

SUNFLOWER RIDGE UNIT 2

NEW BRAUNFELS, TEXAS

CIVIL CONSTRUCTION PLANS

NO.	REVISION	DATE
1	CoNB/NBU COMMENTS	3/06/2025

PERMITS OR APPROVALS:	
CITY OF NEW BRAUNFELS	PI2025-0003 - PENDING
NEW BRAUNFELS UTILITIES	W-256242/WW-256243 - PENDING
CENTERPOINT	APPROVED
TCEQ	N/A
TXDOT	N/A
UNION PACIFIC RAILROAD	N/A

- NBU NOTES:**
- ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS NEW BRAUNFELS UTILITIES MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
 - THE ENGINEER OF RECORD ACKNOWLEDGES THAT ALL PROPOSED WATER OR WASTEWATER IMPROVEMENTS MUST COMPLY WITH CRITERIA FROM THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, THE CITY OF NEW BRAUNFELS, NBU W&WW DESIGN CRITERIA, ANY OTHER GOVERNING ENTITY ORDINANCES OR CODES, AND SOUND ENGINEERING JUDGEMENT.
 - THE ENGINEER OF RECORD ACKNOWLEDGES THAT THE POINT OF DELIVERY FOR THE NBU WATER SYSTEM IS THE MAIN SIDE OF THE SERVICE/LATERAL/LEAD FROM THE CUSTOMERS METER, BACKFLOW PREVENTOR, OR EASEMENT EDGE. THE CUSTOMER IS RESPONSIBLE FOR THE DESIGN, PERMITTING, CONSTRUCTION, OPERATION, AND MAINTENANCE BEYOND THE POINT OF DELIVERY AND HAS SOLE CONTROL AND SUPERVISION OVER ITS INSTALLATION.
 - THE ENGINEER OF RECORD ACKNOWLEDGES THAT THE POINT OF DELIVERY FOR A NBU WASTEWATER SYSTEM IS THE MAIN SIDE OF THE SERVICE LATERAL FROM THE CUSTOMERS CLEAN OUT OR PROPERTY LINE, WHICHEVER IS NEARER. THE CUSTOMER IS RESPONSIBLE FOR THE DESIGN, CONSTRUCTION, OPERATION AND MAINTENANCE BEYOND THE POINT OF DELIVERY AND HAS SOLE CONTROL AND SUPERVISION OVER ITS INSTALLATION.
 - WATER IS A PRECIOUS COMMODITY IN THE STATE OF TEXAS AND NEW BRAUNFELS UTILITIES (NBU) IS PASSIONATE ABOUT PROTECTING THE LOCAL RESOURCE. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ACQUIRING A FIRE HYDRANT METER SO THAT ALL WATER USED FOR CONSTRUCTION OR TESTING PURPOSES IS PROPERLY ACCOUNTED FOR. NBU WILL NOT TOLERATE ANY WATER THEFT, REGARDLESS OF THE AMOUNT. IF WATER THEFT IS DISCOVERED, THE CONTRACTOR SHALL BE SUBJECT TO MONETARY PENALTIES, CRIMINAL CHARGES, AND STOPPAGE OF ALL CONSTRUCTION ACTIVITIES RELATED TO THE PROJECT. COSTS ASSOCIATED WITH ANY WORK STOPPAGE RESULTING FROM WATER THEFT SHALL BE AT THE FULL EXPENSE OF THE CONTRACTOR.

NBU AS-BUILT REQUIREMENTS:
PLEASE NOTE: NBU REQUIRES GPS POINTS FOR CERTAIN ELECTRIC, WATER, AND WASTEWATER ATTRIBUTES; SOME OF WHICH MUST BE TAKEN PRIOR TO BACKFILL DURING CONSTRUCTION. SOME OF THIS INFORMATION/DATA MUST BE PERFORMED DURING CONSTRUCTION, PRIOR TO BACKFILLING OPERATIONS. CONTRACTOR SHALL COORDINATE WITH NBU INSPECTOR TO VERIFY ANY ADDITIONAL ITEMS NOT SHOWN BELOW THAT NEED TO BE GPS LOCATED AND THE SURVEY/DELIVERY REQUIREMENTS REGARDING THIS INFORMATION.

GPS POINTS SHALL BE REQUIRED FROM THE DEVELOPERS CONTRACTOR OR ENGINEER. A MINIMUM OF THREE COORDINATE POINTS FOR GEOREFERENCING SHALL BE REQUIRED. THE WATER AND WASTEWATER GPS POINTS SHALL BE TO SURVEY GRADE. THE ELECTRIC GPS POINTS SHALL BE TO MAP GRADE.

WATER
VERTICAL BENDS AND EDGE OF STEEL CASING (IF APPLICABLE) PRIOR TO BACKFILL
HORIZONTAL BENDS PRIOR TO BACKFILL
TEES PRIOR TO BACKFILL
FITTINGS (REDUCERS AND COUPLINGS) PRIOR TO BACKFILL
FIRE HYDRANTS (TOP OF FLANGE)
VALVES
METERS (TOP CENTER OF BOX)
BLOW OFF ASSEMBLY
CORNER SLAB OF WATER TANK & GATE VALVE ON TANK

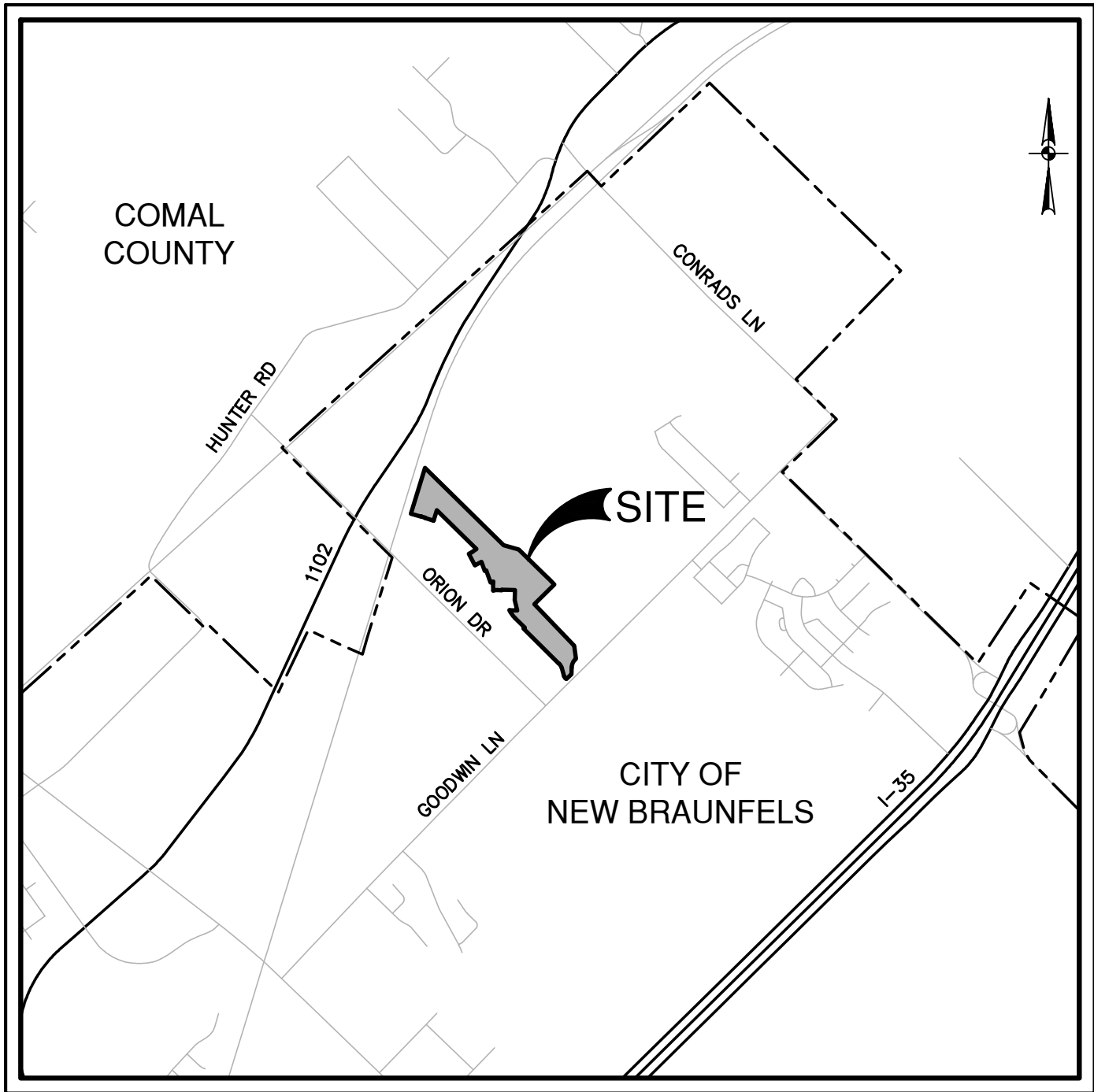
WASTEWATER
MANHOLES (AND INVERT DEPTH(S))
CLEANOUTS
CORNER SLAB OF LIFT STATION

ELECTRIC
POLES
TRANSFORMERS, BOTH ABOVE AND UNDERGROUND (FRONT LOCK)
PULL BOXES
STREET LIGHTS

SEE NBU'S "CAD/GPS DELIVERABLES" ON NBU WEBSITE AT NBUTEXAS.COM FOR COMPLETE DETAILS AND REQUIREMENTS.

- NOTES:**
- TYPE 3 DEVELOPMENT.
 - ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, THE CITY OF NEW BRAUNFELS MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER RECORD.
 - IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.
 - THIS PROJECT IS NOT WITHIN THE EDWARDS AQUIFER JURISDICTIONAL ZONES.
 - A PORTION OF THE PROPERTY IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN. THE PROPERTY IS LOCATED WITHIN ZONE AE ACCORDING TO THE FEMA FIRM MAP NO. 48091C02290G EFFECTIVE DATE 5/8/2024 AND FEMA FIRM MAP NO. 48091C0455G EFFECTIVE DATE 5/8/2024.
 - GAS UTILITIES ARE NOT INCLUDED IN THE CIVIL CONSTRUCTION PLANS. FINAL GAS UTILITY DESIGN SHALL BE APPROVED BY THE CITY FOR ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
 - FOLLOWING PERMITS ARE REQUIRED PRIOR TO START OF CONSTRUCTION:
 - CITY OF NEW BRAUNFELS PUBLIC INFRASTRUCTURE PERMIT
 - NEW BRAUNFELS UTILITY APPROVAL
 - FLOODPLAIN DEVELOPMENT PERMIT

LEGAL DESCRIPTION:
BEING A TOTAL OF 27.006 ACRE TRACT OF LAND, OUT OF A 28.631 ACRE TRACT OF LAND, PENDING PLAT RECORDATION, BEING OUT OF A CALLED 68.031 ACRE TRACT RECORDED IN DOCUMENT NUMBER 202106063499, CORRECTED IN DOCUMENT NUMBER 202206016444, COMAL COUNTY, TEXAS, OUT OF THE ORRILLA RUSSELL SURVEY NUMBER 2, ABSTRACT 485, IN THE CITY OF NEW BRAUNFELS, COMAL COUNTY, TEXAS.



LOCATION MAP
NOT-TO-SCALE

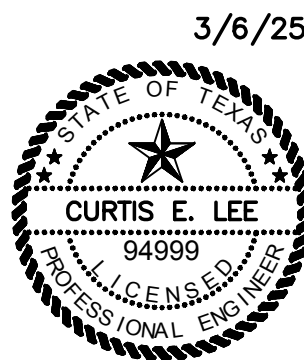
PREPARED FOR:

AG SUNFLOWER RIDGE, LLC.
5910 N. CENTRAL EXPRESSWAY
SUITE 1600
DALLAS, TX 75206

MARCH 2025

**PAPE-DAWSON
ENGINEERS**

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800



Curtis E. Lee

Sheet List Table

Sheet Title	Sheet Description	Sheet Number
COVER SHEET		C0.00
CONSTRUCTION NOTES		C0.01
PLAT - SHEET 1		C0.02
PLAT - SHEET 2		C0.03
PLAT - SHEET 3		C0.04
MASTER DRAINAGE PLAN - OVERALL EXISTING CONDITIONS		C1.00
MASTER DRAINAGE PLAN - OVERALL PROPOSED CONDITIONS		C1.01
MASTER DRAINAGE PLAN - ONSITE PRE DEVELOPMENT		C1.02A
MASTER DRAINAGE PLAN - ONSITE ULTIMATE CONDITIONS		C1.02B
DRAIN A - PLAN & PROFILE	STA. 1+00.00 TO END	C1.03
DRAIN B - PLAN & PROFILE	STA. 1+00.00 TO END	C1.04
DRAIN C - PLAN & PROFILE	STA. 1+00.00 TO END	C1.05
DRAIN D - PLAN & PROFILE	STA. 1+00.00 TO END	C1.06
DRAINAGE DETAILS	SHEET 1 OF 3	C1.10
DRAINAGE DETAILS	SHEET 2 OF 3	C1.11
DRAINAGE DETAILS	SHEET 3 OF 3	C1.12
SUNFOREST LN - PLAN & PROFILE	STA. 1+00.00 TO STA. 10+00.00	C2.00
SUNFOREST LN - PLAN & PROFILE	STA. 10+00.00 TO END	C2.01
SEA OATS PT - PLAN & PROFILE	STA. 1+00.00 TO END	C2.02
MAXIMILIAN LN - PLAN & PROFILE	STA. 1+00.00 TO END	C2.03
PACINO ST - PLAN & PROFILE	STA. 1+00.00 TO END	C2.04
TYPICAL STREET DETAILS	SHEET 1 OF 2	C2.10
TYPICAL STREET DETAILS	SHEET 2 OF 2	C2.11
OVERALL SIGNAGE PLAN		C3.00
SIGNAGE DETAILS		C3.10
OVERALL WATER DISTRIBUTION PLAN		C4.00
WATER DISTRIBUTION DETAILS		C4.10
WATER DISTRIBUTION NOTES		C4.20
OVERALL SANITARY SEWER PLAN		C5.00
SANITARY SEWER LINE A - PLAN & PROFILE	STA. 34+11.18 TO END	C5.01
SANITARY SEWER LINE C - PLAN & PROFILE	STA. 32+69.60 TO END	C5.02
SANITARY SEWER DETAILS		C5.10
SANITARY SEWER NOTES		C5.20
OVERALL UTILITY PLAN		C6.00
OVERALL GRADING PLAN		C7.00
STORMWATER POLLUTION PREVENTION PLAN		C8.00
STORMWATER POLLUTION PREVENTION PLAN DETAILS		C8.10

GENERAL CONSTRUCTION NOTES

1. IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE-YEAR OF CITY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.
2. THE MOST CURRENT EDITIONS OF THE CITY OF NEW BRAUNFELS STANDARD SPECIFICATIONS AND THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES SHALL FOLLOWED FOR ALL CONSTRUCTION EXCEPT AS AMENDED BY THE CITY OF NEW BRAUNFELS STANDARD DETAILS.
3. PRIOR TO THE START OF CONSTRUCTION, CONTRACTOR SHALL CONTACT THE CITY OF NEW BRAUNFELS (CONB) AND NEW BRAUNFELS UTILITIES (NBU) TO SET A PRE-CONSTRUCTION MEETING. A 48-HOUR ADVANCED NOTIFICATION IS REQUIRED. WATER OPERATIONS WILL ONLY ACCEPT 48-HOUR EMAIL NOTIFICATIONS VIA A NEW EMAIL: WTROPSINS@NBUTEXAS.COM
- 3.1. ALL CONB INSPECTIONS ARE TO BE CALLED IN AT 830-608-2117 (PHONE)
- 3.2. FAXED IN AT 830-608-2117 (FAX)
- 3.3. EMAILED AT wtropsins@nbuutexas.com (EMAIL)
- 3.4. NBU INSPECTIONS ARE TO BE CALLED AT 830-608-8971

CHANNEL MAINTENANCE PLAN

- THE FOLLOWING ARE GUIDELINES FOR THE OVERALL MAINTENANCE OF THE CHANNEL SYSTEM AND DRAINAGE EASEMENT BY THE DESIGNATED MAINTENANCE ENTITY AS DEFINED BY THE EXECUTED DRAINAGE AGREEMENT. THE DESIGNATED MAINTENANCE ENTITY WILL BE RESPONSIBLE FOR THE OPERATION, MAINTENANCE, AND REPAIR OF THE SYSTEM AND EASEMENT TO ENSURE THAT IT OPERATES AS DESIGNED.
- INSPECTIONS. THE CHANNEL SHOULD BE INSPECTED TO ASSURE PROPER OPERATION AT LEAST 4 TIMES ANNUALLY. ONE OF THESE INSPECTIONS SHOULD OCCUR DURING OR IMMEDIATELY FOLLOWING WET WEATHER.
 - MOWING. THE SIDES SLOPES AND BOTTOM OF THE CHANNEL THAT ARE COVERED WITH GRASS MUST BE MOWED REGULARLY TO DISCOURAGE WOODY GROWTH AND CONTROL WEEDS. GRASS AREAS IN AND AROUND THE CHANNEL MUST BE MOWED AT LEAST FOUR TIMES ANNUALLY TO LIMIT VEGETATION HEIGHT TO 12 INCHES. MORE FREQUENT MOWING TO MAINTAIN AESTHETIC APPEAL MAY BE NECESSARY IN LANDSCAPED AREAS. WHEN MOWING IS PERFORMED, A MULCHING MOWER SHOULD BE USED, OR GRASS CLIPPINGS SHOULD BE CAUGHT AND REMOVED. VEGETATION SHALL BE MAINTAINED SO AS TO MATCH THE INTENT OF THE ORIGINAL DESIGN OF THE CHANNEL AND PRESERVE THE FLOW CONVEYANCE CAPACITY. ANY WOODY VEGETATION WHICH BECOMES ESTABLISHED SHALL BE PERIODICALLY REMOVED OR MULCHED TO GROUND LEVEL. ANY REMOVAL OF BRUSH WHICH RESULTS IN DISTURBANCE OF ESTABLISHED GRADES SHALL BE REPAIRED/RE-GRADED AND RE-VEGETATED.
 - DEBRIS, LITTER, AND OBSTRUCTION REMOVAL. DEBRIS AND LITTER MAY ACCUMULATE IN THE CHANNEL AND/OR NEAR THE DROP STRUCTURE AND OUTFALL AND SHOULD BE REMOVED DURING REGULAR MOWING OPERATIONS AND INSPECTIONS OR AFTER LARGE RAINFALL EVENTS. ANY OTHER OBSTRUCTIONS THAT IMPEDE FLOW AS INTENDED BY THE ORIGINAL DESIGN SHALL BE REMOVED IN A TIMELY MANNER.
 - EROSION CONTROL. THE CHANNEL SIDE SLOPES AND EMBANKMENT MAY PERIODICALLY SUFFER FROM SLUMPING AND EROSION. REGARDING AND RE-ESTABLISHMENT OF VEGETATION MAY BE REQUIRED TO CORRECT THE PROBLEMS. VEGETATION SHOULD BE RE-ESTABLISHED TO THE ORIGINAL DESIGN STANDARDS. INSPECTION OF SEDIMENT DEPOSITS ALONG THE LENGTH OF THE CHANNEL SHOULD OCCUR DURING THE STATED INTERVALS. ALL SEDIMENT DEPOSITS EXCEEDING 3" IN DEPTH OR WHICH ARE PREVENTING POSITIVE DRAINAGE SHOULD BE REMOVED FROM THE CHANNEL AT LEAST ONCE ANNUALLY. ALL SEDIMENT SHOULD BE REMOVED AND DISPOSED OF PROPERLY.

DRAINAGE MAINTENANCE PLAN

THE STORM DRAIN PIPE SHALL BE CHECKED FOR ACCUMULATION OF SILT, DEBRIS OR OTHER OBSTRUCTIONS WHICH COULD BLOCK FLOW ANNUALLY. WHEN SILT DEPOSITS HAVE ACCUMULATED TO THE POINT OF REDUCING THE DRAIN CAPACITY THEN PIPES CAN BE FLUSHED WITH A HIGH-PRESSURE WATER FLUSHING PROCESS. SOIL ACCUMULATIONS, VEGETATIVE OVERGROWTH AND OTHER BLOCKAGES SHOULD BE CLEARED FROM THE PIPE DISCHARGE POINT. EROSION AT THE POINT OF DISCHARGE SHALL BE MONITORED. IF EROSION OCCURS, THE ADDITION OF ROCK RUBBLE TO DISPERSE THE FLOW SHOULD BE ACCOMPLISHED. ALL SEDIMENT ACCUMULATION SHALL BE REMOVED FROM OUTLET STRUCTURES AND DRAINAGE PATHWAYS IMMEDIATELY DOWNSTREAM OF DRAINAGE STRUCTURES AT LEAST ONCE ANNUALLY OR ANYTIME SEDIMENT ACCUMULATION IS GREATER THAN 3 INCHES OF DEPTH.

CONSTRUCTION PLAN NOTES

Revised 03/2020

These notes must appear on the cover and/or "notes" sheet of all subdivision construction plans and on commercial plans where applicable:

If construction has not commenced within one-year of City approval for construction inspection, that approval is no longer valid.

The most current editions of the City of San Antonio Standard Specifications and the Texas Department of Transportation Standard Specifications for Construction of Highways, Streets and Bridges shall be followed for all construction except as amended by the City of New Braunfels Standard Details.

All responsibility for the adequacy of these plans remains with the engineer of record. In accepting these plans, the City of New Braunfels must rely upon the adequacy of the work of the engineer of record.

Prior to the start of construction, the contractor shall contact the City of New Braunfels to schedule a preconstruction meeting.

- For Public Infrastructure Permit or Grading Permit Projects:
- For inspections, you must call before 12:00 p.m., 48 hours prior to your inspection request.
 - Each inspection will be allotted 1 hour unless you request for more time.
 - Once your request has been accepted, you will receive a call from the City of New Braunfels Inspector.

- For Commercial Permit (CP) Projects:
- All inspections are to be called in at 830-221-4068 or,
 - Faxed in at 830-608-2117 or,
 - E-mailed at inspections@nbtexas.org.

It is the Contractor's responsibility to see that all temporary and permanent traffic control devices are properly installed and maintained in accordance with the plans and latest edition of the Texas Manual on Uniform Traffic Control Devices. If in the opinion of the engineering representative and the construction inspector, the barricades and signs do not conform to established standards or are incorrectly placed or are insufficient in quantity to protect the general public, the construction inspector shall have the option to stop operations until such time as the conditions are corrected. If the need arises, additional temporary traffic control devices may be ordered by the Engineering representative at the Contractor's expense.

A TxDOT Type II B-B blue reflective raised pavement marker shall be installed in the center of the roadway adjacent to all fire hydrants. In locations where hydrants are situated on corners, blue reflective raised pavement markers shall be installed on both approaches which front the hydrant. The raised pavement marker shall meet TxDOT material, epoxy and adhesive specifications.

Groundwater

It shall be the responsibility of the developer, contractor, subcontractors, builders, Geo-technical engineer, and project engineer to immediately notify the Office of the City Engineer and project engineer if the presence of groundwater within the site is evident. Upon notification the project engineer shall respond with plan revisions for the mitigation of the groundwater issue. The City Engineer shall respond within two (2) business days upon receipt of the mitigation plan. All construction activity, impacted by the discovery of groundwater, shall be suspended until the City Engineer grants a written approval of the groundwater mitigation plan.

Record Drawings

As per Platting Ordinance Section 118-38m.: When all of the improvements are found to be constructed and completed in accordance with the approved plans and specifications and with the City's standards, and upon receipt of one set of "Record Drawings" plans, and a digital copy of all plans (PDF copy) the City Engineer shall accept such improvements for the City of New Braunfels, subject to the guaranty of material and workmanship provisions in this Section.

Construction Note

Contractor is responsible to ensure that erosion control measures and stormwater control sufficient to mitigate off site impacts are in place at all stages of construction.

Drainage Note

Drainage improvements sufficient to mitigate the impact of construction shall be installed prior to adding impervious cover.

Finished Floor Elevations

The elevation of the lowest floor shall be at least 10 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 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 a properly sized cross swale preventing runoff from entering the garage.

Soils Testing

Proctors shall be sampled from on-site material (on-site is defined as limits of construction for this -plan set) and a copy of the proctor results shall be delivered to the City of New Braunfels Street Inspector prior to any density tests.

Roadway

All roadway compaction tests shall be the responsibility of the developer's Geotechnical Engineer. Flexible base or fill/embankment material shall be placed in uniform layers not to exceed eight inches (8") loose. The required density for the fill/embankment material shall meet the requirements of TxDOT's Specification Item 132. The required density for the flexible base material shall meet the requirements of TxDOT's Specification Item 247. Each layer of material, inclusive of subgrade, shall be compacted as specified and tested for density and moisture in accordance with Test Methods TEX-113-E, TEX-114-E, TEX-115-E. The number and location of required tests shall be determined by the Geotechnical Engineer and approved by the City of New Braunfels Street Inspector. At a minimum, tests shall be taken every 200 LF for each lift. Upon completion of testing, the Geotechnical Engineer will provide the City of New Braunfels Street Inspector with all testing documentation and a certification stating that the placement of flexible

The designated "Responsible party" is responsible to insure that erosion control measures and stormwater control sufficient to mitigate off site impacts are in place at all stages of construction.

base, and fill material, and subgrade, has been completed in accordance with the plans. Additional density tests may be requested by the City of New Braunfels Inspector.

Item 340

Asphaltic concrete pavement shall be the type of hot mix asphalt as defined in TxDOT's standard specifications for current TxDOT Standard Specifications for Construction of Highways, Street and Bridges.

The City of New Braunfels will not accept the use of Recycled Asphalt Pavement (RAP) or Recycled Asphalt Shingles (RAS) in asphalt mixtures for new roadways. Any debris inclusions within new asphalt pavements will result in asphalt removal and replacement from curb to curb for limits to be determined by the City of New Braunfels.

The asphaltic concrete pavement surface course shall be plant mixed, hot laid type "D" meeting the specification requirements of TxDOT Item 340. The asphaltic concrete pavement sub-surface courses shall be plant mixed, hot laid type "B" meeting the specification requirements of TxDOT Item 340. The mixture shall be designed per the design requirements specified in TxDOT Item 340 and shall be compacted to between 91 and 95 percent of the maximum theoretical density as determined by TxDOT test method TEX-227-F. Place the mixture when the roadway surface temperature is at or above 60°F. Complete all compaction operations before the pavement temperature drops below 160°F. The asphalt cement content by percent of total mixture weight shall fall within a tolerance of ±0.5 percent from a specific mix design.

Utility Trench Compaction (added to the construction plans on All Utility Plan Sheets).

All utility trench compaction tests within the street pavement/sidewalk section shall be the responsibility of the developer's Geotechnical Engineer. Fill material shall be placed in uniform layers not to exceed twelve inches (12") loose. Determine the maximum lift thickness based on the ability of the compacting operation and equipment used to meet the required density. Each layer of material shall be compacted to a minimum 95% density and tested for density and moisture in accordance with Test Methods TEX-113-E, TEX-114-E, TEX-115-E. The number and location of required tests shall be determined by the Geotechnical Engineer and approved by the City of New Braunfels Street Inspector. At a minimum, tests shall be taken every 200 LF for each lift and every other service line. Upon completion of testing the Geotechnical Engineer shall provide the City of New Braunfels Street Inspector with all testing documentation and a certification stating that the placement of fill material has been completed in accordance with the plans. Additional density tests may be requested by the City of New Braunfels Inspector.

Curb Cut Due to Construction of New Right-Of-Way Construction

(Indicate the 2 Options on the construction plans).

- Sawcut existing street and match to new construction.
- Sawcut existing curb to tie into existing construction.

Construction Stabilized Entrance

Sawcut curb for construction entrance.

Stabilized construction area shall be constructed of 3"x5" rock to be placed a minimum length of 25-ft. and maintained so that construction debris does not fall within the city right-of-way. Right-of-way must be cleared from mud, rocks, etc. at all times.

(Notes to Be Placed on All WW Plan & Detail Sheets)

Ensure all driveway approaches are built in general accordance with A.D.A. specifications.

No valves, hydrants, etc. shall be constructed within curbs, sidewalks, or driveways.

Signing and Pavement Marking Plan Notes

The Contractor shall furnish and install all regulatory and warning signs, streets name signs and sign mounts in accordance with approved engineering plans. The City will inspect all signs at final inspection.

The Contractor shall install all pavement markings in accordance with approved engineering plans. The Contractor shall notify the City at least twenty-four (24 hours prior to the installation of all sealer and final markings. The City will inspect all markings at final application.

Seeding and Establishment of Vegetation within Earthen Channels, Stormwater Basins and Disturbed Areas

Seeding for the purpose of establishing vegetation within constructed earthen channels, basins and disturbed areas shall be conducted in accordance with Item 164 (Seeding for Erosion Control of TxDOT's Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges manual. Only seed types and mixes specified for the San Antonio District (District 15 in Tables 1 and 2 under Item 164 shall be utilized. During the Cool Season (Sept 1-Nov 30, Cereal Rye and seed species specified for the San Antonio District in Table 3 may be used. For Cool Season seeding applications, cool season seed mixes shall be used in conjunction with seed mixes for the San Antonio District as specified in Table 1 and 2 under Item 164.

It may be deemed necessary to incorporate topsoil and soil amendments (i.e. compost/ fertilizer into existing soil in order to facilitate vegetation growth. Topsoil, compost and fertilizer additions shall be conducted according to Items 160, 161 and 166 of TxDOT's Standard Specifications manual, respectively.

Areas requiring permanent vegetation (earthen channels, ponds, etc.) are required to meet TxDOT Specifications for Item 160 Topsoil. Testing per Tex-128-E will be required at the City's request.

Watering may also be necessary to facilitate and expedite the sprouting and growth of vegetation. Item 168 of TxDOT's Standard Specifications manual shall be adhered to for vegetative watering.

If extended drought conditions exist that hinder or prohibit the growth and establishment of vegetation, the contractor/ developer shall provide a plan to the City of New Braunfels describing the measures that will be taken to stabilize earthen drainage infrastructure until a time when growing conditions become more favorable.

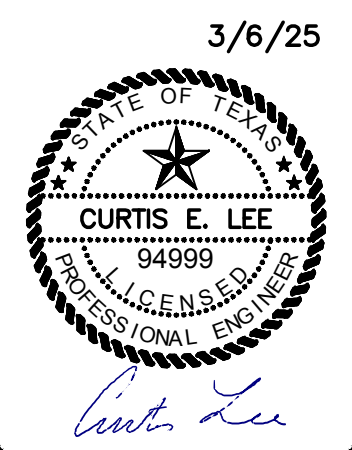
PROPOSED CONSTRUCTION SEQUENCE

- INSTALL TEMPORARY STORMWATER EROSION CONTROL MEASURES IN AFFECTED CONSTRUCTION AREAS AND STABILIZED CONSTRUCTION ENTRANCES/EXITS.
- INSTALL TREE PRESERVATION MEASURES, IF REQUIRED.
- EXCAVATE STREETS.
- CONSTRUCT DRAINAGE.
- CONSTRUCT WASTEWATER SYSTEM.
- CONSTRUCT WATER SYSTEM.
- CONSTRUCT SUBGRADE AND BASE FOR STREETS.
- CONSTRUCT CURBS FOR STREETS.
- CONSTRUCT ASPHALT PAVEMENT FOR STREETS.
- ESTABLISH SITE STABILIZATION.
- REMOVE ALL TEMPORARY STORMWATER EROSION CONTROL MEASURES.

NOTES

- SOME ITEMS ABOVE WILL OCCUR SIMULTANEOUSLY OR MAY OCCUR OUT OF SEQUENCE INDICATED.
- ALL SEQUENCES SUBJECT TO CHANGE.

NO.	REVISION	DATE
1	CONB/NBU COMMENTS	3/06/2025



PAPE-DAWSON

ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #4570 | TBPUS FIRM REGISTRATION #10028890

SUNFLOWER RIDGE UNIT 2

NEW BRAUNFELS, TEXAS

CONSTRUCTION NOTES

PLAT NO.	-
JOB NO.	13348-00
DATE	MARCH 2025
DESIGNER	AW
CHECKED	JG
DRAWN	JV
SHEET	C001

Dated: Mar. 31, 2025 10:39am User: JD_TSV/terre
File: P:\13348\00\Design\Civil\PLAT1334800.dwg

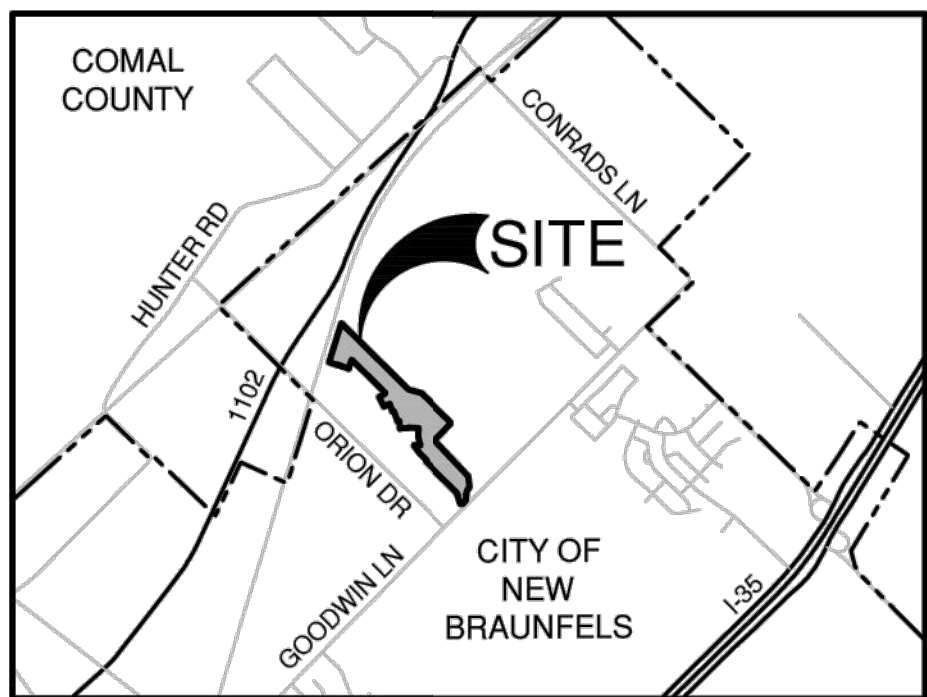
THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE; UNLESS OTHERWISE NOTED. Imagery © 2016,CAPCOOLigital Globe, Texas Orthoregistry Program, USDA Farm Service Agency.

KNOW ALL MEN BY THESE PRESENTS:

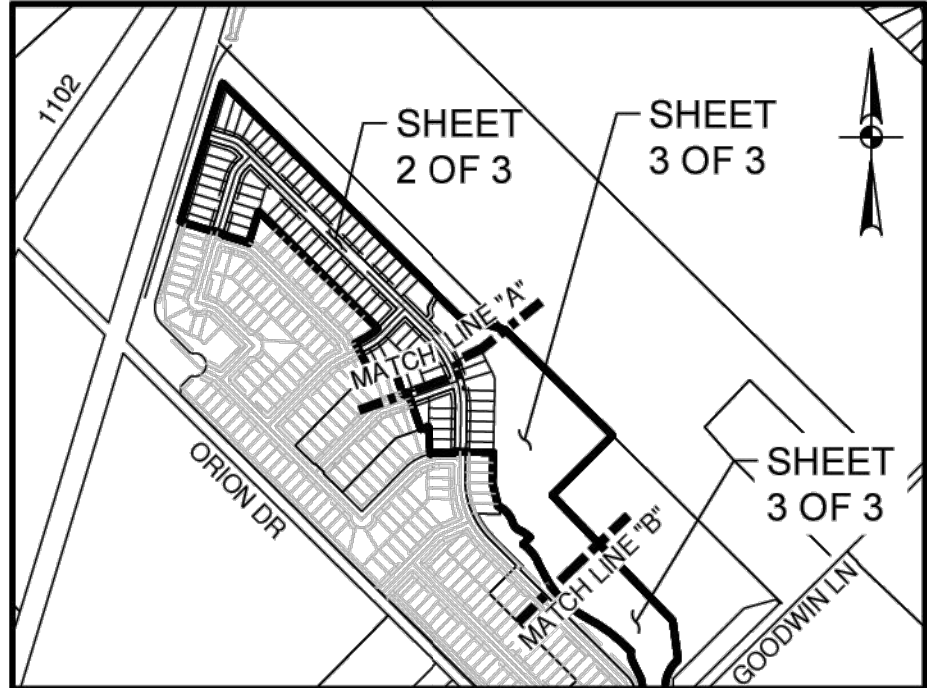
I, THE UNDERSIGNED CHANCE T SRP, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECTLY MADE UNDER MY SUPERVISION AND IN COMPLIANCE WITH CITY AND STATE SURVEY REGULATIONS AND LAWS AND MADE ON THE GROUND AND THAT THE CORNER MONUMENTS WERE PROPERLY PLACED UNDER MY SUPERVISION.
PRELIMINARY. THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT.
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6916

SURVEYOR'S NOTES:

1. MONUMENTS WERE FOUND OR SET AT EACH CORNER OF THE SURVEY BOUNDARY OF THE SUBDIVISION AS NOTED. MONUMENTS AND LOT MARKERS WILL BE SET WITH 1/2" IRON ROD WITH CAP MARKED "PAPE-DAWSON" OR MAG NAIL WITH DISK MARKED "PAPE-DAWSON" AFTER THE COMPLETION OF UTILITY INSTALLATION AND STREET CONSTRUCTION UNLESS NOTED OTHERWISE.
2. COORDINATES SHOWN ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 NAD83 (NA2011) EPOCH 2010.00 FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE, DISPLAYED IN GRID VALUES DERIVED FROM THE NGS COOPERATIVE CORS NETWORK.
3. DIMENSIONS SHOWN ARE SURFACE IN US SURVEY FEET, WITH SURFACE ADJUSTMENT FACTOR: 1.00014
4. BEARINGS ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 NAD83 (NA2011) EPOCH 2010.00, FROM THE TEXAS COORDINATE SYSTEM ESTABLISHED FOR THE SOUTH CENTRAL ZONE.



LOCATION MAP
NOT-TO-SCALE



INDEX MAP
SCALE: 1"= 1000'

NBU NOTES:

1. MAINTENANCE OF DEDICATED UTILITY EASEMENTS IS THE RESPONSIBILITY OF THE PROPERTY OWNER. ANY USE OF AN EASEMENT, OR ANY PORTION OF IT, INCLUDING LANDSCAPING OF DRAINAGE FEATURES, IS SUBJECT TO AND SHALL NOT CONFLICT WITH THE TERMS AND CONDITIONS IN THE EASEMENT. MUST NOT ENDANGER OR INTERFERE WITH THE RIGHTS GRANTED BY THE EASEMENT TO NEW BRAUNFELS UTILITIES, ITS SUCCESSORS AND ASSIGNS, AND SHALL BE SUBJECT TO APPLICABLE PERMIT REQUIREMENTS OF THE CITY OF NEW BRAUNFELS OR ANY OTHER GOVERNING BODY. THE PROPERTY OWNER MUST OBTAIN, IN ADVANCE, WRITTEN AGREEMENT WITH THE UTILITIES TO UTILIZE THE EASEMENT, OR ANY PART OF IT.
2. UTILITIES WILL POSSESS A 5' WIDE SERVICE EASEMENT TO THE BUILDING STRUCTURE ALONG THE SERVICE LINE TO THE SERVICE ENTRANCE. THIS EASEMENT WILL VARY DEPENDING UPON LOCATION OF DWELLING AND SERVICE.
3. UTILITIES SHALL HAVE ACCESS TO THE METER LOCATIONS FROM THE FRONT YARD AND METER LOCATIONS SHALL NOT BE LOCATED WITHIN A FENCED AREA.
4. EACH LOT MUST HAVE ITS OWN WATER AND SEWER SERVICE AT THE OWNER/DEVELOPERS EXPENSE.
5. DO NOT COMBINE ANY NEW UTILITY EASEMENTS (UE) WITH DRAINAGE EASEMENTS (DE) OR MAKE CHANGES IN GRADE WITHIN THE UTILITY EASEMENTS (UE) WITHOUT WRITTEN APPROVAL FROM NEW BRAUNFELS UTILITIES.
6. NBU IS NOT RESPONSIBLE FOR LANDSCAPING OR IRRIGATION IN UE/LE.

UTILITY PROVIDER NOTE:

THE PROPERTY WILL BE SERVED BY THE FOLLOWING:
NEW BRAUNFELS UTILITIES (WATER, SEWER, ELECTRIC)
AT&T (TELECOMMUNICATIONS)
SPECTRUM

DRAINAGE EASEMENT NOTES:

1. DRAINAGE EASEMENTS SHALL "REMAIN FREE OF ALL OBSTRUCTIONS."
2. MAINTENANCE OF DRAINAGE EASEMENT SHOWN OUTSIDE OF LOT LINES SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNERS, OR THE PROPERTY OWNERS ASSOCIATION, OR ITS SUCCESSORS OR ASSIGNS AND NOT THE RESPONSIBILITY OF THE CITY OF NEW BRAUNFELS OR COMAL COUNTY.
3. NO STRUCTURES, WALLS OR OTHER OBSTRUCTIONS OF ANY KIND SHALL BE PLACED WITHIN THE LIMITS OF DRAINAGE EASEMENTS SHOWN ON THIS PLAT. NO LANDSCAPING, FENCES, OR OTHER TYPE OF MODIFICATIONS WHICH ALTER THE CROSS SECTIONS OF THE DRAINAGE EASEMENTS OR DECREASES THE HYDRAULIC CAPACITY OF THE EASEMENT, AS APPROVED, SHALL BE ALLOWED WITHOUT THE APPROVAL OF THE CITY ENGINEER. THE CITY OF NEW BRAUNFELS AND COMAL COUNTY SHALL HAVE THE RIGHT OF INGRESS AND EGRESS OVER GRANTORS ADJACENT PROPERTY TO REMOVE ANY OBSTRUCTIONS PLACED WITHIN THE LIMITS OF SAID DRAINAGE EASEMENTS AND TO MAKE ANY MODIFICATIONS OR IMPROVEMENTS WITHIN SAID DRAINAGE EASEMENTS.

SIDEWALK AND ACCESS WAY NOTES:

1. FOUR (4) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED BY THE HOME BUILDER PER CITY STANDARDS AT THE TIME OF BUILDING CONSTRUCTION ALONG:
a. SUNFOREST LN
b. PACINO ST
c. MAXIMILIAN LN
d. SEA OATS
2. FOUR (4) FOOT WIDE SIDEWALKS WILL BE CONSTRUCTED BY THE DEVELOPER PER CITY STANDARDS AT THE TIME OF SUBDIVISION STREET CONSTRUCTION ALONG:
a. SUNFOREST LN - LOT 900, BLOCK 9
b. ALSTER - LOT 901, BLOCK 1 & LOT 902, BLOCK 9
3. TEN (10) FOOT WIDE SIDEWALK TRAIL WITHIN LOT 900 BLOCK 9 WILL BE CONSTRUCTED BY THE DEVELOPER PER CITY STANDARDS AT THE TIME OF SUBDIVISION CONSTRUCTION

FLOODPLAIN NOTE:

A PORTION OF THE PROPERTY IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN. THE PROPERTY IS LOCATED WITHIN ZONE AE ACCORDING TO THE FEMA FIRM MAP NO. 48091C0290Q EFFECTIVE DATE 5/8/2024 AND FEMA FIRM MAP NO. 48091C0455G EFFECTIVE DATE 5/8/2024.

**SUBDIVISION PLAT
OF
SUNFLOWER RIDGE UNIT 2**

BEING A TOTAL OF 27.006 ACRE TRACT OF LAND, ESTABLISHING LOTS 12-19, 901, BLOCK 1, LOTS 15-36, BLOCK 2, LOTS 11-21, BLOCK 4, LOTS 10-15, BLOCK 6 & LOTS 7-40, 900-901, BLOCK 9, OUT OF A 28.631 ACRE TRACT OF LAND, PENDING PLAT RECORDATION, BEING OUT OF A CALLED 68.031 ACRE TRACT RECORDED IN DOCUMENT NUMBER 202106083499, CORRECTED IN DOCUMENT NUMBER 202206016444, COMAL COUNTY, TEXAS, OUT OF THE ORRILLA RUSSELL SURVEY NUMBER 2, ABSTRACT 485, IN THE CITY OF NEW BRAUNFELS, COMAL COUNTY, TEXAS.

SCHOOL DISTRICT NOTE:

REFERENCED PROPERTY LIES WITHIN THE COMAL INDEPENDENT SCHOOL DISTRICT.

COMMON SPACE NOTE:

LOT 900, BLOCK 9, IS A DRAINAGE & PEDESTRIAN EASEMENT.
LOT 901, BLOCK 1, IS A PEDESTRIAN & UTILITY EASEMENT.
LOT 902, BLOCK 9, IS A PEDESTRIAN & UTILITY EASEMENT.
ALL AFOREMENTIONED LOTS TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION OR PROPERTY OWNER AND NOT THE CITY OF NEW BRAUNFELS.

PLAT NOTES:

1. THIS SUBDIVISION IS NOT WITHIN THE EDWARDS AQUIFER JURISDICTIONAL ZONES.
2. THIS SUBDIVISION IS WITHIN THE CITY LIMITS OF THE CITY OF NEW BRAUNFELS, TEXAS.
3. FUTURE DEVELOPMENT IS SUBJECT TO CHAPTER 114 (STREETS, SIDEWALKS AND OTHER PUBLIC SPACES) OF THE NEW BRAUNFELS CODE OF ORDINANCES.
4. THE ELEVATION OF THE LOWEST FLOOR OF A STRUCTURE SHALL BE AT LEAST 10 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 STORMWATER CONVEYANCE STRUCTURES MUST HAVE A FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOIST 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 A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE AND SHALL PREVENT WATER FROM LEAVING THE STREET.
5. THIS SUBDIVISION IS SUBJECT TO THE 2018 CITY OF NEW BRAUNFELS PARK LAND DEDICATION AND DEVELOPMENT ORDINANCE. THIS PLAT IS APPROVED FOR ONE (1) DWELLING UNIT PER BUILDABLE LOT WITH A MAXIMUM OF 81 LOTS WHERE FEES ARE DUE AT THE TIME OF RECORDATION. AT SUCH TIME THAT ADDITIONAL DWELLING UNITS ARE CONSTRUCTED, THE OWNER OF THE LOT SHALL CONTACT THE CITY AND COMPLY WITH THE ORDINANCE FOR EACH DWELLING UNIT.
6. THIS UNIT CONTAINS 81 BUILDABLE RESIDENTIAL LOTS.



2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800
DATE OF PREPARATION: March 31, 2025

STATE OF TEXAS
COUNTY OF COMAL

I (WE) THE UNDERSIGNED OWNER(S) OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS THE SUNFLOWER RIDGE UNIT 2 SUBDIVISION TO THE CITY OF NEW BRAUNFELS, COUNTY OF COMAL, TEXAS, AND WHOSE NAME IS SUBSCRIBED HERETO, DO HEREBY SUBDIVIDE SUCH PROPERTY AND DEDICATE TO THE USE OF THE PUBLIC ALL STREETS, ALLEYS, PARKS, DRAINS, EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

OWNER
RICHARD BYRD
AG SUNFLOWER RIDGE LLC
5910 N. CENTRAL EXPRESSWAY, SUITE 1600
DALLAS, TX 75206

STATE OF TEXAS
COUNTY OF COMAL

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THIS _____
DAY OF _____, 20____, BY _____.

NOTARY PUBLIC, STATE OF TEXAS

MY COMMISSION EXPIRES: _____

CERTIFICATE OF APPROVAL

APPROVED THIS THE _____ DAY OF _____,
20____, BY THE CITY OF NEW BRAUNFELS, TEXAS.

CHAIRMAN

APPROVED FOR ACCEPTANCE

DATE _____ PLANNING AND DEVELOPMENT
SERVICES DIRECTOR

DATE _____ CITY ENGINEER (NBCO 118-30(D)(1)).

CERTIFICATE OF RECORDATION

I, _____, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT WAS FILED FOR RECORD IN THE MAP AND PLAT RECORDS, DOC # _____ OF COMAL COUNTY ON THE DAY OF _____, 20____, AT _____ M. WITNESS MY HAND OFFICIAL SEAL, THIS THE _____ DAY OF _____, 20____, COUNTY CLERK, COMAL COUNTY, TEXAS _____ DEPUTY" (NBCO 118-30(E)).

PLAT NOTES APPLY TO EVERY PAGE
OF THIS MULTIPLE PAGE PLAT

SHEET 1 OF 3

File: Mar. 25, 2025 5:17 PM User: JD_TSV/terre
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SUNFLOWER RIDGE UNIT 2

Civil Job No. 13348-00; Survey Job No. 13348-00

SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS

PLAT - SHEET 1

PLAT NO. _____
JOB NO. 13348-00
DATE MARCH 2025
DESIGNER AW
CHECKED JD DRAWN JV
SHEET C0.02



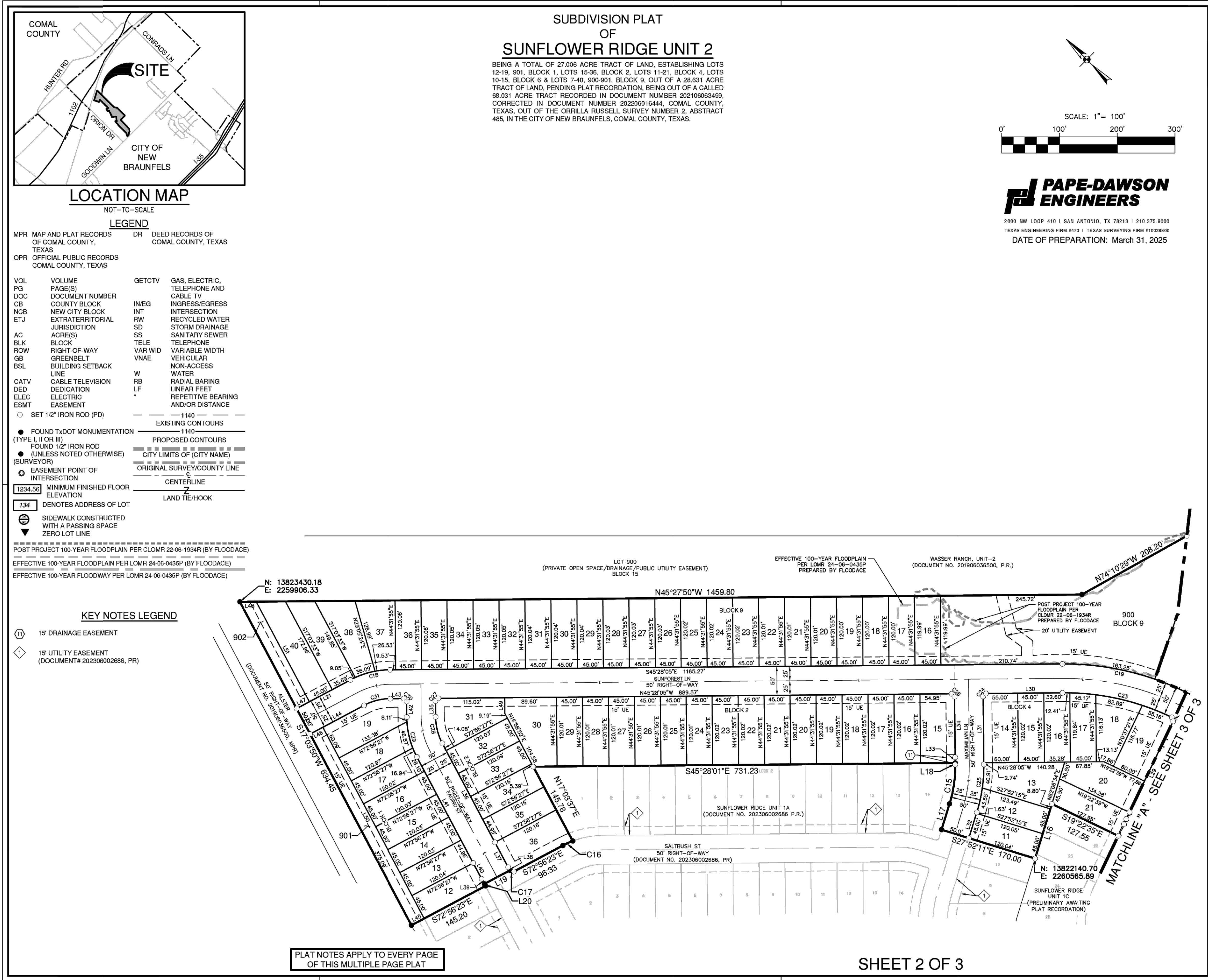
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #470 | TPLS FIRM REGISTRATION #10028800

NO.	REVISION	DATE

PERMIT SET

Plot: Mar 31, 2025, 10:41am, User: JD, TST/terle, File: P:\13348\13348.dwg, Design: Civil, Plot: 13348-00.dwg

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NOT-TO-SCALE

LEGEND

• FOUND TxDOT MONUMENTATION (TYPE I, II OR III) _____ 1140 _____
 FOUND 1/2" IRON ROD _____
 • (UNLESS NOTED OTHERWISE) _____
 (SURVEYOR) _____
 • EASEMENT POINT OF INTERSECTION _____

 1234.56 MINIMUM FINISHED FLOOR ELEVATION _____
 134 DENOTES ADDRESS OF LOT _____

 _____ PROPOSED CONTOURS _____
 _____ CITY LIMITS OF (CITY NAME) _____
 _____ ORIGINAL SURVEY/COUNTY LINE _____
 _____ CENTERLINE _____
 _____ Z _____
 _____ LAND TIE/HOOK _____

KEY NOTES LEGEND

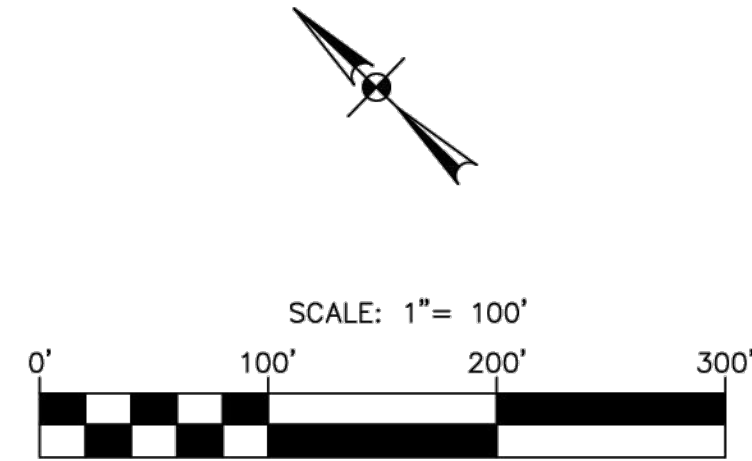
11 15' DRAINAGE EASEMENT

1 15' UTILITY EASEMENT
(DOCUMENT# 202306002686, PR)

PLAT NOTES APPLY TO EVERY PAGE
OF THIS MULTIPLE PAGE PLAT

SUBDIVISION PLAT
OF
SUNFLOWER RIDGE UNIT 2

BEING A TOTAL OF 27.006 ACRE TRACT OF LAND, ESTABLISHING LOTS 12-19, 901, BLOCK 1, LOTS 15-36, BLOCK 2, LOTS 11-21, BLOCK 4, LOTS 10-15, BLOCK 6 & LOTS 7-40, 900-901, BLOCK 9, OUT OF A 28.631 ACRE TRACT OF LAND, PENDING PLAT RECDORATION, BEING OUT OF A CALLED 68.031 ACRE TRACT RECORDED IN DOCUMENT NUMBER 202106683499, CORRECTED IN DOCUMENT NUMBER 202206016444, COMAL COUNTY TEXAS, OUT OF THE ORRILLA RUSSELL SURVEY NUMBER 2, ABSTRACT 485, IN THE CITY OF NEW BRAUNFELS, COMAL COUNTY, TEXAS.



**PAPE-DAWSON
ENGINEERS**

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800
DATE OF PREPARATION: March 31, 2025

LINE TABLE		
LINE #	BEARING	LENGTH
L1	N45°19'14"E	12.37'
L2	N2°59'18"E	89.46'
L3	S45°35'03"W	91.87'
L4	N45°14'00"W	10.64'
L5	N17°04'37"W	52.97'
L6	S25°7'42"E	86.50'
L7	S44°35'59"W	82.74'
L8	S13°42'38"E	104.01'
L9	S19°15'51"W	135.00'
L10	S88°40'09"E	120.00'
L11	S88°40'09"E	50.00'
L12	N11°19'51"E	2.12'
L13	S88°40'49"E	51.15'
L14	N70°37'21"E	36.73'
L15	N70°37'25"E	22.45'
L16	N82°07'49"E	98.80'
L17	S62°07'49"W	46.65'
L18	S44°31'59"W	2.73'
L19	S72°56'23"E	20.00'
L20	N17°03'37"E	4.02'
L21	S72°56'27"E	105.69'
L22	S1°19'47"W	180.03'
L23	S19°15'51"W	10.00'
L24	S12°1'58"W	42.86'
L25	S1°19'47"W	127.17'
L26	N70°37'21"E	193.01'
L27	N70°37'25"E	10.00'

LINE TABLE		
LINE #	BEARING	LENGTH
L28	N70°36'29"E	12.54'
L29	N70°37'21"E	175.08'
L30	N45°28'05"W	132.60'
L31	S44°31'55"W	117.76'
L32	S62°07'45"W	46.63'
L33	N44°31'59"E	10.00'
L34	N43°30'17"E	105.02'
L35	S44°31'55"W	27.18'
L36	S17°03'33"W	194.03'
L37	S16°52'17"W	48.90'
L38	S17°03'37"W	6.15'
L39	N17°03'37"E	10.00'
L40	N16°45'47"E	31.03'
L41	N17°03'33"E	208.05'
L42	N44°31'55"E	27.18'
L43	N45°28'05"W	23.11'
L44	N72°56'27"W	105.70'
L45	S72°56'23"E	25.00'
L46	S72°56'27"W	25.00'
L47	S72°56'27"E	25.00'
L48	N45°27'50"W	28.18'
L49	S44°31'55"W	27.29'
L50	N17°03'50"E	45.00'
L51	N17°03'50"E	196.36'
L52	N1°19'47"E	36.69'

CURVE TABLE					
CURVE #	RADIUS	DELTA	CHORD BEARING	CHORD	LENGTH
C1	165.00'	42°19'56"	N24°09'16"E	119.15'	121.91'
C2	100.00'	28°09'23"	N31°09'19"W	48.65'	49.14'
C3	111.70'	9°43'43"	N31°23'11"E	18.94'	18.97'
C4	85.72'	49°20'35"	N3°05'55"E	71.56'	73.82'
C5	473.47'	9°34'51"	N26°28'10"W	79.08'	79.17'
C6	74.48'	40°05'10"	N11°13'01"W	51.05'	52.11'
C7	756.00'	18°48'33"	S53°05'38"E	247.07'	248.18'
C8	407.86'	34°28'47"	S45°12'06"E	241.76'	245.45'
C9	242.04'	22°44'48"	S40°28'35"E	95.46'	96.09'
C10	268.59'	12°10'08"	S56°37'28"E	56.94'	57.04'
C11	59.22'	43°48'17"	S39°48'20"E	44.18'	45.28'
C12	117.44'	47°04'57"	S41°28'41"E	93.81'	96.50'
C13	5.00'	90°00'00"	N46°19'51"E	7.07'	7.85'
C14	225.00'	13°43'49"	N84°27'53"E	53.79'	53.92'
C15	225.00'	17°35'50"	S53°19'54"W	68.83'	69.10'
C16	150.00'	7°09'02"	S69°21'32"E	18.71'	18.72'
C17	5.00'	90°00'00"	S27°56'23"E	7.07'	7.85'
C18	150.00'	27°22'08"	S59°09'10"E	70.98'	71.66'
C19	495.02'	46°47'52"	S22°04'09"E	377.27'	387.97'
C20	425.00'	12°12'27"	S4°46'27"E	90.38'	90.55'
C21	5.00'	98°29'58"	S60°07'40"E	7.56'	8.60'
C22	5.00'	89°43'00"	N25°45'51"E	7.05'	7.83'
C23	425.00'	26°22'26"	N32°16'52"W	193.91'	195.63'
C24	5.00'	90°00'00"	S89°31'55"W	7.07'	7.85'
C25	275.00'	17°35'50"	S53°19'50"W	84.13'	84.46'
C26	5.00'	90°00'00"	N28°05'50"W	7.07'	7.85'
C27	5.00'	90°00'00"	S89°31'55"W	7.07'	7.85'
C28	100.00'	27°28'21"	S30°47'44"W	47.49'	47.95'
C29	150.00'	27°28'21"	N30°47'44"E	71.24'	71.92'
C30	5.00'	90°00'00"	N28°05'50"W	7.07'	7.85'
C31	100.00'	27°28'21"	S59°12'16"W	47.49'	47.95'
C32	100.04'	9°55'25"	N33°37'56"W	52.77'	52.83'

SUNFLOWER RIDGE UNIT 2

Civil Job No. 13348-00; Survey Job No. 13348-00

SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS

PLAT - SHEET 3

PLAT NO. _____
JOB NO. 13348-00
DATE MARCH 2025
DESIGNER AW
CHECKED JG DRAWN JV
SHEET C0.04

**PAPE-DAWSON
ENGINEERS**

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PERMIT SET

NOTE: FEE-IN-LIEU OF DETENTION IS PROPOSED FOR THIS SITE. PLEASE SEE THE DRAINAGE REPORT FOR CALCULATIONS SHOWING NO DOWNSTREAM IMPACT.THERE IS ALSO A FLOODPLAIN PERMIT UNDER REVIEW FOR THE SUBDIVISION.

NOTE: SEE DRAINAGE REPORT FOR CN
EXHIBIT AND SOIL REPORT.



-
- Figure 1: Symbols for the Drainage Basin Map. The figure lists eight symbols and their corresponding map features:
- 1. Limits of Drainage Area (thick black line)
 - 2. Limits of Sub-drainage Area (dashed black line)
 - 3. Time of Concentration (line with 'TC' markers)
 - 4. Existing Contours (line with '900' elevation)
 - 5. Flow Arrows (arrow pointing left)
 - 6. Drainage Basin Label (circle with 'A' and '9.0')
 - 7. Basin Area (AC) (circle with 'A1' and '2.0')
 - 8. Sub-drainage Area Label (square with 'A1')
 - 9. Inlet Label (hexagon with 'A1')



NO	DATE	ISSUES AND REVISIONS
△		



2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 ink-civil.com
TBPE FIRM F-13351

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[illegible]

PAPE-DAWSON
ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS

2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028890

SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS

PLAT NO. -
JOB NO. 13348-00
DATE JANUARY 2025
DESIGNER AW
CHECKED JG DRAWN JV
SHEET C1.00

Date: Jan 13, 2025, 4:26pm, User ID: jaymccas
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Drawn: Name: N. Projects\AS0001 Goulet, Brian, Title: Tract Unit 1 and 2 Civil Construction Drawings\Unit 1C\13 PROPOSED SCS DRAINAGE AREA MAP.dwg User: mclinkawrds May 27, 2022 - 8:22am

CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION:

New Braunfels Utilities	830-629-8400
Spectrum Cable	830-625-3408
Centerpoint Gas	830-643-6434
Robert Sanders	830-643-6503
Damages Line	888-876-5786
AT&T Telephone	830-303-1333
Eric White PM	210-283-1708
Scott McBrearty (Construction)	210-658-4886
Texas One Call	830-545-6005

C.P.E. LOCATOR

CALL CENTER POINT ENERGY LOCATOR AT 1-800-545-6005, 48HRS BEFORE BEGINNING ANY EXCAVATION. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

TELEPHONE LOCATOR

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48HRS PRIOR TO EXCAVATION AT 1-800-545-6005. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY DURING CONSTRUCTION.

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 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 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 GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATIONS.

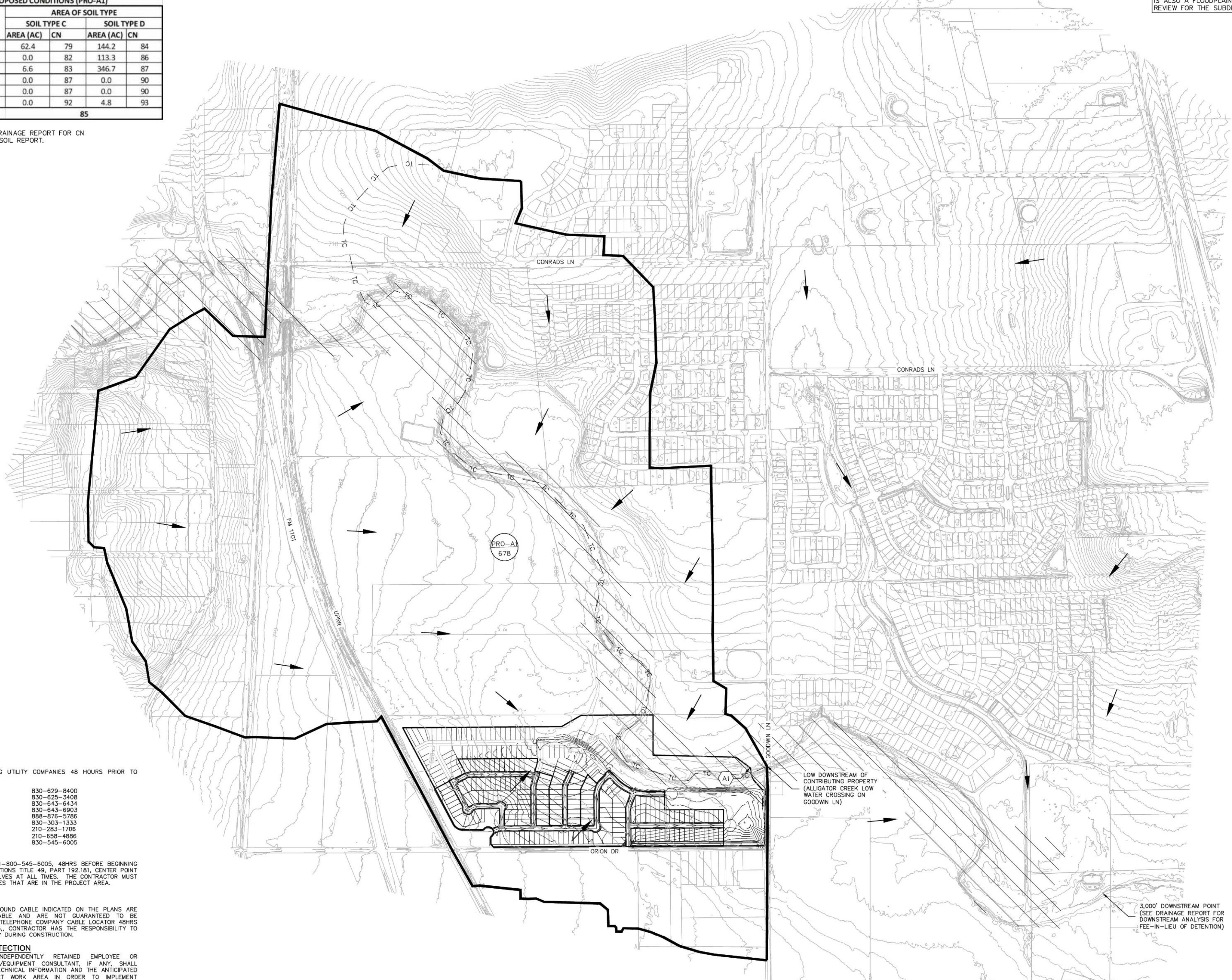
THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

Sunflower Ridge Subdivision - Proposed Conditions Hydrology SCS Calculations										Location
Point	AREA ID	Area (ac)	CN	T _c (min)	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₅₀ (cfs)	Q ₁₀₀ (cfs)	
A1	PRO-A1	678.00	85	61	799.35	1593.36	2203.28	2746.79	3368.82	Low Downstream of Property (Alligator Creek @ Goodwin)

NOTE: FEE-IN-LIEU OF DETENTION IS PROPOSED FOR THIS SITE. PLEASE SEE THE DRAINAGE REPORT FOR CALCULATIONS SHOWING NO DOWNSTREAM IMPACT. THERE IS ALSO A FLOODPLAIN PERMIT UNDER REVIEW FOR THE SUBDIVISION.

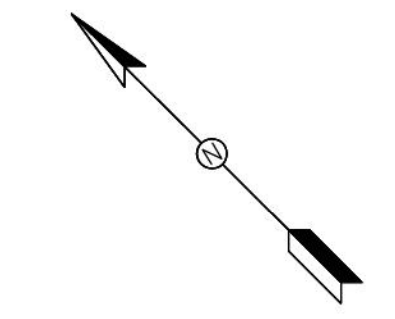
PROPOSED CONDITIONS (PRO-A1)				
HYDROLOGIC CONDITION	AREA OF SOIL TYPE C		AREA OF SOIL TYPE D	
	AREA (AC)	CN	AREA (AC)	CN
AGRICULTURAL	62.4	79	144.2	84
FARMSTEADS	0.0	82	113.3	86
R-1	6.6	83	346.7	87
M-1	0.0	87	0.0	90
ZHA	0.0	87	0.0	90
MUB	0.0	92	4.8	93
Weighted CN =	85			

NOTE: SEE DRAINAGE REPORT FOR CN EXHIBIT AND SOIL REPORT.



PROPOSED CONDITIONS

SCALE: 1"=500'



0 500' 1000'
SCALE: 1"=500'

LEGEND

- LIMITS OF DRAINAGE AREA
- - - LIMITS OF SUB-DRAINAGE AREA
- TC — TC — TIME OF CONCENTRATION
- 900 — EXISTING CONTOURS
- 900 — PROPOSED CONTOURS
- ← FLOW ARROWS
- ⊙ A 9.0 DRAINAGE BASIN LABEL
BASIN AREA (AC)
- ⊙ A1 2.0 SUB-DRAINAGE AREA LABEL
SUB-DRAINAGE AREA (AC)
- ⊙ A1 INLET LABEL
- ⊙ A1 ANALYSIS POINT LABEL



AG SUNFLOWER RIDGE LLC
2301 CEDAR SPRING RD. STE.200
DALLAS, TX 75201

SUNFLOWER RIDGE
SUBDIVISION UNIT 1C

PROPOSED SCS DRAINAGE
AREA MAP

SHEET
12 OF 23

NO	DATE	ISSUES AND REVISIONS
1		
2		
3		
4		

INK
CIVIL


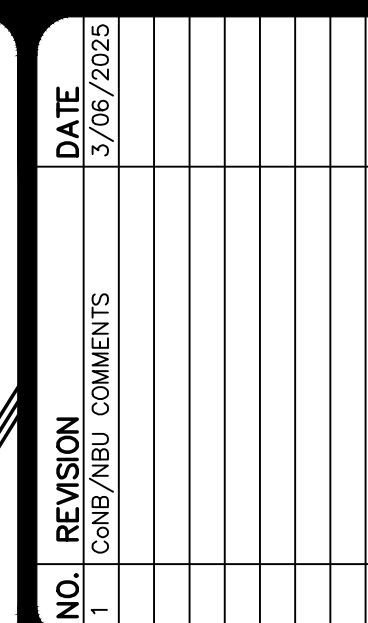
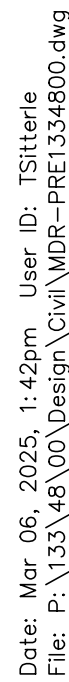
2021 W SH46, STE 105
NEW BRAUNFELS, TX. 78132
PH: 830-358-7127 | ink-civil.com
TBPE FIRM F-13351

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ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #1008860

SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS
MASTER DRAINAGE PLAN - PROPOSED CONDITIONS

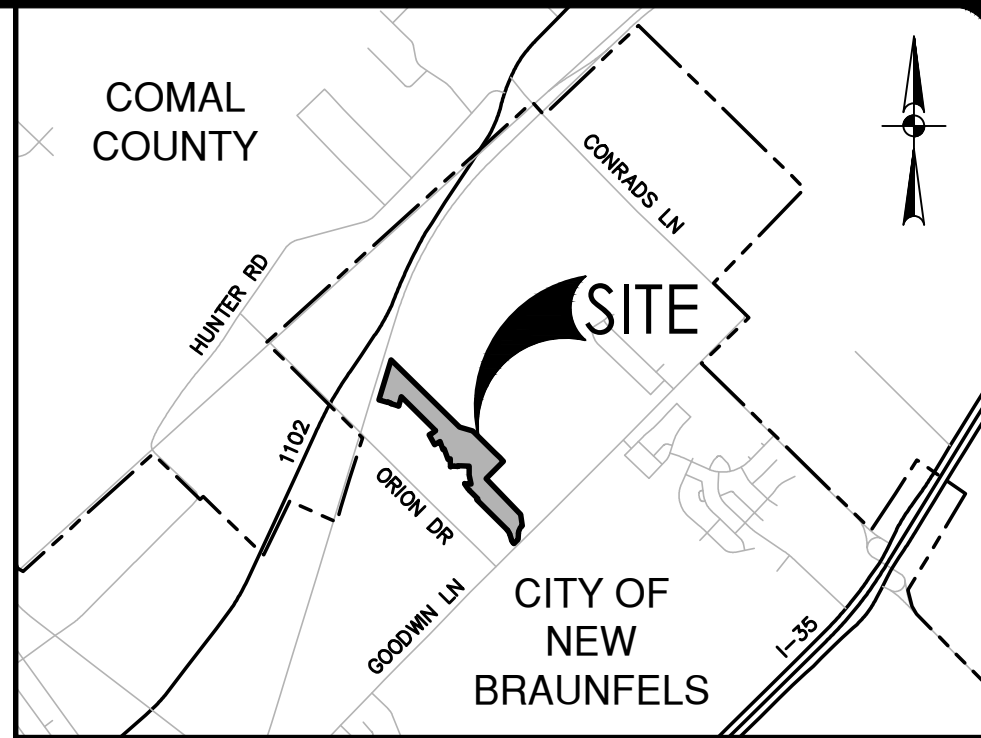
PLAT NO. -
JOB NO. 13348-00
DATE JANUARY 2025
DESIGNER AW
CHECKED JG DRAWN JV
SHEET C1.01




A circular professional engineer seal for the State of Texas. The outer ring contains the text "STATE OF TEXAS" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by stars. The center features a five-pointed star above the name "CURTIS E. LEE" and the license number "94999". Below the seal is a handwritten signature in blue ink that reads "Curtis Lee".

SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS

PLAT NO. _____
JOB NO. 13348-00
DATE MARCH 2025
DESIGNER AW
CHECKED JG DRAWN JN
SHEET C1.02A

[illegible]

3/6/25



Curtis Lee

**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS

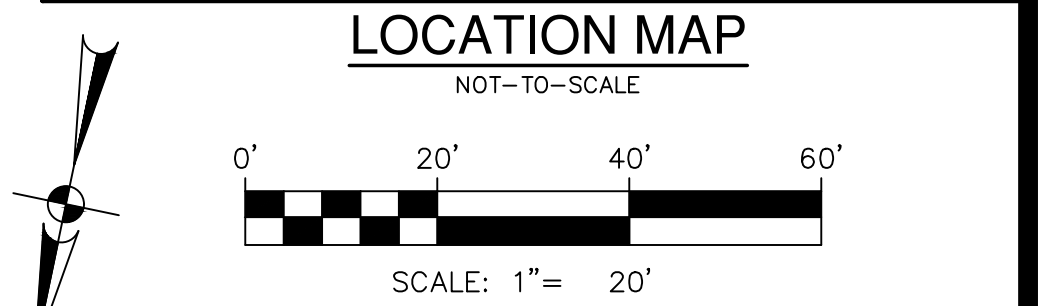
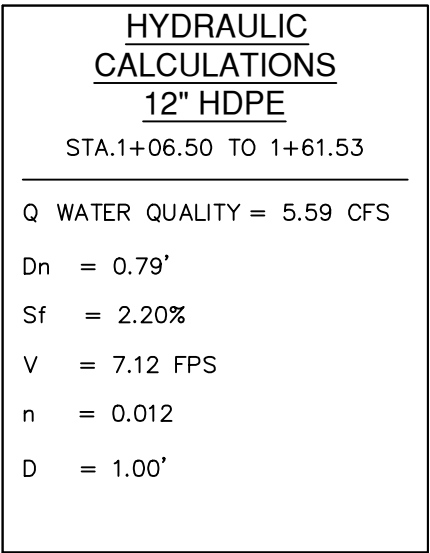
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS

MASTER DRAINAGE PLAN - ONSITE ULTIMATE CONDITIONS

PLAT NO. _____
JOB NO. 13348-00
DATE MARCH 2025
DESIGNER AW
CHECKED JG DRAWN JV
SHEET C1.02B




1. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER ALL UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY ON ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DEVIATION TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
2. ALL CONCRETE FOR TxDOT DRAINAGE STRUCTURES SHALL MEET TxDOT SPECIFICATIONS. ALL OTHER CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
3. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
4. CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
5. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR GRASSING. 85% OF CHANNELS SHALL BE ESTABLISHED VEGETATION BEFORE CITY OF NEW BRAUNFELS WILL ACCEPT.
6. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.

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 INSTALLED EXCAVATION SITES WITHIN THE PROJECT 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 ADEQUATE PROTECTION FOR TRENCH SAFETY PROTECTION THAT COMPLY WITH AS 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 FOR TRENCH EXCAVATIONS AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARE SHOWN TO BE COMMUNICATED TO THE ENGINEER IMMEDIATELY PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO EXPEND A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION, ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

1/13/25



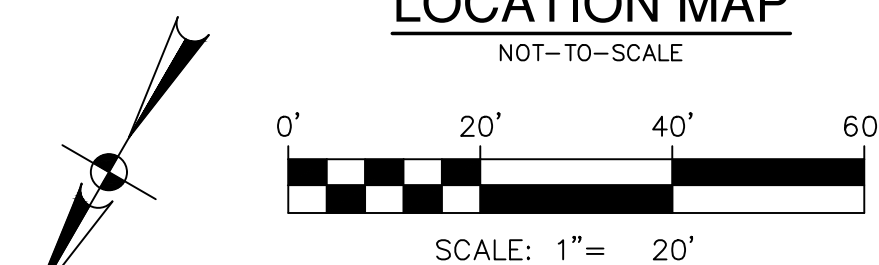
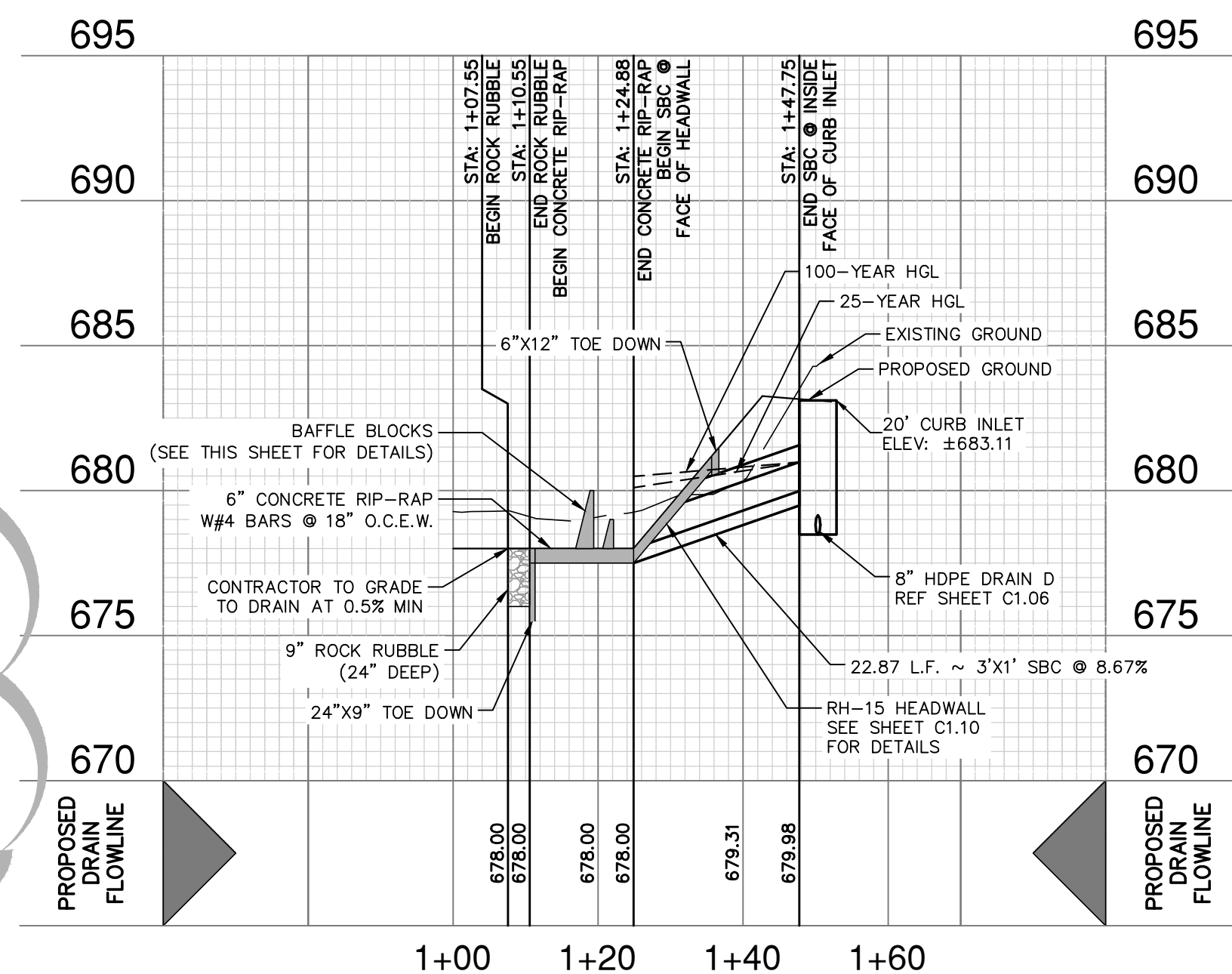
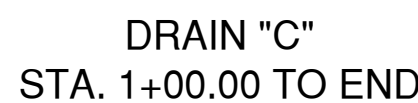
Curtis Lee

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

DRAIN B - PLAN & PROFILE
STA. 1+00.00 TO END

PLAT NO. -
JOB NO. 13348-00
DATE JANUARY 2025
DESIGNER AW
CHECKED JG DRAWN JV

SHEET C1.04



PROJECT LIMITS

100 YR FLOODPLAIN

EXISTING CONTOUR

690

PROPOSED CONTOUR

690

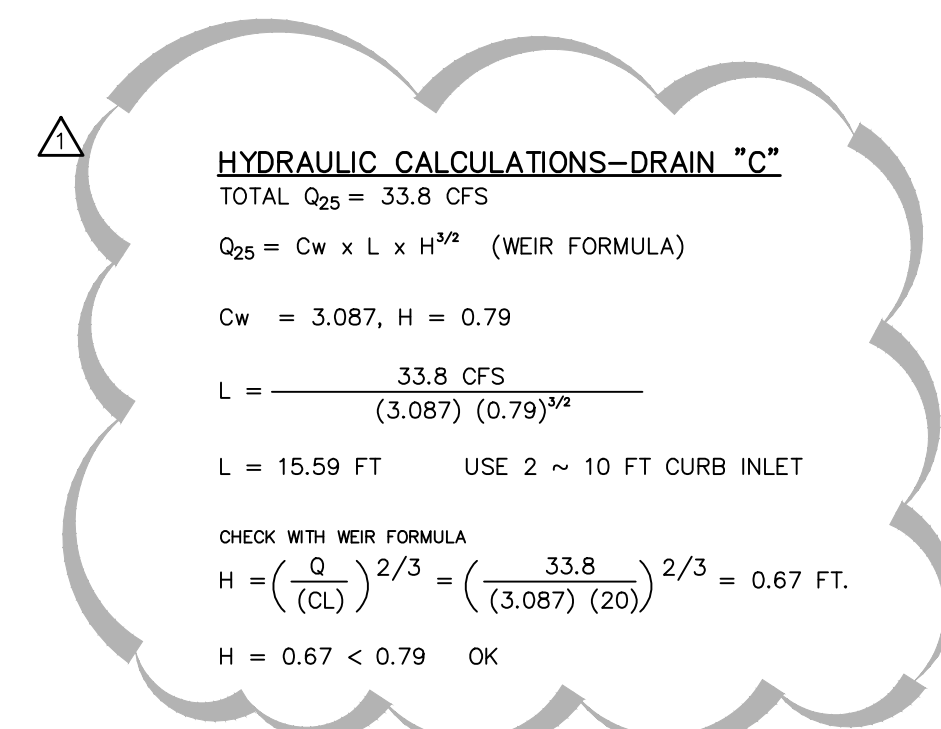
PROPOSED WATER

PROPOSED SEWER

SS

PROPOSED STORM DRAIN

FLOW ARROW

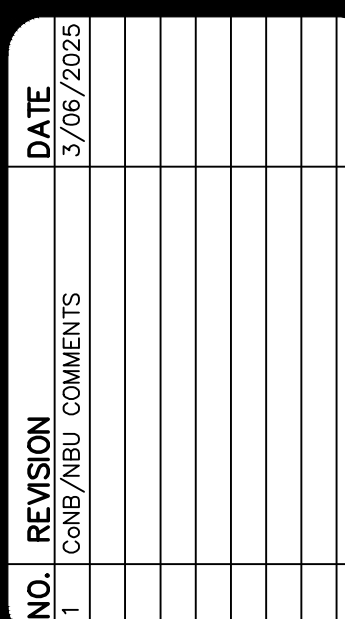


1. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER ALL UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
2. ALL CONCRETE FOR TxDOT DRAINAGE STRUCTURES SHALL MEET TxDOT SPECIFICATIONS. ALL OTHER CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
3. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
4. CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
5. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE CITY OF NEW BRAUNFELS WILL ACCEPT.
6. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND PROFILE AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.

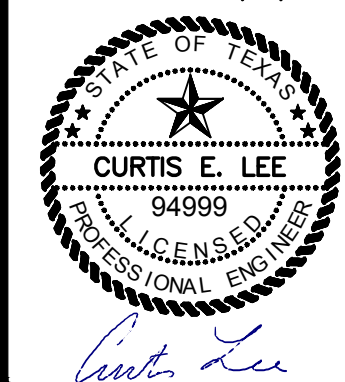
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT AREA TO DETERMINE WHETHER THERE IS A NEED FOR THE 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 TO PROTECT ALL EMPLOYEES AND THE PUBLIC WORKING ON OR NEAR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH THE OSHA AND MANDATORY REGULATIONS GOVERNING THE ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CAUTION!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE CONTRACTOR IMMEDIATELY AND PRIOR TO ANY CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE THE CONTRACTOR'S FULL EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.



3/6/25



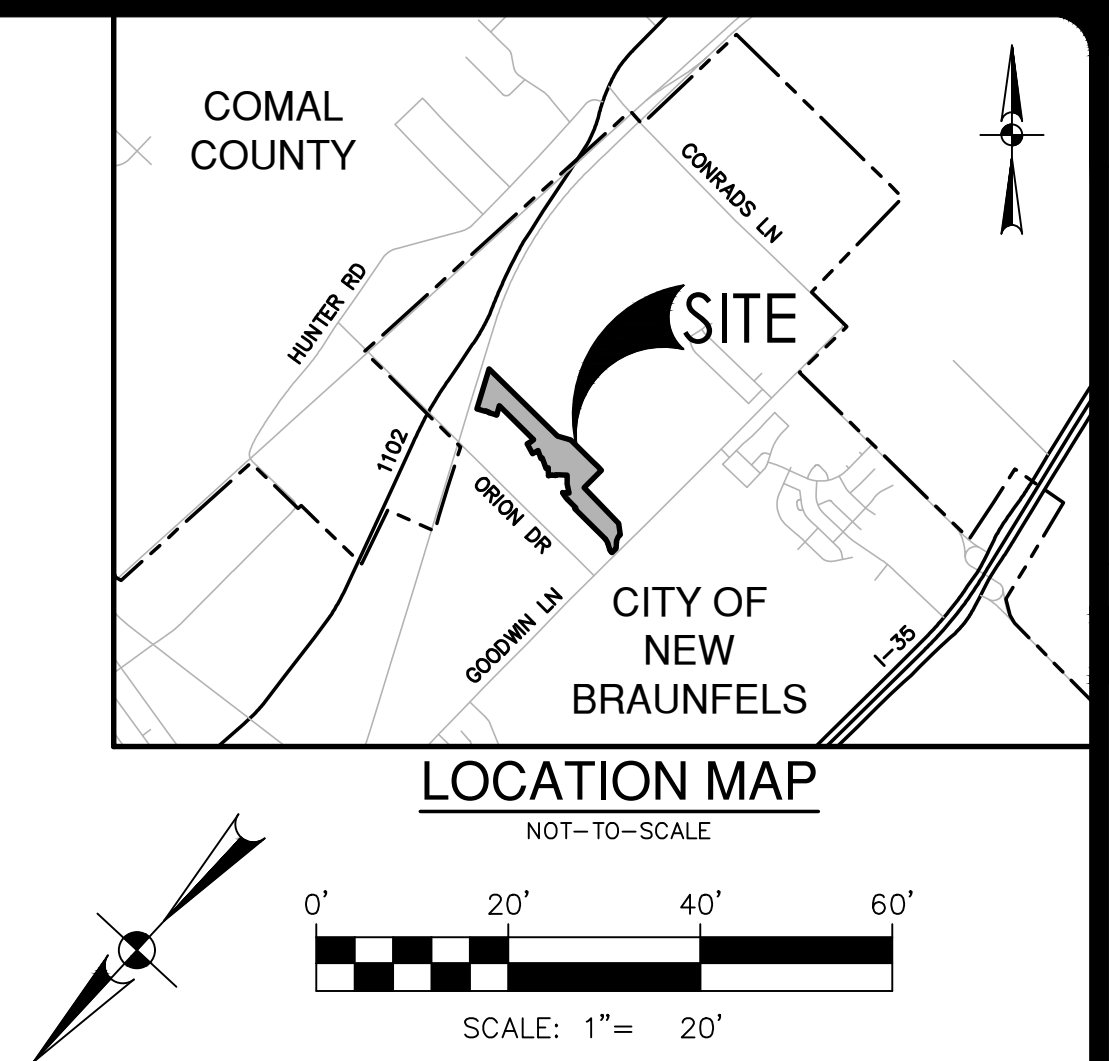
**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TRAPE FIRM REGISTRATION #470 | TRAPE FIRM REGISTRATION #10028800

SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS

DRAIN C - PLAN & PROFILE
STA 1+00.00 TO END

PLAT NO. _____
JOB NO. 13348-00
DATE MARCH 2025
DESIGNER AW
CHECKED JG DRAWN JV
SHEET C1.05



PROJECT LIMITS

100 YR FLOODPLAIN

EXISTING CONTOUR

690

PROPOSED CONTOUR

690

PROPOSED WATER

W

PROPOSED SEWER

SS

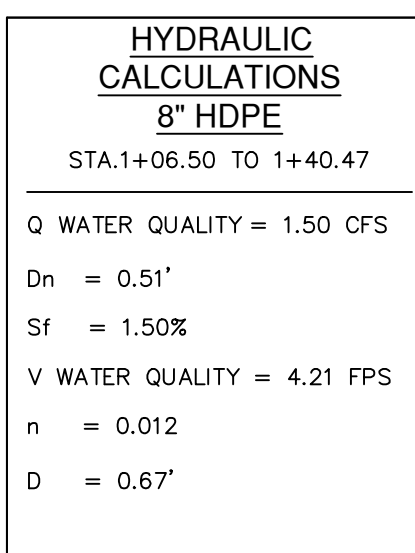
PROPOSED STORM DRAIN

FLOW ARROW

- ## **DRAINAGE & GRADING NOTES:**
1. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION TO VERIFY SIZE, GRADE AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY REFERENCE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
 2. ALL CONCRETE FOR TxDOT DRAINAGE STRUCTURES SHALL MEET TxDOT SPECIFICATIONS, ALL OTHER CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
 3. REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERTS, HEADWALLS AND MANHOLES TO CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
 4. CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
 5. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE CITY OF NEW BRAUNFELS WILL ACCEPT.
 6. CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PLANS.

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 ASSIGNED INSTALLATION SITES WITHIN THE WORK AREA IN ORDER TO INFORM CONTRACTOR OF 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 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 PREVENTION AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION

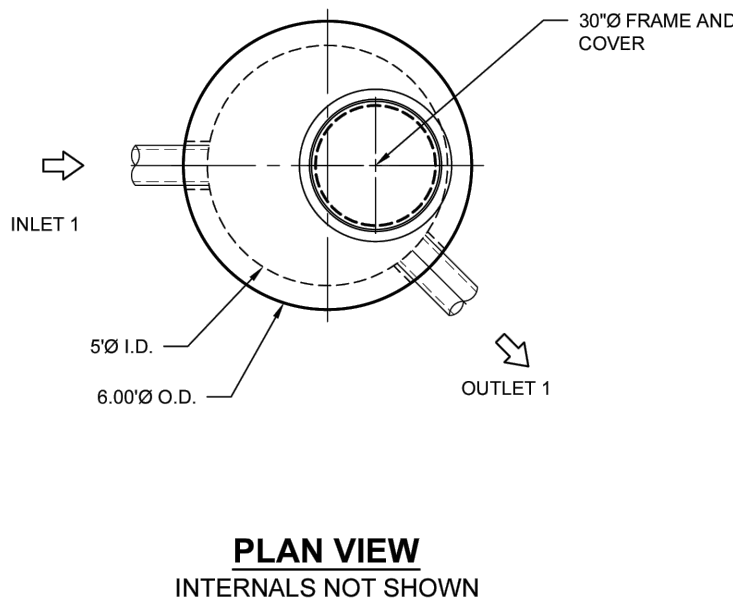
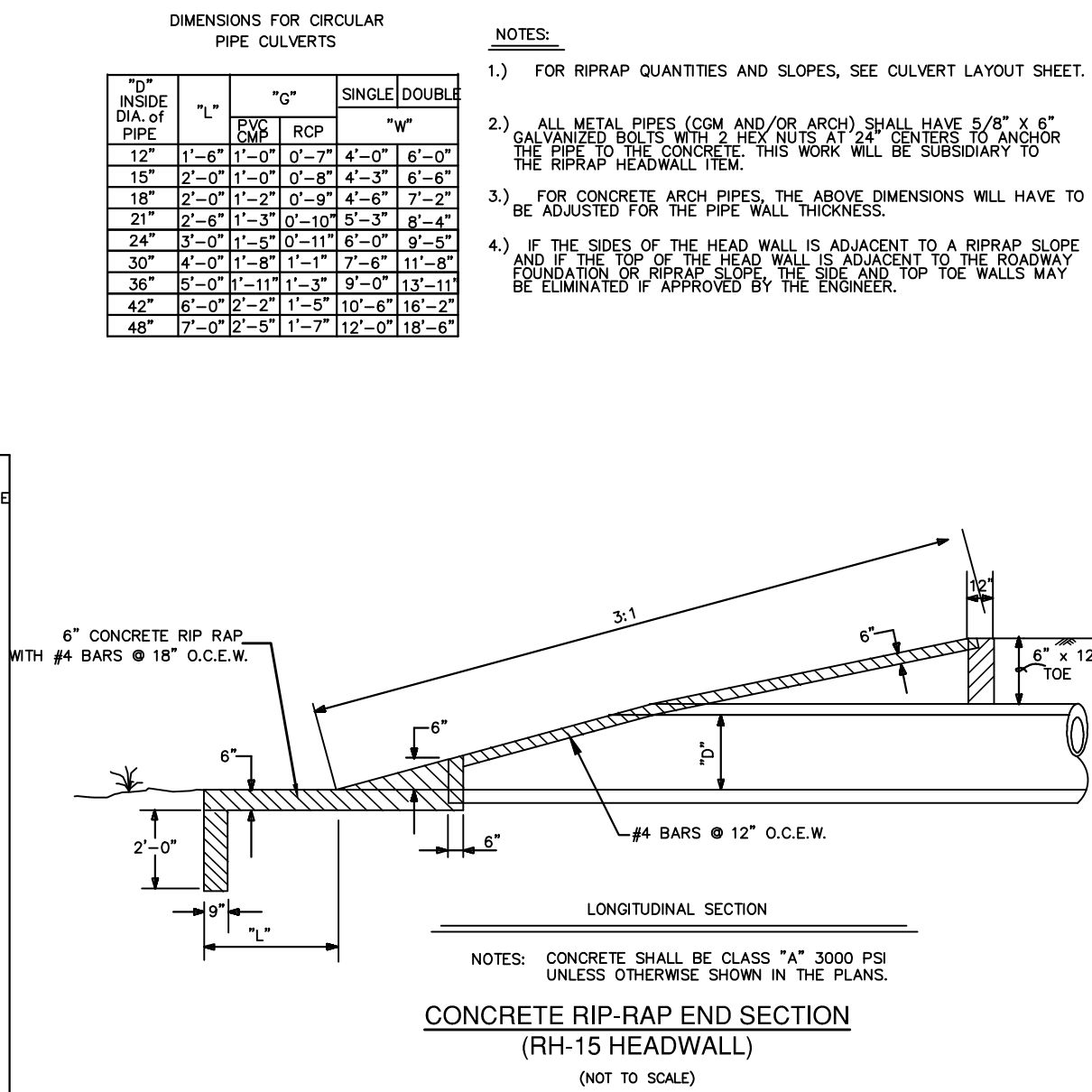
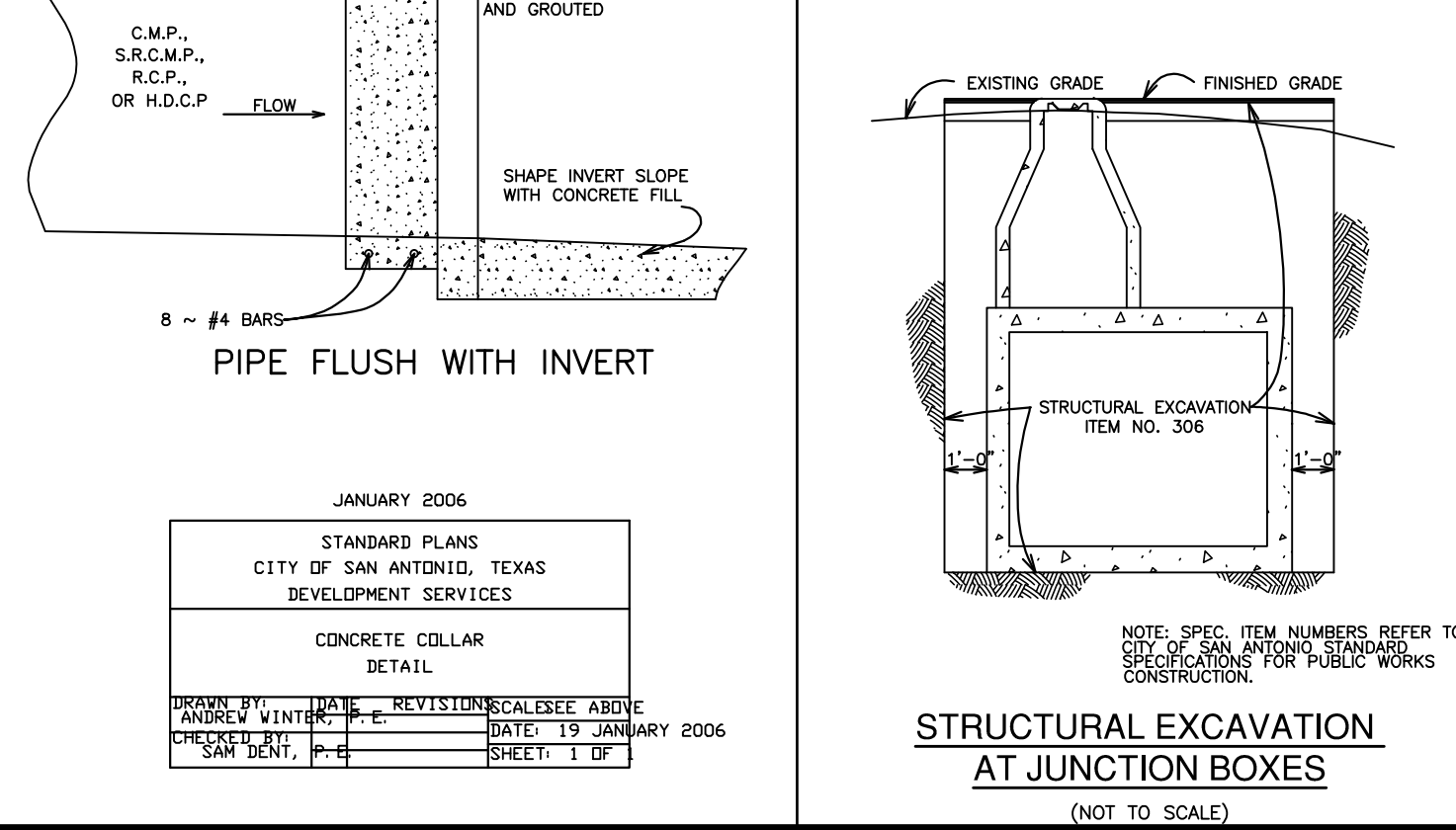
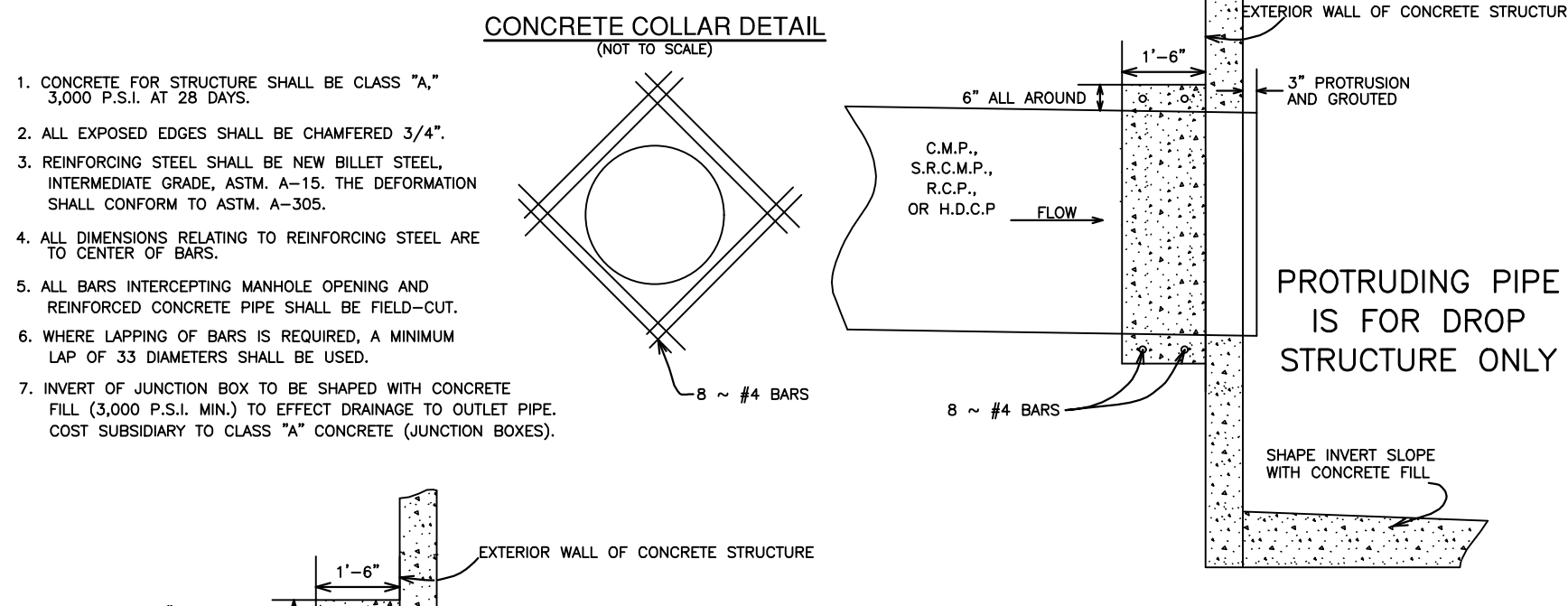
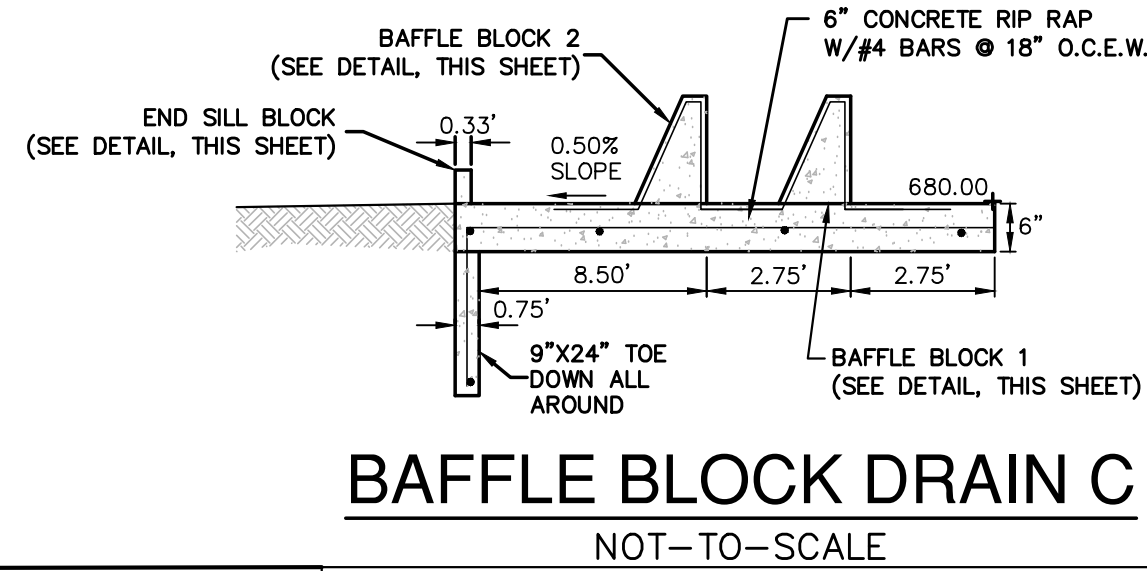
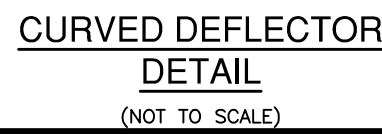
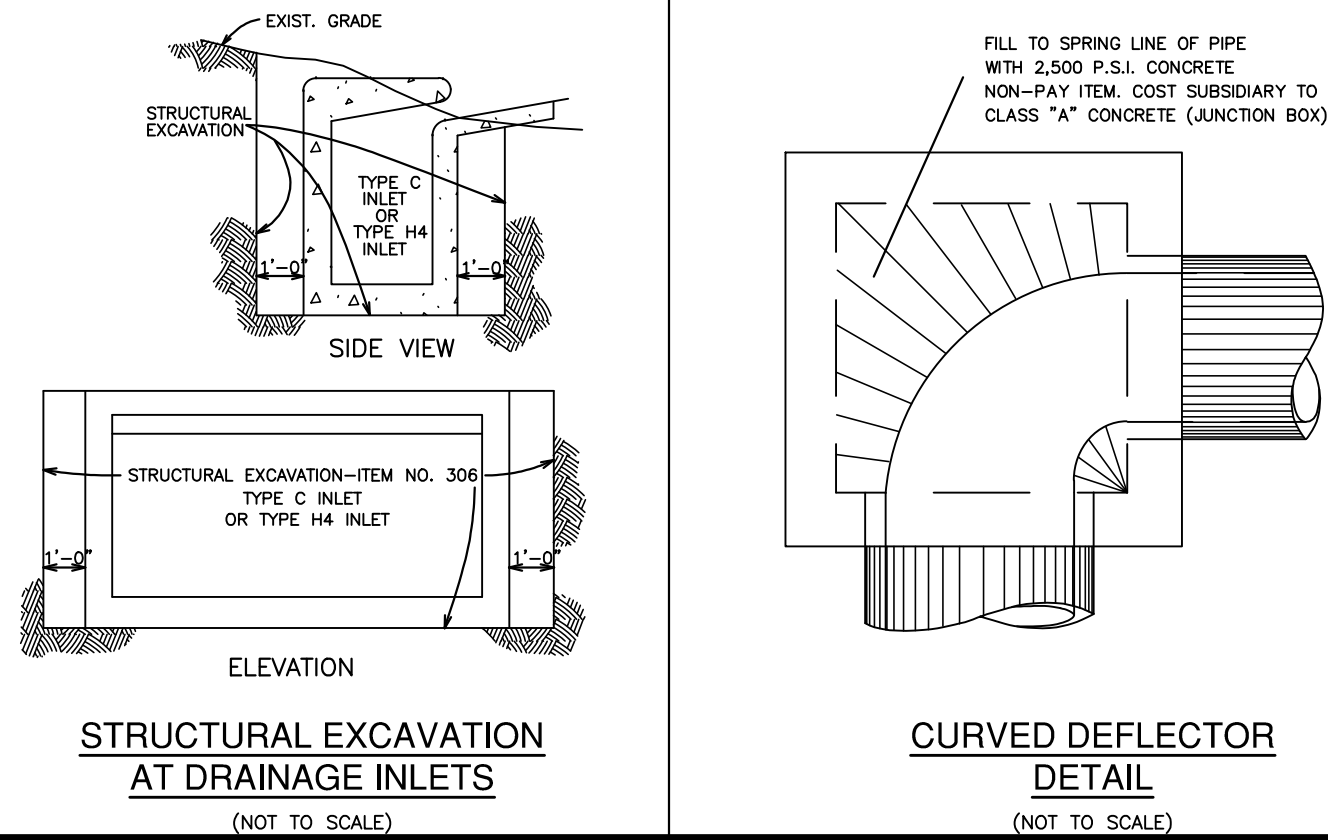
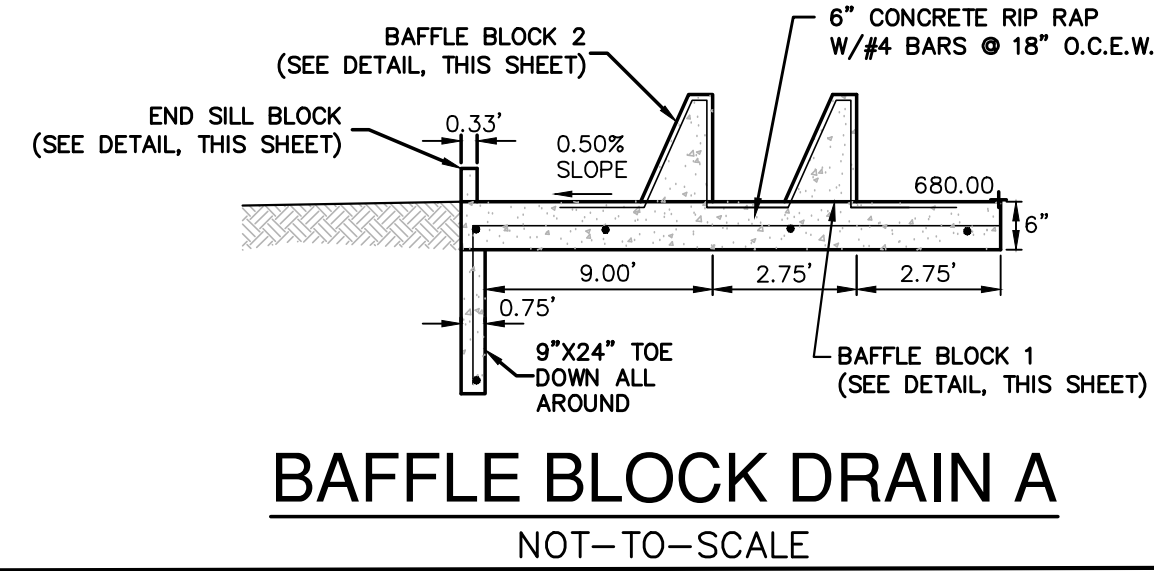
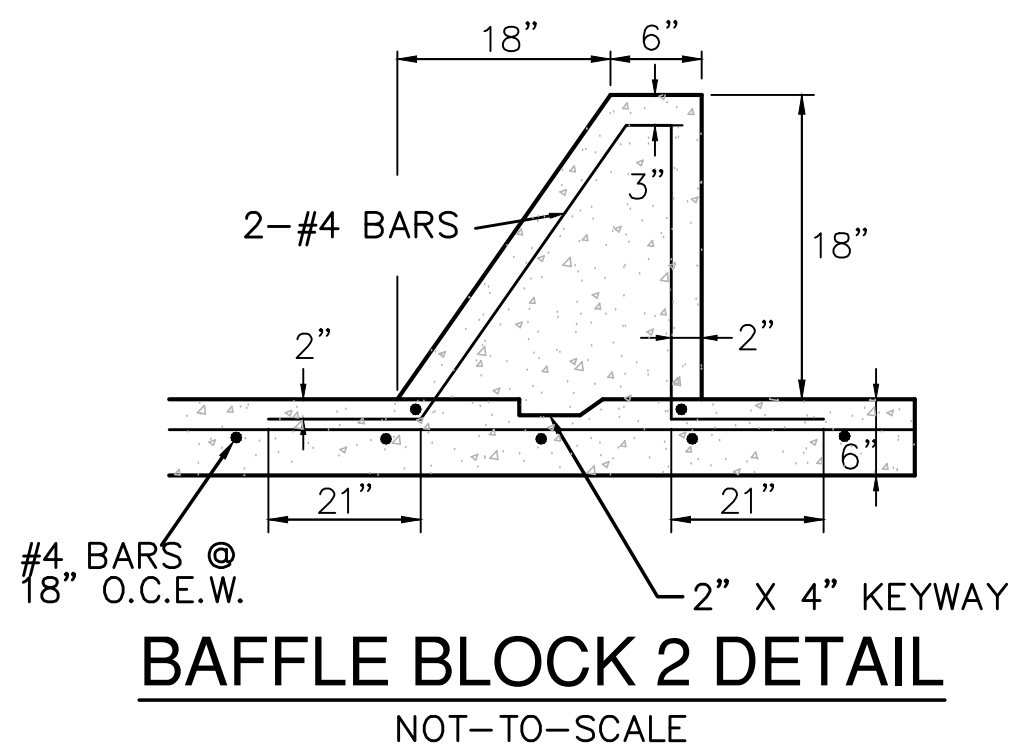
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<p>Date: Jun 13, 2025, 4:51pm User ID: owsidemeter File: P:\133\48\00 Design\Civil\DRD1334800.dwg</p>	<p>Q WATER QUALITY = 1.50</p> <p>Dn = 0.51'</p> <p>Sf = 1.50%</p> <p>V WATER QUALITY = 4.21</p> <p>n = 0.012</p> <p>D = 0.67'</p>
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THIS DOCUMENT HAS BEEN REPRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. Rely ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE EARTH/ISSUE OVERSEAS NOTED. Invenio © 2016/CAD/COD/Global Data Tools/Orthoregistry Program. IHSAA Form, Section A-2000-1

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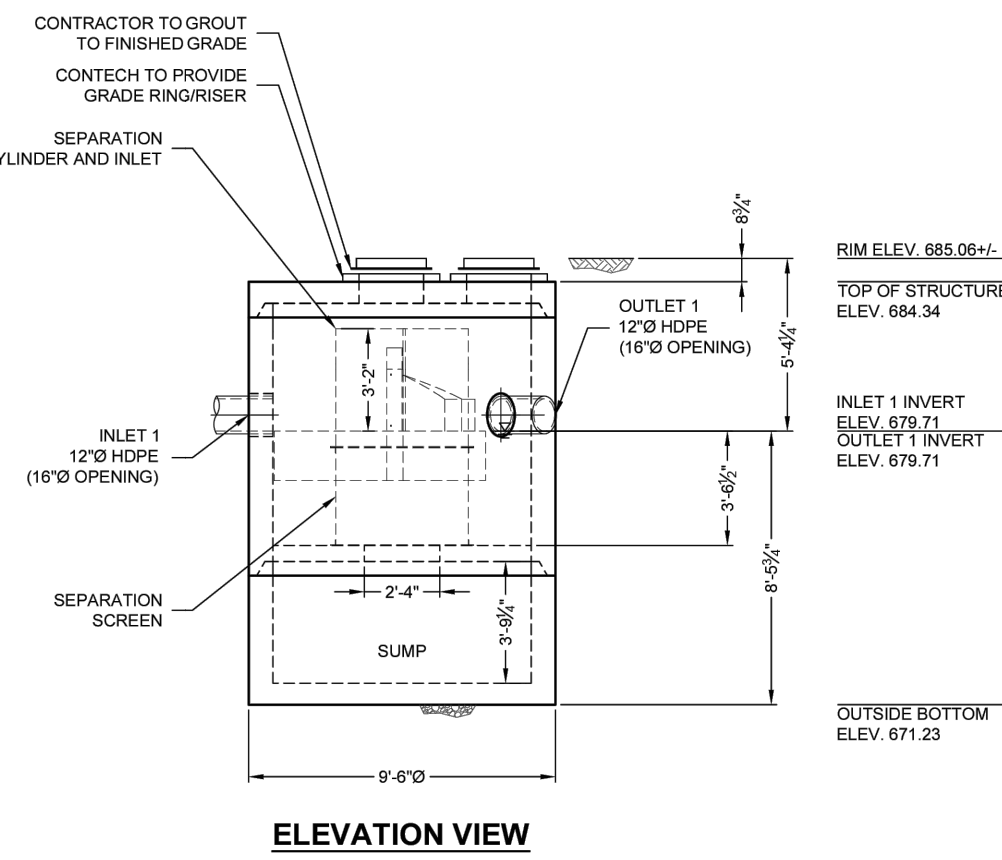


MATERIAL LIST (PROVIDED BY CONTECH)			SITE DESIGN DATA	
COUNT	DESCRIPTION	INSTALLED BY	WATER QUALITY FLOW RATE	1.47 CFS
1	2020-5 CONCENTRIC FIBERGLASS INSERT(CUSTOM)	CONTECH	PEAK FLOW RATE	OFFLINE
1	2020, 2400 micron, 2.17' O.D. x 2.25' SCREEN, GREEN FLANGE UP	CONTECH	RETURN PERIOD OF PEAK FLOW	NA
1	20, 30, 40 SERIES HARDWARE KIT	CONTECH		
1	20 SERIES PVC HYDRAULIC SHEAR PLATE*	CONTECH		
1	SEALANT FOR JOINTS	CONTRACTOR		
1	30"Ø X 4" FRAME AND COVER, EJ #41600483, OR EQUIV.	CONTRACTOR		

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechies.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0'-2" AND GROUNDWATER ELEVATION AT OR BELOW THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
7. INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.
STRUCTURE WEIGHT
APPROXIMATE HEAVIEST PICK = 8500 LBS.
STRUCTURE IS DELIVERED IN 4 PIECES
MAX FOOTPRINT = 6.00'Ø

CONTECH
PROPOSAL
DRAWING

SLY
LAYOUT 1A
SHEET 1 OF 1



MATERIAL LIST (PROVIDED BY CONTECH)			SITE DESIGN DATA	
COUNT	DESCRIPTION	INSTALLED BY	WATER QUALITY FLOW RATE	5.59 CFS
1	4030-5 CONCENTRIC FIBERGLASS INSERT(CUSTOM)	CONTRACTOR	PEAK FLOW RATE	OFFLINE
1	4030, 2400 micron, 4.1' O.D. x 3.04' SCREEN, GREEN FLANGE UP	CONTRACTOR	RETURN PERIOD OF PEAK FLOW	NA
1	20, 30, 40 SERIES HARDWARE KIT	CONTRACTOR		
1	SEALANT FOR JOINTS	CONTRACTOR		
2 PLCS	GRADE RINGS/RISERS	CONTECH		
2	24"Ø X 4" FRAME AND COVER, EJ #41600389, OR EQUIV.	CONTRACTOR		

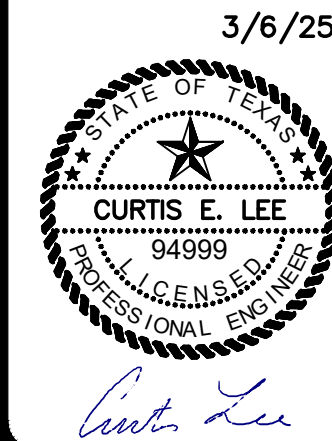
GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechies.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0'-2" AND GROUNDWATER ELEVATION AT OR BELOW THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
7. INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.
STRUCTURE WEIGHT
APPROXIMATE HEAVIEST PICK = 30000 LBS.
STRUCTURE IS DELIVERED IN 3 PIECES
MAX FOOTPRINT = 9.50'Ø

CONTECH
PROPOSAL
DRAWING

SLY
LAYOUT 1A
SHEET 1 OF 1

PAPE-DAWSON
ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #10028890

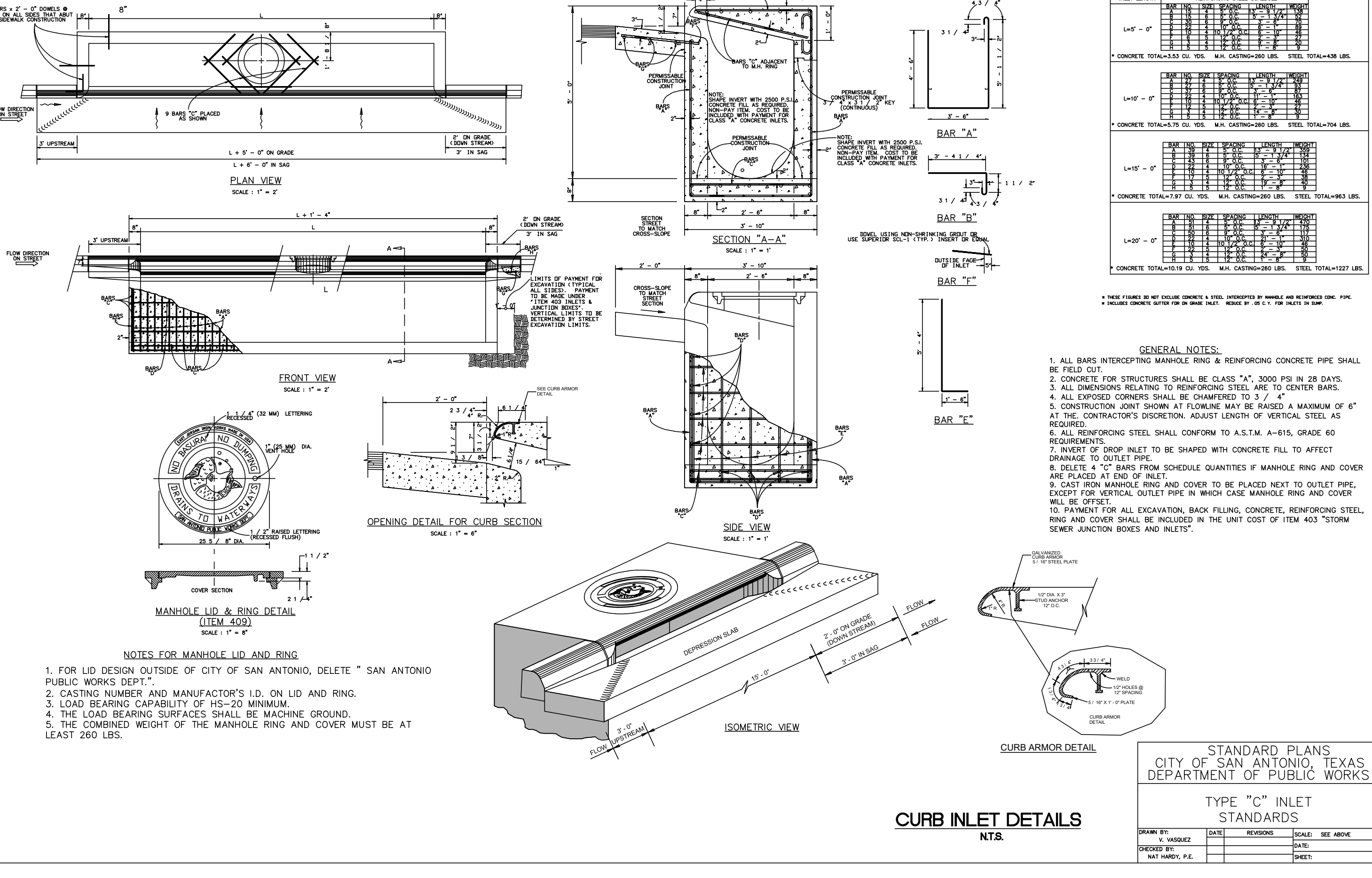
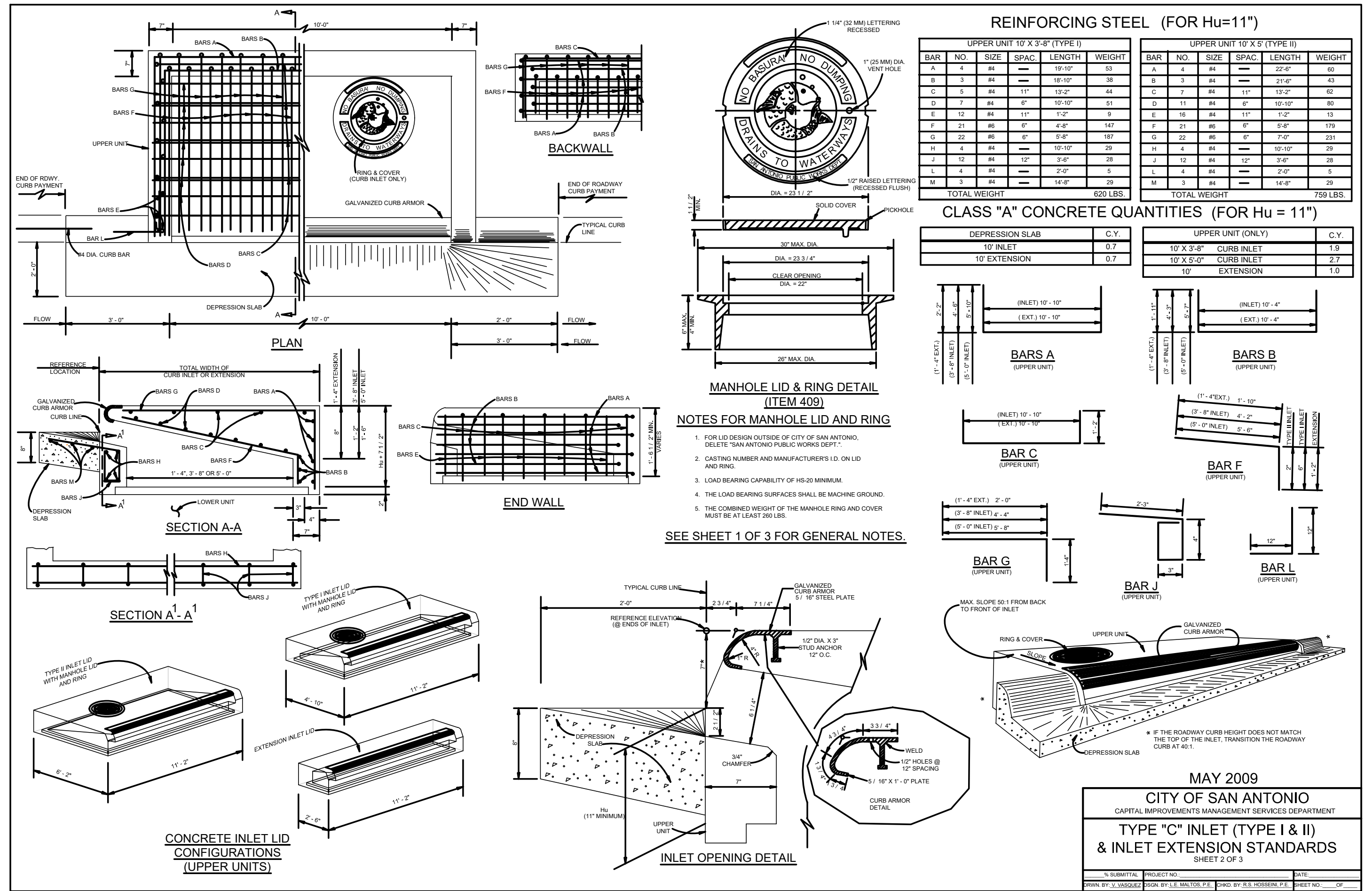
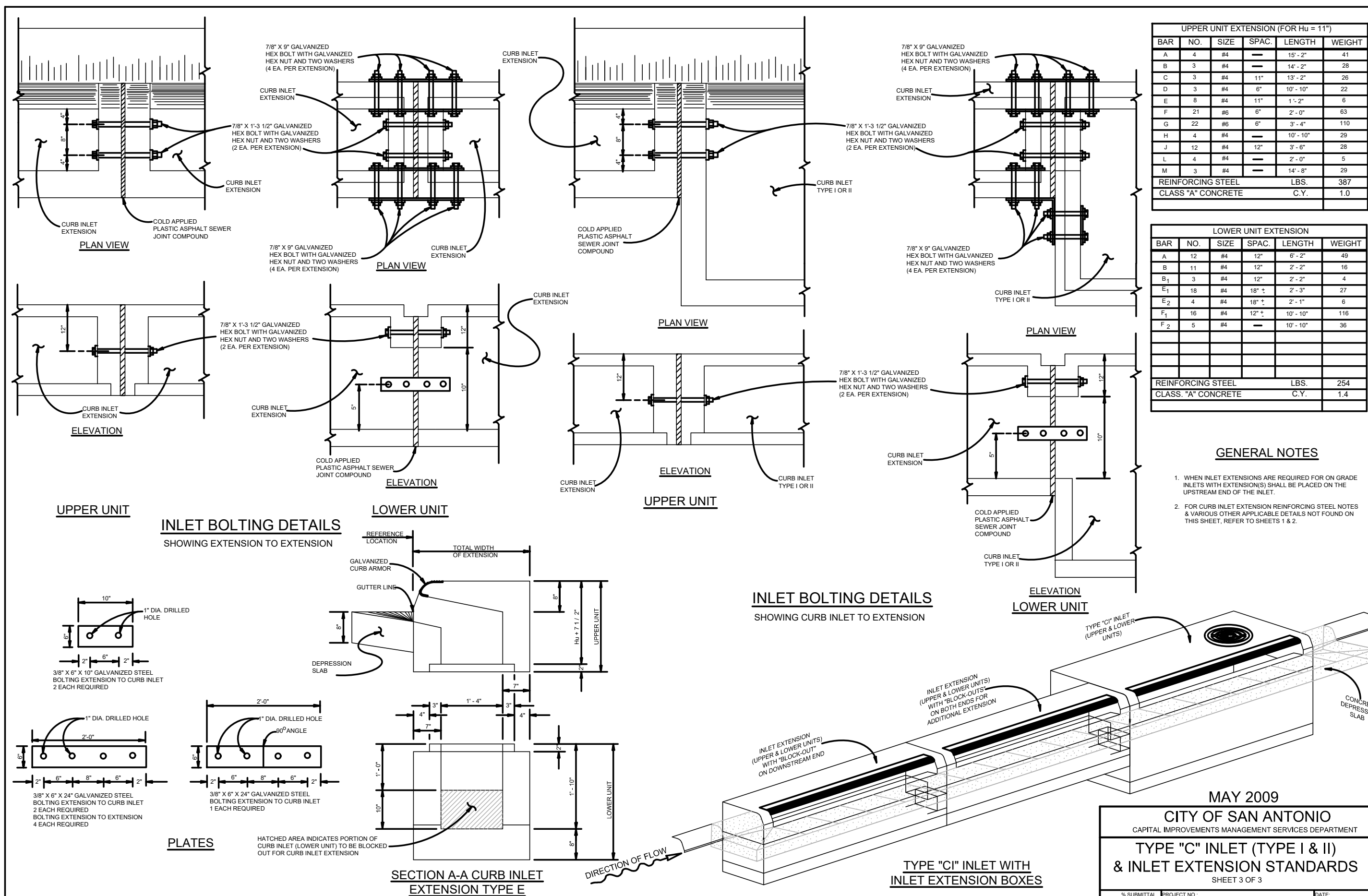
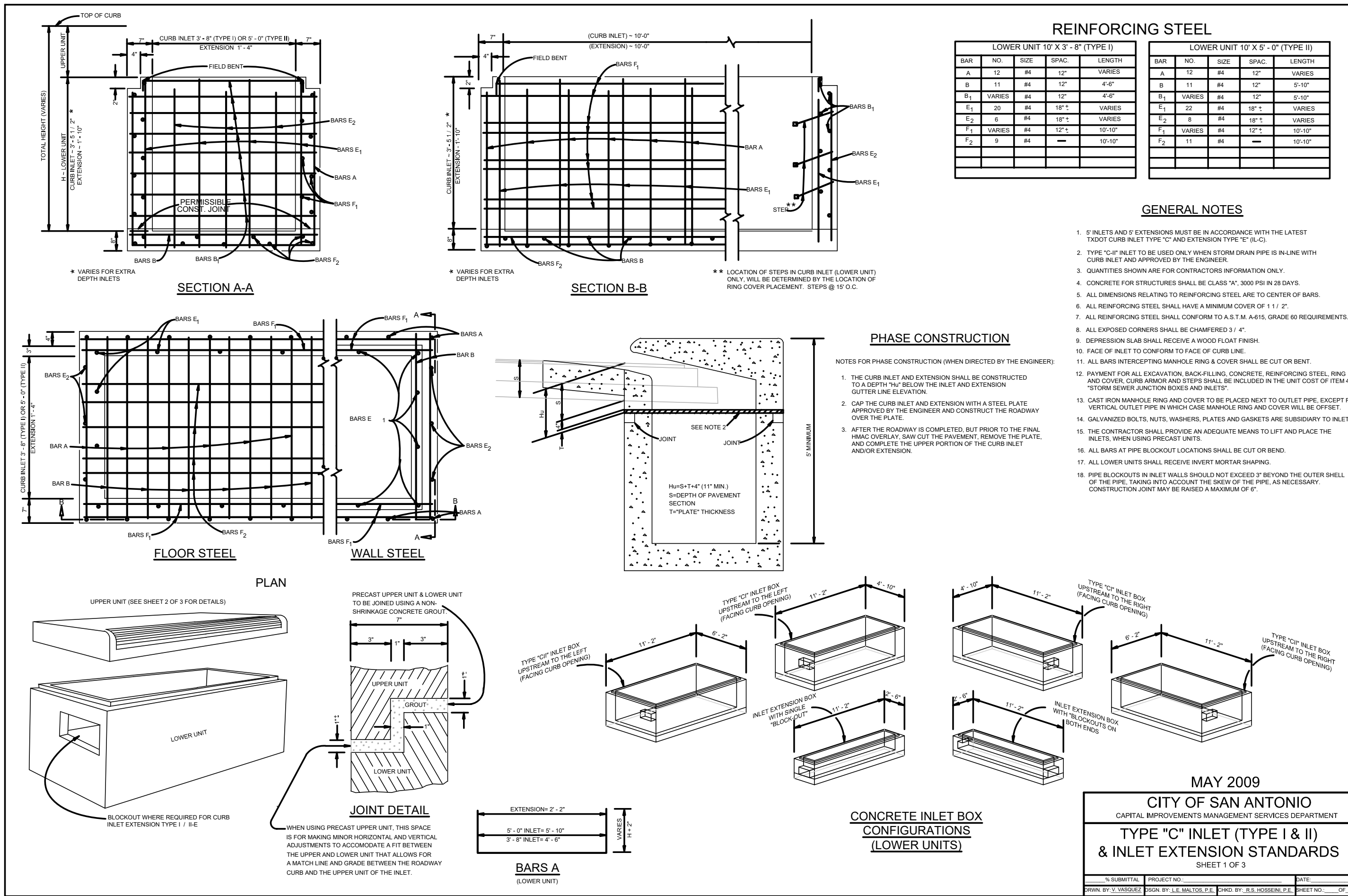
NO.	REVISION	DATE
1	CON/NEU COMMENTS	3/6/2025



SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS
DRAINAGE DETAILS
SHEET 1 OF 3

PLAT NO. -
JOB NO. 13348-00
DATE MARCH 2025
DESIGNER AW
CHECKED JG DRAWN JV
SHEET C1.10

PERMIT SET



BOX DATA

SECTION DIMENSIONS					Fill Height (ft.)	M (Min) (in.)	REINFORCING (sq. in. / ft.) ^②								① Lift Weight (tons)
S	H	TT	TB	TS			AS1	AS2	AS3	AS4	AS5	AS7	AS8		
(ft.)	(ft.)	(in.)	(in.)	(in.)											
3	2	7	6	4	< 2	-	0.17	0.25	0.16	0.10	0.17	0.17	0.14	3.3	
3	2	4	4	4	2 < 3	31	0.13	0.19	0.18	0.10	-	-	-	2.4	
3	2	4	4	4	3 - 5	31	0.10	0.11	0.12	0.10	-	-	-	2.4	
3	2	4	4	4	10	31	0.10	0.10	0.10	0.10	-	-	-	2.4	
3	2	4	4	4	15	31	0.10	0.13	0.13	0.10	-	-	-	2.4	
3	2	4	4	4	20	31	0.11	0.17	0.17	0.10	-	-	-	2.4	
3	2	4	4	4	25	31	0.14	0.21	0.21	0.10	-	-	-	2.4	
3	2	4	4	4	30	31	0.17	0.25	0.25	0.10	-	-	-	2.4	
3	2	4	4	4	35	31	0.20	0.29	0.30	0.10	-	-	-	2.4	
3	3	7	6	4	< 2	-	0.17	0.27	0.17	0.10	0.17	0.17	0.14	3.7	
3	3	4	4	4	2 < 3	31	0.10	0.22	0.21	0.10	-	-	-	2.8	
3	3	4	4	4	3 - 5	31	0.10	0.14	0.14	0.10	-	-	-	2.8	
3	3	4	4	4	10	31	0.10	0.11	0.11	0.10	-	-	-	2.8	
3	3	4	4	4	15	31	0.10	0.14	0.15	0.10	-	-	-	2.8	
3	3	4	4	4	20	31	0.10	0.18	0.19	0.10	-	-	-	2.8	
3	3	4	4	4	25	31	0.10	0.23	0.23	0.10	-	-	-	2.8	
3	3	4	4	4	30	31	0.12	0.27	0.28	0.10	-	-	-	2.8	
3	3	4	4	4	35	31	0.14	0.32	0.32	0.10	-	-	-	2.8	

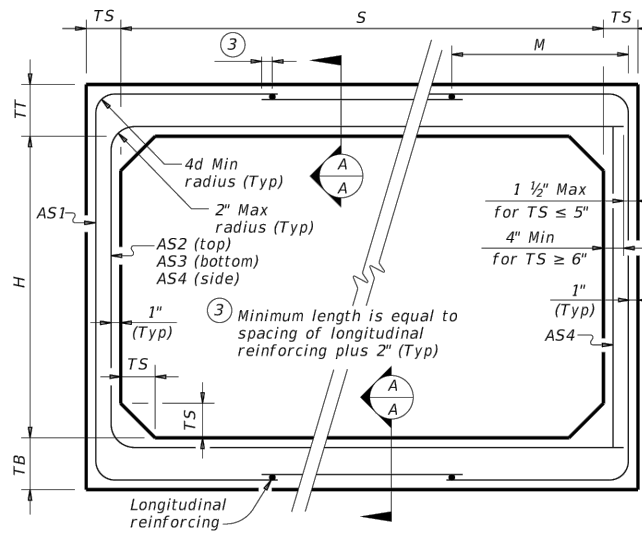
① For box length = 9'-0"

② AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.

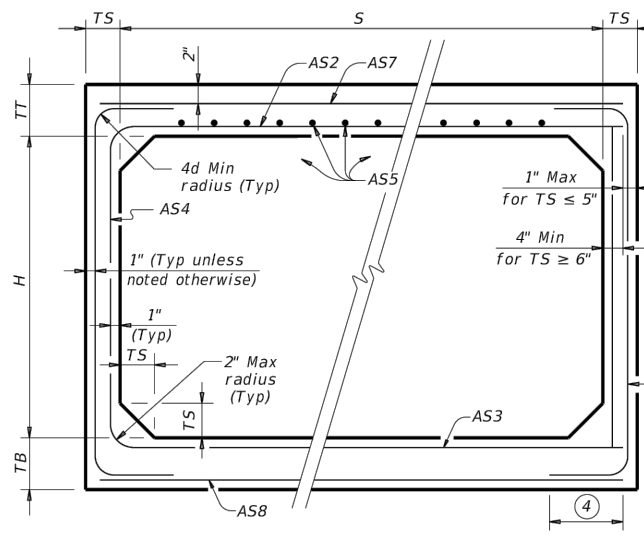
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① For box length = 8'-0"

② AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.



CORNER OPTION "A"

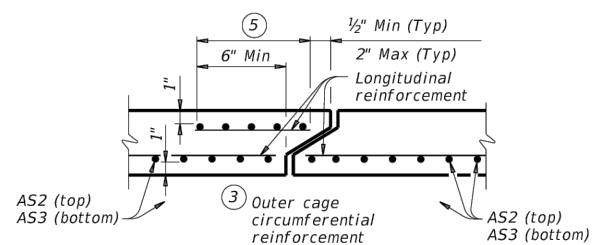


CORNER OPTION "B"

FILL HEIGHT 2 FT AND GREATER

FILL HEIGHT LESS THAN 2 FT

① Length is equal to spacing of longitudinal reinforcing plus 2" (10" Min) (Typ)



SECTION A-A
(Showing top and bottom
slab joint reinforcement.)

MATERIAL NOTES:
Provide 0.03 sq. in./ft. minimum longitudinal reinforcement at each face in slabs and walls. This minimum requirement may be met by the transverse wires when wire mesh reinforcement is used.
Provide Class H concrete ($f'_c = 5,000$ psi).

GENERAL NOTES:
Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.
See Box Culverts Precast Miscellaneous Details (SCP-MD) standard sheet for details and notes not shown.
In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Submit shop plans for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)".

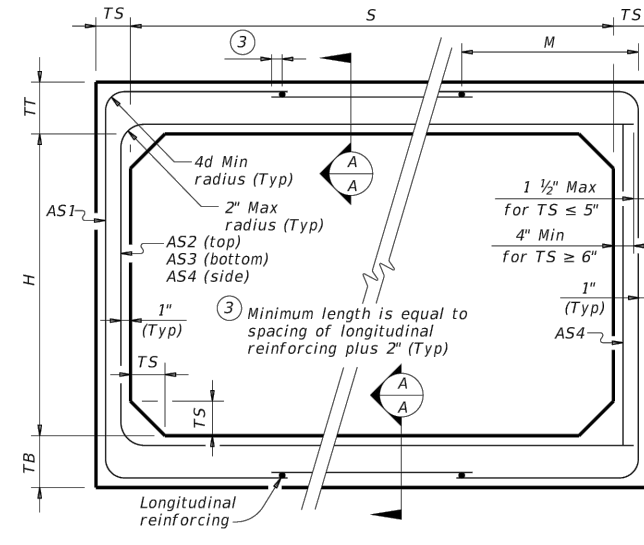
HL93 LOADING

		Bridge Design Standard	
SINGLE BOX CULVERTS PRECAST 3'-0" SPAN			
SCP-3			
Title: LD-SCVP-30-30		Rev: T-001	Rev: T-002
Date: February 2020		Rev: T-001	Rev: T-002
DATE	COUNTY	SHEET NO.	

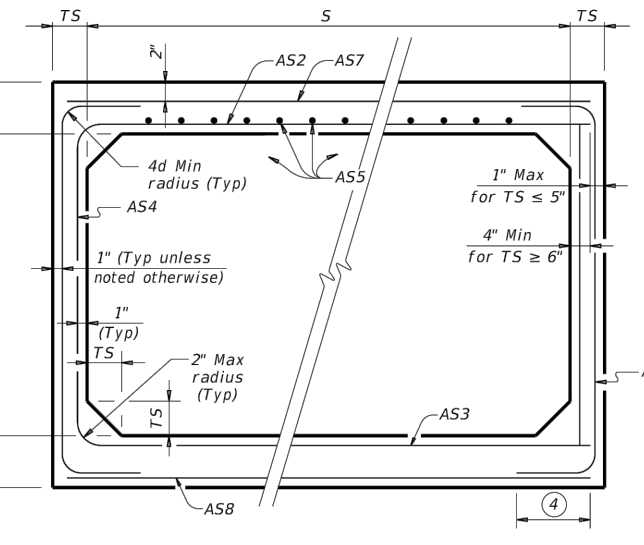
BOX DATA															
SECTION DIMENSIONS					Fill Height (ft.)	M (Min) (in.)	REINFORCING (sq. in. / ft.) ^②								① Lift Weight (tons)
S	H	TT	TB	TS			AS1	AS2	AS3	AS4	AS5	AS7	AS8		
(ft.)	(ft.)	(in.)	(in.)	(in.)											
3	2	8	7	6	< 2	-	0.19	0.27	0.18	0.14	0.19	0.19	0.17	6.0	
3	2	6	6	6	2 < 3	44	0.22	0.20	0.16	0.14	-	-	-	5.1	
3	2	6	6	6	3 - 5	44	0.16	0.14	0.14	0.14	-	-	-	5.1	
3	2	6	6	6	10	36	0.15	0.14	0.14	0.14	-	-	-	5.1	
3	2	6	6	6	15	36	0.20	0.18	0.18	0.14	-	-	-	5.1	
3	2	6	6	6	20	36	0.26	0.23	0.24	0.14	-	-	-	5.1	
3	2	6	6	6	25	36	0.33	0.29	0.29	0.14	-	-	-	5.1	
3	2	6	6	6	30	36	0.39	0.34	0.35	0.14	-	-	-	5.1	
3	3	8	7	6	< 2	-	0.19	0.31	0.21	0.14	0.19	0.19	0.17	6.6	
3	3	6	6	6	2 < 3	45	0.18	0.24	0.19	0.14	-	-	-	5.7	
3	3	6	6	6	3 - 5	36	0.14	0.17	0.16	0.14	-	-	-	5.7	
3	3	6	6	6	10	36	0.14	0.16	0.17	0.14	-	-	-	5.7	
3	3	6	6	6	15	35	0.16	0.21	0.22	0.14	-	-	-	5.7	
3	3	6	6	6	20	35	0.21	0.27	0.28	0.14	-	-	-	5.7	
3	3	6	6	6	25	35	0.26	0.34	0.34	0.14	-	-	-	5.7	
3	3	6	6	6	30	35	0.31	0.41	0.41	0.14	-	-	-	5.7	
3	4	8	7	6	< 2	-	0.19	0.33	0.24	0.14	0.19	0.19	0.17	7.2	
3	4	6	6	6	2 < 3	45	0.16	0.27	0.22	0.14	-	-	-	6.3	
3	4	6	6	6	3 - 5	45	0.14	0.19	0.18	0.14	-	-	-	6.3	
3	4	6	6	6	10	36	0.14	0.18	0.18	0.14	-	-	-	6.3	
3	4	6	6	6	15	35	0.14	0.23	0.24	0.14	-	-	-	6.3	
3	4	6	6	6	20	35	0.17	0.30	0.31	0.14	-	-	-	6.3	
3	4	6	6	6	25	35	0.21	0.37	0.38	0.14	-	-	-	6.3	
3	4	6	6	6	30	35	0.25	0.44	0.45	0.14	-	-	-	6.3	
3	5	8	7	6	< 2	-	0.19	0.35	0.26	0.14	0.19	0.19	0.17	7.8	
3	5	6	6	6	2 < 3	45	0.14	0.29	0.24	0.14	-	-	-	6.9	
3	5	6	6	6	3 - 5	45	0.14	0.21	0.20	0.14	-	-	-	6.9	
3	5	6	6	6	10	45	0.14	0.19	0.20	0.14	-	-	-	6.9	
3	5	6	6	6	15	36	0.14	0.24	0.25	0.14	-	-	-	6.9	
3	5	6	6	6	20	35	0.15	0.31	0.32	0.14	-	-	-	6.9	
3	5	6	6	6	25	35	0.18	0.38	0.39	0.14	-	-	-	6.9	
3	5	6	6	6	30	35	0.21	0.46	0.47	0.14	-	-	-	6.9	

① For box length = 8'-0"

② AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.



CORNER OPTION "A"

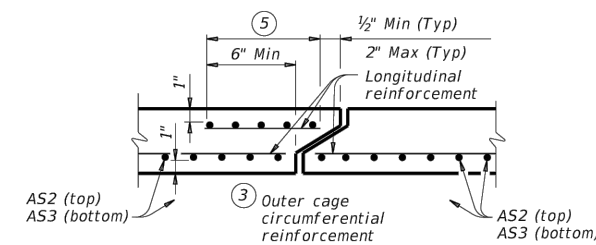


CORNER OPTION "B"

FILL HEIGHT 2 FT AND GREATER

FILL HEIGHT LESS THAN 2 FT

① Length is equal to spacing of longitudinal reinforcing plus 2" (10" Min) (Typ)



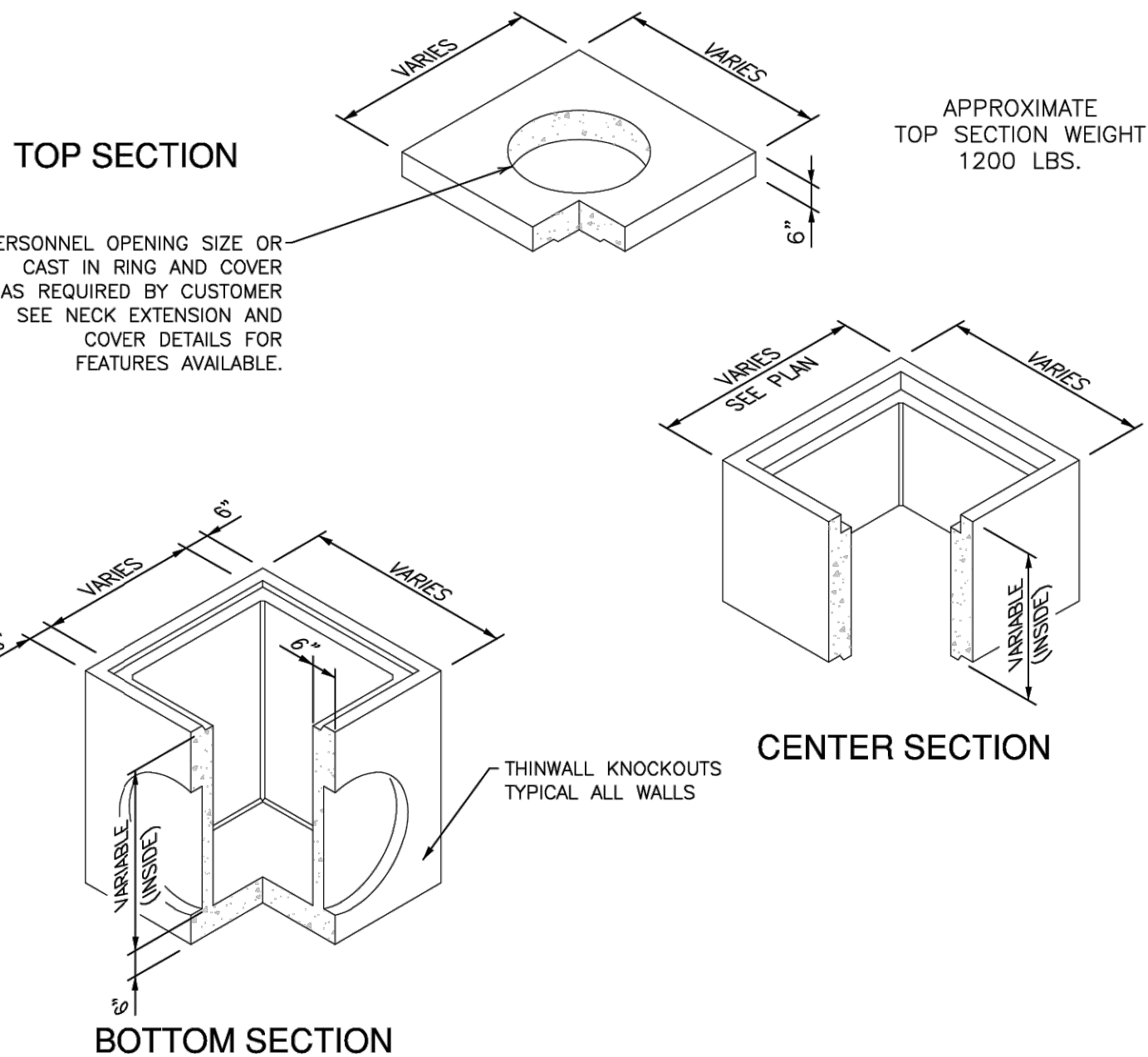
SECTION A-A
(Showing top and bottom
slab joint reinforcement.)

MATERIAL NOTES:
Provide 0.03 sq. in./ft. minimum longitudinal reinforcement at each face in slabs and walls. This minimum requirement may be met by the transverse wires when wire mesh reinforcement is used.
Provide Class H concrete ($f'_c = 5,000$ psi).

GENERAL NOTES:
Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.
See Box Culverts Precast Miscellaneous Details (SCP-MD) standard sheet for details and notes not shown.
In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Submit shop plans for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)".

HL93 LOADING

		Bridge Design Standard	
SINGLE BOX CULVERTS PRECAST 5'-0" SPAN			
SCP-5			
Title: LD-SCVP-30-30		Rev: T-001	Rev: T-002
Date: February 2020		Rev: T-001	Rev: T-002
DATE	COUNTY	SHEET NO.	



ALL CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4500 psi.

REINFORCING STEEL SHALL COMPLY WITH ASTM A615 GRADE 60, A706 GRADE 60 OR A497 GRADE 70. BAR BENDING AND PLACEMENT SHALL COMPLY WITH THE LATEST ACI STANDARDS

WATER TABLE IS AT 3'-0" BELOW GRADE FOR STANDARD STRUCTURAL DESIGN

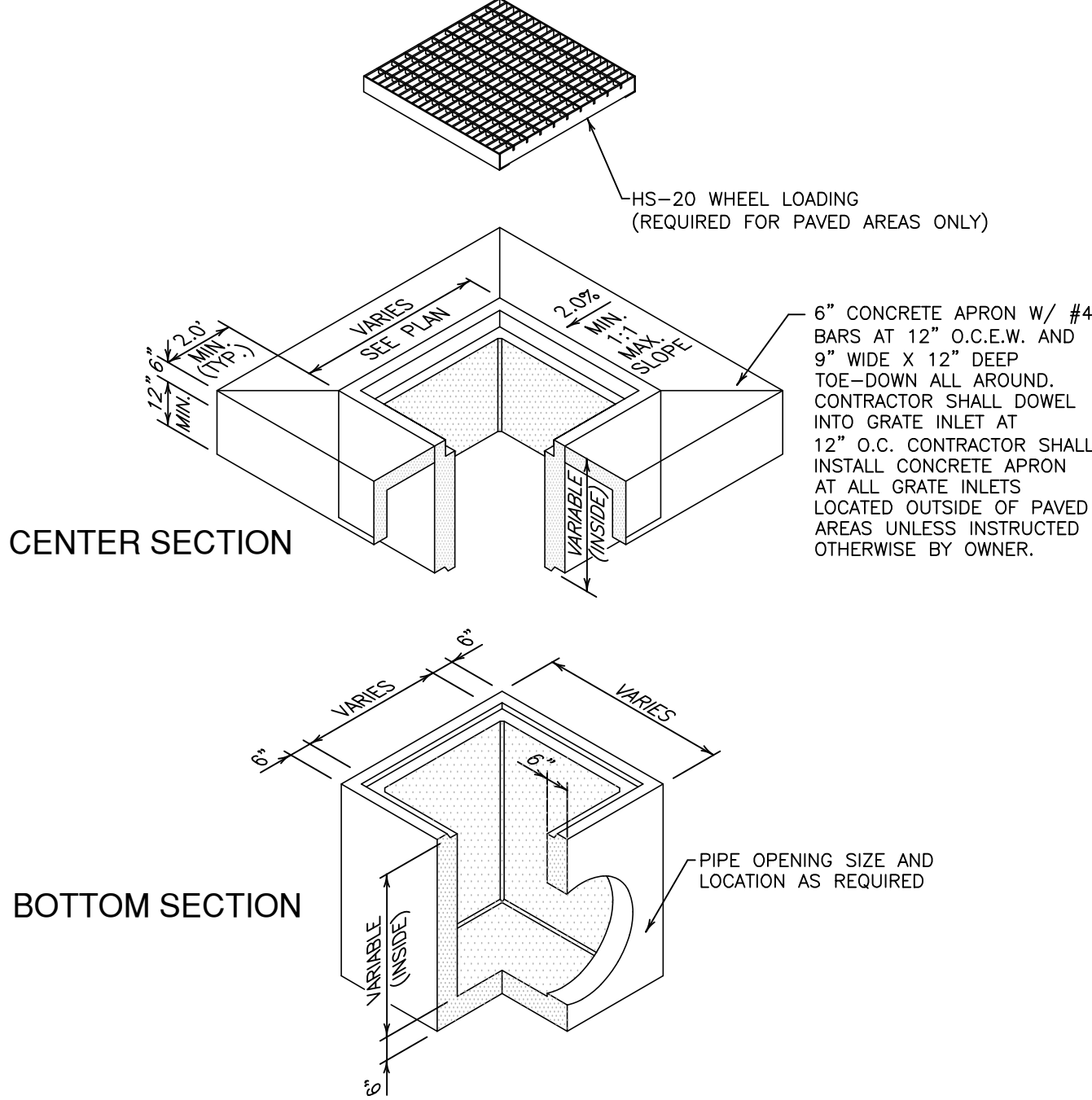
THE STANDARD DESIGN IS BASED ON THE TOP AT GRADE AND THE BASE AT 13'-0" MAX. BELOW GRADE.

THE STRUCTURE SHALL BE PLACED ON A COMPACTED GRANULAR BASE TO INSURE UNIFORM DISTRIBUTION OF SOIL PRESSURES.

SPECIAL DESIGNS BASED ON OTHER LOADINGS OR DEEPER INSTALLATION DEPTHS ARE AVAILABLE ON REQUEST. KNOCKOUTS OR PIPE OPENINGS CAN BE PROVIDED IN THE SIZE AND LOCATIONS REQUIRED.

TYPICAL PRECAST JUNCTION BOX

NOT-TO-SCALE



ALL CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4500 psi.

REINFORCING STEEL SHALL COMPLY WITH ASTM A615 GRADE 60. BAR BENDING AND PLACEMENT SHALL COMPLY WITH THE LATEST ACI STANDARDS

STANDARD STRUCTURAL DESIGN IS BASED ON AASHTO HS 20 WHEEL LOADING

WATER TABLE IS AT 3'-0" BELOW GRADE FOR STANDARD STRUCTURAL DESIGN

THE STANDARD DESIGN IS BASED ON THE TOP AT ANY ELEVATION BETWEEN FINISHED GRADE AND 5'-0" BELOW GRADE.

THE STRUCTURE SHALL BE PLACED ON A COMPACTED GRANULAR BASE TO INSURE UNIFORM DISTRIBUTION OF SOIL PRESSURES.

TYPICAL PRECAST GRATE INLET

NOT-TO-SCALE

SUNFLOWER RIDGE UNIT 2

NEW BRAUNFELS, TEXAS

DRAINAGE DETAILS
SHEET 3 OF 3

PLAT NO. -
JOB NO. 13348-00
DATE JANUARY 2025
DESIGNER AW
CHECKED JG DRAWN JV
SHEET C1.12

PAPE-DAWSON
ENGINEERS

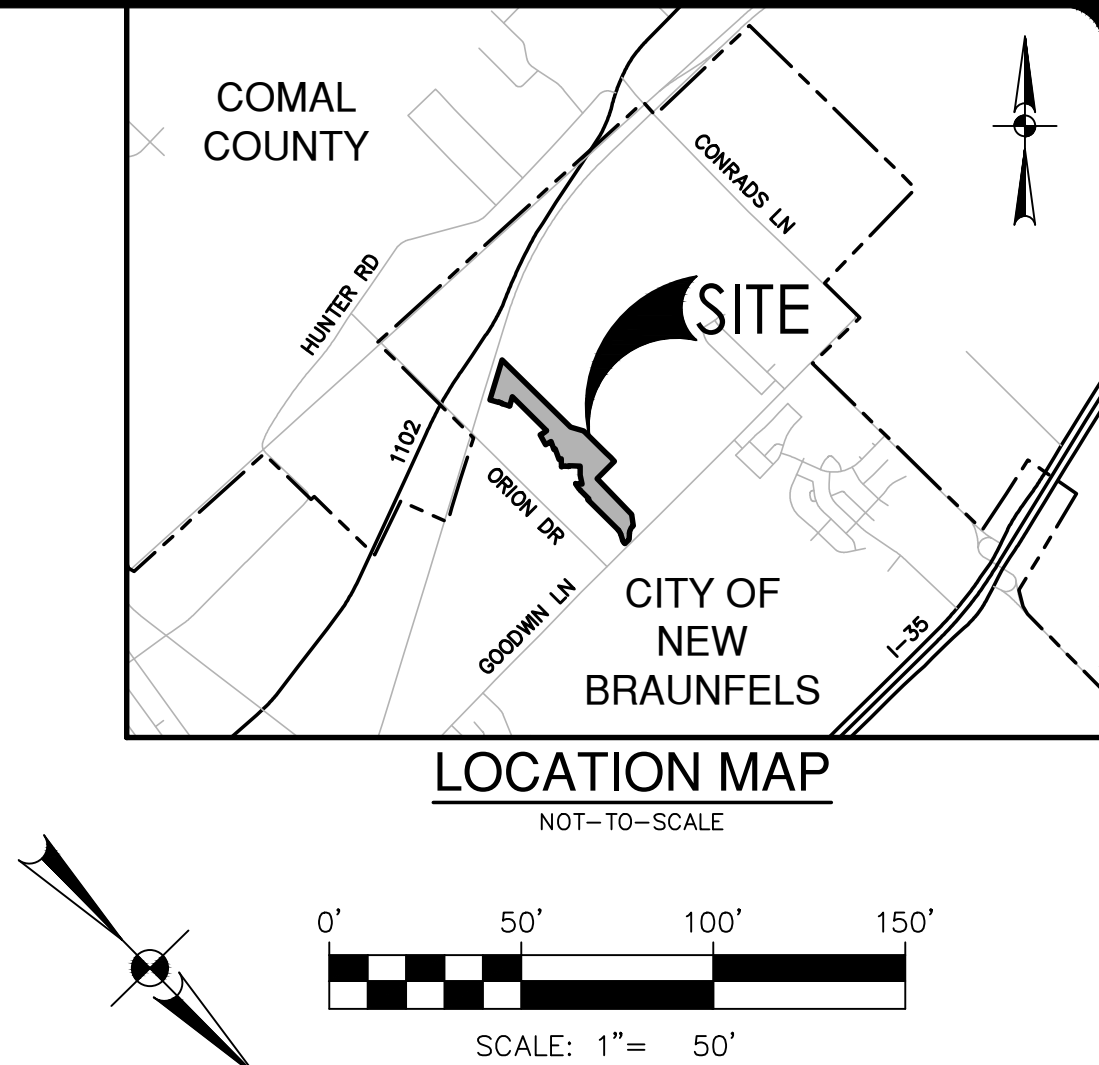
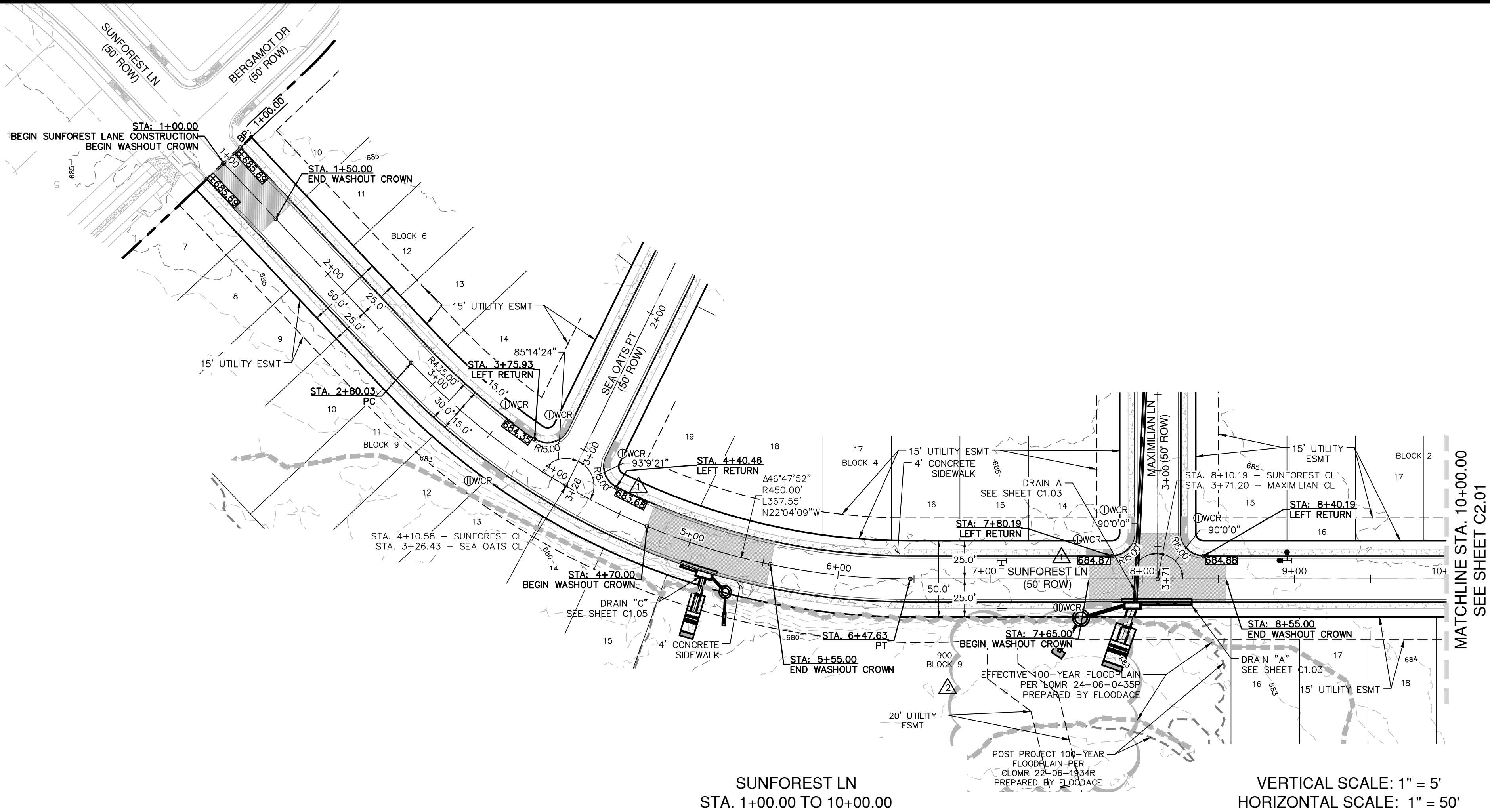
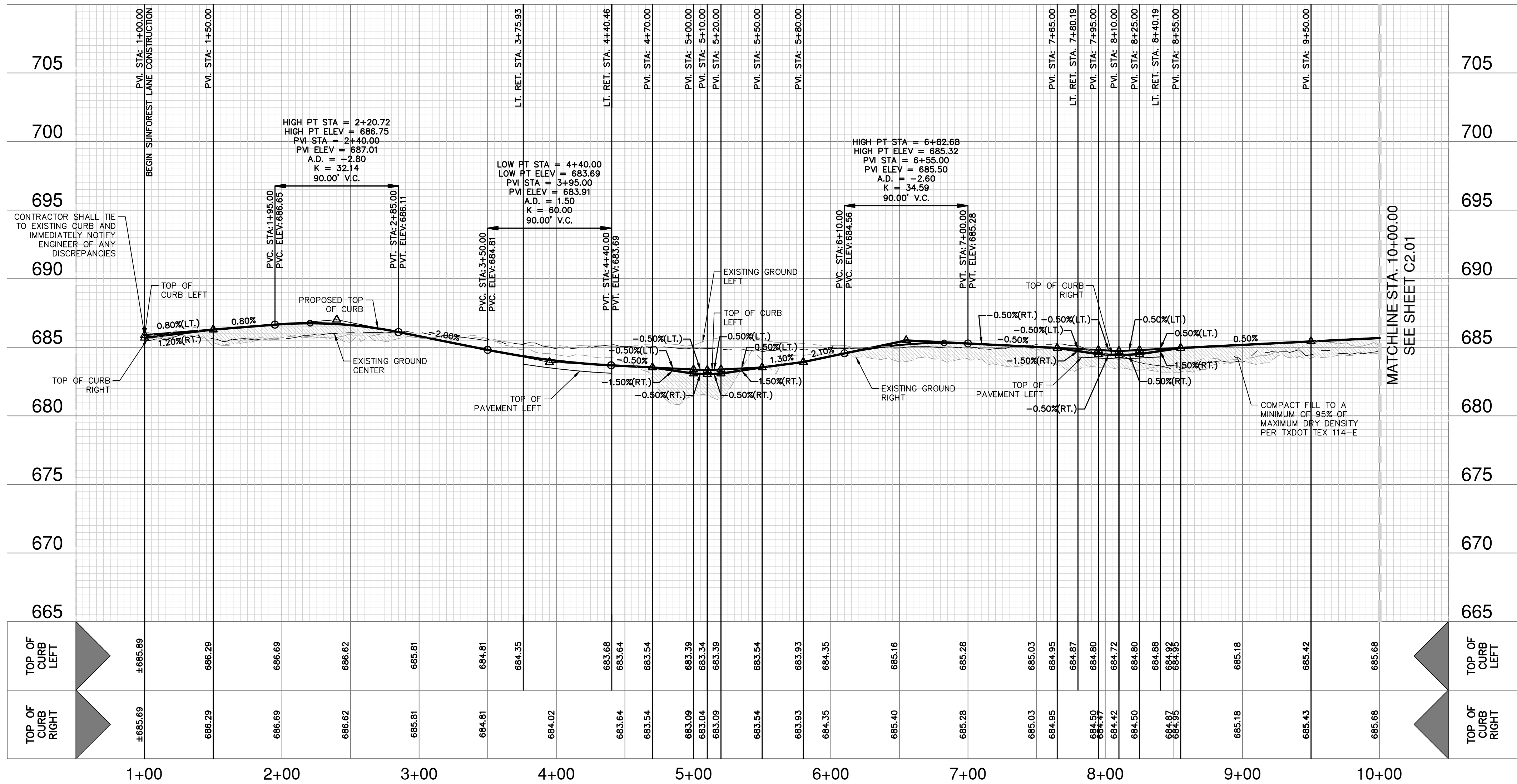
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #0028890

1/13/25
STATE OF TEXAS
CURTIS E. LEE
94588
PROFESSIONAL ENGINEER

DATE
NO. REVISION

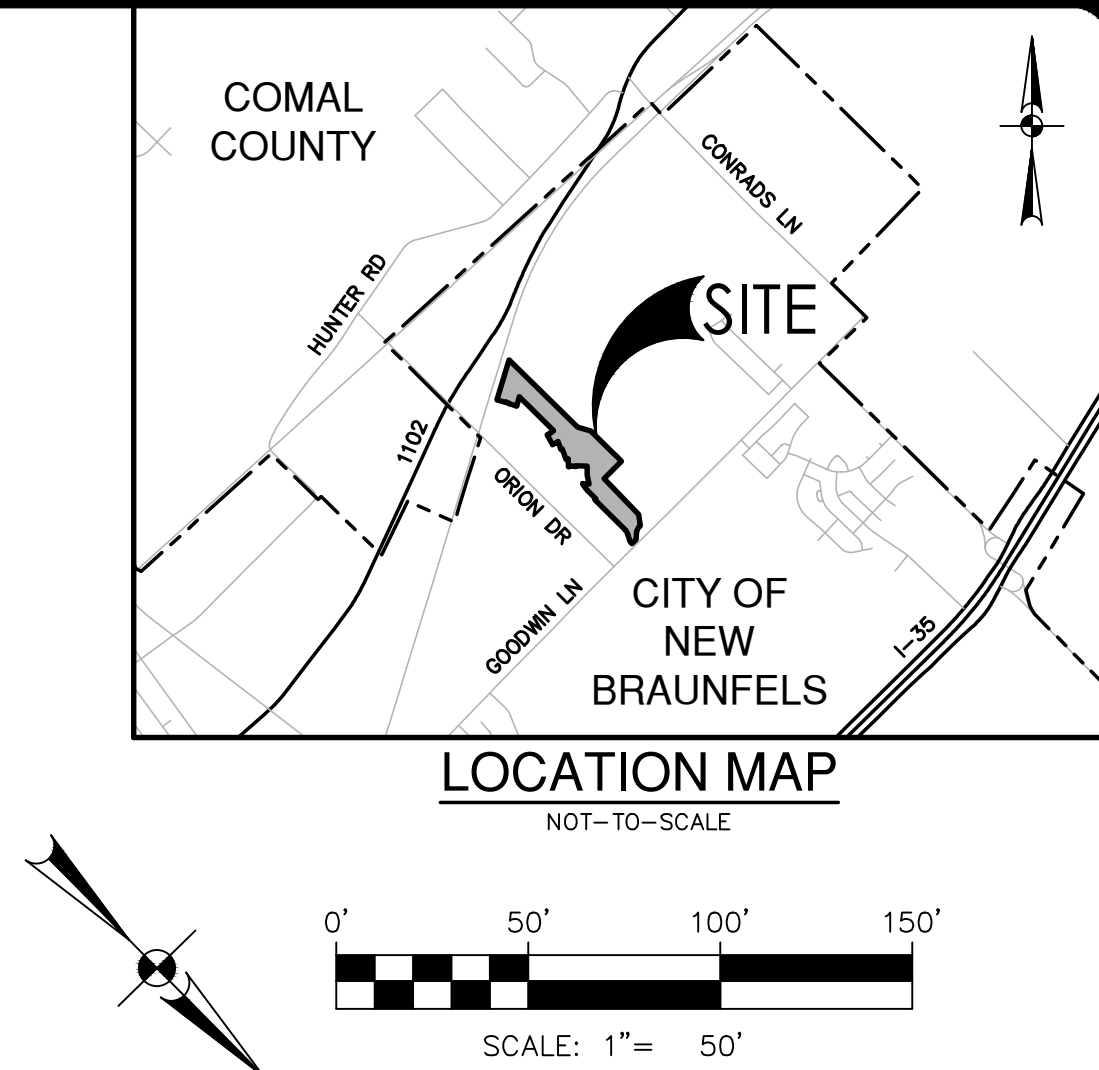
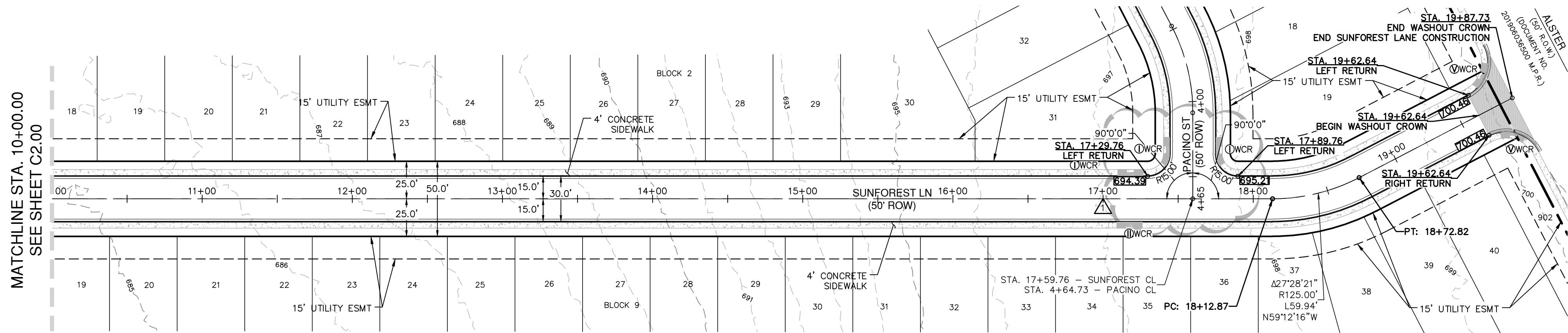
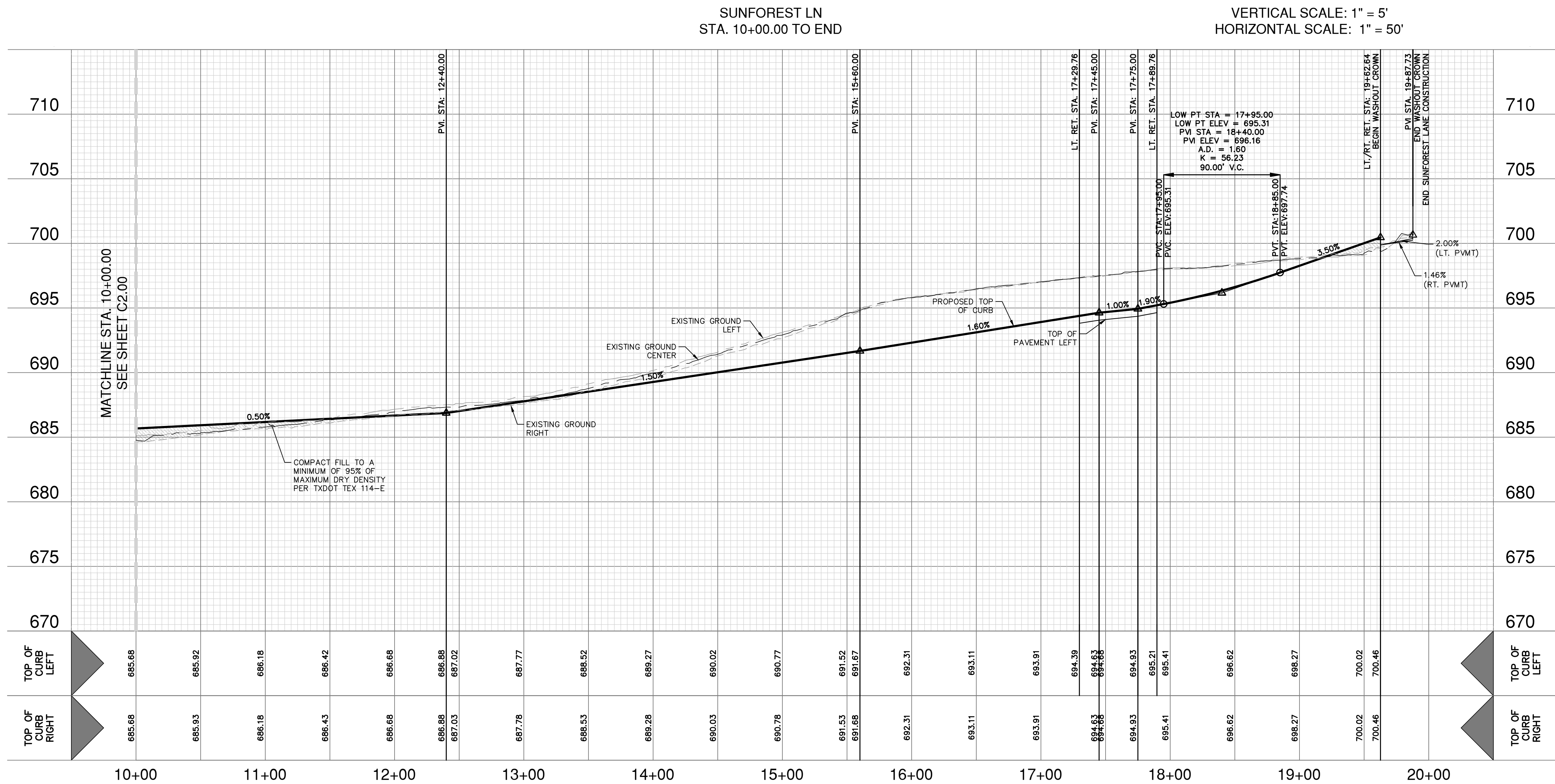
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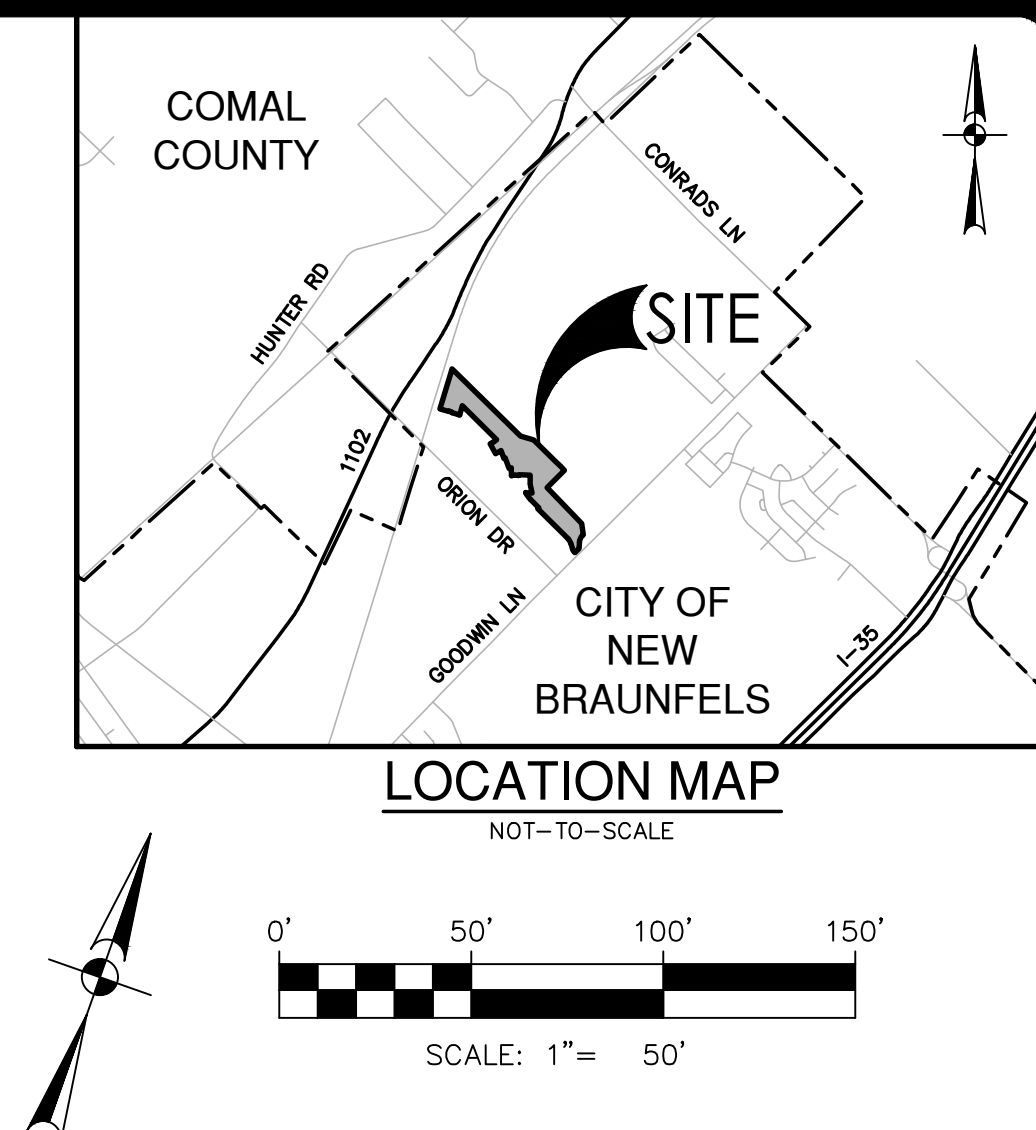
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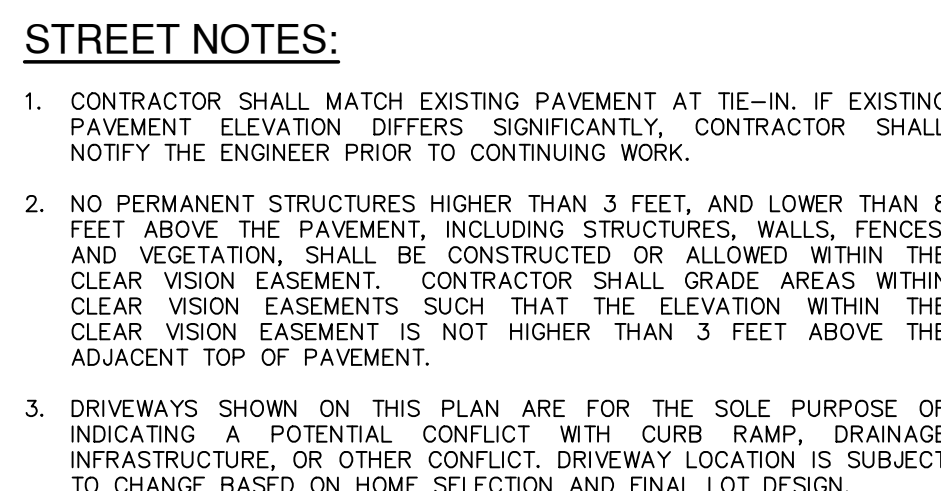
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PROJECT LIMITS	
MAINTAIN GUTTER	
EXISTING CONTOUR	
WHEELCHAIR RAMP	
CENTERLINE	
RADIUS POINT	
POINT OF CURVATURE	
POINT OF TANGENCY	
RETURN	
DRAINAGE FLOW ARROW	
TOP OF CURB SPOT ELEVATION	
PAVEMENT ELEVATION	
WASHOUT CROWN SECTION	
SIDEWALK (SEE SHEET C3.00 FOR DEVELOPER/HOMEBUILDER RESPONSIBILITY)	
DRIVEWAY	



**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.5000
TYPE FIRM REGISTRATION #470 | TYPE E FIRM REGISTRATION #10258860

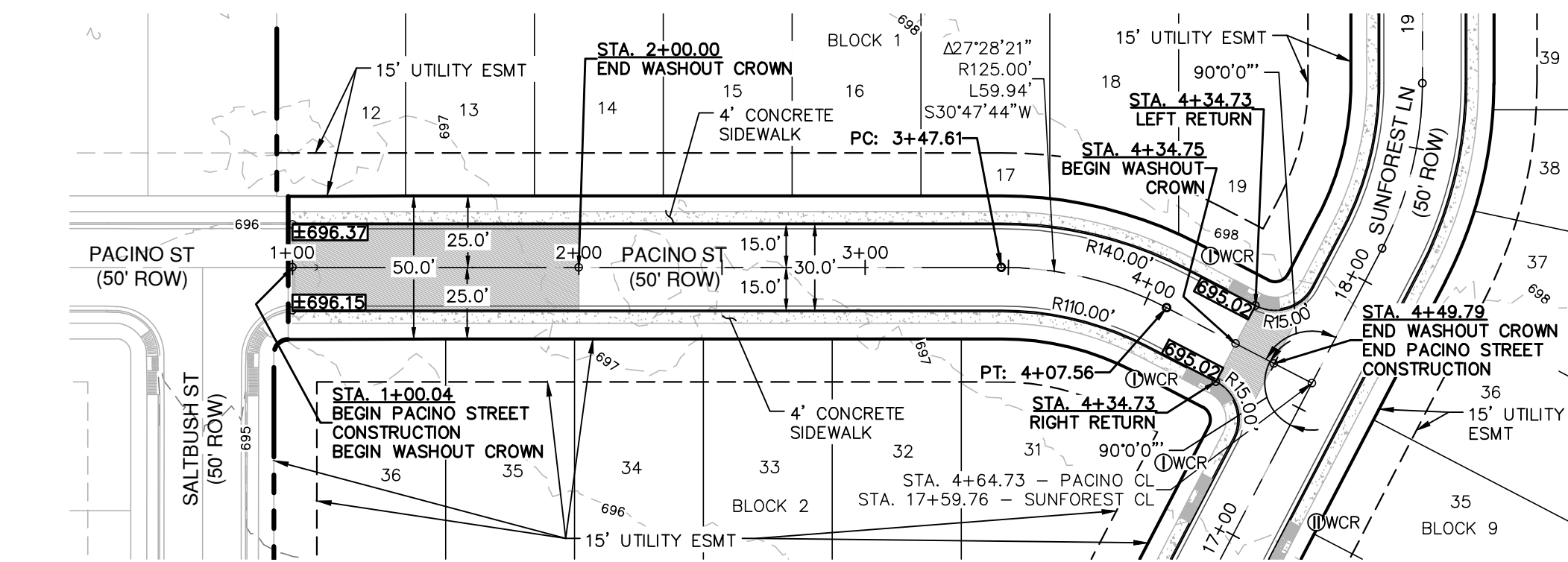
SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS

SEA OATS PT - PLAN & PROFILE
STA. 1+00.00 TO END

PLAT NO. _____ -
JOB NO. _____ 13348-00
DATE _____ JANUARY 2025
DESIGNER _____ AW
CHECKED JG DRAWN JV
SHEET _____ C2.02

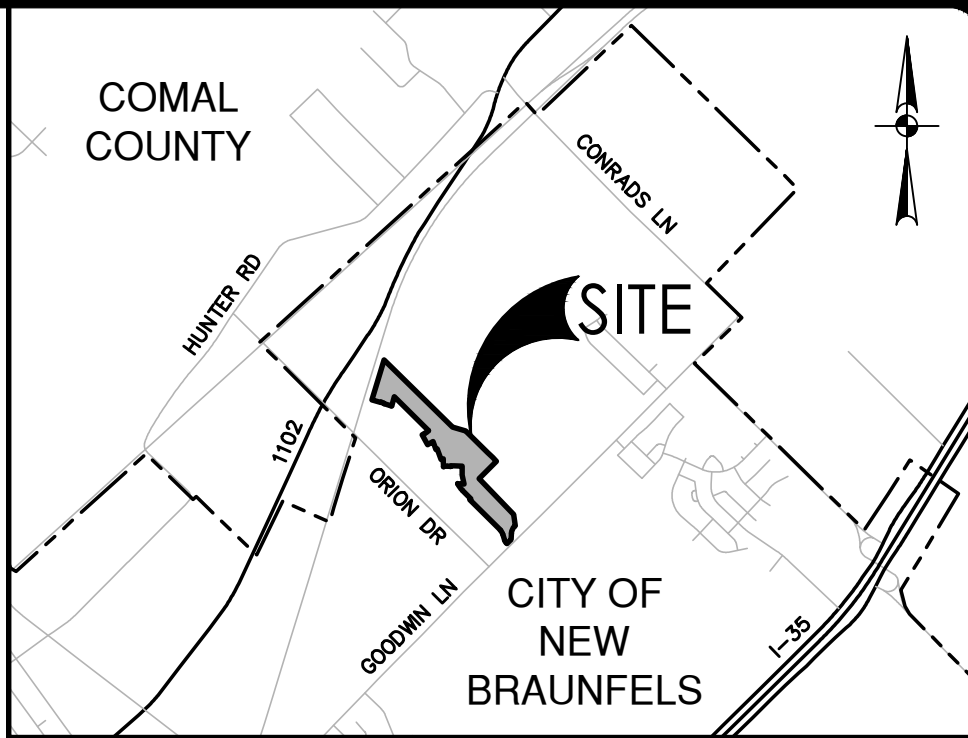
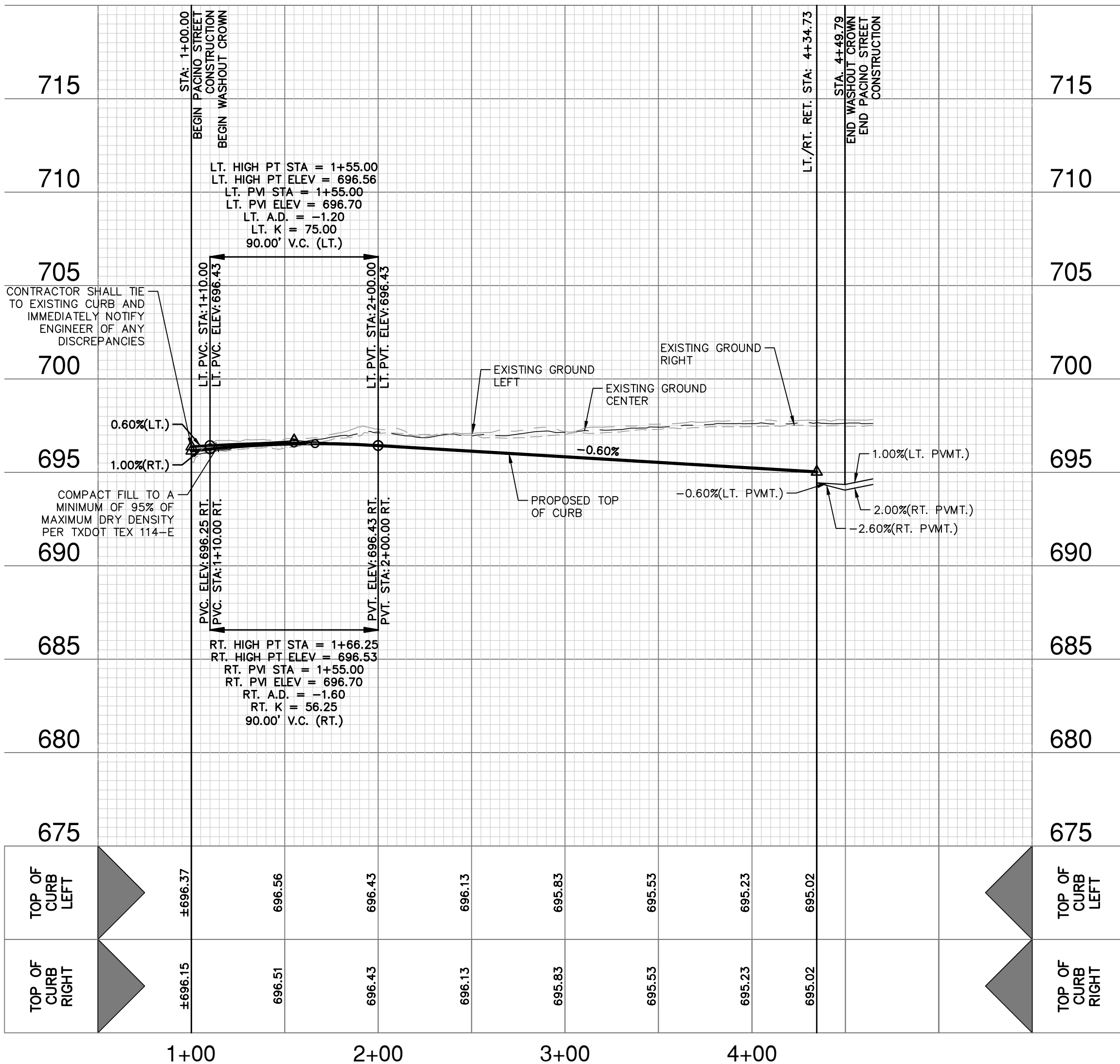
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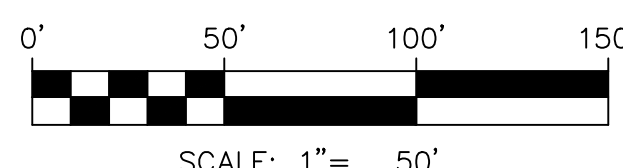
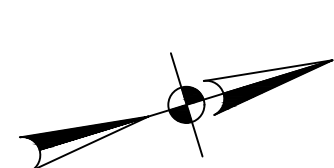
PACINO ST
STA. 1+00.00 TO END

VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



LOCATION MAP

NOT-TO-SCALE



STREET LEGEND

PROJECT LIMITS	---
MAINTAIN GUTTER	→
EXISTING CONTOUR	698
WHEELCHAIR RAMP	⊕WCR
CENTERLINE	CL
RADIUS POINT	RP
POINT OF CURVATURE	PC
POINT OF TANGENCY	PT
RETURN	RET
DRAINAGE FLOW ARROW	→
TOP OF CURB SPOT ELEVATION	697.30
PAVEMENT ELEVATION	697.57 x
WASHOUT CROWN SECTION	[Pattern]
SIDEWALK (SEE SHEET C3.00 FOR DEVELOPER/HOMEBUILDER RESPONSIBILITY)	[Pattern]
DRIVEWAY	---

PAPE-DAWSON
ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #10028800

SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS

PACINO ST - PLAN & PROFILE
STA. 1+00.00 TO END

STREET NOTES:


- CONTRACTOR SHALL MATCH EXISTING PAVEMENT AT TIE-IN. IF EXISTING PAVEMENT ELEVATION DIFFERS SIGNIFICANTLY, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WORK.
- NO PERMANENT STRUCTURES HIGHER THAN 3 FEET, AND LOWER THAN 8 FEET ABOVE THE PAVEMENT, INCLUDING STRUCTURES, WALLS, FENCES, AND VEGETATION, SHALL BE CONSTRUCTED OR ALLOWED WITHIN THE CLEAR VISION EASEMENT. CONTRACTOR SHALL GRADE AREAS WITHIN THE CLEAR VISION EASEMENT SUCH THAT THE ELEVATION WITHIN THE CLEAR VISION EASEMENT IS NOT HIGHER THAN 3 FEET ABOVE THE ADJACENT TOP OF PAVEMENT.
- DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.

PLAT NO. -
JOB NO. 13348-00
DATE JANUARY 2025
DESIGNER AW
CHECKED JG DRAWN JV
SHEET C2.04

[illegible]

NOTES:

1. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 18".
2. CURB AND GUTTER SHALL HAVE FORMED TOOLED OR SAWED CONTRACTION JOINTS AT $\leq 10'$. THE DEPTH OF THESE JOINTS SHALL BE SUFFICIENT TO ENSURE CRACKING AT THE JOINTS.
3. CURB OR CURB AND GUTTER SHALL HAVE EXPANSION JOINTS AT POINTS OF CURVATURE, AT INTERVALS NO GREATER THAN 100' AND AT ALL ADJACENT STRUCTURES.
4. UNLESS OTHERWISE SHOWN, TRANSITIONS BETWEEN CURBS OR CURBS AND GUTTER DIFFERING CROSS SECTION SHALL BE ACCOMPLISHED OVER A 10' LENGTH OR AS APPROVED BY THE CITY ENGINEER.
5. ALL CONCRETE TO BE CLASS "A" 3000 PSI CONCRETE.
6. ALL EXPOSED CONCRETE SURFACES TO BE BRUSHED SMOOTH AND UNIFORM.

DATE APPROVED: 7/08	DWG. NO: ST-013	SCALE: N.T.S.		ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 1 OF 1			
FILENAME: Curb & Gutter P:\CURRENT NEW BRAUNFELS DETAILS\2008\				

RADIUS PLAN VIEW

PROPERTY LINE

DRIVEWAY

1/2" MIN. - 2" MAX.
THROAT AT PROPERTY LINE

HIGH POINT
SEE NOTE #6

CONCRETE

14% MAX.

WEAKENED PLANE JOINT

SIDEWALK SLOPE
1:12 MAX

DUMMY JOINT
SEE NOTE #4

EXPANSION JOINT
SEE NOTE #7

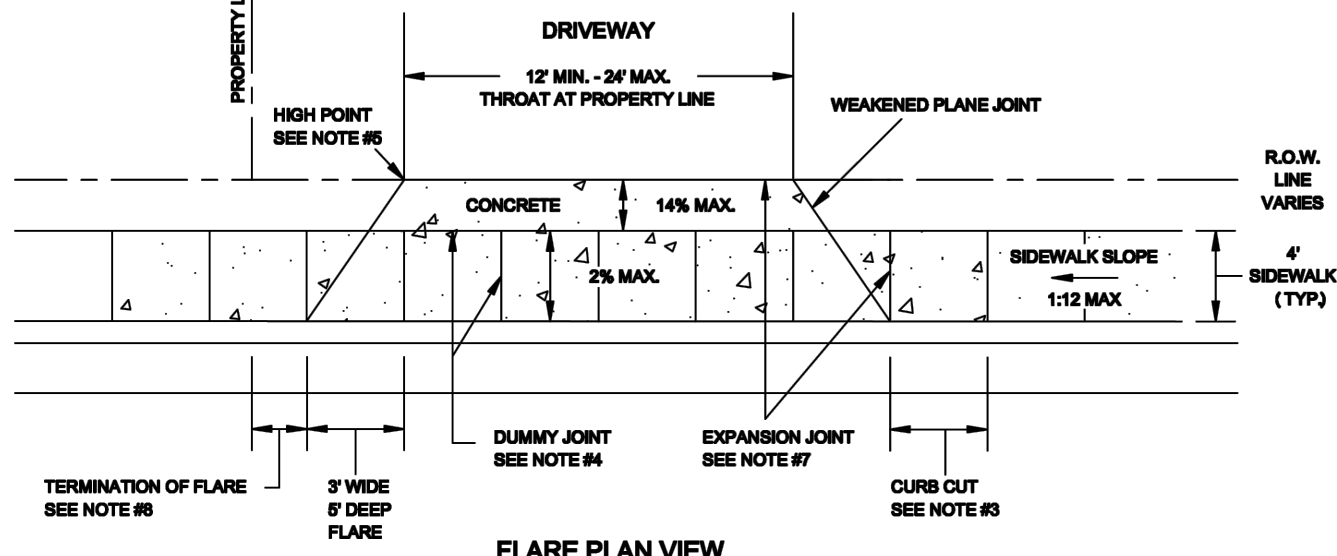
CURB CUT
SEE NOTE #3

TERMINATION OF RADIUS
SEE NOTE #8


R.O.W. LINE VARIES

SIDEWALK (TYP)

RADIUS PLAN VIEW



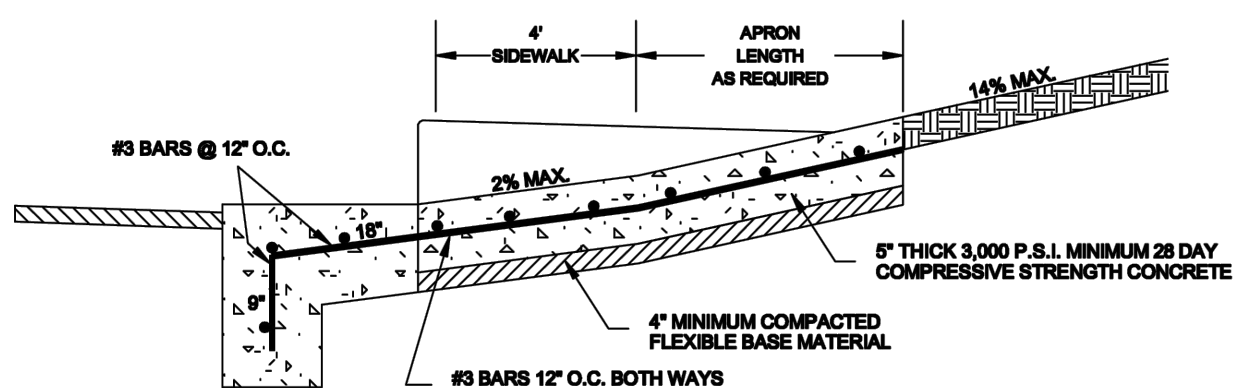
FLARE PLAN VIEW

DATE APPROVED: 7/08	DWG. NO: ST-014.1	SCALE: N.T.S.		ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 1 OF 2			
FILENAME: DRIVEWAY (Residential - Radial/Flared) P:\CURRENT NEW BRAUNFELS DETAILS\2008\				

A cross-sectional diagram of a sidewalk apron. The diagram shows a sidewalk on the left, a vertical curb, and an apron sloping down to the right. Dimensions and materials are labeled with leader lines:


- 4"**: Dimension for the sidewalk width.
- APRON LENGTH AS REQUIRED**: Label for the sloped section.
- 1/2" MAX.**: Maximum height of the curb.
- 2% MAX.**: Maximum slope of the apron.
- 1% MAX.**: Maximum slope of the area beyond the apron.
- 1/2" DOWELS 8" INTO EXISTING UTTER 10' O.C.**: Label for the dowels at the sidewalk edge.
- #6 BARS 12" O.C. BOTH WAYS OR #4" WIDESPREAD WELDED WIRE FLAT SHEETS**: Label for the reinforcement in the concrete.
- 4" MINIMUM COMPACTED FLEXIBLE BASE MATERIAL**: Label for the base layer under the concrete.
- 8" THICK 3,000 P.S.I. MINIMUM 28 DAY COMPRESSIVE STRENGTH CONCRETE**: Label for the concrete apron.

STRUCTURAL SECTION



NO EXISTING CURB STRUCTURAL SECTION

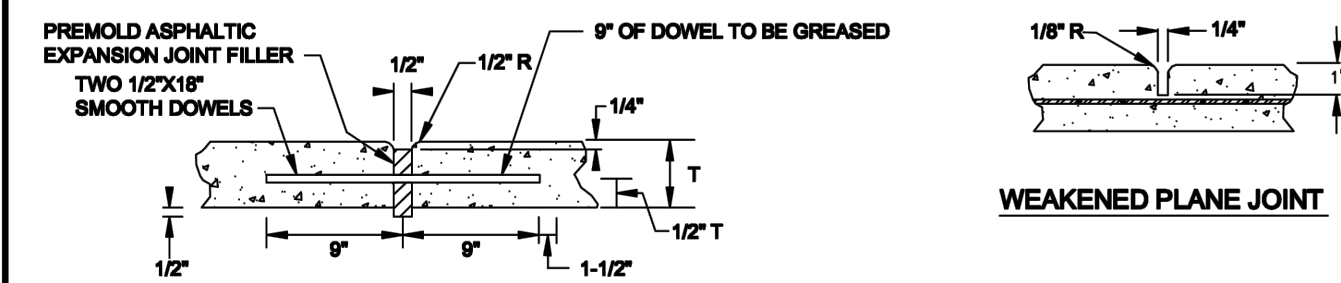
- NO EXISTING CURB STRUCTURAL SECTION**
- NOTES:**
1. WHERE GUTTER DOWNS DO NOT EXIST DRIVEWAY APRON SHALL EXTEND TO EDGE OF ASPHALT AND SHALL HAVE A MINIMUM 6" WIDE 1" DEEP GRADE BEAM MONOLITHIC AND REINFORCED SIMILAR TO APRON.
 2. PLACEMENT OF SIDEWALK SHALL BE USUAL; HOWEVER, ALTERNATIVE SIDEWALK PLACEMENT COMMON TO DRIVEWAY APRON WILL BE CONSIDERED PROVIDED CROSS SLOPE OF SIDEWALK IS NO GREATER THAN 2%.
 3. CURB CUT LENGTH NO GREATER THAN AS REQUIRED TO MATCH SLOPE OF ADJACENT SIDEWALK.
 4. DUMMY JOINTS TO BE PROVIDED AT MINIMUM 4'-FT. INTERVALS PERPENDICULAR TO THE CURB LINE WITHIN THE SIDEWALK AREA AND PARALLEL TO THE SIDEWALK AREA.
 5. PROVIDE A MINIMUM 7" HIGH POINT. HIGH POINT HEIGHT SHALL BE MEASURED FROM THE GUTTER FLOW LINE TO THE DRIVEWAY APRON. NOTE HIGH POINT MAY OCCUR OUTSIDE OF ROW.
 6. DRIVEWAY THROAT TRANSITION MAY OCCUR OUTSIDE OF ROW.
 7. PROVIDE EXPANSION JOINTS AT ALL SIDEWALK AND DRIVEWAY THROAT JOINTS. EXPANSION JOINTS SHALL BE PLACED USING 12" ASPHALTIC MATERIAL WITH 12" DOWELS 18" O.C.
 8. THE TANGENT POINT OF THE DRIVEWAY CURB RETURN AT THE PUBLIC ROADWAY LINE OR FLARE SHALL BE A MINIMUM DISTANCE OF 1' OFF THE PROPERTY PROJECTED PERPENDICULAR TO THE STREET CENTERLINE. EXCEPT SINGLE FAMILY LOTS, DRIVEWAY CURB SHALL BE FAMILY ZERO LOT LINE LOTS WHERE THE DRIVE IS ON THE ZERO LOT LINE, THE TANGENT POINT OR FLARE SHALL BE NO GREATER THAN 3' BEYOND THE ADJOINING PROPERTY LINE PROJECTED PERPENDICULAR TO THE STREET CENTERLINE.
 9. ALL SIDEWALK AND DRIVEWAY CONSTRUCTION SHALL MEET A.D.A. SPECIFICATIONS.

DATE APPROVED: 7/08	DWG. NO: ST-014.2	SCALE: N.T.S.		ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 2 OF 2			
FILENAME: DRIVEWAY (Residential - Radial/Flared) P:CURRENT NEW BRAUNFELS DETAILS(2008)				

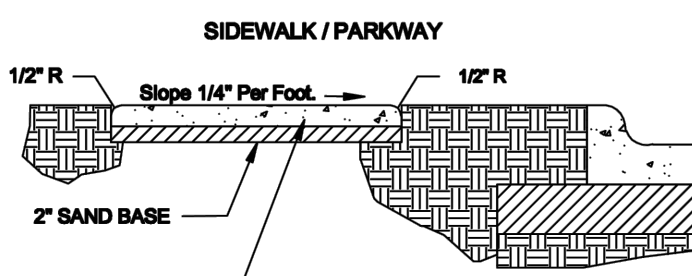
The diagram illustrates a cross-section of a concrete sidewalk. Key features include:

- Expansion Joints:** Indicated by vertical lines with hatching on the left and right ends, labeled "1/2" EXPANSION JOINT AT 24'-0" INTERVALS, AT COLD JOINTS AND AT BEGINNING AND END OF SIDEWALK".
- Cut Joints or Weakened Joints:** Indicated by vertical lines with hatching, labeled "CUT JOINTS OR WEAKENED JOINTS EVERY 4'-0"".
- Reinforcement:** A grid of reinforcement is shown within the concrete, labeled "6"x6" - W2.8xW2.9 WELDED WIRE FLAT SHEETS OR #4 (306) 10mm REINFORCING STEEL @ 18" ON CENTER EACH WAY".
- Dimensions:** A total length of "24'-0"" is shown at the top, with two "4'-0"" segments marked below it.
- Label:** "PLAN VIEW" is centered below the diagram.

PLAN VIEW




WEAKENED PLANE JOINT

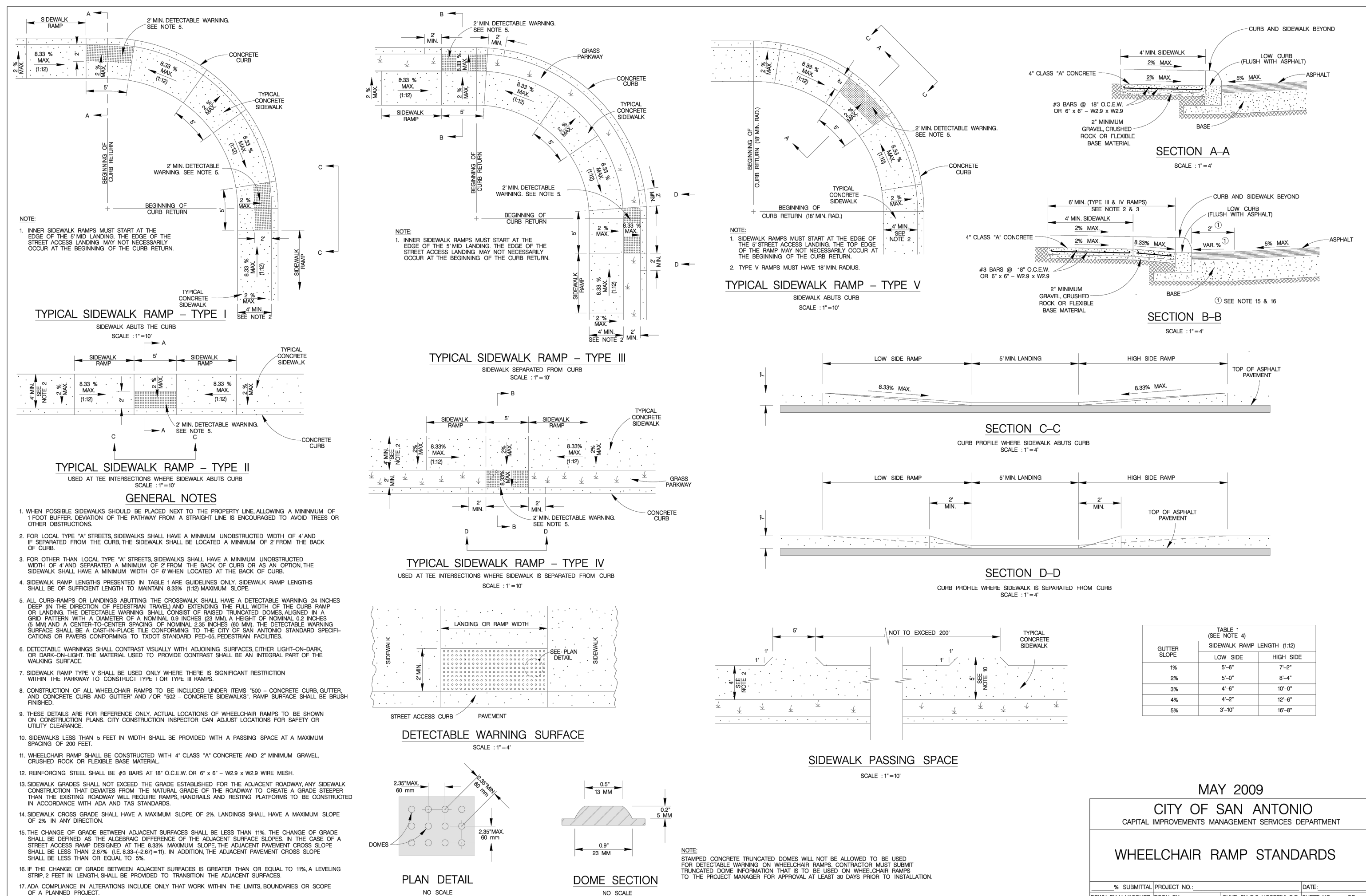


TYPICAL SECTION

NOTES:

1. EXPANSION JOINTS ARE TO BE USED BETWEEN CONCRETE DRIVEWAY AND SIDEWALK.
2. SCORED JOINTS DENOTE SIDEWALK ACROSS THE DRIVEWAY AND ARE TO BE PLACED AT LEAST 1/3 rd. THROUGH THE SLAB THICKNESS.
3. ALL SIDEWALK AND DRIVEWAY CONSTRUCTION SHALL MEET A.D.A. SPECIFICATIONS.

DATE APPROVED: 7/08	DWG. NO: ST-016	SCALE: N.T.S.		ENGINEERING DEPARTMENT
DRAWN BY: RAS	SHEET: 1 OF 1			
FILENAME: SIDEWALK (Residential) P:\CURRENT NEW BRAUNFELS DETAILS\2008\				



MAY 2009

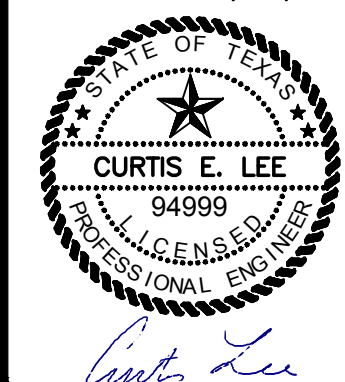
CITY OF SAN ANTONIO
 CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

WHEELCHAIR RAMP STANDARDS

% SUBMITTAL	PROJECT NO.:	DATE:
DRAWN BY: V. VASQUEZ	DSGN. BY:	CHKD. BY: R.S. HOSSEIN, P.E.
		SHEET NO.: OF

[illegible]

1/13/25



**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
1000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800

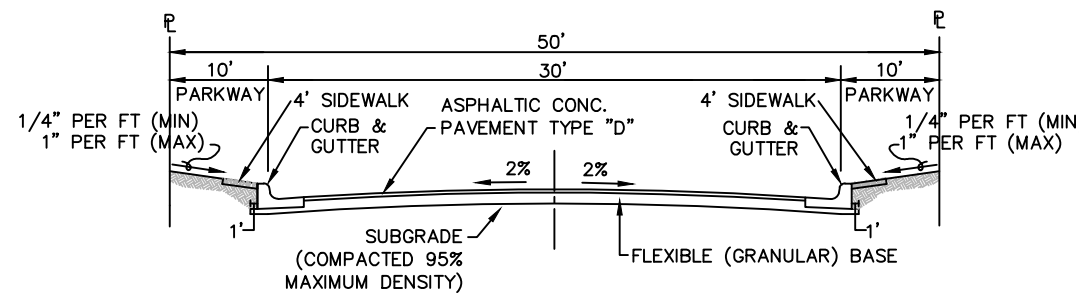
SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS

TYPICAL STREET DETAILS
SHEET 1 OF 2

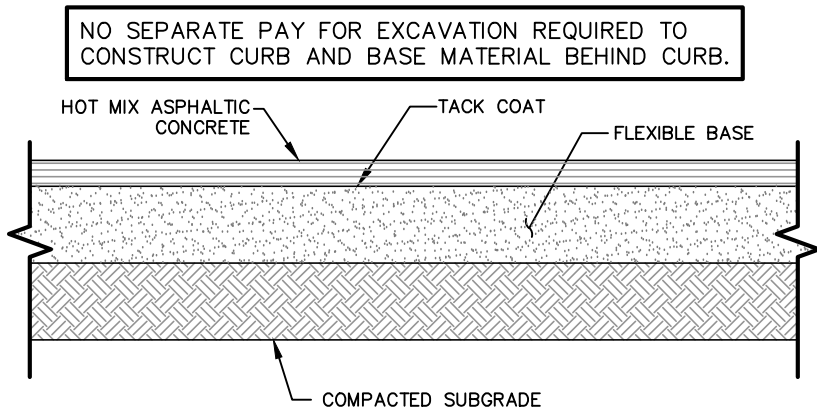
PLAT NO. _____
JOB NO. 13348-00
DATE JANUARY 2025
DESIGNER AW
CHECKED JG DRAWN JV
SHEET C2.10

Date: Mar 06, 2025, 4:50pm User: ID: TCU\m...
File: P:\13\148\1300\Design\Civil\ST11134201.dwg

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ONE & TWO FAMILY RESIDENTIAL LOCAL STREET SECTION
NOT-TO-SCALE



FLEXIBLE PAVEMENT SECTIONS

REFERENCE GEOTECHNICAL ENGINEERING REPORT PREPARED BY INTERTEK PSI, FILE NO. 0312-2340, DATED AUGUST 10, 2021, FOR PAVEMENT MATERIALS AND CONSTRUCTION REQUIREMENTS. CONTRACTOR SHALL MEET OR EXCEED ALL PAVING RECOMMENDATIONS. CONTRACTOR SHALL TEST SUBGRADE SOILS FOR SOLUBLE SULFATE PRIOR TO LIME TREATMENT PER GEOTECHNICAL REPORT.

GENERAL PAVEMENT NOTES

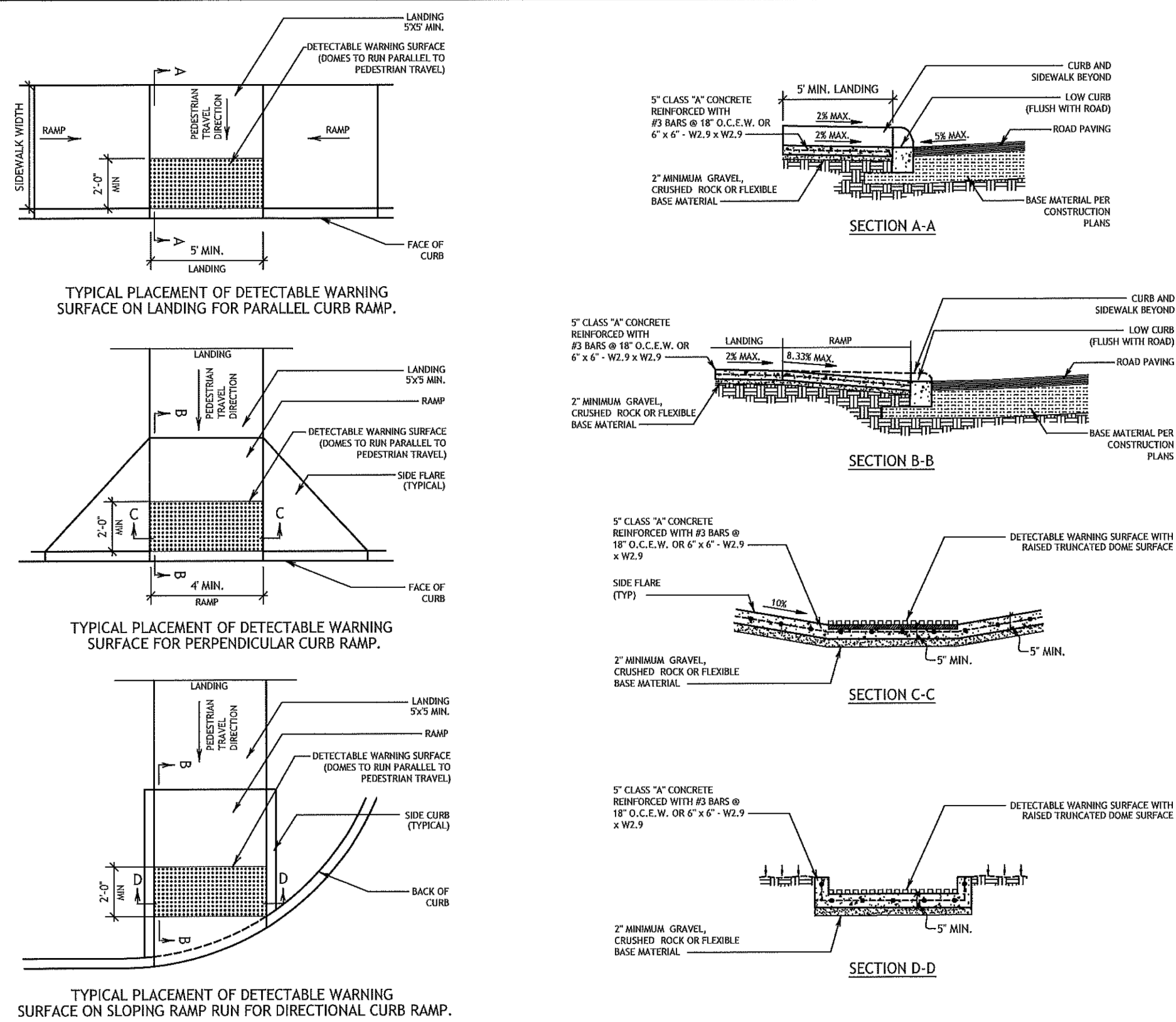
- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY OR TxDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
- PAVEMENT DESIGN AS SHOWN IS BASED ON PROJECT GEOTECHNICAL REPORT. SEE TABLE FOR STRUCTURAL NUMBER CALCULATION. REFERENCE PROJECT GEOTECHNICAL REPORT AND PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND ALTERNATE PAVEMENT SECTIONS.
- A GEOTECHNICAL ENGINEERING REPRESENTATIVE SHALL BE RETAINED TO: (1) OBSERVE THE SITE PREPARATION AND SUBGRADE OPERATIONS; (2) EVALUATE THE ACTUAL SUBGRADE MATERIAL CLASSIFICATION; AND (3) VERIFY THAT RECOMMENDATIONS ARE FOLLOWED. THE ACTUAL SUBGRADE CONDITION AT A PARTICULAR LOCATION WILL NEED TO BE EVALUATED DURING CONSTRUCTION ONCE THE SUBGRADE IS CUT/FILLED TO THE PROPER GRADE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MATERIAL TESTING. TESTING TO BE PAID BY OWNER.
- IF ALTERNATE PAVEMENT SECTION CHOSEN, CITY OF NEW BRAUNFELS SHALL BE PROVIDED WITH REVISED CONSTRUCTION PLANS INDICATING SELECTED PAVEMENT DESIGN PRIOR TO CONSTRUCTION.
- PAVEMENT SECTIONS ARE SUBJECT TO CHANGE DUE TO RETESTING OF SOIL AFTER STREET EXCAVATION HAS BEEN DONE TO TOP OF CURB.
- CONTRACTOR SHALL CONTACT ENGINEER 24 HRS IN ADVANCE FOR FIELD OBSERVATION DURING STREET CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO CONTACT ENGINEER FOR INSPECTION OF THE SUBGRADE, BASE, ASPHALT, AND CURB.
- CONTRACTOR MAY LEAVE VERTICAL CUT BANKS AT R.O.W. LINE AND MEDIANS PROVIDED PROJECT GEOTECHNICAL ENGINEER DETERMINES ROCK IS COMPETENT TO STAND ON ITS OWN. WHERE THE VERTICALLY CUT ROCK IS ALLOWED TO REMAIN BUT IS OVERLAIN BY SOIL, THE SOIL LAYER SHALL BE SLOPED BACK AT 3:1 TO MATCH EXISTING GRADE.
- THE CONTRACTOR SHALL SAW CUT EXISTING PAVING, CURB, AND SIDEWALKS TO PROVIDE A SMOOTH TRANSITION. NO JAGGED OR IRREGULAR EDGES WILL BE ALLOWED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).
- THE CONTRACTOR SHALL VERIFY ELEVATIONS AND LOCATIONS OF EXISTING FACILITIES AND NOTIFY THE ENGINEER OF ANY CONFLICTS PRIOR TO BEGINNING CONSTRUCTION.

TABLE 4.2 FLEXIBLE PAVEMENT SECTION OPTIONS

Material	Option 1	Option 2	Option 3
Hot Mix Asphaltic Concrete	3"	3"	3"
Flexible Base			12"
Lime Stabilized Subgrade	8"	No	No
Geogrid	No	Yes	No
Compacted Subgrade	—	8"	8"

FLEXIBLE PAVEMENT SECTIONS

REFERENCE GEOTECHNICAL ENGINEERING REPORT PREPARED BY INTERTEK PSI, FILE NO. 0312-2340, DATED AUGUST 10, 2021, FOR PAVEMENT MATERIALS AND CONSTRUCTION REQUIREMENTS. CONTRACTOR SHALL MEET OR EXCEED ALL PAVING RECOMMENDATIONS. THE OPTION 3 FLEXIBLE BASE THICKNESS HAS BEEN UPDATED FROM THE 11" MENTIONED IN THE REPORT TO THE NEW CONB MINIMUM THICKNESS OF 12" AS REQUIRED DURING PI PERMIT REVIEW FOR RECORD 2025-0003.

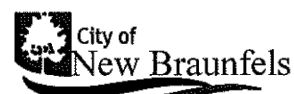


CURB RAMP NOTES

- ALL SLOPES ARE MAXIMUM ALLOWABLE, THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED. ADJUST CURB RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS AS DIRECTED.
- THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF CURB RAMPS ARE TO BE SHOWN ON THE CONSTRUCTION PLANS. ALL ACCESSIBLE WALKWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THE AMERICAN WITH DISABILITIES ACT (ADA) AND TEXAS ACCESSIBILITY STANDARDS (TAS). CITY ENGINEER OR BUILDING OFFICIAL MAY ADJUST LOCATIONS FOR SAFETY OR UTILITY CLEARANCE.
- THE MINIMUM STANDARD SIDEWALKS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 118-49 OF THE NEW BRAUNFELS CODE OF ORDINANCES.
- ALL LANDINGS WHERE REQUIRED SHALL BE 5' X 5' (6' X 6') MINIMUM WITH A MAXIMUM 2% SLOPE IN ANY DIRECTION.
- RAMP LENGTHS SHALL BE SUFFICIENT TO MAINTAIN A MAXIMUM SLOPE OF 8.33% (1V:12H). MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND CURB RAMP SURFACES IS 2% (1V:50H).
- SIDEWALK GRADES SHALL NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT ROADWAY. ANY SIDEWALK CONSTRUCTION THAT DEVIATES FROM THE GRADE OF THE NATURAL GRADE OF THE ROADWAY TO CREATE A GRADE STEEPER THAN THE EXISTING ROADWAY WILL REQUIRE RAMPS, HANDRAILS, AND LANDINGS IN ACCORDANCE WITH CURRENT ADA AND TAS REQUIREMENTS.
- PROVIDE FLARED RAMP SIDES WITH A MAXIMUM SLOPE OF 10% (1V:10H) MEASURED ALONG THE CURB LINE. CURB RETURNS MAY BE USED INSTEAD OF SIDE FLARES IN AREAS NOT NORMALLY WALKED ACROSS BY PEDESTRIANS, BECAUSE THE ADJACENT SURFACE IS VEGETATION OR OTHER NON-WALKING SURFACE OR WHERE THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
- MANEUVERING SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 4' X 4' (4' X 4') WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICULAR TRAVEL PATH.
- CROSSWALK DIMENSIONS, CROSSWALK MARKINGS AND STOP BAR LOCATIONS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS. AT INTERSECTIONS WHERE CROSSWALK MARKINGS ARE NOT REQUIRED, CURB RAMPS SHALL BE ALIGNED WITH THEORETICAL CROSSWALKS, OR AS DIRECTED BY THE CITY ENGINEER OR BUILDING OFFICIAL.
- EXISTING FEATURES THAT COMPLY WITH CURRENT TAS REQUIREMENTS MAY REMAIN IN PLACE UNLESS OTHERWISE SHOWN ON THE PLANS.
- HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. PROVIDE CURB RAMPS WHEREVER AN ACCESSIBLE ROUTE CROSSES (PEDIESTATES) A CURB.
- SEPARATE CURB RAMP AND LANDINGS FROM ADJACENT SIDEWALK AND ANY OTHER ELEMENTS WITH PRE-MOLD OR ROAD JOINT OF 1/2" UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER OR BUILDING OFFICIAL.
- PROVIDE A SMOOTH TRANSITION WHERE THE CURB RAMPS CONNECT TO THE STREET.
- THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES SHALL BE LESS THAN 1/8". THE CHANGE OF GRADE SHALL BE DEFINED AS THE ALGEBRAIC DIFFERENCE OF THE ADJACENT SURFACE SLOPES. IN THE CASE OF A STREET ACCESS RAMP DESIGNED AT THE 8.33% MAXIMUM SLOPE, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN 2.07% (E.G. 8.33% - 2.07% = 11%). IN ADDITION, THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 5%.
- IF THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES IS GREATER THAN OR EQUAL TO 1/8", A LEVELING STRIP, 2' FEET IN LENGTH, SHALL BE PROVIDED TO TRANSITION THE ADJACENT SURFACES.
- ADA RAMP SHALL BE CONSTRUCTED WITH 5" CLASS "A" CONCRETE WITH 2" MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL. REINFORCING STEEL SHALL BE #3 BARS AT 18" O.C.E.W. OR 6"x6" X W2.9 X W2.9 WIRE MESH.
- THE EXTENTS OF ADA COMPLIANCE IN ALTERATIONS SHALL BE WITHIN THE LIMITS, BOUNDARIES OR SCOPE OF A PLANNED PROJECT AND AS DETERMINED BY THE CITY BUILDING OFFICIAL.

DETECTABLE WARNING NOTES

- CURB RAMPS OR LANDINGS ADJUTING THE CROSSWALK MUST HAVE A DETECTABLE WARNING SURFACE THAT CONSISTS OF RAISED TRUNCATED DOWNS COMPLYING WITH SECTION 105 OF THE TEXAS ACCESSIBILITY STANDARDS (TAS). THE SURFACE MUST CONTRAST VISUALLY WITH ADJACING SURFACES, INCLUDING SIDE FLARES, FINISHED DARK BROWN OR DARK RED DETECTABLE WARNING SURFACE ADJACENT TO UNCOLORED CONCRETE, UNLESS SPECIFIED ELSEWHERE IN THE PLANS.
- DETECTABLE WARNING SURFACES MUST BE SLIP RESISTANT AND NOT ALLOW WATER TO ACCUMULATE.
- ALONG TRUNCATED DOWNS IN THE DIRECTION OF PEDESTRIAN TRAVEL WHEN ENTERING THE STREET.
- DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN THE DIRECTION OF PEDESTRIAN TRAVEL, AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.
- DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS AT THE BACK OF CURB. ALONG THE ROWS OF DOWNS TO BE PERPENDICULAR TO THE GRADE BREAK BETWEEN THE RAMP RUN AND THE STREET. DETECTABLE WARNING SURFACES MAY BE CURVED ALONG THE CORNER RADIUS.
- DETECTABLE WARNING MATERIALS MUST MEET TxDOT DEPARTMENTAL MATERIALS SPECIFICATION DMS 4550 AND BE LISTED ON THE MATERIAL PRODUCER LIST. INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- DETECTABLE WARNING PAVERS SHALL NOT BE PERMITTED WITHOUT THE APPROVAL BY THE PUBLIC WORKS DEPARTMENT.



ENGINEERING DIVISION
850 LANZA STREET
NEW BRAUNFELS, TEXAS 78130
PHONE: 830 221 4020
FAX: 830 628 3650

CURB RAMP STANDARDS

APPROVED DATE: 05/18/2017 DWG. NO.: ST-019 SCALE: AS NOTED
DRAWN BY: RC CONTACT: GF SHEET: 1 OF 1

PAPE-DAWSON
ENGINEERS

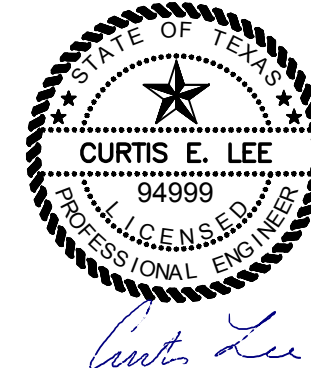
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #10028890

SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS

TYPICAL STREET DETAILS
SHEET 2 OF 2

PLAT NO. -
JOB NO. 13348-00
DATE MARCH 2025
DESIGNER AW
CHECKED JG DRAWN JV
SHEET C2.11

NO.	REVISION	DATE
1	CON/REV COMMENTS	3/6/2025



Date: Mar 31, 2025 10:59am User: J. T. S. User ID: 1013148000 Design: Civil 15013348000.dwg

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SIGNAGE NOTES

- UNDERGROUND UTILITIES EXIST WITHIN THE PROJECT. CONTRACTOR SHALL HAVE THE UTILITIES MARKED PRIOR TO INSTALLATION OF THE SIGN POST. SIGN LOCATIONS ILLUSTRATED ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL LOCATE SIGNS TO AVOID UTILITIES. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES BEFORE COMMENCING WORK.
- IN ACCORDANCE WITH THE UNDERGROUND FACILITY DAMAGE PREVENTION ACT THE TELEPHONE NUMBER FOR A UTILITY LOCATOR IS 1-800-545-6005. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE ARRANGEMENTS FOR UTILITY LOCATORS, AS NEEDED.
- WHEN PREPARING HOLES FOR POSTS, CARE SHALL BE TAKEN SO AS NOT TO RUPTURE EXISTING DRAINAGE STRUCTURES, SPRINKLER SYSTEMS, TELECOMMUNICATIONS FACILITIES, ELECTRICAL CONDUITS AND PUBLIC UTILITIES.
- ALL SIGNS SHALL COMPLY WITH THE SIGN DESIGNS PRESENTED IN STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS OR THE MILLENNIUM STANDARD HIGHWAY SIGN DESIGNS, IF A MILLENNIUM SIGN IS SPECIFIED ON THE PLANS.
- SIGN LOCATIONS ILLUSTRATED ON THE PLANS ARE APPROXIMATE. SIGNS SHALL BE LOCATED IN THE FIELD TO PROVIDE APPROPRIATE FUNCTIONALITY. SIGN LOCATIONS SHALL COMPLY WITH GUIDELINES AND REQUIREMENTS PRESENTED IN THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- CONTRACTOR SHALL FURNISH AND MAINTAIN ALL TRAFFIC CONTROL DEVICES, LIGHTING, OR WARNING DEVICES REQUIRED TO COMPLETE THE WORK. ALL CONSTRUCTION SIGNS AND TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- THREE (3) COPIES OF EQUIPMENT SUBMITTALS FOR ALL TRAFFIC SIGN COMPONENTS SHALL BE SENT TO THE ENGINEER. SUBMITTALS SHALL CONSIST OF THE APPROPRIATE COMBINATION OF CATALOG SHEETS, MATERIAL LISTS, MANUFACTURER'S BROCHURES, TECHNICAL BULLETINS, SPECIFICATIONS, DIAGRAMS, OR PRODUCT

- SAMPLES NECESSARY TO DESCRIBE A SYSTEM, PRODUCT, OR ITEM. SPECIFIC ITEM NUMBERS AND PRODUCT CODES WILL BE CLEARLY IDENTIFIED WHEN MULTIPLE PRODUCTS ARE LISTED ON THE SAME SHEET.
- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS PROJECT SHALL CONFORM TO APPLICABLE CITY OF NEW BRAUNFELS STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION), TEXAS DOT STANDARD SPECIFICATIONS, CITY BUILDING CODE AND REGULATIONS AS WELL AS PROVISIONS APPLICABLE TO THE PROJECT AND AS OTHER SAFETY CODES AND INSPECTION REQUIREMENTS OF THE FIRE DEPARTMENT.
 - MATERIALS FURNISHED BY THE CONTRACTOR SHALL BE NEW, UN-DEPRECIATED STOCK. ALL EQUIPMENT SHALL BE NEW, UNLESS NOTED OTHERWISE ON THE PLANS.
 - THE CONTRACTOR SHALL PROVIDE ALL NECESSARY HARDWARE FOR MOUNTING. ALL SIGNS WITH A WHITE BACKGROUND SHALL BE FABRICATED WITH ENGINEER GRADE REFLECTIVE SHEETING (TXDOT TYPE A). ALL SIGNS WITH NON-WHITE BACKGROUNDS SHALL BE FABRICATED WITH HIGH SPECIFIC INTENSITY REFLECTIVE SHEETING (ALL TYPE C TXDOT TSP--(4)--08).
 - CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ORIGINAL CONDITION, OR BETTER, ANY DAMAGE DONE TO EXISTING BUILDINGS, RETAINING WALLS, UTILITIES, FENCES, PAVEMENT, CURBS OR DRIVEWAYS (NO SEPARATE PAY ITEM). CONTRACTOR SHALL RESTORE THE CONSTRUCTION AREA TO ORIGINAL CONDITION, OR BETTER, PRIOR TO FINAL INSPECTION.
 - ANY CONFLICT BETWEEN ANY DEFINITION, MATERIAL SPECIFICATION, CONSTRUCTION SPECIFICATION, MEASUREMENT AND PAYMENT PROCEDURE, ETC., SHOWN IN THIS PLAN SET AND ANY TEXAS DEPARTMENT OF TRANSPORTATION OR CITY OF NEW BRAUNFELS STANDARD SPECIFICATION SHALL BE RESOLVED ONLY BY THE ENGINEER AND THE ENGINEER'S DECISION SHALL BE FINAL AND BINDING.
 - ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC AS PER TXDOT ITEM NO. 666.

DRIVEWAY NOTE:

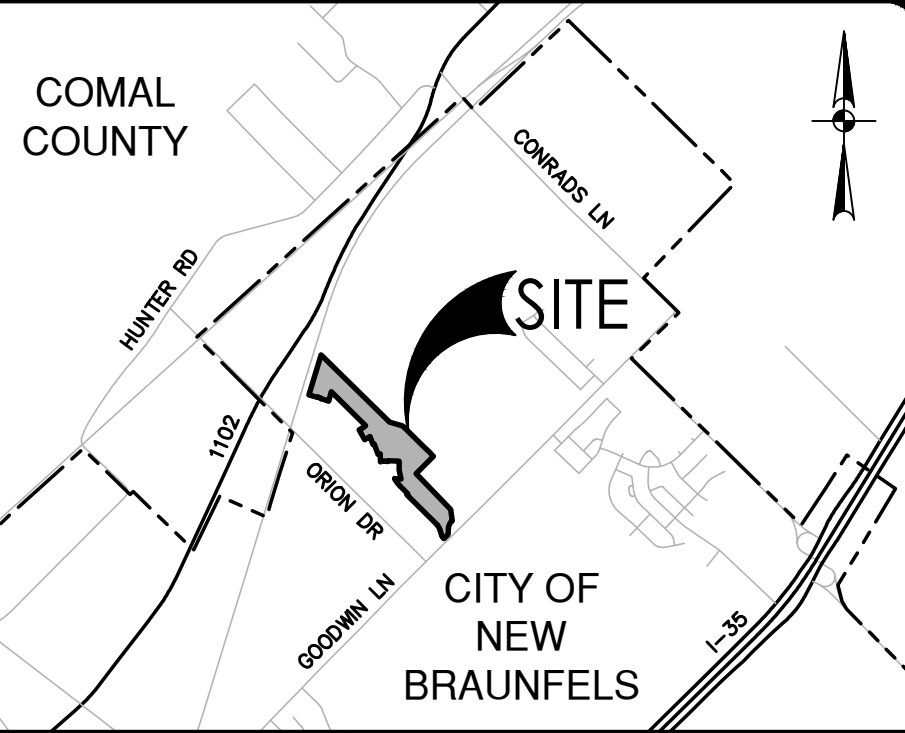
DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.

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 GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

GENERAL NOTES:

- SIDEWALK INFRASTRUCTURE SHALL BE INSTALLED ALONG ALL RESIDENTIAL LOT IMPROVEMENTS BY THE HOME BUILDER. FOR LOTS WITH NO RESIDENTIAL LOT IMPROVEMENTS, SIDEWALKS ARE REQUIRED TO BE CONSTRUCTED WITH THE STREET CONSTRUCTION.
- ALL PROPOSED STREETS ARE CLASSIFIED AS LOCAL STREETS AND WERE ENGINEERED WITH A DESIGN SPEED OF 20 MPH IN COMPLIANCE WITH THE CITY OF NEW BRAUNFELS CODE OF ORDINANCES SECTION 18-46 (S)(10)(G).
- ALL ACCESSIBLE RAMPS ARE TO BE CONSTRUCTED AT THE TIME OF STREET CONSTRUCTION.



SIGN SUPPORT DESCRIPTIVE CODES
(Descriptive Codes correspond to project estimate and quantities sheets)

MATCHLINE ~ SEE THIS SHEET

±232 LF ~ 8" PVC
(C-900 DR18) PIPE (W-A)

40 39

STA: 44+25.28 (W-A)

1-8" 1/8 BEND, M.J.

±7 LF ~ 8" PVC (C-900 DR18) PIPE (W-A)

(RESTRAIN ENTIRE LENGTH)

±119 LF ~ 8" PVC (C-900 DR18) PIPE (W-A)

1-8" 1/8 BEND, M.J.

±34 LF ~ 8" PVC (C-900 DR18) PIPE (W-A)

(RESTRAIN ENTIRE LENGTH)

STA: 44+18.22 (W-A)

1-8" 1/8 BEND, M.J.

STA: 42+21.08 (W-A)

1-8"x8" ANCHOR TEE, M.J.

3-8" GATE VALVE, M.J.

3-6" VALVE BOX, COMPLETE

15' UTILITY EASEMENT

STA: 16+12.00 (W-B)

1-8" 1/8 BEND, M.J.

±252 LF ~ 8" PVC (C-900 DR18) PIPE (W-B)

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CAUTION!!!:

THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

WATER QUANTITIES

ITEM	TOTAL
8" WATER MAIN	2460
DOMESTIC WATER SERVICES	81
6" GATE VALVES	3
8" GATE VALVES	15
FIRE HYDRANTS	3
5/8" METER	81

CONSTRUCTION GENERAL NOTES

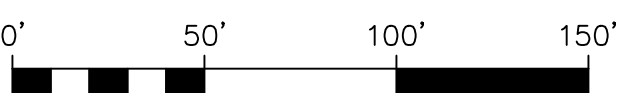
- ALL WATER MAINS SHALL BE AWWA C900 CLASS 235.
- 1-INCH SERVICE LINES SHALL BE CONSTRUCTED OF TYPE K ANNEALED SEAMLESS COPPER TUBING MEETING THE REQUIREMENTS OF ASTM B88. AWWA C901 SDR9 COPPER TUBING SIZE HDPE MAY BE USED FOR 1-INCH SERVICES LINES WITH SPECIAL APPROVAL FROM NBU ONLY.
- WATER LINE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE NBU STANDARD DRAWINGS AND SPECIFICATIONS.
- WATER MAIN SHALL HAVE A MINIMUM OF 48 INCHES OF COVER, OTHERWISE CONCRETE ENCASEMENT WILL BE REQUIRED.
- CONTRACTOR WILL KEEP THE AREA ON TOP OF AND AROUND THE WATER METER BOX FREE OF ALL OBJECTS AND DEBRIS.
- WATER MAINS SHALL BE TESTED AS A WHOLE OR IN SECTIONS BETWEEN VALVES. THE TOTAL LENGTH OF PIPE FOR ANY SINGLE TEST SHALL NOT EXCEED 2,000 FEET.
- NO METER BOXES TO BE SET IN DRIVEWAYS. ANY METER BOXES SET IN DRIVEWAYS WILL BE RELOCATED AT CONTRACTOR'S AND/OR DEVELOPER'S EXPENSE.
- METER BOXES MUST BE SET SQUARE AND LEVEL 1" ABOVE THE FINISHED GRADE OF THE SURROUNDING AREA IN ORDER TO AVOID RUN-OFF WATER.
- SEE SHEET C11.05 FOR NBU GENERAL NOTES.
- CONTRACTOR SHALL ENSURE THAT WATER/SANITARY SEWER CROSSINGS MEET THE SEPARATION DISTANCE AND CONSTRUCTION REQUIREMENTS OF 30 TAC 217.53(D) AND 290.44(E).

COMAL COUNTY

CITY OF NEW BRAUNFELS

LOCATION MAP

NOT-TO-SCALE



SCALE: 1"= 50'

WATER LEGEND

- PROJECT LIMITS
- EXISTING WATER
- EXISTING SEWER
- PROPOSED SEWER
- PROPOSED WATER
- EXTRA DEPTH PROPOSED WATER (SEE EXTRA DEPTH NOTE THIS SHEET)
- EXISTING WATER MAIN LOWERING (SEE WATER MAIN LOWERING NOTE THIS SHEET)
- PROPOSED 1" SINGLE SERVICE WITH 5/8" METER
- JOINT RESTRAINT
- PROPOSED STORM DRAIN

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 GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CAUTION!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

JOINT RESTRAINT NOTE:

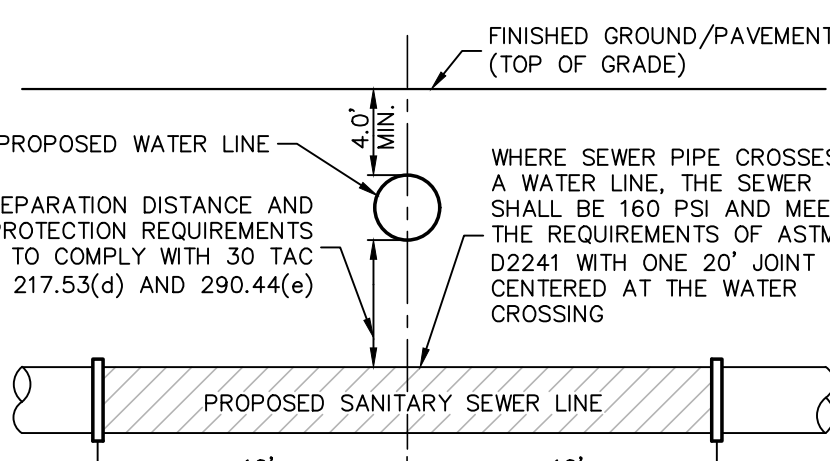
CONTRACTOR SHALL INSTALL RETAINER GLANDS AT ALL FITTINGS AND PROVIDE JOINT RESTRAINING HARNESSSES OR FIELD LOCK GASKETS AT ALL JOINTS WITHIN THE LENGTH SHOWN. CONTRACTOR SHALL INSURE THAT ALL TEES, BENDS, VALVES, ETC. HAVE A MINIMUM OF 5 FT. OF PIPE WITH NO JOINTS ON EACH SIDE OF THE FITTING. JOINT RESTRAINTS AND RETAINER GLANDS SHALL BE CALCULATED BY THE DEVELOPER'S ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE JOINT RESTRAINTS WITH THE DEVELOPER'S ENGINEER.

EXTRA DEPTH NOTE:

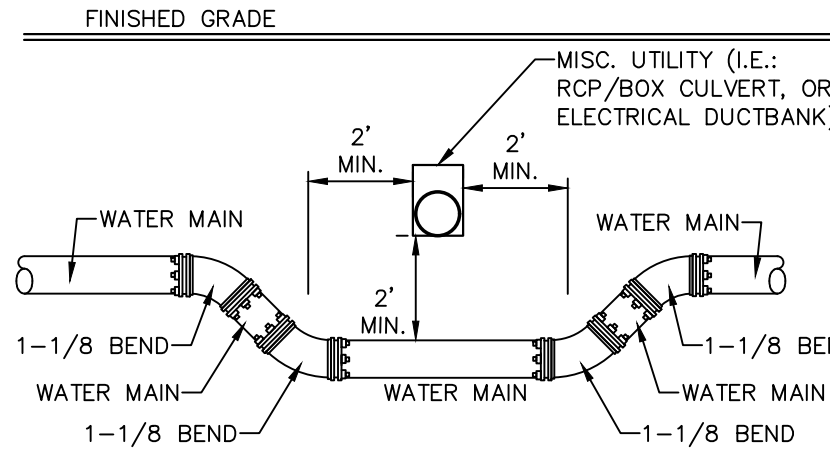
CONTRACTOR IS RESPONSIBLE FOR PLACING WATER LINE DEPTH SO THAT A MINIMUM OF 1' OF SEPARATION CAN BE ACHIEVED BETWEEN THE WATER MAIN AND SANITARY SEWER LATERALS AT THE CROSSINGS.

WATER MAIN LOWERING NOTE:

CONTRACTOR SHALL LOWER EXISTING WATER LINE TO MAINTAIN A MINIMUM COVER OF 4' BELOW PROPOSED PAVEMENT ELEVATION. CONTRACTOR IS ALSO RESPONSIBLE FOR PLACING WATER LINE DEPTH SO THAT A MINIMUM OF 1' OF SEPARATION CAN BE ACHIEVED BETWEEN THE WATER MAIN AND SANITARY SEWER LATERALS AT THE CROSSINGS.



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL



TYPICAL UTILITY/WATER CROSSING DETAIL

CITY OF NEW BRAUNFELS NOTES

- NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
- ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
- THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5- FEET IN DEPTH. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.
- UTILITY TRENCH COMPACTION - ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

CONTRACTOR LINE STOPPER NOTES

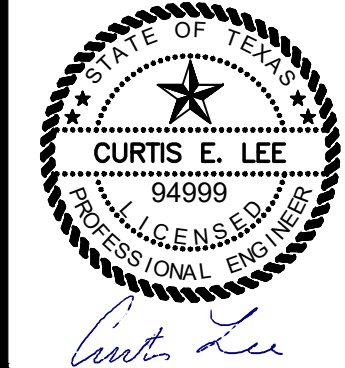
- CONTRACTORS SHALL INSTALL LINE STOPPERS AT THEIR COST FOR AN OUTAGE DURING CONSTRUCTION IF SYSTEM VALVES ARE NOT AVAILABLE OR THE EXISTING VALVES DO NOT FUNCTION. LINE STOPPERS WILL BE REQUIRED BASED ON THE FOLLOWING CRITERIA:
 - IF THE NUMBER OF RESIDENTIAL CUSTOMERS AFFECTED IS GREATER THAN 20 AND EXPECTED TO LAST MORE THAN 4 HOURS.
 - IF ANY COMMERCIAL CUSTOMERS ARE AFFECTED BY THE OUTAGE THEN THE USE OF LINE STOPPERS WILL BE DETERMINED ON A CASE BY CASE BASIS.
 - IF ANY CRITICAL CARE CUSTOMERS ARE AFFECTED BY THE OUTAGE THEN THE USE OF LINE STOPPERS WILL BE DETERMINED ON A CASE BY CASE BASIS.
 - SYSTEM CONDITIONS MAY REQUIRE A LINE STOPPER AND MAY NOT BE KNOWN UNTIL CONSTRUCTION COMMENCES.

PRESSURE NOTE

IT WILL BE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL A PRV AT EACH LOT WHERE NECESSARY IN ACCORDANCE WITH NBU REGULATIONS AND PLUMBING CODE WHEN THE MAXIMUM STATIC PRESSURE AT THE CUSTOMER SIDE OF THE WATER METER EXCEEDS 80 PSI. PRESSURE REDUCING VALVES (PRV) IF NECESSARY SHALL BE INSTALLED ON THE CUSTOMER'S SIDE OF THE WATER METER. IT IS ANTICIPATED THAT ALL LOTS WITHIN THIS UNIT WILL REQUIRE A PRV. NOTE: A PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCING VALVE (PRV).

DATE	3/06/2025
NO.	1
REVISION	C&B/NBU COMMENTS
	2
	NBU COMMENTS

3/31/25



PAPE-DAWSON ENGINEERS

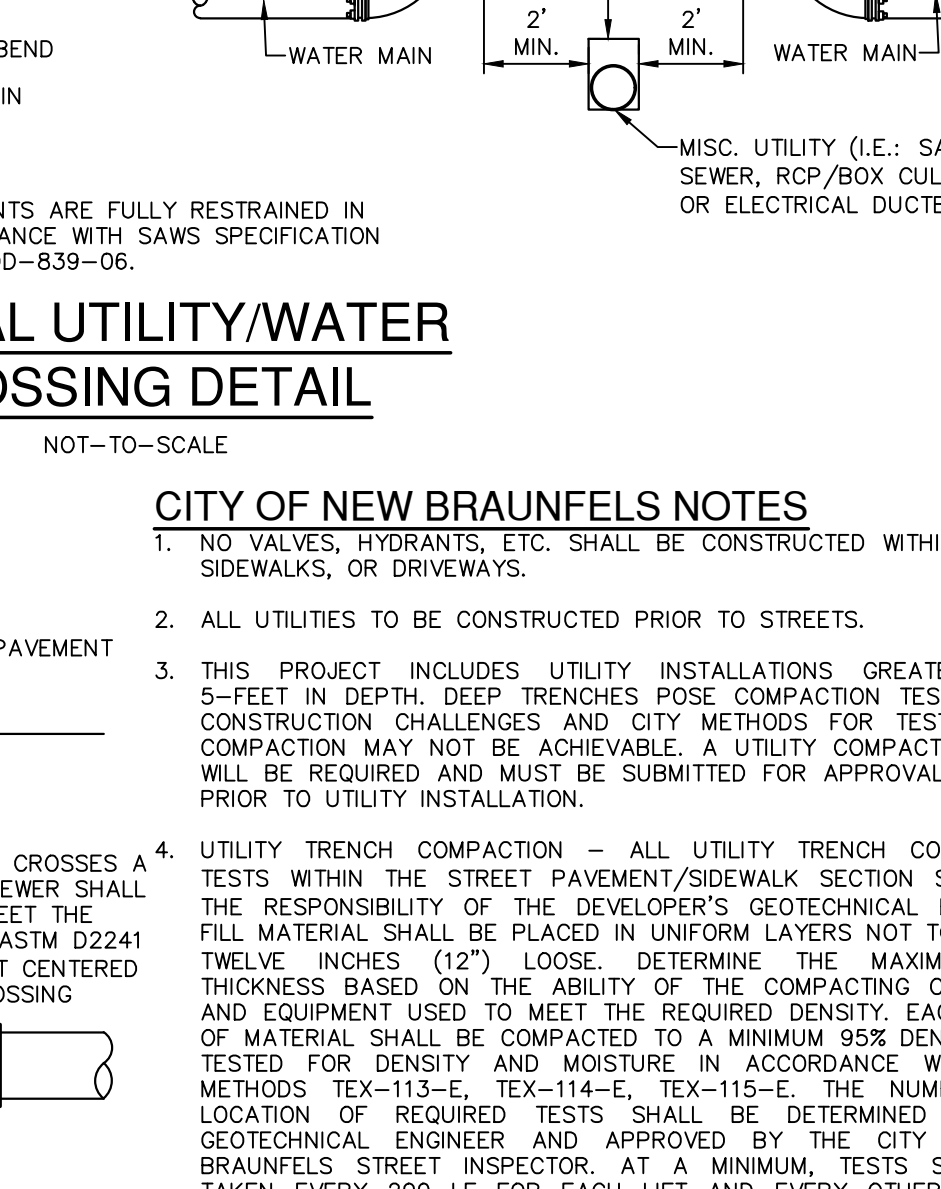
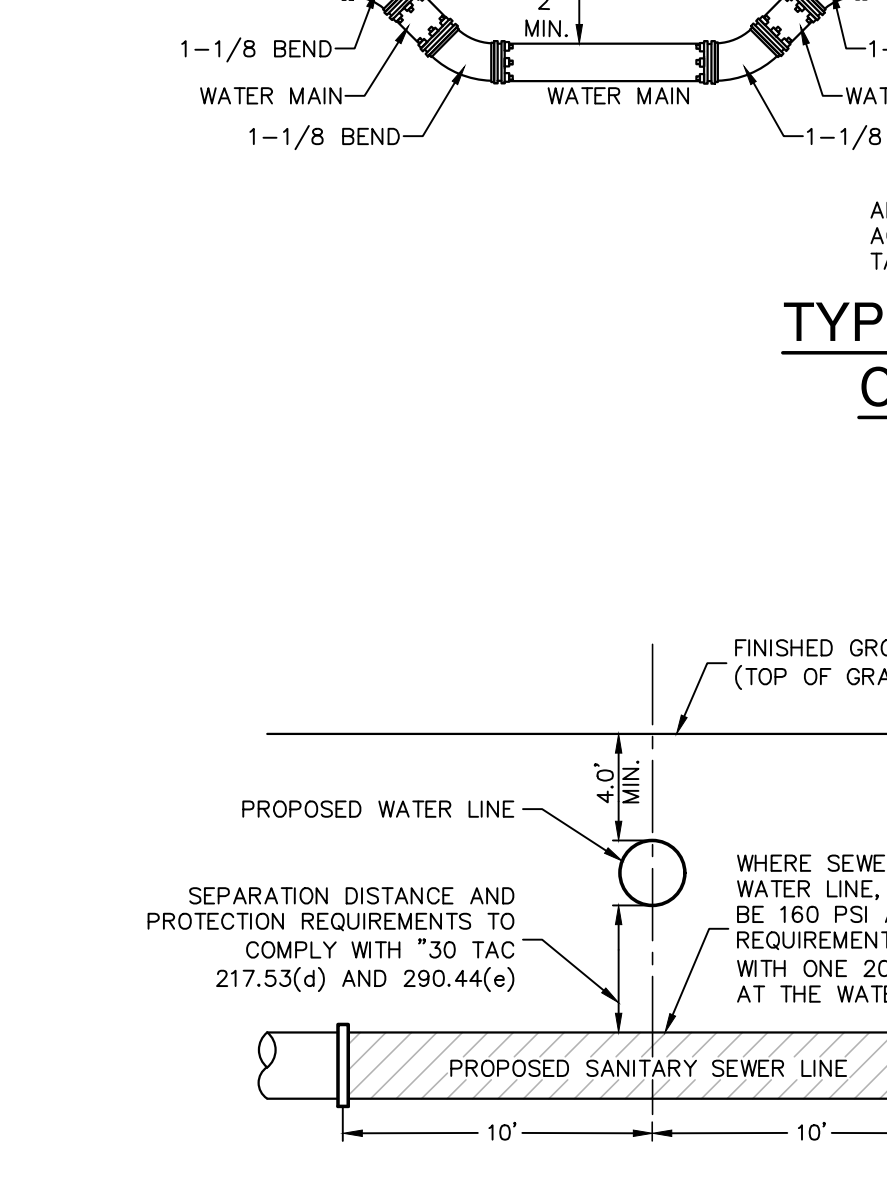
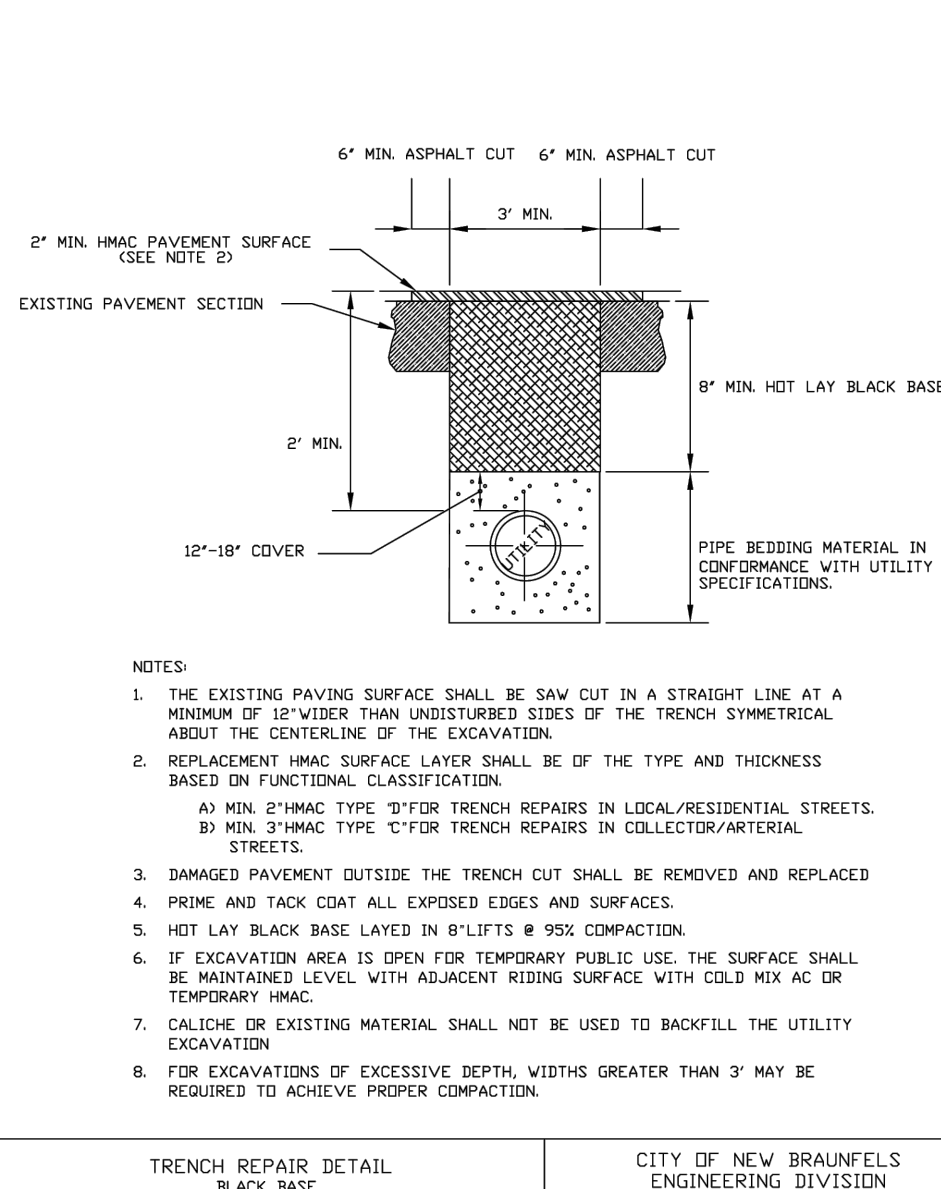
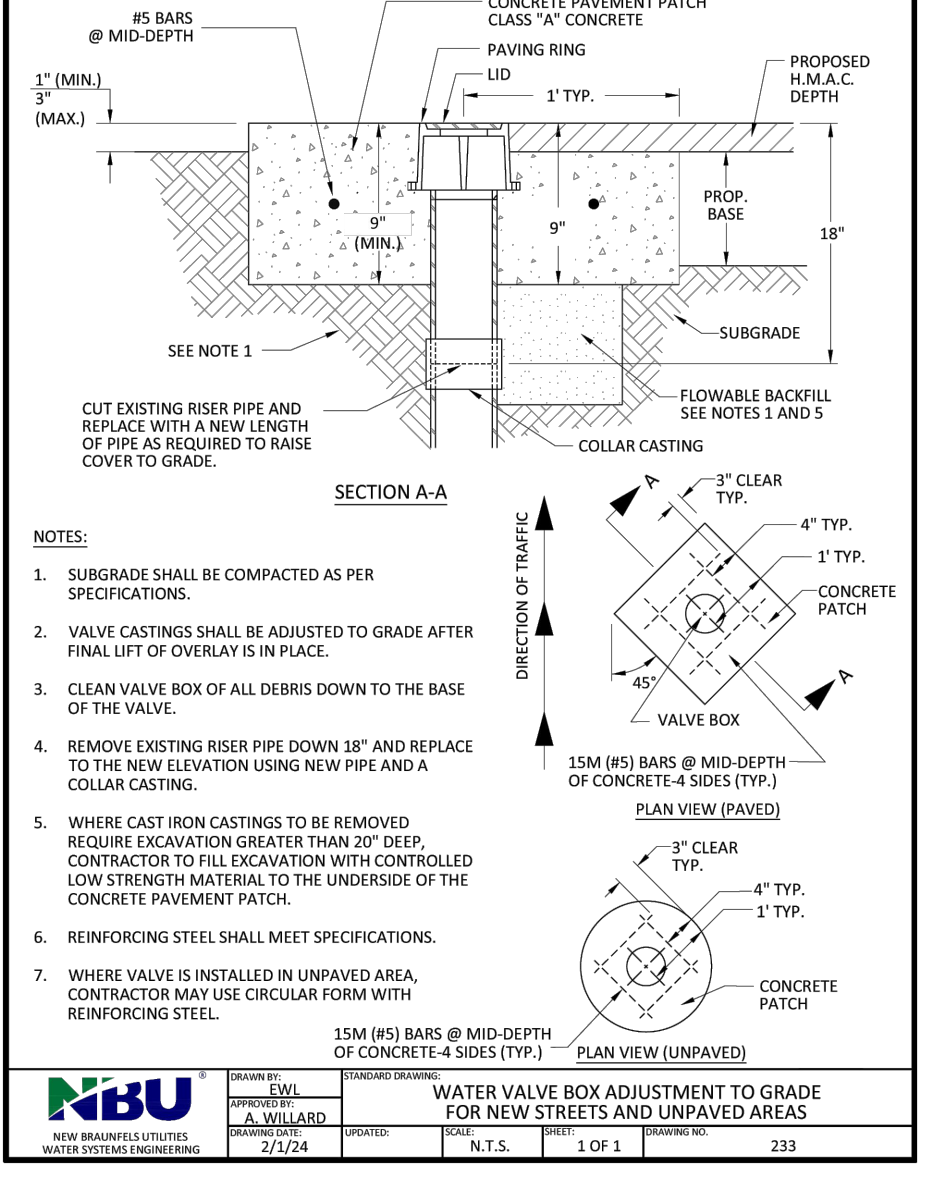
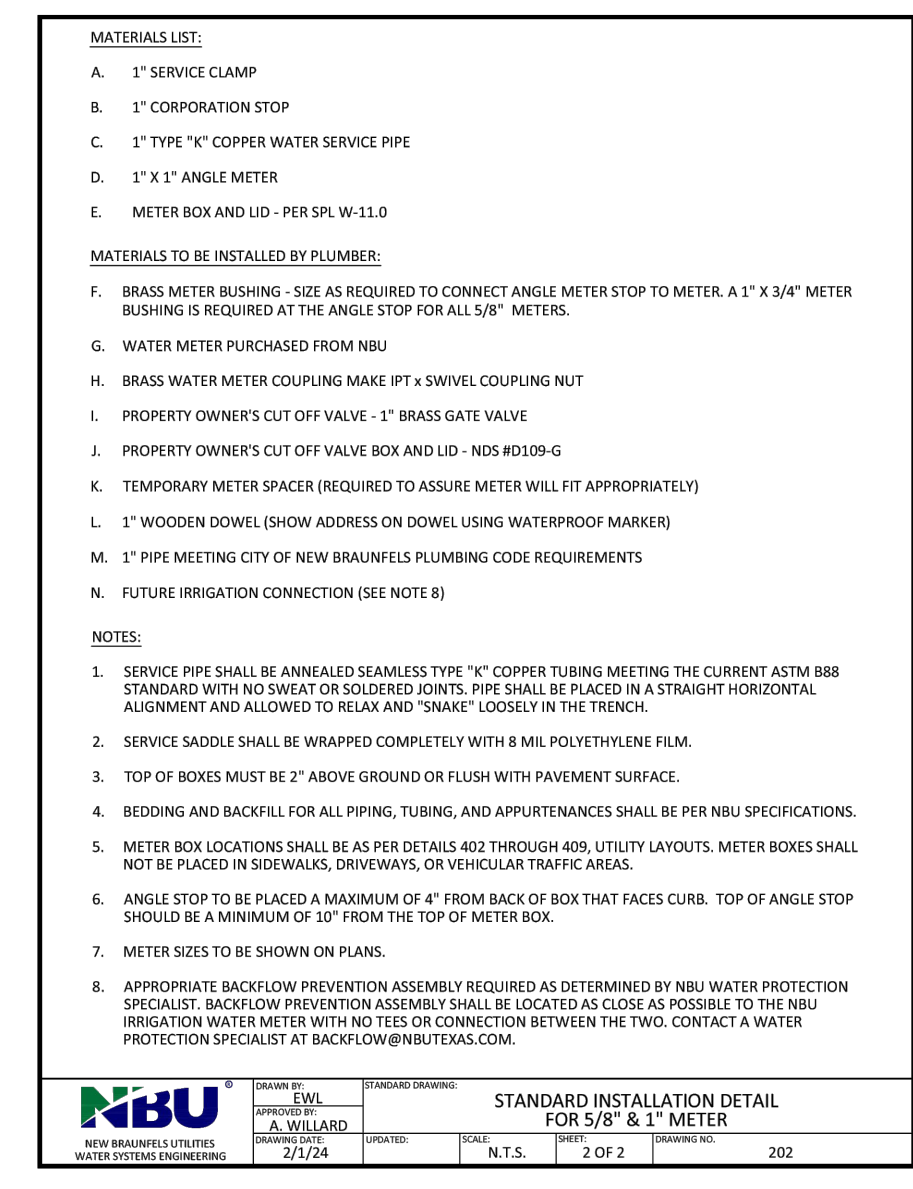
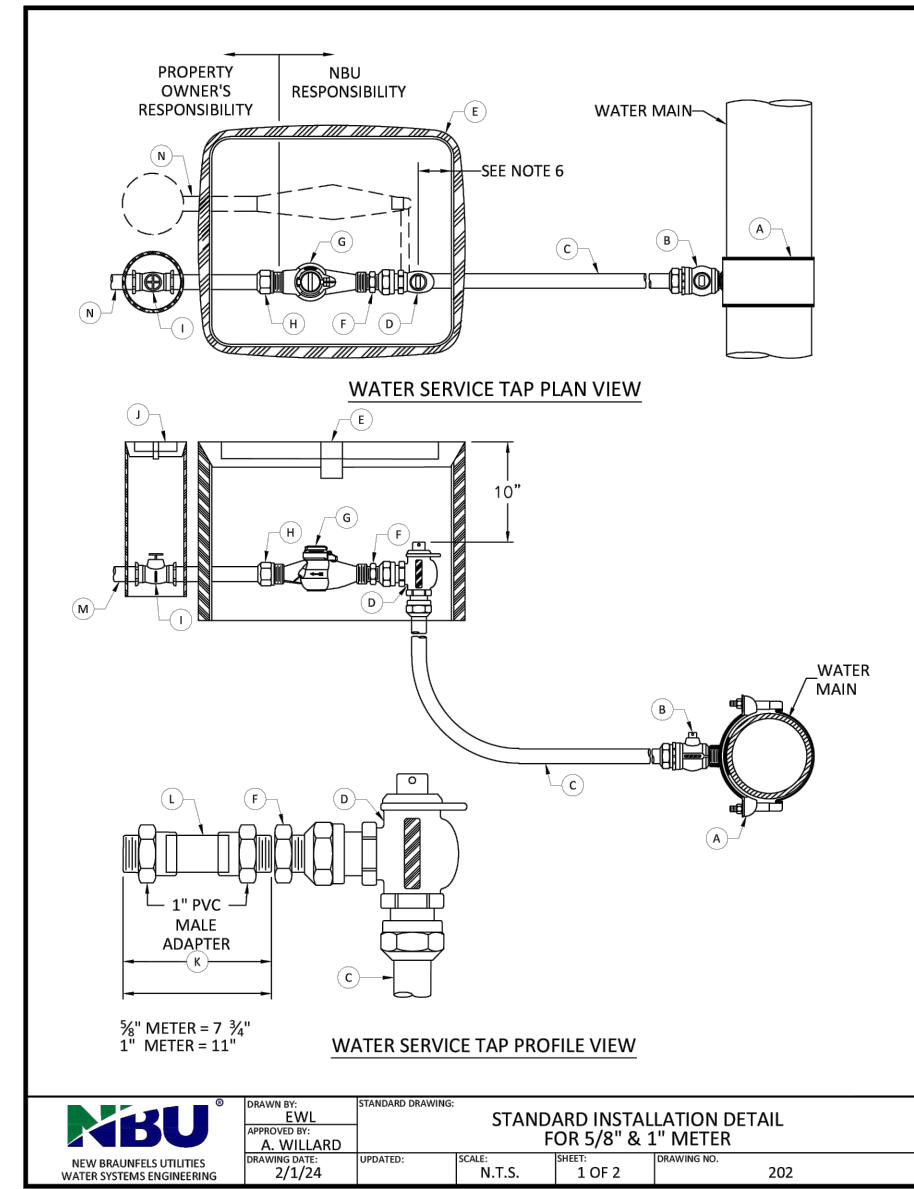
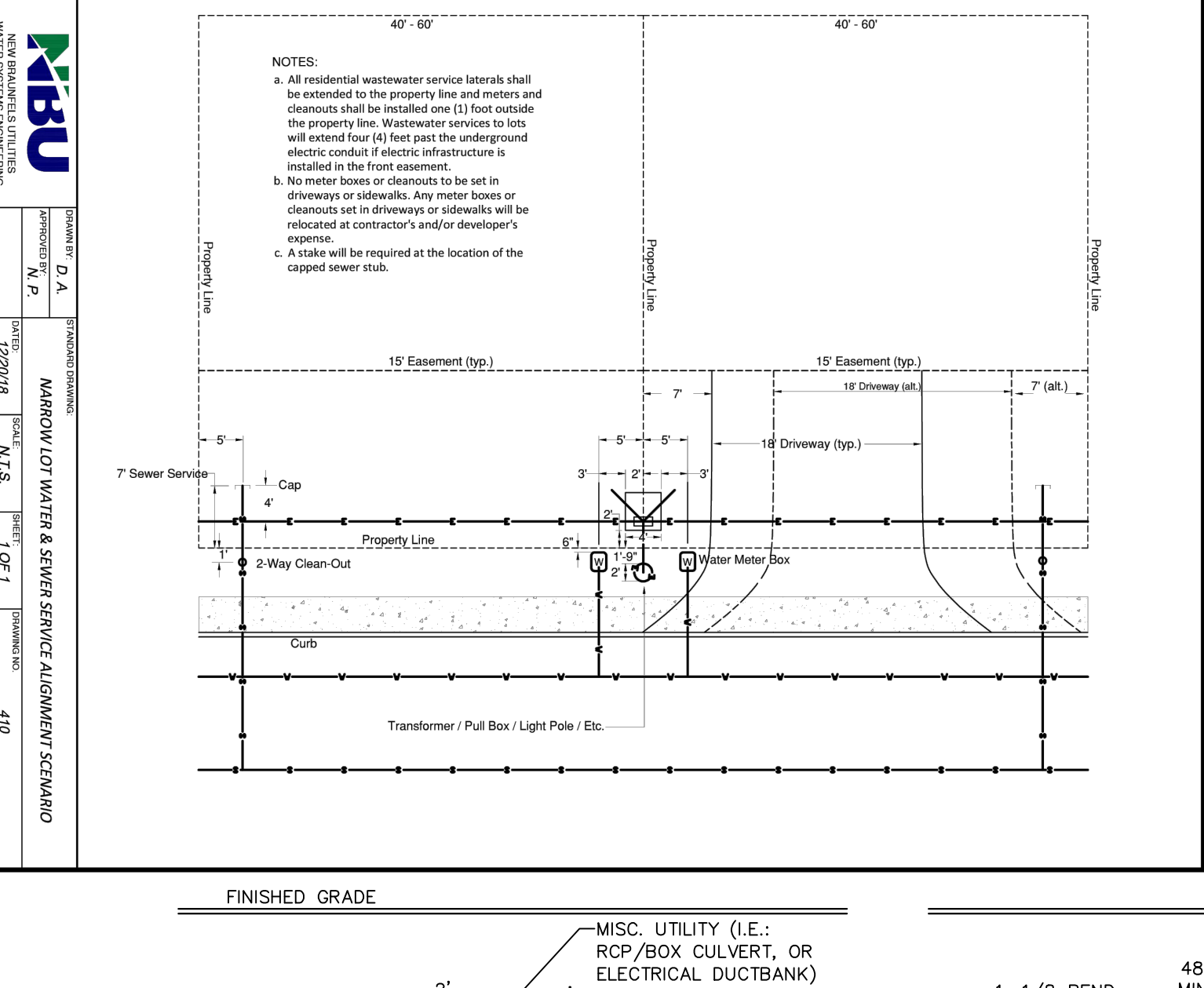
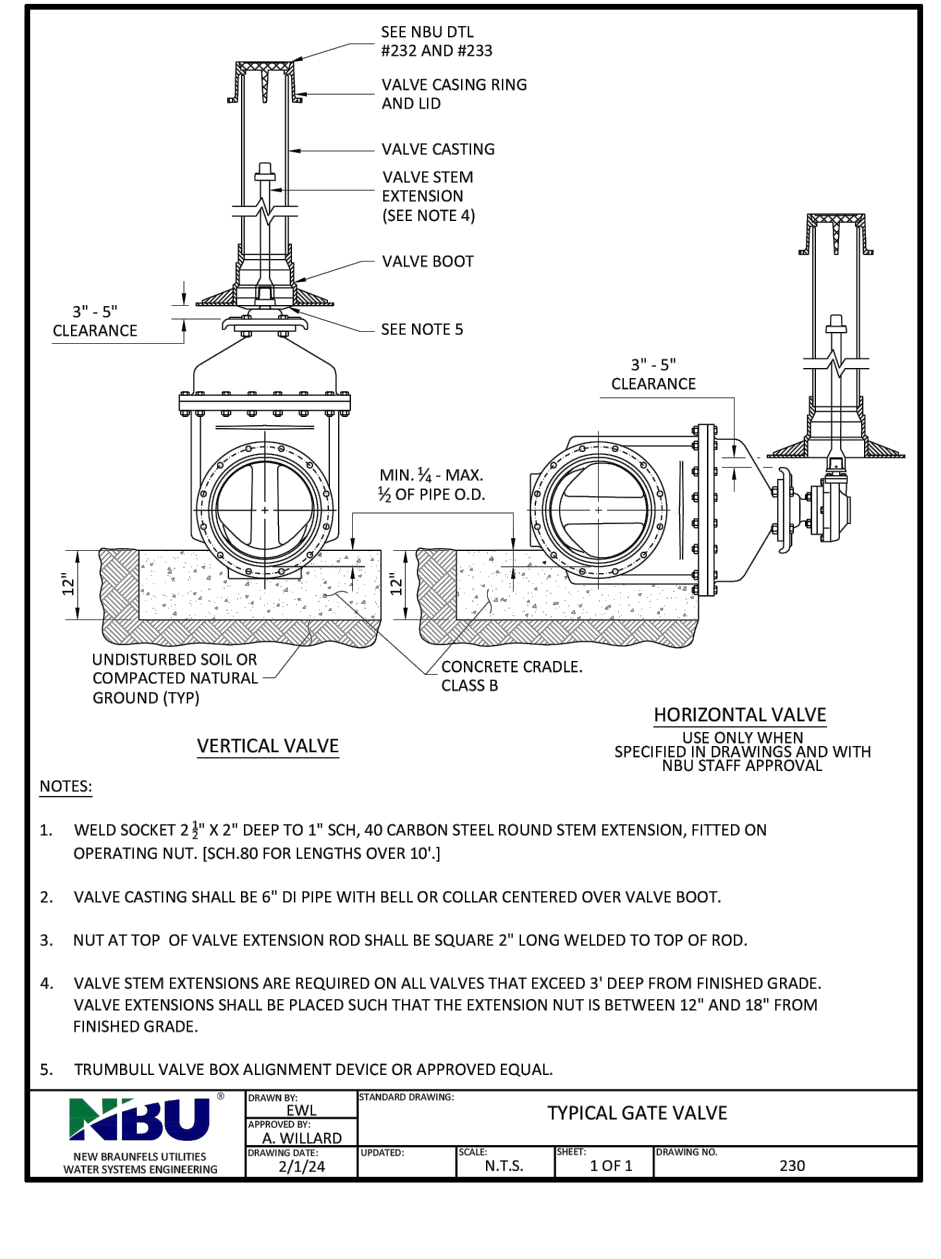
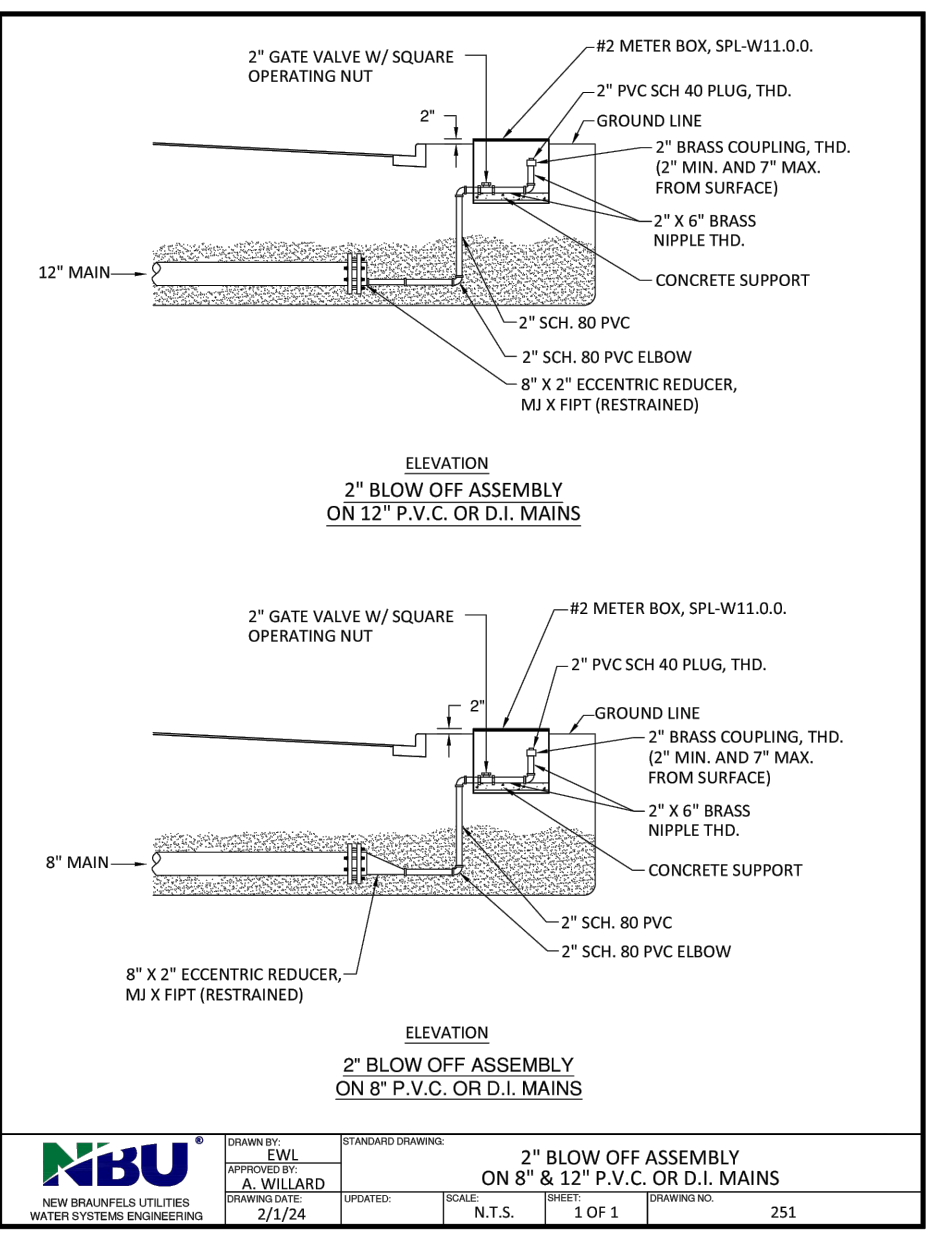
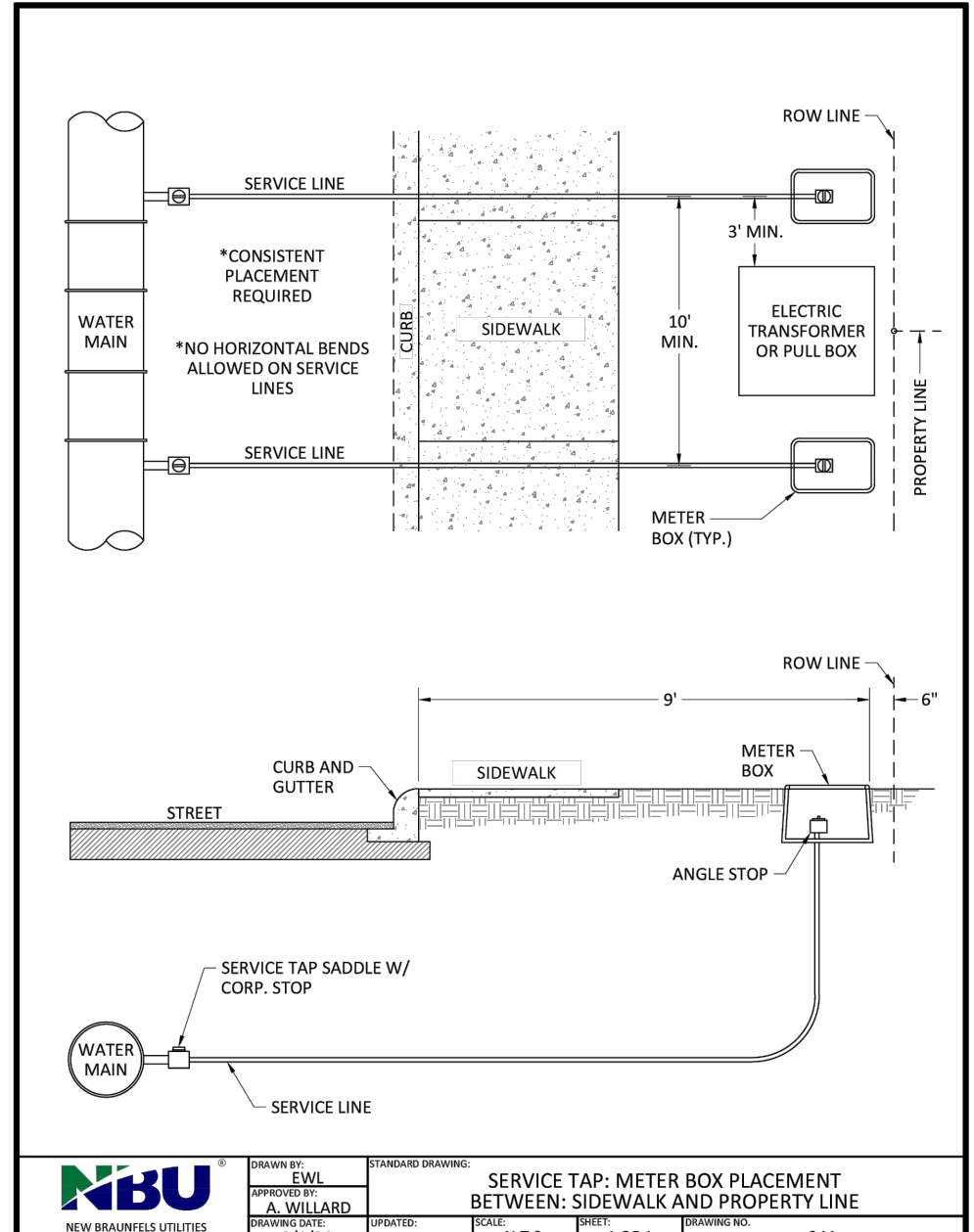
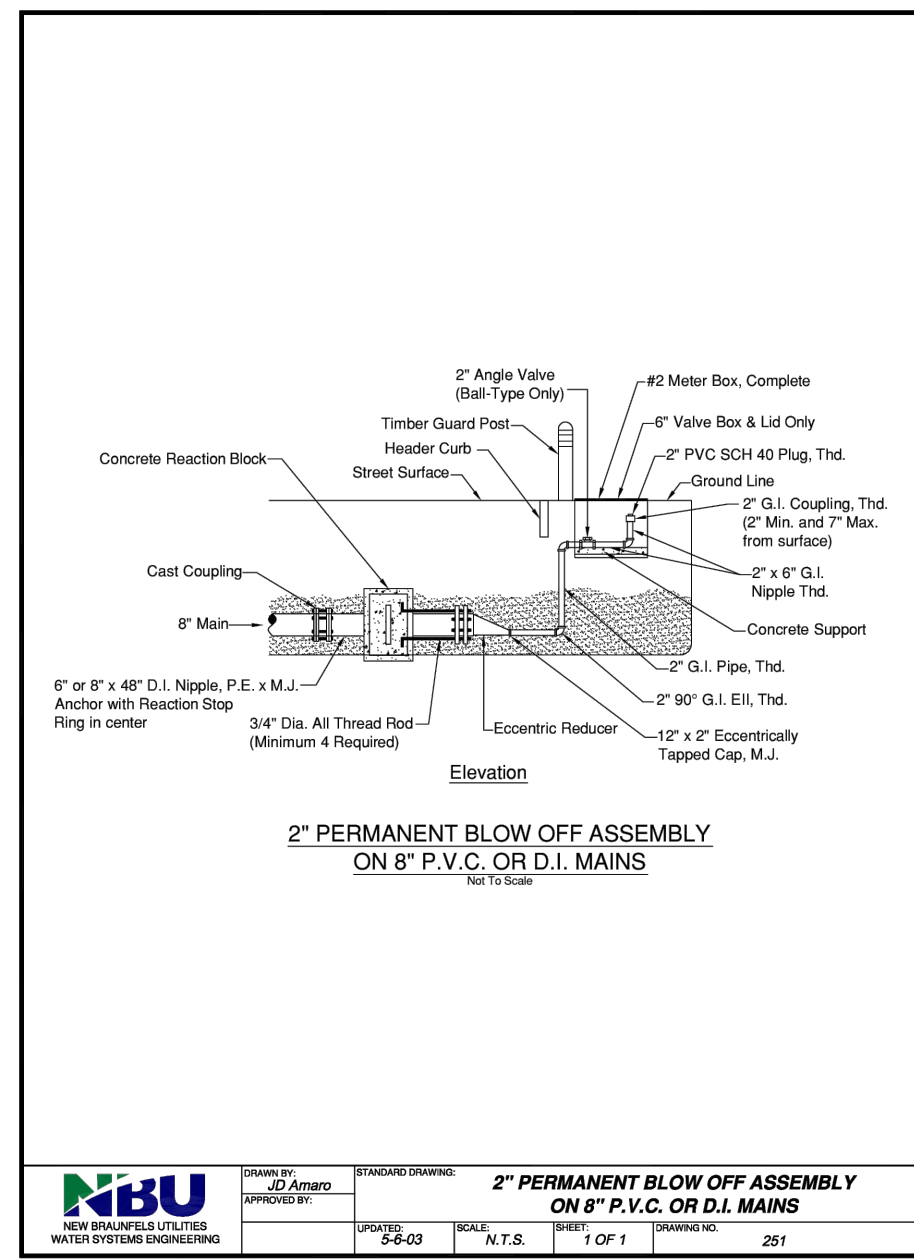
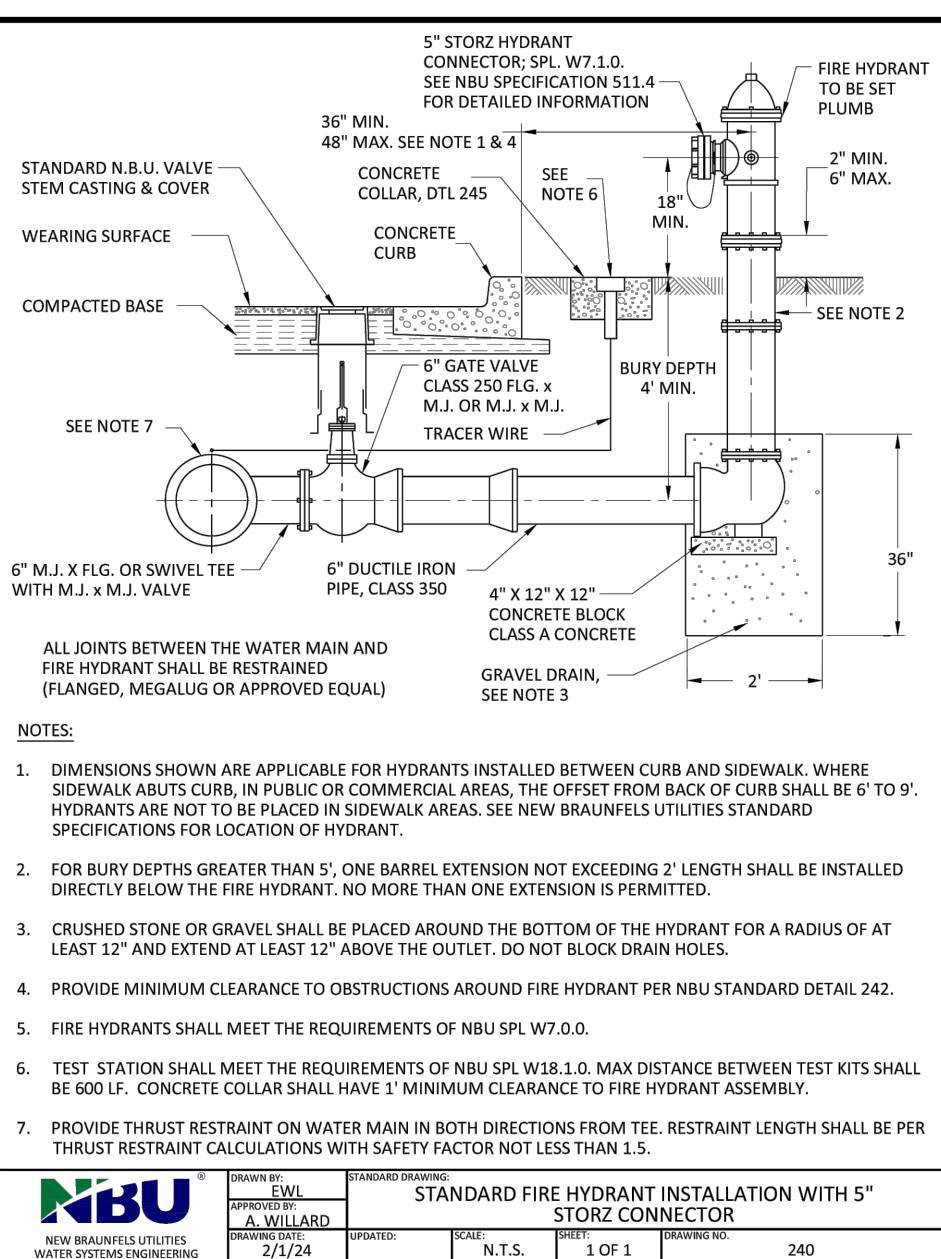
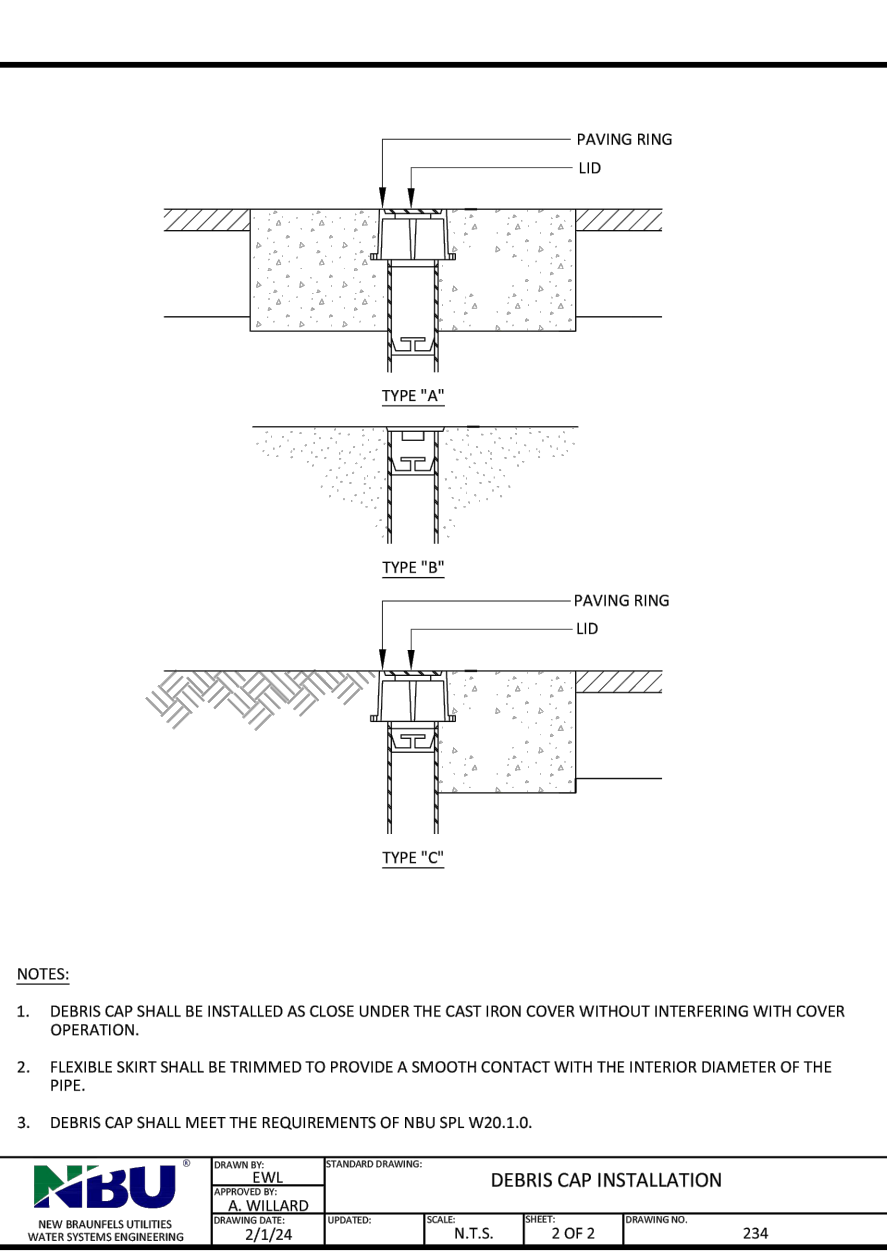
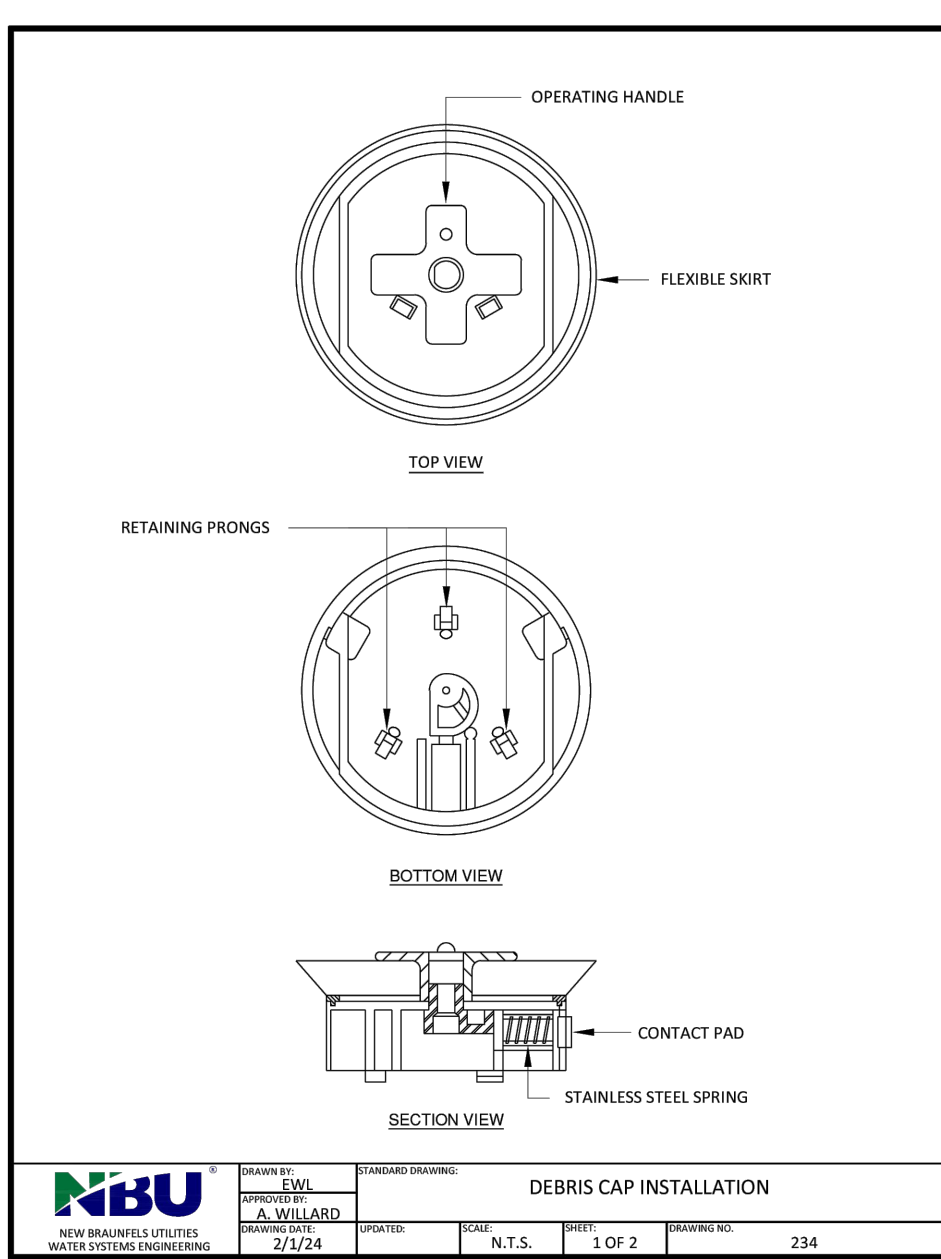
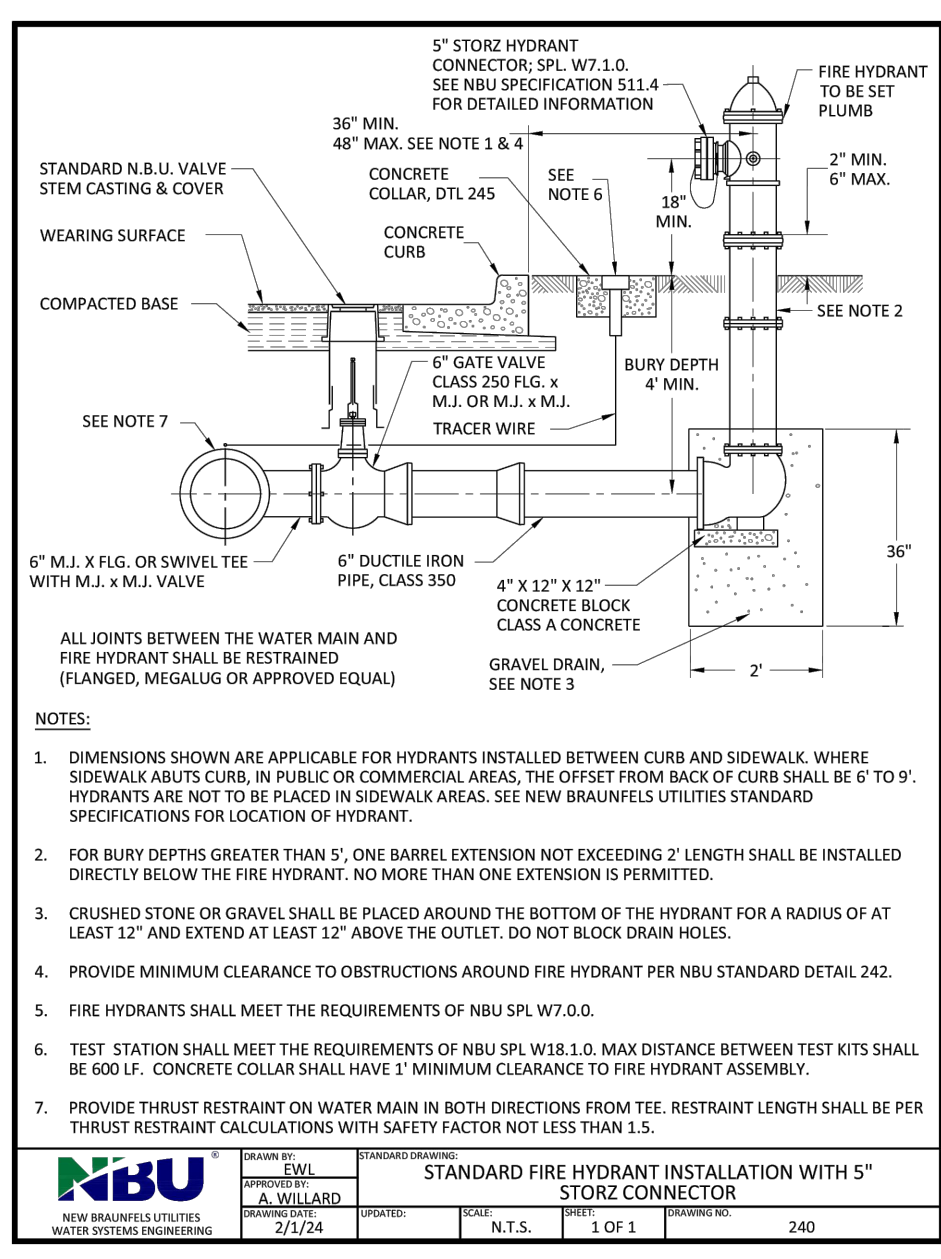
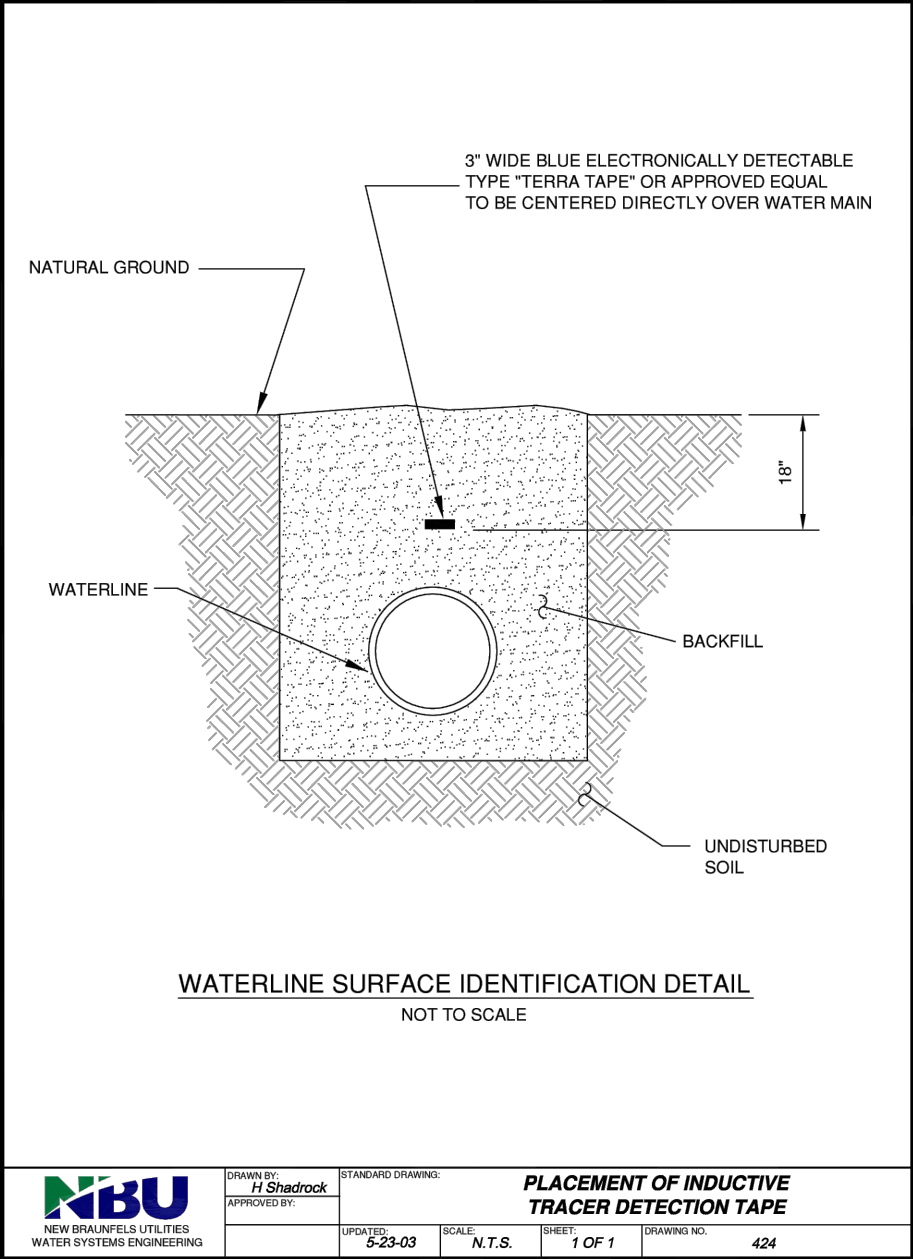
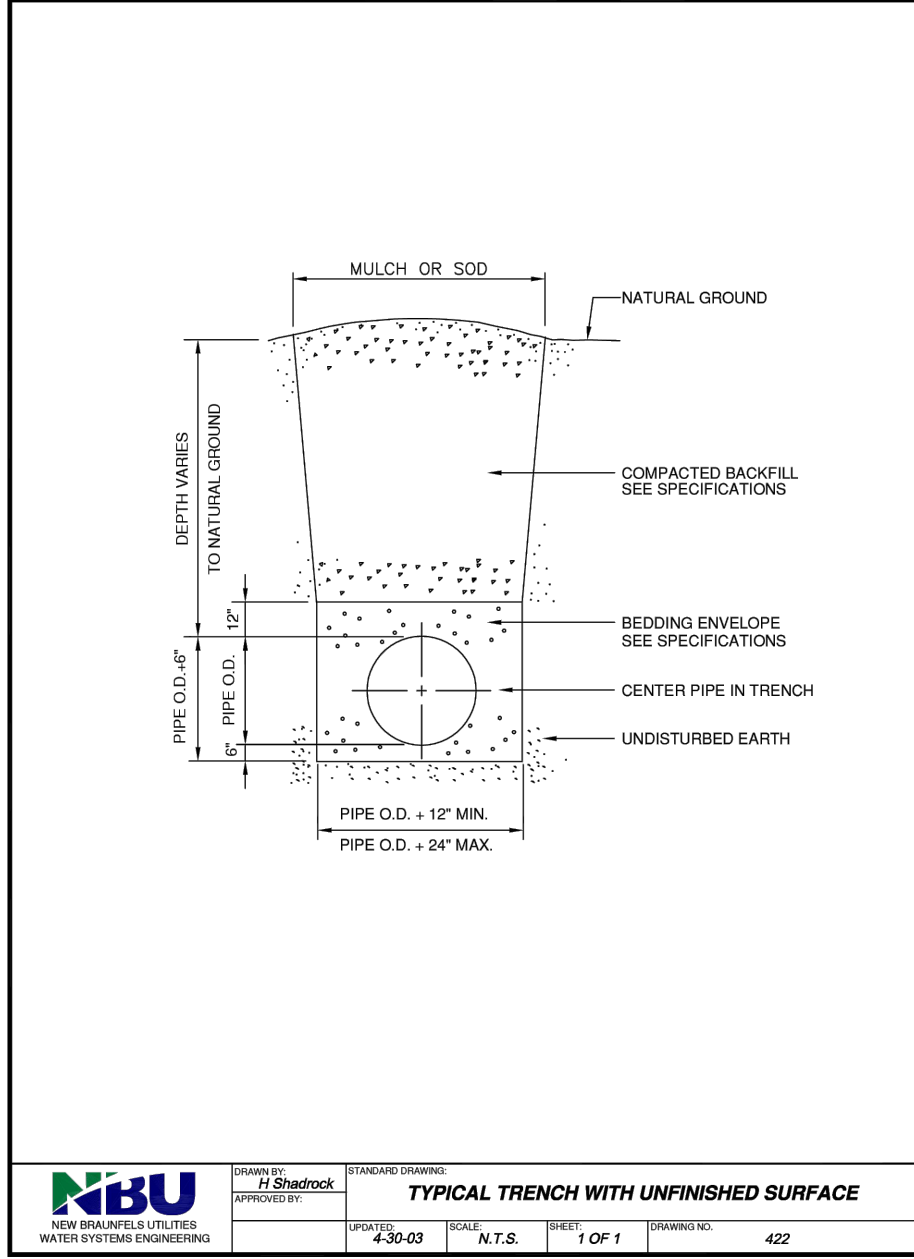
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TXPE FIRM REGISTRATION #270 | 1 TBPUS FIRM REGISTRATION #10028890

SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS

OVERALL WATER DISTRIBUTION PLAN

PLAT NO.	-
JOB NO.	13348-00
DATE	MARCH 2025
DESIGNER	AW
CHECKED	JG
DRAWN	JV
SHEET	C4.00

PERMIT SET



PAPE-DAWSON ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS

2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000

TYPE FIRM REGISTRATION #270 | 1 TBPUS FIRM REGISTRATION #10028890

SUNFLOWER RIDGE UNIT 2

NEW BRAUNFELS, TEXAS

WATER DISTRIBUTION DETAILS

CITY OF NEW BRAUNFELS NOTES

- NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
- ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
- THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5-FOOT IN DEPTH. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES, AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.
- UTILITY TRENCH COMPACTION - ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") THICK. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

PLAT NO. -

JOB NO. 13348-00

DATE JANUARY 2025

DESIGNER AW

CHECKED JG DRAWN JV

SHEET C4.10

PERMIT SET

NBU General Notes

General Notes

1. All materials and construction procedures within the scope of the project shall be approved by New Braunfels Utilities and comply with the current "New Braunfels Utilities Water Systems Connection/Construction Policy".
2. Contractor shall not proceed with any pipe installation work until they obtain a copy of the plans from the Consultant or Engineer and notify NBU Water Systems Engineering at 830-608-8971 with at least two (2) working days (48 hours) notice. **WORK COMPLETED BY THE CONTRACTOR, WHICH HAS NOT RECEIVED A NOTICE TO PROCEED FROM NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.**
3. The Developer dedicates the water / wastewater mains upon completion by the Contractor and acceptance by the New Braunfels Utilities Water System. NBU will own and maintain said water / wastewater mains which are located within platted utility easements or public ROW of proposed developments. (As applicable).
4. Contractor agrees to assume sole and complete responsibility for job site conditions during the construction of the project, including safety of all persons and property. This requirement shall apply continuously and not be limited to normal working hours. The contractor shall defend, indemnify and hold the owners and the engineer and his employees, partners officers, directors, or consultants harmless from any and all liability, real or alleged, in connection with the performance of the work on this project, excepting from liability arising from sole negligence of the owner or engineer, engineer's directors, officers, employees, or consultants.
5. Contractor to contact the engineer-of-record (EOR) for any field changes. Any revisions or changes to the approved construction plans will require additional approval by NBU in writing.
6. 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.
7. Contractor shall be responsible for restoring to its original or better condition, any damage to existing fences, curbs, streets, driveways, landscaping and structures, and existing utilities (not adjusted on plans). Cost of Restoration, if any, shall be the Contractor's entire expense.
8. The Contractor shall avoid cutting roots larger than one (1) inch in diameter when excavating near existing trees. Excavation in vicinity of trees shall proceed with caution.
9. Contractor shall procure all permits and licenses, pay all charges, fees and taxes and give all notices necessary and incidental to the due and lawful prosecution of the work.
10. Retention payment shall be allowed for work called for on the plans but not included on the bid schedule. This incidental work will be required and shall be included under the pay item to which it relates.
11. Contractor is responsible for removal of all waste materials upon project completion. The contractor shall not permanently place any waste materials in the 100-year flood plain without first obtaining an approved flood plain development permit.

NBU General Notes

Standards governing the presence and activities of individuals working in and around trench excavation.

23. Utility Trench Compaction with street R.O.W.
- a. All utility trench compaction test within the street pavement section shall be the responsibility of the developer's Geo-technical engineer.
 - b. Fill material shall be placed in uniform layers not to exceed twelve inches (12") loose.
 - c. Each layer of material shall be compacted as specified and tested for density and moisture in accordance with Text Methods TEX-113-E, TEX-114-E, TEX-115-E.
 - d. The number and location of required tests shall be determined by the Geo-technical Engineer and approved by the City of New Braunfels Street Inspector.
 - e. Upon completion of testing the Geo-technical Engineer shall provide the City of New Braunfels Street inspector with all testing documentation and a certification stating that the placement of fill material has been completed in accordance with the plans.

NBU Water Notes

NBU Water Notes

1. The point of delivery for an owned and maintained water line is typically the domestic or irrigation water meter, fire line up to the containment backflow device, or hydrant meter or as determined by NBU.
2. Water infrastructure must be constructed in accordance with the NBU Water Connection Policy.
3. All water mains shall be constructed of AWWA C900 DR 14 PVC, AWWA C900 DR 18 PVC or minimum Class 250 Ductile Iron Pipe.
4. All residential water services shall be single services constructed of 1-inch ASTM B88 Type K Copper tubing, 1-inch AWWA C901 SDR9 CTS polyethylene tubing may be permitted with special approval from NBU only.
5. All 2-inch service lines shall be constructed of AWWA C901 SDR9 CTS polyethylene tubing.
6. Water mains shall have a minimum of 48 inches of cover to finished grade. Concrete encasement will be required if minimum cover cannot be met.
7. Pipe bedding of water lines shall be compliant with NBU specification No. 120, "Utility Trenching and Backfill".
8. Contractor shall install line stoppers at their cost for an outage during construction if system valves are not available or the existing valves do not function. Line stoppers will be required based on the following criteria:
 - a. If the number of residential customers affected is greater than 20 and expected to last more than 4 hours.
 - b. If any commercial customers are affected by the outage then the use of line stoppers will be determined on a case by case basis.
 - c. If any critical care customers are affected by the outage then the use of line stoppers will be determined on a case by case basis.
9. System conditions may require a line stopper and may not be known until construction commences.
9. Contractor will keep the area on top of, around, and within the water meter box free of all objects and debris.
10. Placement of meter boxes or vaults in sidewalks, driveways, drive aisles, parking areas, or other areas exposed to vehicular traffic is not permitted. Any meter boxes or vaults set in these areas will be relocated at the contractor's and/or developer's expense.
11. Meter boxes or vaults must be set at proposed grade. Any meter boxes that are not set at the final grade will be adjusted at contractor's and/or developer's expense.
12. Meter boxes for 5/8-inch and 1-inch meters must be DFW Plastics DFW38C-14-AF1MP.
13. Meter boxes for 1.5" meters must be DFW Plastics DFW765C-14-AF1MP.
14. Meter boxes for 2" meters must be DFW Plastics DFW1730C-12-AF1MP.
15. Thrust blocks are not permitted without special approval. Joints must be restrained with restraining systems approved by NBU and restraint length shall be submitted to NBU at the time of plan submittal.
16. Contractor shall install tracer wire on top of non-ferrous water mains in accordance with NBU specifications. Tracer wire should run from valve to valve and exit at a tracer wire access point. The tracer wire should be attached to the top of the pipe using tape. Excess wire should be coiled within the tracer wire access point riser.

Appendix/Appendix B

Approved 12/09/03; Rev 1/01/24

Page 1 of 2

WBU Water Notes

17. Contractor shall coordinate with the assigned water/wastewater inspector for completion of the Field Acceptance Checklist. All testing and acceptance shall conform to NBU Specifications, including but not limited to:
 - a. Bacteriological Testing
 - b. Hydrostatic Testing (performed valve to valve)
18. The NBU water system shall be protected from hazards with appropriate backflow prevention assemblies installed on all irrigation systems, fire suppression systems and multi-unit complexes along with multi-level properties on the domestic meter containment. NBU can assist with the decision on appropriate backflow assemblies on a case-by-case basis. Contact NBU backflow prevention specialist for more details. Email questions to crossconnection@nbutexas.com
19. All backflow prevention assemblies shall be tested upon installation and reports sent to NBU via the online tracking system. Contact an NBU backflow prevention specialist for more details. Email questions to crossconnection@nbutexas.com
20. All residential and commercial properties shall have a Customer Service Inspection certificate (CSI Inspection) completed upon completion of the building or home structure. Contact an NBU backflow prevention specialist for more details. Email questions to crossconnection@nbutexas.com

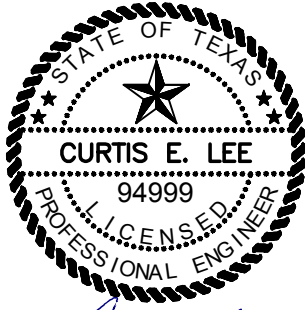
Appendix/Appendix B

Approved 12/09/03; Rev 1/01/24

Page 2 of 3

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1/21/25



Cont. Lee



**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #100288000

SUNFLOWER RIDGE UNIT 2

NEW BRAUNFELS, TEXAS

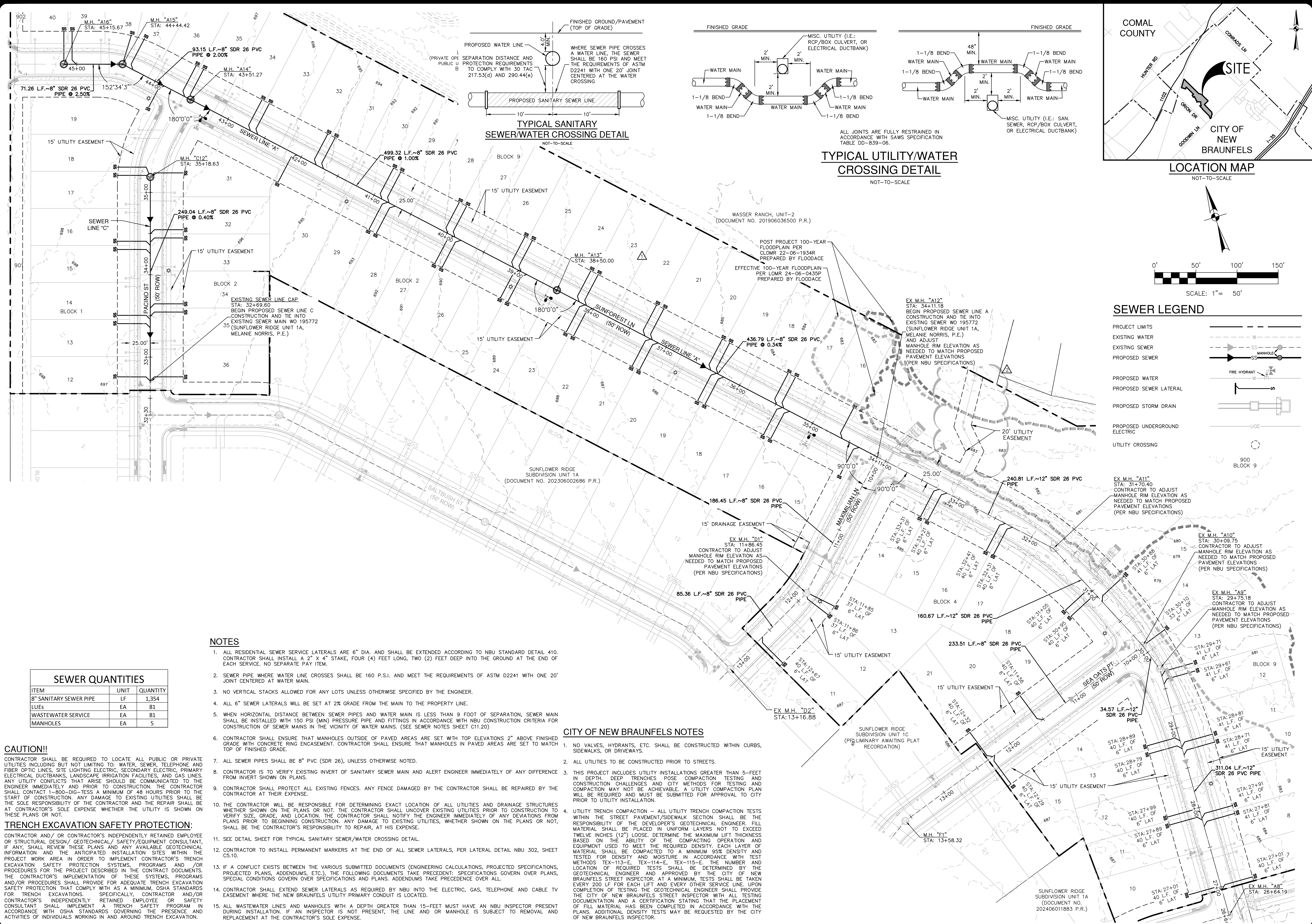
WATER DISTRIBUTION NOTES

PLAT NO. -
JOB NO. 13348-00
DATE JANUARY 2025
DESIGNER AW
CHECKED JG DRAWN JV

SHEET C4.20

Date: Mar. 31, 2025 11:02am User: JD_TJW/ldk
File: P:\13348\000\Design\Civil\04501334800.dwg

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE/USLESS OTHERWISE NOTED. Imagery © 2016,CAPCO/DigitalGlobe,Texas Orthomography Program, USDA Farm Service Agency.



SEWER QUANTITIES		
ITEM	UNIT	QUANTITY
8" SANITARY SEWER PIPE	LF	1,354
LUES	EA	81
WASTEWATER SERVICE	EA	81
MANHOLES	EA	5

CAUTION!!
CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

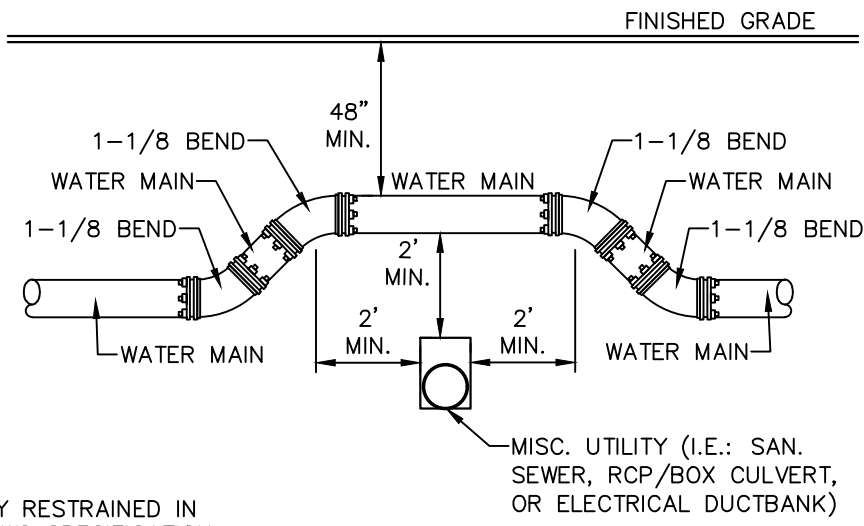
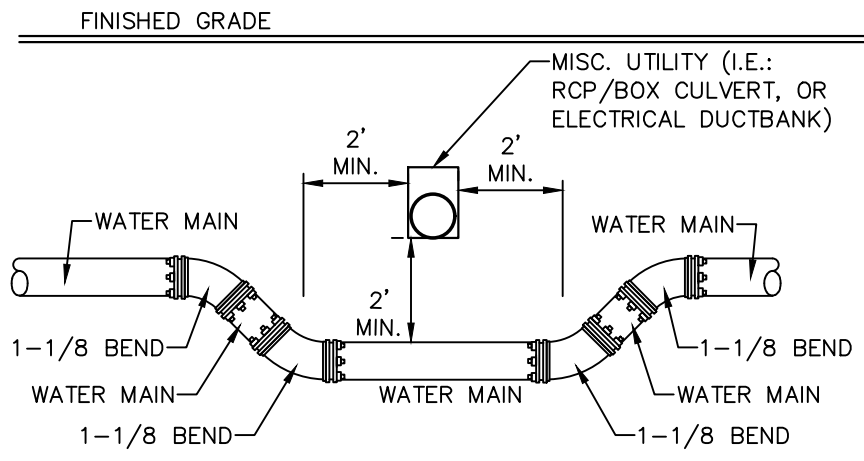
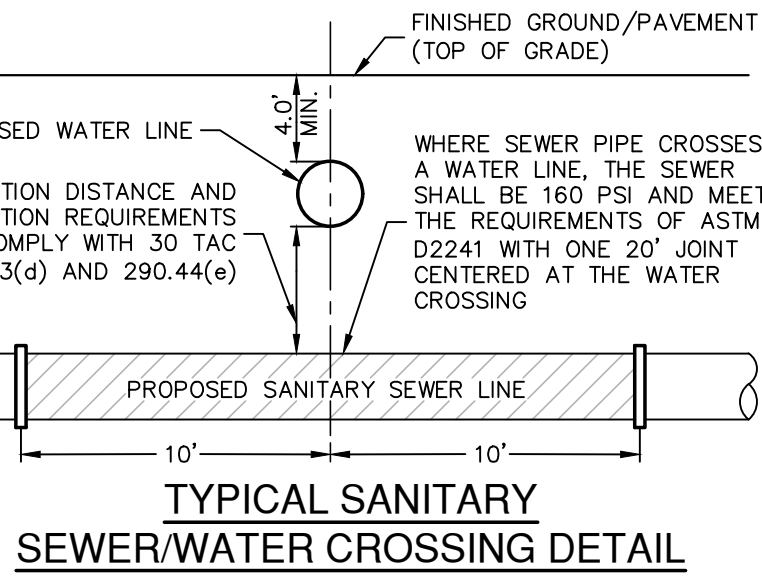
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NOTES

- ALL RESIDENTIAL SEWER SERVICE LATERALS ARE 6" DIA. AND SHALL BE EXTENDED ACCORDING TO NBU STANDARD DETAIL 410. CONTRACTOR SHALL INSTALL A 2" X 4" STAKE, FOUR (4) FEET LONG, TWO (2) FEET DEEP INTO THE GROUND AT THE END OF EACH SERVICE. NO SEPARATE PAY ITEM.
- SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 P.S.I. AND MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE 20' JOINT CENTERED AT WATER MAIN.
- NO VERTICAL STACKS ALLOWED FOR ANY LOTS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
- ALL 6" SEWER LATERALS WILL BE SET AT 2% GRADE FROM THE MAIN TO THE PROPERTY LINE.
- WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FOOT OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 150 PSI (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH NBU CONSTRUCTION CRITERIA FOR CONSTRUCTION OF SEWER MAINS IN THE VICINITY OF WATER MAINS. (SEE SEWER NOTES SHEET C11.20)
- CONTRACTOR SHALL ENSURE THAT MANHOLES OUTSIDE OF PAVED AREAS ARE SET WITH TOP ELEVATIONS 2" ABOVE FINISHED GRADE WITH CONCRETE RING ENCASUREMENT. CONTRACTOR SHALL ENSURE THAT MANHOLES IN PAVED AREAS ARE SET TO MATCH TOP OF FINISHED GRADE.
- ALL SEWER PIPES SHALL BE 8" PVC (SDR 26), UNLESS OTHERWISE NOTED.
- CONTRACTOR IS TO VERIFY EXISTING INVERT OF SANITARY SEWER MAIN AND ALERT ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.
- CONTRACTOR SHALL PROTECT ALL EXISTING FENCES. ANY FENCE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
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- SEE DETAIL SHEET FOR TYPICAL SANITARY SEWER/WATER CROSSING DETAIL.
- CONTRACTOR TO INSTALL PERMANENT MARKERS AT THE END OF ALL SEWER LATERALS, PER LATERAL DETAIL NBU 302, SHEET C5.10.
- IF A CONFLICT EXISTS BETWEEN THE VARIOUS SUBMITTED DOCUMENTS (ENGINEERING CALCULATIONS, PROJECTED SPECIFICATIONS, PROJECTED PLANS, ADDENDUMS, ETC.), THE FOLLOWING DOCUMENTS TAKE PRECEDENT: SPECIFICATIONS GOVERN OVER PLANS, SPECIAL CONDITIONS GOVERN OVER SPECIFICATIONS AND PLANS. ADDENDUMS TAKE PRECEDENCE OVER ALL.
- CONTRACTOR SHALL EXTEND SEWER LATERALS AS REQUIRED BY NBU INTO THE ELECTRIC, GAS, TELEPHONE AND CABLE TV EASEMENT WHERE THE NEW BRAUNFELS UTILITY PRIMARY CONDUIT IS LOCATED.
- ALL WASTEWATER LINES AND MANHOLES WITH A DEPTH GREATER THAN 15- FEET MUST HAVE AN NBU INSPECTOR PRESENT DURING INSTALLATION. IF AN INSPECTOR IS NOT PRESENT, THE LINE AND OR MANHOLE IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S SOLE EXPENSE.

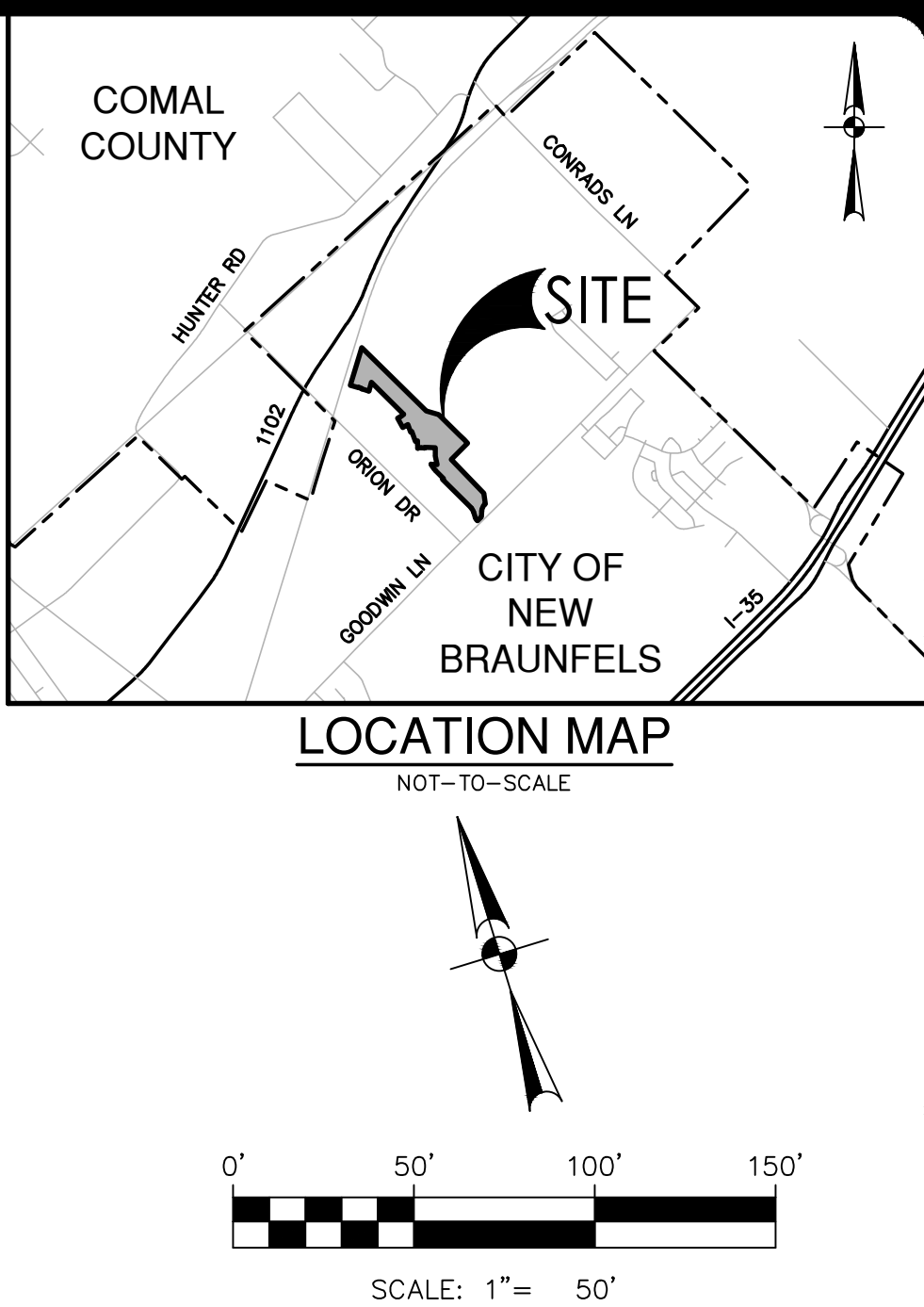
CITY OF NEW BRAUNFELS NOTES

- NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
- ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
- THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5- FEET IN DEPTH. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.
- UTILITY TRENCH COMPACTION - ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTION OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.



TYPICAL UTILITY/WATER CROSSING DETAIL

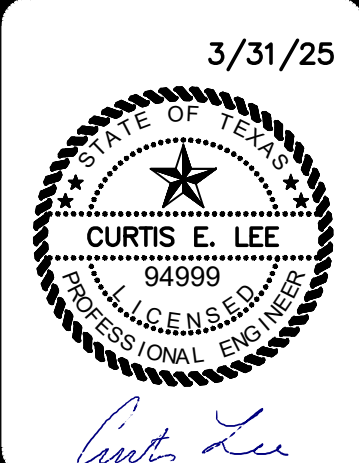
NOT-TO-SCALE



SEWER LEGEND

- PROJECT LIMITS
EXISTING WATER
EXISTING SEWER
PROPOSED SEWER
PROPOSED WATER
PROPOSED SEWER LATERAL
PROPOSED STORM DRAIN
PROPOSED UNDERGROUND ELECTRIC
UTILITY CROSSING

DATE	3/06/2025
NO.	1
REVISION	C&B/NBU COMMENTS
	2
	NBU COMMENTS



PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TPE FIRM REGISTRATION #470 | TPE FIRM REGISTRATION #10028890

SUNFLOWER RIDGE UNIT 2 NEW BRAUNFELS, TEXAS

OVERALL SANITARY SEWER PLAN

PLAT NO.	-
JOB NO.	13348-00
DATE	MARCH 2025
DESIGNER	AW
CHECKED	JG
DRAWN	JV
SHEET	C5.00

PERMIT SET

CITY OF NEW BRAUNFELS NOTES

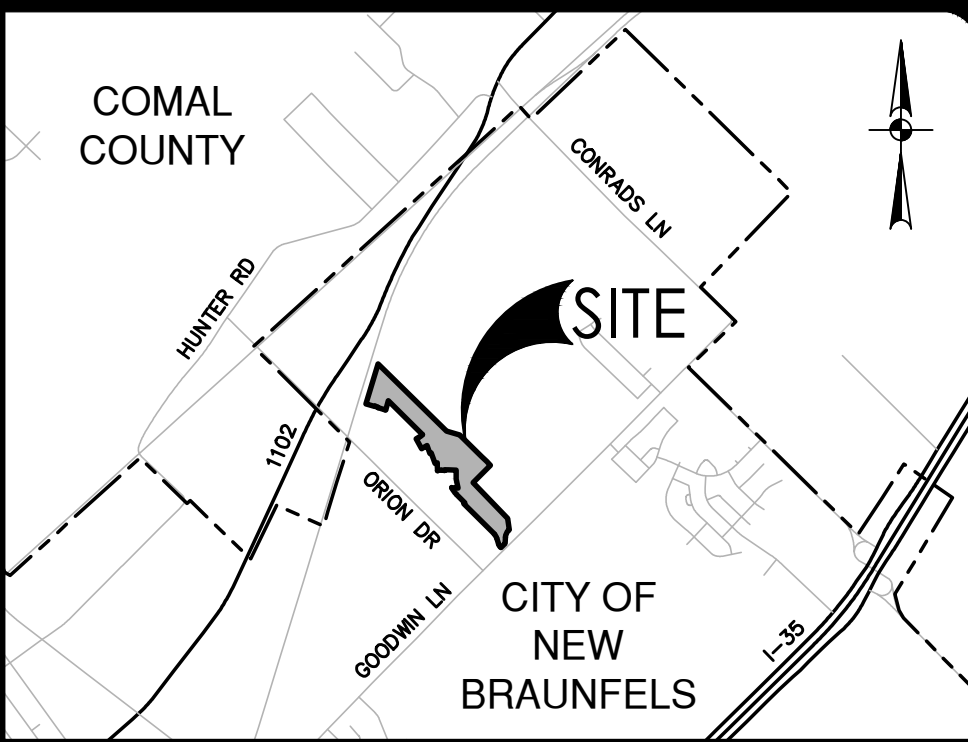
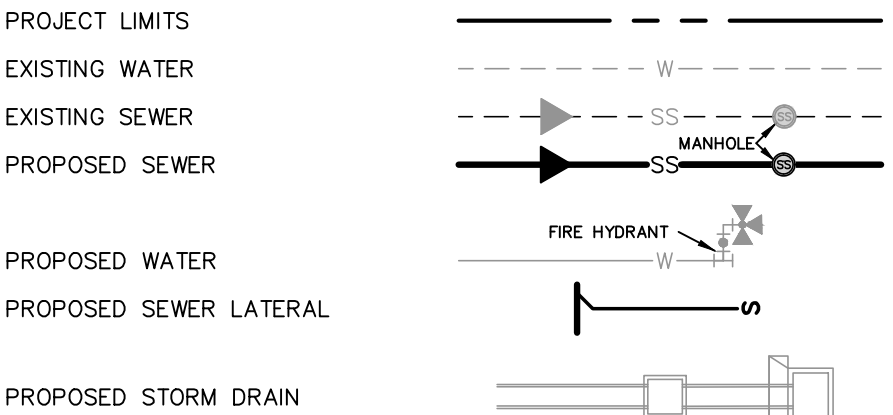
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SEWER QUANTITIES

ITEM	UNIT	QUANTITY
8" SANITARY SEWER PIPE	LF	1,354
LUES	EA	81
WASTEWATER SERVICE	EA	81
MANHOLES	EA	5

SEWER LEGEND



LOCATION MAP

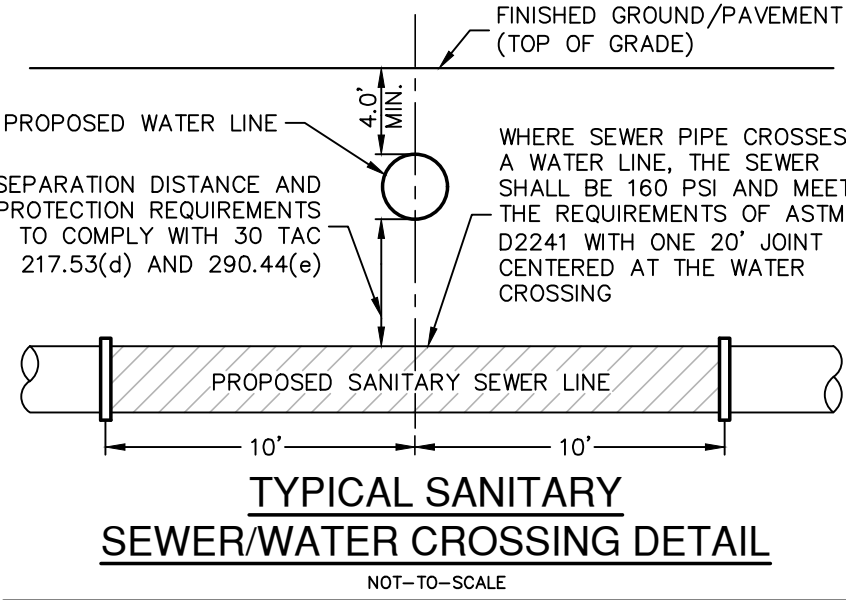
NOT-TO-SCALE



SCALE: 1" = 50'

NOTES

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- LAST 20 L.F. OF 8" STUB-OUT SHALL BE CONSTRUCTED OF P.V.C. SDR 26 (160 P.S.I.) PRESSURE PIPE.
- ALL SEWER PIPE LATERALS SHALL BE SDR 26 (CLASS 160) PVC PIPE.
- PIPE INVERTS AND MANHOLES SHALL BE CONSTRUCTED TO ALLOW TV INSPECTION EQUIPMENT ACCESS.



NOTE:
FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.

CAUTION!!

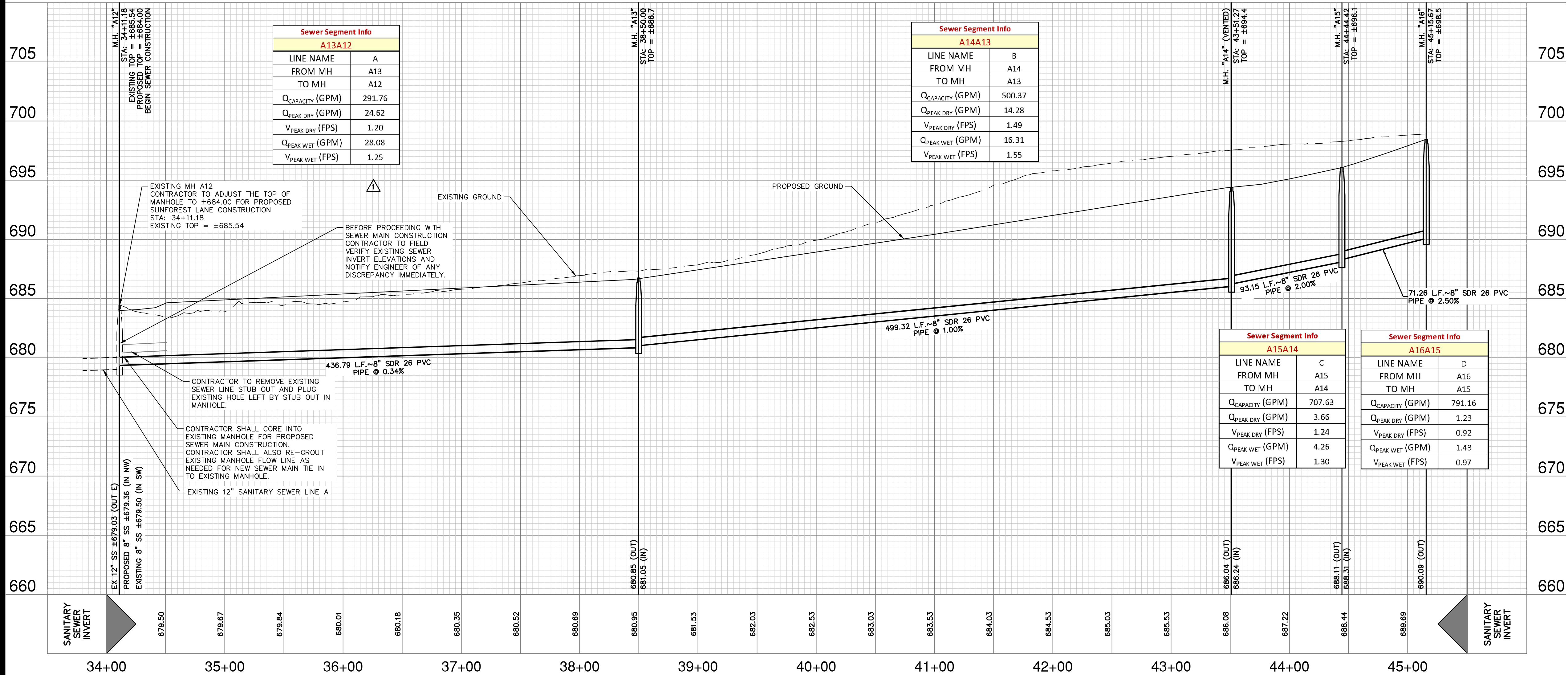
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TRENCH EXCAVATION SAFETY PROTECTION:

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SANITARY SEWER LINE "A"
STA. 34+11.18 TO END

VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



PAPE-DAWSON
ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #270 | TBPUS FIRM REGISTRATION #10028890

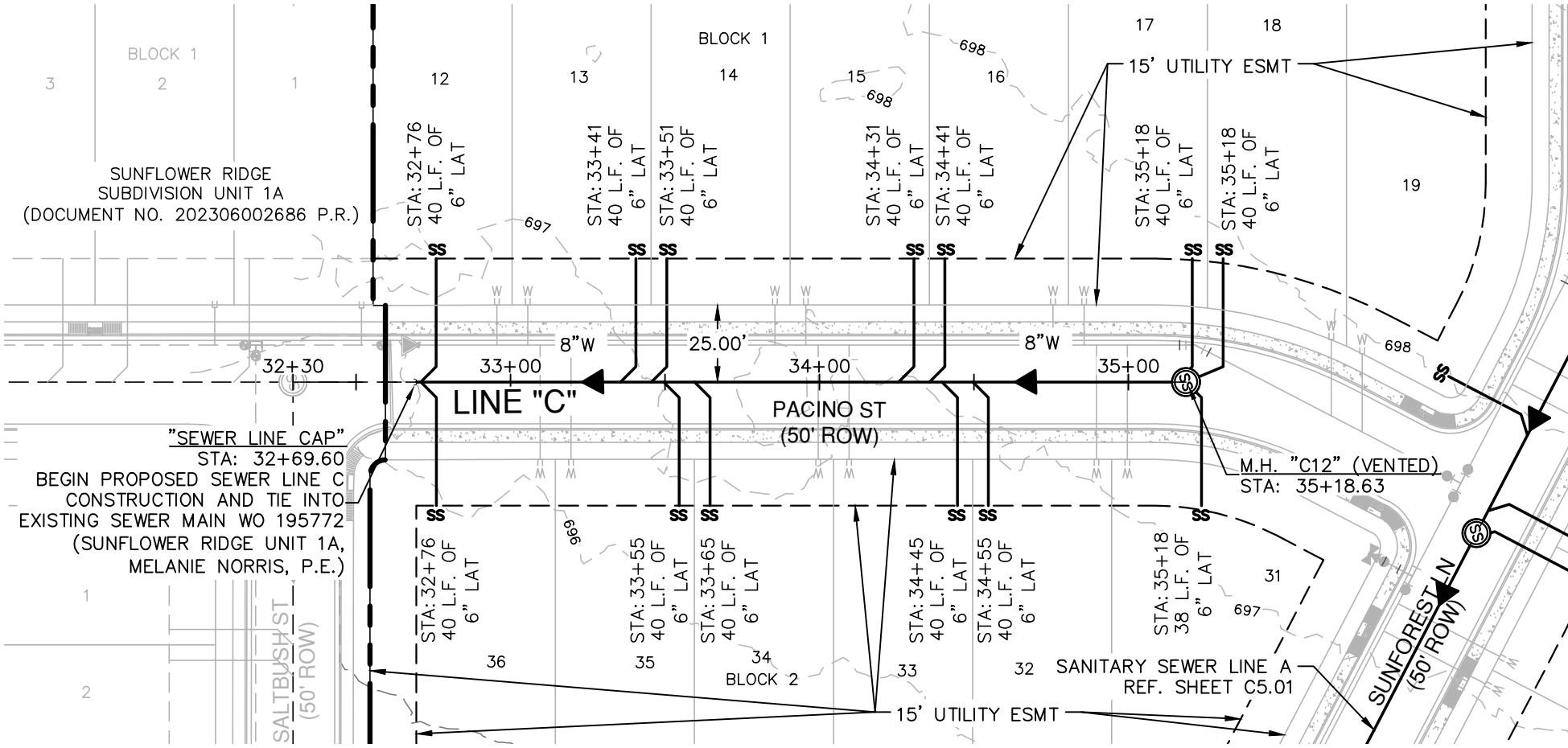
SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS

SANITARY SEWER LINE A - PLAN & PROFILE

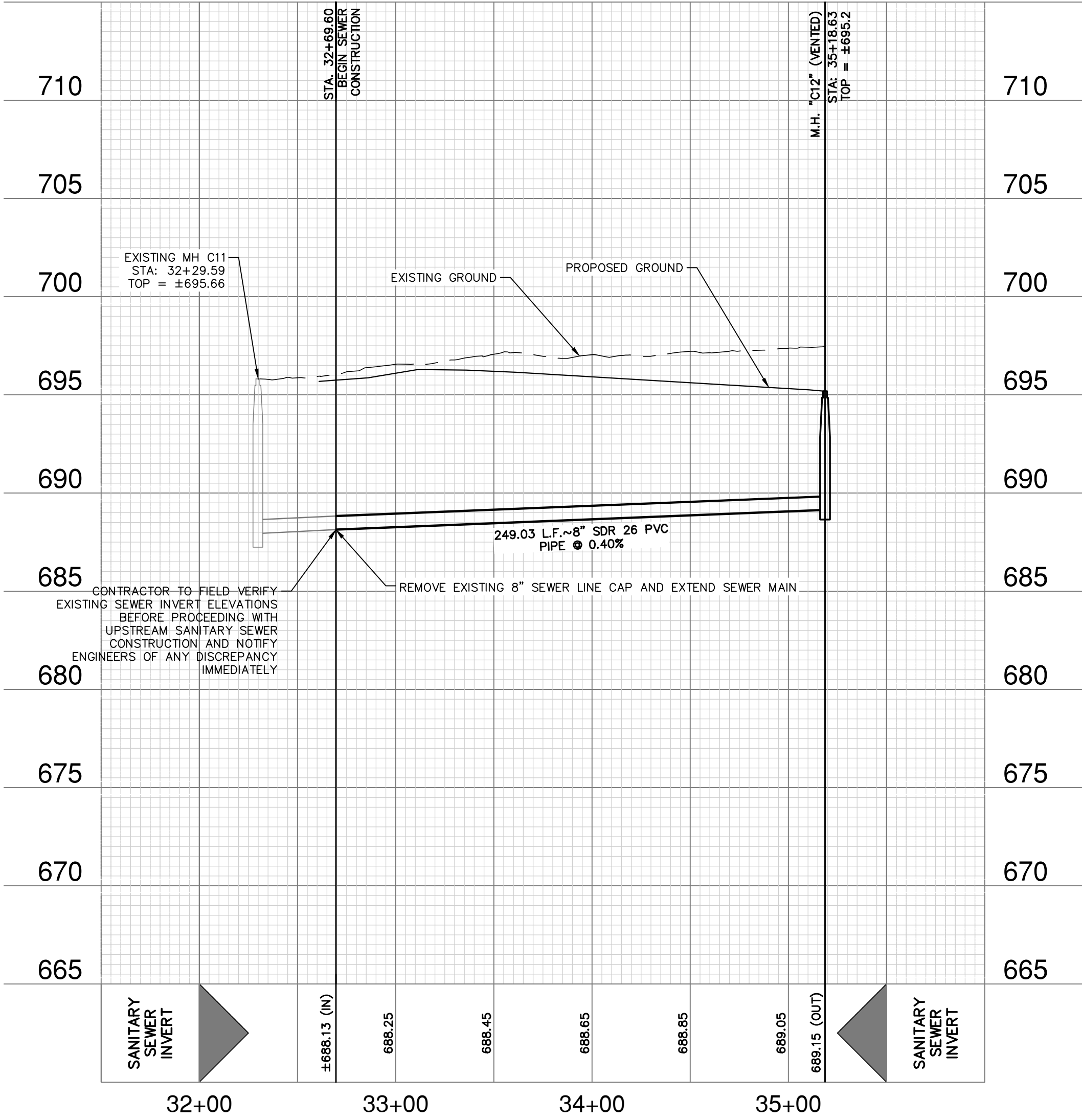
PLAT NO. -
JOB NO. 13348-00
DATE MARCH 2025
DESIGNER AW
CHECKED JG DRAWN JV
SHEET C5.01

CITY OF NEW BRAUNFELS NOTES

1. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
2. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
3. THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5- FEET IN DEPTH. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.
4. UTILITY TRENCH COMPACTION - ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.



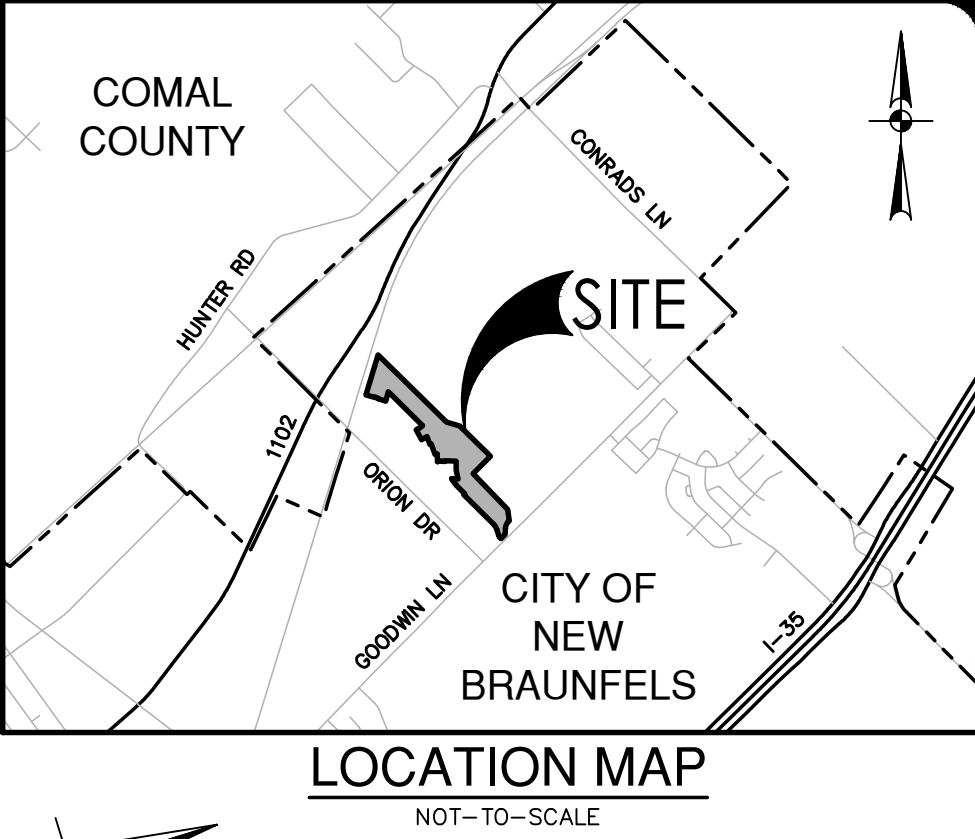
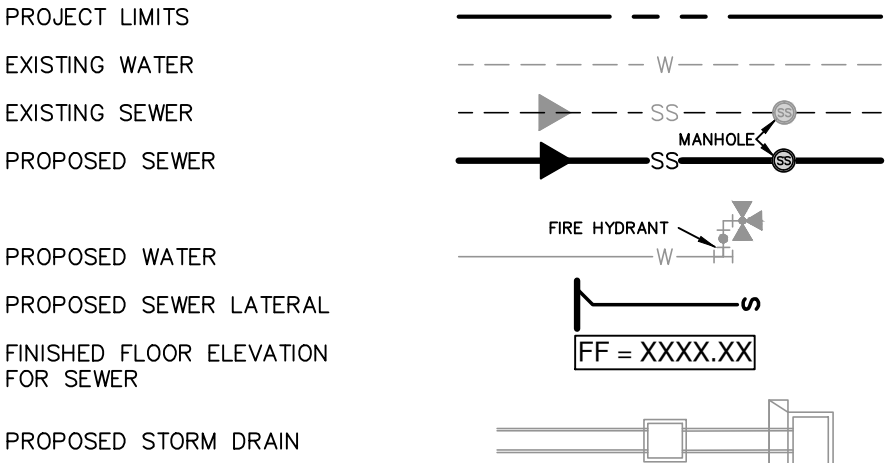
SANITARY SEWER LINE "C"
STA. 32+69.60 TO END
VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 50'



Sewer Segment Info	
C12C11	
LINE NAME	E
FROM MH	C12
TO MH	C11
Q _{CAPACITY} (GPM)	316.46
Q _{PEAK DRY} (GPM)	7.83
V _{PEAK DRY} (FPS)	0.90
Q _{PEAK WET} (GPM)	8.92
V _{PEAK WET} (FPS)	0.94

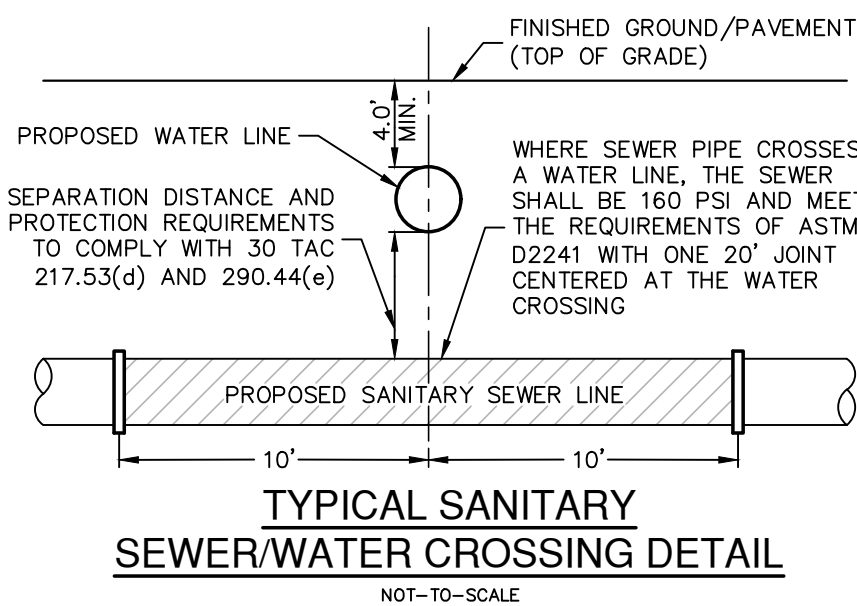
SEWER QUANTITIES	
ITEM	TOTAL
8" SANITARY SEWER PIPE	1,354
LUES	81
WASTEWATER SERVICE	81
MANHOLES	5

SEWER LEGEND



NOTES

1. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 P.S.I. AND MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE 20' JOINT CENTERED AT WATER MAIN.
2. NO VERTICAL STACKS ALLOWED FOR ANY LOTS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
3. WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FOOT OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 150 PSI (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH NBU'S WATER CONNECTION POLICY IN THE VICINITY OF WATER MAINS.
4. CONTRACTOR SHALL ENSURE THAT MANHOLES OUTSIDE OF PAVED AREAS ARE SET WITH TOP ELEVATIONS 2" ABOVE FINISHED GRADE WITH CONCRETE RING ENCASMENT. CONTRACTOR SHALL ENSURE THAT MANHOLES IN PAVED AREAS ARE SET TO MATCH TOP OF FINISHED GRADE.
5. ALL SEWER PIPES SHALL BE 8" PVC (SDR 26), UNLESS OTHERWISE NOTED.
6. CONTRACTOR IS TO VERIFY EXISTING INVERT OF SANITARY SEWER MAIN AND ALERT ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.
7. CONTRACTOR SHALL PROTECT ALL EXISTING FENCES. ANY FENCE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
8. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
9. SEE THIS SHEET FOR TYPICAL SANITARY SEWER/WATER CROSSING DETAIL.
10. IF A CONFLICT EXISTS BETWEEN THE VARIOUS SUBMITTED DOCUMENTS (ENGINEERING CALCULATIONS, PROJECTED SPECIFICATIONS, PROJECTED PLANS, ADDENDUMS, ETC.), THE FOLLOWING DOCUMENTS TAKE PRECEDENT: SPECIFICATIONS GOVERN OVER PLANS, SPECIAL CONDITIONS GOVERN OVER SPECIFICATIONS AND PLANS. ADDENDUMS TAKE PRECEDENCE OVER ALL.
11. LAST 20 L.F. OF 8" STUB-OUT SHALL BE CONSTRUCTED OF P.V.C. SDR 26 (160 P.S.I.) PRESSURE PIPE.
12. ALL SEWER PIPE LATERALS SHALL BE SDR 26 (CLASS 160) PVC PIPE.
13. PIPE INVERTS AND MANHOLES SHALL BE CONSTRUCTED TO ALLOW TV INSPECTION EQUIPMENT ACCESS.



NOTE:
FOR PAVEMENT DESIGN SECTION SEE GEOTECHNICAL ENGINEERING REPORT.

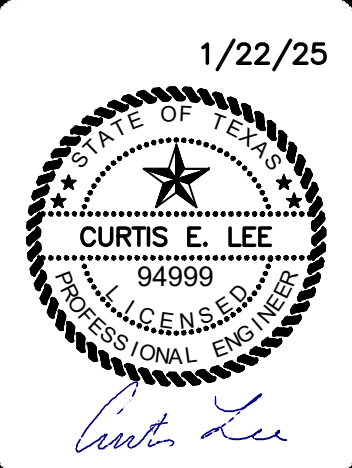
CAUTION!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

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 GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

DATE	
NO.	
REVISION	



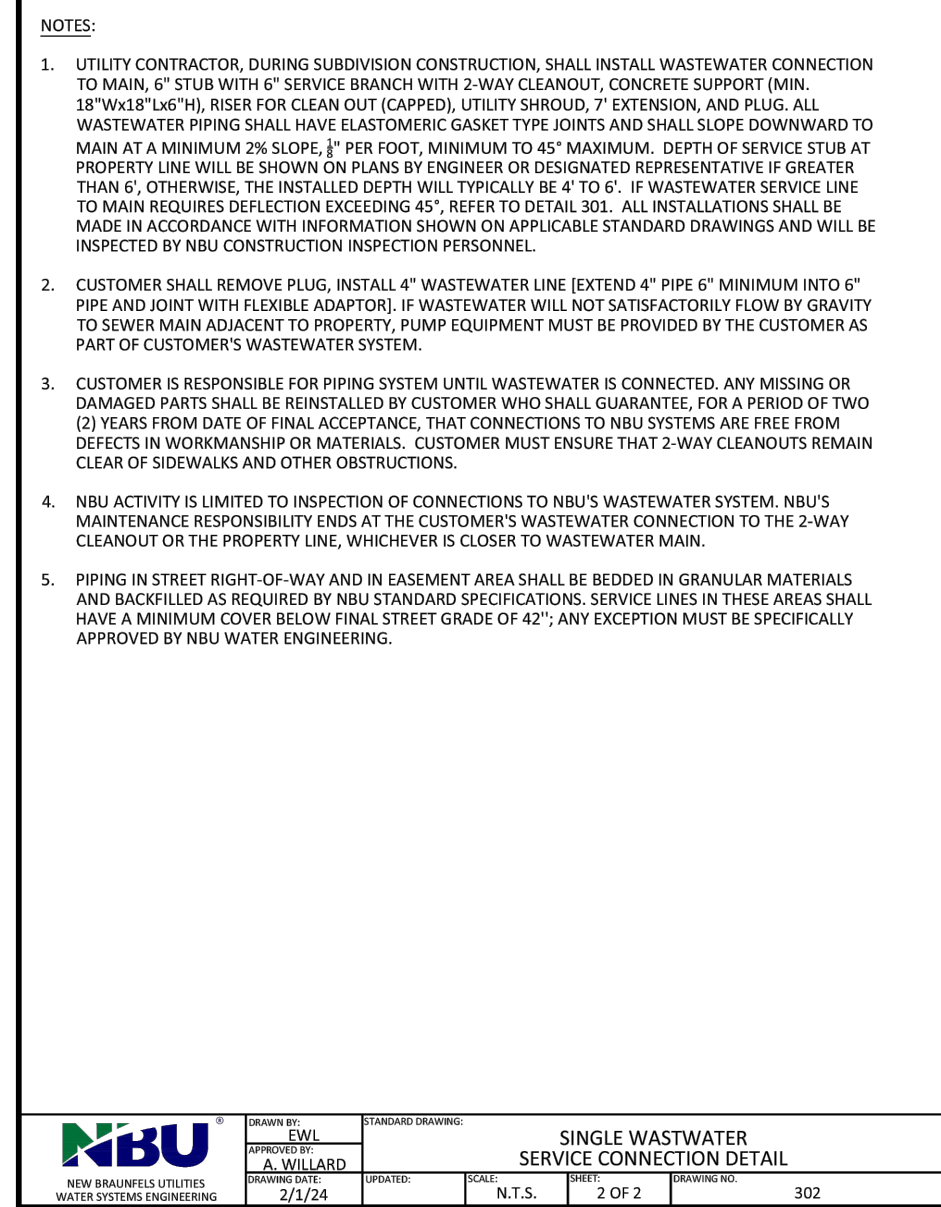
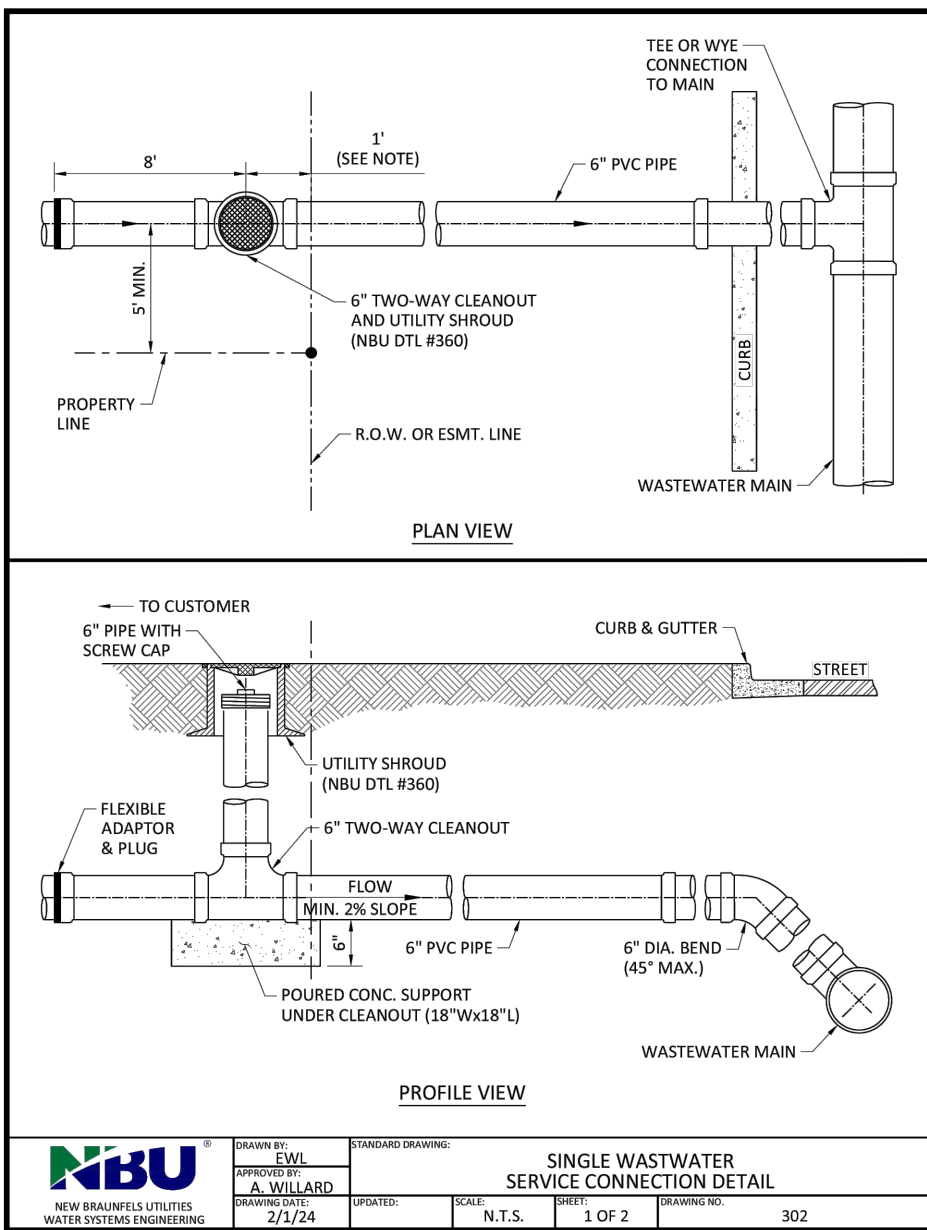
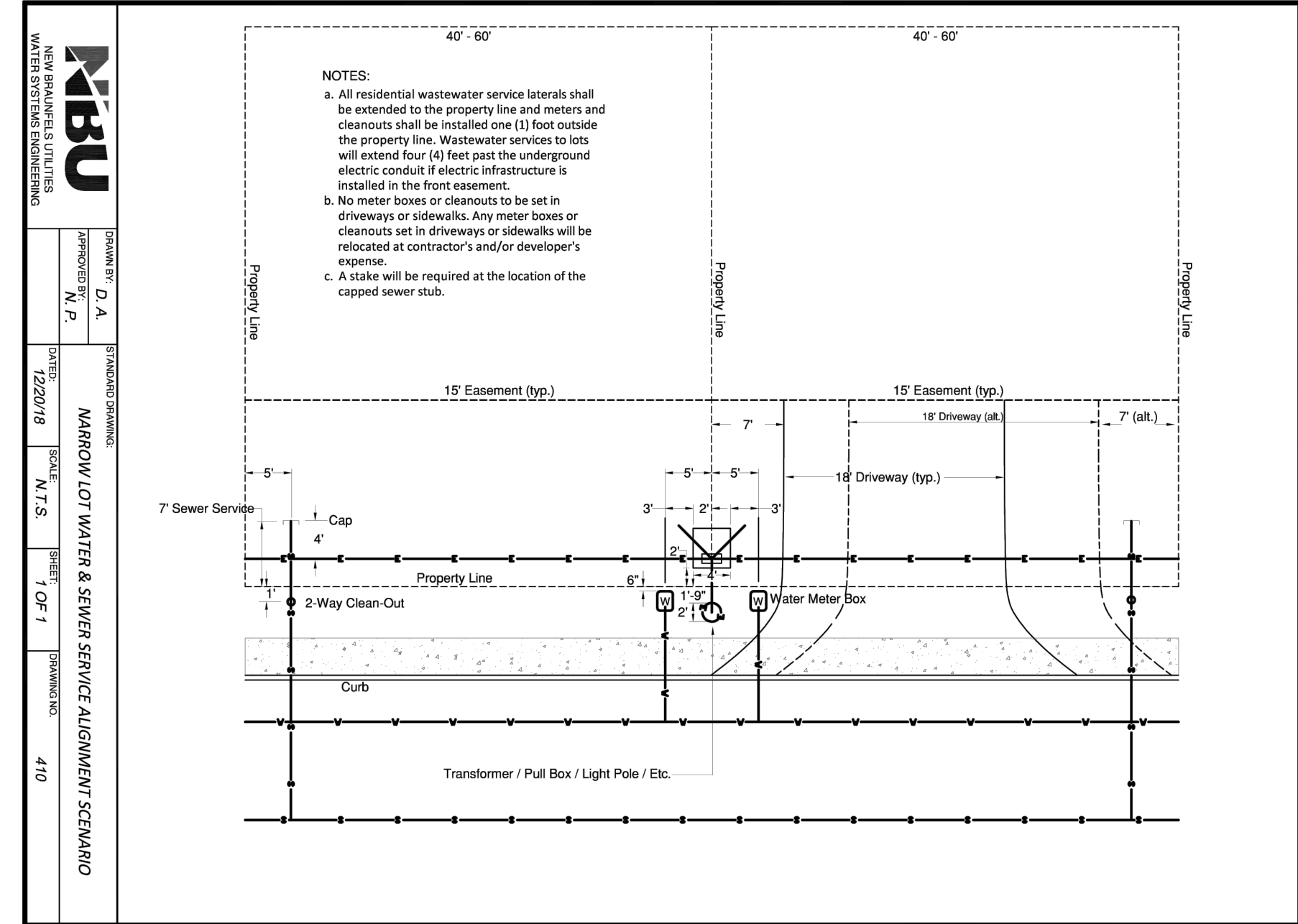
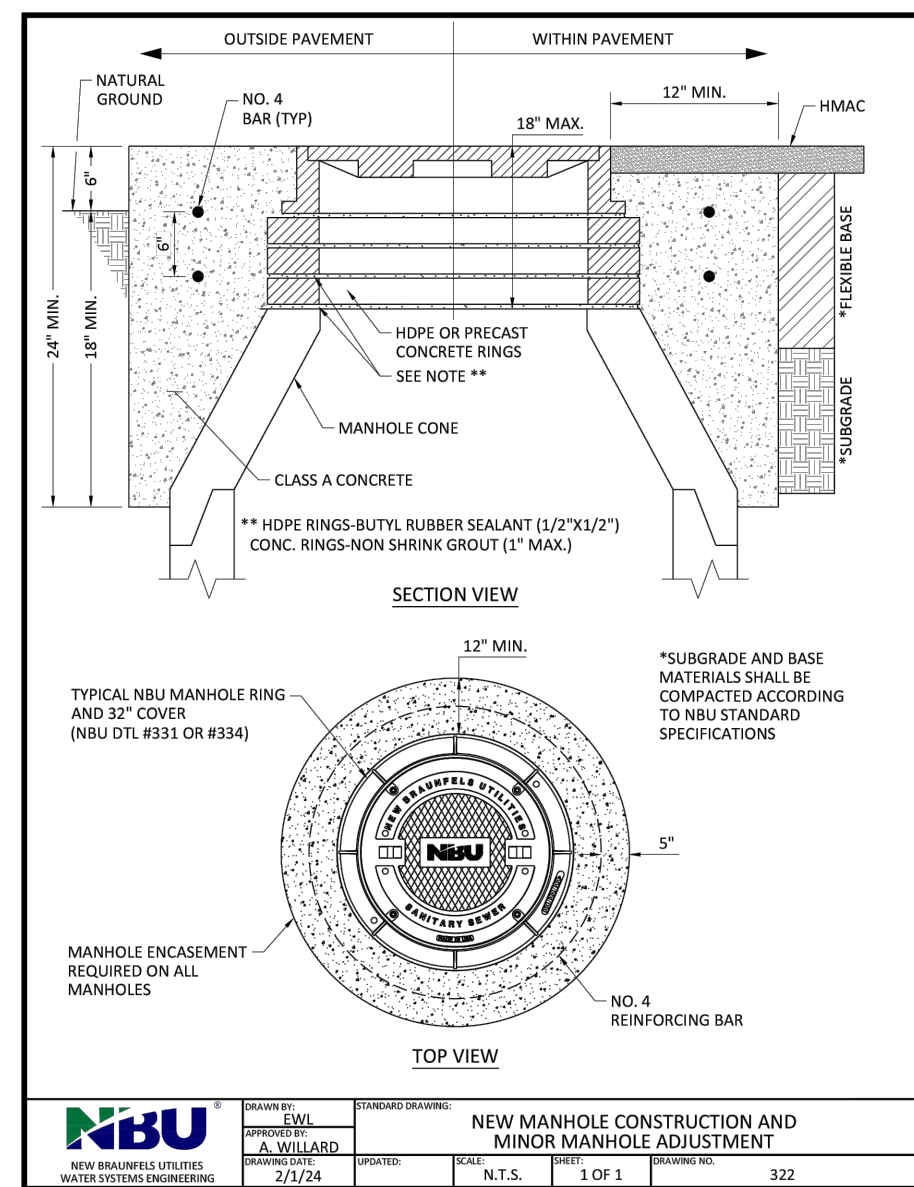
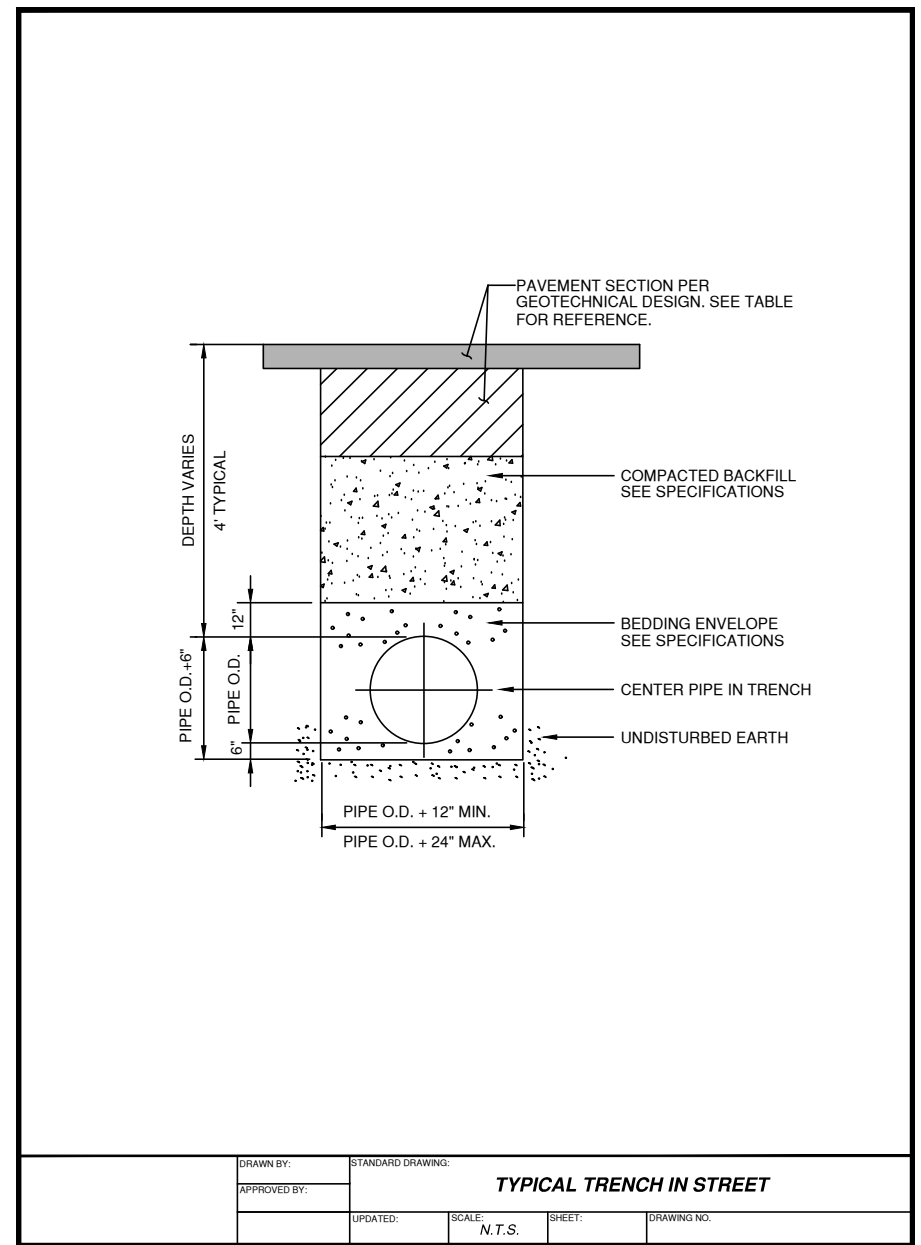
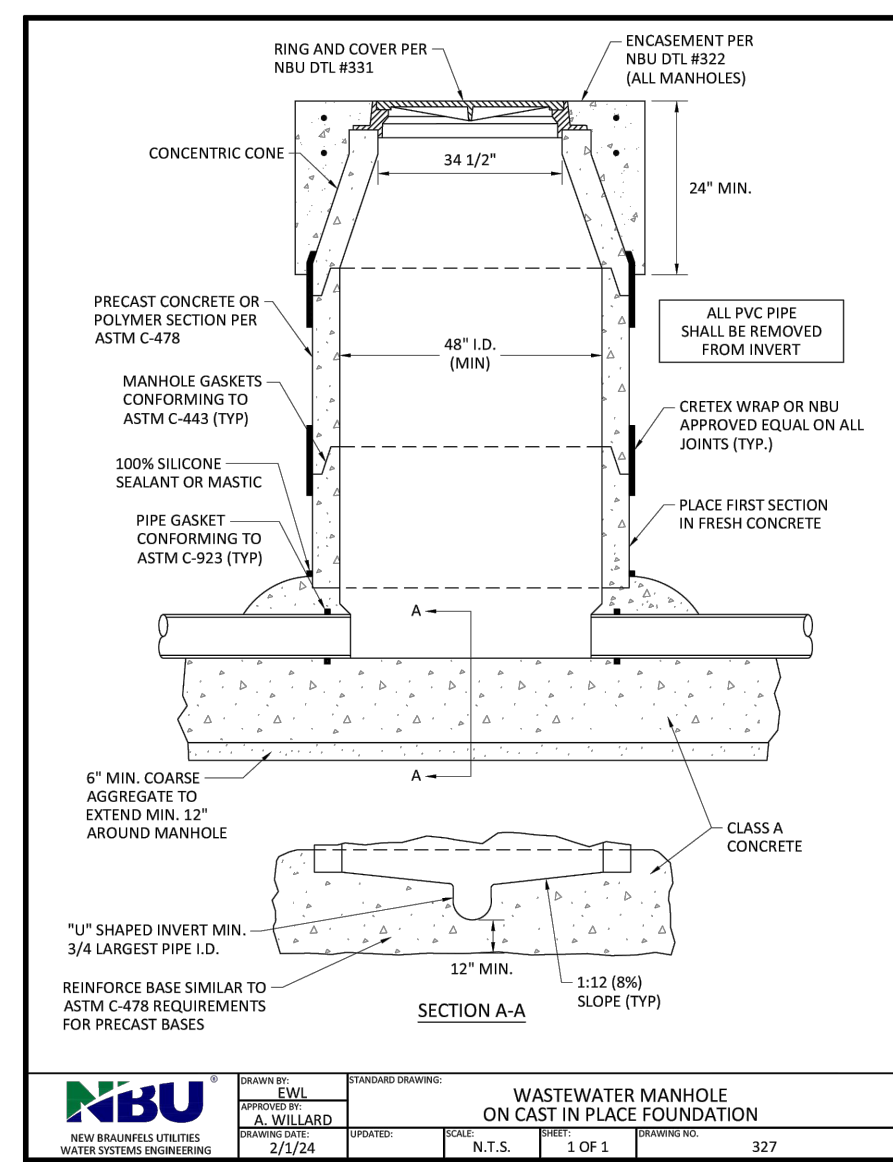
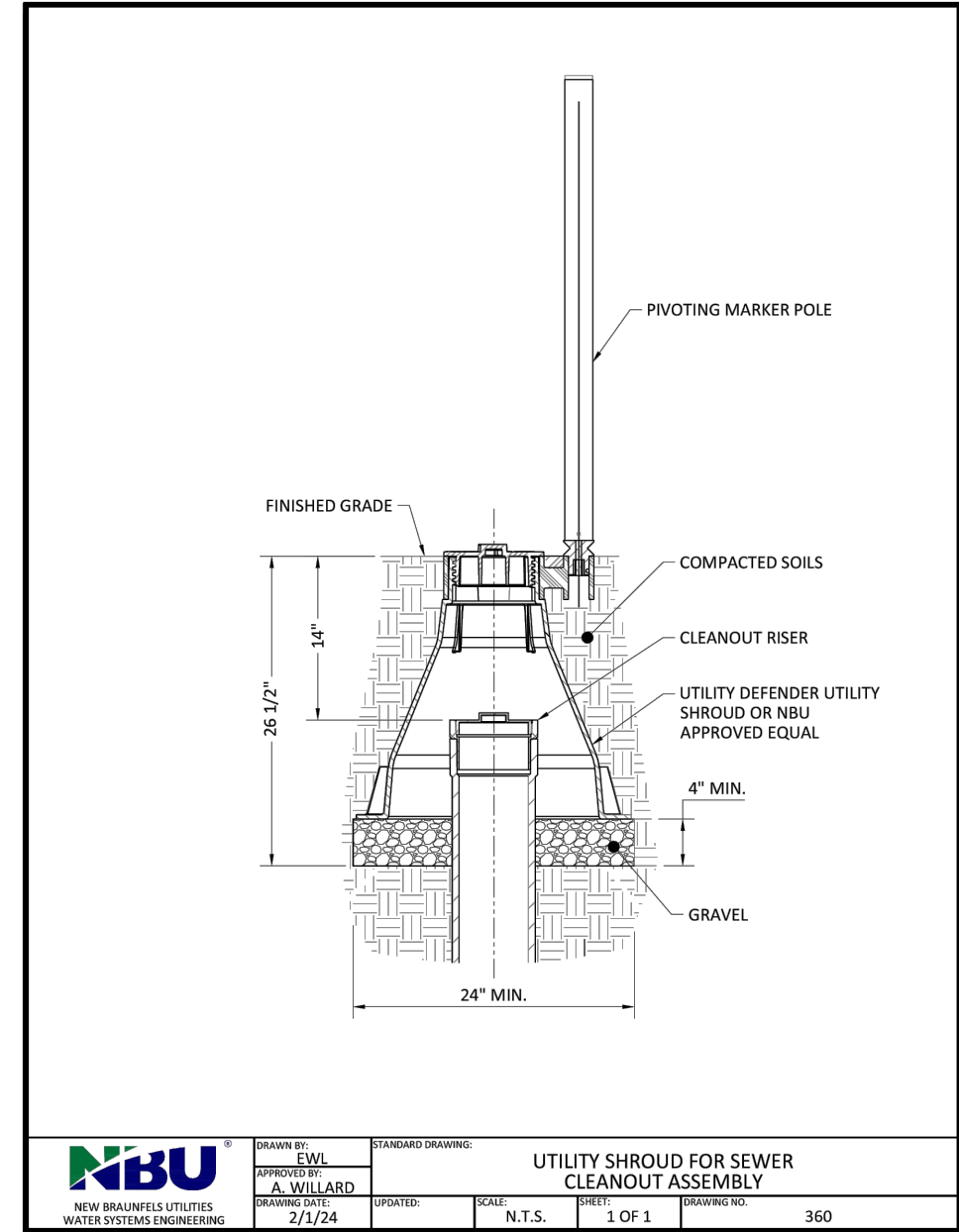
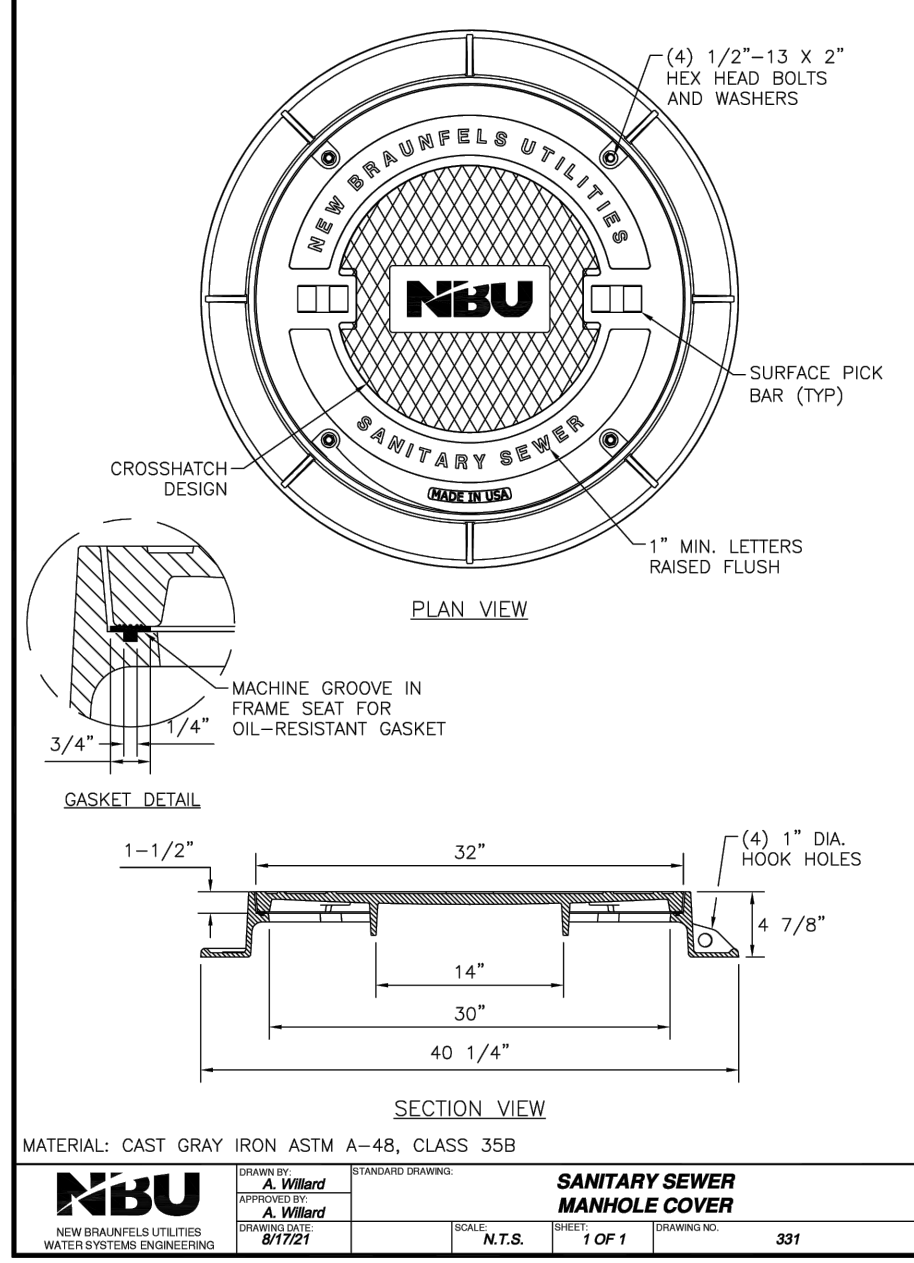
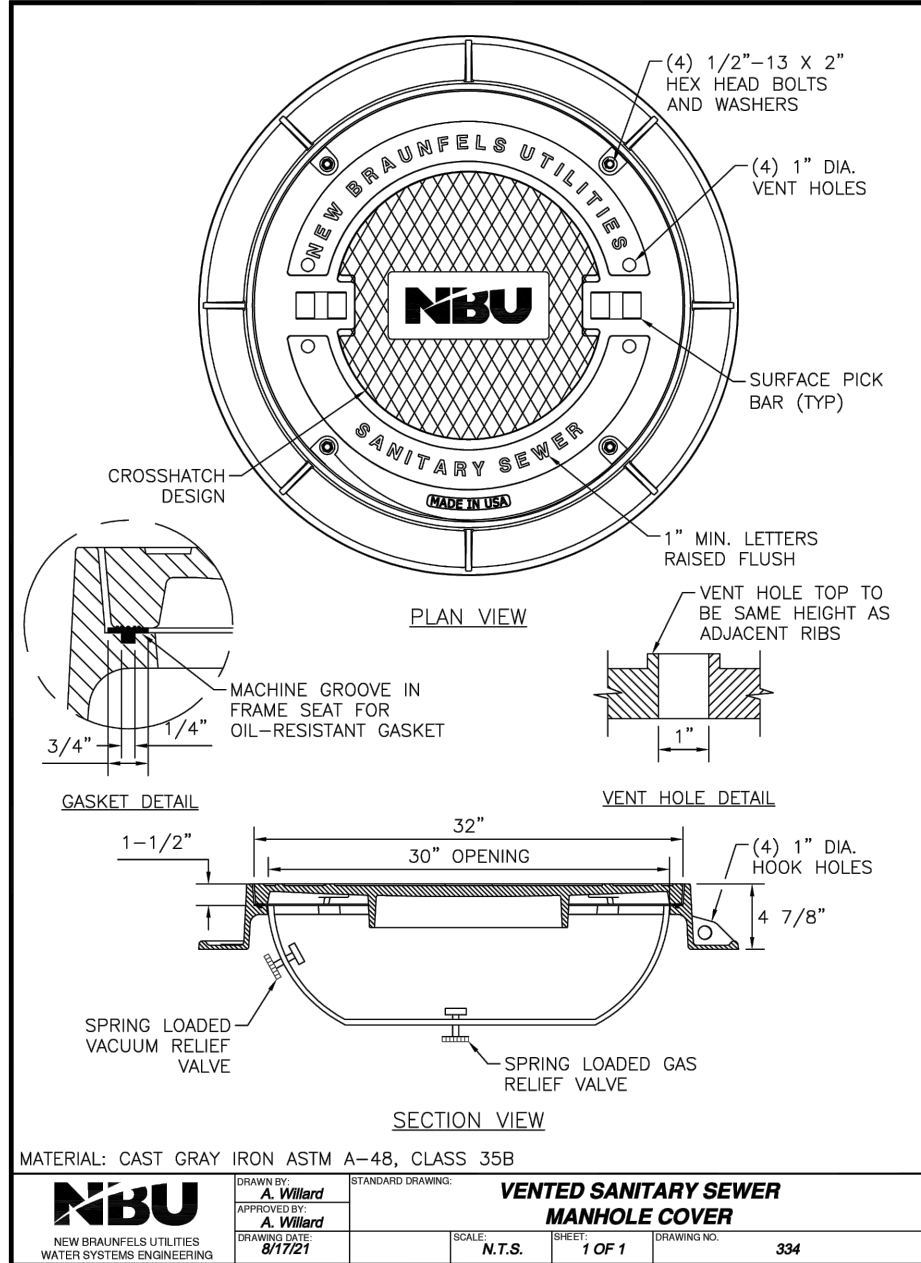
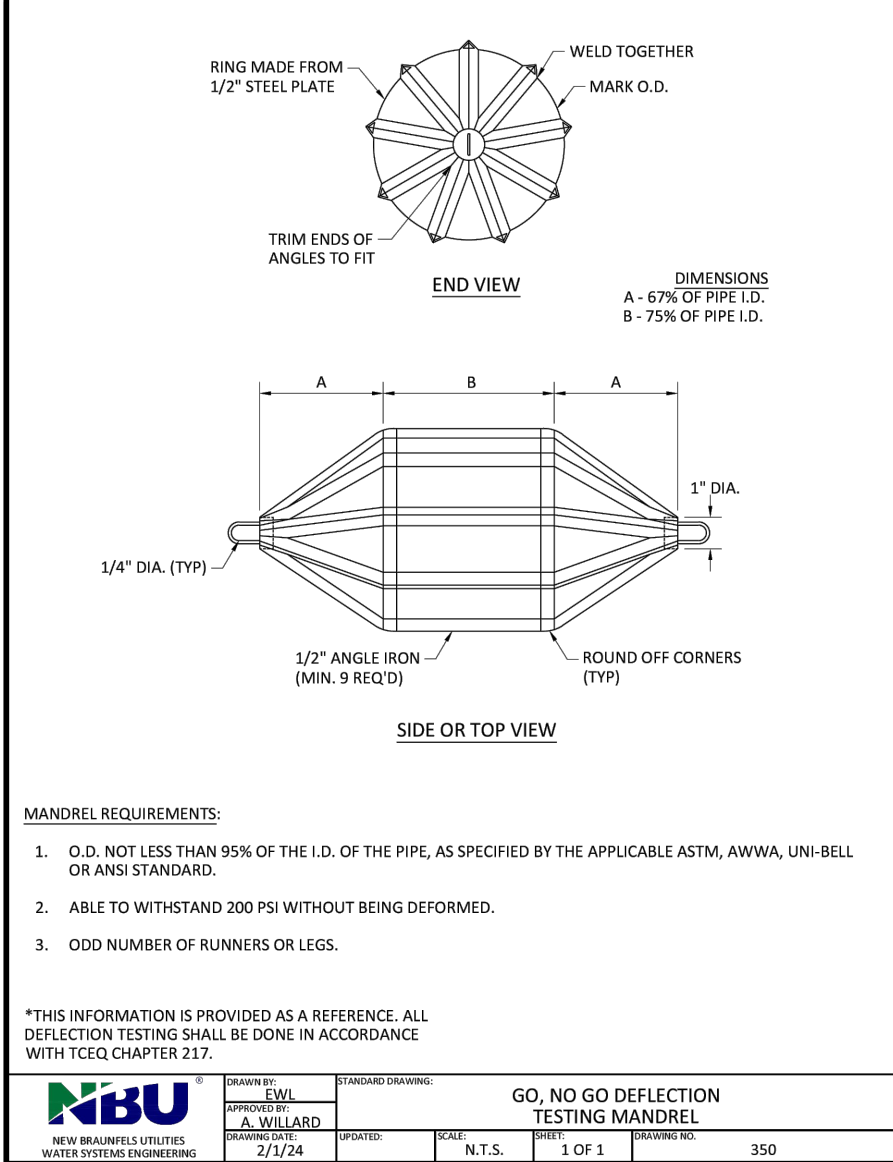
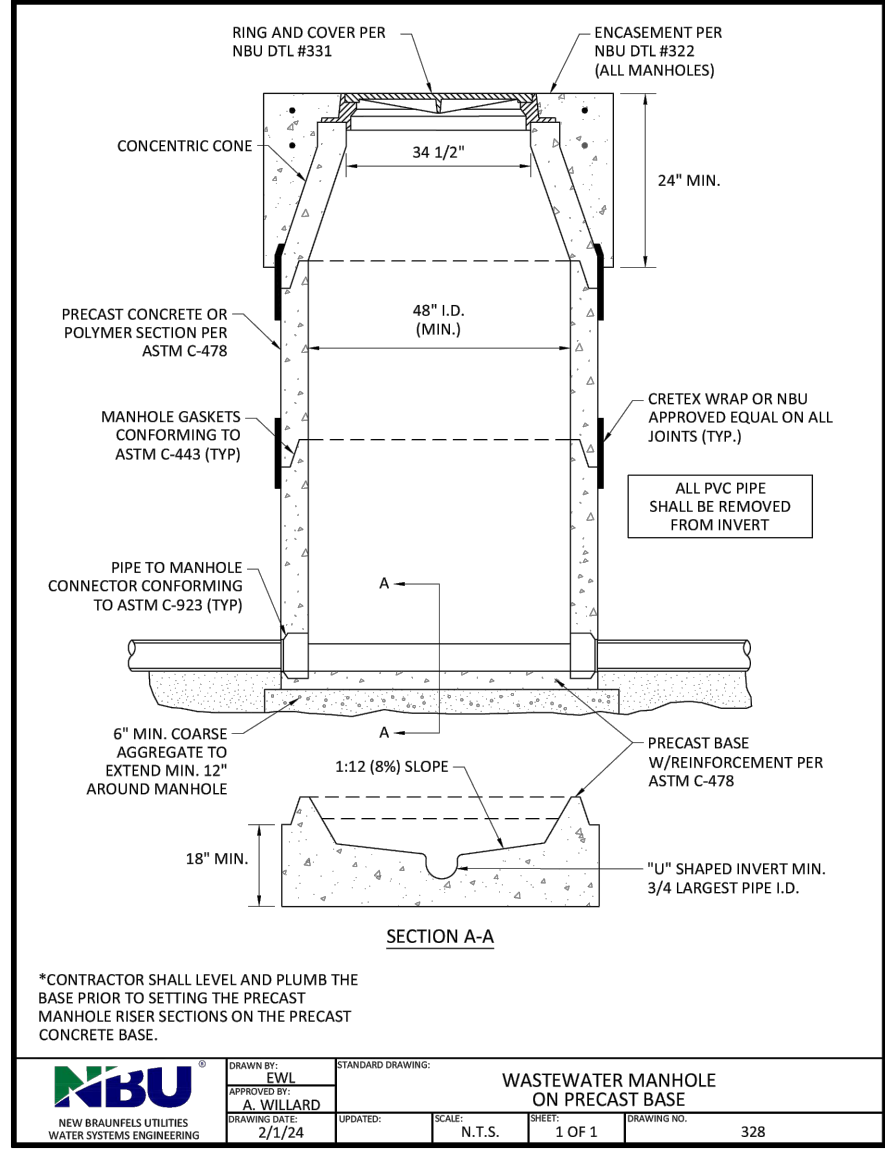
PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TPE FIRM REGISTRATION #470 | TPELIS FIRM REGISTRATION #1008890

SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS
SANITARY SEWER LINE C - PLAN & PROFILE
STA. 32+69.60 TO END

PLAT NO.	-
JOB NO.	13348-00
DATE	JANUARY 2025
DESIGNER	AW
CHECKED	DRAWN JV
SHEET	C5.02

Dates: Jan. 21, 2025 9:43am User ID: TS114646
File: P:\13348\CD\Design\Civil\SDT1334803.dwg

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PAPE-DAWSON
ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #10028890

SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS

SANITARY SEWER DETAILS

PLAT NO. -
JOB NO. 13348-00
DATE JANUARY 2025
DESIGNER AW
CHECKED JG DRAWN JV
SHEET C5.10

PERMIT SET

NBU Wastewater Notes

COMPLIANCE NOTES

12. The contractor shall not place any materials on the recharge zone of the Edwards aquifer without an approved water pollution abatement plan from the TCEQ 31 TAC 313.4 and 31 TAC 313.9.
13. Barricades and warning signs shall conform to the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and shall be located to provide maximum protection to the public as well as construction personnel and equipment while providing continuous traffic flow at all times during construction. The contractor is responsible for maintaining all devices during construction.
14. Contractor is required to verify project elevations. The term "match existing" shall be understood to signify both horizontal and vertical alignment.
15. The location of utilities, either underground or overhead, shown within the right-of-way area shall be verified by the contractor before beginning construction operations.
16. OSHA regulations prohibit operations that will bring persons or equipment within 10 feet of an energized line. Where workmen and/or equipment must work close to an energized electrical line, the contractor shall notify the electrical power company involved and make whatever adjustments necessary to ensure the safety of those workmen.
17. It shall be the contractor's responsibility to locate utility service lines as required for construction. Contractors shall call the One Call System for water/wastewater location.
18. Due to federal regulations Title 49, part 192 (B), Gas companies must maintain access to gas valves at all times. The contractor must protect and work around any gas valves that are in the project area.
19. The contractor is fully responsible for the traffic control and will be responsible for furnishing all traffic control devices, and flaggers. The construction methods shall be conducted to provide the least possible interference to traffic. The continuous movement of the traffic in one direction, at minimum, shall be maintained at all times. The contractor shall clean up and remove from the work area any loose material resulting from contract operations at the end of each workday.
20. Prior to ordering materials to be used in construction, contractor shall provide the engineer with four (4) copies of the source, type, gradation, material specification data and / or shop drawings, as applicable, to satisfy the requirements of the following items and all material items referred to in these listed items:
 - a. Water mains and services
 - b. Wastewater mains and services
21. Water jetting the backfill within a street will not be permitted. Wastewater trenches subject to traffic shall conform to NBU Connection and Construction Policy Manual.
22. 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. The Contractor's implementation of the systems, programs and/or procedures shall provide for adequate trench excavation safety protection that complies 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

Page 1 of 3

Page 2 of 3

Page 1 of 2

Wastewater Notes

- the existing manholes before construction. After the proposed manhole(s) has been built, the contractor shall re-test the existing system to the satisfaction of the construction inspector, no separate pay.
19. NBU Inspector to be present for all wastewater lines to be installed at depths of 15 feet or greater from final grade.
20. Where the minimum 9-foot separation distance between wastewater lines and water lines / mains cannot be maintained, the installation of wastewater lines shall be in strict accordance with TCEQ requirements. The wastewater line shall be constructed of ASTM D2241 PVC or AWWA C900 pipe with a minimum bedding of 150 psi and shall be in accordance with 30 TAC §217.53(d) (3) (A) (i).
21. Contractor shall coordinate with the assigned water/wastewater inspector for completion of the Field Acceptance Checklist. No testing will be performed prior to 30 days from complete installation. All testing and acceptance shall conform to NBU Specifications be completed in the following order:
 - a. Pipe Deflection Test (Mandrel Test)
 - b. Pipe Low Pressure Air Test
 - c. Manhole Vacuum Test
 - d. Manhole Protective Coating Test
 - e. CCTV inspection (within 72 hours of cleaning and flushing)
22. TCEQ and EPA require erosion and sedimentation control for construction of wastewater collection systems. Developer or authorized representative shall provide erosion and sedimentation control as notes on the project's plan and profile sheets. All temporary erosion and sedimentation controls shall be removed by the Contractor at final acceptance of the project by NBU Water Systems.

- Standards governing the presence and activities of individuals working in and around trench excavation.
23. Utility Trench Compaction with street R.O.W.
- a. All utility trench compaction test within the street pavement section shall be the responsibility of the developer's Geo-technical engineer.
 - b. Fill material shall be placed in uniform layers not to exceed twelve inches (12") loose.
 - c. Each layer of material shall be compacted as specified and tested for density and moisture in accordance with Text Methods TEX-113-E, TEX-114-E, TEX-115-E.
 - d. The number and location of required tests shall be determined by the Geo-technical Engineer and approved by the City of New Braunfels Street Inspector.
 - e. Upon completion of testing the Geo-technical Engineer shall provide the City of New Braunfels Street inspector with all testing documentation and a certification stating that the placement of fill material has been completed in accordance with the plans.

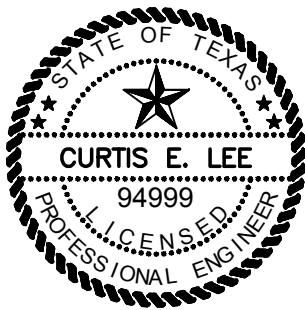
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Segment Name	Line Name	Line (Upstream to Downstream)		Total Flow Per Segment	Total Area Per Segment	Flow Calculations										Pipe Segment Properties					Full Pipe Calculations					Partial Flow Calculations						NBU Design Criteria					
						Average Daily Dry Weather Flow	Dry Weather Peaking Factor	Peak Dry Weather Flow	Total Segment Inflow & Infiltration	Peak Wet Weather Flow	Minimum Flow	Average Daily Dry Weather Flow	Peak Dry Weather Flow	Peak Wet Weather Flow	Minimum Flow	Size	Material	Mannings n	Segment Slope	FULL Flow Area	FULL Flow Hydraulic Radius	FULL Flow Flowrate	FULL Flow Flowrate	FULL Flow Velocity	Minimum Flow Partial Flow Cals	Minimum Dry Weather Flow Velocity	Average Daily Dry Weather Flow Partial Flow Cals	Average Daily Dry Weather Flow Velocity	Peak Dry Weather Flow Partial Flow Cals	Peak Dry Flow Velocity	Peak Wet Weather Flow Partial Flow Cals	Peak Wet Flow Velocity	Is Peak Dry Flow < 65% of Full Pipe Flow	Is Peak Wet Flow < 85% of Full Pipe Flow	Is Peak Dry Flow > 2 ft/sec	Is Peak Wet Flow < 10 ft/sec	
																																					200 GPD / LUE
		Upstream MH	Downstream MH	LUE	Acres	GPM	GPM	GPM	GPM	CFS	CFS	CFS	CFS	INCHES	INCHES	ft/ft	Sq.Ft.	Feet	CFS	GPM	FPS	Flow to Full Flow Ratio	FPS	Flow to Full Flow Ratio	FPS	Flow to Full Flow Ratio	FPS	65% Capacity	85% Capacity	2 FPS	10 FPS						
A13A12	A	A13	A12	42	6.64	3.4533333	4.22	24.62	3.458125	28.08	0.7144	0.0130	0.0549	0.0626	0.0016	8	D3034	0.013	7.754	0.0034	0.328	0.162	0.650	291.76	1.982	0.002	0.4013	0.020	0.7826	0.084	1.2042	0.0962	1.2513	OK	OK	CHECK	OK
A14A13	B	A14	A13	24	3.90	3.3333333	4.28	14.28	2.0310417	16.31	0.3654	0.0074	0.0318	0.0363	0.0008	8	D3034	0.013	7.754	0.0100	0.328	0.162	1.115	500.37	3.400	0.001	0.4820	0.007	0.9578	0.029	1.4895	0.0326	1.5519	OK	OK	CHECK	OK
A15A14	C	A15	A14	6	1.15	0.8333333	4.39	3.66	0.6005208	4.26	0.0694	0.0019	0.0081	0.0095	0.0002	8	D3034	0.013	7.754	0.0200	0.328	0.162	1.577	707.63	4.808	0.000	0.0948	0.001	0.7575	0.005	1.2372	0.0060	1.3039	OK	OK	CHECK	OK
A16A15	D	A16	A15	2	0.38	0.2777778	4.44	1.23	0.1994792	1.43	0.0186	0.0006	0.0027	0.0032	0.0000	8	D3034	0.013	7.754	0.0250	0.328	0.162	1.763	791.16	5.375	0.000	0.0254	0.000	0.3793	0.002	0.9190	0.0018	0.9668	OK	OK	CHECK	OK
A12A11	F	A12	A11	137	21.4196	19.027778	4.03	76.61	11.156042	87.77	2.9451	0.0444	0.1707	0.1955	0.0066	12	D3034	0.013	11.538	0.0018	0.726	0.240	1.365	612.65	1.880	0.005	0.473	0.031	0.846	0.125	1.2818	0.1433	1.3328	OK	OK	CHECK	OK
A11A10	G	A11	A10	140	21.8696	19.444444	4.02	78.20	11.390417	89.59	3.0225	0.0433	0.1742	0.1996	0.0067	12	D3034	0.013	11.538	0.0017	0.726	0.240	1.327	595.38	1.827	0.005	0.467	0.033	0.834	0.131	1.2631	0.1505	1.3141	OK	OK	CHECK	OK
A10A9	H	A10	A9	165	25.2196	22.916667	3.99	91.37	13.15208	104.50	3.6800	0.0511	0.2036	0.2328	0.0082	12	D3034	0.013	11.538	0.0012	0.726	0.240	1.115	500.22	1.535	0.007	0.447	0.046	0.778	0.183	1.1666	0.2089	1.2120	OK	OK	CHECK	OK
A9A8	I	A9	A8	177	26.8796	24.583333	3.97	97.63	13.999792	111.63	4.0029	0.0548	0.2175	0.2487	0.0082	12	D3034	0.013	11.538	0.0026	0.726	0.240	1.641	736.31	2.259	0.005	0.591	0.033	1.039	0.133	1.5662	0.156	1.6284	OK	OK	CHECK	OK
C12C11	E	C12	C11	13	2.08	1.8055556	4.34	7.83	1.0833333	8.92	0.1753	0.0040	0.0175	0.0199	0.0004	8	D3034	0.013	7.754	0.0040	0.328	0.162	0.705	316.46	2.150	0.001	0.239	0.006	0.572	0.025	0.9024	0.0282	0.9382	OK	OK	CHECK	OK
D2D1	K	D2	D1	90	14.05	12.5	4.11	51.32	7.3177083	58.64	1.7803	0.0279	0.1144	0.1307	0.0040	8	D3034	0.013	7.754	0.0050	0.328	0.162	0.788	353.82	2.404	0.005	0.613	0.035	1.124	0.145	1.7107	0.1657	1.7773	OK	OK	CHECK	OK
D1A12	L	D1	A12	91	14.24	12.638889	4.10	51.87	7.4166667	59.29	1.8040	0.0282	0.1156	0.1321	0.0040	8	D3034	0.013	7.754	0.0050	0.328	0.162	0.788	353.82	2.404	0.005	0.616	0.036	1.128	0.147	1.7162	0.1676	1.7830	OK	OK	CHECK	OK
F1A10	J	F1	A10	24	3.21	3.3333333	4.28	14.28	1.671875	15.95	0.3654	0.0074	0.0318	0.0355	0.0008	8	D3034	0.013	7.754	0.0100	0.328	0.162	1.115	500.37	3.400	0.001	0.482	0.009	0.958	0.029	1.4895	0.0319	1.5420	OK	OK	CHECK	OK

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1/21/25



Art. Lee



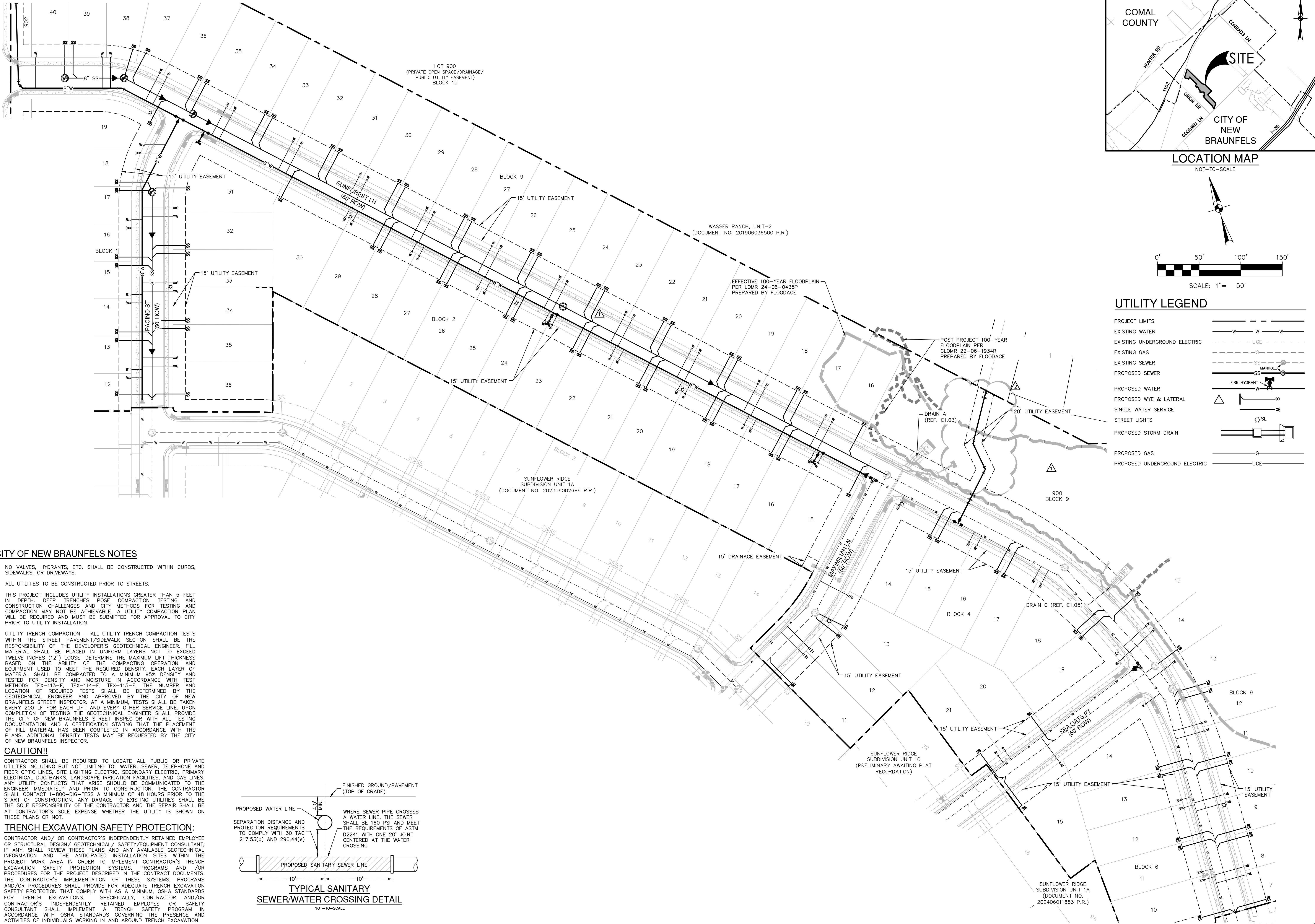
**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TRP FIRM REGISTRATION #470 | TRP S FIRM REGISTRATION #10028800

SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS

SANITARY SEWER NOTES

PLAT NO. _____
JOB NO. 13348-00
DATE JANUARY 2025
DESIGNER AW
CHECKED JG DRAWN JV
SHEET C5.20



CITY OF NEW BRAUNFELS NOTES

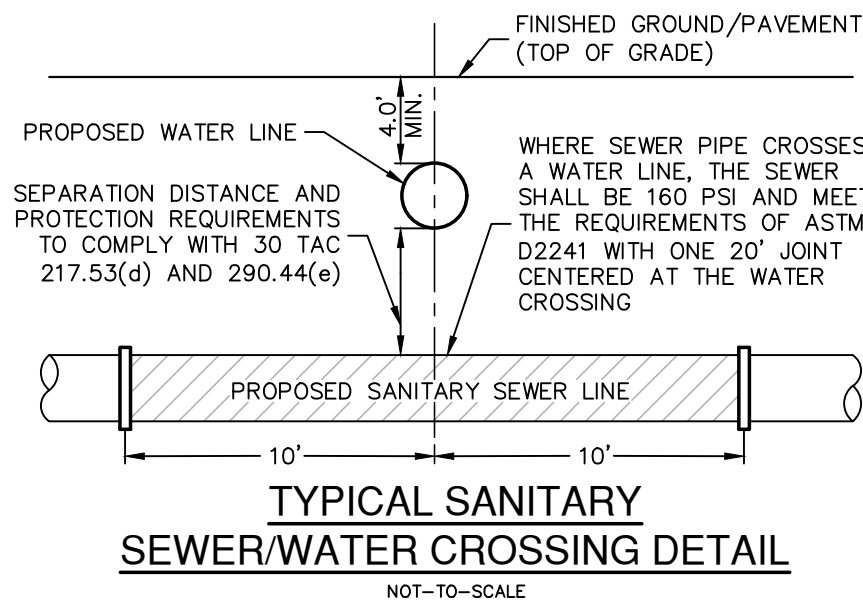
- 1. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
- 2. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
- 3. THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5- FEET IN DEPTH. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.
- 4. UTILITY TRENCH COMPACTION - ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

CAUTION!!

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

TRENCH EXCAVATION SAFETY PROTECTION:

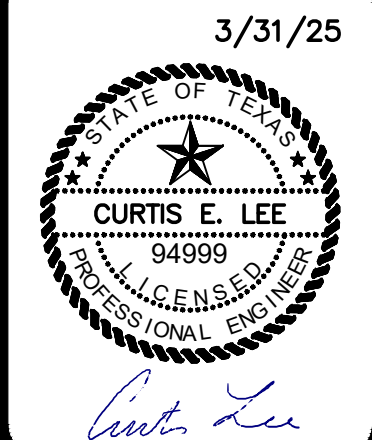
CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/ SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S 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 GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.



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NO.	REVISION	DATE
1	C&B/NBU COMMENTS	3/06/2025
2	NBU COMMENTS	3/31/2025

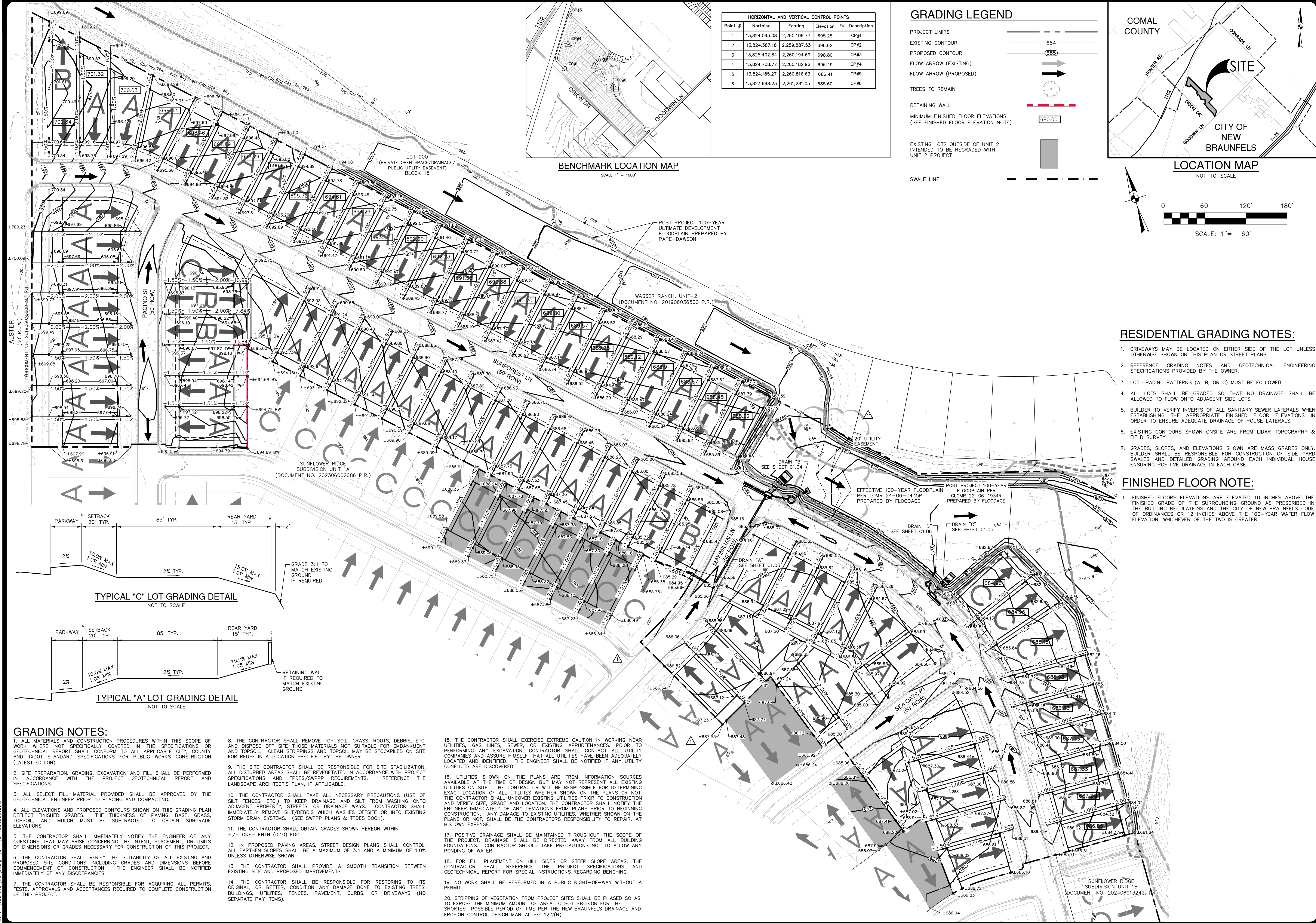


PAPE-DAWSON ENGINEERS
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #10028890

SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS
OVERALL UTILITY PLAN

PLAT NO.	-
JOB NO.	13348-00
DATE	MARCH 2025
DESIGNER	AW
CHECKED	JG
DRAWN	JV
SHEET	C6.00

PERMIT SET



GRADING NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THIS SCOPE OF WORK WHERE NOT SPECIFICALLY COVERED IN THE SPECIFICATIONS OR GEOTECHNICAL REPORT SHALL CONFORM TO ALL APPLICABLE CITY, COUNTY AND TxDOT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION).
2. SITE PREPARATION, GRADING, EXCAVATION AND FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT AND SPECIFICATIONS.
3. ALL SELECT FILL MATERIAL PROVIDED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING AND COMPACTING.
4. ALL ELEVATIONS AND PROPOSED CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES. THE THICKNESS OF PAVING, BASE, GRASS, TOPSOIL, AND MULCH MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
5. THE 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.
6. THE CONTRACTOR SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.

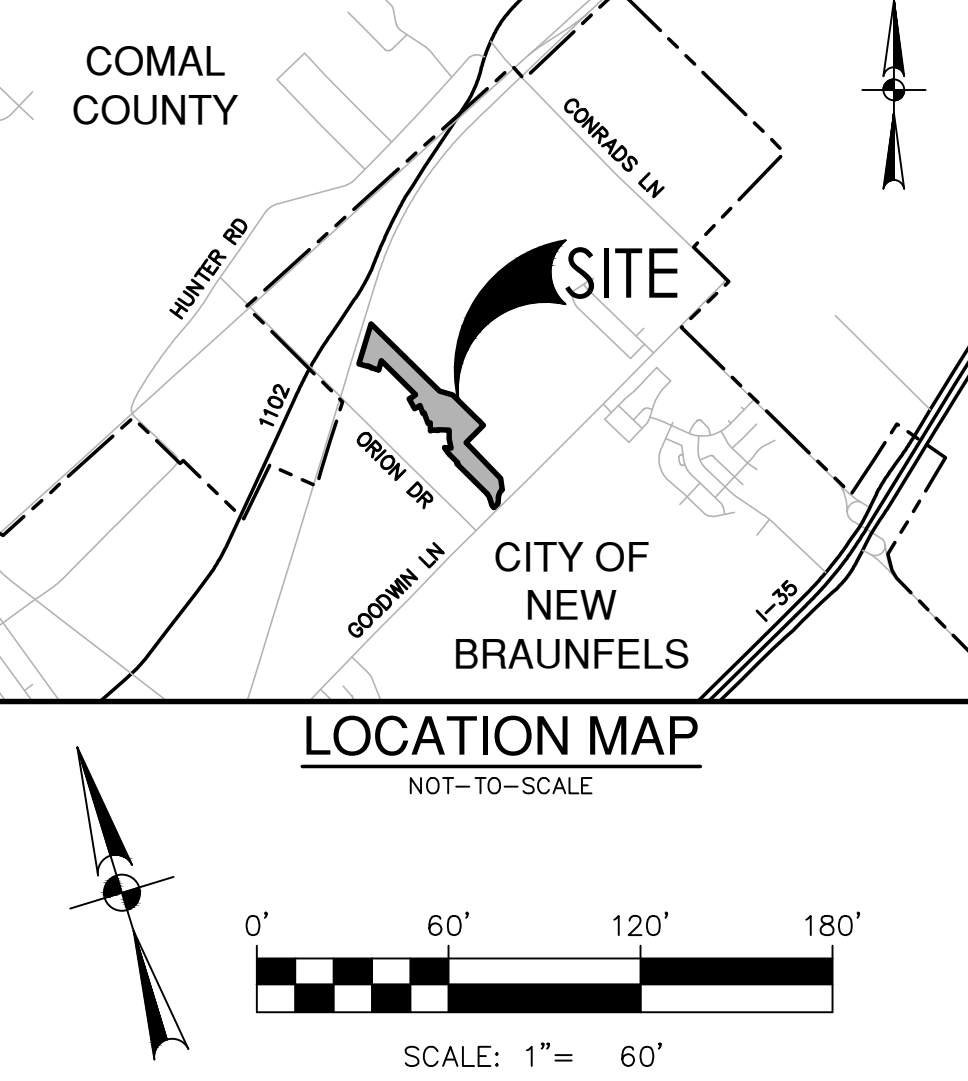
8. THE CONTRACTOR SHALL REMOVE TOP SOIL, GRASS, ROOTS, DEBRIS, ETC. AND DISPOSE OFF SITE. THOSE MATERIALS NOT SUITABLE FOR EMBANKMENT AND TOPSOIL. CLEAN STRIPPINGS AND TOPSOIL MAY BE STOCKPILED ON SITE FOR REUSE IN A LOCATION SPECIFIED BY THE OWNER.
9. THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE STABILIZATION. ALL DISTURBED AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND TPDES/SWPPP REQUIREMENTS. REFERENCE THE LANDSCAPE ARCHITECT'S PLAN, IF APPLICABLE.
10. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS (USE OF SILT FENCES, ETC.) TO KEEP DRAINAGE AND SILT FROM WASHING ONTO ADJACENT PROPERTY, STREETS, OR DRAINAGE WAYS. CONTRACTOR SHALL IMMEDIATELY REMOVE SILT/DEBRIS WHICH WASHES OFFSITE OR INTO EXISTING STORM DRAIN SYSTEMS. (SEE SWPPP PLANS & TPDES BOOK).
11. THE CONTRACTOR SHALL OBTAIN GRADES SHOWN HEREON WITHIN +/- ONE-TENTH (0.10) FOOT.
12. IN PROPOSED PAVING AREAS, STREET DESIGN PLANS SHALL CONTROL. ALL EARTHEN SLOPES SHALL BE A MAXIMUM OF 3:1 AND A MINIMUM OF 1:0% UNLESS OTHERWISE SHOWN.
13. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING SITE AND PROPOSED IMPROVEMENTS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION ANY DAMAGE DONE TO EXISTING TREES, BUILDINGS, UTILITIES, FENCES, PAVEMENT, CURBS, OR DRIVEWAYS (NO SEPARATE PAY ITEMS).

15. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN WORKING NEAR UTILITIES, GAS LINES, SEWER, OR EXISTING APPURTENANCES. PRIOR TO PERFORMING ANY EXCAVATION, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND ASSURE HIMSELF THAT ALL UTILITIES HAVE BEEN ADEQUATELY LOCATED AND IDENTIFIED. THE ENGINEER SHALL BE NOTIFIED IF ANY UTILITY CONFLICTS ARE DISCOVERED.
16. UTILITIES SHOWN ON THE PLANS ARE FROM INFORMATION SOURCES AVAILABLE AT THE TIME OF DESIGN BUT MAY NOT REPRESENT ALL EXISTING UTILITIES ON SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION AND VERIFY SIZE, GRADE AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR, AT HIS OWN EXPENSE.
17. POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE SCOPE OF THE PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER.
18. FOR FILL PLACEMENT ON HILL SIDES OR STEEP SLOPE AREAS, THE CONTRACTOR SHALL REFERENCE THE PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR SPECIAL INSTRUCTIONS REGARDING BENCHING.
19. NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.
20. STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE PERIOD OF TIME PER THE NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL SEC.12.2(N).

HORIZONTAL AND VERTICAL CONTROL POINTS				
Point #	Northing	Easting	Elevation	Full Description
1	13,824,093.08	2,260,106.77	695.25	CP#1
2	13,824,387.18	2,259,887.53	696.62	CP#2
3	13,825,402.84	2,260,194.69	698.80	CP#3
4	13,824,708.77	2,260,182.92	696.49	CP#4
5	13,824,185.27	2,260,816.63	686.41	CP#5
6	13,823,698.23	2,261,281.05	685.60	CP#6

GRADING LEGEND

- PROJECT LIMITS
EXISTING CONTOUR
PROPOSED CONTOUR
FLOW ARROW (EXISTING)
FLOW ARROW (PROPOSED)
TREES TO REMAIN
RETAINING WALL
MINIMUM FINISHED FLOOR ELEVATIONS
(SEE FINISHED FLOOR ELEVATION NOTE)
EXISTING LOTS OUTSIDE OF UNIT 2
INTENDED TO BE REGRADED WITH
UNIT 2 PROJECT
SWALE LINE



RESIDENTIAL GRADING NOTES:

1. DRIVEWAYS MAY BE LOCATED ON EITHER SIDE OF THE LOT UNLESS OTHERWISE SHOWN ON THIS PLAN OR STREET PLANS.
2. REFERENCE GRADING NOTES AND GEOTECHNICAL ENGINEERING SPECIFICATIONS PROVIDED BY THE OWNER.
3. LOT GRADING PATTERNS (A, B, OR C) MUST BE FOLLOWED.
4. ALL LOTS SHALL BE GRADED SO THAT NO DRAINAGE SHALL BE ALLOWED TO FLOW ONTO ADJACENT SIDE LOTS.
5. BUILDER TO VERIFY INVERTS OF ALL SANITARY SEWER LATERALS WHEN ESTABLISHING THE APPROPRIATE FINISHED FLOOR ELEVATIONS IN ORDER TO ENSURE ADEQUATE DRAINAGE OF HOUSE LATERALS.
6. EXISTING CONTOURS SHOWN ONSITE ARE FROM LIDAR TOPOGRAPHY & FIELD SURVEY.
7. GRADES, SLOPES, AND ELEVATIONS SHOWN ARE MASS GRADES ONLY. BUILDER SHALL BE RESPONSIBLE FOR CONSTRUCTION OF SIDE YARD SWALES AND DETAILED GRADING AROUND EACH INDIVIDUAL HOUSE ENSURING POSITIVE DRAINAGE IN EACH CASE.

FINISHED FLOOR NOTE:

1. FINISHED FLOORS ELEVATIONS ARE ELEVATED 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND AS PRESCRIBED IN THE BUILDING REGULATIONS AND THE CITY OF NEW BRAUNFELS CODE OF ORDINANCES OR 12 INCHES ABOVE THE 100-YEAR WATER FLOW ELEVATION, WHICHEVER OF THE TWO IS GREATER.

DATE
3/06/2025

NO. REVISION
1 CMB/NEU COMMENTS
2 NEU COMMENTS

3/31/25

CURTIS E. LEE
REGISTERED PROFESSIONAL ENGINEER

PAPE-DAWSON
ENGINEERS

SUNFLOWER RIDGE UNIT 2
NEW BRAUNFELS, TEXAS

OVERALL GRADING PLAN

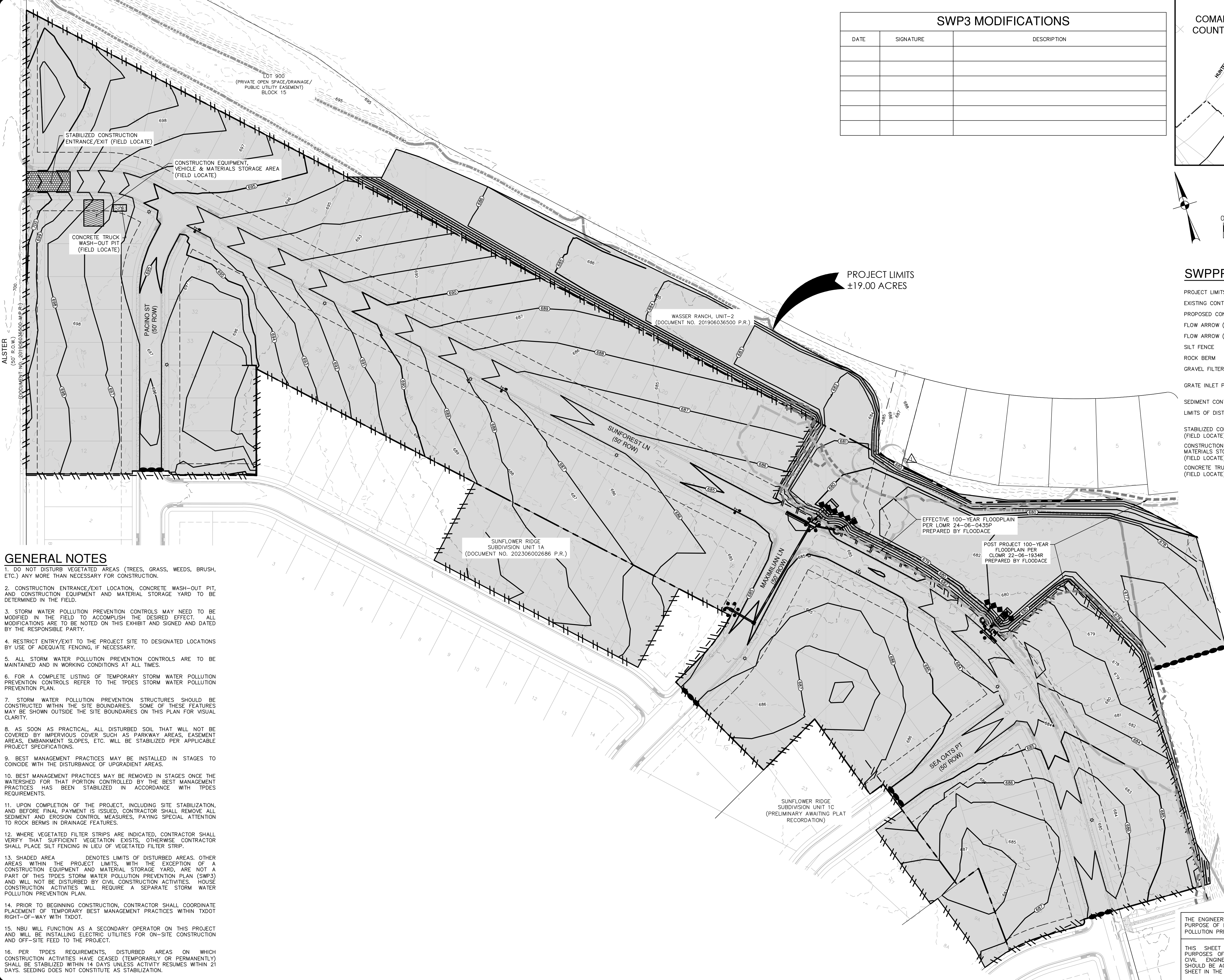
PLAT NO. -
JOB NO. 13348-00
DATE MARCH 2025
DESIGNER AW
CHECKED JV
DRAWN JV
SHEET C7.00

DATE: Mar 31, 2025 11:08am User ID: TCU14642
FILE: P:\133148\000\00000000\00000000\SWPPP\1334800.dwg

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GENERAL NOTES

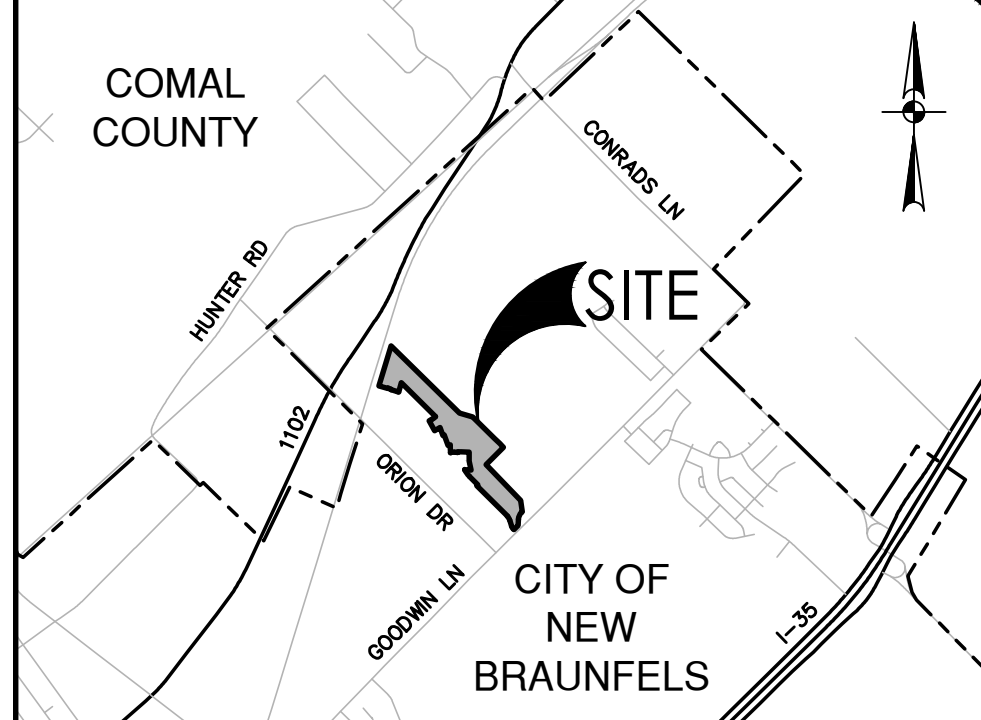
- DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
- CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.
- STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.
- RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.
- ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.
- FOR A COMPLETE LISTING OF TEMPORARY STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TPDES STORM WATER POLLUTION PREVENTION PLAN.
- STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.
- AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.
- BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADE AREAS.
- BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.
- UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.
- WHERE VEGETATED FILTER STRIPS ARE INDICATED, CONTRACTOR SHALL VERIFY THAT SUFFICIENT VEGETATION EXISTS, OTHERWISE CONTRACTOR SHALL PLACE SILT FENCING IN LIEU OF VEGETATED FILTER STRIP.
- SHADED AREA DENOTES LIMITS OF DISTURBED AREAS. OTHER AREAS WITHIN THE PROJECT LIMITS, WITH THE EXCEPTION OF A CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD, ARE NOT A PART OF THIS TPDES STORM WATER POLLUTION PREVENTION PLAN (SWP3) AND WILL NOT BE DISTURBED BY CIVIL CONSTRUCTION ACTIVITIES. HOUSE CONSTRUCTION ACTIVITIES WILL REQUIRE A SEPARATE STORM WATER POLLUTION PREVENTION PLAN.
- PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE PLACEMENT OF TEMPORARY BEST MANAGEMENT PRACTICES WITHIN TXDOT RIGHT-OF-WAY WITH TXDOT.
- NBU WILL FUNCTION AS A SECONDARY OPERATOR ON THIS PROJECT AND WILL BE INSTALLING ELECTRIC UTILITIES FOR ON-SITE CONSTRUCTION AND OFF-SITE FEED TO THE PROJECT.
- PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.



SWP3 MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

COMAL COUNTY



LOCATION MAP

NOT-TO-SCALE

0' 60' 120' 180'
SCALE: 1"= 60'

SWPPP LEGEND

- PROJECT LIMITS
- EXISTING CONTOUR
- PROPOSED CONTOUR
- FLOW ARROW (EXISTING)
- FLOW ARROW (PROPOSED)
- SILT FENCE
- ROCK BERM
- GRAVEL FILTER BAGS
- GRATE INLET PROTECTION
- SEDIMENT CONTROL ROLLS
- LIMITS OF DISTURBED AREA
- STABILIZED CONSTRUCTION ENTRANCE/EXIT (FIELD LOCATE)
- CONSTRUCTION EQUIPMENT, VEHICLE & MATERIALS STORAGE AREA (FIELD LOCATE)
- CONCRETE TRUCK WASH-OUT PIT (FIELD LOCATE)

SUNFLOWER RIDGE UNIT 2 NEW BRAUNFELS, TEXAS

STORMWATER POLLUTION PREVENTION PLAN

PLAT NO. -
JOB NO. 13348-00
DATE MARCH 2025
DESIGNER AW
CHECKED JG DRAWN JV
SHEET C8.00

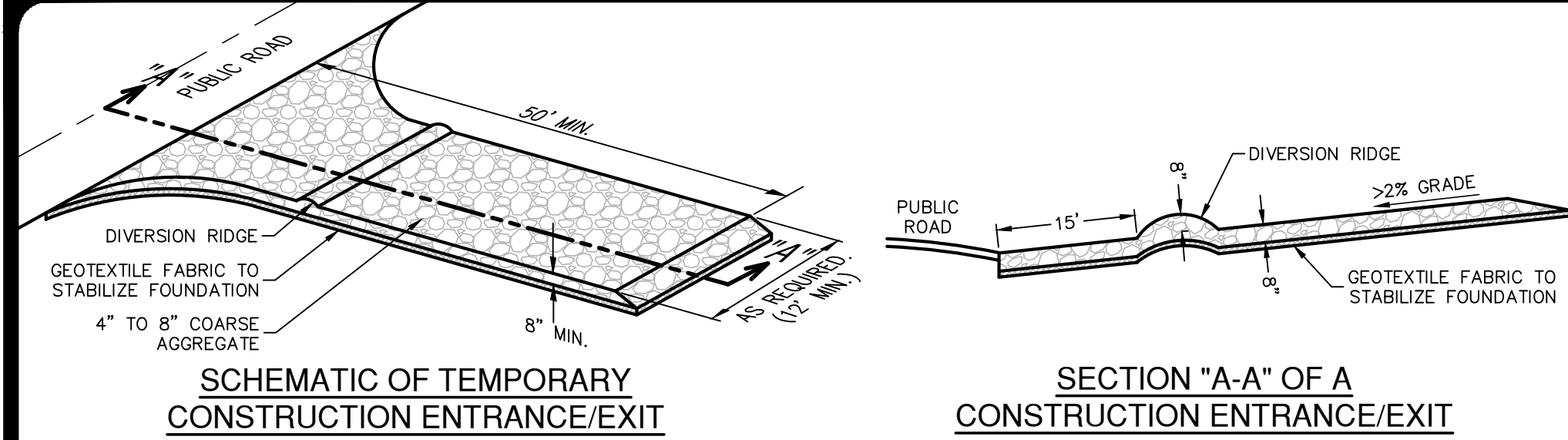
**PAPE-DAWSON
ENGINEERS**
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TXPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #10028890

3/31/25
DATE 3/31/2025
NO. 1
REVISION
NEW COMMENTS

DATE	REVISION	COMMENTS
3/31/2025	1	NEW COMMENTS

EXHIBIT 2

PERMIT SET



MATERIALS

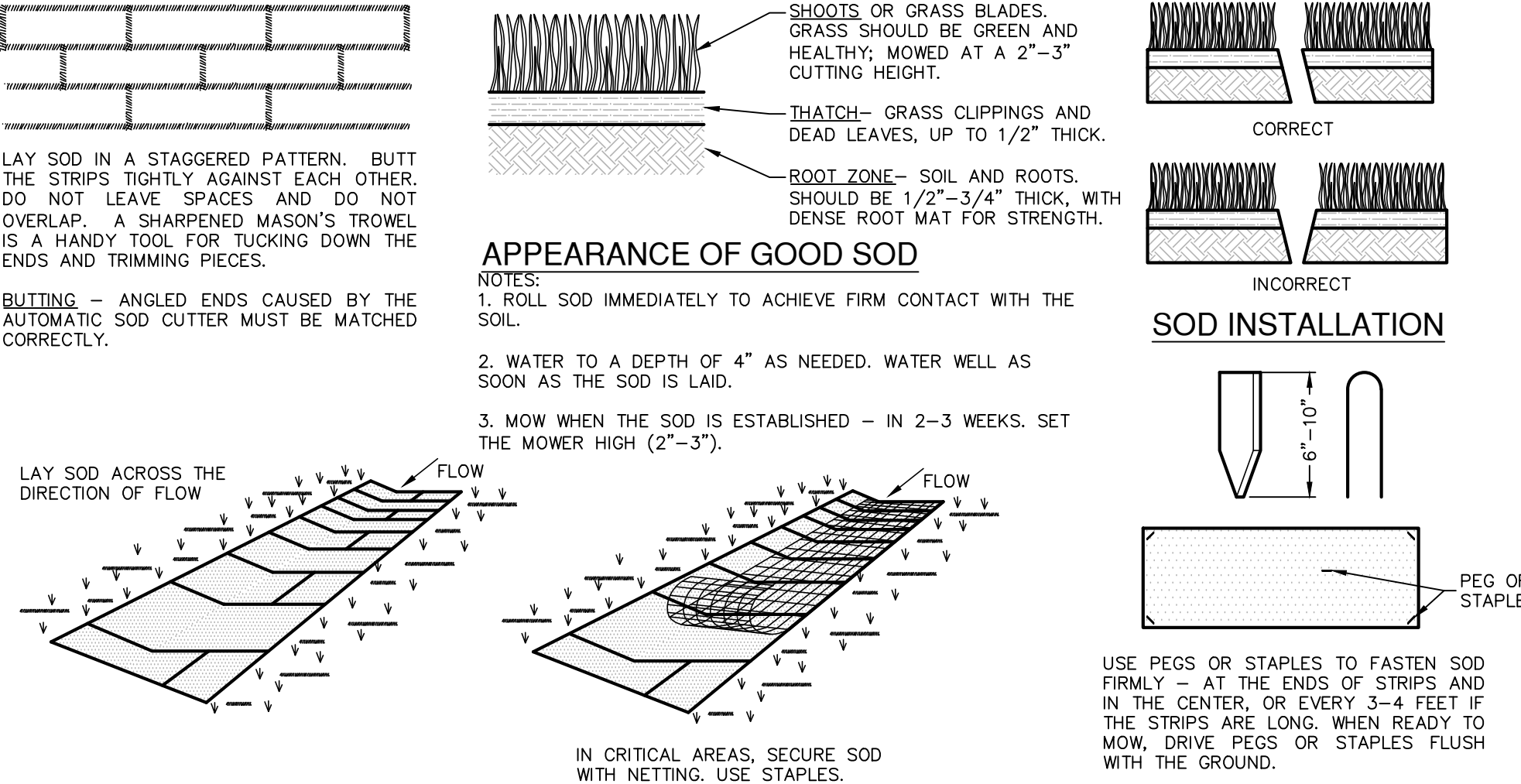
1. THE AGGREGATE SHOULD CONSIST OF 4-INCH TO 8-INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.
2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF 8-INCHES.
3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD², A MULLEN BURST RATING OF 140 LB/IN², AND AN EQUIVALENT OPENING SIZE GREATER THAN A NUMBER 50 SIEVE.
4. IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF 4-INCH DIAMETER WASHED STONE OR COMMERCIAL ROCK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OR BASIN.

INSTALLATION

1. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE.
2. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.
3. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG.
4. IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE, 6-INCHES TO 8-INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.
5. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE ANTICIPATED.
6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPE FOR DRAINAGE.
7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.
8. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.

STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL

NOT-TO-SCALE



MATERIALS

1. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH (± 1/4" INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE SHOOT GROWTH AND THATCH.
2. DURING PERIODS OF HIGH TEMPERATURE, THE SOIL SHOULD BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD, TO COOL THE SOIL AND REDUCE ROOT BURNING AND DIEBACK.
3. STANDARD SIZE SECTIONS OF SOD SHOULD BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND BE CUT TO A SIZE AND SHAPE WHEN SUSPENDED FROM A FIRM GRASP ON ONE END OF THE SECTION.
4. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

SITE PREPARATION

1. PRIOR TO SOD PREPARATION, AREAS TO BE SODDED SHOULD BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.
2. THE SURFACE SHOULD BE CLEARED OF ALL TRASH, DEBRIS AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.
3. FERTILIZE ACCORDING TO SOIL TESTS. FERTILIZER NEEDS CAN BE DETERMINED BY A SOIL TESTING LABORATORY OR REGIONAL RECOMMENDATIONS CAN BE MADE BY COUNTY AGRICULTURAL EXTENSION AGENTS. FERTILIZER SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 3 INCHES WITH A DISC, SPRINGTOOTH HARROW OR OTHER SUITABLE EQUIPMENT ON SLOPING LAND, THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE CONTOUR.

INSTALLATION IN CHANNELS

1. SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS TIGHTLY (SEE FIGURE ABOVE).
2. AFTER ROLLING OR TAMPING, SOD SHOULD BE PEGGED OR STAPLED TO RESIST WASHOUT DURING THE ESTABLISHMENT PERIOD. MESH OR OTHER NETTING MAY BE PEGGED OVER THE SOD FOR EXTRA PROTECTION IN CRITICAL AREAS.

SOD INSTALLATION DETAIL

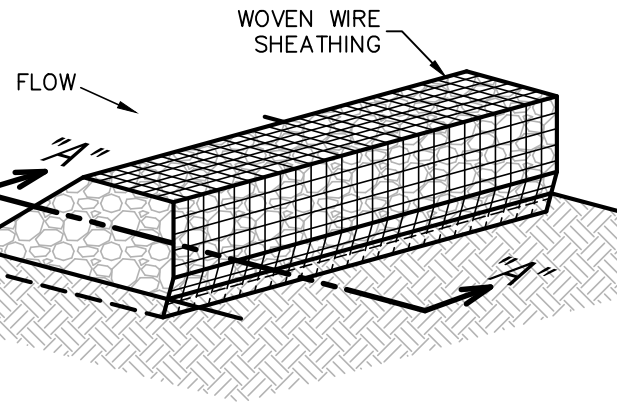
NOT-TO-SCALE

COMMON TROUBLE POINTS

1. INADEQUATE RUNOFF CONTROL-SEDIMENT WASHES ONTO PUBLIC ROAD.
2. STONE TOO SMALL OR GEOTEXTILE FABRIC ABSENT, RESULTS IN MUDDY CONDITION AS STONE IS PRESSED INTO SOIL.
3. PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC-EXTEND PAD BEYOND THE MINIMUM 50-FOOT LENGTH AS NECESSARY.
4. PAD NOT FLARED SUFFICIENTLY AT ROAD SURFACE, RESULTS IN MUD BEING TRACKED ON TO ROAD AND POSSIBLE DAMAGE TO ROAD.
5. UNSTABLE FOUNDATION - USE GEOTEXTILE FABRIC UNDER PAD AND/OR IMPROVE FOUNDATION DRAINAGE.

INSPECTION AND MAINTENANCE GUIDELINES

1. THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR.
3. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
4. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
5. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATER COURSE BY USING APPROVED METHODS.



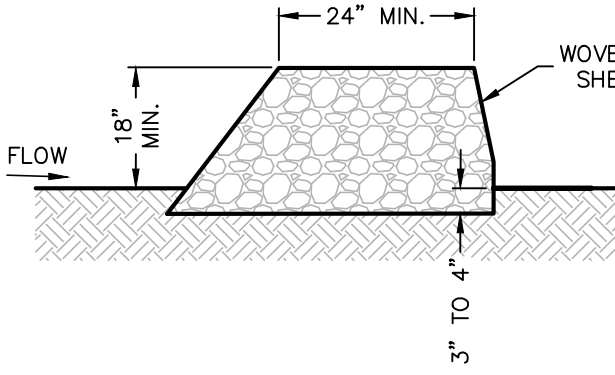
ISOMETRIC PLAN VIEW

ROCK BERMS

THE PURPOSE OF A ROCK BERM IS TO SERVE AS A CHECK DAM IN AREAS OF CONCENTRATED FLOW, TO INTERCEPT SEDIMENT-LADEN RUNOFF, DETAIN THE SEDIMENT AND RELEASE THE WATER IN SHEET FLOW. THE ROCK BERM SHOULD BE USED WHEN THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 5 ACRES. ROCK BERMS ARE USED IN AREAS WHERE THE VOLUME OF RUNOFF IS TOO GREAT FOR A SILT FENCE TO CONTAIN. THEY ARE LESS EFFECTIVE FOR SEDIMENT REMOVAL THAN SILT FENCES, PARTICULARLY FOR FINE PARTICLES, BUT ARE ABLE TO WITHSTAND HIGHER FLOWS THAN A SILT FENCE. AS SUCH, ROCK BERMS ARE OFTEN USED IN AREAS OF CHANNEL FLOWS (DITCHES, GULLIES, ETC.). ROCK BERMS ARE MOST EFFECTIVE AT REDUCING BED LOAD IN CHANNELS AND SHOULD NOT BE SUBSTITUTED FOR OTHER EROSION AND SEDIMENT CONTROL MEASURES FARTHER UP THE WATERSHED.

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.
2. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.
3. REPAIR ANY LOOSE WIRE SHEATHING.
4. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.
5. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
6. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.



SECTION "A-A"

MATERIALS

1. THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.
2. CLEAN, OPEN GRADED 3-INCH TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5-INCH TO 8-INCH DIAMETER ROCKS MAY BE USED.

INSTALLATION

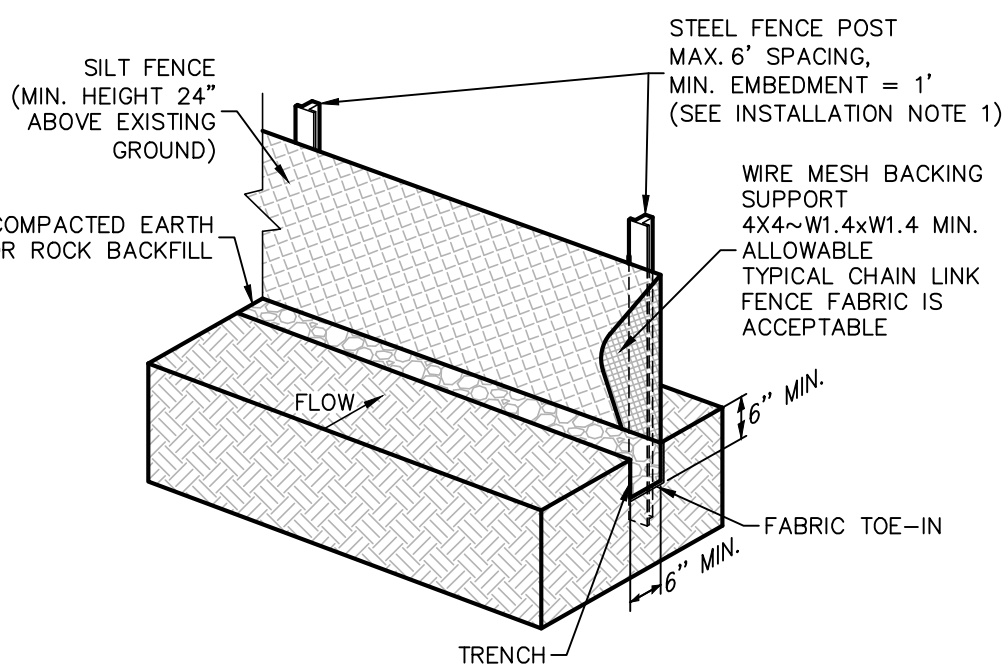
1. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE. THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.
2. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H:V) OR FLATTER.
3. PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM TO A HEIGHT NOT LESS THAN 18".
4. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.
5. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE.
6. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

COMMON TROUBLE POINTS

1. INSUFFICIENT BERM HEIGHT OR LENGTH (RUNOFF QUICKLY ESCAPES OVER THE TOP OR AROUND THE SIDES OF BERM).
2. BERM NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND ONE SIDE).

ROCK BERM DETAIL

NOT-TO-SCALE



ISOMETRIC PLAN VIEW

SILT FENCE

A SILT FENCE IS A BARRIER CONSISTING OF GEOTEXTILE FABRIC SUPPORTED BY METAL POSTS TO PREVENT SOIL AND SEDIMENT LOSS FROM A SITE. WHEN PROPERLY USED, SILT FENCES CAN BE HIGHLY EFFECTIVE AT CONTROLLING SEDIMENT FROM DISTURBED AREAS. THEY CAUSE RUNOFF TO POND, ALLOWING HEAVIER SOLIDS TO SETTLE OUT. IF NOT PROPERLY INSTALLED, SILT FENCES ARE NOT LIKELY TO BE EFFECTIVE.

THE PURPOSE OF A SILT FENCE IS TO INTERCEPT AND DETAIN WATER-BORN SEDIMENT FROM UNPROTECTED AREAS OF A LIMITED EXTENT. SILT FENCE IS USED DURING THE PERIOD OF CONSTRUCTION NEAR THE PERIMETER OF A DISTURBED AREA TO INTERCEPT SEDIMENT WHILE ALLOWING WATER TO PERCOLATE THROUGH. THIS FENCE SHOULD REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. SILT FENCE SHOULD NOT BE USED WHERE THERE IS A CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY. IF CONCENTRATED FLOW OCCURS AFTER INSTALLATION, CORRECTIVE ACTION MUST BE TAKEN SUCH AS PLACING A ROCK BERM IN THE AREAS OF CONCENTRATED FLOW.

SILT FENCING WITHIN THE SITE MAY BE TEMPORARILY MOVED DURING THE DAY TO ALLOW CONSTRUCTION ACTIVITY PROVIDED IT IS REPLACED AND PROPERLY ANCHORED TO THE GROUND AT THE END OF THE DAY. SILT FENCES ON THE PERIMETER OF THE SITE OR AROUND DRAINAGE WAYS SHOULD NOT BE MOVED AT ANY TIME.

MATERIALS

THE SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN², ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NUMBER 30.

2. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y-BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM WEIGHT 1.25 LB/FT, AND BRINDELL HARDNESS EXCEEDING 140.

3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

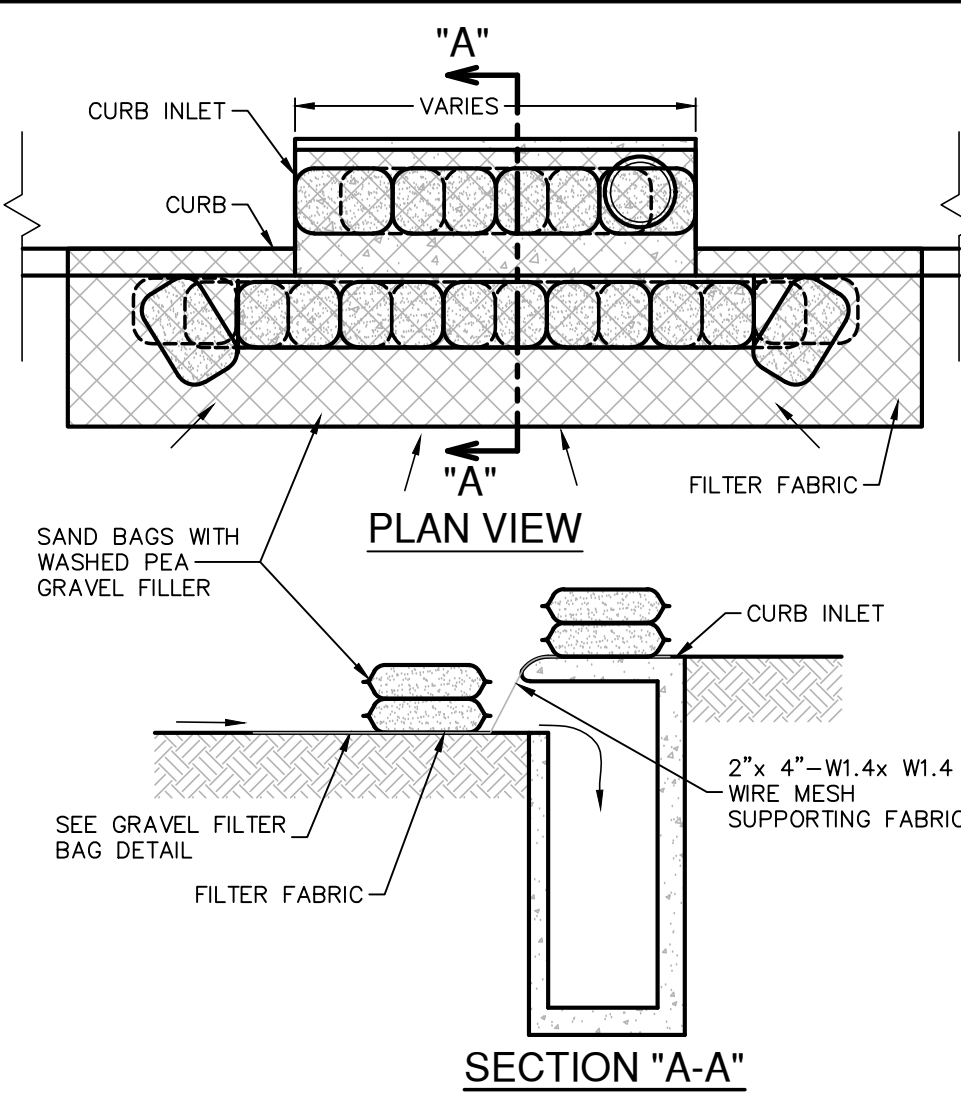
INSTALLATION

1. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS MUST BE EMBEDDED A MINIMUM OF 1-FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET.

2. LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS ¼ ACRE/100 FEET OF FENCE.

SILT FENCE DETAIL

NOT-TO-SCALE



GENERAL NOTES

1. CONTRACTOR TO INSTALL 2"x4"-W1.4xW1.4 WIRE MESH SUPPORTING FILTER FABRIC OVER THE INLET OPENING. FABRIC MUST BE SECURED TO WIRE BACKING WITH CUPS OR WIRE TIES AT THIS LOCATION. SAND BAGS FILLED WITH WASHED PEA GRAVEL SHOULD BE PLACED ON TOP OF WIRE MESH ON TOP OF THE INLET AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SANDBAGS FILLED WITH WASHED PEA GRAVEL SHOULD ALSO BE PLACED ALONG THE GUTTER AS SHOWN ON THIS DETAIL TO HOLD WIRE MESH IN PLACE. SAND BAGS TO BE STACKED TO FORM A CONTINUOUS BARRIER AROUND INLETS.

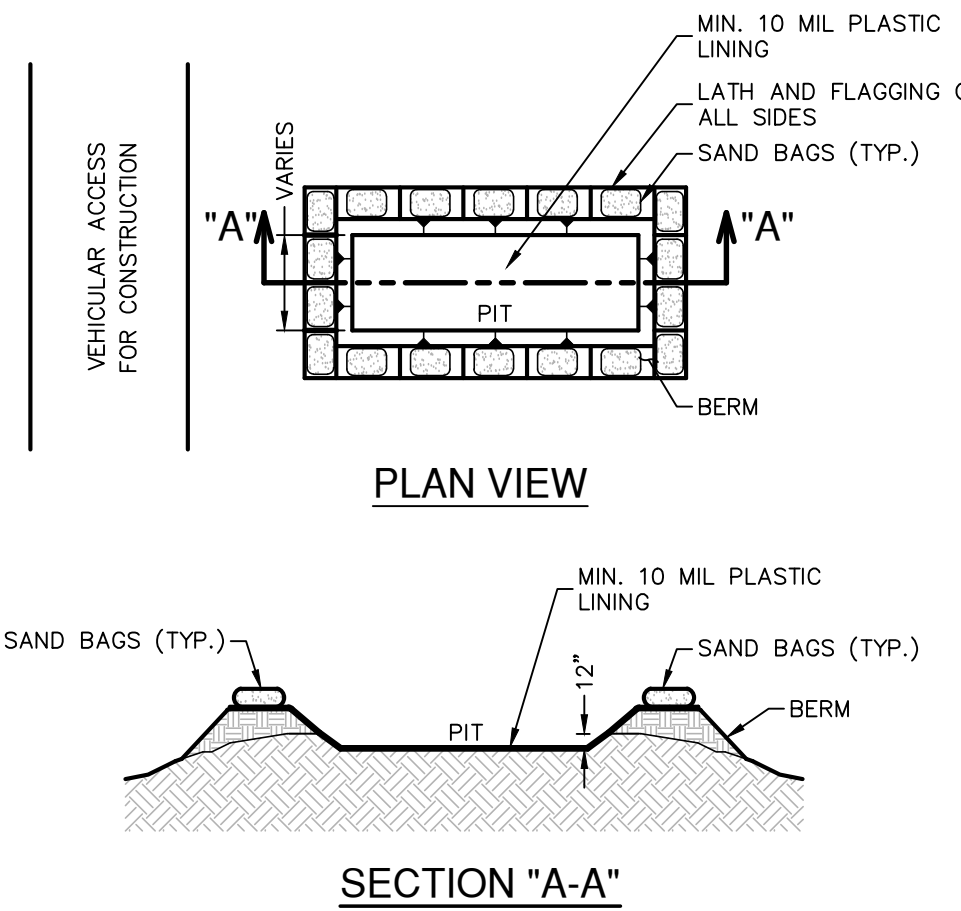
2. THE BAGS SHOULD BE TIGHTLY ABUTTED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN THE BAGS.

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHOULD BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE AND CURB.
4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR MISSING.
5. STRUCTURES SHOULD BE REMOVED AND THE AREA STABILIZED ONLY AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

BAGGED GRAVEL CURB INLET PROTECTION DETAIL

NOT-TO-SCALE



GENERAL NOTES

1. DETAIL ABOVE ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
2. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
3. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.
4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES OR WATER BODIES.
5. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

MATERIALS

PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

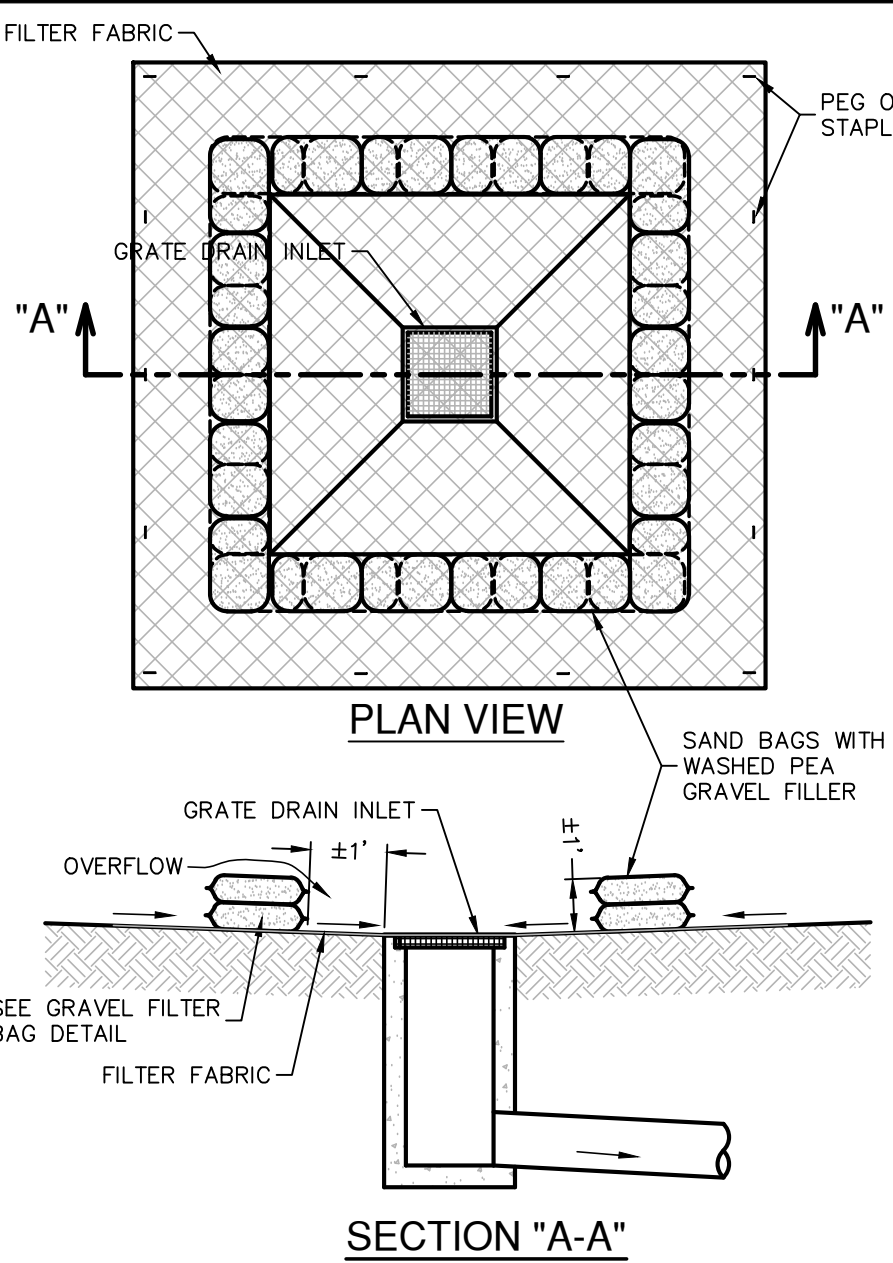
MAINTENANCE

1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF.

2. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.
3. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.

CONCRETE TRUCK WASHOUT PIT DETAIL

NOT-TO-SCALE



GENERAL NOTES

1. THE SANDBAGS SHOULD BE FILLED WITH WASHED PEA GRAVEL AND STACKED TO FORM A CONTINUOUS BARRIER ABOUT 1 FOOT HIGH AROUND INLETS.

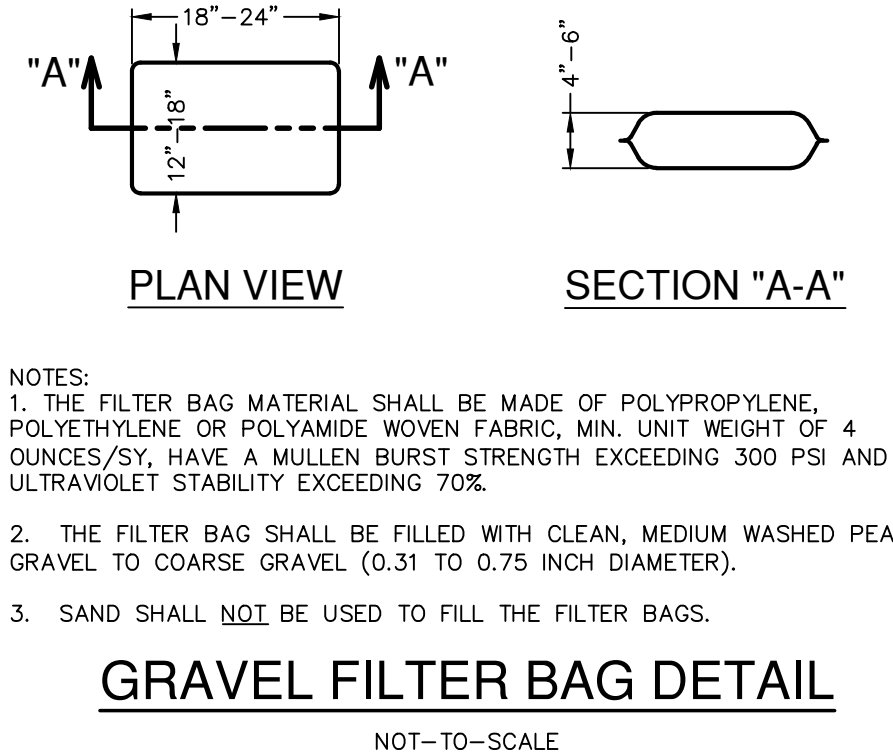
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INSPECTION AND MAINTENANCE GUIDELINES

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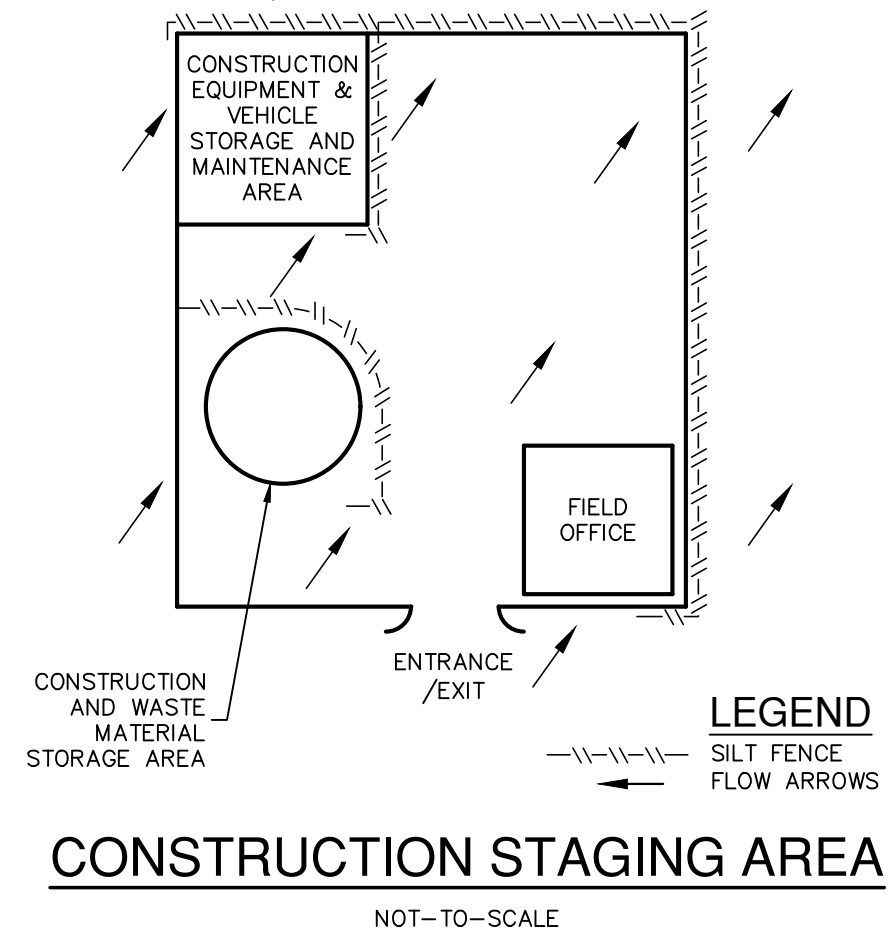
BAGGED GRAVEL GRATE INLET PROTECTION DETAIL

NOT-TO-SCALE



GRAVEL FILTER BAG DETAIL

NOT-TO-SCALE



THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES-STORM WATER POLLUTION PREVENTION PLAN (SWP3) REGULATIONS.

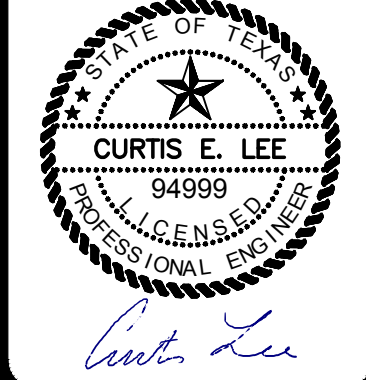
THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF THE SWP3 ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

EXHIBIT 3

PERMIT SET

DATE	
NO.	
REVISION	

1/13/25



PAPE-DAWSON ENGINEERS

SAO ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TYPE FIRM REGISTRATION #470 | TBPUS FIRM REGISTRATION #10028890

SUNFLOWER RIDGE UNIT 2 NEW BRAUNFELS, TEXAS

STORMWATER POLLUTION PREVENTION PLAN DETAILS

PLAT NO.	-
JOB NO.	13348-00
DATE	JANUARY 2025
DESIGNER	AW
CHECKED	JG
DRAWN	JV
SHEET	C8.10