

TIP PROJECT: B-5610

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

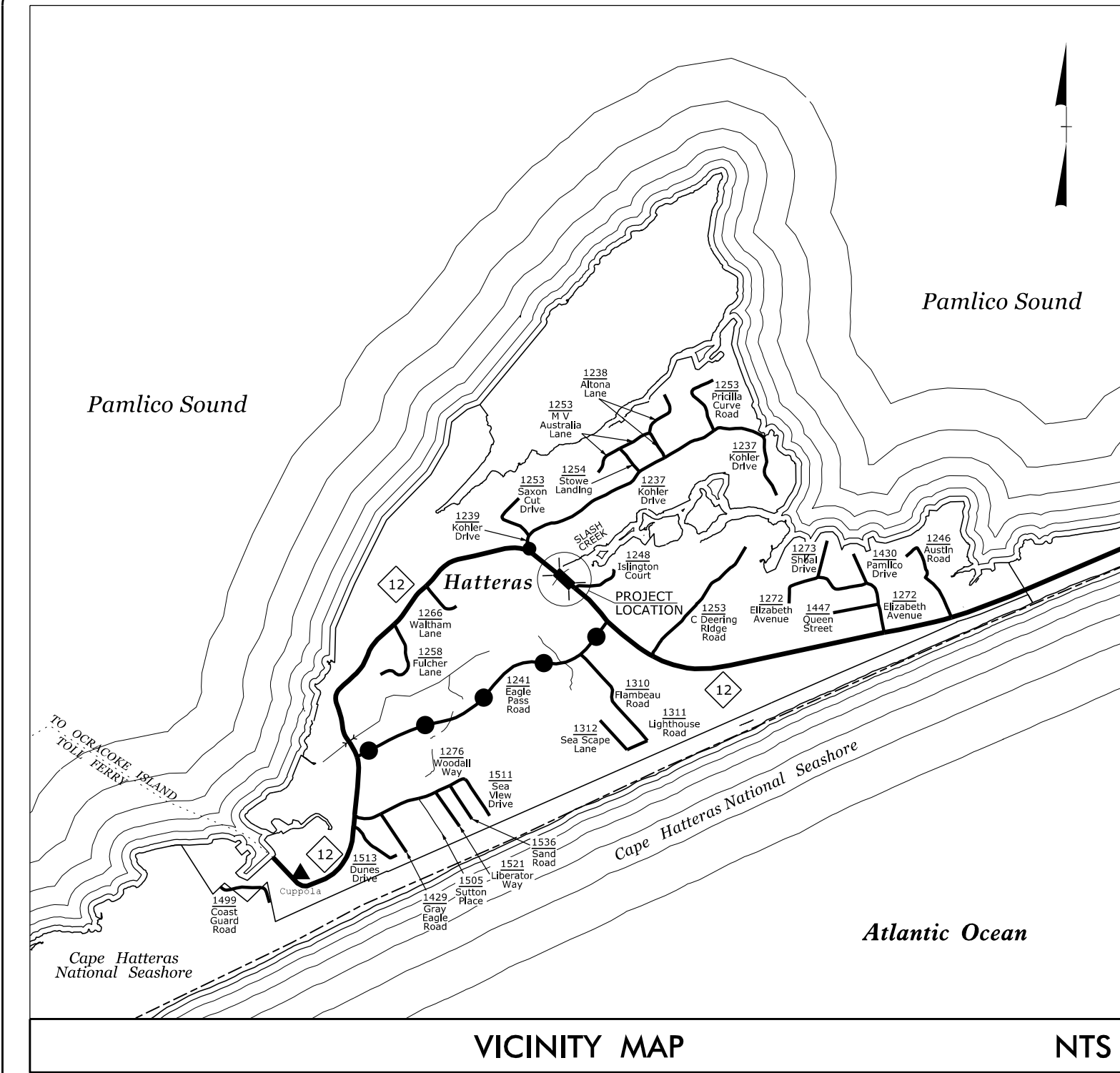
T.I.P. NO.	SHEET NO.
B-5610	UC-1

**UTILITY CONSTRUCTION PLANS  
DARE COUNTY**

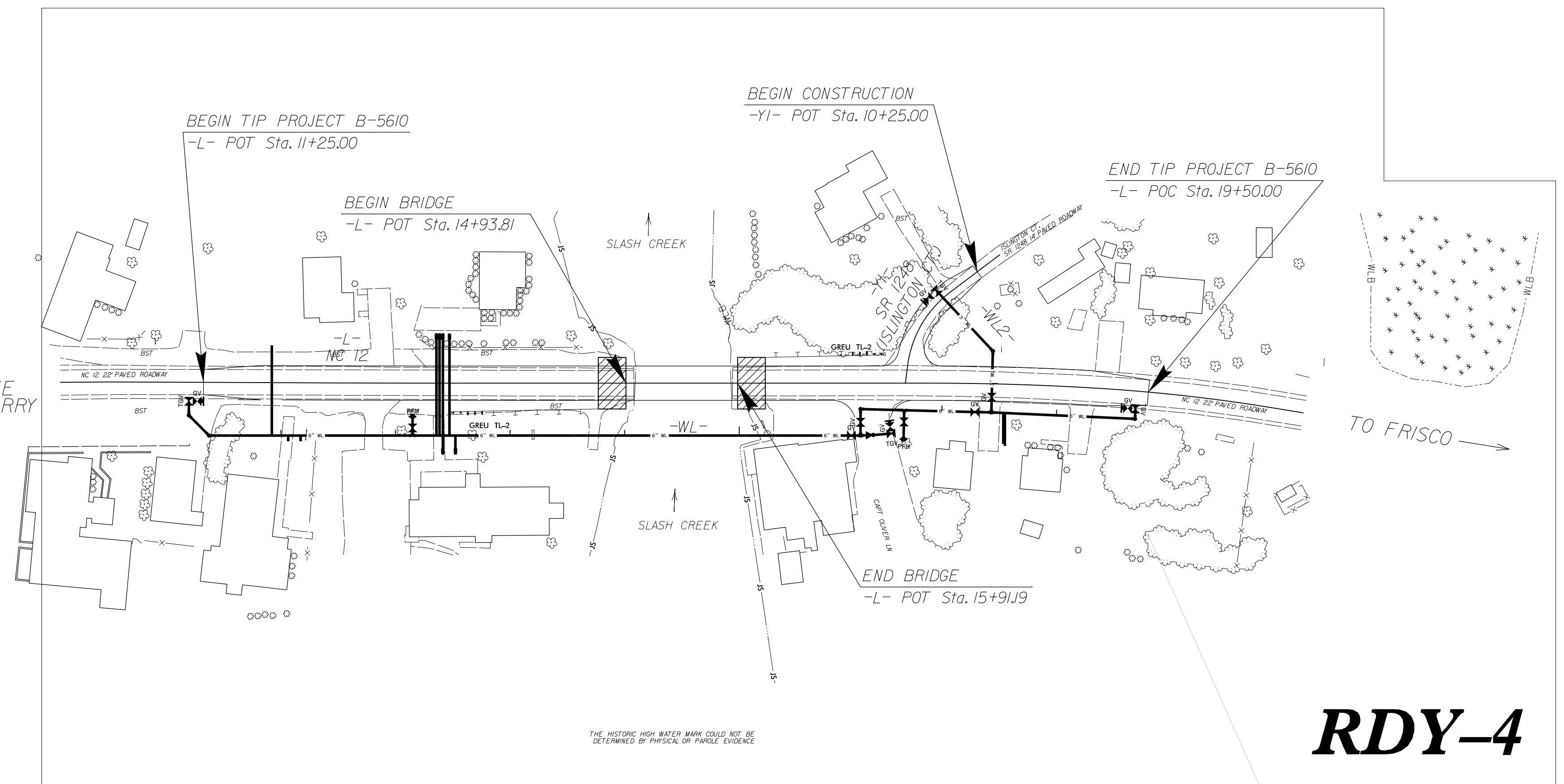
**LOCATION: REPLACE BRIDGE #270008 OVER THE SLASH CREEK ON NC-12**

**TYPE OF WORK: WATERLINE RELOCATION**

**UC-4**

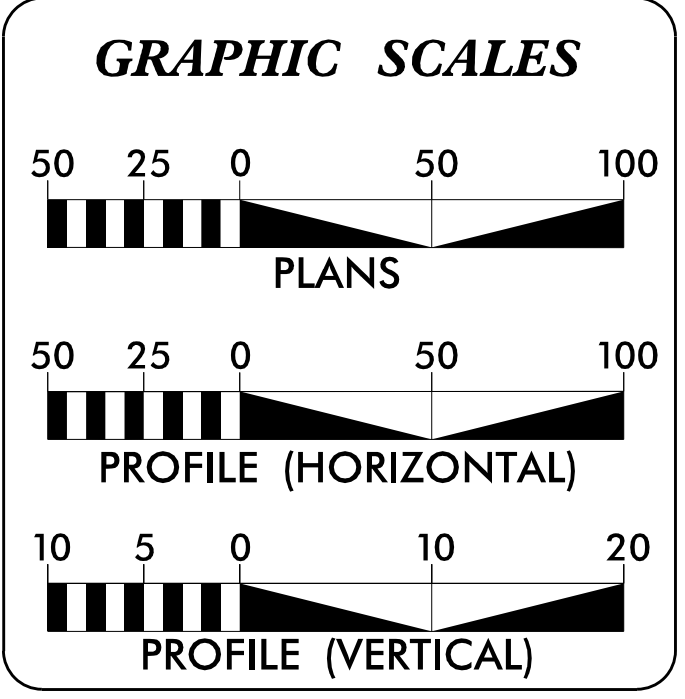


VICINITY MAP NTS  
Off-Site Detour ●●●



**RDY-4**

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



**INDEX OF SHEETS**

SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A	DETAILS
UC-4	UTILITY CONSTRUCTION SHEET
UC-5	PROFILE SHEET

**WATER AND SEWER OWNERS ON PROJECT**

(A) WATER - DARE COUNTY

PREPARED IN THE OFFICE OF

**STEWART**

223 S. West St. Suite 1100  
RALEIGH, NC 27603  
TEL: 919.399.8750

Firm License # C-11893  
www.stewarteng.com  
PROJECT # 1718002.00

MICHAEL BURNS, PE CONSULTANT CONTACT #1  
ANDY YOUNG, PE CONSULTANT CONTACT #2  
CONSULTANT CONTACT #3

SEAL

4/5/2024

DocuSigned by:  
Michael S. Burns, Jr.  
0425C8C008F437...

**DIVISION OF HIGHWAYS  
UTILITIES UNIT**

1555 MAIL SERVICES CENTER  
RALEIGH, NC 27699-1555  
PHONE (919) 707-6690  
FAX (919) 250-4151

NABIL HAMDAN UTILITIES REGIONAL ENGINEER  
TEVIN ASAMOAH UTILITIES ENGINEER  
TANGA SAMPSON UTILITIES REGIONAL COORDINATOR  
TYRON STALLINGS UTILITIES COORDINATOR

\$\$\$\$\$ SYSTEM TIME\$\$\$\$\$ DGN\$\$\$\$\$ USERNAME\$\$\$\$\$

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# UTILITIES PLAN SHEET SYMBOLS

## PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11¼ Degree Bend	
22½ Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	REM FH
Water Meter	
Relocate Water Meter	
Remove Water Meter	REM WM
Water Pump Station	
RPZ Backflow Preventer	
DCV Backflow Preventer	
Relocate RPZ Backflow Preventer	
Relocate DCV Backflow Preventer	

## PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	

## PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	
Utility Line by Others (Type as Shown)	
Trenchless Installation	
Encasement by Open Cut	
Encasement	

Thrust Block	
Air Release Valve	
Utility Vault	
Concrete Pier	
Steel Pier	
Plan Note	
Pay Item Note	

## EXISTING UTILITIES SYMBOLS

Power Pole		*Underground Power Line	
Telephone Pole		*Underground Telephone Cable	
Joint Use Pole		*Underground Telephone Conduit	
Utility Pole		*Underground Fiber Optics Telephone Cable	
Utility Pole with Base		*Underground TV Cable	
H-Frame Pole		*Underground Fiber Optics TV Cable	
Power Transmission Line Tower		*Underground Gas Pipeline	
Water Manhole		Aboveground Gas Pipeline	A/G Gas
Power Manhole		*Underground Water Line	
Telephone Manhole		Aboveground Water Line	A/G Water
Sanitary Sewer Manhole		*Underground Gravity Sanitary Sewer Line	ss
Hand Hole for Cable		Aboveground Gravity Sanitary Sewer Line	A/G Sanitary Sewer
Power Transformer		*Underground SS Forced Main Line	
Telephone Pedestal		Underground Unknown Utility Line	
CATV Pedestal		SUE Test Hole	
Gas Valve		Water Meter	
Gas Meter		Water Valve	
Located Miscellaneous Utility Object		Fire Hydrant	
Abandoned According to Utility Records	AATUR	Sanitary Sewer Cleanout	
End of Information	E.O.I.		

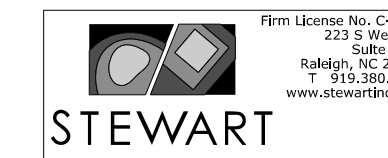
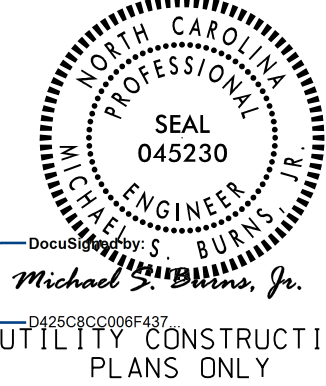
\*For Existing Utilities  
 Utility Line Drawn from Record (Type as Shown)  
 Designated Utility Line (Type as Shown)

5/14/99  
3/27/2024  
T:\SERIAL\1156610\_ut\_sym\_UC02\_psh.dgn  
REV: 2/1/2012



# UTILITY CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
B-5610	UC-3
DESIGNED BY: MSB	3/12/2024
DRAWN BY: MSB	
CHECKED BY: APY	
APPROVED BY: APY	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	



## GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2024.
2. THE EXISTING UTILITIES BELONG TO DARE COUNTY DEPARTMENT OF WATER. THE UTILITY OWNER CONTACT IS:  
  
PAT IRWIN  
PUBLIC UTILITIES DIRECTOR  
252-475-5603
3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT QUALITY, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.
4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.
5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.
7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.
8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.
9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

## LIST OF STANDARD DRAWINGS

- |         |                 |
|---------|-----------------|
| 654.01  | PAVEMENT REPAIR |
| 1515.02 | FIRE HYDRANT    |

## PROJECT SPECIFIC NOTES:

1. DARE COUNTY SHALL OPEN AND CLOSE ALL VALVES.
2. IN ADVANCE OF BEGINNING UTILITY WORK SOFT DIGS SHALL BE PERFORMED BY CONTRACTOR TO VERIFY ACTUAL WATER LINE DEPTH AND LOCATION AT PROPOSED TIE-IN LOCATIONS.
3. CONTRACTOR SHALL ADHERE TO SECTION 1530 "ABANDON OR REMOVE UTILITIES" FOR ABANDONMENT OF PIPE, UNLESS OTHERWISE SPECIFIED.
4. NO INTERRUPTION TO EXISTING SERVICE SHALL TAKE PLACE UNTIL ALL CUSTOMERS HAVE BEEN NOTIFIED A MINIMUM OF 24 HOURS IN ADVANCE. NOTICE OF INTERRUPTION SHALL BE PREPARED BY THE WATER DEPARTMENT OFFICE ON OFFICIAL LETTERHEAD. CONTRACTOR TO CONTACT PAT IRWIN 2 WEEKS IN ADVANCE OF ANY WORK TO ALLOW SUFFICIENT TIME TO PREPARE NOTICE OF INTERRUPTION TO AFFECTED CUSTOMERS. DISTRIBUTION TO EACH CUSTOMER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNDER THE DIRECTION OF THE WATER DEPARTMENT OFFICE.
5. CERTIFIED BACTERIOLOGICAL AND CONTAMINANT TEST WILL BE PERFORMED BY DARE COUNTY. IF THE SAMPLE FAILS RECHLORINATE THE WATER LINE AS STATED IN THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
6. USE # 12 AWG COPPER CLAD STEEL WIRE WITH BLUE INSULATION FOR TRACER WIRE. ALLOW DARE COUNTY TO CONDUCT THE CONTINUITY TEST ONCE THE TRACER WIRES ARE INSTALLED.
7. A 2" OR GREATER TEMPORARY BLOW OFF SHALL BE INSTALLED FOR THE PURPOSE OF DISCHARGING SUPER-CHLORINATED WATER. ALL DISCHARGE SHALL BE DECHLORINATED PRIOR TO DISPOSAL BY THE CONTRACTOR.
8. A DARE COUNTY REPRESENTATIVE SHALL BE PRESENT FOR THE PRESSURE TEST, CHLORINATION, AND FLUSHING OF ALL NEW WATER LINES.
9. ALL DUCTILE IRON FITTINGS AND GATE VALVES ARE TO BE MECHANICAL JOINT AND INSTALLED WITH GRIPPING RINGS.

## UTILITY CONSTRUCTION

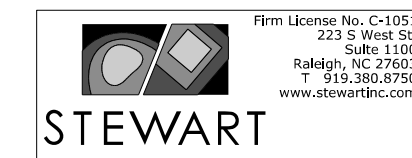
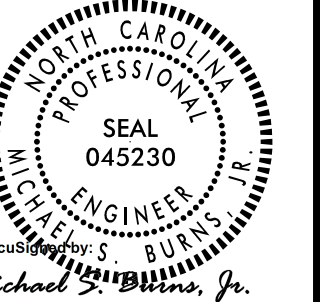
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

10. CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS CONTRACTOR'S RESPONSIBILITY TO HAVE BORE DESIGNED AND SEALED BY A LICENSED NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER, WETLANDS, OR BUFFER ZONES.
11. DO NOT USE ROCK BEDDING IN TRENCHES WHERE PVC PIPE IS TO BE INSTALLED.
12. 1" TAPS AND SERVICE LINES ARE PROPOSED FOR ALL SERVICE CONNECTIONS. 3/4" METERS ARE PROPOSED FOR ALL NEW WATER METERS ON THE PROJECT. A REDUCER MUST BE SUPPLIED AT THE METER.
13. DARE COUNTY AND THE ENGINEER OF RECORD SHALL BE PROVIDED WITH A DIGITAL CAD (.DWG) FILE COPY OF THE SURVEYED AS-BUILTS OF THE INSTALLED UTILITY. THE AS-BUILTS SHALL INCLUDE NOTIONS OF THE SIZE AND TYPE OF MATERIAL INSTALLED; GPS COORDINATED OF ALL FITTINGS, UTILITY CONTROLS, AND THE HORIZONTAL AND VERTICAL LOCATIONS OF THE PIPING, INCLUDING DEPTHS OF COVER. PROVIDE COLOR PHOTOGRAPHS FOR ALL TEE AND VALVE CONNECTIONS AND FIRE HYDRANT ASSEMBLIES PRIOR TO PLACING ANY BACKFILL. PHOTOGRAPHS SHALL BE NUMBERED AND KEYED TO THE APPROPRIATE LOCATION ON THE AS-BUILTS DRAWINGS. PROVIDE BORING LOGS FROM THE TRENCHLESS INSTALLATIONS.



5/14/99

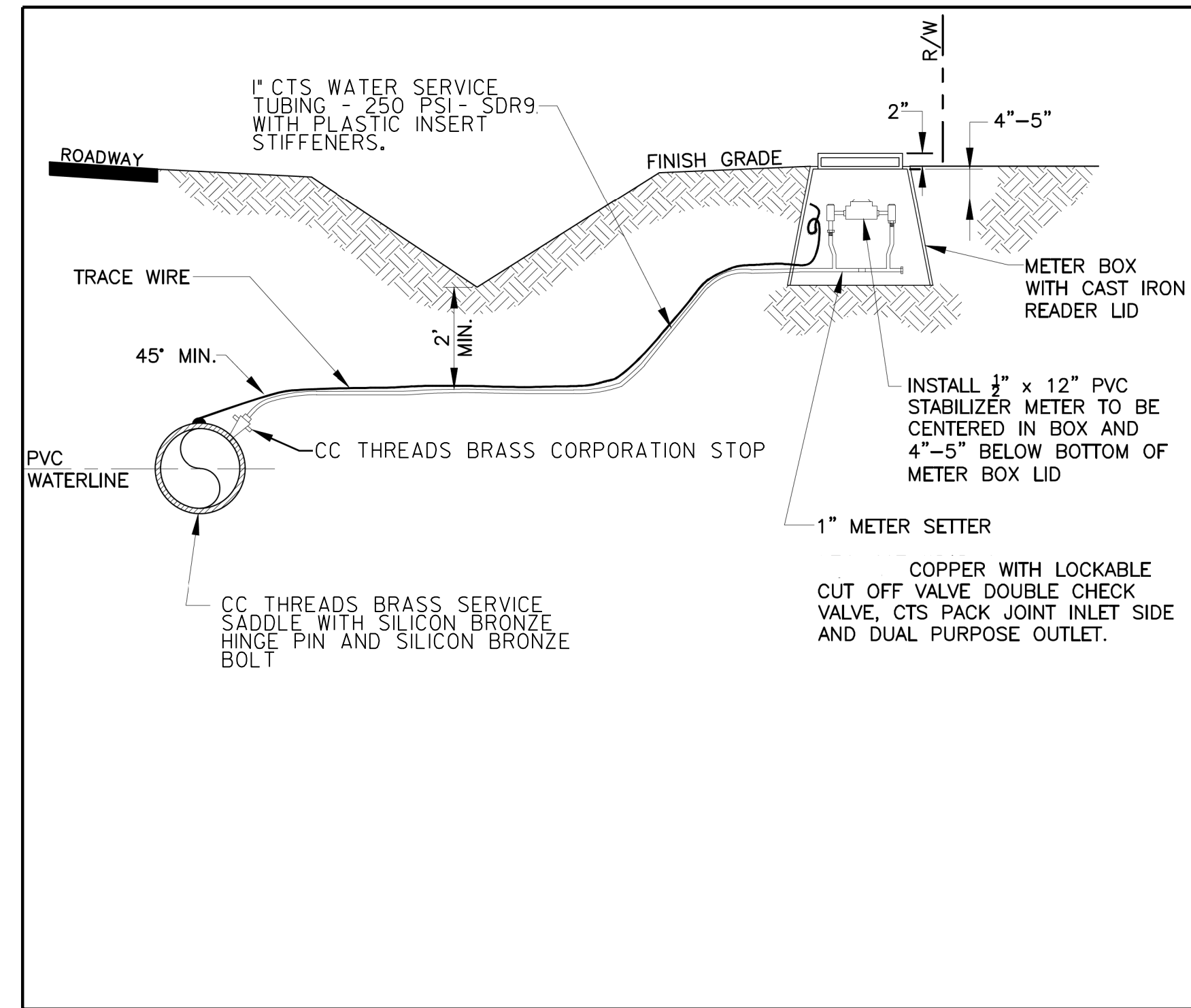
PROJECT REFERENCE NO.	SHEET NO.
B-5610	UC-3A
DESIGNED BY: MSB	3/12/2024
DRAWN BY: MSB	
CHECKED BY: APY	
APPROVED BY: APY	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	



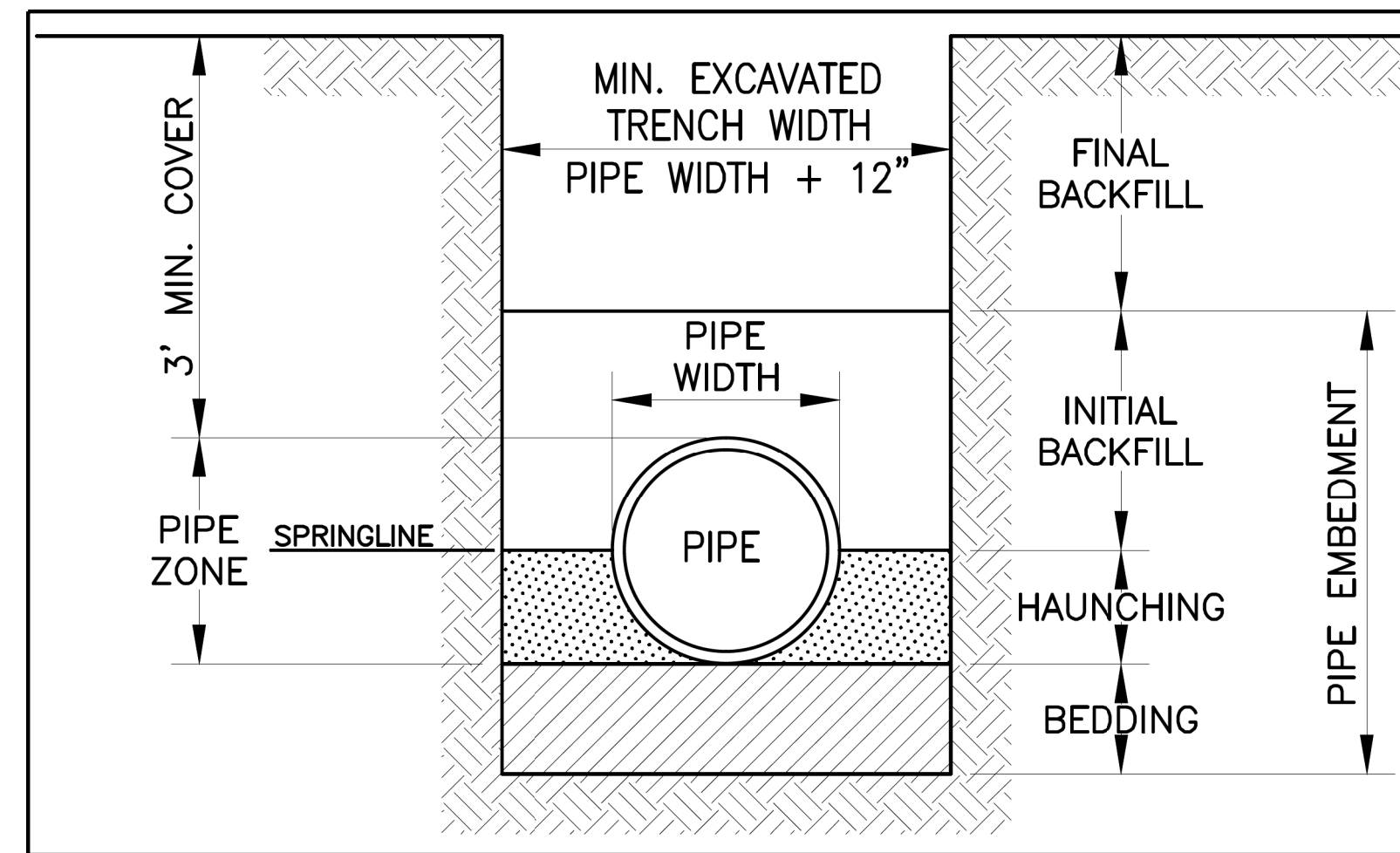
# PROJECT TYPICAL DETAILS

## UTILITY CONSTRUCTION

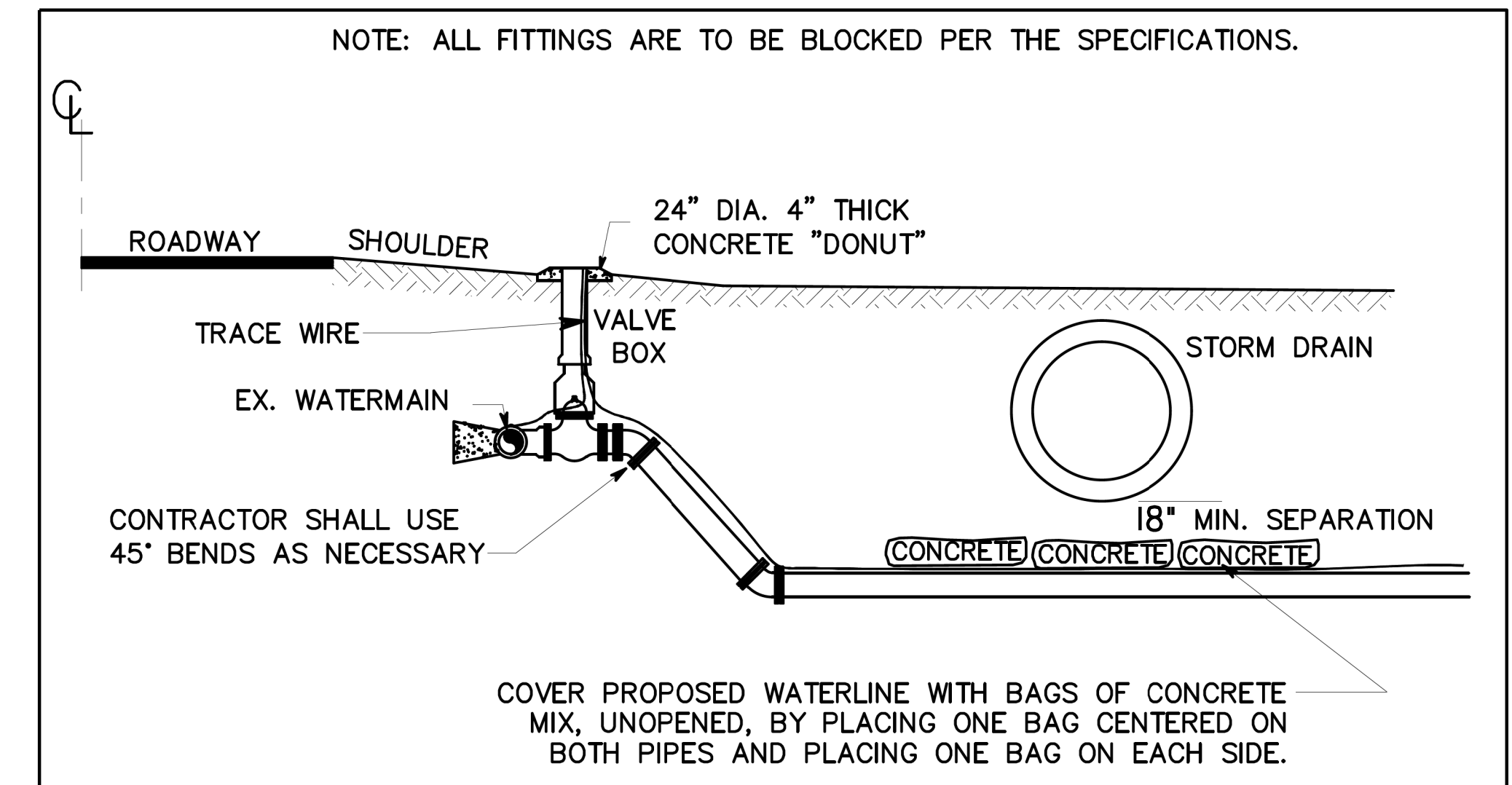
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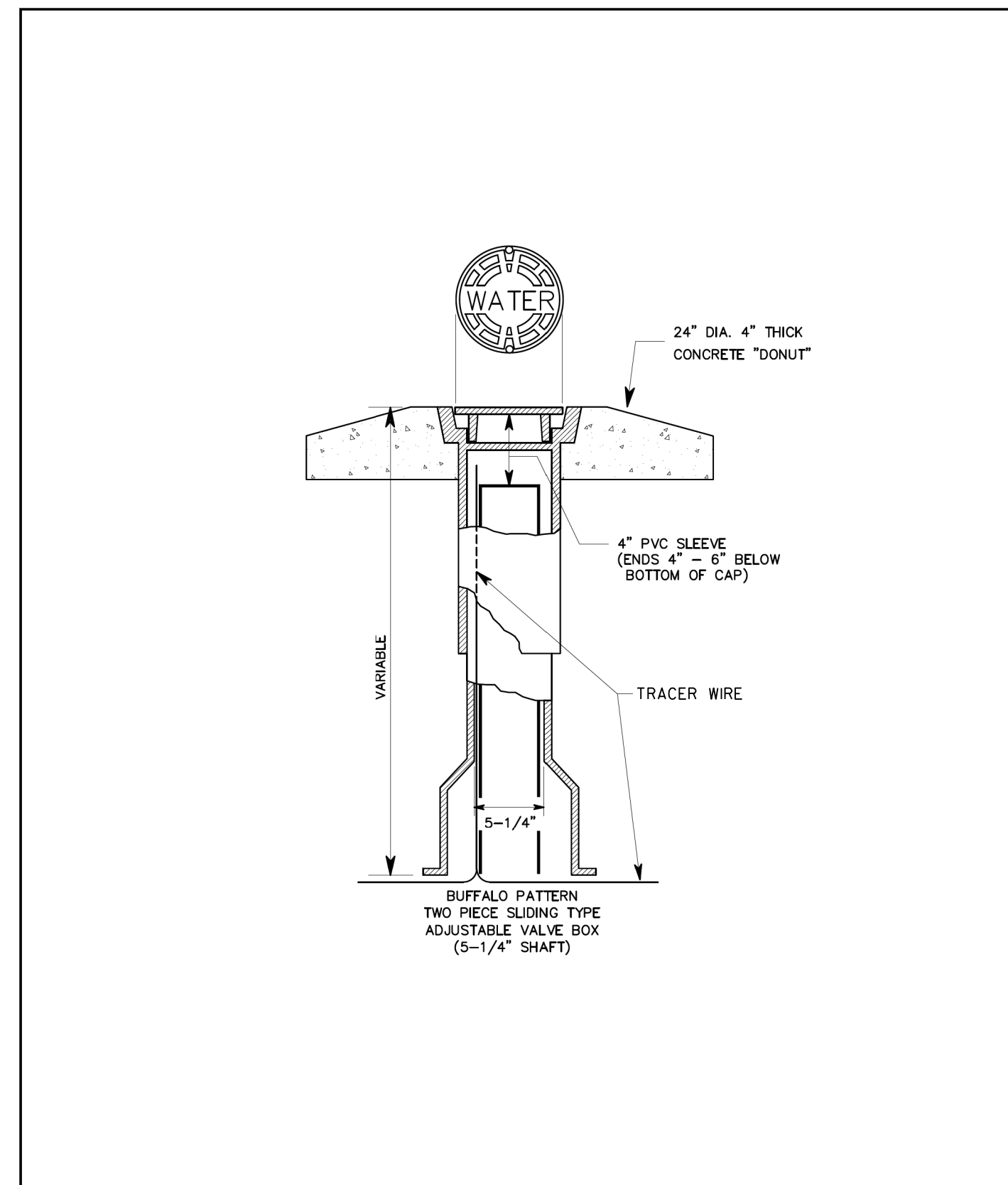
**2** 1" WATER SERVICE LATERAL



**16** TRENCH DETAIL

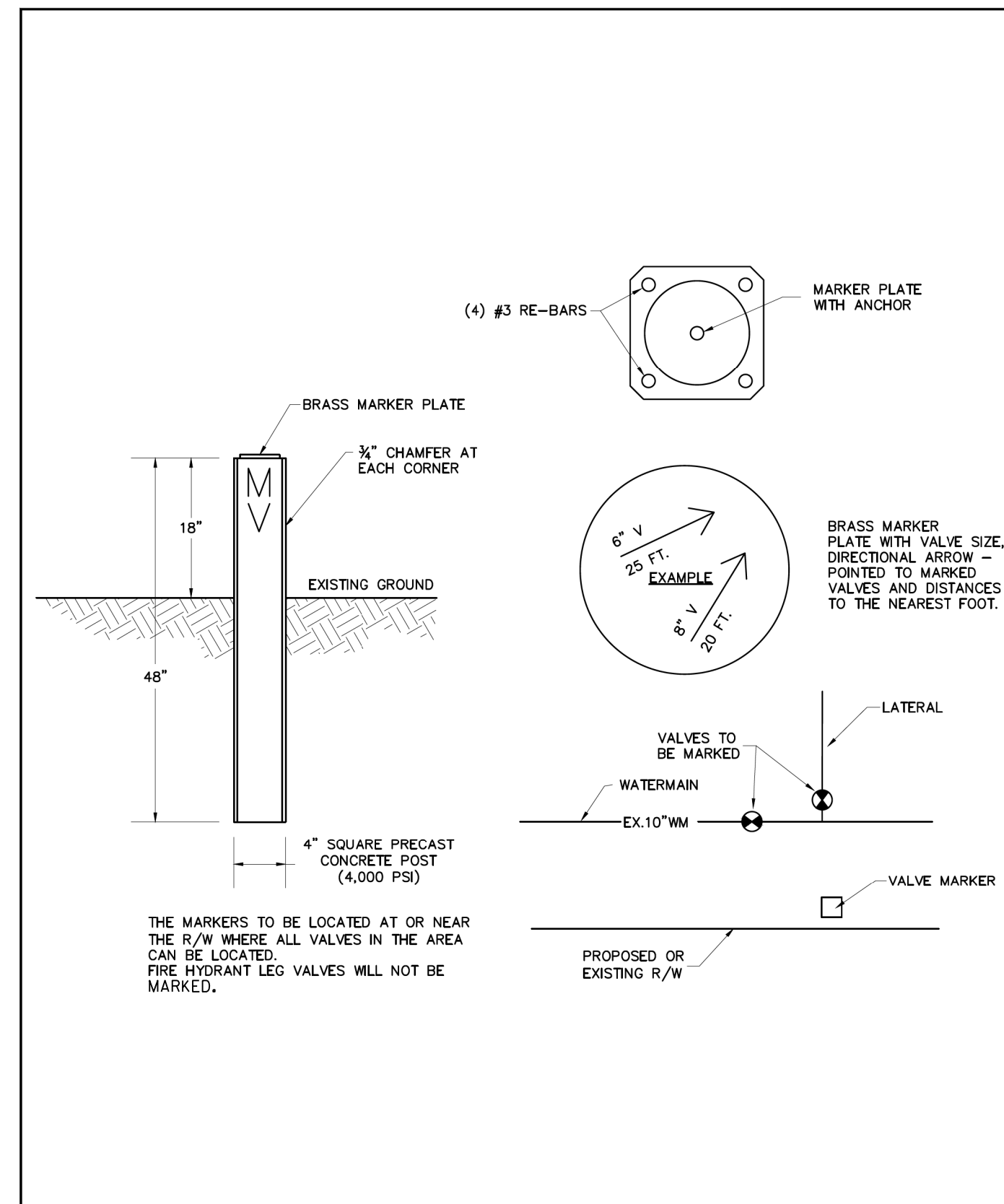


**18** STORM SEWER CROSSING DETAIL



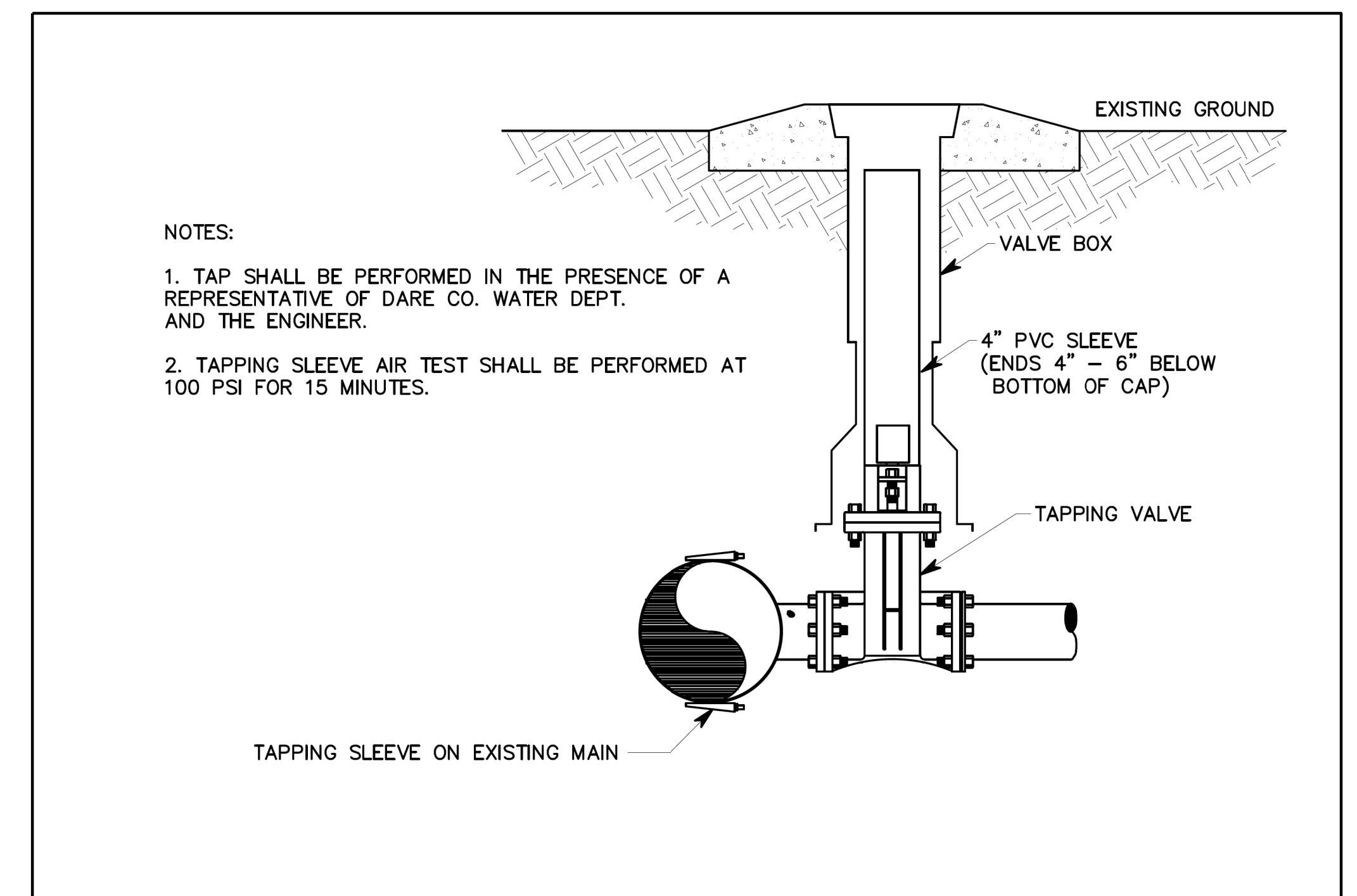
VALVE BOX DETAIL

NOT TO SCALE  
ISSUED: 7/31/18  
DETAIL NUMBER  
**14**



VALVE MARKER DETAIL

NOT TO SCALE  
ISSUED: 7/31/18  
DETAIL NUMBER  
**15**



**7** TAPPING DETAIL

3/18/2024  
115810\_u.ctb.LUC03a\_psh.dgn





5/14/99

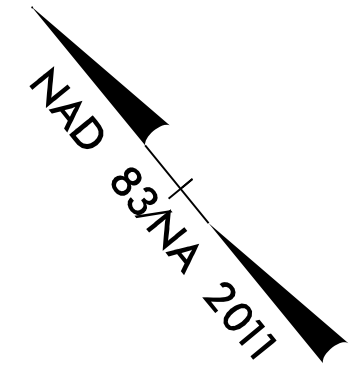
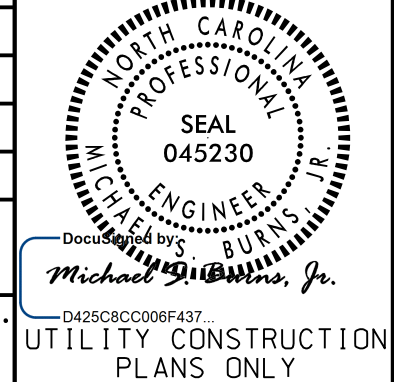
NOTE:  
PRIOR TO COMMENCING ANY WORK ON ANY TRENCHLESS INSTALLATION ON THIS PROJECT, PROVIDE A DESIGN FOR THE TRENCHLESS INSTALLATION CERTIFIED BY AN ENGINEER LICENSED BY THE STATE OF NORTH CAROLINA, AS REQUIRED BY SUBARTICLE 1550-3(B) OF THE STANDARD SPECIFICATIONS.

NOTE:  
1" TAPS AND SERVICE LINES ARE PROPOSED FOR ALL SERVICE CONNECTIONS. 3/4" METERS ARE PROPOSED FOR ALL NEW WATER METERS ON THE PROJECT. A REDUCER MUST BE SUPPLIED AT THE METER.

NOTE:  
THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2130 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

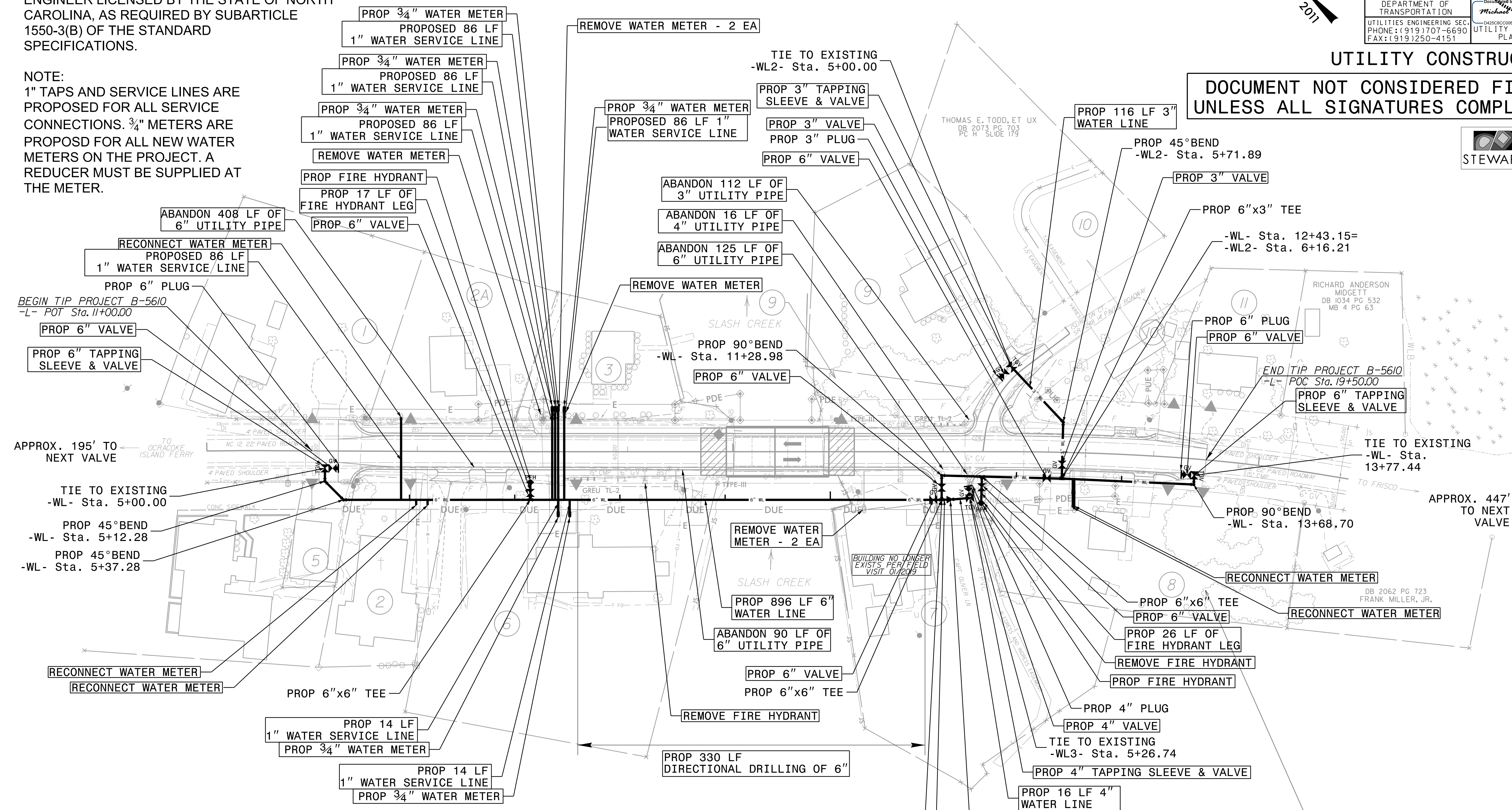
NOTE:  
CONTRACTOR IS REQUIRED TO ENSURE ALL BENDS UTILIZE JOINT RESTRAINTS.

PROJECT REFERENCE NO.	SHEET NO.
B-5610	UC-4
DESIGNED BY: MSB	1/22/2024
DRAWN BY: MSB	
CHECKED BY: APY	
APPROVED BY: APY	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	



### UTILITY CONSTRUCTION

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**



1 DROVER LLC DB 1992 PG 95 PC B SLIDE 348	2 HATTERAS UNITED METHODIST CHURCH DB 139 PG 506	2 HATTERAS UNITED METHODIST CHURCH DB 1617 PG 299 DB B PG 278 DB A PG 480 DB B PG 420	3 DARREL ALLEN DANIELS, ET UX DB 1670 PG 104 MB 2 PG 225	4 JEFFREY LYNN ODEN DB 1904 PG III PB 338 PG 569	5 HATTERAS VILLAGE CIVIC ASSOCIATION INC. DB 974 PG 546 DB 1954 PG 41 DB 1994 PG 306 DB 125 PG 376
6 HATTERAS VILLAGE MEDICAL ASSOCIATES DB 130 PG 591	7 PALMATIER, LLC DB 2600 PG 903	8 SEE PROPERTY OWNER INFO (THIS SHEET)	9 JEFFREY LYNN ODEN, ET UX DB 1558 PG 70 PB 338 PG 569	10 CHRISTY D. KELLUM DB 1957 PG 308 PC H SLIDE 308	11 T. STOCKTON & ELIZABETH MIDGETT, ET UX DB 1884 PG 222 MB 4 PG 63

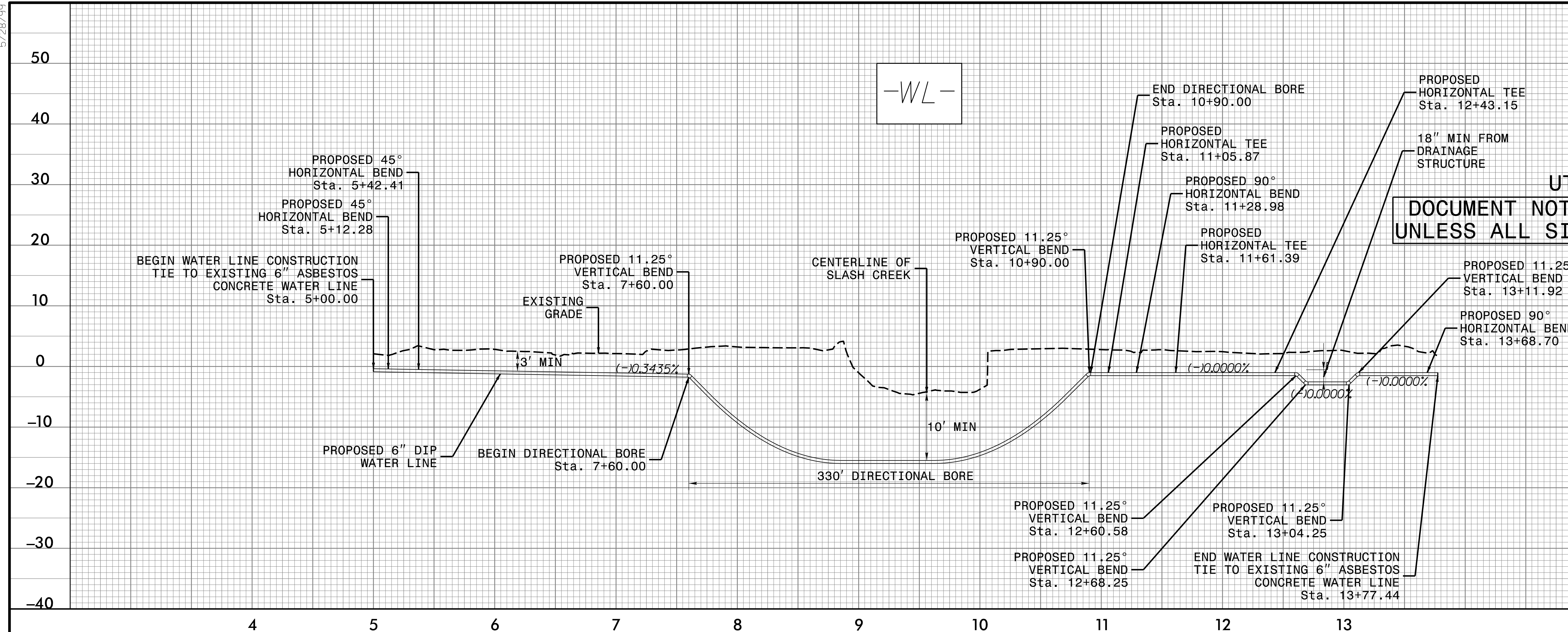
SCOTT T. CALDWELL AND WIFE, MARTHA F. CALDWELL, A ONE-HALF UNDIVIDED INTEREST, AS TENANTS BY THE ENTIRETY AND JOSEPH M. MIDGETT, JR., A ONE-HALF UNDIVIDED INTEREST, AS TENANTS IN COMMON  
DB 2295 PG 28

3/22/2024 11:44:44 UC04\_psh.dgn

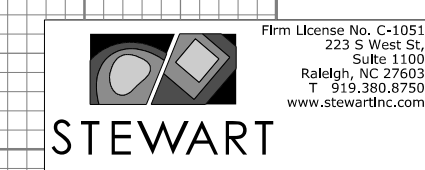


5/28/99

PROJECT REFERENCE NO.	SHEET NO.
B-5610	UC-5
DESIGNED BY: MSB	3/12/2024
DRAWN BY: MSB	
CHECKED BY: APY	
APPROVED BY: APY	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

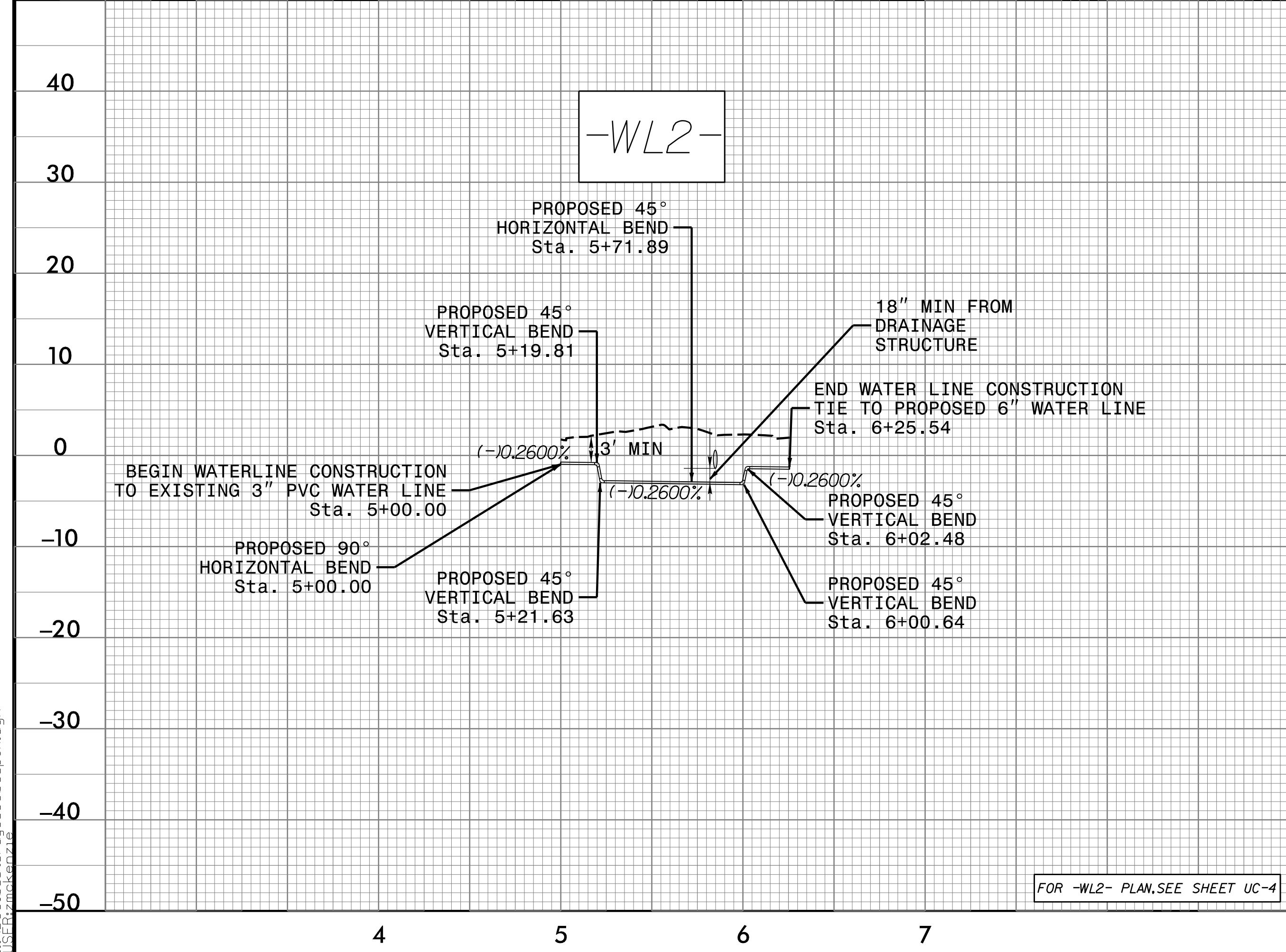


**UTILITY CONSTRUCTION**  
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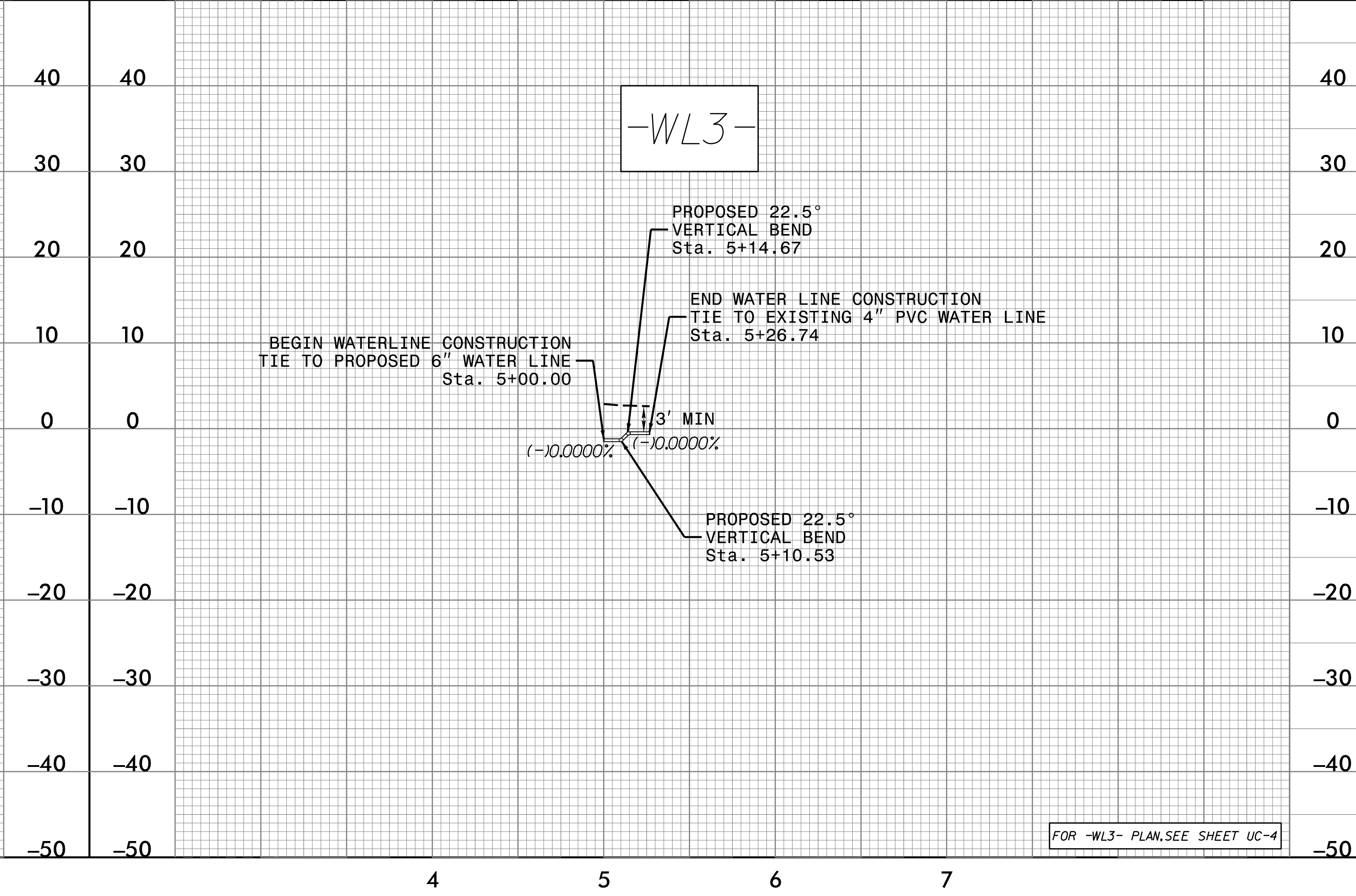


FOR -WL- PLAN, SEE SHEET UC-4

2/14/2023  
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FOR -WL2- PLAN, SEE SHEET UC-4



FOR -WL3- PLAN, SEE SHEET UC-4