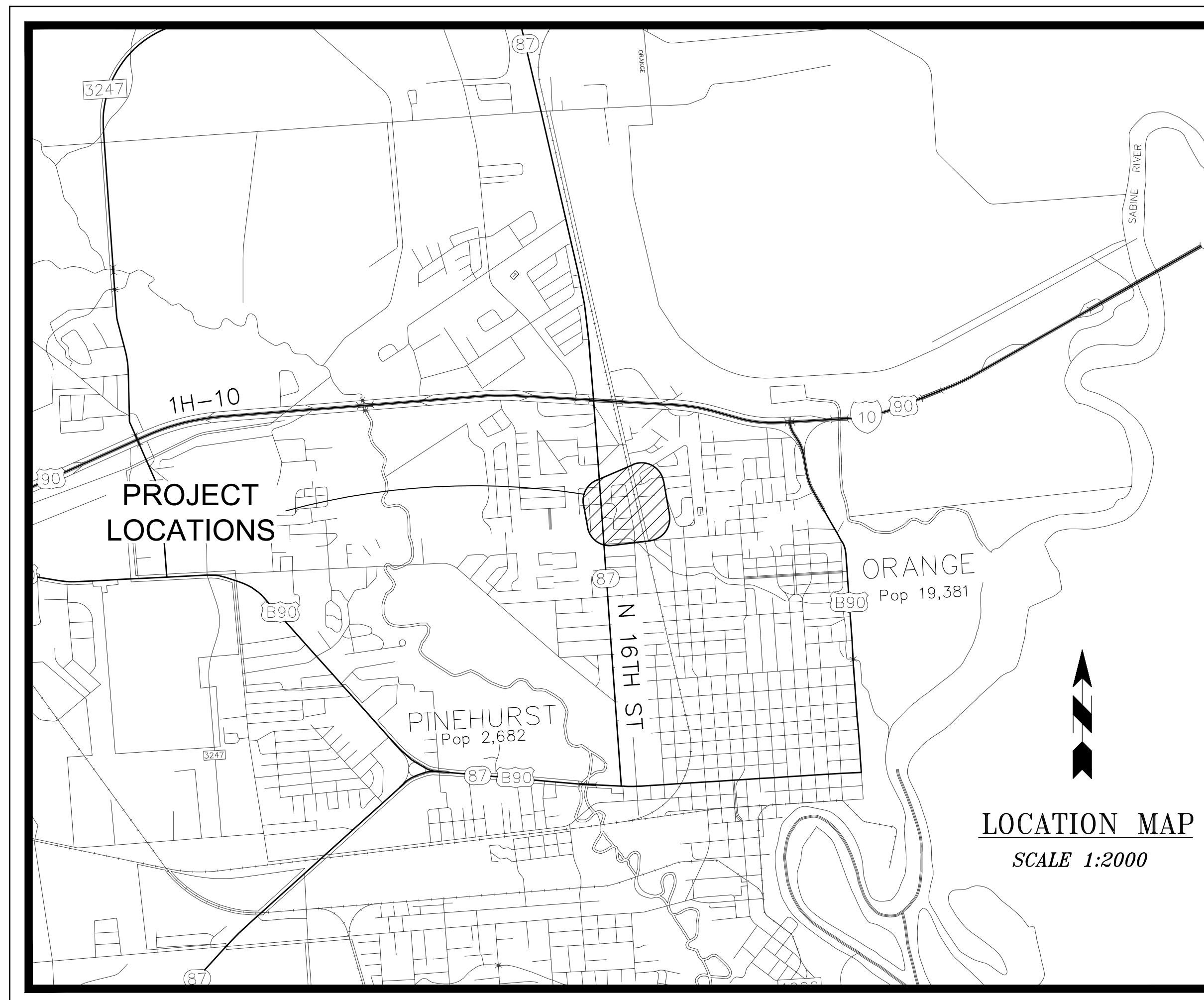


ORANGE  
T E X A S

# SUNSET ADDITION WATER & SEWER IMPROVEMENTS



FEBRUARY 7, 2025

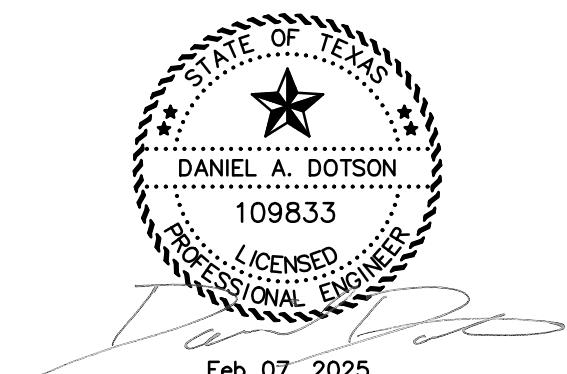
**Fitz & Shipman**  
INC.

*Consulting Engineers and Land Surveyors*

1405 CORNERSTONE COURT BEAUMONT, TEXAS  
(409)832-7238 FAX (409)832-7303  
T.B.P.E. FIRM NO. F-1160 T.X.L.S. FIRM NO. 100186

## SHEET INDEX:

C0.00	COVER SHEET
C1.10	GENERAL NOTES
C2.00	KEY PLAN
C2.01	PLAN SECTION
C2.02	PLAN SECTION
C2.03	PLAN SECTION
C2.04	PLAN SECTION
C2.05	PLAN SECTION
C2.06	PLAN SECTION
C3.10	GENERAL DETAILS
C3.11	GENERAL DETAILS
C3.12	GENERAL DETAILS



OWNERSHIP OF DOCUMENTS  
THIS DOCUMENT CONTAINS PLANS AND DESIGN INCORPORATED HEREIN,  
AS AN INSTRUMENT OF PROFESSIONAL ENGINEER, FOR THE USE OF  
FITZ & SHIPMAN, INC., AND IS NOT TO BE USED, IN WHOLE OR IN  
PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION  
OF FITZ & SHIPMAN, INC.  
DWG NAME: 22108\_CE\_SITE.DWG  
COPYRIGHT 2025 DRAWN BY: TCL SHEET **CO.00**

**OVERALL:**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES, WHETHER PUBLIC OR PRIVATE, PRIOR TO EXCAVATION. THE INFORMATION AND DATA SHOWN WITH RESPECT TO EXISTING UNDERGROUND FACILITIES AT OR CONTIGUOUS TO THE SITE IS APPROXIMATE AND BASED ON PHYSICAL APPURTENANCES OBSERVED IN THE FIELD. THE OWNER AND ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR THE COMPLETENESS OF ANY SUCH INFORMATION AND DATA; AND, THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR REVIEWING AND CHECKING ALL SUCH INFORMATION AND DATA, FOR LOCATING ALL UNDERGROUND FACILITIES, FOR COORDINATION OF THE WORK WITH THE OWNERS OF SUCH UNDERGROUND FACILITIES DURING CONSTRUCTION, FOR THE SAFETY AND PROTECTION THEREOF, AND FOR REPAIRING ANY DAMAGE THERETO RESULTING FROM THE WORK. THE COST OF ALL OF WHICH WILL BE CONSIDERED AS HAVING BEEN INCLUDED IN THE CONTRACT PRICE. THE CONTRACTOR SHALL NOTIFY ANY Affected UTILITY COMPANIES OR AGENCIES IN WRITING AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
- CITY OF ORANGE 409-988-7391  
(PUBLIC WORKS DEPT.)  
a. CALL BEFORE YOU DIG 811 OR 1 800-344-8377  
b. TEXAS ONE CALL SYSTEM 1 800-245-4545  
c. AT&T (PHONE) 713-918-0043  
d. ENERGY (ELECTRICITY) 1 800 ENERGY  
f. CABLE TV
- CONTRACTOR SHALL FIELD LOCATE EXISTING UTILITY LINES TO BE CONNECTED TO PRIOR TO COMMENCING WORK. IF A DISCREPANCY EXISTS BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
- THE CONTRACTOR SHALL COORDINATE WITH CITY OF ORANGE A MINIMUM OF 48 HOURS PRIOR TO CUTTING OR CONNECTING TO EXISTING UTILITY LINES. PERSONNEL SHALL DETERMINE THE MOST APPROPRIATE TIME FOR THESE ACTIVITIES TO TAKE PLACE. CONTACT CITY OF ORANGE DEPARTMENT OF PUBLIC WORKS (1 409-988-7391).
- CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS IN VICINITY OF ANY OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL ABIDE BY NATIONAL ELECTRIC CODE AND ANY REQUIREMENT BY OWNER OF ELECTRIC LINE.
- CONTRACTOR SHALL IMMEDIATELY NOTIFY CITY OF ORANGE PUBLIC WORKS OF ANY DAMAGE OR CHANGED CONDITION CAUSED BY CONSTRUCTION ACTIVITIES THAT MAY RESULT IN A DISRUPTION OF SANITARY SEWER SERVICE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE VERTICAL AND HORIZONTAL CONTROL SHOWN ON THE PLANS THROUGHOUT THE PROJECT.
- THE CONTRACTOR SHALL RESTORE ANY PROPERTY MARKER, BENCHMARK, ETC. DISTURBED DURING CONSTRUCTION TO ITS ORIGINAL LOCATION AND ELEVATION.
- CONTRACTOR SHALL VERIFY THE ELEVATION, CONFIGURATION AND ANGULATION OF EXISTING LINES PRIOR TO CONSTRUCTION.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PERFORMING ALL CONSTRUCTION LAYOUTS FROM THE SITE LAYOUT CONTROL POINTS, AND FROM THE DIMENSIONS AND CENTERLINES SHOWN. THE CONTRACTOR MUST NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL MAINTAIN A NEAT AND ACCURATE RECORD OF CONSTRUCTION FOR CITY RECORDS. THE CONTRACTOR SHALL PROVIDE THE CITY FULL SIZE REPRODUCIBLE MARKUPS OR PDF DRAWINGS THAT RECORD ALL CONSTRUCTION DEVIATING FROM THE PLANS AT SUBSTANTIAL COMPLETION.
- WHERE THE CONTRACTOR DESIRES TO MOVE EQUIPMENT NOT LICENSED FOR OPERATION ON PUBLIC HIGHWAYS ON OR ACROSS ANY PAVEMENT, THE CONTRACTOR SHALL PROTECT THE PAVEMENT FROM ALL DAMAGE.
- THE CONTRACTOR SHALL NOT PLACE FILL OR WASTE MATERIAL ON ANY PRIVATE PROPERTY WITHOUT PRIOR WRITTEN AGREEMENT WITH PROPERTY OWNER.
- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CITY OF ORANGE STANDARDS EXCEPT WHERE MODIFIED IN THESE PLANS OR THE SPECIFICATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO CITY OF ORANGE PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
- THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS GOVERNING EXCAVATION. TRENCH SIDE SLOPES SHALL MEET OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS THAT ARE IN EFFECT AT THE TIME OF CONSTRUCTION. SHEETING, SHORING AND BRACING SHALL BE REQUIRED WHEN SIDE SLOPE STANDARDS ARE NOT MET. A TRENCH PULL BOX, MEETING OSHA STANDARDS, MAY BE ACCEPTABLE, UNLESS NEGATED BY GROUNDWATER CONTROL MEASURES.
- CONSTRUCTION DEWATERING, IF ANY, IS INCIDENTAL TO THE PROJECT BID ITEMS.
- UNTIL THE WORK IS ACCEPTED BY THE OWNER, THE PROJECT SHALL BE UNDER THE CHARGE AND CUSTODY OF THE CONTRACTOR AND THE CONTRACTOR SHALL TAKE EVERY NECESSARY PRECAUTION AGAINST INJURY AND/OR DAMAGE TO THE WORK.
- THE CONTRACTOR SHALL MAKE ALL NECESSARY EFFORTS TO COORDINATE AND/OR COMMUNICATE WITH PRIVATE PROPERTY OWNERS WITH REGARDS TO RELOCATING OBSTRUCTIONS FROM WITHIN THE UTILITY EASEMENT. SHOULD PRIVATE PROPERTY OWNERS CHOOSE NOT TO REMOVE OBSTRUCTIONS IN A TIMELY MANNER AFTER BEING NOTIFIED BY THE CONTRACTOR, ALL DAMAGES TO PRIVATE PROPERTY LOCATED WITHIN UTILITY EASEMENTS SHALL NOT BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR OR REPLACE. SHOULD DAMAGES OCCUR TO PRIVATE PROPERTY NOT LOCATED WITHIN UTILITY EASEMENTS, CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING AND OR REPLACING DAMAGED PROPERTY AT NO COST TO THE CITY OR THE AFFECTED PRIVATE PROPERTY OWNER. REPAIRS OR REPLACEMENTS MAY INCLUDE, BUT NOT BE LIMITED TO, FENCES, WALLS, PAVEMENT AND GRASS. THIS WORK SHALL BE SUBSIDIARY TO THE COST OF THE CONTRACT UNLESS OTHERWISE NOTED.
- DENSITY TESTS SHALL BE PERFORMED IN ACCORDANCE WITH ASTM. THIS ITEM SHALL BE CONSIDERED AS SUBSIDIARY TO THE PROJECT COST AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
- CONTRACTOR SHALL INSTALL TEMPORARY BACK FILL AS REQUIRED FOR OPEN TRENCH IN ESTABLISHED ROADWAYS. NO OPEN TRENCH WILL BE ALLOWED IN EXISTING PAVEMENT EXCEPT DURING DAYLIGHT HOURS AND DURING CONSTRUCTION OPERATIONS. TEMPORARY BACK FILL SHALL BE INSTALLED TO THE FINISHED GRADE OF THE EXISTING PAVEMENT AND SHALL BE MAINTAINED BY THE CONTRACTOR TO ENSURE A SMOOTH DRIVING SURFACE FREE OF RUTTING AND POTHOLE. REPAIR DAMAGED PAVEMENT IN ACCORDANCE WITH SPECIFICATIONS.
- TOPSOIL REPLACEMENT IS REQUIRED IN ALL AREAS WHERE TOPSOIL EXISTS. TOPSOIL SHALL INCLUDE THE TOP TWO (2) INCHES OF TRENCH, UNLESS ROCK DEPTH IS LESS THAN TWO (2) INCHES. TOPSOIL SHALL BE KEPT SEPARATE FROM GENERAL TRENCH EXCAVATED MATERIAL AND SHALL BE PLACED ON TOP OF TRENCH BACK FILL. CONTRACTOR SHALL REMOVE ALL ROCK FROM TOPSOIL IN CULTIVATED AREAS.

**EROSION CONTROL:**

- THE CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST. CONTRACTOR SHALL CONTROL DUST BY SPRINKLING WATER, OR AS APPROVED BY CITY OF ORANGE AND ENGINEER.
- THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL EROSION CONTROL AND WATER QUALITY REQUIREMENTS, LAWS, AND ORDINANCES THAT APPLY TO THE CONSTRUCTION SITE LAND DISTURBANCE.

**WATER AND WASTEWATER:**

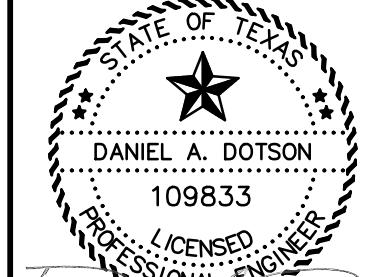
- ALL WATER AND WASTEWATER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY OF ORANGE STANDARDS. STANDARD 5/8" X 3/4" WATER METER IS BRONZE E-SERIES PLUS ULTRASONIC (ORION CELLULAR LTE-M)
- MATERIAL FOR WATER LINES 3-INCHES OR SMALLER SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) SDR-9 PE 3408.
- MATERIAL FOR WATERLINES 4-INCHES OR LARGER SHALL BE AWWA C900 DR16 PVC.
- ALL PIPES SHALL BE KEPT FREE OF TRASH AND DIRT AT ALL TIMES. AT THE END OF THE DAY, OPEN PIPE ENDS SHALL BE TEMPORARILY CONNECTED / SEALED.
- CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE ANY EXISTING UTILITIES DURING CONSTRUCTION. ANY REMOVAL/RELOCATION OF THE UTILITIES SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY. THIS ITEM SHALL BE CONSIDERED AS A SUBSIDIARY COST TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
- ALL MANHOLES SHALL BE PRE-CAST CONCRETE AND LINED WITH XYPEX EPOXY COATING.
- PROPOSED MANHOLE AND VAULT RIMS SHALL BE SET AT 6' ABOVE FINAL GRADE IN UNPAVED AREAS. PROPOSED RIM ELEVATIONS ARE APPROXIMATE AND ARE FOR BIDDING AND INFORMATIONAL PURPOSES ONLY. ADDITIONALLY, MANHOLE COVERS SHALL BE EQUIPPED WITH STAINLESS STEEL IN-FLOW PROTECTION DEVICES.
- WASTEWATER FLOW IN LINES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION AT ALL TIMES. THE CONTRACTOR SHALL SUBMIT TO THE CITY A PLAN PRIOR TO CONSTRUCTION FOR APPROVAL FOR MAINTAINING SANITARY SEWER SERVICE. THIS COST FOR MAINTAINING SEWER SERVICE AND ANY ASSOCIATED BYPASS PUMPING SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE SANITARY SEWER PIPE INSTALLATION.
- SANITARY SEWER PIPE SHALL BE OF 180 PSI PRESSURE CLASS, CORROSION-RESISTANT, NON-BRITTLE PVC PIPE, EXCEPT WHERE OTHERWISE NOTED ON THE PLANS.
- CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING WATER AND WASTEWATER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY WATER OR WASTEWATER CONSTRUCTION, AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED.

- CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITY SERVICES ENTERING THE BUILDING.
- THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATION OF ALL UTILITY CROSSINGS PRIOR TO THE INSTALLATION OF ANY PIPE.
- CONTRACTOR SHALL INSTALL STANDARD BENDS AT LOCATIONS SHOWN. ALL NON-STANDARD VERTICAL AND HORIZONTAL BENDS SHALL BE INSTALLED USING STANDARD BENDS AND 75% OF THE MAXIMUM ALLOWABLE JOINT DEFLECTIONS AND MINIMUM RADIUS AS RECOMMENDED BY THE PIPE MANUFACTURER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FITTINGS & MATERIALS NECESSARY TO TRANSITION FROM ONE PIPE MATERIAL TO ANOTHER, WHERE INDICATED ON THE PLANS OR ENCOUNTERED IN THE FIELD.
- THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE WATER AND WASTEWATER IMPROVEMENTS.
- ALL WATER AND WASTEWATER CONSTRUCTION PIPE, STRUCTURES AND FITTINGS SHALL ADHERE TO CITY OF ORANGE STANDARDS. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY OF ORANGE INSPECTIONS.
- EMBEDMENT FOR ALL WATER AND WASTEWATER LINES, PUBLIC OR PRIVATE, SHALL BE PER PROJECT SPECIFICATIONS.
- CONTRACTOR SHALL TAKE REQUIRED SANITARY PRECAUTIONS FOLLOWING ANY CITY, TCEQ, AND AWWA STANDARDS, TO KEEP WATER PIPE AND FITTINGS CLEAN AND CAPPED AT TIMES WHERE INSTALLATION IS NOT IN PROGRESS.
- CONTRACTOR SHALL MAINTAIN WATER SERVICE AND WASTEWATER SERVICE TO ALL CUSTOMERS THROUGHOUT CONSTRUCTION (IF NECESSARY, BY USE OF TEMPORARY METHODS APPROVED BY CITY OF ORANGE AND OWNER).
- THE CONTRACTOR IS RESPONSIBLE TO PROTECT ALL WATER AND WASTEWATER LINES CROSSING THE PROJECT. THE CONTRACTOR SHALL REPAIR ALL DAMAGED LINES IMMEDIATELY. ALL REPAIRS OF EXISTING WATER MAINS, WATER SERVICES, SEWER MAINS, AND SANITARY SEWER SERVICES ARE SUBSIDIARY TO THE WORK, AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED. SHOULD ANY DAMAGES OCCUR TO CITY WATER AND SEWER MAINS, THE CITY WILL MAKE REPAIRS AT CONTRACTOR'S EXPENSE.
- VALVE ADJUSTMENTS SHALL BE CONSTRUCTED SUCH THAT THE COVERS ARE AT FINISHED SURFACE GRADE OF THE PROPOSED PAVEMENT.
- THE ENDS OF ALL EXISTING WATER MAINS THAT ARE CUT, BUT NOT REMOVED, SHALL BE PLUGGED AND ABANDONED IN PLACE.
- ALL FIRE HYDRANTS, VALVES, TEES, BENDS, WYES, REDUCERS, FITTINGS, AND ENDS SHALL BE MECHANICALLY RESTRAINED AND THRUST BLOCKING ADDED IN ACCORDANCE THE TO CITY OF ORANGE' STANDARDS.
- ALL WATER AND WASTEWATER SHALL BE TESTED IN ACCORDANCE WITH CITY OF ORANGE, AWWA, AND TCEQ STANDARDS AND SPECIFICATIONS. AT A MINIMUM, THIS SHALL CONSIST OF THE FOLLOWING:
  - ALL WATERLINES SHALL BE HYDROSTATICALLY TESTED AND CHLORINATED BEFORE BEING PLACED INTO SERVICE. CONTRACTOR SHALL COORDINATE WITH CITY OF ORANGE FOR THEIR REQUIRED PROCEDURES AND SHALL ALSO COMPLY WITH TCEQ REGULATIONS. PROVIDE BACTERIOLOGICAL LAB REPORT TO CITY OF ORANGE PUBLIC WORKS.
  - WATERLINES AND MANHOLES SHALL BE PRESSURE TESTED. CONTRACTOR SHALL COORDINATE WITH THE CITY FOR THEIR REQUIRED PROCEDURES AND SHALL ALSO COMPLY WITH TCEQ REGULATIONS. AFTER COMPLETION OF THESE TESTS, A CCTV TELEVISION INSPECTION SHALL BE PERFORMED AND PROVIDED TO CITY OF ORANGE ON A DVD.
- CONTRACTOR SHALL INSTALL DETECTABLE WIRING OR MARKING TAPE A MINIMUM OF 12" ABOVE WATER AND WASTEWATER LINES. MARKER DECALS SHALL BE LABELED "CAUTION - WATER LINE", OR "CAUTION - SEWER LINE". DETECTABLE WIRING AND MARKING TAPE SHALL COMPLY WITH CITY OF ORANGE STANDARDS.
- WATERLINES SHALL BE INSTALLED AT NO LESS THAN THE MINIMUM 36-INCH COVER.
- WATERLINES SHALL BE INSTALLED AT LEAST 4-FEET (HORIZONTALLY) AND 2-FEET (ABOVE) SANITARY SEWER.
- THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER DURING INSTALL.
- THE COST OF REMOVING AND DISPOSING OF EXISTING CLEANOUTS SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE INSTALLATION OF PROPOSED CLEANOUTS, AS INDICATED ON THE PLANS.
- IN ALL LOCATIONS WHERE EXISTING TRANSITE WATERLINES ARE DISTURBED, THE CONTRACTOR WILL BE REQUIRED TO REMOVE AND DISPOSE OF THE MATERIAL ACCORDING ALL NECESSARY LOCAL, STATE & FEDERAL REGULATIONS.

**ADD ALTERNATES - SCOPE OF WORK**

ALT-A - THIS WORK SHALL INCLUDE THE REPLACEMENT WATERLINES W-1 THRU W-24, AND EXISTING WATER METERS WITH THE BADGER E-SERIES ULTRASONIC METER, 5/8" x 3/4" BRONZE E-SERIES PLUS, ORION CELLULAR LTE-M SUBSCRIPTION MODEL W/ SMART VALVE. THIS WORK SHALL ALSO INCLUDE THE METER BOX AND SERVICE LINE AND TAP.

ALT-B - THIS WORK SHALL INCLUDE THE REPLACEMENT WATERLINES W-25 THRU W-27, AND EXISTING WATER METERS WITH THE BADGER E-SERIES ULTRASONIC METER, 5/8" x 3/4" BRONZE E-SERIES PLUS, ORION CELLULAR LTE-M SUBSCRIPTION MODEL W/ SMART VALVE. THIS WORK SHALL ALSO INCLUDE THE THE METER BOX AND SERVICE LINE & TAP.

NO.	ISSUED FOR	DATE
Fitz & Shipman INC.		
Consulting Engineers and Land Surveyors		
1405 Conner's Court Beaumont, TX 77706 Ph. (409) 832-7238 Fax: (409) 832-7303 www.fitzship.com T.B.P.E. Firm #160 L.S. Firm #100186		
 STATE OF TEXAS DANIEL A. DOTSON 10983 LICENSED PROFESSIONAL ENGINEER Feb 07, 2025		
ORANGE COUNTY		
ORANGE, TEXAS		
SUNSET ADDITION		
WATER & SEWER IMPROVEMENTS		
ORANGE, TEXAS		
GENERAL NOTES		
C22108_CE SITE		
GENERAL NOTES		
C1.10		
OWNERSHIP OF DOCUMENTS		
CALL BEFORE YOU DIG! TEXAS ONE CALL SYSTEM 1-800-344-8377		
THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF FITZ & SHIPMAN, INC., AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PURPOSE OR PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF FITZ & SHIPMAN, INC.		
© COPYRIGHT 2025 FITZ & SHIPMAN, INC.		



CALL BEFORE  
YOU DIG!  
TEXAS ONE  
CALL SYSTEM  
1-800-344-8377



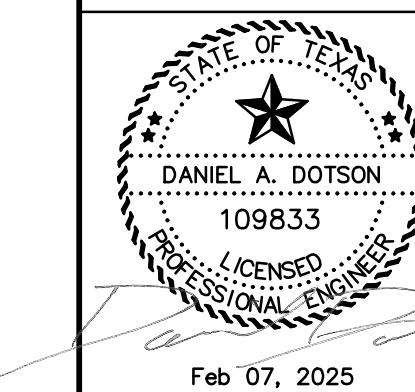
PIPE QUANTITIES			
SEGMENT #	SANITARY	SEGMENT #	WATER
SS-1	8"-164.6 LF	W-1	3"-121.5 LF
SS-2	6"-249.0 LF	W-2	3"-96.5 LF
SS-3	6"-106.9 LF	W-3	3"-31.0 LF
SS-4	8"-123.0 LF	W-4	4"-129.0 LF
SS-5	8"-128.0 LF	W-5	6"-411.0 LF
SS-6	8"-274.9 LF	W-6	6"-64.0 LF
SS-7	8"-207.4 LF	W-7	6"-310.5 LF
SS-8	4"-11.5 LF	W-8	3"-189.0 LF
SS-9	8"-278.9 LF	W-9	6"-155.0 LF
SS-10	6"-80.5 LF	W-10	3"-166.0 LF
SS-11	6"-376.0 LF	W-11	6"-311.5 LF
SS-12	8"-61.6 LF	W-12	3"-131.5 LF
SS-13	8"-177.0 LF	W-13	3"-223.5 LF
SS-14	6"-154.5 LF	W-14	6"-137.0 LF
SS-15	6"-90.0 LF	W-15	6"-141.0 LF
SS-16	6"-87.2 LF	W-16	3"-139.0 LF
SS-17	6"-276.5 LF	W-17	3"-125.0 LF
SS-18	6"-134.0 LF	W-18	3"-141.0 LF
SS-19	8"-260.5 LF	W-19	3"-210.5 LF
SS-20	8"-121.9 LF	W-20	6"-140.0 LF
SS-21	8"-155.8 LF	W-21	6"-162.0 LF
SS-22	6"-74.0 LF	W-22	3"-127.0 LF
SS-23	6"-80.0 LF	W-23	3"-187.0 LF
SS-24	6"-139.0 LF	W-24	3"-180.5 LF
SS-25	6"-162.0 LF		
SS-26	8"-296.4 LF	W-25	3"-617.5 LF
SS-27	8"-236.5 LF	W-26	3"-1,465.0 LF
SS-28	8"-136.6 LF	W-27	3"-961.0 LF
SS-29	6"-62.0 LF		
SS-30	8"-360.5 LF		
TOTAL	5,066.7 LF (8"-2,982.6 LF) (6"-2,071.6 LF) (4"-11.5 LF)	TOTAL	4,030.0 LF (6"-1,832.0 LF) (4"-129.0 LF) (3"-2,069.0 LF)

## LEGEND

- SANITARY SEWER CLEANOUT
- E-SERIES ULTRASONIC METER (ALT A AND/OR ALT B)
- FLUSH-OUT
- FLOW ARROW (SANITARY)

**Fitzz & Shipman INC.**

Consulting Engineers and Land Surveyors  
1405 Conner's Court  
Ph. (409) 832-7238  
Fax: (409) 832-7303  
www.fitzzshipman.com  
T.B.P.E. Firm #160 L.S. Firm #100186

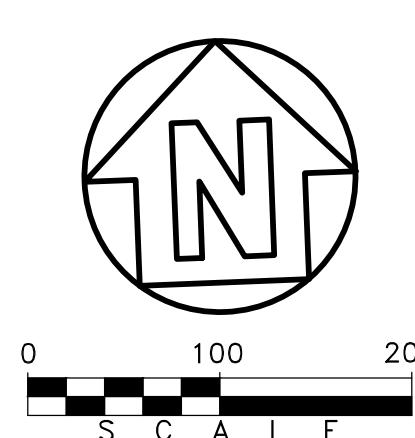


ORANGE  
TEXAS  
SUNSET ADDITION  
WATER & SEWER IMPROVEMENTS  
ORANGE COUNTY  
ORANGE, TEXAS

FS PROJECT #  
22108.0000

DATE: Feb 07, 2025  
SCALE: 1" = 100'  
DRAWN BY: TCL  
CHECK BY: DAD

FS DRAWING NAME:  
22108\_CE SITE



0 100 200  
S C A L E  
SCALE: 1" = 100'

PLAN  
SECTION  
SHEETS  
KEY



CALL BEFORE  
YOU DIG!  
TEXAS ONE  
CALL SYSTEM  
1-800-344-8377

OWNERSHIP OF DOCUMENTS  
THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF FITZ & SHIPMAN, INC., AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF FITZ & SHIPMAN, INC.  
COPYRIGHT 2025 FITZ & SHIPMAN, INC.

C2.00

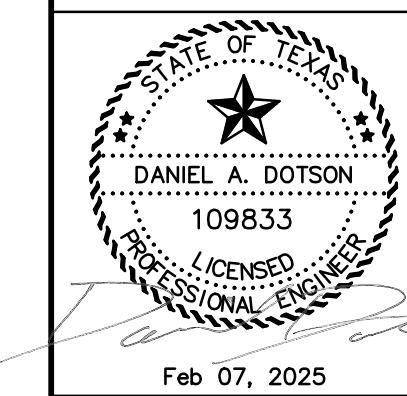
© COPYRIGHT 2025 FITZ & SHIPMAN, INC.





**Fitz & Shipman**  
INC.

Consulting Engineers and Land Surveyors  
1405 Conner's Court  
Beaumont, TX 77706  
Ph. (409) 832-7338  
Fax (409) 832-7303  
www.fitzshipman.com  
T.B.P.E. Firm #160 L.S. Firm #100186



STATE OF TEXAS  
DANIEL A. DOTSON  
P.E. No. 109833  
LICENCED PROFESSIONAL ENGINEER  
Feb 07, 2025

**ORANGE**  
TEXAS

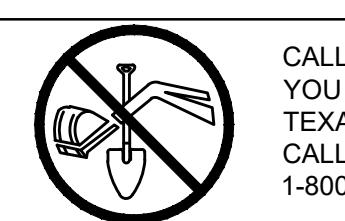
**SUNSET ADDITION**  
**WATER & SEWER IMPROVEMENTS**  
ORANGE, TEXAS

FS PROJECT #  
22108.0000  
DATE: Feb 07, 2025  
SCALE: 1" = 20'  
DRAWN BY: TCL  
CHECK BY: DAD  
FS DRAWING NAME:  
22108\_CE SITE

PLAN  
SECTION  
SHEETS

**C2.02**

© COPYRIGHT 2025 FITZ & SHIPMAN, INC.



CALL BEFORE  
YOU DIG!  
TEXAS ONE  
CALL SYSTEM  
1-800-344-8377

OWNERSHIP OF DOCUMENTS  
THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN,  
AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF  
FITZ & SHIPMAN, INC., AND IS NOT TO BE USED, IN WHOLE OR IN  
PART, FOR ANY OTHER PURPOSE OR PROJECT WITHOUT THE WRITTEN AUTHORIZATION  
OF FITZ & SHIPMAN, INC.  
COPYRIGHT 2025 FITZ & SHIPMAN, INC.



# Fitz & Shipman

---

# SUNSET ADDITION WATER & SEWER IMPROVEMENTS

ORANGE COUNTY  
ORANGE, TEXAS

STATE OF TEXAS

DANIEL A. DOTSON

109833

PROFESSIONAL ENGINEER

Feb 07, 2025

FS PROJECT #  
22108.0000  
  
DATE: Feb 07, 2023  
SCALE: 1" = 20'  
DRAWN BY: TCL  
CHECK BY: DAD  
  
FS DRAWING NAME:  
22108 CF SITE

# PLAN SECTION SHEETS

C2 03



CALL BEFORE  
YOU DIG!!  
TEXAS ONE  
CALL SYSTEM  
1-800-344-8377

OWNERSHIP OF DOCUMENTS

THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF FITTZ & SHIPMAN, INC., AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF FITTZ & SHIPMAN, INC.

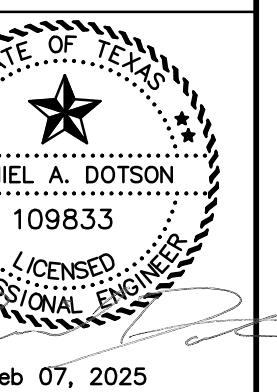
COPYRIGHT 2025 FITTZ & SHIPMAN, INC.





# Fitz & Shipman INC.

Consulting Engineers and Land Surveyors  
1405 Conner's Court  
Beaumont, TX 77706  
Ph. (409) 832-7238  
Fax. (409) 832-7303  
www.fitzshipman.com  
T.B.P.E. Firm #160 L.S. Firm #100186



ORANGE  
TEXAS  
STATE OF TEXAS  
DANIEL A. DOTSON  
109833  
LICENSED PROFESSIONAL ENGINEER  
Feb 07, 2025

FS PROJECT # 22108.0000  
DATE: Feb 07, 2025  
SCALE: 1" = 20'  
DRAWN BY: TCL  
CHECK BY: DAD  
FS DRAWING NAME: 22108\_CE SITE

PLAN  
SECTION  
SHEETS

C2.05

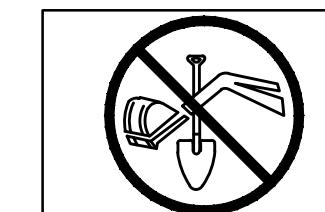
© COPYRIGHT 2025 FITZ & SHIPMAN, INC.



CALL BEFORE  
YOU DIG!  
TEXAS ONE  
CALL SYSTEM  
1-800-344-8377

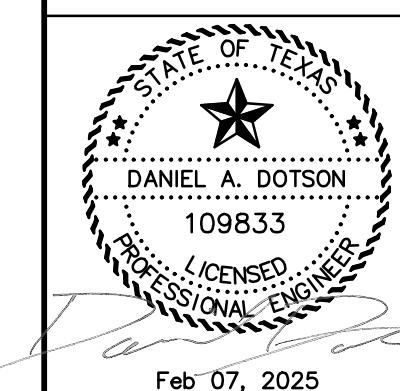
OWNERSHIP OF DOCUMENTS  
THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF FITZ & SHIPMAN, INC., AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF FITZ & SHIPMAN, INC.  
COPYRIGHT 2025 FITZ & SHIPMAN, INC.

NO. ISSUED FOR DATE

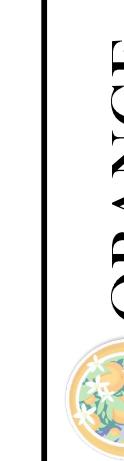


CALL BEFORE  
YOU DIG!  
TEXAS ONE  
CALL SYSTEM  
1-800-344-8377

OWNERSHIP OF DOCUMENTS  
THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, IS THE PROPERTY OF FITZ & SHIPMAN, INC., AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY PURPOSE, OR IN ANY PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF FITZ & SHIPMAN, INC.  
COPYRIGHT 2025 FITZ & SHIPMAN, INC.



Feb 07, 2025



**SUNSET ADDITION  
WATER & SEWER IMPROVEMENTS**  
ORANGE, TEXAS

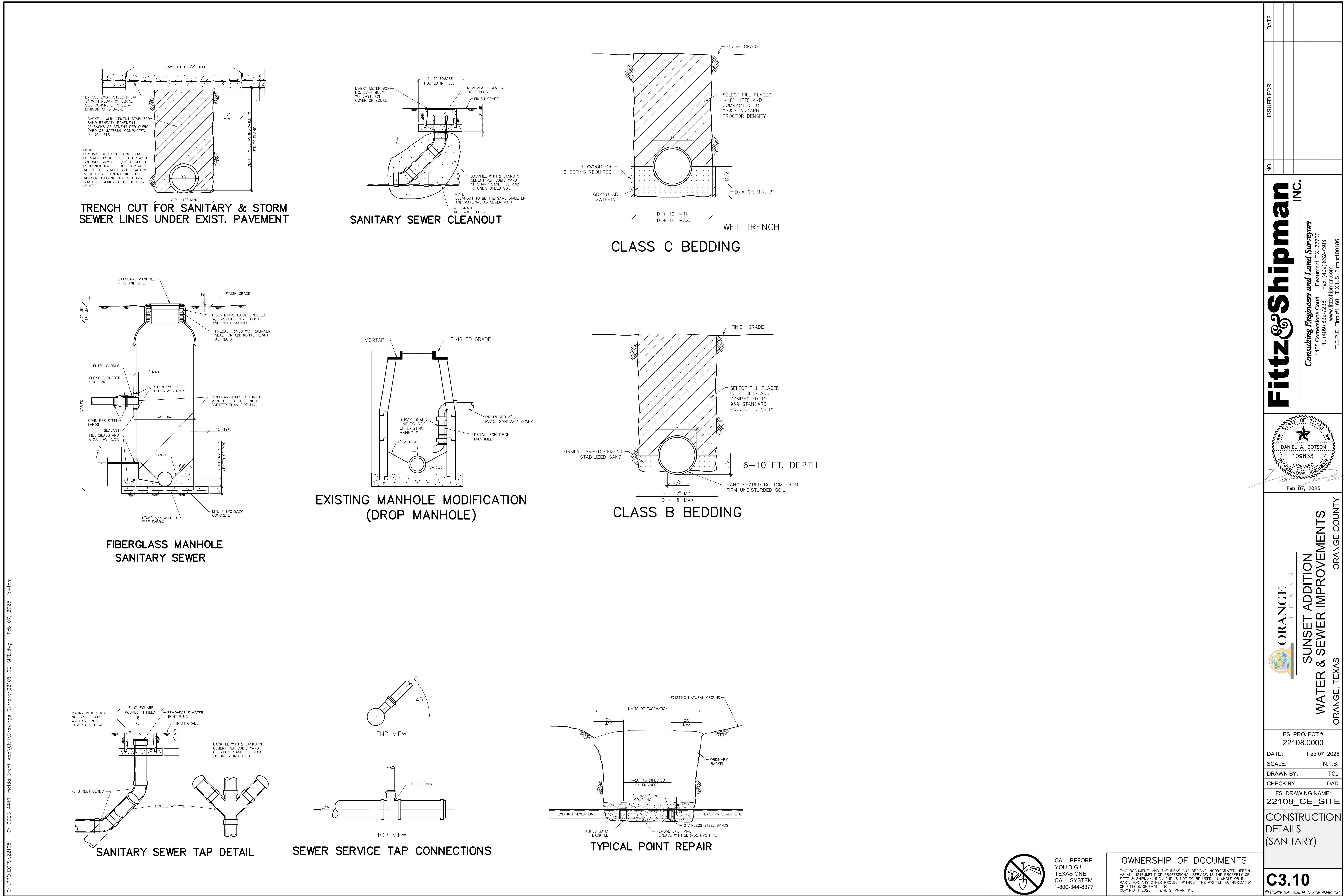
**Fitz & Shipman, Inc.**  
Consulting Engineers and Land Surveyors  
1405 Conner Street, Beaumont, TX 77706  
Ph. (409) 832-7238 Fax. (409) 832-7303  
www.fitzshipman.com T.B.P.E. Firm #160 L.S. Firm #100186

PLAN  
SECTION  
SHEETS

FS PROJECT # 22108.0000  
DATE: Feb 07, 2025  
SCALE: 1" = 20'  
DRAWN BY: TCL  
CHECK BY: DAD

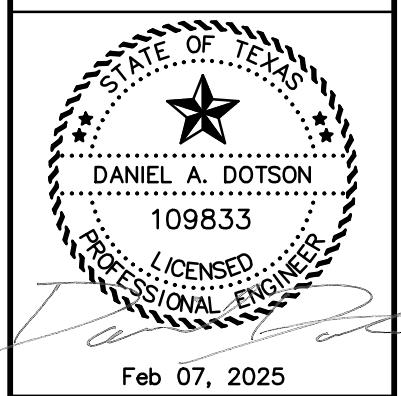
FS DRAWING NAME: 22108\_CE SITE

NO. ISSUED FOR DATE

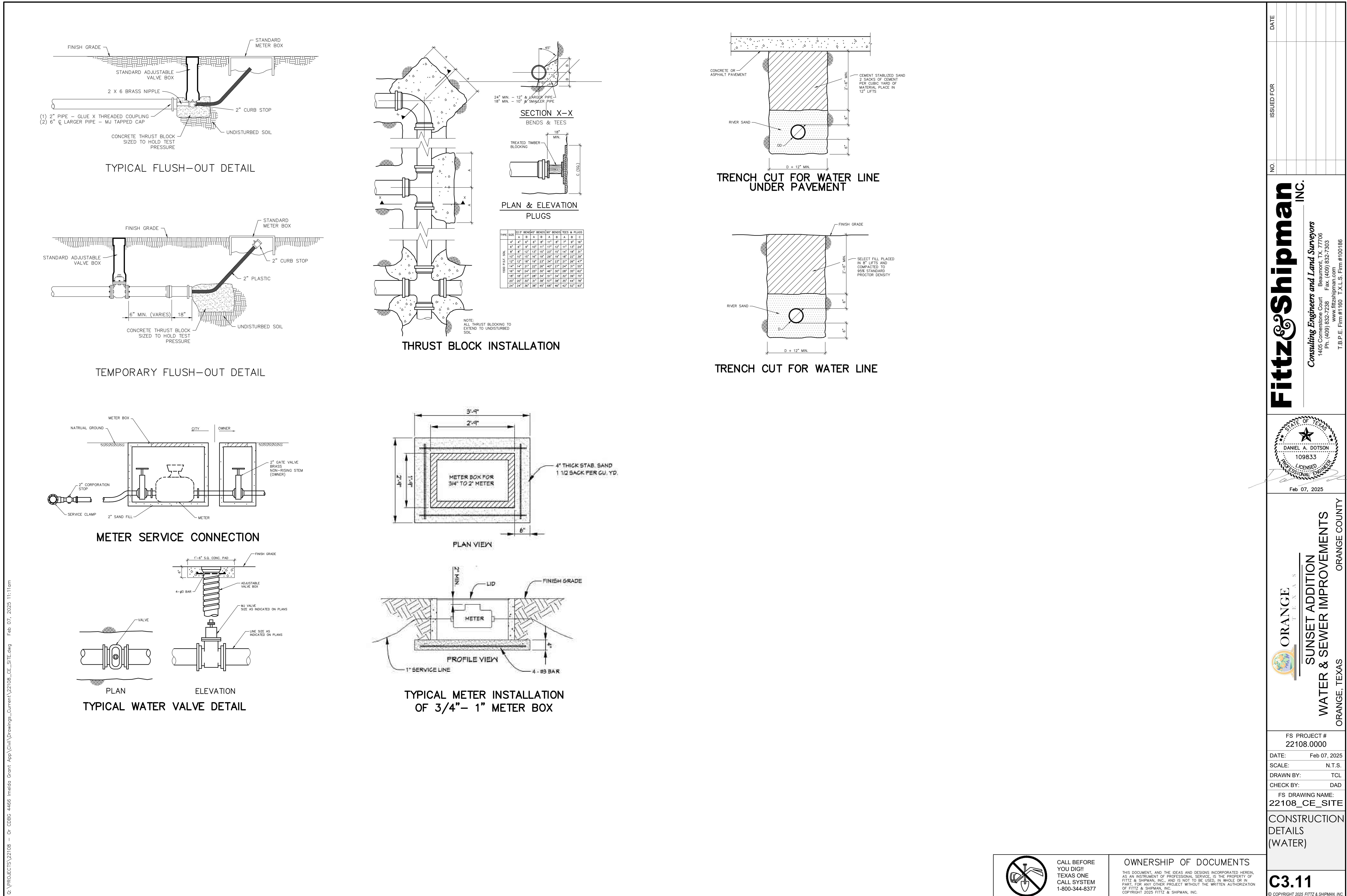


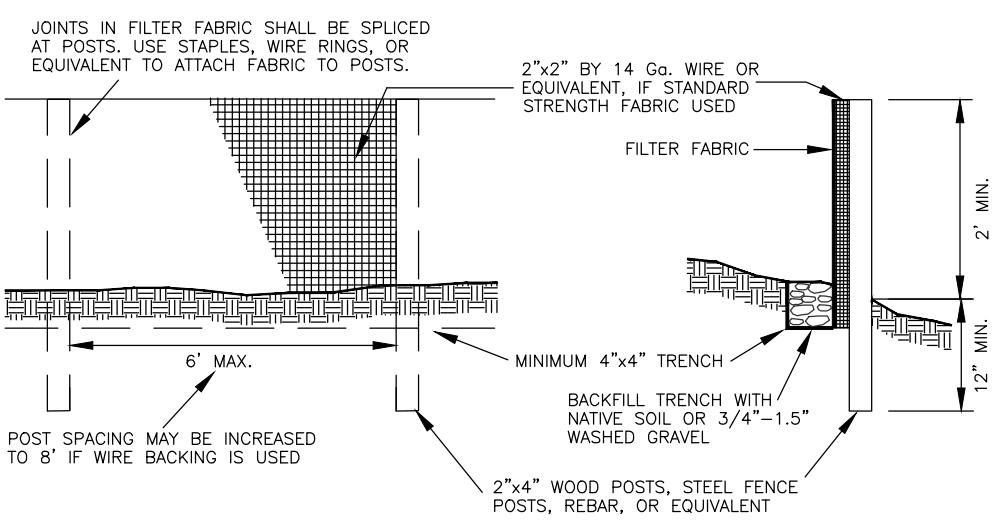
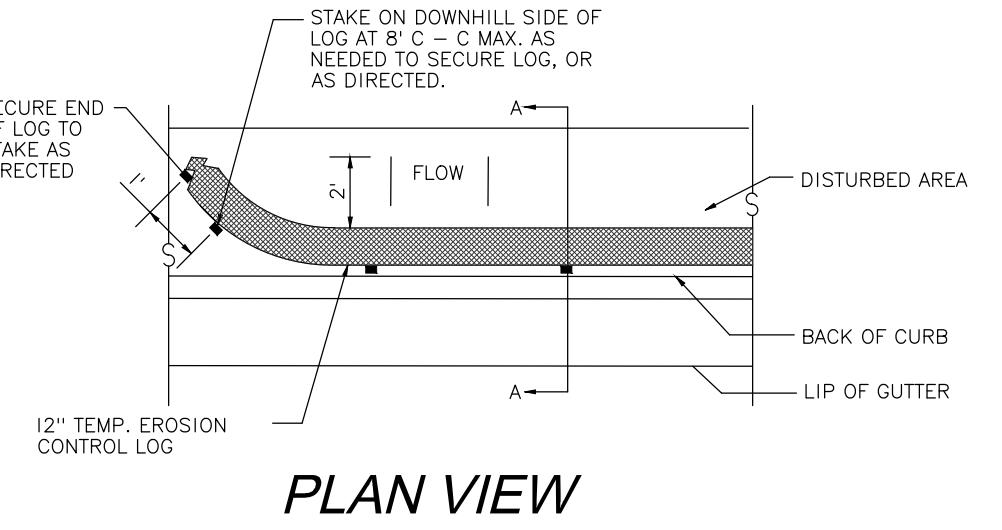
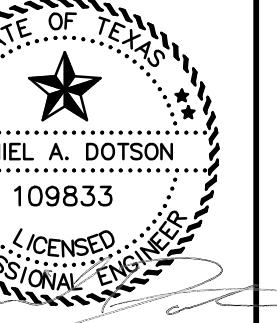
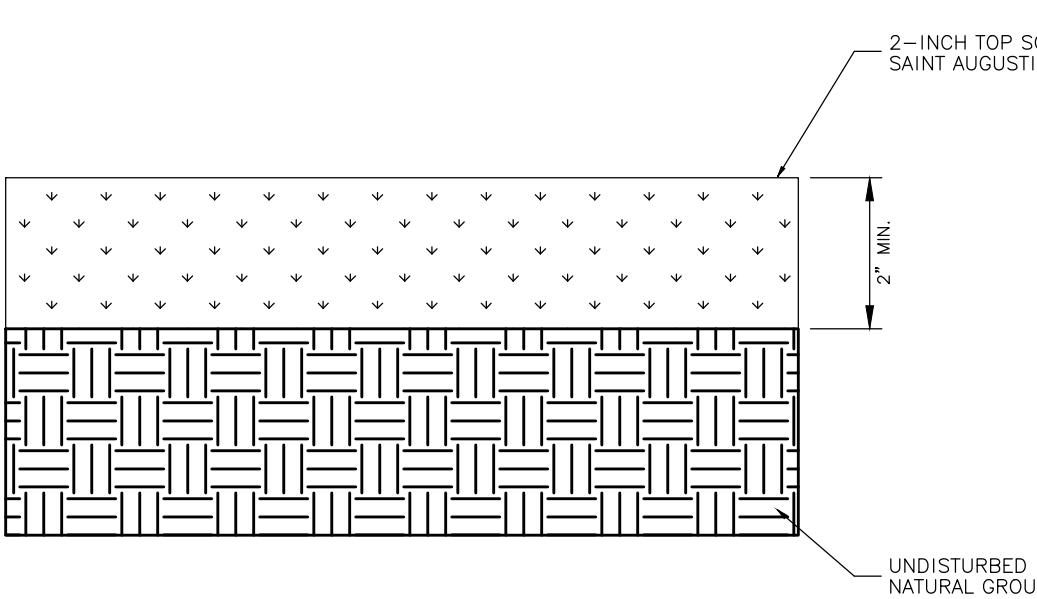
**Fitz & Shipman**  
INC.

Consulting Engineers and Land Surveyors  
1405 Comerica Court  
Beaumont, TX 77706  
Ph. (409) 832-7238  
Fax. (409) 832-7303  
www.fitzshipman.com  
T.B.P.E. Firm #160 L.S. Firm #100186



ORANGE  
T E X A S  
SUNSET ADDITION  
WATER & SEWER IMPROVEMENTS  
ORANGE, TEXAS  
ORANGE COUNTY



 <p><b>Silt Fence</b></p>		<p>NO. _____ ISSUED FOR _____ DATE _____</p>	
 <p><b>PLAN VIEW</b></p> <p>SECURE END OF LOG TO STAKE AS DIRECTED</p> <p>STAKE ON DOWNSHILL SIDE OF LOG AT 6' C MAX. AS NEEDED TO SECURE LOG, OR AS DIRECTED.</p> <p>12" TEMP. EROSION CONTROL LOG</p> <p>12" TEMP. EROSION CONTROL LOG</p> <p>STAKE</p> <p>COMPOST CRADLE UNDER EROSION CONTROL LOG</p> <p>10983</p> <p>SECTION A-A</p> <p>1. LENGTHS OF EROSION CONTROL LOGS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS REQUIRED FOR THE PURPOSE INTENDED. MAXIMUM LENGTH OF LOGS SHALL BE 60' FOR 18" DIAMETER OR 30' FOR 12" DIAMETER LOGS.</p> <p>2. UNLESS OTHERWISE DIRECTED, USE BIODEGRADABLE OR PHOTODEGRADABLE CONTAINMENT MESH ONLY WHERE LOG WILL REMAIN IN PLACE AS PART OF A VEGETATIVE SYSTEM. FOR TEMPORARY INSTALLATIONS, USE RECYCLABLE CONTAINMENT MESH.</p> <p>3. STUFF LOGS WITH SUFFICIENT FILTER MATERIAL WITHOUT EXCESSIVE DEFORMATION.</p> <p>4. STAKES SHALL BE 2" X 2" WOOD OR #3 REBAR, 4' LONG, EMBEDDED SUCH THAT 2" PROTRIDES ABOVE LOG, OR AS DIRECTED.</p> <p>5. DO NOT PLACE STAKES THROUGH CONTAINMENT MESH.</p>		<p>CONSULTING ENGINEERS AND LAND SURVEYORS</p> <p><b>Fitz &amp; Shipman Inc.</b></p> <p>1405 Conner's Court Beaumont, TX 77706 Ph. (409) 832-7238 Fax. (409) 832-7303 www.fitzshipman.com T.B.P.E. Firm #160 L.S. Firm #100186</p> <p></p> <p>DANIEL A. DOTSON 10983 LICENSED PROFESSIONAL ENGINEER Feb 07, 2025</p>	
<p><b>Log Placed At Edge Of Pavement</b></p>  <p>2-INCH TOP SOIL W/ SAINT AUGUSTINE SOD</p> <p>UNDISTURBED NATURAL GROUND</p> <p>2' MIN.</p> <p><b>TYPICAL SECTION (LANDSCAPE)</b></p>		<p>STATE OF TEXAS DANIEL A. DOTSON 10983 LICENSED PROFESSIONAL ENGINEER Feb 07, 2025</p> <p><b>ORANGE</b> T E X A S SUNSET ADDITION WATER &amp; SEWER IMPROVEMENTS ORANGE, TEXAS ORANGE COUNTY</p> <p>FS PROJECT # 22108.0000 DATE: Feb 07, 2025 SCALE: N.T.S. DRAWN BY: TCL CHECK BY: DAD FS DRAWING NAME: 22108_CE_SITE CONSTRUCTION DETAILS <b>C3.12</b> © COPYRIGHT 2025 FITZ &amp; SHIPMAN, INC.</p>	