTY MAINTENANCE	EXCESSIVE SEDIMENT, TRASH, OR DEBRIS ACCUMULATION ON THE SURFACE OF SAND FILTER	PERMANENTLY STABILIZE ANY EXPOSED SOIL AND REMOVE ANY ACCUMULATED SEDIMENT. ADJACENT PREVIOUS AREAS MIGHT NEED TO BE REGRADED
INLET INSPECTION	ONCE AFTER FIRST MAJOR RAIN OF THE SEASON, THEN EVERY 2 TO 3 MONTHS DEPENDING ON OBSERVED SEDIMENTS AND DEBRIS LOADS	DEBRIS OR SEDIMENT HAS BLOCKED INLETS	REMOVE ANY ACCUMULATED MATERIAL
SEDIMENTATION CHAMBER/FORERAY INSPECTION	EVERY 2 MONTHS	SEDIMENT HAS REACHED 6 INCHES DEEP (INSTALL A FIXED VERTICAL SEDIMENT DEPTH MARKER) OR LITTER AND DEBRIS HAS CLOGGED WEIRS BETWEEN SEDIMENTATION CHAMBER AND SAND FILTER CHAMBER (FOR SUBSURFACE FILTERS)	REMOVE ACCUMULATED MATERIAL FROM SEDIMENTATION CHAMBER. REMOVE AND REPLACE TOP 2 TO 3 INCHES OF SAND FILTER IF NECESSARY
SAND FILTER SURFACE INFILTRATION INSPECTION	AFTER MAJOR STORM EVENTS OR BIENNIALY	SURFACE PONDING DRAWS DOWN IN MORE THAN 48 HOURS	REMOVE AND REPLACE TOP 2 TO 3 INCHES OF SAND FILTER, OR AS NEEDED TO RESTORE INFILTRATION CAPACITY. INSPECT WATERSHED FOR SEDIMENT SOURCES
OUTLET INSPECTION	ONCE AFTER FIRST MAJOR RAIN OF THE SEASON, THEN MONTHLY	EROSION OR SEDIMENT DEPOSITION AT OUTLET	CHECK FOR EROSION AT THE OUTLET AND REMOVE ANY ACCUMULATED SEDIMENT
MISCELLANEOUS UPKEEP	12 TIMES/YEAR		TASKS INCLUDE TRASH COLLECTION, SPOT WEEDING, REPLACING SOIL MEDIA, AND REMOVING VISUAL CONTAMINATION

LD101

JOB NO. 3197.01

DESIGNED BY: DM

DRAWN BY: DCB

CHECKED BY: JJV

SHEET # 22 OF 22