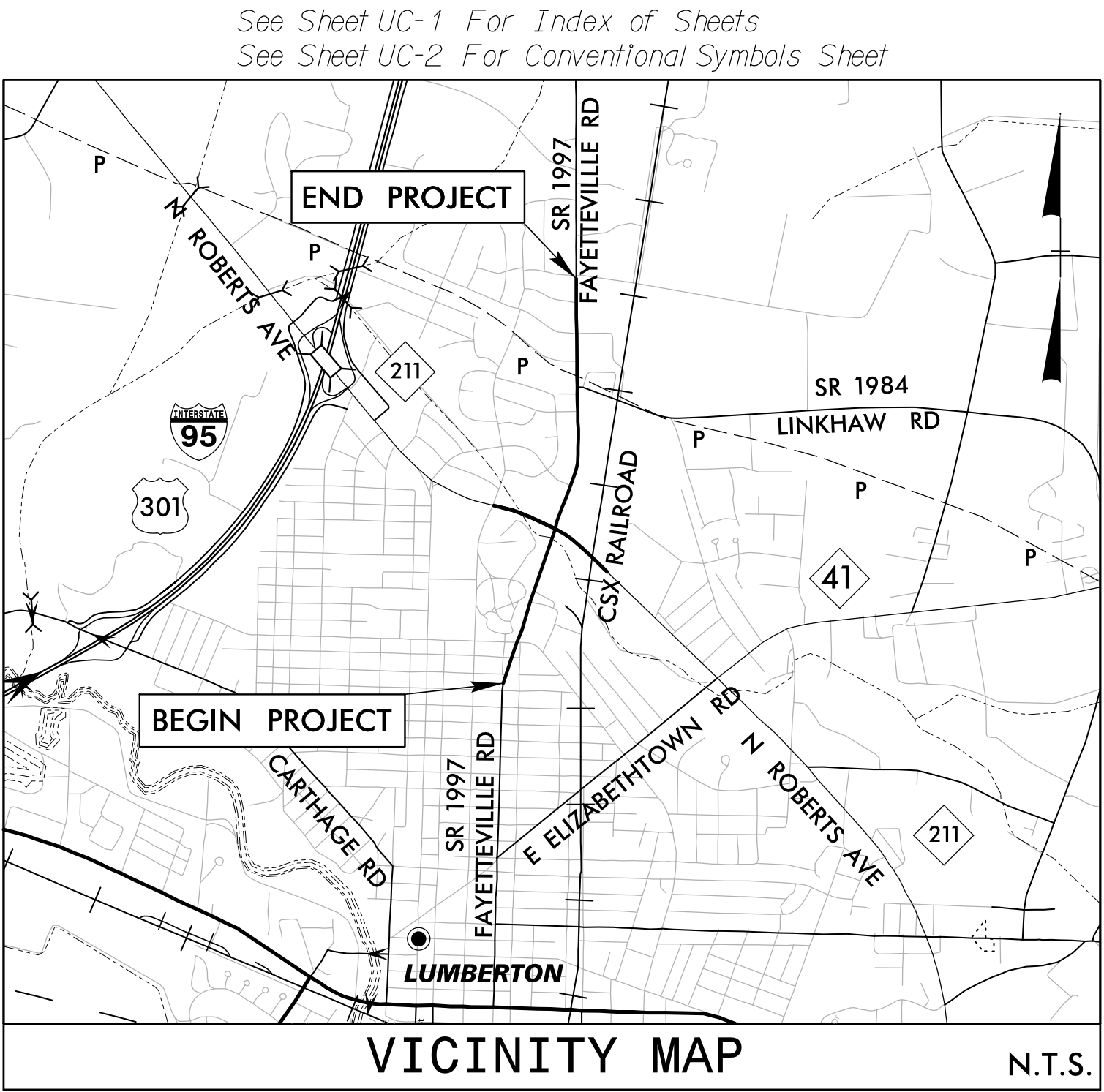


TIP PROJECT: U-5797



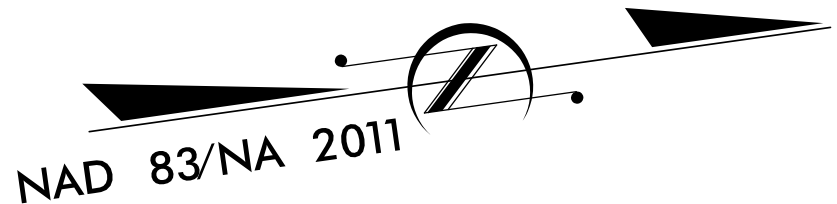
FINAL PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS
ROBESON COUNTY

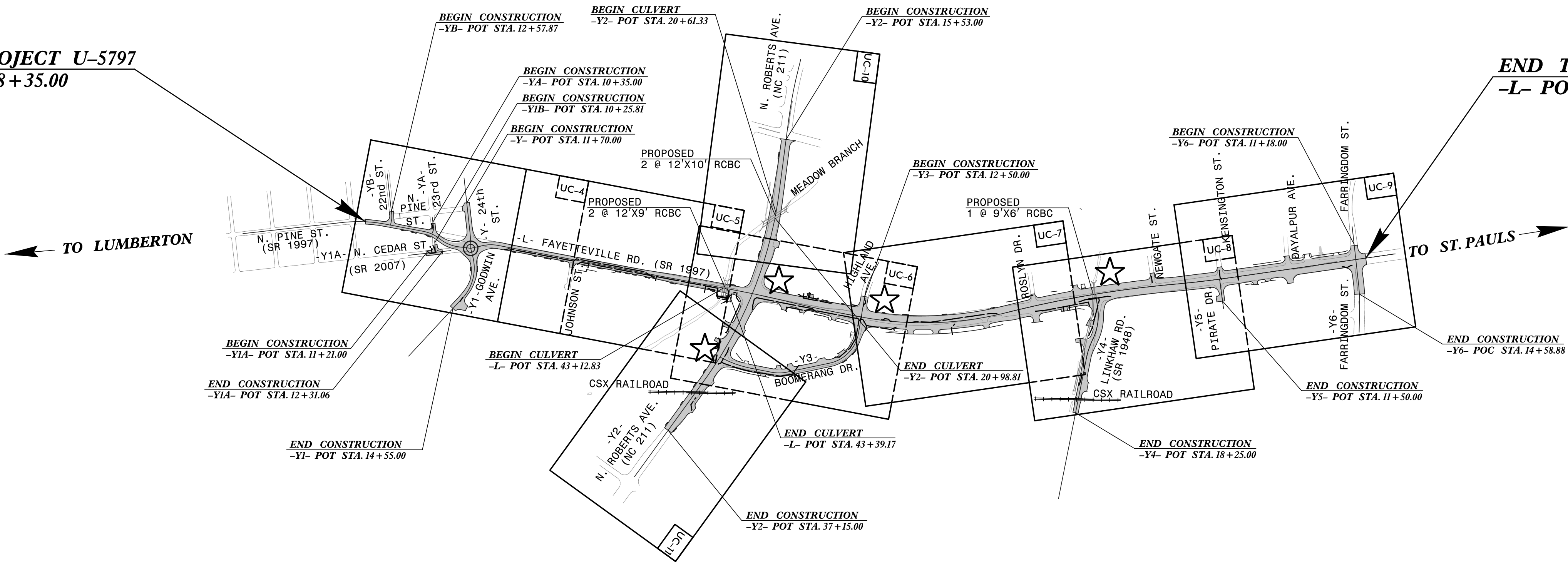
LOCATION: SR 1997 (FAYETTEVILLE ROAD) FROM FARRINGDOM STREET TO EAST 22ND STREET.

TYPE OF WORK: WATER LINE AND SANITARY SEWER RELOCATIONS

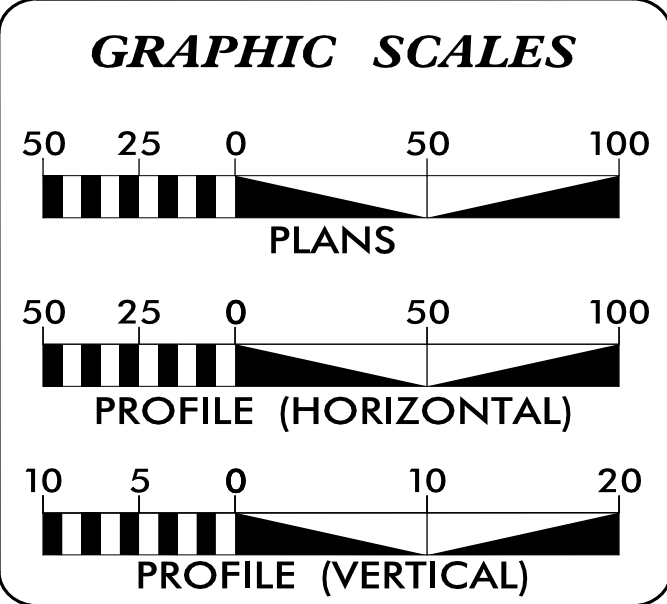


BEGIN TIP PROJECT U-5797
-L- POC STA. 18+35.00

END TIP PROJECT U-5797
-L- POT STA. 87+20.00



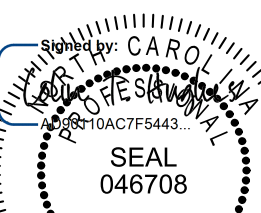
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



INDEX OF SHEETS	
SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A THRU UC-3B	DETAILS
UC-4 THRU UC-11	UTILITY CONSTRUCTION SHEETS
UC-12 THRU UC-16	PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT	
(A) WATER - CITY OF LUMBERTON	
(B) GRAVITY SEWER - CITY OF LUMBERTON	

PREPARED IN THE OFFICE OF	
	STV Engineers, Inc. 2151 Hawkins St., Suite 1400 Charlotte, NC 28203 NC License Number F-0991 (704) 372-1885 FAX: (704) 372-3393
COLIN HUGHES, PE	CONSULTANT CONTACT #1
ROBERT KRANTZ, PE	CONSULTANT CONTACT #2
-	CONSULTANT CONTACT #3

SEAL

1/29/2025

DIVISION OF HIGHWAYS UTILITIES UNIT	
	DIVISION 6 558 GILLESPIE ST FAYETTEVILLE, NC 28301
	EASTERN UTILITIES MANAGER
	UTILITIES REGIONAL ENGINEER
RICK HANDLIN	UTILITIES ENGINEER
LOUIS N. CANIAC	UTILITIES COORDINATOR

5/14/99

I:\29\2025
R:\Utilities\Engineering\UC\Proj\Sheet\U5797_ut_uc_sym_UC02_psh.dgn
Murner-S

REV: 2/1/2012

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	12" WL
11¼ Degree Bend	+
22½ Degree Bend	+
45 Degree Bend	+
90 Degree Bend	+
Plug	
Tee	
Cross	
Reducer	
Gate Valve	GV
Butterfly Valve	BV
Tapping Valve	TGV
Line Stop	LS
Line Stop with Bypass	LS/BP
Blow Off	BO
Fire Hydrant	PFH
Relocate Fire Hydrant	RFH
Remove Fire Hydrant	REM FH
Water Meter	PWM
Relocate Water Meter	RWM
Remove Water Meter	REM WM
Water Pump Station	PST(W)
RPZ Backflow Preventer	RPZ
DCV Backflow Preventer	PBFP
Relocate RPZ Backflow Preventer	RRPZ
Relocate DCV Backflow Preventer	RBFP

PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	12" SS
Force Main Sewer Line (Sized as Shown)	12" FSS
Manhole (Sized per Note)	
Sewer Pump Station	PST(SS)

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	TEL PED
Utility Line by Others (Type as Shown)	PROP. O/H POW. LINES
Trenchless Installation	12" TL INSTALL
Encasement by Open Cut	24" ENCAS. BY OC
Encasement	24" ENCASEMENT

Thrust Block	
Air Release Valve	AR
Utility Vault	UV
Concrete Pier	CP
Steel Pier	SP
Plan Note	NOTE
Pay Item Note	PAY ITEM

EXISTING UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Utility Pole	
Utility Pole with Base	
H-Frame Pole	
Power Transmission Line Tower	
Water Manhole	
Power Manhole	
Telephone Manhole	
Sanitary Sewer Manhole	
Hand Hole for Cable	
Power Transformer	
Telephone Pedestal	
CATV Pedestal	
Gas Valve	
Gas Meter	
Located Miscellaneous Utility Object	
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

*Underground Power Line	P
*Underground Telephone Cable	T
*Underground Telephone Conduit	TC
*Underground Fiber Optics Telephone Cable	T FO
*Underground TV Cable	TV
*Underground Fiber Optics TV Cable	TV FO
*Underground Gas Pipeline	G
Aboveground Gas Pipeline	A/G Gas
*Underground Water Line	W
Aboveground Water Line	A/G Water
*Underground Gravity Sanitary Sewer Line	SS
Aboveground Gravity Sanitary Sewer Line	A/G Sanitary Sewer
*Underground SS Forced Main Line	FSS
Underground Unknown Utility Line	UTL
SUE Test Hole	
Water Meter	
Water Valve	
Fire Hydrant	
Sanitary Sewer Cleanout	

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

GENERAL NOTES:

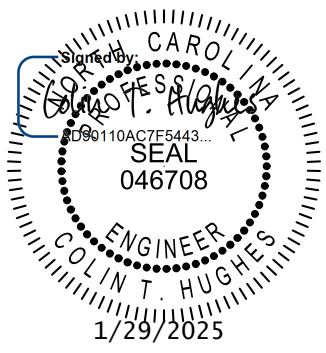
1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2024.
2. THE EXISTING UTILITIES BELONG TO THE CITY OF LUMBERTON.
3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF 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 ENVIRONMENTAL 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.

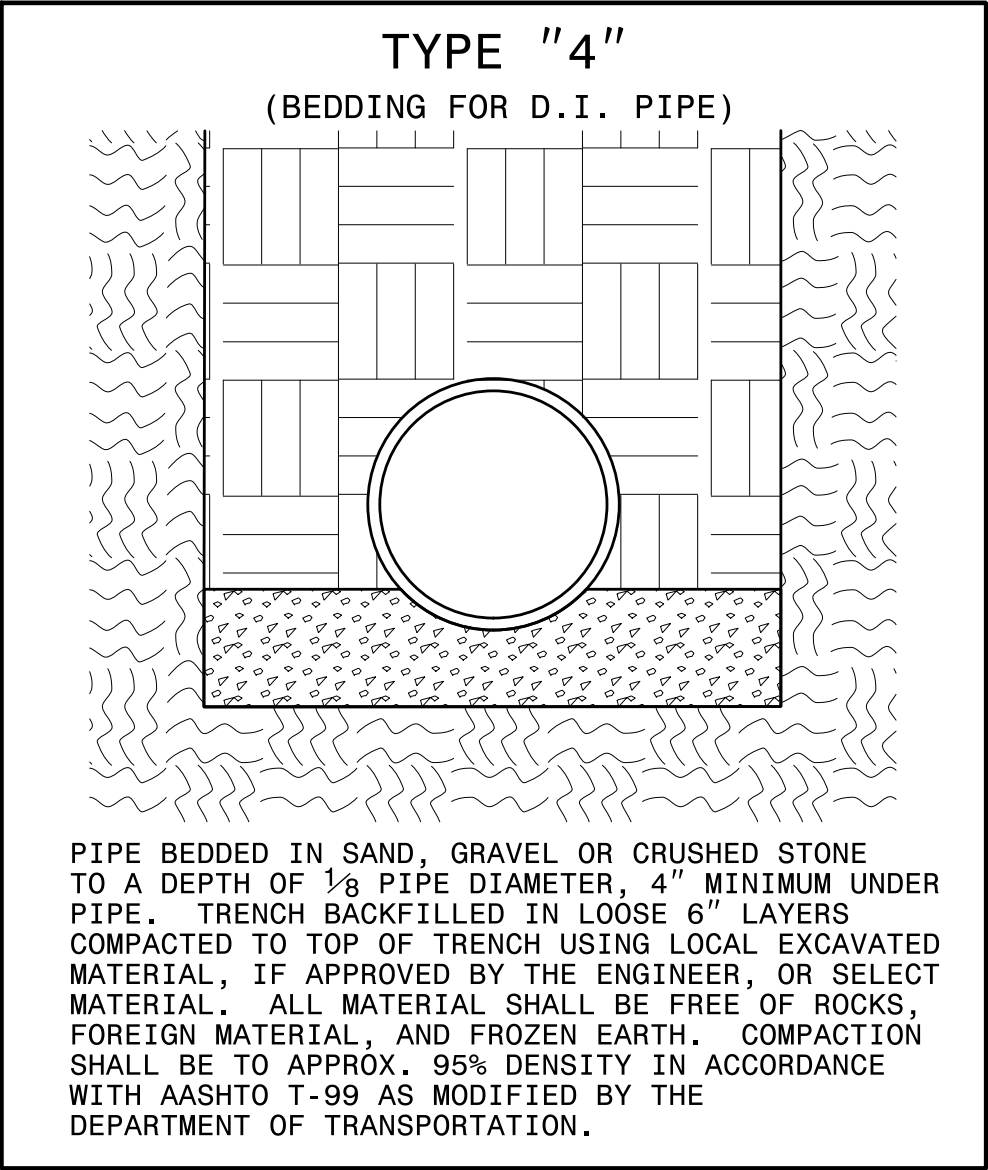
6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE OF MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR 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.

UTILITY CONSTRUCTION

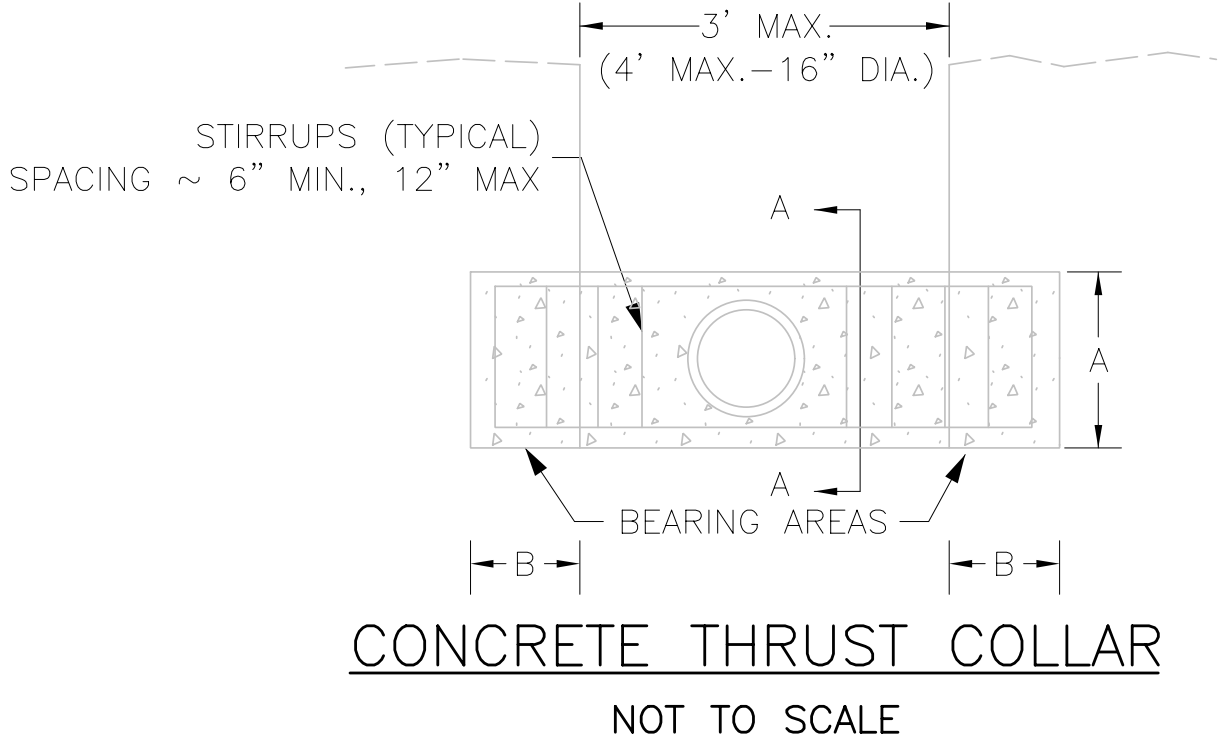
PROJECT SPECIFIC NOTES:

1. PROPOSED WATER LINES SHALL BE DIP PC350 UNLESS INDICATED OTHERWISE. PROPOSED SANITARY SEWER SHALL BE DIP PC350 UNLESS INDICATED OTHERWISE.
2. 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.
3. CONNECT TO AC PIPE USING APPROPRIATE AC TO PVC/DI COUPLING.
4. SEE SPECIAL PROVISIONS REGARDING REMOVAL AND DISPOSAL OF AC PIPE.
5. BACKFLOWS REQUIRED TO BE RELOCATED AND/OR INSTALLED UNDER THIS CONTRACT SHALL INCLUDE, BUT NOT BE LIMITED TO, DISCONNECTING, DESIGNING, PERMITTING, RELOCATING, INSTALLING AND/OR RE-CONNECTING OF THE BACKFLOWS AWAY FROM THE PROJECT LIMITS OR IMPACTED AREA(S). BACKFLOW WORK SHALL BE PERFORMED BY A CERTIFIED CROSS-CONNECTION CONTROL/BACKFLOW PREVENTER SYSTEM SPECIALIST/PLUMBER ACCEPTABLE TO THE UTILITY OWNER. THE COMPLETED WORK MUST MEET ALL LOCAL AND STATE ORDINANCES GOVERNING CROSS-CONNECTION CONTROL/BACKFLOW PREVENTER SYSTEMS. BACKFLOW PREVENTER SYSTEMS INSTALLED OR RELOCATED SHALL NOT BE CONSIDERED COMPLETE UNTIL CERTIFIED AND ACCEPTED BY THE UTILITY OWNER.

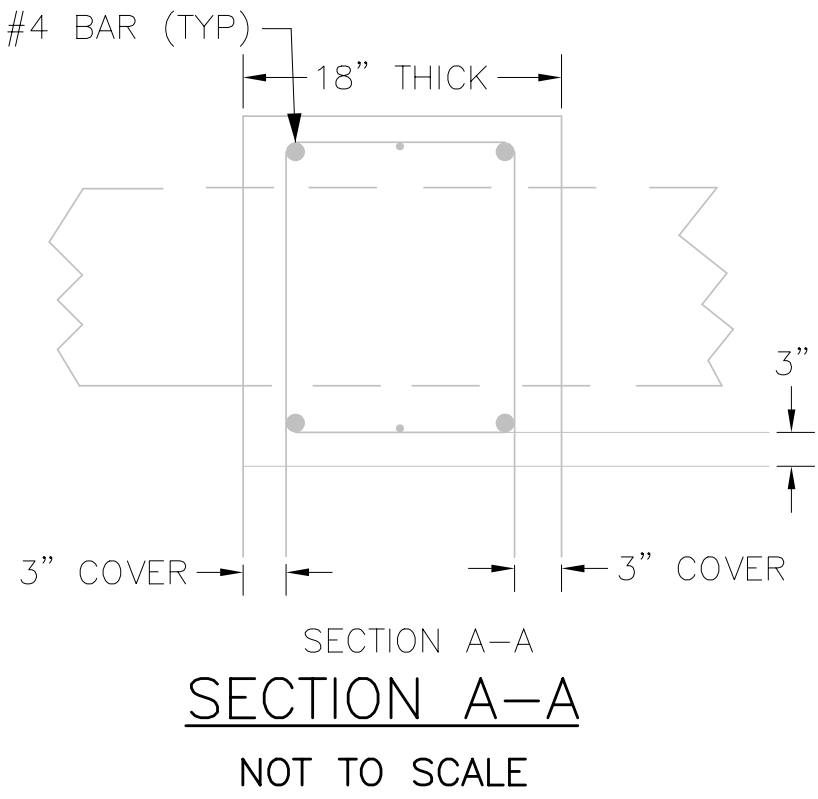
PROJECT REFERENCE NO.		SHEET NO.	
U-5797		UC-3	
DESIGNED BY: SHM			
DRAWN BY: SHM			
CHECKED BY: CTH			
APPROVED BY:			
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		UTILITY CONSTRUCTION PLANS ONLY	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			
UTILITY CONSTRUCTION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
 STV Engineers, Inc. 2151 Hawkins St., Suite 1400 Charlotte, NC 28203 NC License Number F-0991			



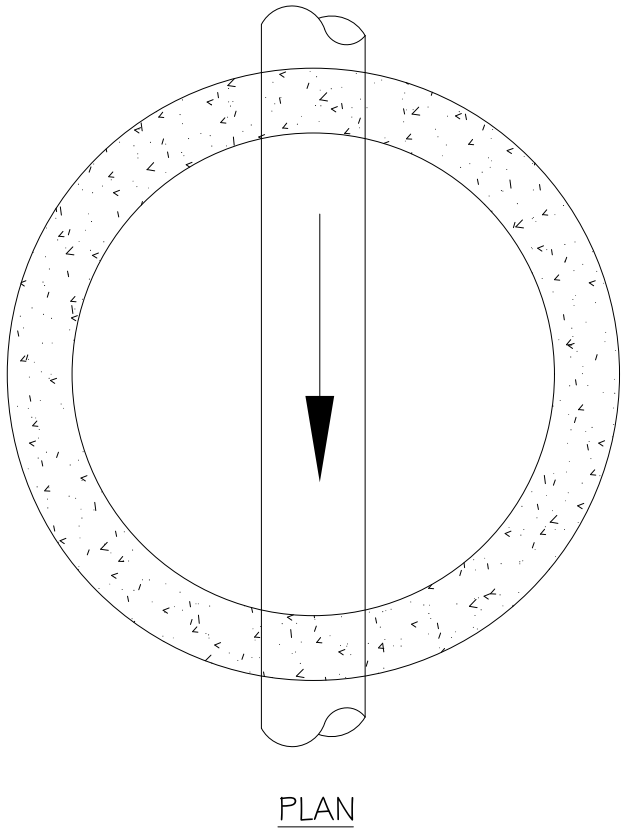
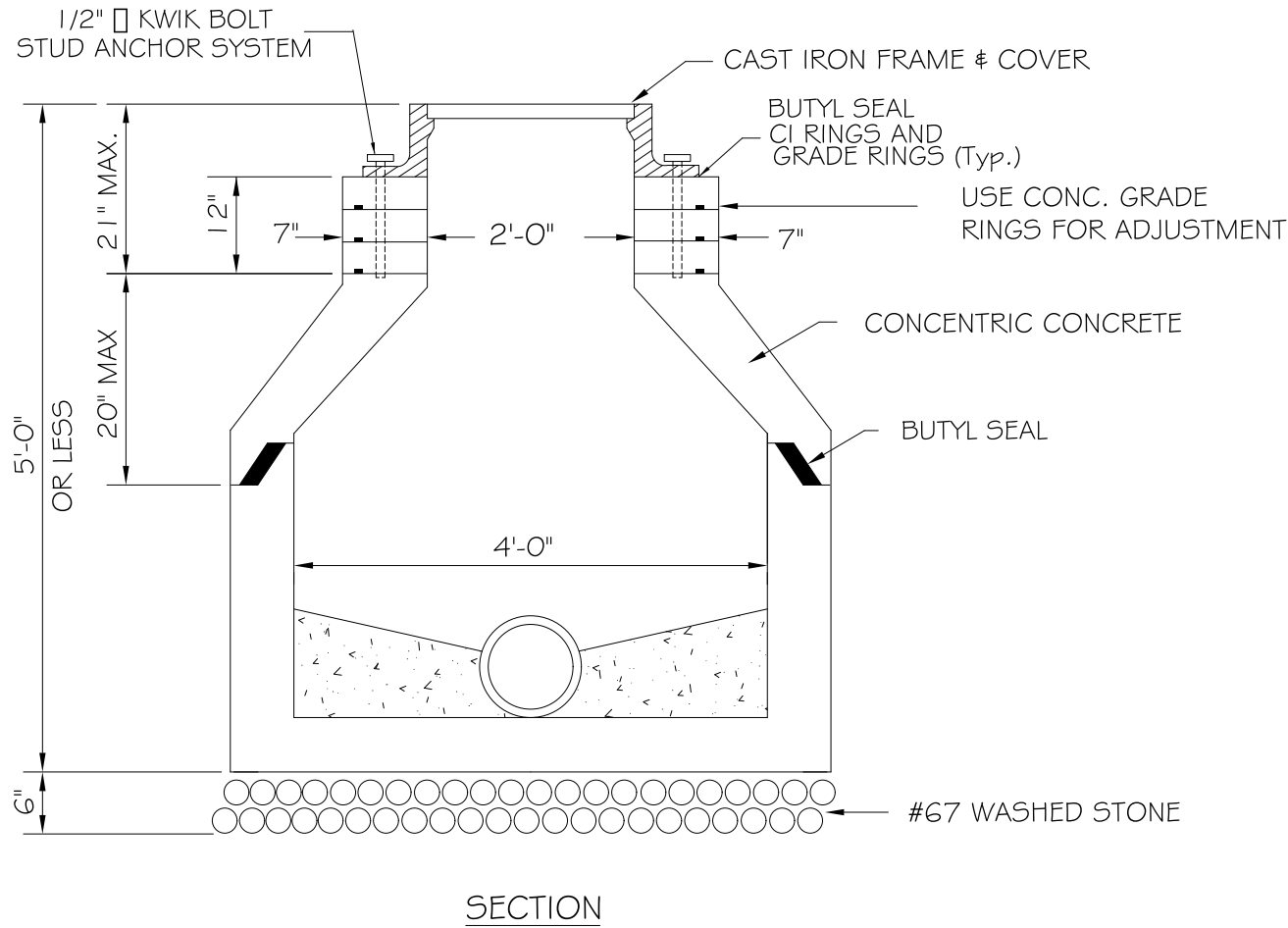
MAXIMUM TRENCH WIDTH AT TOP OF PIPE			
NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)	NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)
4	28	20	44
6	30	24	48
8	32	30	54
10	34	36	60
12	36	42	66
14	38	48	72
16	40	54	78
18	42		



SIZE	"A"	"B"
4"	36"	24"
6"	36"	24"
8"	36"	30"
10"	36"	48"
12"	48"	48"
16"	36"	60"



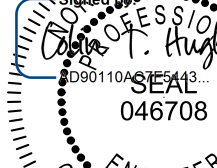
CONCRETE THRUST COLLAR



NOTES:

- MANHOLE TO CONFORM WITH ASTM C478 EXCEPT AS MODIFIED BELOW.
- WALL REINFORCING TO BE A MINIMUM OF 0.12 SQ. IN. PER LINEAR FOOT. EITHER TONGUE AND GROOVE JOINTS SHALL HAVE REINFORCING EQUAL IN AREA TO MINIMUM OF WALL SECTION.
- ALL JOINTS SHALL CONFORM WITH ASTM C443.
- ALL PIPE OPENINGS TO BE NO GREATER THAN 3" LARGER THAN O.D. OF PIPE AND ADDITIONALLY REINFORCED WITH A MINIMUM OF 0.20 SQ. IN. OF STEEL AT 90 DEGREES, PIPE TO BE CENTERED IN OPENINGS.
- ALL SURFACES SHALL BE SMOOTH EVEN TEXTURED WITH A MINIMUM OF HONEYCOMB, FINS AND OTHER IMPERFECTIONS.
- MANHOLE BASE SHALL BE 3600 P.S.I. CONCRETE PLACED AGAINST SHAPED BANKS IN LIEU OF FORMS.
- CARE MUST BE TAKEN TO FORM A SMOOTH FINISHED TROUGH FROM ENTRANCE PIPES TO EXIT PIPE, AND IN CURVED MANHOLES THE TROUGH MUST BE A SMOOTH CIRCULAR ARC TANGENT TO THE INSIDE WALLS OF THE PIPES AT THEIR ENDS.
- ALL MANHOLE RINGS SHALL BE BOLTED INTO MANHOLE THRU CONCRETE GRADE RING WITH 1/2" DIAMETER KWIK BOLT STUD ANCHOR SYSTEM.
- MANHOLE GRADE SETTING SHALL BE AS FOLLOWS:
 - FLUSH WITH GRADE IN PAVED AREAS
 - 0.10' ABOVE GRADE IN MOWED PLAZA AREAS WITHIN OR ADJACENT TO STREET RIGHT-OF-WAY.
 - 2.0' ABOVE GRADE IN CROSS-COUNTRY UTILITY RIGHTS-OF-WAY.
 - A HEIGHT SPECIFIED BY THE WATER RESOURCES ENGINEER.
- PENETRATING LIFTING HOLES SHALL BE PLUGGED WITH EXPANSION GROUT.

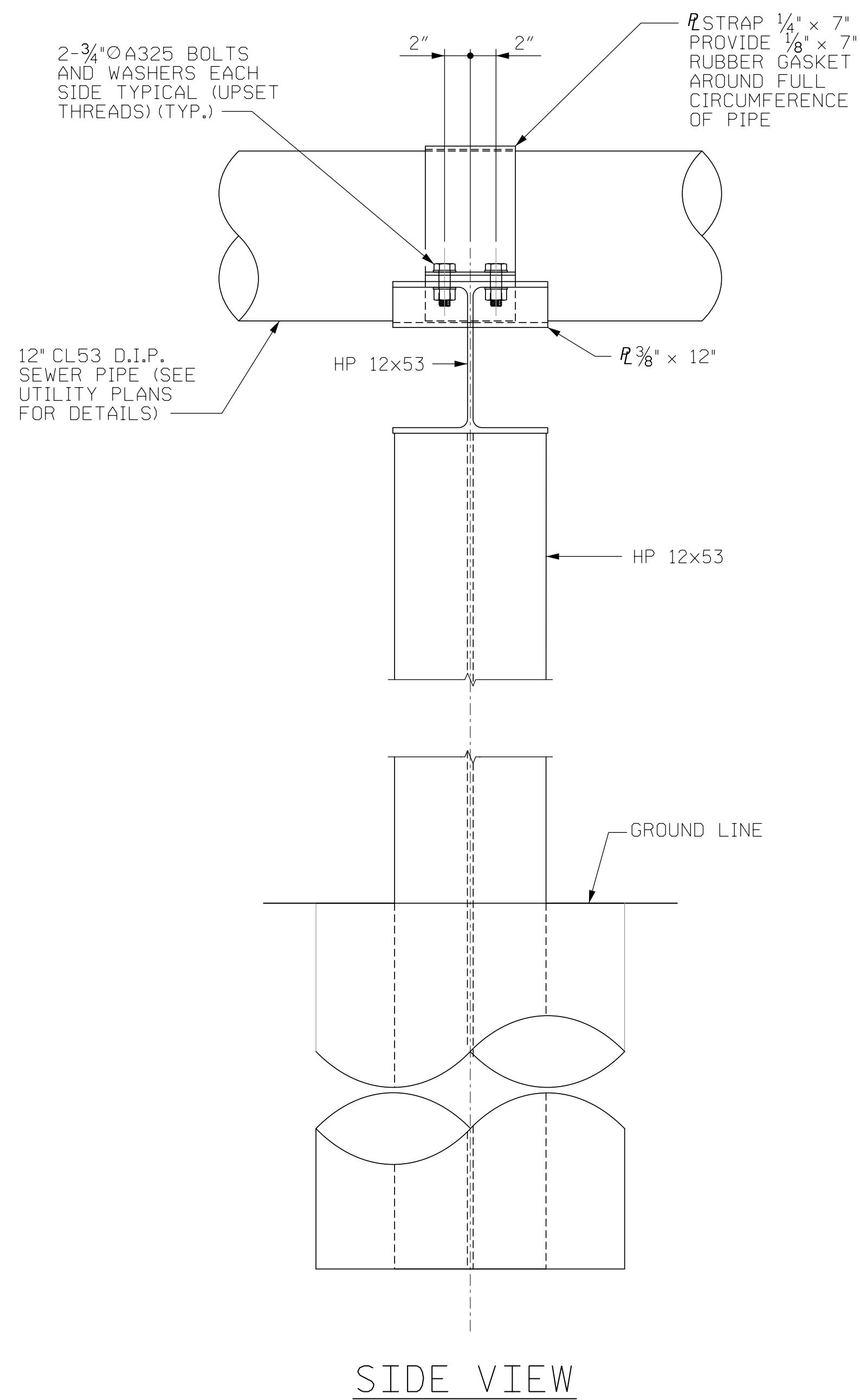
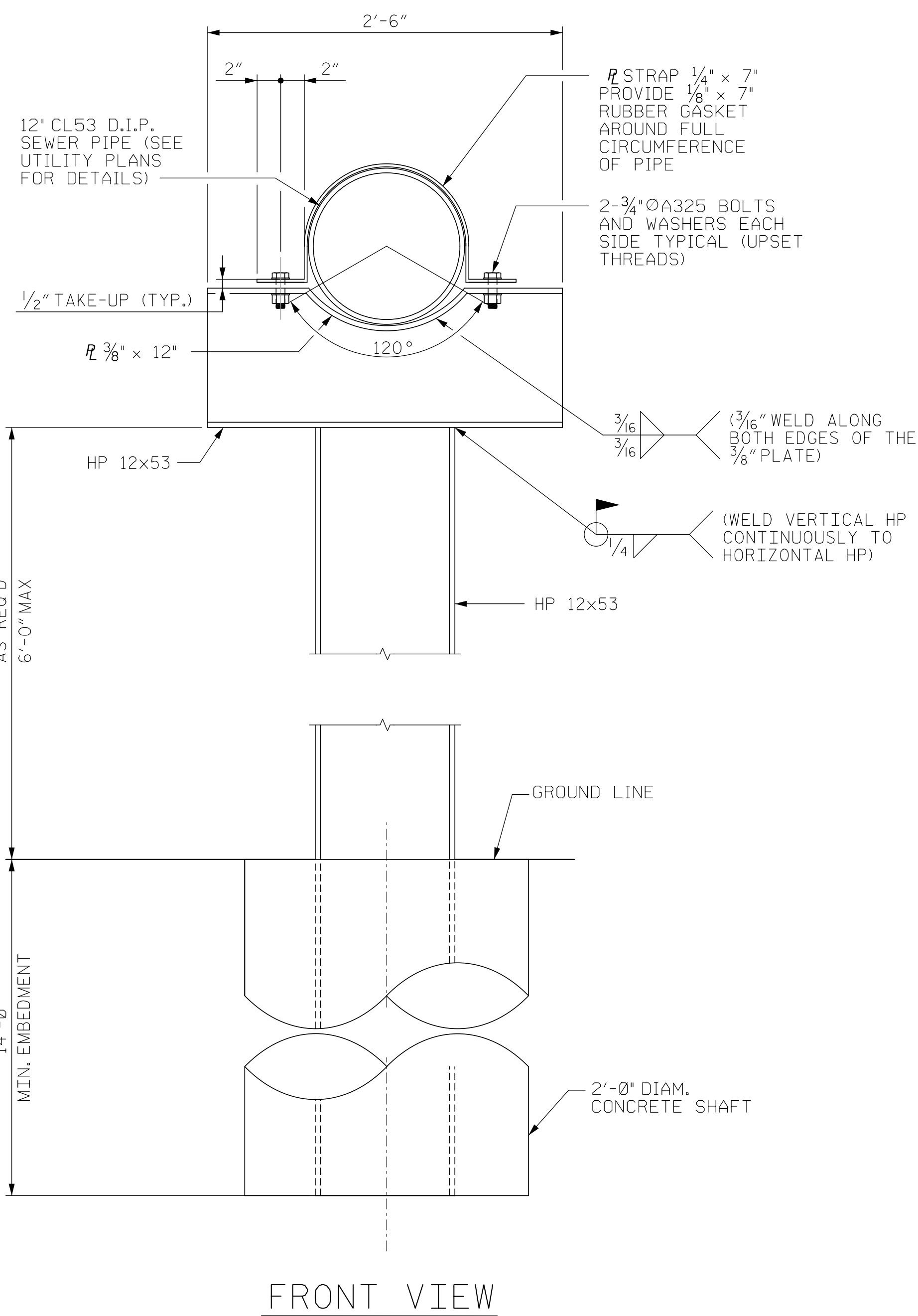
SHORT MANHOLE DETAIL

PROJECT REFERENCE NO.		SHEET NO.
U-5797		UC-3A
DESIGNED BY: SHM		UTILITY CONSTRUCTION PLANS ONLY
DRAWN BY: SHM		
CHECKED BY: CTH		
APPROVED BY:		
REVISED:		
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		

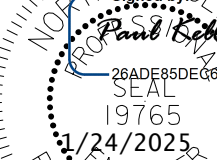
UTILITY CONSTRUCTION

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

STV  **STV Engineers, Inc.**
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991



AERIAL SEWER SUPPORT

PROJECT REFERENCE NO.		SHEET NO.	
U-5797		UC-3B	
DESIGNED BY: MPS			
DRAWN BY: AAR			
CHECKED BY: PEK			
APPROVED BY: PEK			
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		UTILITY CONSTRUCTION PLANS ONLY	
UTILITIES ENGINEERING SEC.			
PHONE: (919) 707-6690 FAX: (919) 250-4151			

UTILITY CONSTRUCTION

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



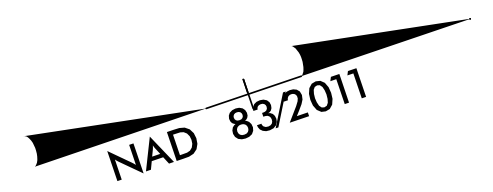
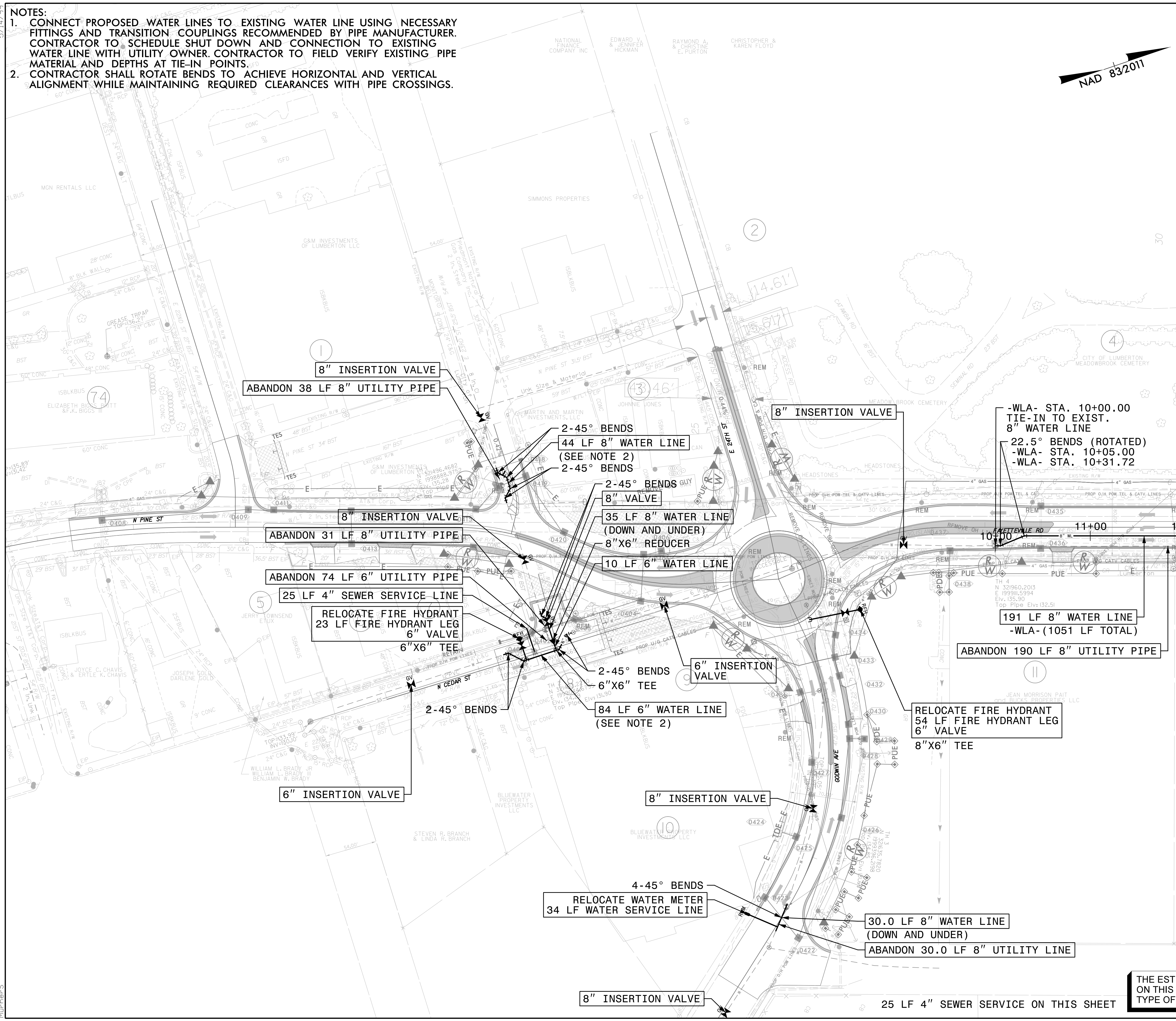
NOTES:

1. FOR AERIAL SEWER SUPPORT LOCATIONS, SEE SHEET UC-6A.
2. STEEL H-PILES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A992 GRADE 50.
3. ALL PILE LOCATIONS SHALL BE STAKED IN THE FIELD.
4. ALL WELDS SHALL BE IN ACCORDANCE WITH THE CURRENT AWS AND BE PERFORMED BY A CERTIFIED WELDER.
5. ALL STEEL MEMBERS AND STRAPS SHALL BE POWER TOOL CLEANED TO A MIN. OF SSPC-SP3 AND HOT-DIP GALVANIZED PER ASTM A123.
6. BOLTS AND WASHERS WILL BE HOT-DIP GALVANIZED PER ASTM A153. ALL WELDS SHALL BE GROUND AND COATED WITH 2 COATS OF A COLD APPLIED GALVANIZING PAINT.
7. BOLTS SHALL BE ASTM A325 WITH CORRESPONDING NUTS AND WASHERS.
8. ALL WELDS SHALL BE GROUND AND COATED WITH 2 COATS OF A COLD APPLIED GALVANIZING PAINT.
9. HOLES IN THE HP MEMBER FOR THE BOLTS AND POST-INSTALLED ANCHORS SHALL BE SIZED $\frac{1}{16}$ " LARGER THAN THE DIAMETER OF THE ITEM GOING THROUGH THEM.
10. THE CONTRACTOR SHALL VERIFY THE SEWER PIPE ELEVATION AND ADJUST AERIAL SEWER SUPPORT ELEVATION AS NECESSARY TO MATCH SEWER PIPE ELEVATION.

FOUNDATION NOTES:

1. PILES ARE REQUIRED FOR THE AERIAL SEWER SUPPORTS.
2. EXCAVATE HOLES AT PILE LOCATIONS A MINIMUM OF 14 FEET INTO EXISTING SOIL.
3. FOR DRILLED-IN PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
4. CONCRETE SHALL BE CLASS A CONCRETE PER THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

5/14/99
1/29/2025
R:\Utilities\Engineering\UC\Proj\Sheet\U5797.ut.uc.psh04.dgn
Murren-S



PROJECT REFERENCE NO.		SHEET NO.	
U-5797		UC-4	
DESIGNED BY: SHM			
DRAWN BY: SHM			
CHECKED BY: CTH			
APPROVED BY:			
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

STV STV Engineers, Inc.
 2151 Hawkins St., Suite 1400
 Charlotte, NC 28203
 NC License Number F-0991

SEE SHEET UC-14 FOR -WLA- PROFILE

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2360 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

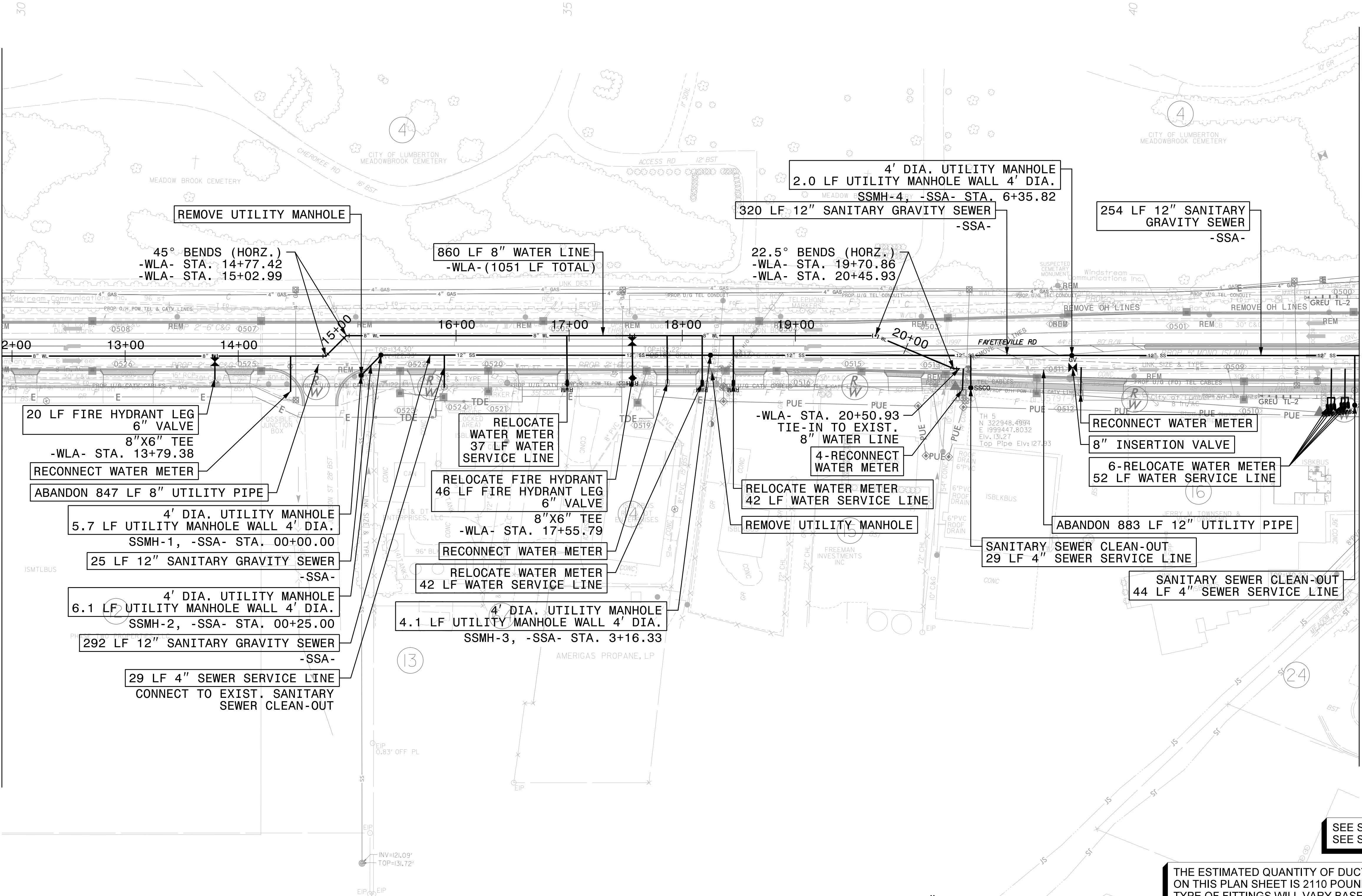
25 LF 4" SEWER SERVICE ON THIS SHEET

5/14/99

NOTES:
1. CONNECT PROPOSED WATER LINES TO EXISTING WATER LINE USING NECESSARY FITTINGS AND TRANSITION COUPLINGS RECOMMENDED BY PIPE MANUFACTURER. CONTRACTOR TO SCHEDULE SHUT DOWN AND CONNECTION TO EXISTING WATER LINE WITH UTILITY OWNER. CONTRACTOR TO FIELD VERIFY EXISTING PIPE MATERIAL AND DEPTHS AT TIE-IN POINTS.

1/29/2025
R:\Utilities\Engineering\UC\Proj\Sheet\U5797.ut.uc.psh05.dgn
Murner

MATCHLINE -L- STA 30+00 SEE SHEET UC-4

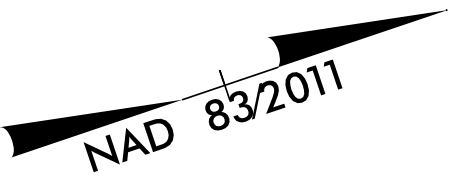


SEE SHEET UC-14 FOR -WLA- PROFILE
SEE SHEET UC-12 FOR -SSA- PROFILE

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2110 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

102 LF 4" SEWER SERVICE ON THIS SHEET

MATCHLINE -L- STA 42+00 SEE SHEET UC-6



PROJECT REFERENCE NO.		SHEET NO.	
U-5797		UC-5	
DESIGNED BY: SHM			
DRAWN BY: SHM			
CHECKED BY: CTH			
APPROVED BY:			
REVISED:		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

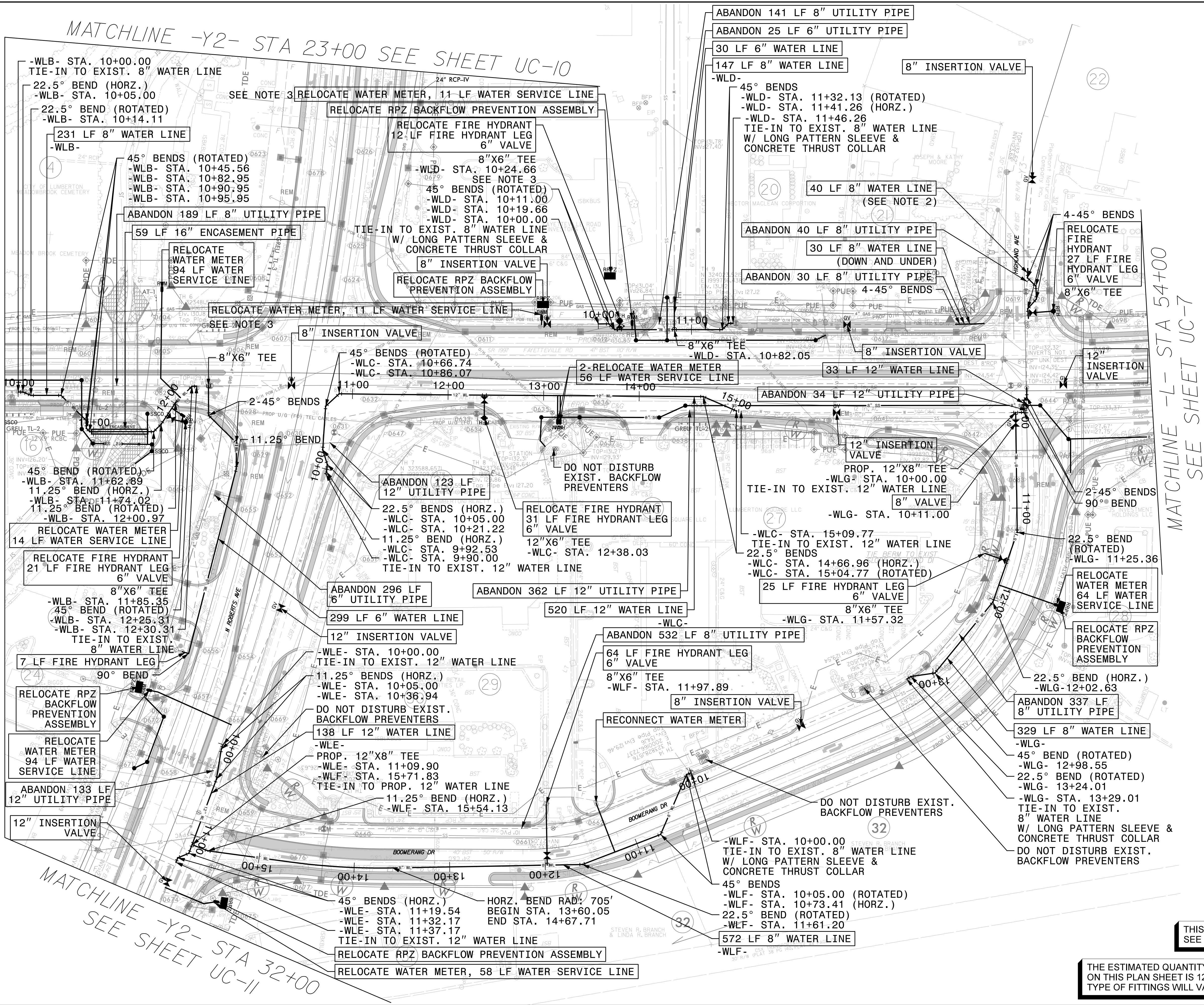
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

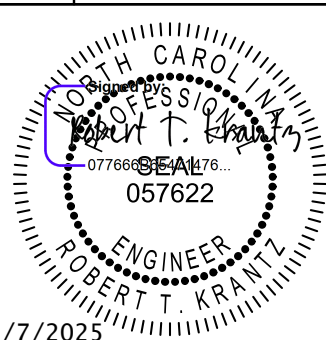
stv STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

5/14/99

MATCHLINE -L- STA 42+00 SEE SHEET UC-5

5/1/2025
R:\Utilities\Engineering\UC\Proj\Sheet\U5797_ut.uc_psh06.dgn
Murner-S



PROJECT REFERENCE NO.		SHEET NO.	
U-5797		UC-6	
DESIGNED BY: SHM			
DRAWN BY: SHM			
CHECKED BY: CTH			
APPROVED BY:			
REVISED:		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	

5/7/2025

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

 STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

- NOTES:
- CONNECT PROPOSED WATER LINES TO EXISTING WATER LINE USING NECESSARY FITTINGS AND TRANSITION COUPLINGS RECOMMENDED BY PIPE MANUFACTURER. CONTRACTOR TO SCHEDULE SHUT DOWN AND CONNECTION TO EXISTING WATER LINE WITH UTILITY OWNER. CONTRACTOR TO FIELD VERIFY EXISTING PIPE MATERIAL AND DEPTHS AT TIE-IN POINTS.
 - CONTRACTOR SHALL ROTATE BENDS TO ACHIEVE HORIZONTAL AND VERTICAL ALIGNMENT WHILE MAINTAINING REQUIRED CLEARANCES WITH PIPE CROSSINGS.
 - CONTRACTOR TO RELOCATE THESE WATER METERS AND FIRE HYDRANT BETWEEN PROP. SIDEWALK AND PARKING LOT BACK OF CURB.

SEE SHEET UC-14 FOR -WLB- PROFILE
SEE SHEET UC-14 FOR -WLC- PROFILE
SEE SHEET UC-15 FOR -WLD- PROFILE
SEE SHEET UC-15 FOR -WLE- PROFILE
SEE SHEET UC-15 FOR -WLF- PROFILE
SEE SHEET UC-15 FOR -WLG- PROFILE

THIS SHEET HAS WATER RELOCATIONS ONLY.
SEE UC-6A FOR SEWER RELOCATIONS.

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 12415 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

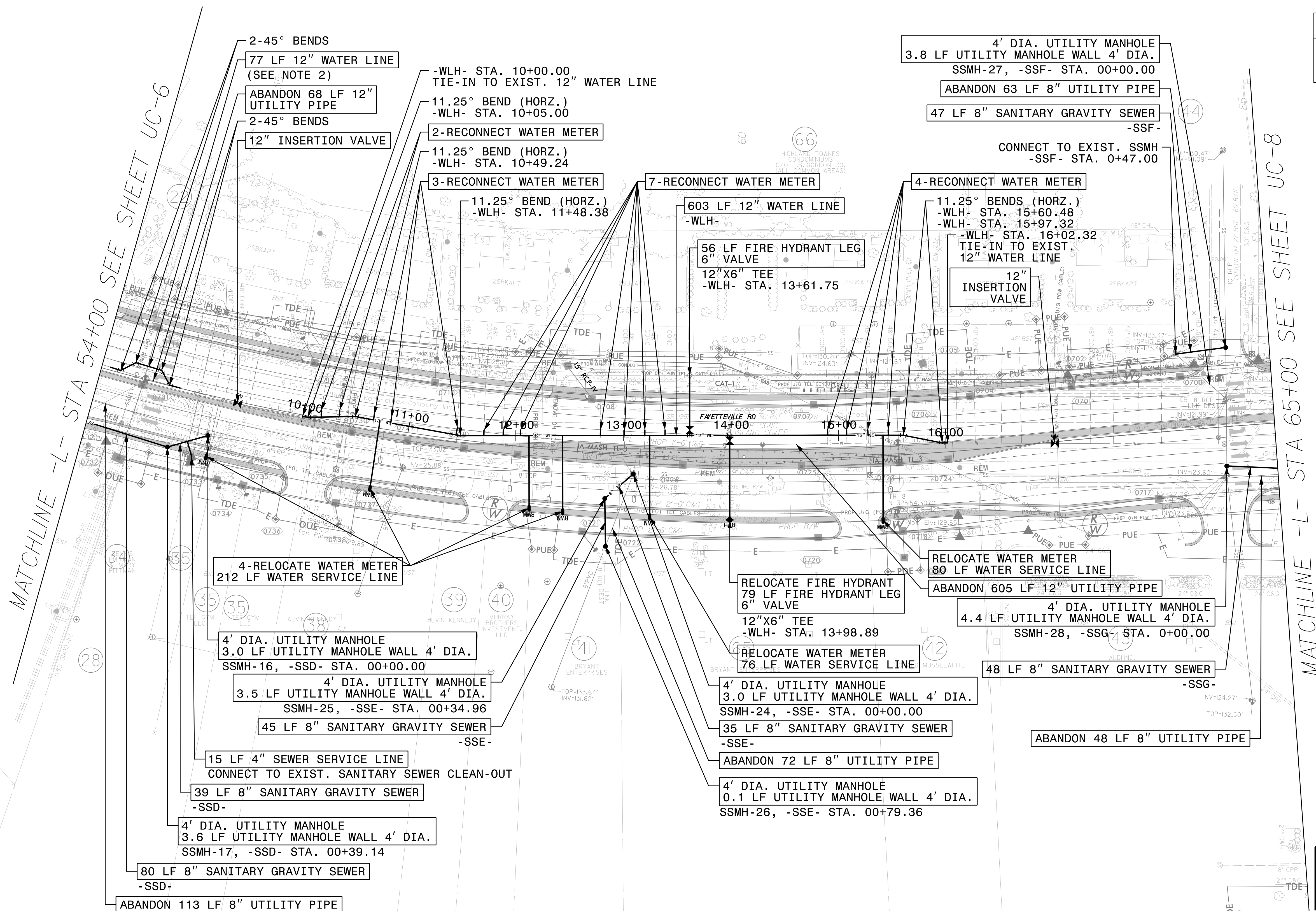
THIS SHEET HAS SEWER RELOCATIONS ONLY.
SEE UC-6 FOR WATER RELOCATIONS.

THIS SHEET HAS SEWER RELOCATIONS ONLY.
SEE UC-6 FOR WATER RELOCATIONS.

THIS SHEET HAS SEWER RELOCATIONS ONLY.
SEE UC-6 FOR WATER RELOCATIONS.

THIS SHEET HAS SEWER RELOCATIONS ONLY.
SEE UC-6 FOR WATER RELOCATIONS.

- NOTES:
1. CONNECT PROPOSED WATER LINES TO EXISTING WATER LINE USING NECESSARY FITTINGS AND TRANSITION COUPLINGS RECOMMENDED BY PIPE MANUFACTURER. CONTRACTOR TO SCHEDULE SHUT DOWN AND CONNECTION TO EXISTING WATER LINE WITH UTILITY OWNER. CONTRACTOR TO FIELD VERIFY EXISTING PIPE MATERIAL AND DEPTHS AT TIE-IN POINTS.
 2. CONTRACTOR SHALL ROTATE BENDS TO ACHIEVE HORIZONTAL AND VERTICAL ALIGNMENT WHILE MAINTAINING REQUIRED CLEARANCES WITH PIPE CROSSINGS.



SEE SHEET UC-16 FOR -WLH- PROFILE
SEE SHEET UC-13 FOR -SSD- PROFILE
SEE SHEET UC-13 FOR -SSE- PROFILE
SEE SHEET UC-13 FOR -SSF- PROFILE
SEE SHEET UC-13 FOR -SSG- PROFILE

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 3930 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

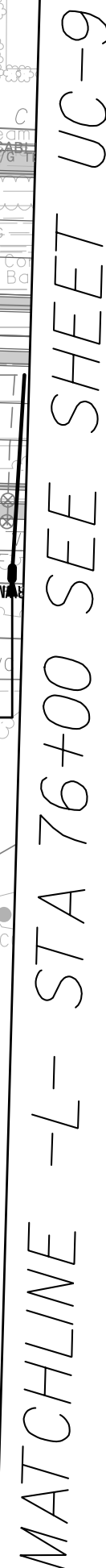
PROJECT REFERENCE NO.		SHEET NO.	
U-5797		UC-7	
DESIGNED BY:	SHM		UTILITIES CONSTRUCTION PLANS ONLY
DRAWN BY:	SHM		
CHECKED BY:	CTH		
APPROVED BY:			
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION			
UTILITIES ENGINEERING SEC. PHONE: (919) 777-6690 FAX: (919) 250-4151			

UTILITY CONSTRUCTION

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



STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991



1. CONNECT PROPOSED WATER LINES TO EXISTING WATER LINE USING NECESSARY FITTINGS AND TRANSITION COUPLINGS RECOMMENDED BY PIPE MANUFACTURER. CONTRACTOR TO SCHEDULE SHUT DOWN AND CONNECTION TO EXISTING WATER LINE WITH UTILITY OWNER. CONTRACTOR TO FIELD VERIFY EXISTING PIPE MATERIAL AND DEPTHS AT TIE-IN POINTS.
2. CONTRACTOR SHALL ROTATE BENDS TO ACHIEVE HORIZONTAL AND VERTICAL ALIGNMENT WHILE MAINTAINING REQUIRED CLEARANCES WITH PIPE CROSSINGS.

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS
ON THIS PLAN SHEET IS 3605 POUNDS. THE ACTUAL QUANTITY AND
TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

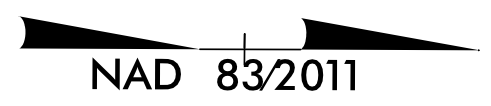
64 LF 4" SEWER SERVICE ON THIS SHEET

5/14/99

1/29/2025
R:\Utilities\Engineering\UC\Proj\Sheet\U5797.ut.uc.psh03.dgn
Murner

NOTES:

1. CONNECT PROPOSED WATER LINES TO EXISTING WATER LINE USING NECESSARY FITTINGS AND TRANSITION COUPLINGS RECOMMENDED BY PIPE MANUFACTURER. CONTRACTOR TO SCHEDULE SHUT DOWN AND CONNECTION TO EXISTING WATER LINE WITH UTILITY OWNER. CONTRACTOR TO FIELD VERIFY EXISTING PIPE MATERIAL AND DEPTHS AT TIE-IN POINTS.
2. CONTRACTOR SHALL ROTATE BENDS TO ACHIEVE HORIZONTAL AND VERTICAL ALIGNMENT WHILE MAINTAINING REQUIRED CLEARANCES WITH PIPE CROSSINGS.



PROJECT REFERENCE NO.		SHEET NO.
U-5797		UC-9
DESIGNED BY:	SHM	
DRAWN BY:	SHM	
CHECKED BY:	CTH	
APPROVED BY:		
REVISED:		
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY

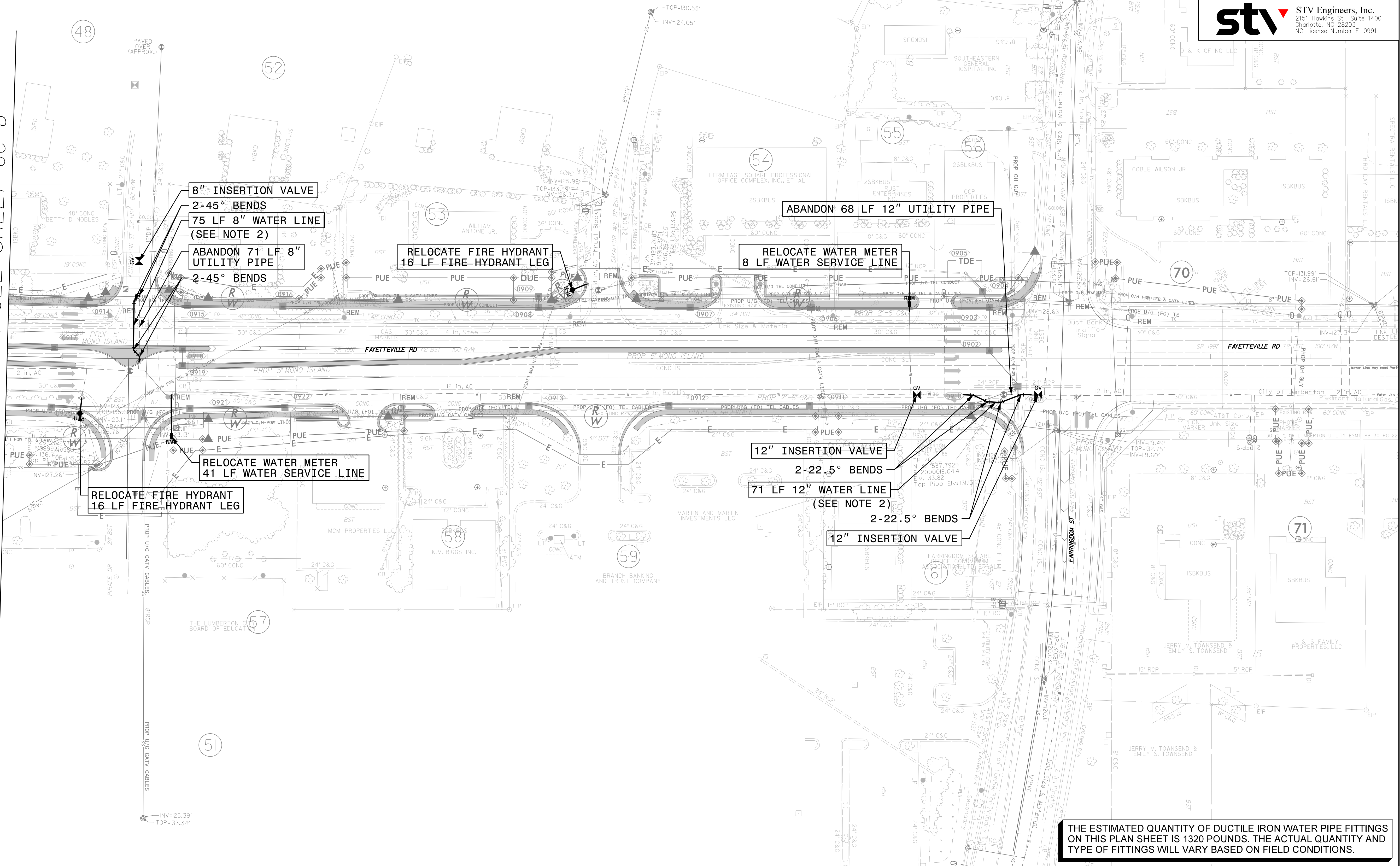
UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

MATCHLINE -L- STA 76+00 SEE SHEET UC-8



THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1320 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

R:\Utilities
Murners

1. NO WATER OR SEWER RELOCATIONS ON THIS SHEET

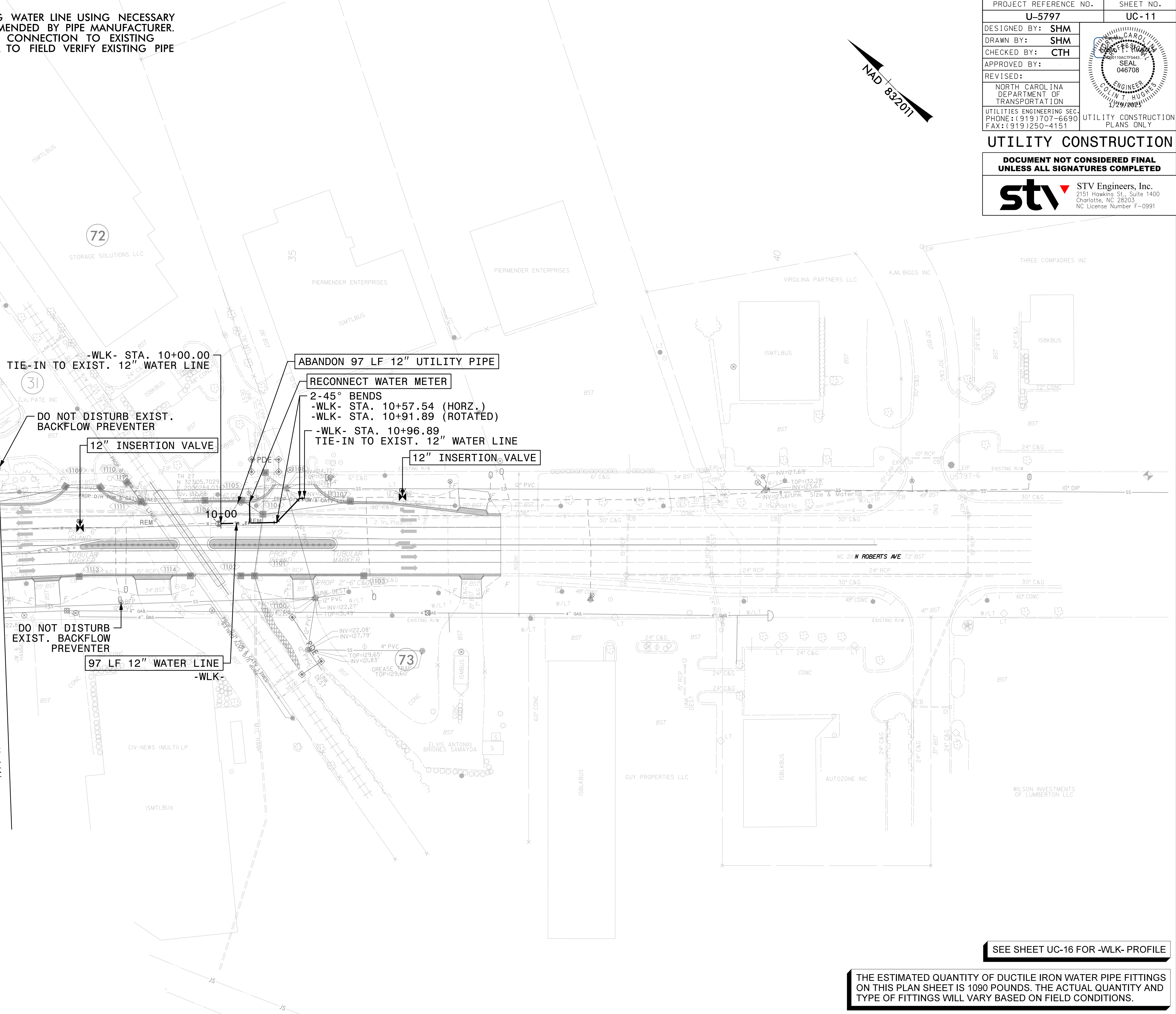
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

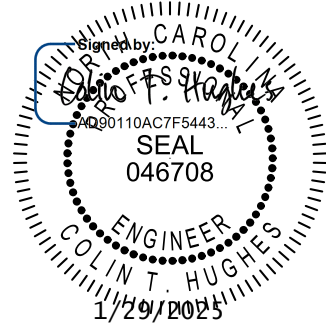


MATCHLINE -Y2- STA 23+00 SEE SHEET UC-6

NOTES:
1. CONNECT PROPOSED WATER LINES TO EXISTING WATER LINE USING NECESSARY FITTINGS AND TRANSITION COUPLINGS RECOMMENDED BY PIPE MANUFACTURER. CONTRACTOR TO SCHEDULE SHUT DOWN AND CONNECTION TO EXISTING WATER LINE WITH UTILITY OWNER. CONTRACTOR TO FIELD VERIFY EXISTING PIPE MATERIAL AND DEPTHS AT TIE-IN POINTS.

MATCHLINE -Y2- STA 32+00 SEE SHEET UC-6



PROJECT REFERENCE NO.		SHEET NO.
U-5797		UC- 11
DESIGNED BY:	SHM	
DRAWN BY:	SHM	
CHECKED BY:	CTH	
APPROVED BY:		
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

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

SEE SHEET UC-16 FOR -WLK- PROFILE

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1090 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

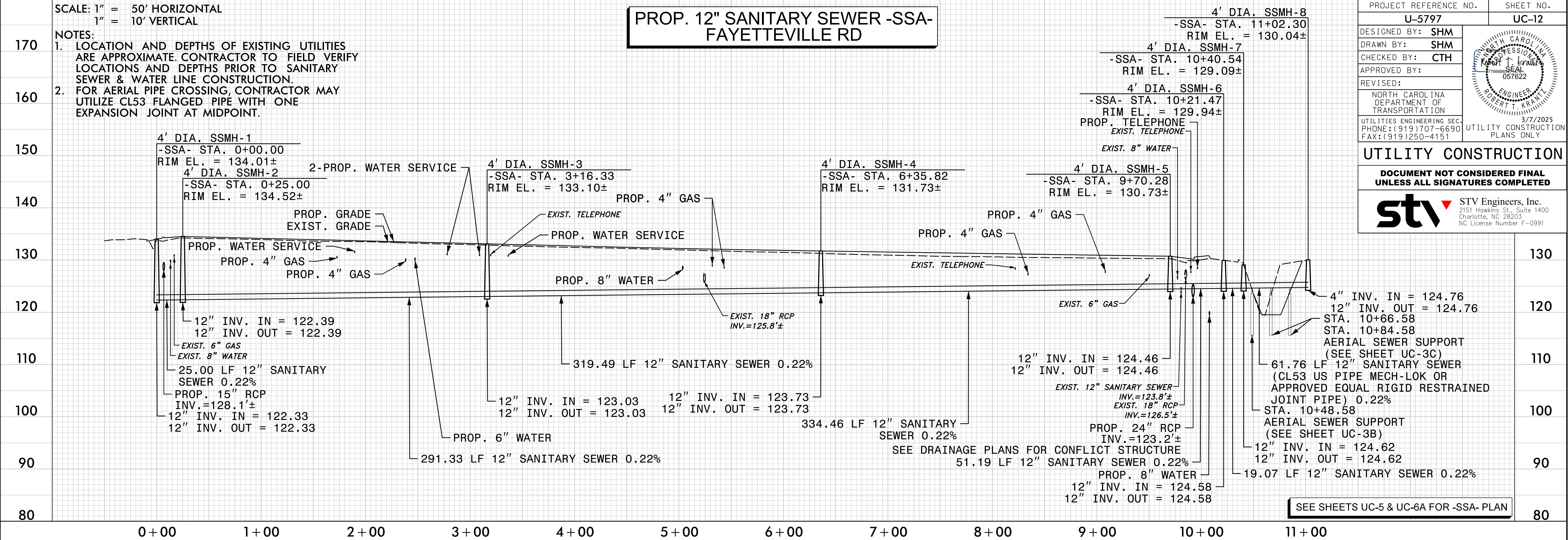
5/28/99

SCALE: 1" = 50' HORIZONTAL
1" = 10' VERTICAL

NOTES:

1. LOCATION AND DEPTHS OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY LOCATIONS AND DEPTHS PRIOR TO SANITARY SEWER & WATER LINE CONSTRUCTION.
2. FOR AERIAL PIPE CROSSING, CONTRACTOR MAY UTILIZE CL53 FLANGED PIPE WITH ONE EXPANSION JOINT AT MIDPOINT.

PROP. 12" SANITARY SEWER -SSA-
FAYETTEVILLE RD



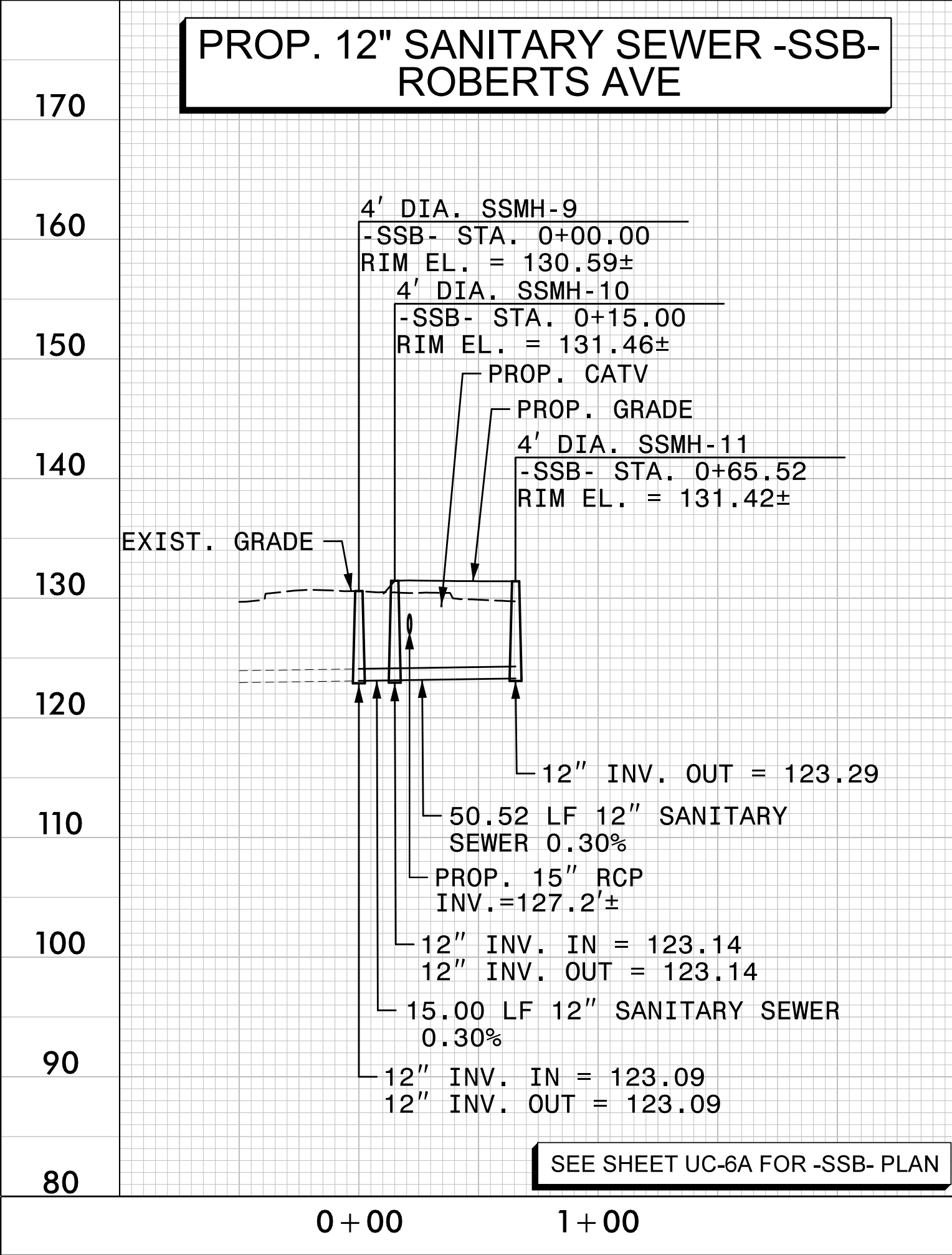
PROJECT REFERENCE NO. U-5797		SHEET NO. UC-12	
DESIGNED BY: SHM		3/7/2025	
DRAWN BY: SHM		UTILITY CONSTRUCTION PLANS ONLY	
CHECKED BY: CTH			
APPROVED BY:			
REVISED:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			

UTILITY CONSTRUCTION

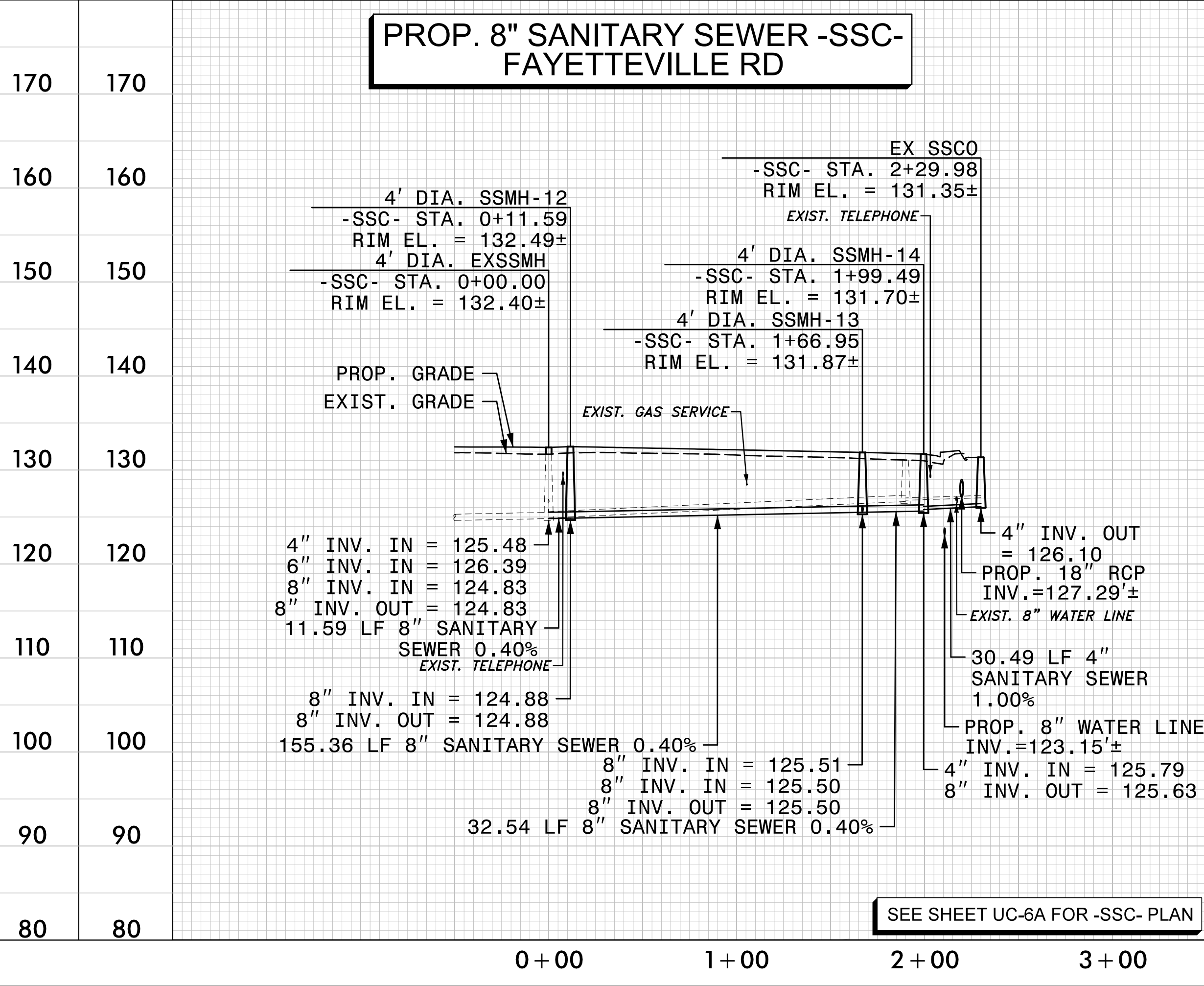
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

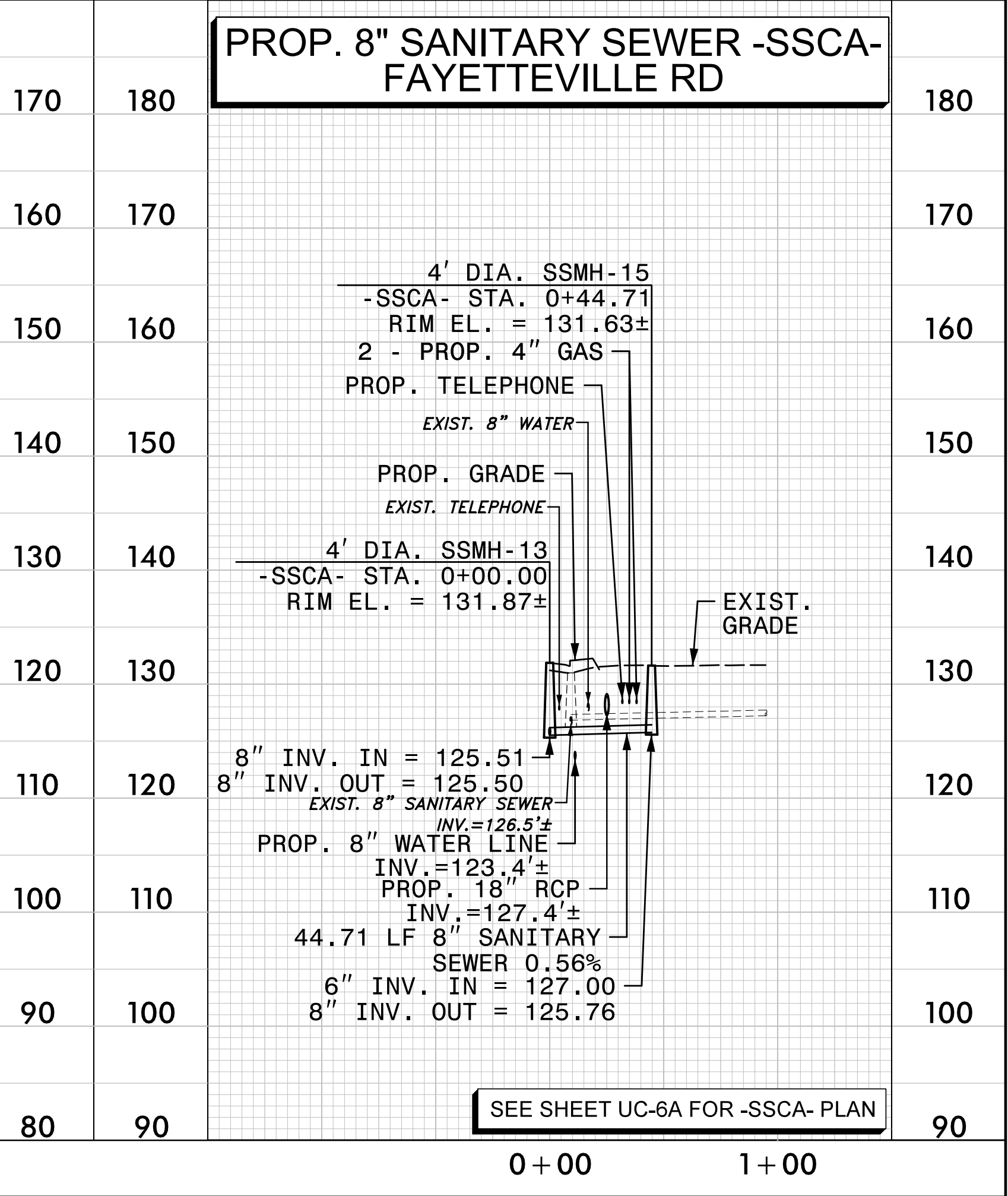
PROP. 12" SANITARY SEWER -SSB-
ROBERTS AVE



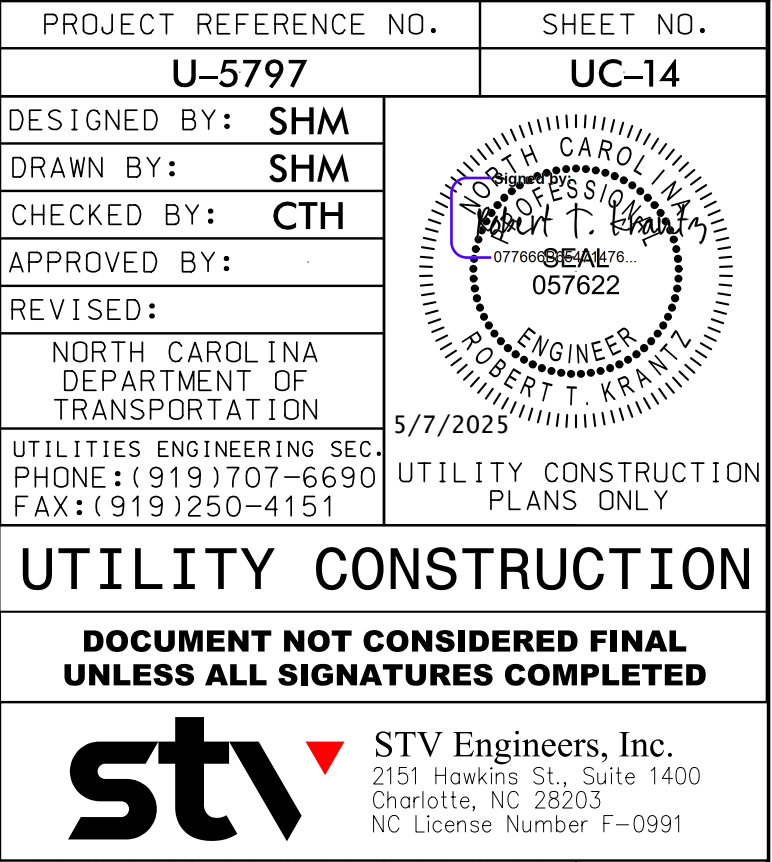
PROP. 8" SANITARY SEWER -SSC-
FAYETTEVILLE RD



PROP. 8" SANITARY SEWER -SSCA-
FAYETTEVILLE RD

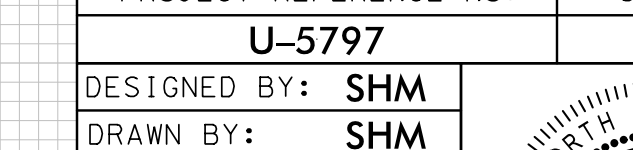


3/6/2025
R:\Utilities\Engineering\UC\Proj\Sheet\U5797_ut.uc.pfl_psh12.dgn
Munier-S





NOTES:
1. LOCATION AND DEPTHS OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY LOCATIONS AND DEPTHS PRIOR TO SANITARY SEWER & WATER LINE CONSTRUCTION.

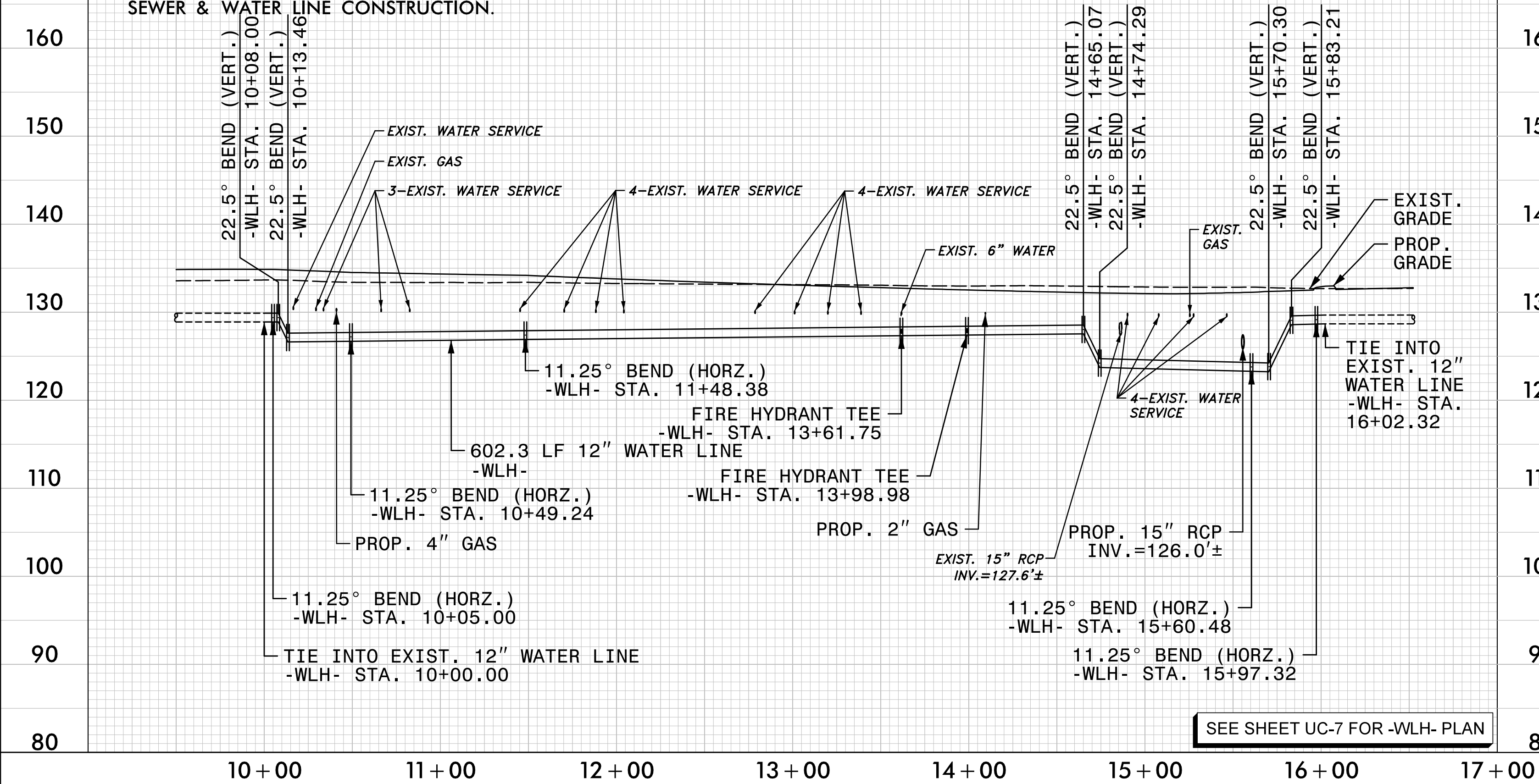


5/28/99

SCALE: 1" = 50' HORIZONTAL
1" = 10' VERTICAL

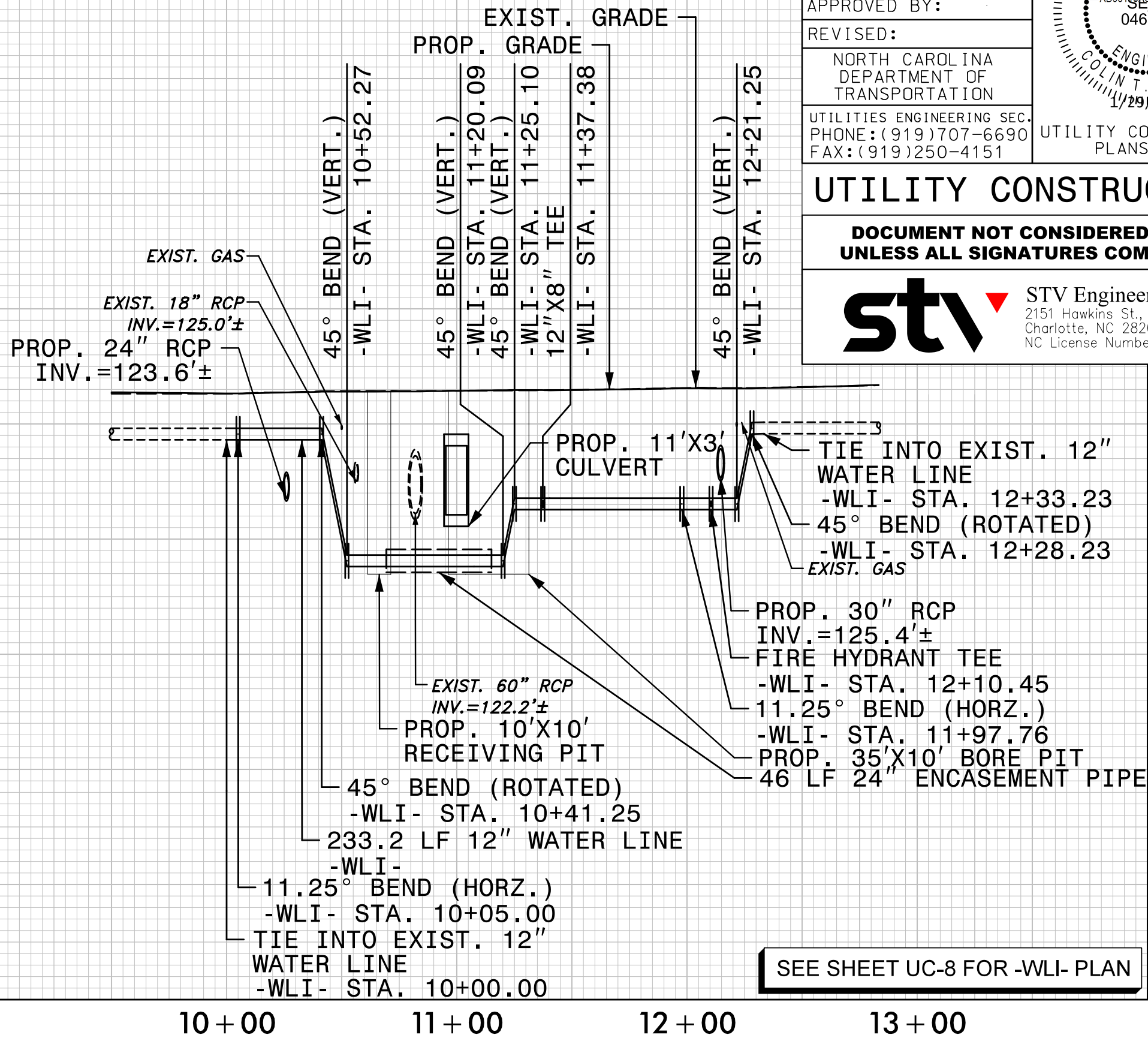
NOTES:
1. LOCATION AND DEPTHS OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY LOCATIONS AND DEPTHS PRIOR TO SANITARY SEWER & WATER LINE CONSTRUCTION.

PROP. 12" WATER MAIN -WLH-
FAYETTEVILLE RD

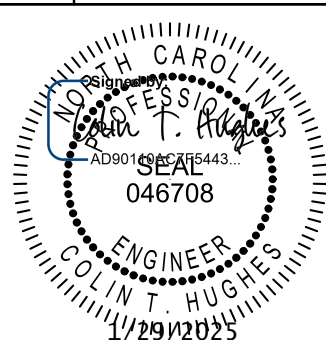


SEE SHEET UC-7 FOR -WLH- PLAN

PROP. 12" WATER MAIN -WLI-
FAYETTEVILLE RD



SEE SHEET UC-8 FOR -WLI- PLAN

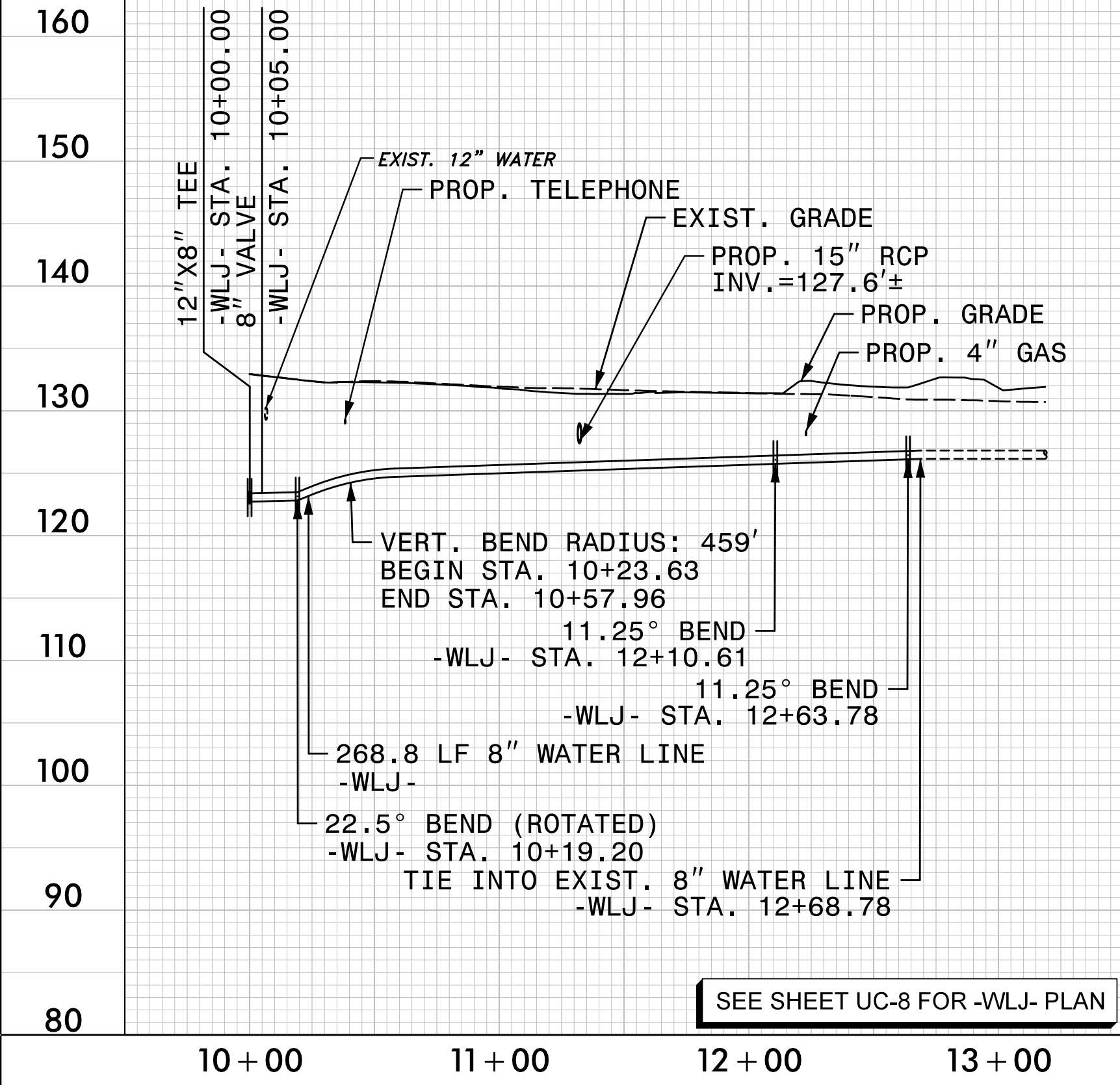
PROJECT REFERENCE NO.		SHEET NO.	
U-5797		UC-16	
DESIGNED BY:	SHM		
DRAWN BY:	SHM		
CHECKED BY:	CTH		
APPROVED BY:			
REVISED:		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

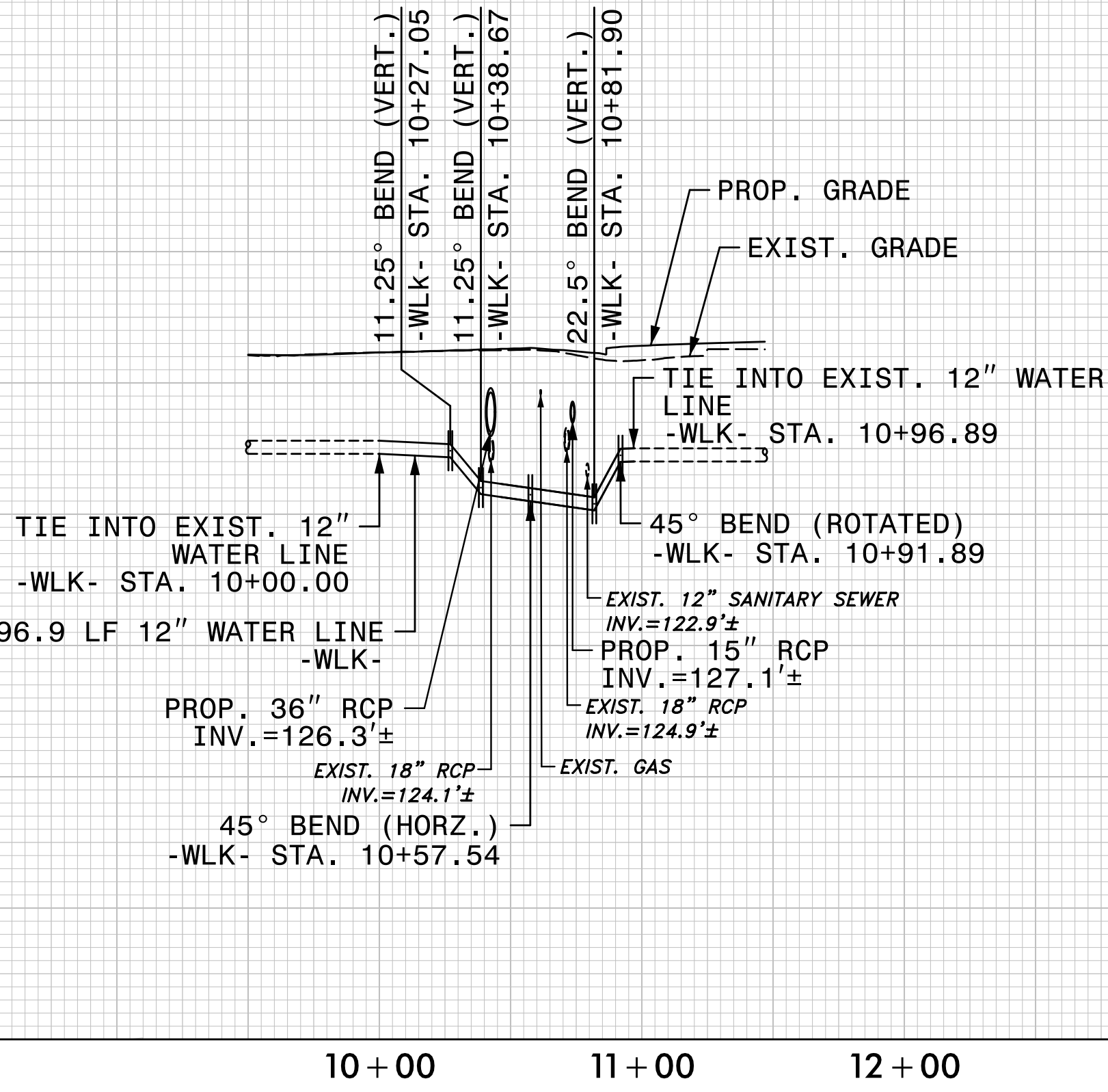
 **STV Engineers, Inc.**
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

PROP. 8" WATER MAIN -WLJ-
LINKHAW RD



SEE SHEET UC-8 FOR -WLJ- PLAN

PROP. 12" WATER MAIN -WLK-
ROBERTS AVE



SEE SHEET UC-11 FOR -WLK- PLAN

I:\29\2025
R:\Utilities\Engineering\UC\Proj\Sheet\U5797_ut.uc.pfl_psh16.dgn
Munier-S