

TIP PROJECT: R-5759

CONTRACT: C204976

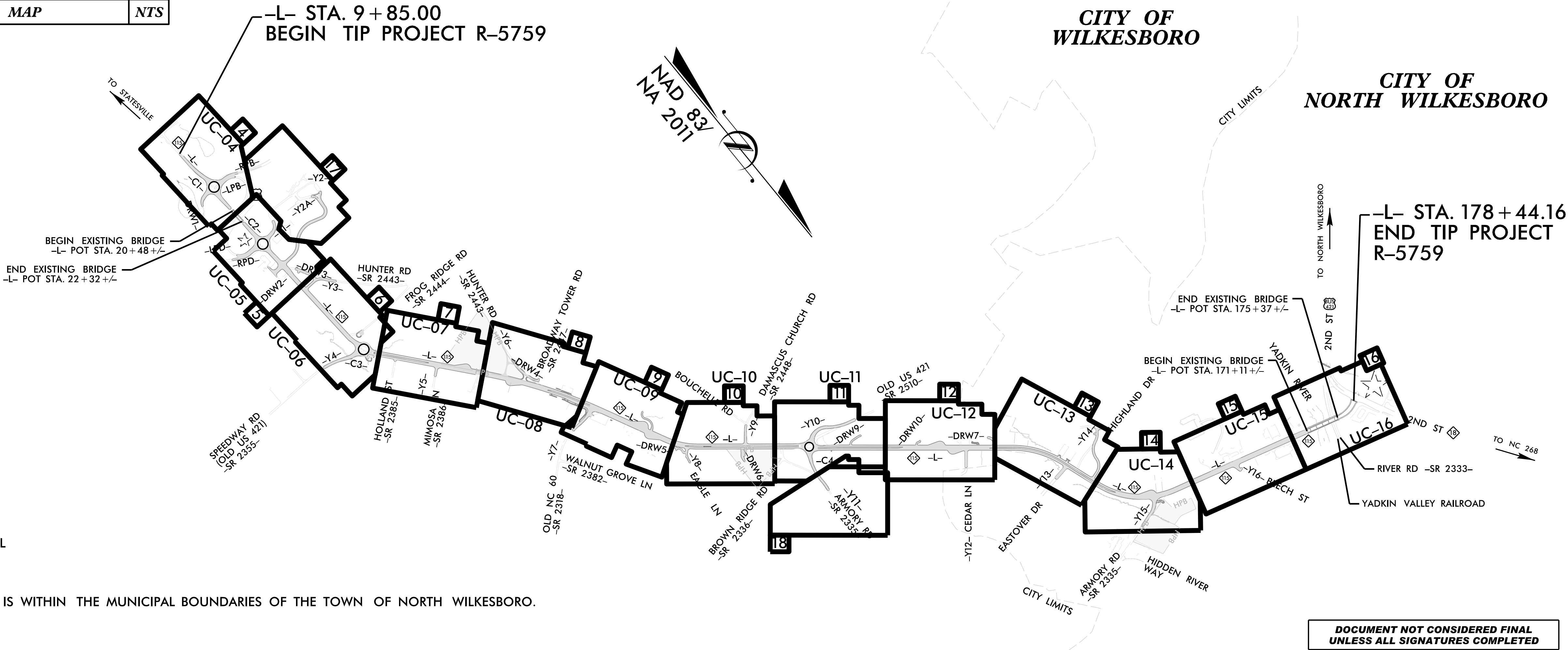
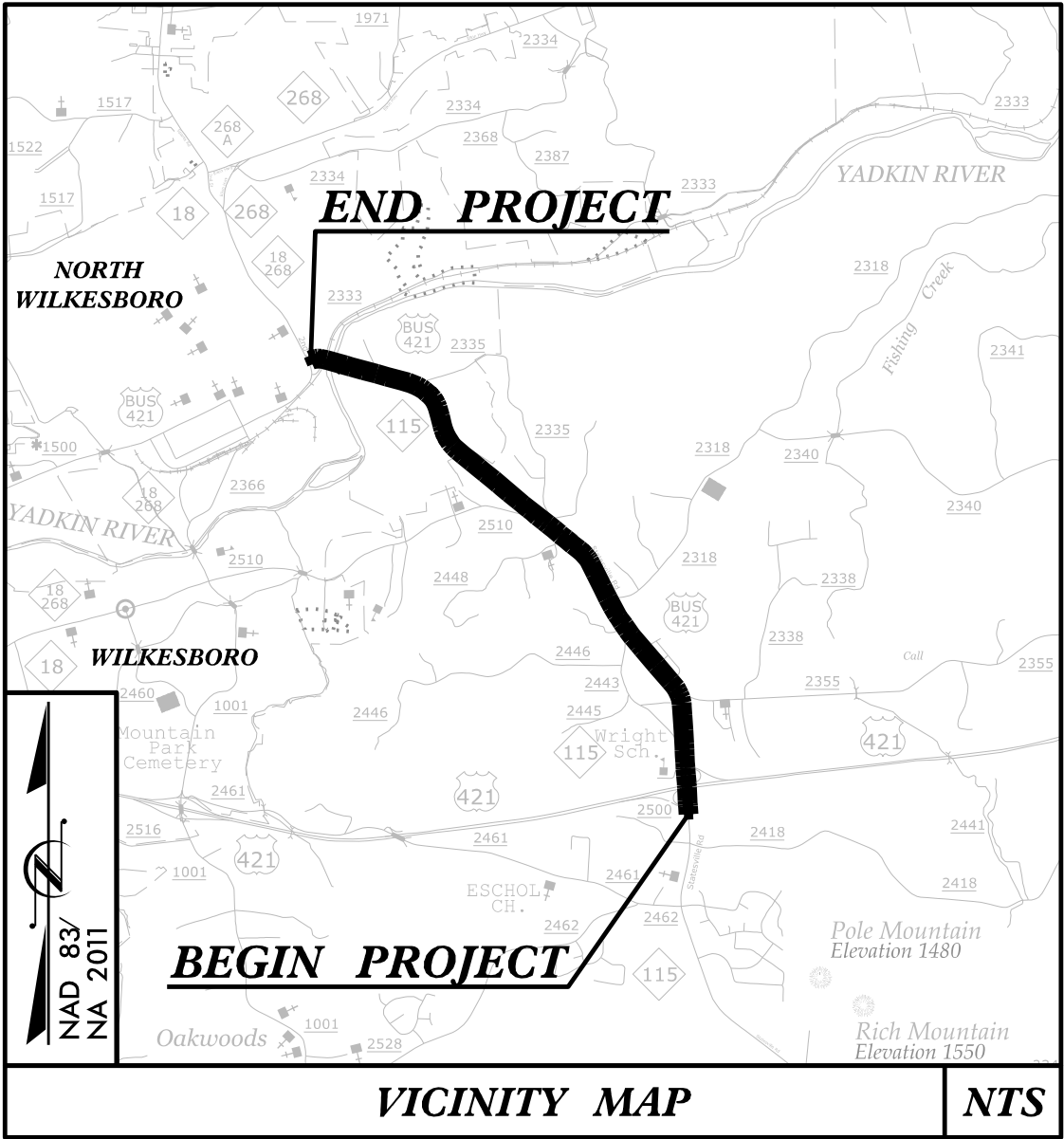
T.I.P. NO.	SHEET NO.
R-5759	UC-01

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS
WILKES COUNTY

LOCATION: WIDENING OF NC 115 (STATESVILLE ROAD) FROM
US 421 TO 2ND STREET

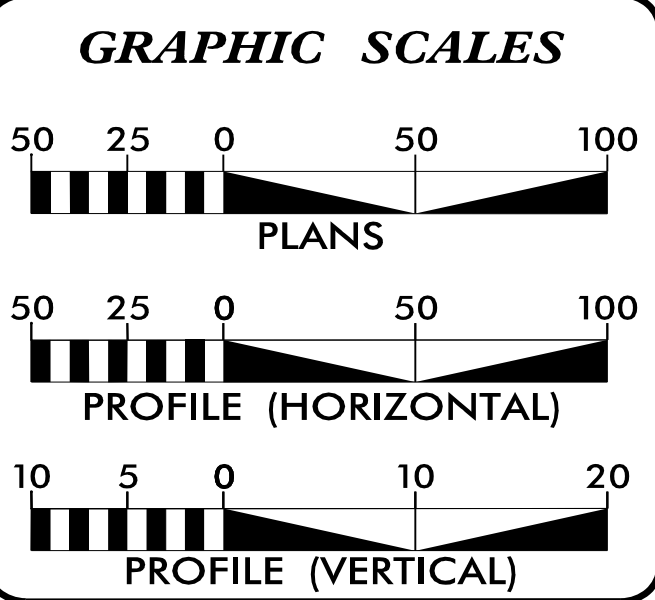
TYPE OF WORK: WATER LINE AND SANITARY SEWER RELOCATIONS



EXISTING TRAFFIC SIGNAL

NOTES:
1. A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE TOWN OF NORTH WILKESBORO.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



SHEET NO.:	DESCRIPTION:
UC-01	TITLE SHEET
UC-02	UTILITY SYMBOLOGY
UC-03 AND UC-03A	UTILITY NOTES
UC-03B TO UC-03G	DETAIL SHEETS
UC-04 TO UC-16	PLAN SHEETS
UC-17 TO UC-38	PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT
(A) WATER LINE - BROADWAY WATER ASSOCIATION
(B) WATER LINE - TOWN OF NORTH WILKESBORO
(C) SANITARY SEWER - TOWN OF NORTH WILKESBORO

PREPARED IN THE OFFICE OF
Weston & Sampson
WSE of North Carolina, PC
2052 Energy Drive
Apex, NC 27502
Phone: 919.297.0220
NC License: C-4847

FOR
HNTB
HNTB NORTH CAROLINA, P.C.
4000 Center at North Hills St
Suite 500
Raleigh, North Carolina 27609
NC License No: C-1554

KEVIN S. HUTCHENS, PE PROJECT ENGINEER
CONOR A. ROBYN, EIT PROJECT DESIGN ENGINEER
JIM FORBES PROJECT UTILITY MANAGER

SEAL
NORTH CAROLINA
PROFESSIONAL
ENGINEER
SEAL
39283
Signed by
KEVIN S. HUTCHENS

**DIVISION OF HIGHWAYS
DIVISION II**
801 STATESVILLE ROAD
NORTH WILKESBORO NC 28659
PHONE (336) 903-9101
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HEATH SLAUGHTER DIVISION PROJECT MANAGER
BRANDON GREER DIVISION UTILITY ENGINEER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROJECT REFERENCE NO.	SHEET NO.
R-5759	UC-02

PROPOSED WATER SYMBOLS

Water Line [Broadway Water Association] (Sized as Shown)	
Water Line [Town of North Wilkesboro] (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 MISCELLANOUS 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	
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	
*Underground Telephone Cable	
*Underground Telephone Conduit	
*Underground Fiber Optics Telephone Cable	
*Underground TV Cable	
*Underground Fiber Optics TV Cable	
*Underground Gas Pipeline	
Aboveground Gas Pipeline	
*Underground Water Line	
Aboveground Water Line	
*Underground Gravity Sanitary Sewer Line	
Aboveground Gravity Sanitary Sewer Line	
*Underground SS Forced Main Line	
Underground Unknown Utility Line	
SUE Test Hole	
Water Meter	
Water Valve	
Fire Hydrant	
Sanitary Sewer Cleanout	

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

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 SEWER FACILITIES BELONG TO THE TOWN OF NORTH WILKESBORO (TNW):

CONTACT: DAVID POORE
PHONE: (336) 928-5377
EMAIL: PUBLICUTILITIES@NORTHWILKESBORONC.GOV
3. THE EXISTING WATER UTILITIES NORTH OF CEDAR LN BELONG TO THE TOWN OF NORTH WILKESBORO:

CONTACT: DAVID POORE (REFER TO ABOVE)

THE EXISTING WATER UTILITIES SOUTH OF CEDAR LN BELONG TO BROADWAY WATER ASSOCIATION (BWA):

CONTACT: JEFF CARTY
PHONE: 336-667-1483
EMAIL: BWJCARTY@BROADWAYWATER.NET
4. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, 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 AND NATURAL RESOURCES, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.
5. THE UTILITY OWNERS OWN 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 OWNERS ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNERS 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.
6. CONTRACTOR SHALL 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. CONTRACTOR SHALL KEEP UTILITY OWNER'S REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

7. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. CONTRACTOR SHALL 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. CONTRACTOR SHALL NOTIFY THE UTILITY OWNER OF ANY DAMAGES AND REPAIR ANY DAMAGES INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.
8. CONTRACTOR SHALL 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.
9. CONTRACTOR SHALL 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. CONTRACTOR SHALL MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.
10. 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.
11. CONTRACTOR SHALL NOT OPERATE ANY VALVES ON THE EXISTING UTILITY SYSTEMS. CONTRACTOR SHALL CONTACT THE UTILITY OWNERS TO CONDUCT STRATEGIC OPERATION OF VALVES FOR SERVICE INTERRUPTION IN ORDER TO PERFORM SPECIFIC WORK.
12. CONTRACTOR SHALL CONTACT THE UTILITY OWNERS PRIOR TO PERFORMING SYSTEM FLUSHING OR BLOW-OFF OPERATIONS.

PROJECT SPECIFIC NOTES:

1. CONTRACTOR'S ATTENTION IS DIRECTED TO THE UTILITY CONSTRUCTION PROJECT SPECIAL PROVISIONS PROVIDED ALONG WITH THIS PLAN SET.
2. NORTH CAROLINA 811 SHALL BE CONTACTED 72 HOURS PRIOR TO ANY EXCAVATION. LOCATIONS OF EXISTING UTILITIES BY NC ONE CALL ARE VALID ONLY FOR 10 DAYS AFTER THE DATE OF LOCATION.
3. THERE ARE EXISTING WATER LINES WITHIN THE PROJECT LIMITS THAT ARE KNOWN TO BE ASBESTOS CEMENT PIPES. THE EXISTING FACILITIES SHALL REMAIN IN SERVICE UNTIL THE NEW OR TEMPORARY FACILITIES ARE CERTIFIED AND ACCEPTED AS COMPLETE BY THE UTILITY OWNER. REMOVAL OF THE ASBESTOS CEMENT PIPE SHALL ONLY BE DONE BY A LICENSED GENERAL CONTRACTOR FOR ASBESTOS ABATEMENT. CONTRACTOR SHALL CARRY OUT THE PIPE REMOVAL AND DISPOSAL OF ALL ASBESTOS MATERIAL IN ACCORDANCE WITH THE EPA AND OSHA REGULATIONS, AND ANY APPLICABLE STATE AND LOCAL GOVERNMENT REGULATIONS. REMOVAL OF ASBESTOS CEMENT PIPE SHALL BE IN FULL PIPE SECTIONS OR BROKEN INTO PIECES. UNDER NO CIRCUMSTANCES SHALL THE ASBESTOS CEMENT PIPE BE SAW CUT OR GRINDED INTO FRIABLE PIECES. ALL BROKEN PIECES SHALL BE PLACED INTO WASTE DISPOSAL POLYETHYLENE BAGS, SEALED, LABELLED, AND TRANSPORTED TO A PREDESIGNATED DISPOSAL SITE / LANDFILL FOR PROPER DISPOSAL.
4. WHEN CONNECTING NEW WATER LINES TO EXISTING ASBESTOS CEMENT PIPES, THE CONTRACTOR SHALL REMOVE THE ENTIRE ASBESTOS CEMENT PIPE JOINT, FROM BELL TO SPIGOT (PLAIN END). THE BELL ON THE ADJOINING ASBESTOS CEMENT PIPE SHALL BE REMOVED TO CREATE A SPIGOT END, THUS MAKING A SPIGOT CONNECTION ON EACH END OF THE PIPE SECTION REMOVED. CONNECTION TO THE ASBESTOS CEMENT PIPE WILL BE ACCOMPLISHED USING A ONE BOLT COUPLING (OR SIMILAR), WHICH SHALL REQUIRE THE REMOVAL OF THE INNER GASKET OF THE NEW PIPE TO MATCH THE OUTSIDE DIAMETER OF THE ASBESTOS CEMENT PIPE.
5. ALL BORE AND JACK INSTALLATIONS SHALL BE ACCOMPLISHED WITH THE USE OF UNCOATED STEEL ENCASEMENT PIPE THAT IS SPIRAL WELDED OR SMOOTH WALL SEAMLESS, CONSISTING OF GRADE "B" STEEL WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI AND MANUFACTURED IN ACCORDANCE WITH ASTM A139 AND A283.

THE ENDS SHALL BE BEVELED AND PREPARED FOR FIELD WELDING AT THE CIRCUMFERENTIAL JOINTS. ALL JOINTS SHALL BE OF LEAK PROOF CONSTRUCTION.

6. WATER LINE 4-INCH AND LARGER SHALL BE DUCTILE IRON PRESSURE CLASS 350. DUCTILE IRON PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI/AWWA C151/A21.51 AND BE CEMENT-MORTAR LINED WITH AN ASPHALTIC COATING IN ACCORDANCE WITH AWWA C-104.
7. 2-INCH WATER LINE SHALL BE PVC 200 CONFORMING TO ASTM D1784 AND ASTM D2241 WITH PUSH-ON JOINTS. FITTINGS SHALL BE SCHEDULE 80 PVC WITH SOLVENT WELD JOINTS AND BEAR THE NSF SEAL. ALL FITTINGS SHALL BE INSTALLED WITH JOINT RESTRAINT GLAND.
8. PVC PIPE MANUFACTURED MORE THAN 12 MONTHS BEFORE INSTALLATION DATE WILL NOT BE ACCEPTED.
9. POLYETHYLENE ENCASUREMENT SHALL BE APPLIED TO ALL UNDERGROUND DUCTILE IRON PIPE AND FITTINGS. MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5.
10. EXISTING PVC PIPE ON WATER LINES AND FORCE MAIN SEWERS SHALL BE EXCAVATED AND FIELD BENT AS NEEDED TO PROVIDE FOR HORIZONTAL AND/OR VERTICAL TRANSITION AND TIE-IN TO PROPOSED PIPE, AS DIRECTED BY THE RESIDENT ENGINEER.
11. ALL PVC PIPE INSTALLED ON THE PROJECT SHALL BE INSTALLED WITH A CONTINUOUS TRACER WIRE FOR LOCATION PURPOSES BY MEANS OF AN ELECTRONIC TRACER. TRACER WIRE SHALL BE 14 GA LOCATING WIRE.
12. ALL WATER LINE FITTINGS 4-INCH AND LARGER SHALL BE DUCTILE IRON PRESSURE CLASS 350 WITH MECHANICAL JOINTS OR RESTRAINED JOINT CONSTRUCTION.

Weston & Sampson NC License: C-4847 WSE of North Carolina, PC 2052 Energy Drive Phone: 919.297.0220 Apex, NC 27502 westonandsampson.com	PROJECT REFERENCE NO.		SHEET NO.	
	R-5759		UC-03	
	DESIGNED BY:	CAR		
	DRAWN BY:	CAR		
	CHECKED BY:	KSH		
	APPROVED BY:	KSH		
	REVISED:			
	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION			
	UTILITIES ENGINEERING SEC. PHONE : (919) 707-6690 FAX : (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	
	UTILITY CONSTRUCTION			
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UTILITY CONSTRUCTION - WATER & SANITARY SEWER

PROJECT SPECIFIC NOTES (CONTINUED):

12. ALL WATER LINES SHALL BE INSTALLED WITH A THREE-INCH (3") WIDE METALLIC DETECTABLE TAPE. THE TAPE SHALL BE CLEARLY MARKED "WATER" AND SHALL BE CENTERED OVER THE WATER LINE TWELVE INCHES (12") BELOW FINISHED GRADE. ANY BREAKS IN THE TAPE SHALL BE REPAIRED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

13. ALL PROPOSED FITTINGS (BENDS, TEES, CROSSES, REDUCERS, PLUGS, ETC.) SHALL BE ADEQUATELY RESTRAINED BY THE USE OF RESTRAINED JOINT CONSTRUCTION AND/OR CAST IN PLACE CONCRETE THRUST RESTRAINTS AS DETAILED ON THESE DRAWINGS, OR AS DIRECTED BY THE RESIDENT ENGINEER.

14. ALL PROPOSED WATER LINE AND SANITARY SEWER PIPE SHALL BE INSTALLED WITH A MINIMUM OF 3 FEET OF COVER, UNLESS OTHERWISE SHOWN ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.

15. ALL PROPOSED WATER LINE AND SANITARY SEWER PIPE SHALL BE DUCTILE IRON PIPE WHERE INSTALLED WITH: LESS THAN 3 FEET OF COVER; OR GREATER THAN 5 FEET OF COVER; OR LESS THAN 2 FEET OF SEPARATION FROM A BOX CULVERT.

16. WATER VALVES 4 INCH TO 24 INCH SHALL BE RESILIENT-SEATED GATE VALVES WITH 2 INCH SQUARE OPERATING NUT AND CONFORM TO AWWA C515 250 PSI REQUIREMENTS.VALVE BOXES SHALL BE CAST IRON WITH TRAFFIC BEARING CAPACITY.

17. CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER AND ALL PROPERTY OWNERS TO DETERMINE THE LOCATION OF ALL EXISTING WATER SERVICE LINES AND SEWER SERVICE LINES BEFORE STARTING CONSTRUCTION.

18. EXISTING WATER METERS TO REMAIN SHALL BE RECONNECTED TO THE EXISTING / PROPOSED WATER LINE WITH NEW WATER SERVICE LINES.

19. NEW AND RELOCATED WATER METERS SHALL BE CONNECTED TO THE EXISTING / PROPOSED WATER LINE WITH NEW WATER SERVICE LINES.

20. NEW AND RELOCATED WATER METER BOXES SHALL BE SET FLUSH WITH THE FINISHED GRADE AND LOCATED AT THE RIGHT-OF-WAY LINE, UNLESS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER.
21. WATER METER BOXES SHALL NOT BE INSTALLED WITHIN DRIVEWAYS, SIDEWALKS, OR OTHER PAVED AREAS SUBJECT TO VEHICULAR TRAFFIC UNLESS APPROVED OTHERWISE BY THE UTILITY OWNER. WATER METER BOX SHALL NOT BE INSTALLED WITHIN A DITCH SLOPE AND SHALL BE INSTALLED A MINIMUM OF 2.5 FEET BEHIND THE TOP OF THE DITCH BANK.

22. ONE-INCH (1") WATER SERVICE LINES SHALL BE SEAMLESS COPPER TUBING TYPE K IN CONFORMANCE WITH ASTM B88, TYPE K.

23. TWO-INCH (2") WATER SERVICE LINES SHALL BE SEAMLESS COPPER TUBING TYPE K IN CONFORMANCE WITH ASTM B88, TYPE K.

24. ALL FIRE HYDRANTS, PROPOSED OR RELOCATED, IN NO CASE SHALL ANY PORTION BE CLOSER THAN 5 FEET TO THE BACK OF THE CURB OR 2.5 FEET TO THE BACKSLOPE OF A ROADSIDE DITCH.

25. ALL FIRE HYDRANTS SHALL BE INSTALLED ON A 6-INCH LEG WITH A SIX-INCH HYDRANT BRANCH VALVE. RESTRAINT OF THE HYDRANT BRANCH VALVE SHALL BE ACCOMPLISHED BY UTILIZING A LOCKED HYDRANT TEE.

26. SANITARY GRAVITY SEWER PIPE SHALL BE PVC SDR-35, OR DUCTILE IRON PIPE CLASS 350 WITH TRACER WIRE AND LOCATING TAPE.

27. FORCE MAIN SANITARY SEWER PIPE SHALL BE DUCTILE IRON PIPE CLASS 350 WITH TRACER WIRE AND LOCATING TAPE.

28. MANHOLES SHALL BE PRECAST AND HAVE A MONOLITHIC BOTTOM SECTION, UNLESS OTHERWISE APPROVED BY THE UTILITY OWNER.

29. MANHOLES WITH A DEPTH GREATER THAN 6 FEET SHALL HAVE ECCENTRIC CONES, MANHOLES WITH A DEPTH OF 6 FEET OR LESS SHALL HAVE A CONCENTRIC CONE.

30. SEWER SERVICE PIPE SHALL BE SCHEDULE 40 PVC DRAIN, WASTE, AND VENT (DWV) PIPE IN ACCORDANCE WITH ASTM D2665 AND ASTM D1785.

31. SEWER CLEANOUTS SHALL BE SCHEDULE 40 PVC DRAIN, WASTE, AND VENT (DWV) PIPE IN ACCORDANCE WITH ASTM D2665 AND ASTM D1785.
32. MANHOLES CONSTRUCTED IN AREAS SUBJECT TO FLOODING SHALL HAVE THE MANHOLE TOP SET TO TWO FEET (2') ABOVE THE ELEVATION OF THE ONE HUNDRED (100) YEAR FLOOD ELEVATION, OR THE MANHOLE RING AND COVER SHALL BE WATERTIGHT AND A VENT INSTALLED THAT EXTENDS A MINIMUM OF TWO FEET (2') ABOVE THE ELEVATION OF THE ONE HUNDRED (100) YEAR FLOOD ELEVATION.

33. SEWER CLEANOUTS LOCATED IN PAVED AREAS SHALL BE INSTALLED WITH A TRAFFIC BEARING SEWER CLEANOUT BOX SET TO FINISHED GRADE.

34. ALL SEWER LINES SHALL BE INSTALLED WITH A THREE-INCH (3") WIDE METALLIC DETECTABLE TAPE. THE TAPE SHALL BE CLEARLY MARKED "SEWER" AND SHALL BE CENTERED OVER THE SEWER LINE TWELVE INCHES (12") BELOW FINISHED GRADE. ANY BREAKS IN THE TAPE SHALL BE REPAIRED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

35. THE CONTRACTOR SHALL RETURN ALL REMOVED FIRE HYDRANTS TO THE UTILITY OWNER AT A MUTUALLY AGREED UPON LOCATION.

36. EXISTING FIRE HYDRANTS TO BE RELOCATED, SHALL BE FULLY INSPECTED BY THE UTILITY OWNER FOR ANY DEFECTS AND TO CONFORM TO ALL REQUIREMETNS PRIOR TO RELOCATION, INSTALLATION, CONNECTION AND TESTING.

Weston & Sampson

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NC
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C-4847

Apex, NC 27502
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PROJECT REFERENCE NO.
R-5759

SHEET NO.
UC-03A

DESIGNED BY: CAR

DRAWN BY: CAR

CHECKED BY: KSH

APPROVED BY: KSH

REVISED:

NORTH CAROLINA
DEPARTMENT OF
TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE: (919) 707-6690
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KYLE SAMPSON
Professional Engineer
09/2008

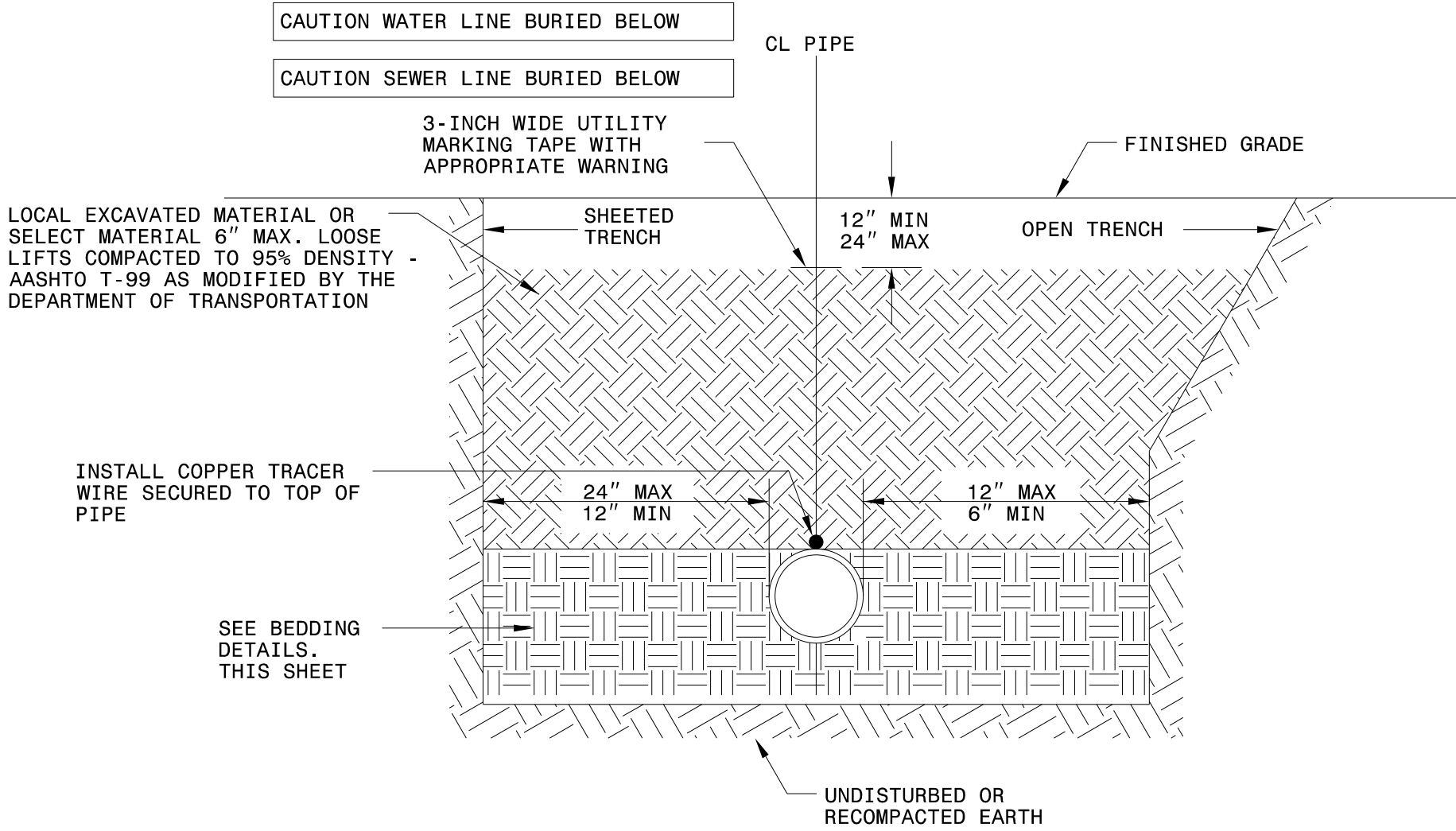
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PLANS ONLY

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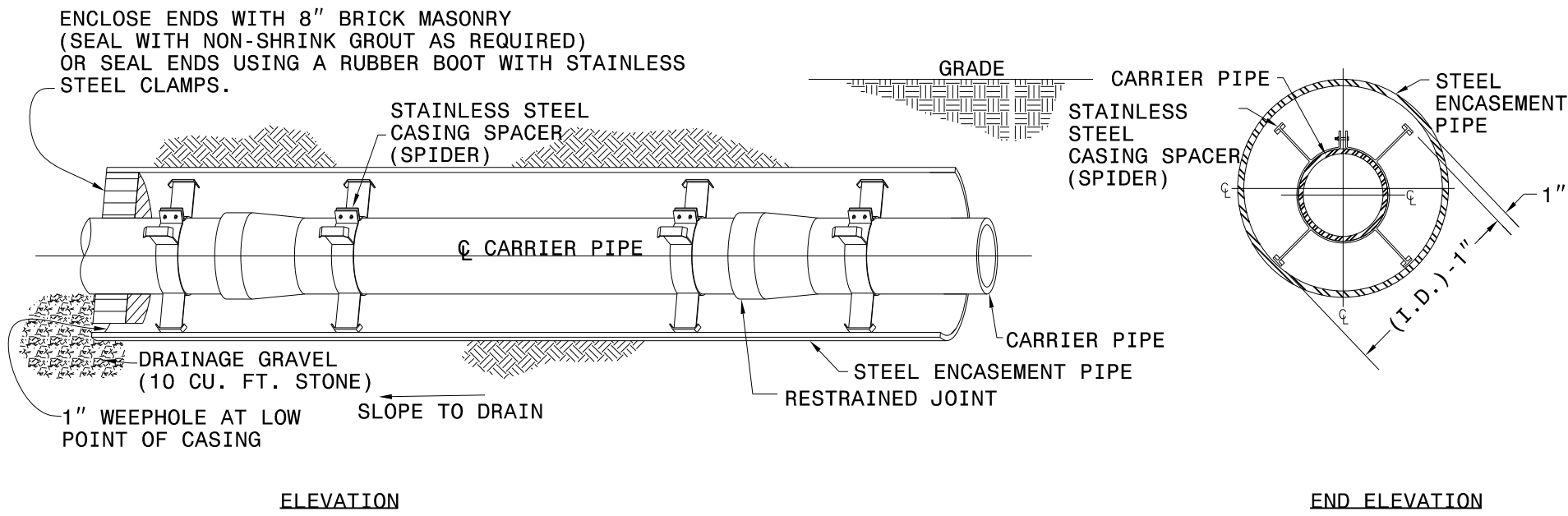


MAXIMUM TRENCH WIDTH AT TOP OF PIPE			
NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)	NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)
2	28	18	42
4	28	20	44
6	30	24	48
8	32	30	54
10	34	36	60
12	36	42	66
14	38	48	72
16	40	54	78

- NOTES:
- ALL SHORING & TRENCHING SHALL COMPLY WITH OSHA SAFETY STANDARDS FOR THE CONSTRUCTION INDUSTRY.
 - BELL HOLES NOT SHOWN.
 - ALL BACKFILL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH.
 - TRENCH SHALL BE FREE OF WATER DURING PIPE INSTALLATION.
 - THE CONTRACT DOCUMENT SHALL PROVIDE FOR THE PLACEMENT OF NO. 57 CRUSHED STONE IN THE BOTTOM OF THE TRENCHES WHEN UNSTABLE MATERIAL IS ENCOUNTERED.

GENERAL TRENCH DETAIL

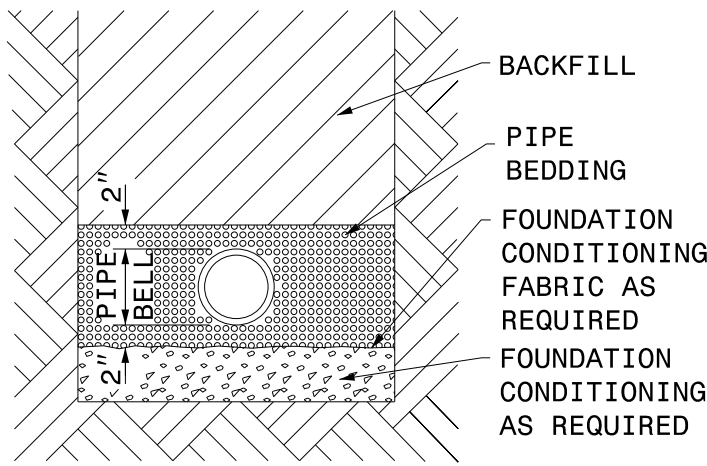
NOT TO SCALE



- NOTES:
- STAINLESS STEEL "SPIDERS" SHALL BE USED FOR SUPPORT OF THE CARRIER PIPE WITHIN THE STEEL ENCASEMENT PIPE. SPIDERS MANUFACTURED BY CASCADE WATERWORKS MFG. COMPANY OR APPROVED EQUAL.
 - A MINIMUM SPACING OF 2 SPIDERS PER JOINT AND/OR MINIMUM OF 3 SPIDERS PER CARRIER PIPE SHALL BE REQUIRED.
 - THE SPIDERS SHALL BE SPACED EVENLY ALONG THE CARRIER PIPE SUCH THAT EACH SPIDER SUPPORTS THE SAME UNIT WEIGHT OF THE CARRIER MAIN. REFER TO PLAN SHEETS AND PROFILE SHEETS FOR LENGTH AND DIAMETER OF PROPOSED STEEL ENCASEMENT PIPES FOR EACH CROSSING.
 - STEEL ENCASEMENT PIPES SHALL EXTEND A MINIMUM OF 3 FEET BEHIND THE BACK OF CURB OR AS SHOWN ON THE PLANS IN ACCORDANCE WITH THE NOTED SIZE AND LENGTH.
 - THE INSIDE DIAMETER OF THE ENCASEMENT PIPE SHALL BE AT LEAST 2 INCHES GREATER THAN THE LARGEST OUTSIDE DIAMETER OF THE CARRIER PIPE JOINTS OR COUPLINGS FOR CARRIER PIPE LESS THAN 6 INCHES IN DIAMETER; AND AT LEAST 4 INCHES GREATER FOR CARRIER PIPE 6 INCHES AND LARGER IN DIAMETER.
 - FOR EXISTING UTILITY PIPE INSTALLATIONS, THE STEEL ENCASEMENT PIPE SHALL BE A SPLIT STEEL ENCASEMENT PIPE MADE UP OF TWO (2) SEMI-CIRCULAR SECTIONS JOINED BY A CONTINUOUS WELD FROM ONE END TO THE OTHER WITHOUT ANY TRACEABLE VOIDS. JOINTS BETWEEN HORIZONTAL SECTIONS OF ENCASEMENT PIPE SHALL BE FULLY WELDED AROUND THE COMPLETE CIRCUMFERENCE OF THE PIPE.
 - STEEL ENCASEMENT PIPES SHALL HAVE A SPECIFIED MINIMUM YIELD STRENGTH OF AT LEAST 35,000 PSI. UNCOATED AND UNPROTECTED STEEL ENCASEMENT PIPE SHALL HAVE A MINIMUM WALL THICKNESS AS NOTED BELOW:
0.250 INCH FOR 4-12 3/4"
0.250 INCH FOR 14"
0.250 INCH FOR 16-18"
0.250 INCH FOR 20"
0.312 INCH FOR 22"
0.344 INCH FOR 24"
0.344 INCH FOR 26"
0.344 INCH FOR 28-30"
0.438 INCH FOR 32"
0.469 INCH FOR 34-36"
0.500 INCH FOR 38-42"

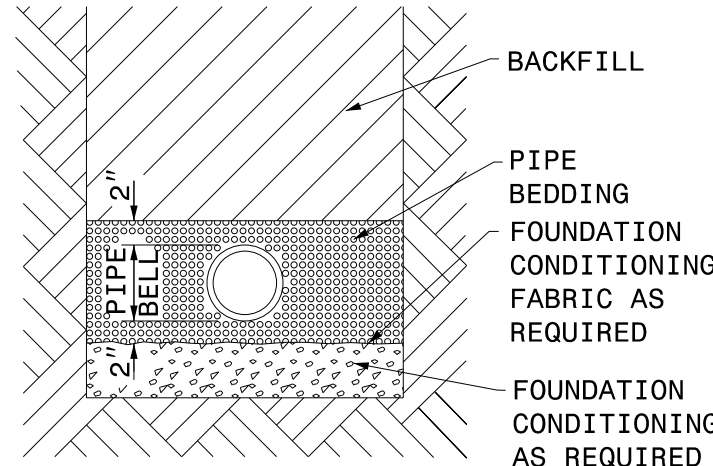
STEEL ENCASEMENT PIPE UNDER ROADWAY

NOT TO SCALE



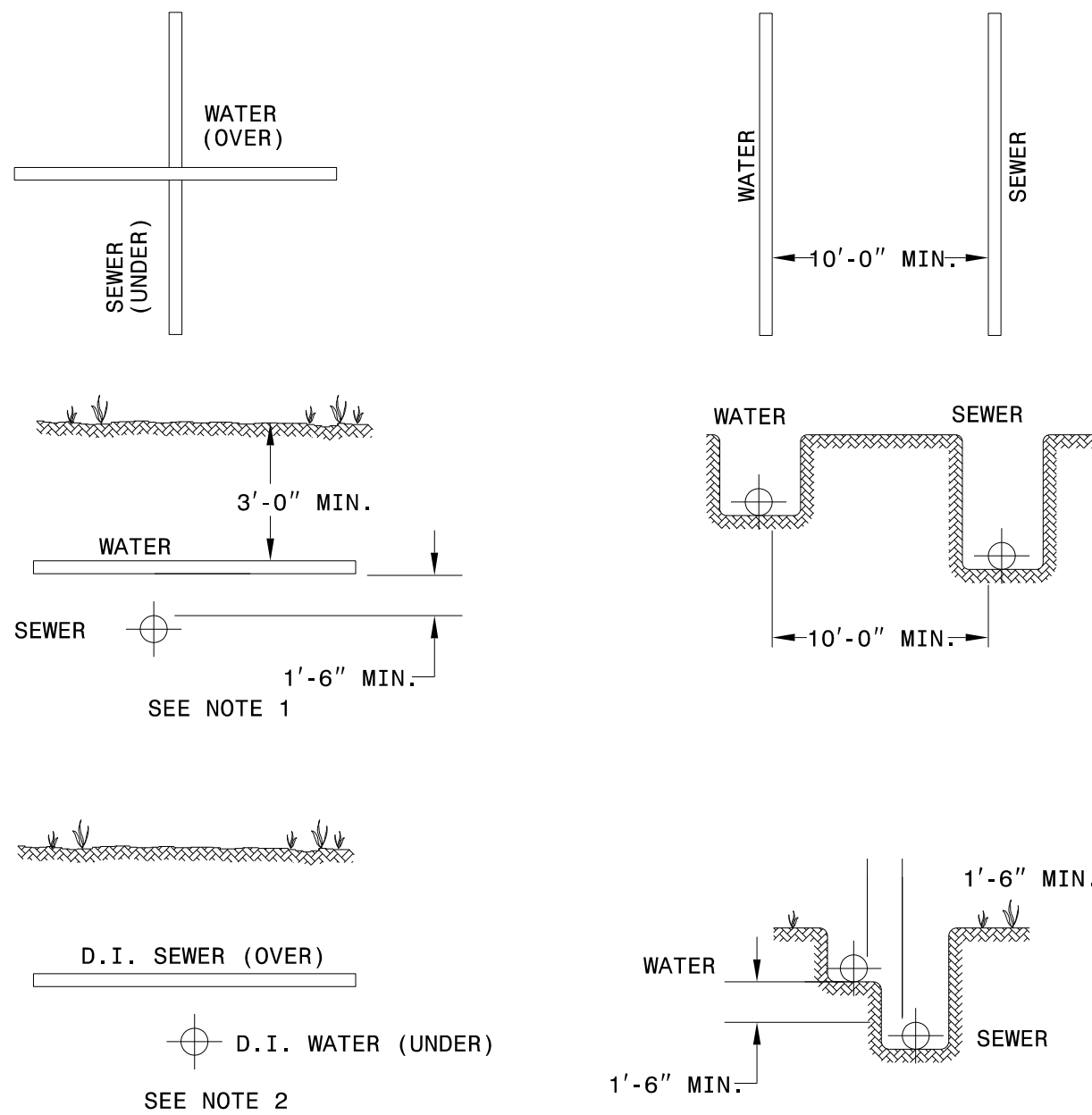
- NOTES:
- PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER.
 - PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE I) OR CLASS III.
 - TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH.
 - COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.

BEDDING DETAIL FOR DUCTILE IRON PIPE



- NOTES:
- PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER.
 - PIPE BEDDED IN NCDOT #57 STONE.
 - TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH.
 - COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.

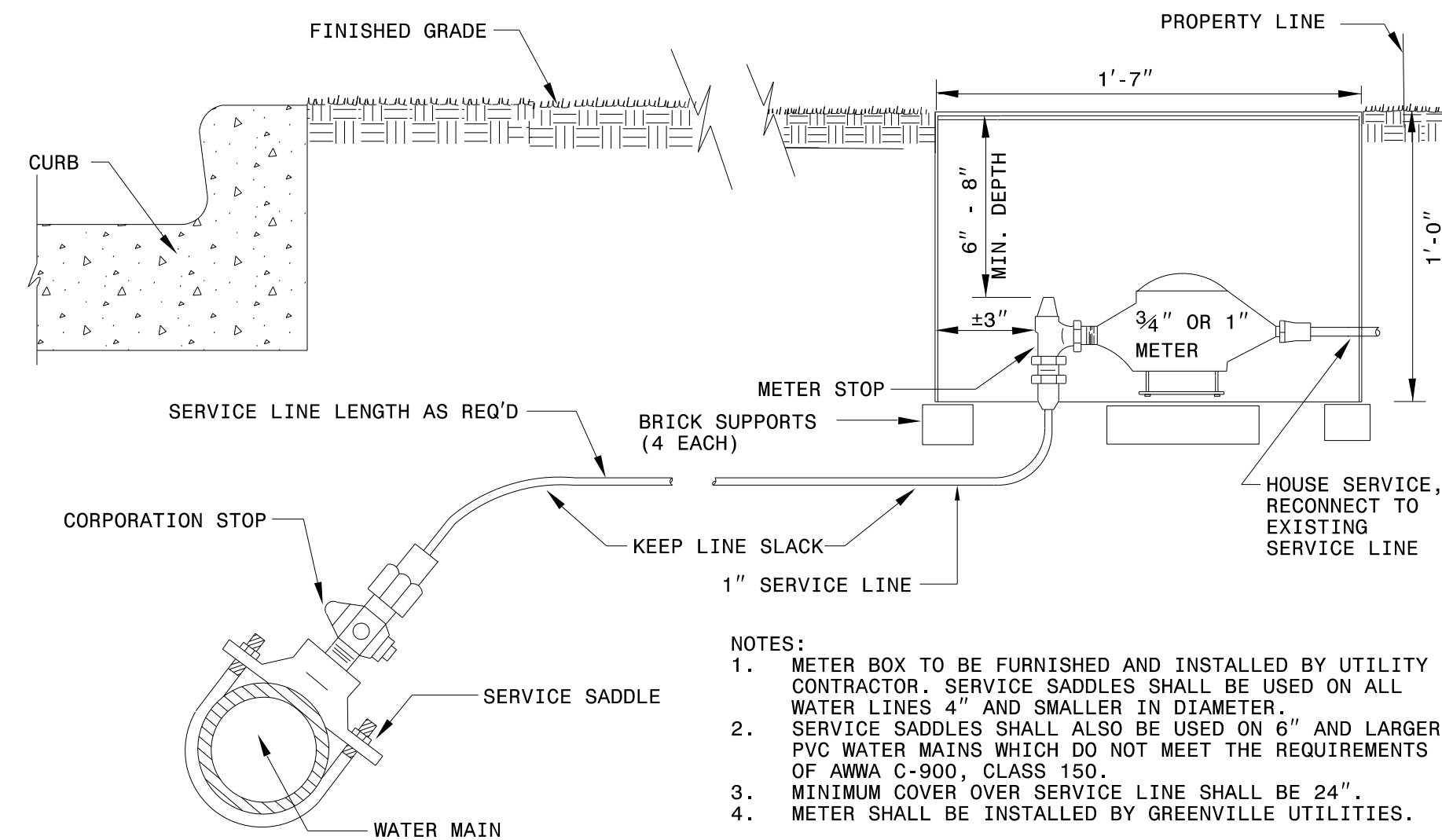
BEDDING DETAIL FOR
POLYVINYL CHLORIDE (PVC) PIPE



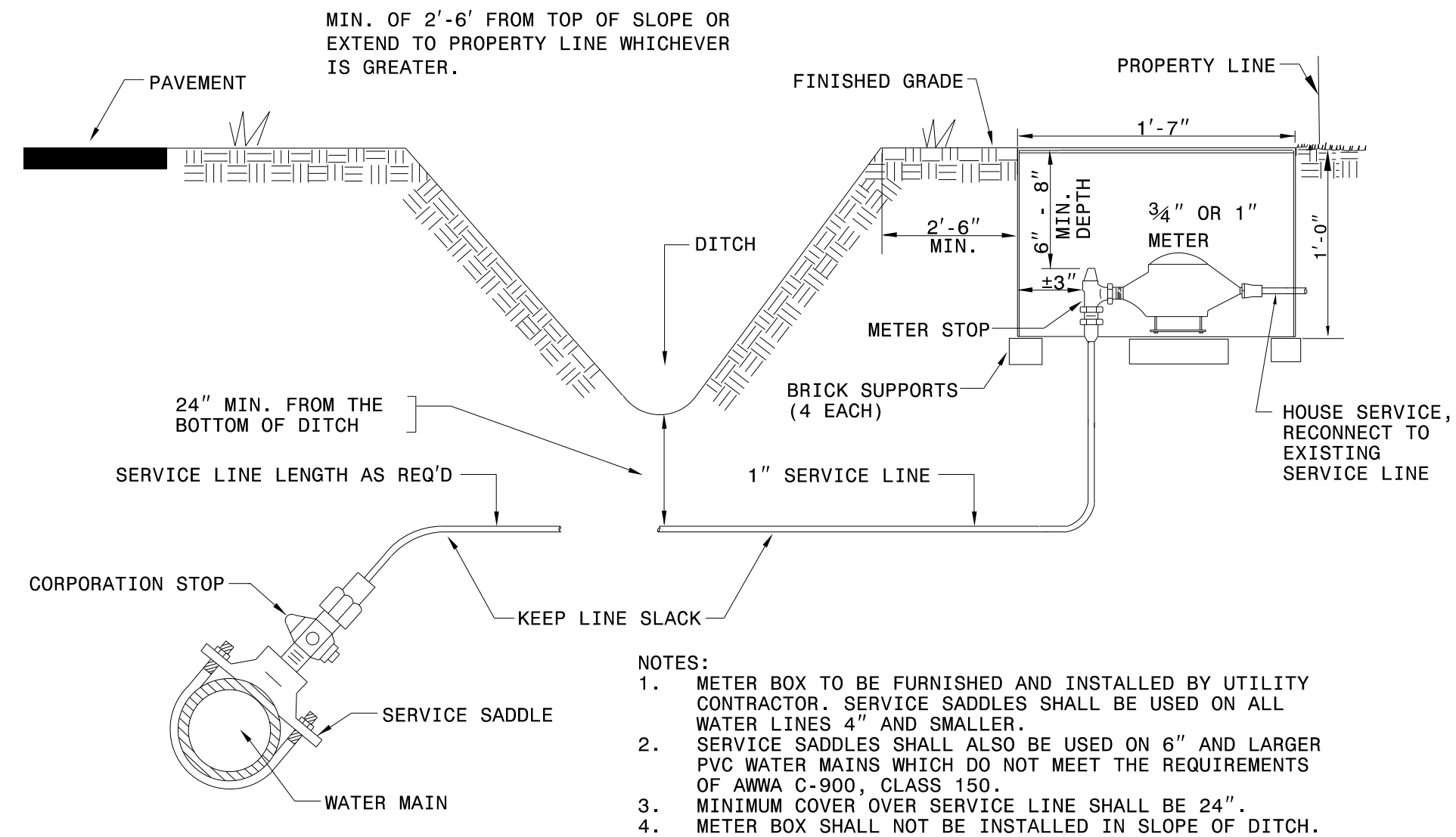
- NOTES:
- WHERE THE WATER MAIN IS INSTALLED ABOVE THE SEWER, BUT LESS THAN 18" CLEAR, BOTH THE WATER AND THE SEWER MAINS SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH WATER MAIN STANDARD JOINTS FOR A LATERAL DISTANCE OF AT LEAST 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
 - WHERE THE WATER PIPE IS LAID UNDER SEWER, BOTH THE WATER AND THE SEWER MAINS SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH WATER MAIN STANDARD JOINTS FOR A LATERAL DISTANCE OF AT LEAST 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
 - "SEWER" SHALL BE CONSIDERED TO MEAN EITHER SANITARY SEWER OR STORM SEWER.

TYPICAL PIPE CROSSING AND PARALLELS

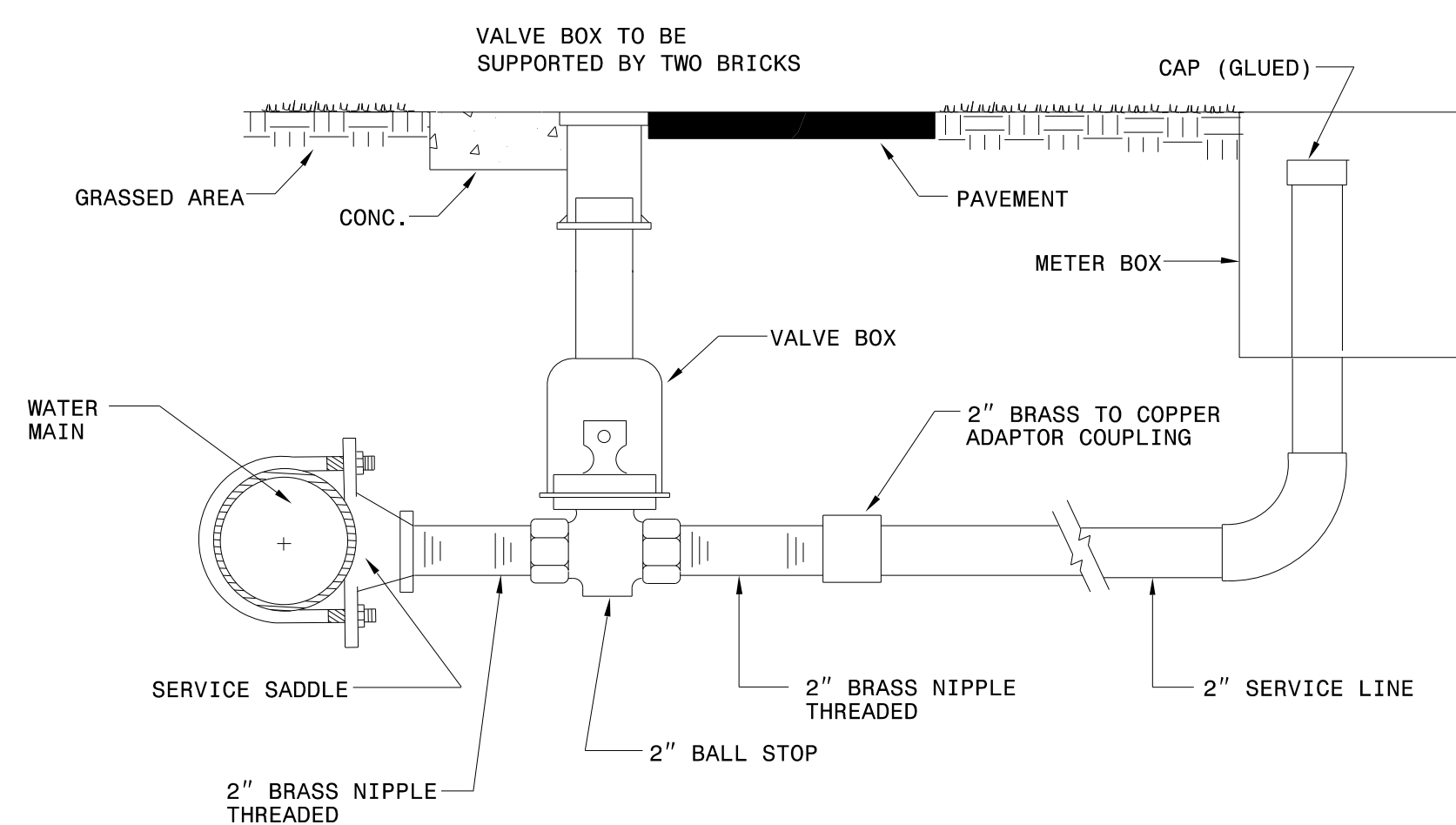
NOT TO SCALE



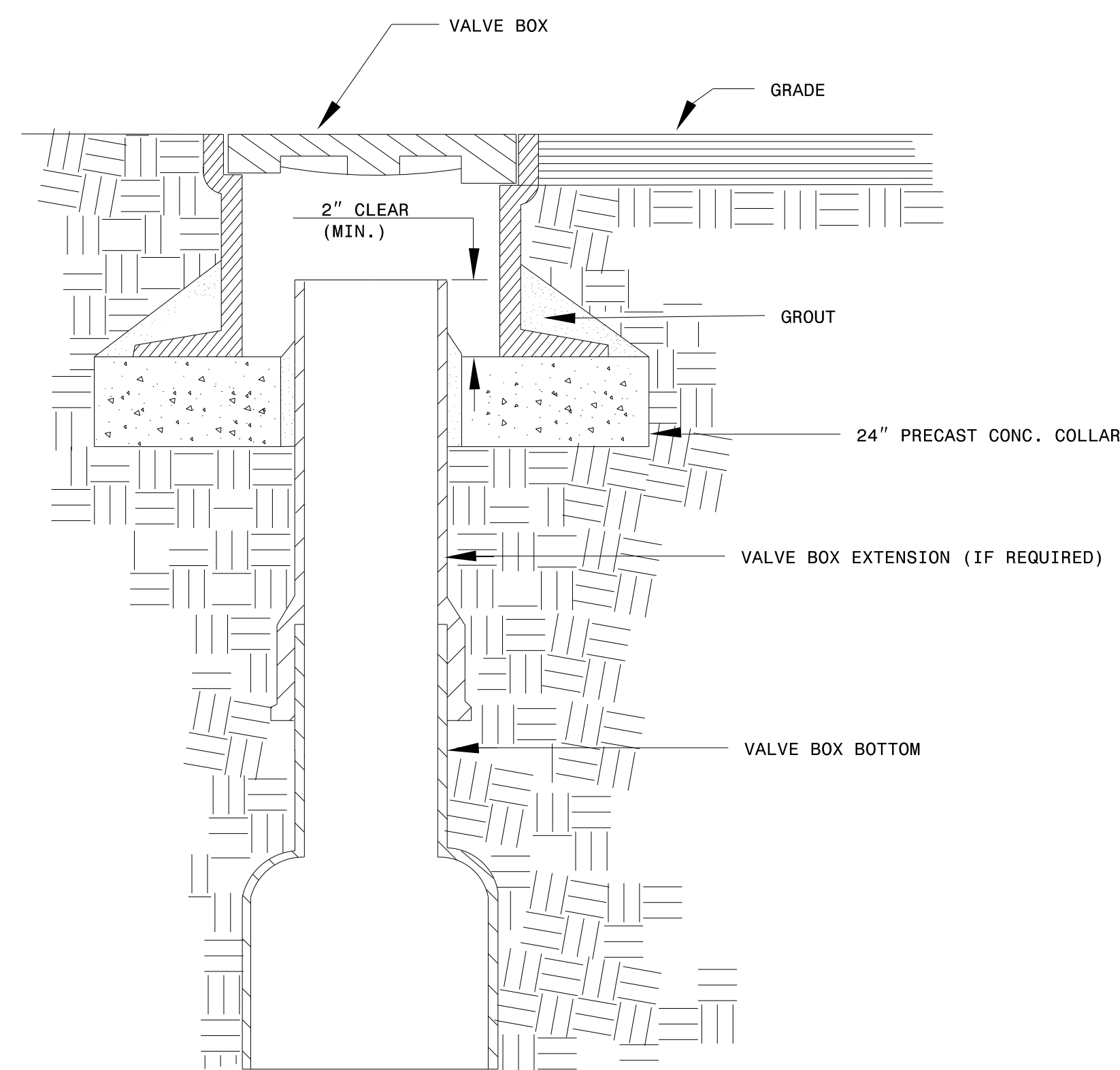
1" OR SMALLER WATER SERVICE DETAIL FOR AREAS WITH CURB AND GUTTER



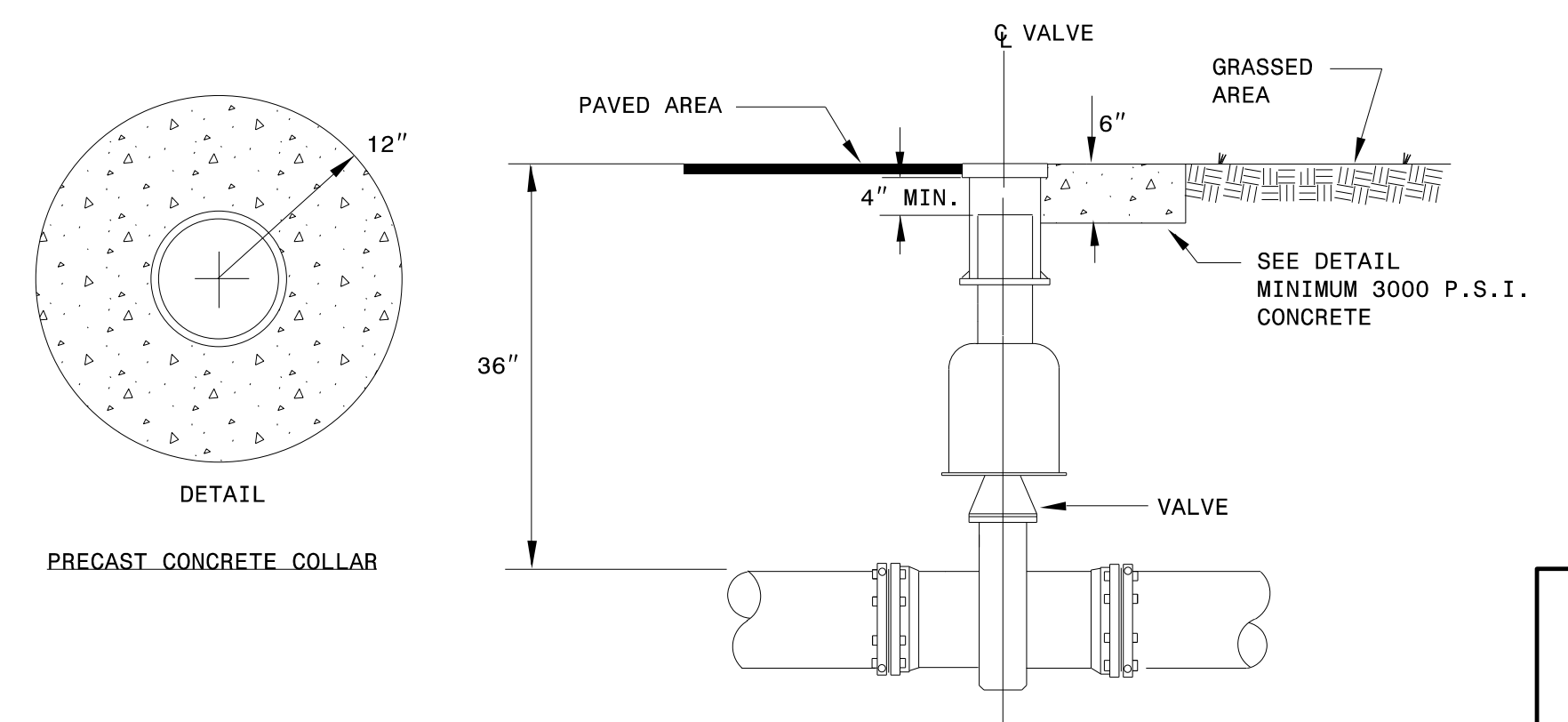
1" OR SMALLER WATER SERVICE DETAIL
FOR AREAS WITHOUT CURB AND GUTTER



TYPICAL 1-1/2" AND 2" WATER SERVICE CONNECTION

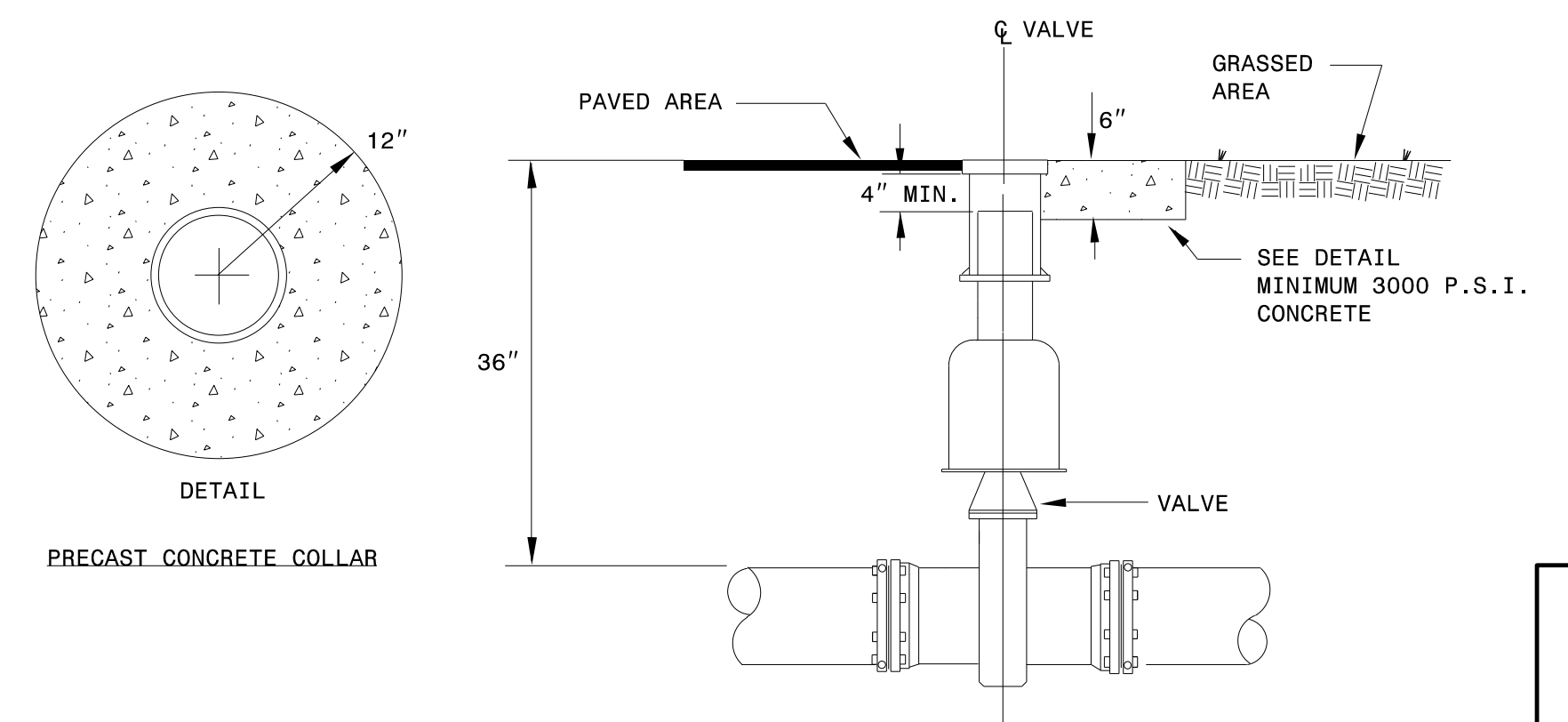
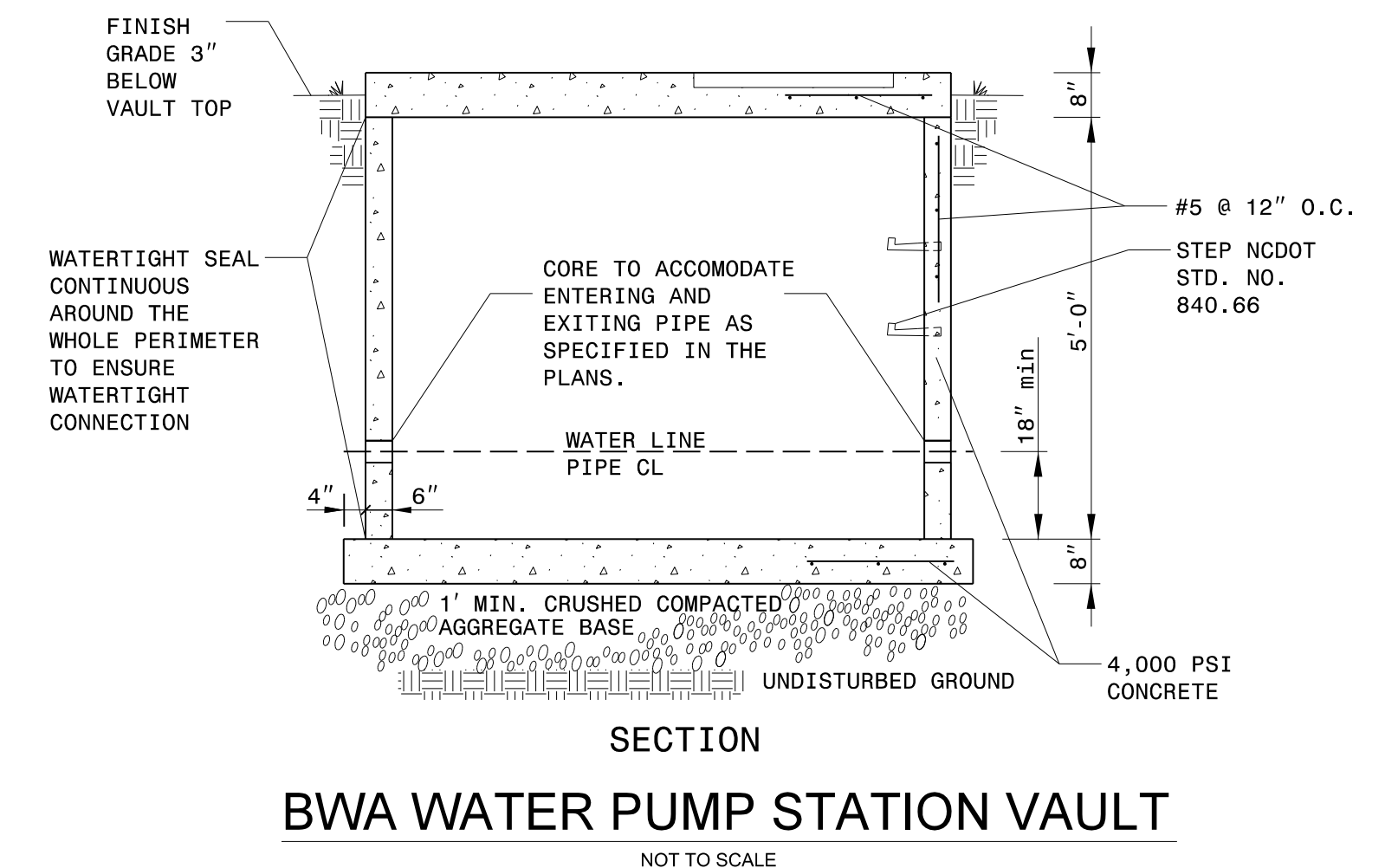
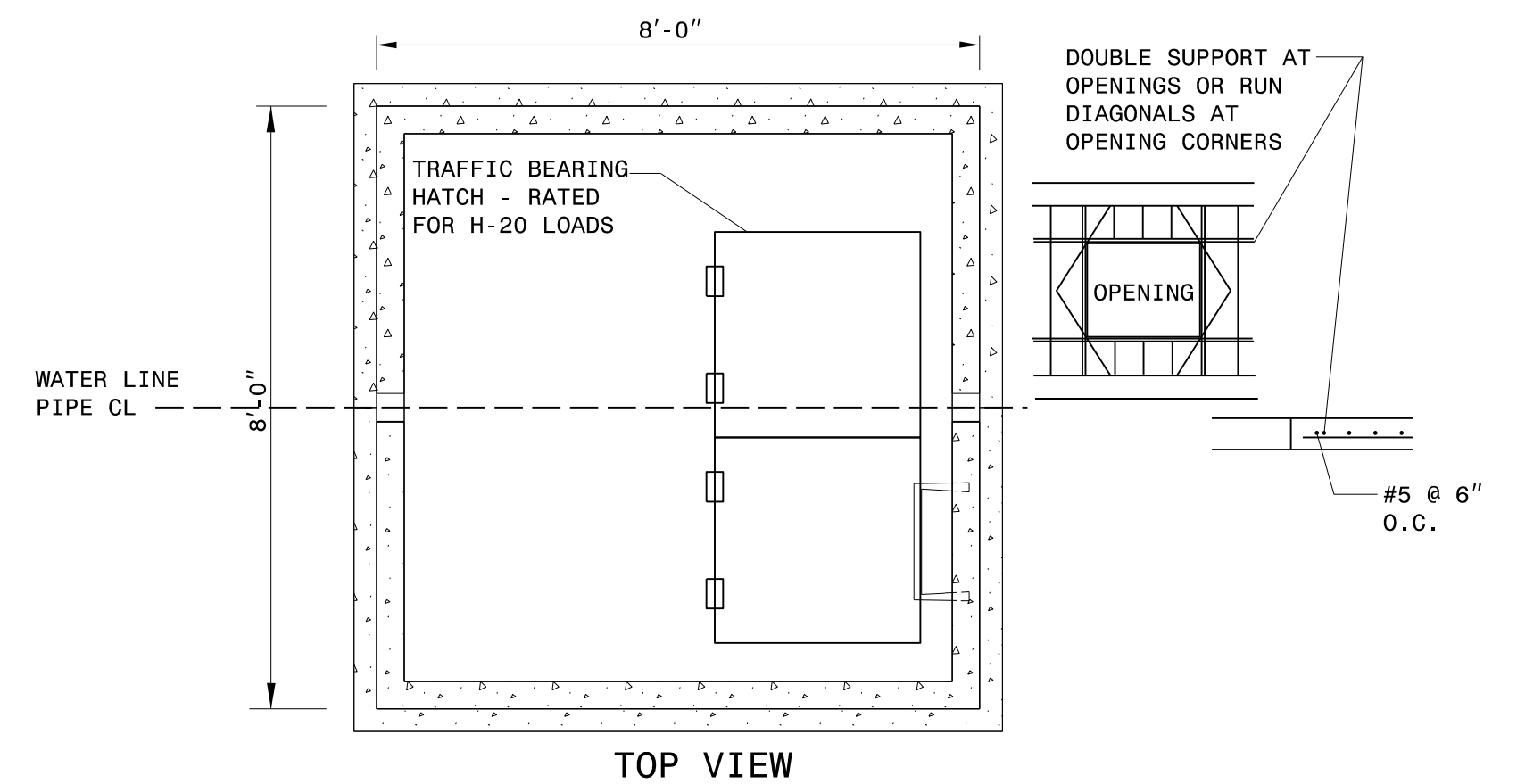


VALVE BOX DETAIL FOR VALVES 12" AND LARGER



VALVE BOX DETAIL FOR VALVES SMALLER THAN 12"

 WSE of North Carolina, PC 2052 Energy Drive Phone: 919.287.0220	NC License: C-4847 Apex, NC 27502 westonandsampson.com	PROJECT REFERENCE NO.		SHEET NO.
		R-5759		UC-03C
DESIGNED BY: CAR				
DRAWN BY: CAR				
CHECKED BY: KSH				
APPROVED BY: KSH				
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. VALVE BOX SHALL NOT BE INSTALLED IN CURB AND GUTTER.
2. VALVE BOX SHALL BE CENTERED AND PLUMBED OVER VALVE.

RESULTANT THRUST AT FITTING AT 150 PSI WATER PRESSURE

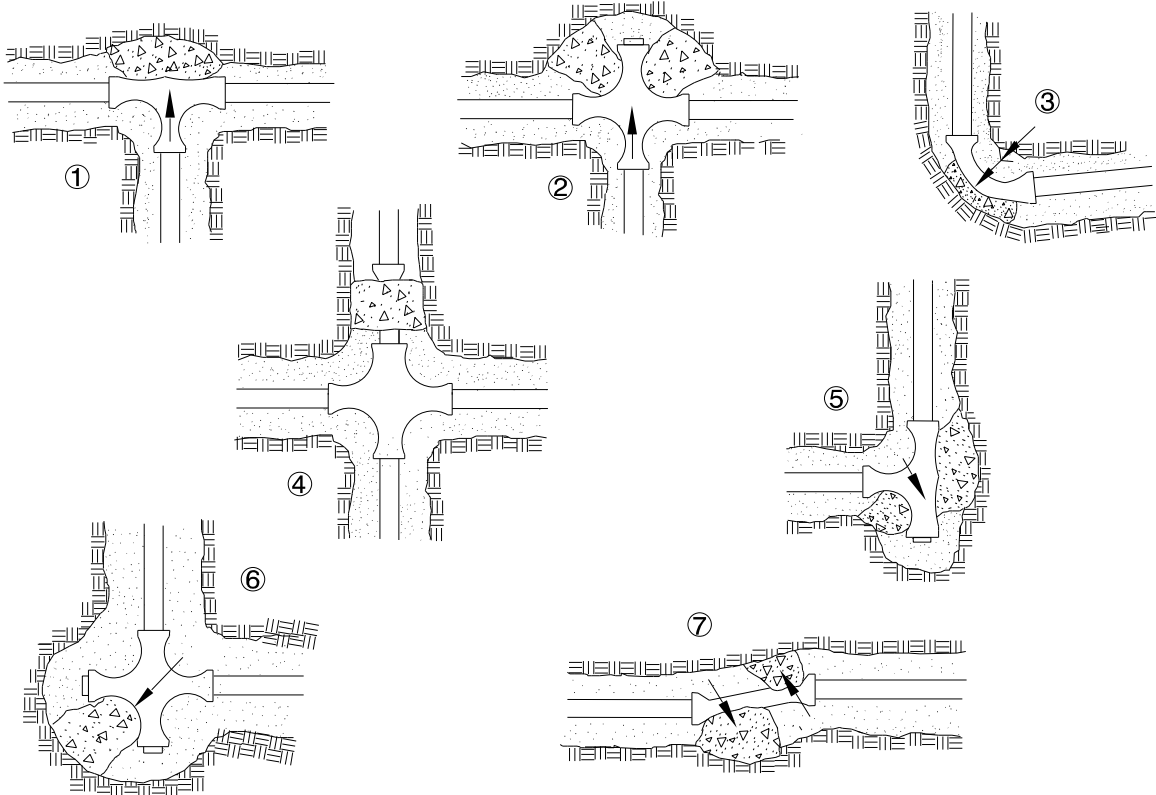
NOM. PIPE DIA.	TOTAL POUNDS				
	DEAD END	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND
4"	2,700	3,800	2,100	1,100	530
6"	5,600	8,000	4,300	2,200	1,100
8"	9,700	13,600	7,400	3,800	1,900
10"	14,500	20,500	11,100	5,700	2,900
12"	20,500	29,000	15,700	8,000	4,000
14"	27,600	39,000	21,100	11,000	5,400
16"	35,700	50,400	27,300	14,000	7,000
18"	44,800	63,400	34,400	17,500	8,800
20"	55,000	77,000	42,100	21,500	10,800
24"	78,500	110,000	60,000	31,600	15,400
30"	120,600	170,600	92,300	47,100	23,600
36"	172,800	244,400	132,300	67,500	33,900
42"	233,300	330,000	178,600	91,000	45,700
48"	304,000	430,000	232,700	118,600	59,600
54"	384,100	543,200	294,000	149,000	75,300

SOIL	BEARING LOAD (LB./SQ. FT.)
MUCK	0
SOFT CLAY	1,000
SILT	1,500
SANDY SILT	3,000
SAND	4,000
SANDY CLAY	6,000
HARD CLAY	9,000

NOTES:

1. POLYWRAP SHALL BE USED TO COVER FITTINGS AND BOLTS.
2. TO DETERMINE THE SIZE OF A CONCRETE THRUST BLOCK, DIVIDE THE TOTAL FORCE BY THE BEARING VALUES OF THE SOIL. THE QUOTIENT WILL BE THE SIZE OF THE BEARING AREA OF THE THRUST BLOCK IN SQUARE FEET. APPROXIMATE VALUES FOR VARIOUS TYPES OF SOIL ARE LISTED IN TABLE.
3. NO RESPONSIBILITY CAN BE ASSUMED FOR THE ACCURACY OF THE DATA IN THIS TABLE DUE TO THE WIDE VARIATION OF BEARING LOAD CAPABILITIES FOR EACH SOIL TYPE.

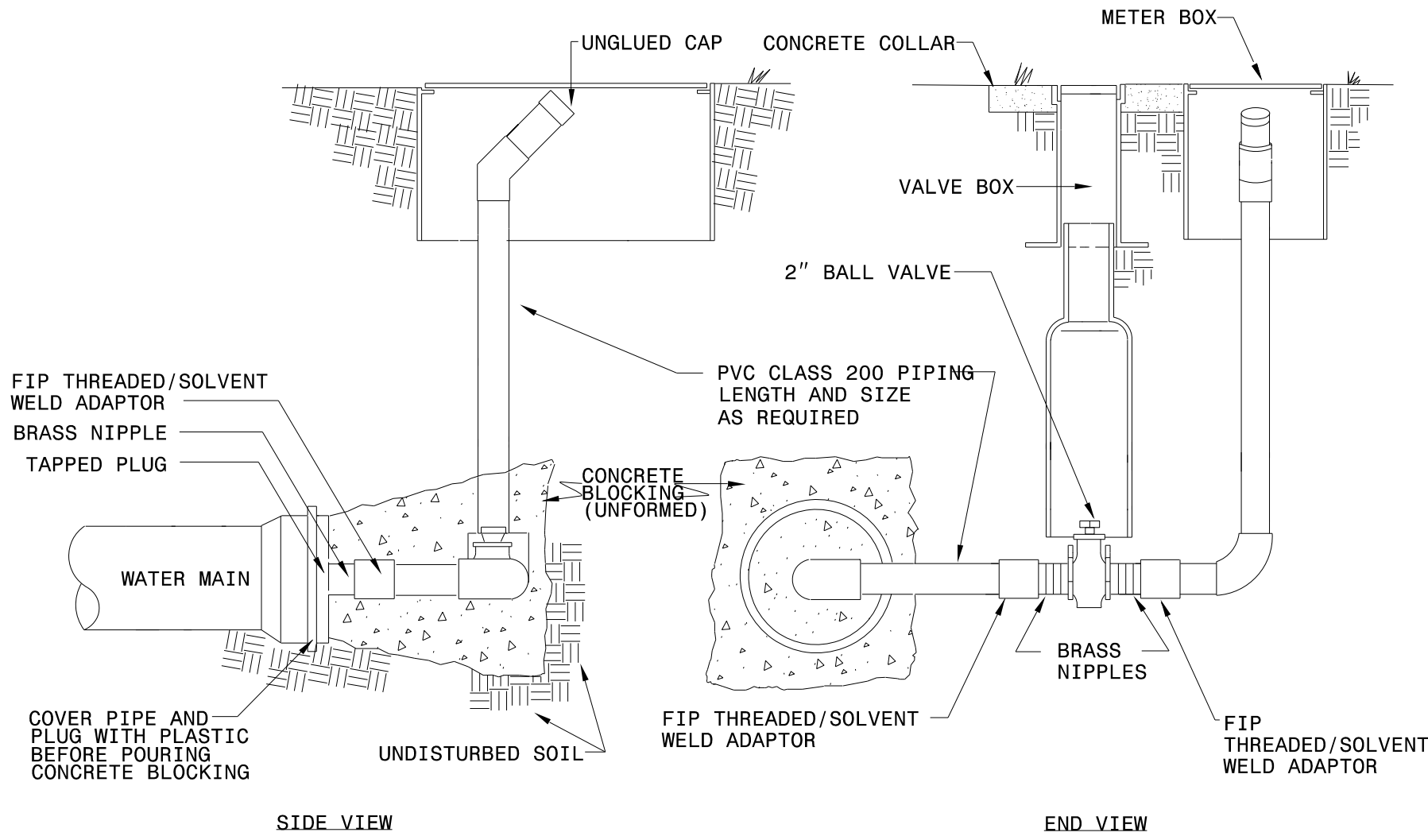
TYPES OF THRUST BLOCKING



1. THRU LINE CONNECTION, TEE
2. THRU LINE CONNECTION, TEE CROSS USED AS TEE
3. DIRECTION CHANGE, ELBOW
4. CHANGE LINE SIZE, REDUCER
5. DIRECTION CHANGE, TEE USED AS ELBOW
6. DIRECTION CHANGE, CROSS USED AS ELBOW
7. DIRECTION CHANGE

THRUST BLOCKING DETAIL

NOT TO SCALE

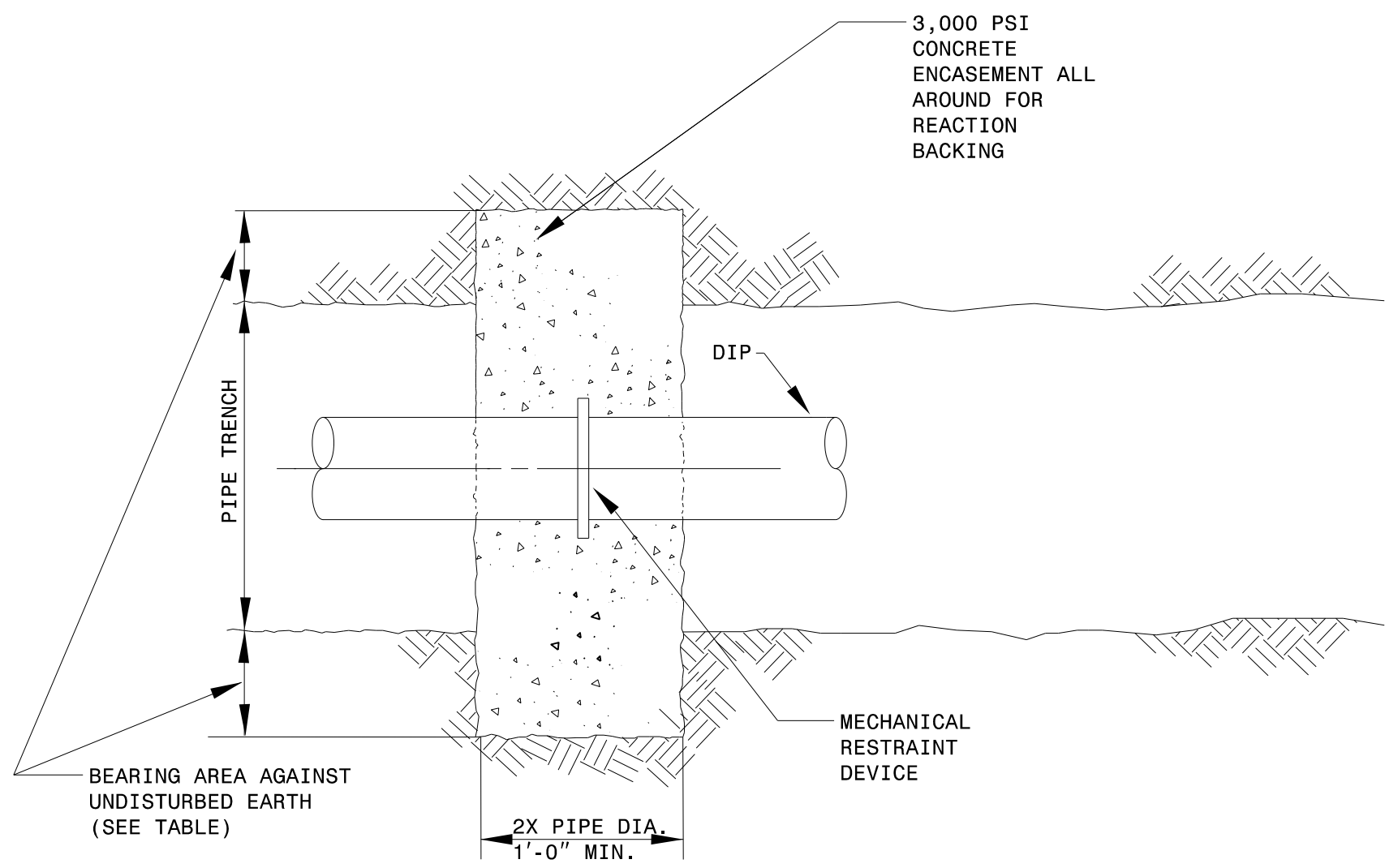


NOTES:

1. VALVE BOX NOT SHOWN FOR CLARITY- SEE END VIEW.
2. ALL FITTINGS ARE SCH 80.
3. VALVE BOX TO BE SUPPORTED BY (2) BRICKS.
4. BLOW-OFF TO BE ORIENTED TO DISCHARGE TOWARD ROADWAY.

PERMANENT 2" BLOWOFF DETAIL

NOT TO SCALE



SOIL	BEARING LOAD (lb/sq.ft.)
MUCKY	0
SOFT CLAY	1,000
SILT	1,500
SANDY SILT	3,000
SAND	4,000
SANDY CLAY	6,000
HARD CLAY	9,000

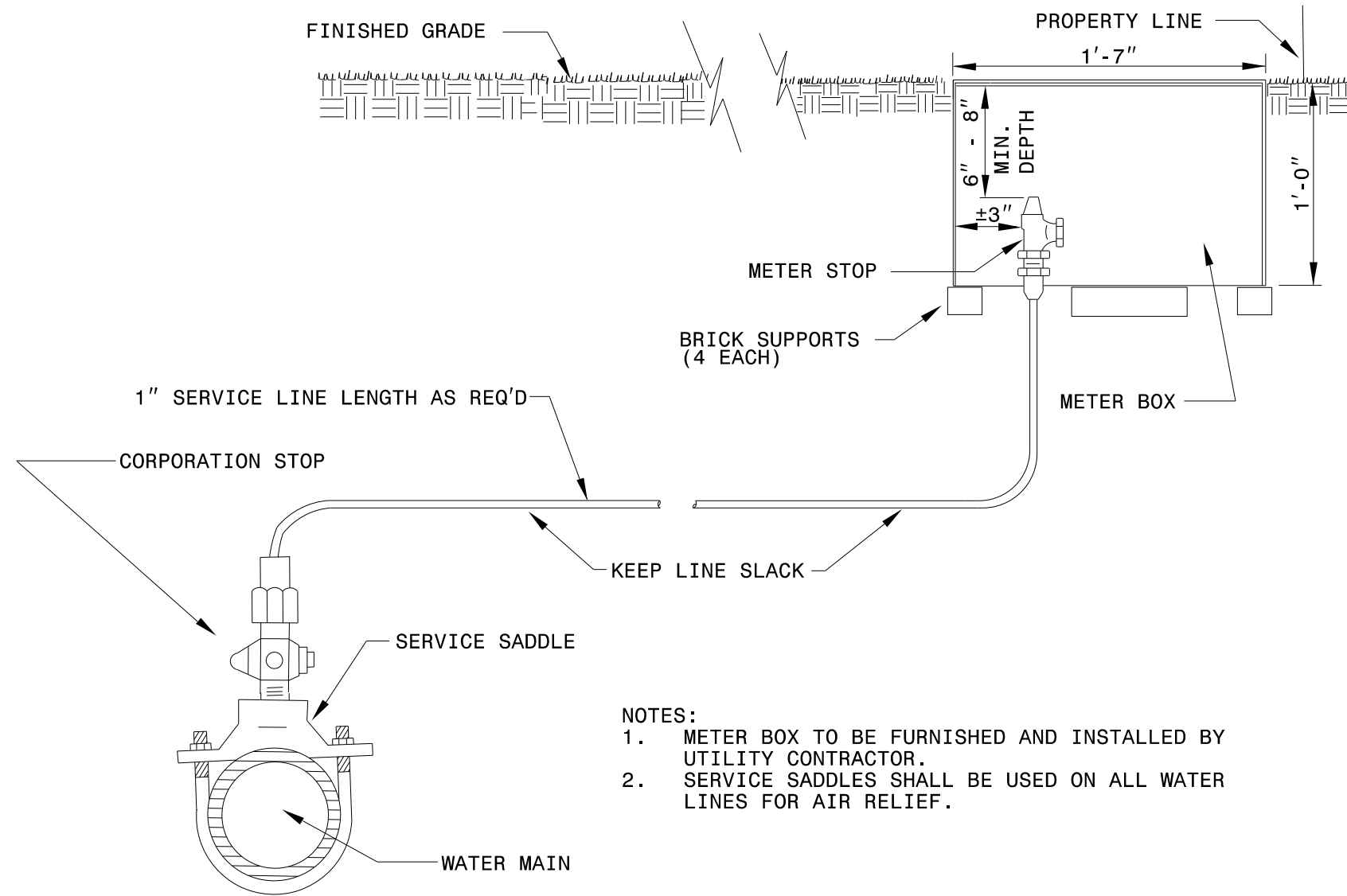
NOTES:

1. MIN. BEARING AREAS ARE BASED UPON THE TABLE ABOVE. FOR SOIL HAVING BEARING CAPACITIES DIFFERENT THAN THAT SHOWN ADJUST AREA AS NECESSARY TO PROVIDE EQUIVALENT RESTRAINT.

PIPE SIZE	MIN. BEARING AREA (SQ.FT.)					
	SOFT CLAY	SILT	SANDY SILT	SAND	SAND CLAY	HARD CLAY
4	2.7	1.8	1.0	1.0	1.0	1.0
6	5.6	3.7	1.9	1.4	1.0	1.0
8	9.7	6.4	3.2	2.4	1.6	1.1
10	15	10	4.8	3.6	2.4	1.6
12	21	14	6.8	5.1	3.4	2.3
14	28	18	9.2	6.9	4.6	3.1
16	36	24	12	8.9	5.9	4.0
18	45	30	15	11	7.4	5.0
20	55	37	18	14	9.2	6.1
24	78	52	26	20	13	8.7
30	121	81	40	30	20	13
36	173	115	56	43	29	19

THRUST RESTRAINT WITH ANCHOR RING

NOT TO SCALE



NOTES:

1. METER BOX TO BE FURNISHED AND INSTALLED BY UTILITY CONTRACTOR.
2. SERVICE SADDLES SHALL BE USED ON ALL WATER LINES FOR AIR RELIEF.

AIR RELEASE FOR WATER LINES

NOT TO SCALE

Weston & Sampson

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Apex, NC 27502
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PROJECT REFERENCE NO.

R-5759

SHEET NO.

UC-03D

DESIGNED BY: CAR

DRAWN BY: CAR

CHECKED BY: KSH

APPROVED BY: KSH

REVISED:

NORTH CAROLINA
DEPARTMENT OF
TRANSPORTATION

UTILITIES ENGINEERING SEC.
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FAX: (919) 250-4151

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		RESTRAINED LENGTH (FT)				
DIA.	- COVER	11.25°	22.5°	45°	90°	DEAD END
4"	- 3' COVER	4	8	16	38	38
4"	- 4' COVER	4	7	15	36	36
4"	- 5' COVER	3	7	14	34	34
6"	- 3' COVER	6	12	24	58	58
6"	- 4' COVER	6	11	23	55	55
6"	- 5' COVER	5	11	22	53	53
8"	- 3' COVER	7	15	31	74	74
8"	- 4' COVER	7	14	30	72	72
8"	- 5' COVER	7	14	29	70	70
10"	- 3' COVER	9	18	38	91	91
10"	- 4' COVER	9	18	37	89	89
10"	- 5' COVER	9	17	36	86	86
12"	- 3' COVER	11	22	46	110	110
12"	- 4' COVER	10	21	43	103	103
12"	- 5' COVER	10	20	42	101	101

NOTES:

1. REQUIRED LENGTHS IN THE ABOVE TABLE ARE FROM THE MANUAL FOR THE DESIGN AND CONSTRUCTION OF WATER AND WASTEWATER SYSTEM EXTENSIONS FOR GREENVILLE UTILITIES.

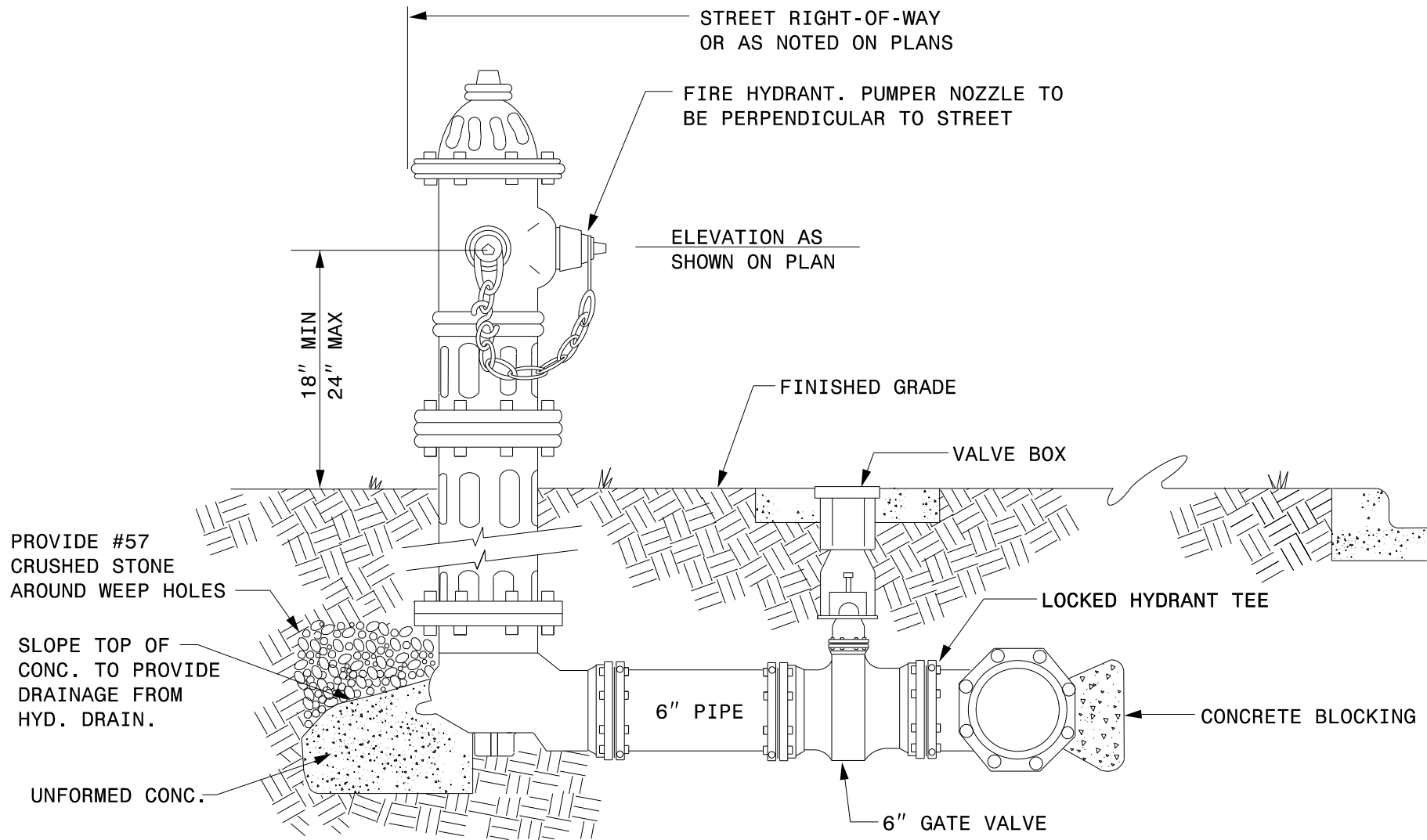
		RESTRAINED LENGTH (FT)				
DIA.	- COVER	11.25°	22.5°	45°	90°	DEAD END
16"	- 3' COVER	13	27	56	134	134
16"	- 4' COVER	12	24	49	118	118
16"	- 5' COVER	10	21	43	103	103

NOTES:

1. CALCULATIONS OF RESTRAINED LENGTH IN THE ABOVE TABLE ARE DERIVED FROM THE DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA) "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE".
2. LAYING CONDIITON 5 - PIPE BEDDED IN COMPACTED GRANULAR MATERIAL FROM 4" MIN. UNDER THE PIPE TO CENTERLINE OF PIPE; COMPACTED TO 90% STANDARD PROCTOR, AASHTO T-99.
3. SOIL DESIGNATION: COHESIVE GRANULAR SOIL
4. DESIGN PRESURE: 150 PSI
5. FACTOR OF SAFETY: 1.5

RESTRAINED PIPE LENGTH REQUIREMENTS

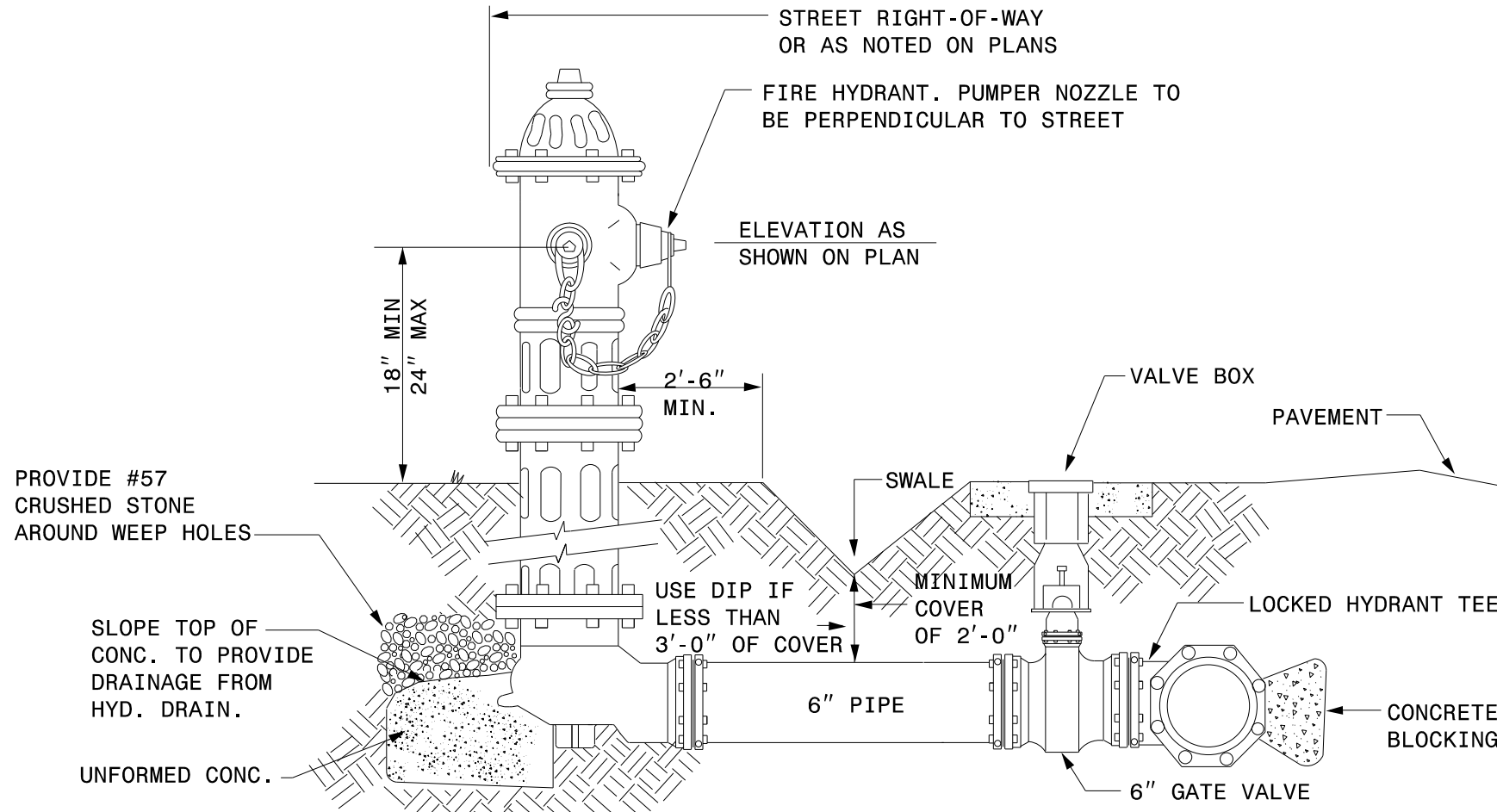
NOT TO SCALE



- NOTES:
1. HYDRANT TO BE PLUMB. IF ADJUSTMENT IS NECESSARY AFTER PRESSURE TEST, RETESTING MAY BE REQUIRED BY GUC.
 2. VALVE BOX SHALL NOT BE INSTALLED IN CURB & GUTTER.
 3. MECHANICAL RESTRAINT DEVICES WILL NOT BE ALLOWED ON THE PIPE CONNECTION TO THE HYDRANT BASE.

FIRE HYDRANT INSTALLATION (FOR AREA WITH CURB AND GUTTER)

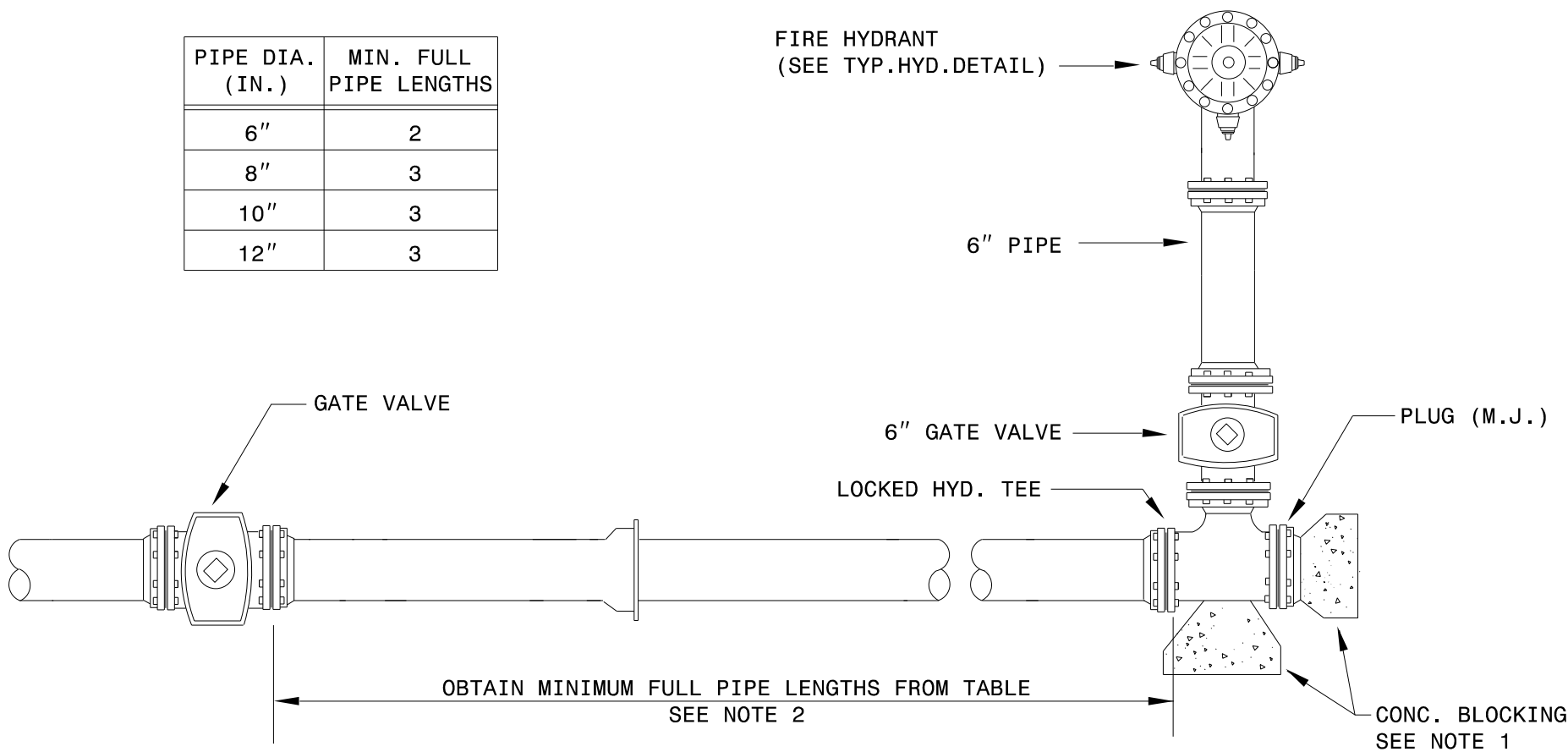
NOT TO SCALE



- NOTES:
1. HYDRANT TO BE PLUMB. IF ADJUSTMENT IS NECESSARY AFTER PRESSURE TEST, RETESTING MAY BE REQUIRED BY GUC.
 2. VALVE BOX SHALL NOT BE INSTALLED IN SLOPE SECTION.
 3. MINIMUM OF 2'-6" FROM TOP OF SLOPE TO FIRE HYDRANT OR EXTENDED TO RIGHT-OF-WAY, WHICHEVER IS GREATER.
 4. EASEMENT TO BE GRANTED TO GUC IF HYDRANT EXTENDS BEYOND RIGHT-OF-WAY.

FIRE HYDRANT INSTALLATION (FOR AREA WITHOUT CURB AND GUTTER)

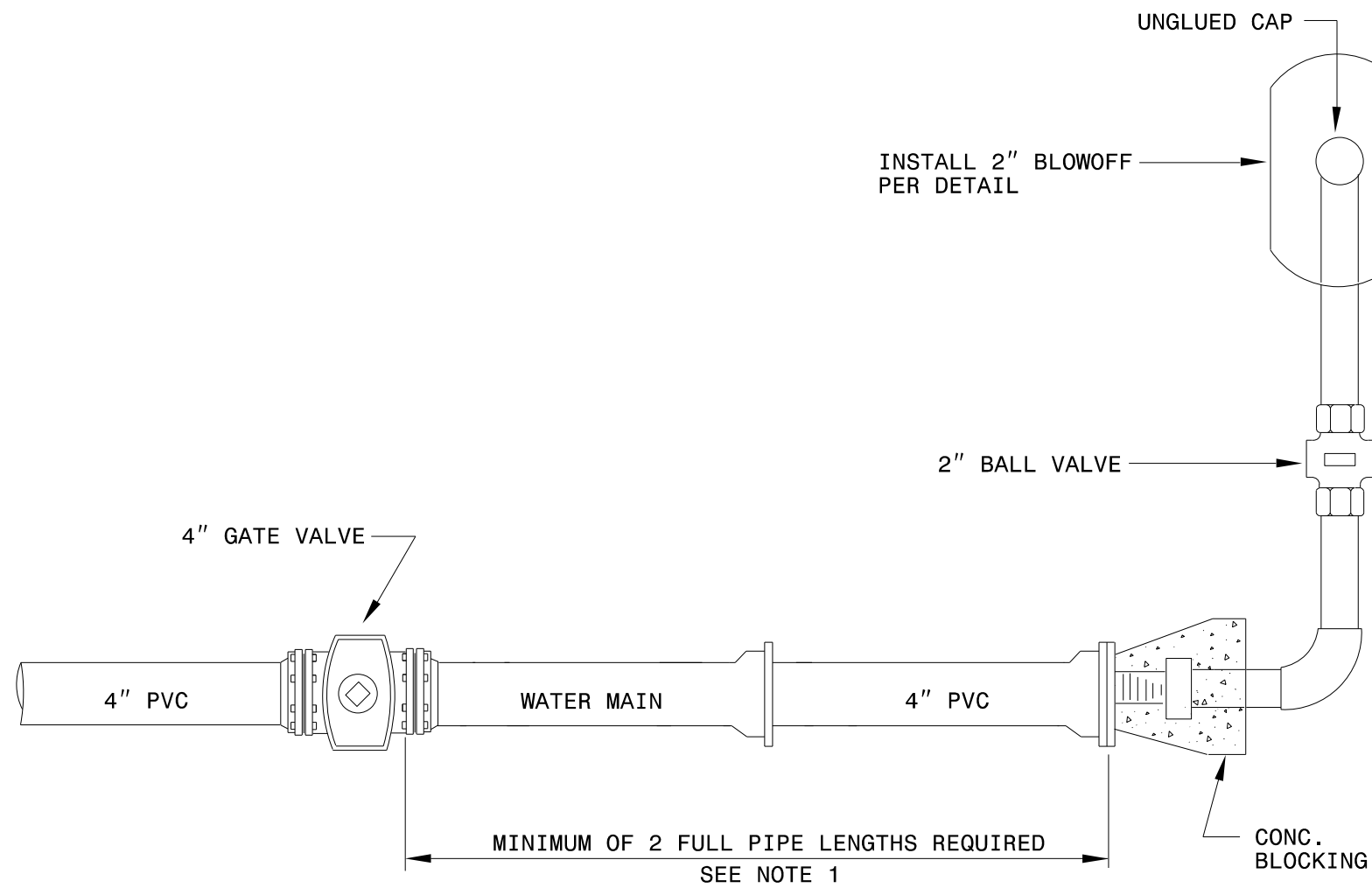
NOT TO SCALE



- NOTES:
1. PLACE CONC. BLOCKING SUCH THAT IT WILL NOT INTERFERE WITH REMOVAL OF BOLTS.
 2. NO SERVICE CAN BE INSTALLED ON THE MAIN BETWEEN THE INLINE GATE VALVE AND THE LOCKED HYDRANT TEE.

TERMINATION OF 6" - 12" WATER MAIN

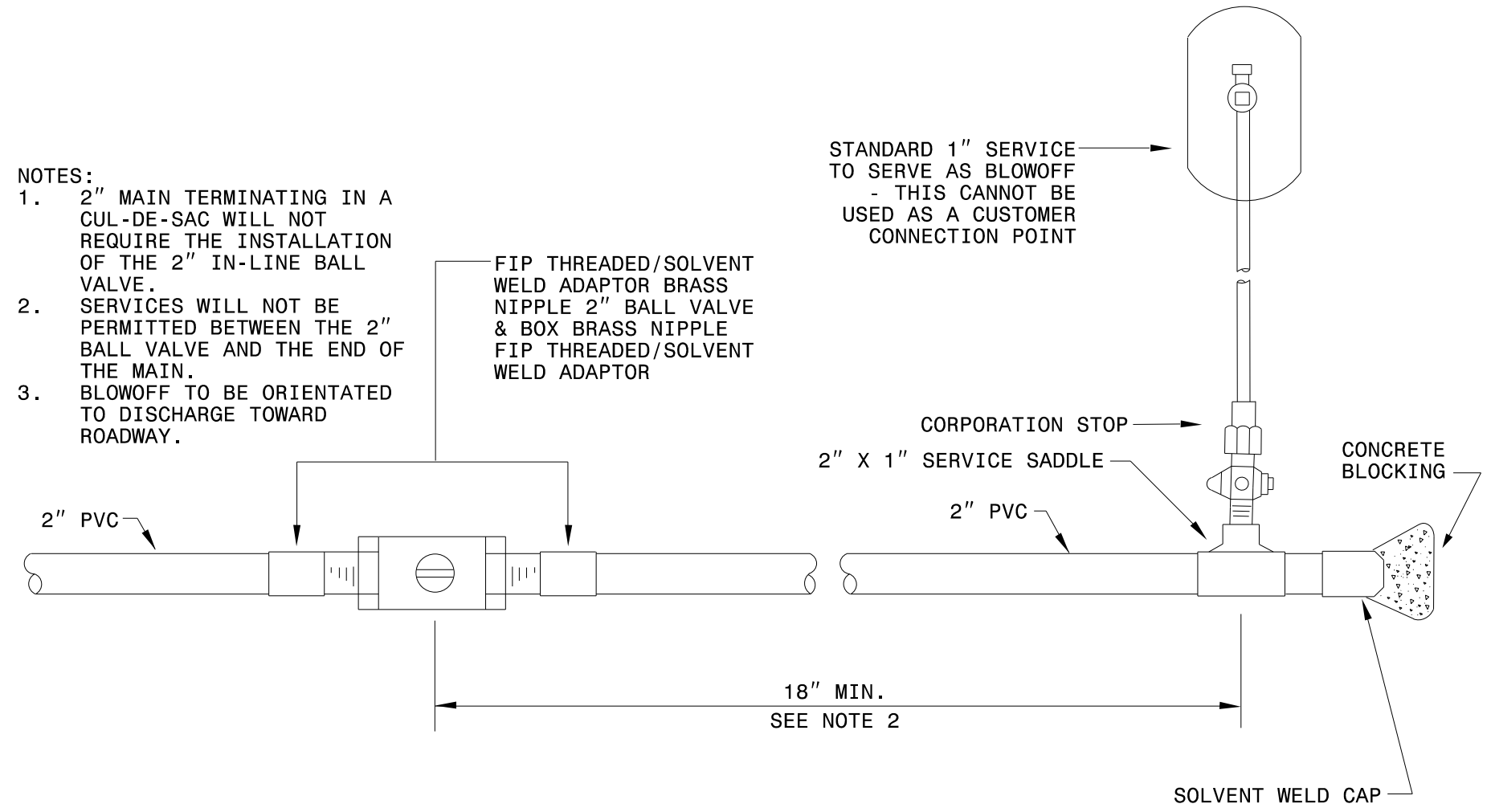
NOT TO SCALE



- NOTES:
1. SERVICES CANNOT BE INSTALLED BETWEEN THE GATE VALVE AND THE END OF THE LINE.

TERMINATION OF 4" WATER MAIN

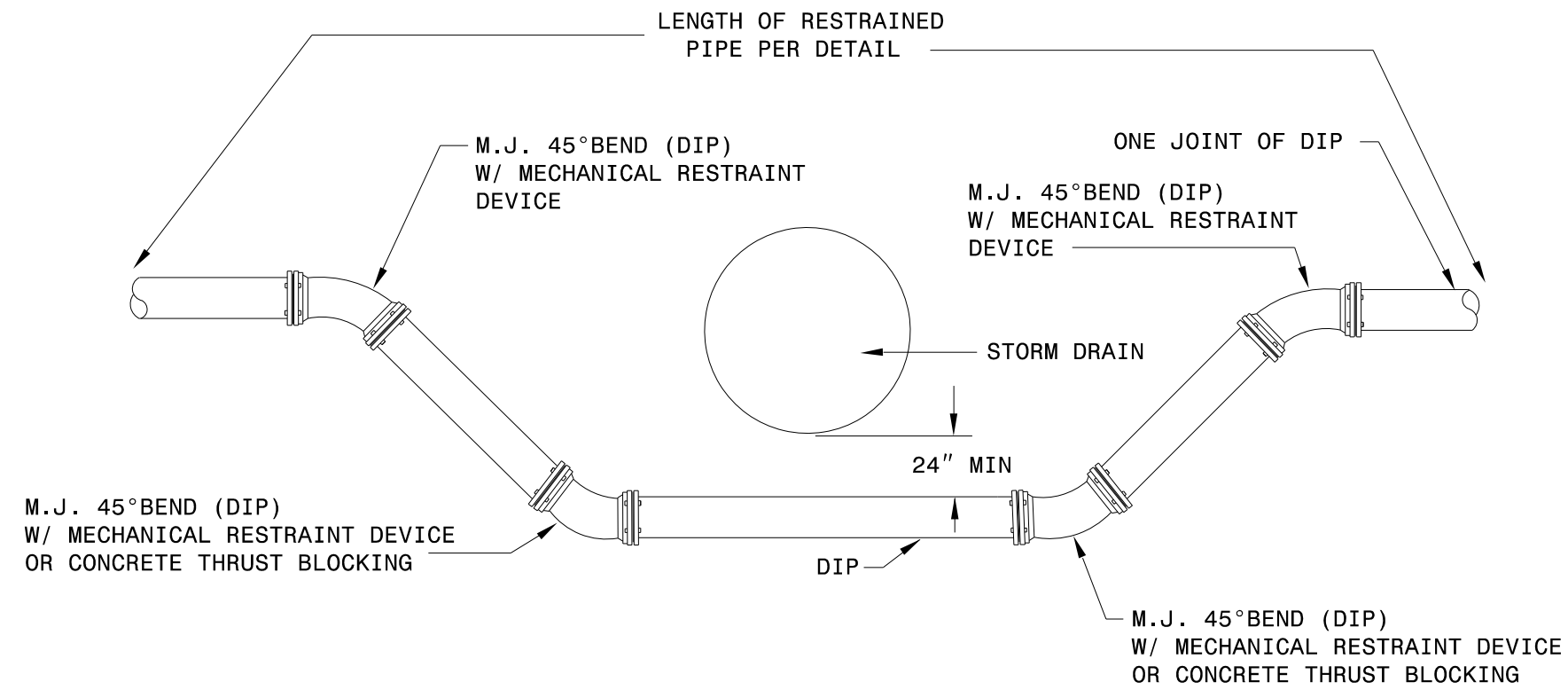
NOT TO SCALE



- NOTES:
1. 2" MAIN TERMINATING IN A CUL-DE-SAC WILL NOT REQUIRE THE INSTALLATION OF THE 2" IN-LINE BALL VALVE.
 2. SERVICES WILL NOT BE PERMITTED BETWEEN THE 2" BALL VALVE AND THE END OF THE MAIN.
 3. BLOWOFF TO BE ORIENTATED TO DISCHARGE TOWARD ROADWAY.

TERMINATION OF 2" WATER MAIN

NOT TO SCALE

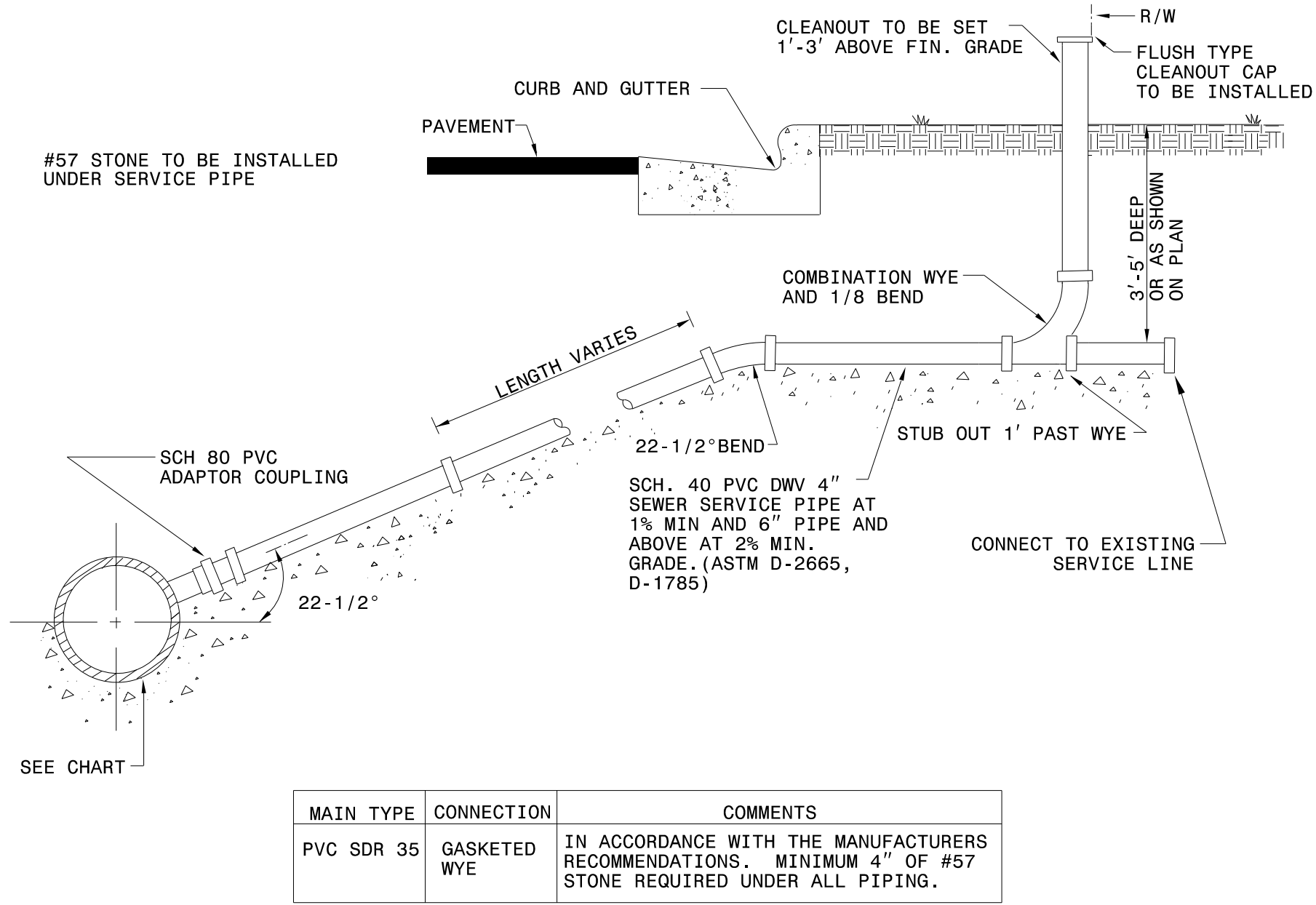


WATER MAIN AND STORM DRAIN CROSSING

NOT TO SCALE

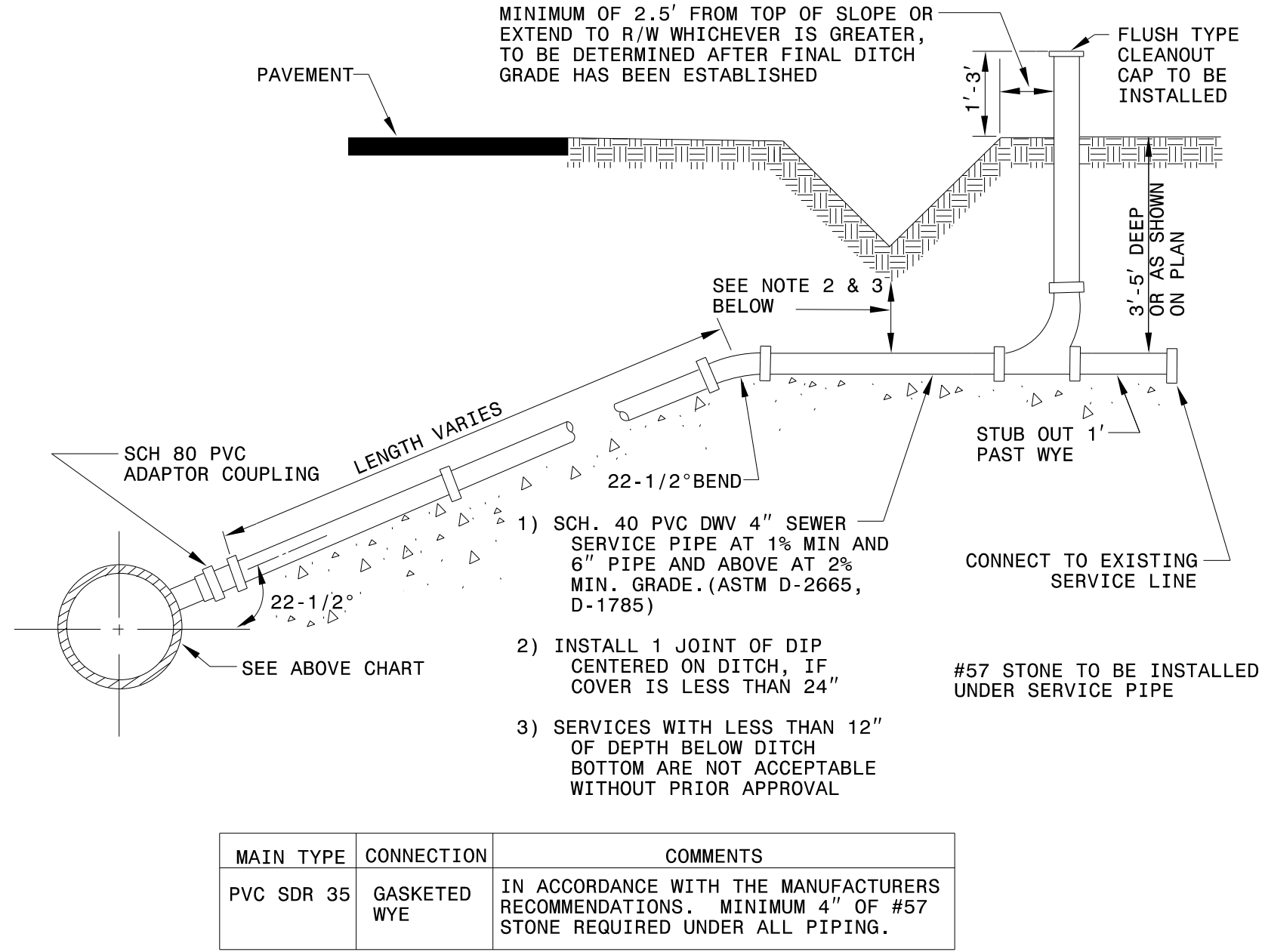
5/14/99

\\eng20-0571-R-5759-wilkes\Utilities\Engineering\UC\Proje\N-R-5759_ut-UC-03B-03G.dtl.dgn
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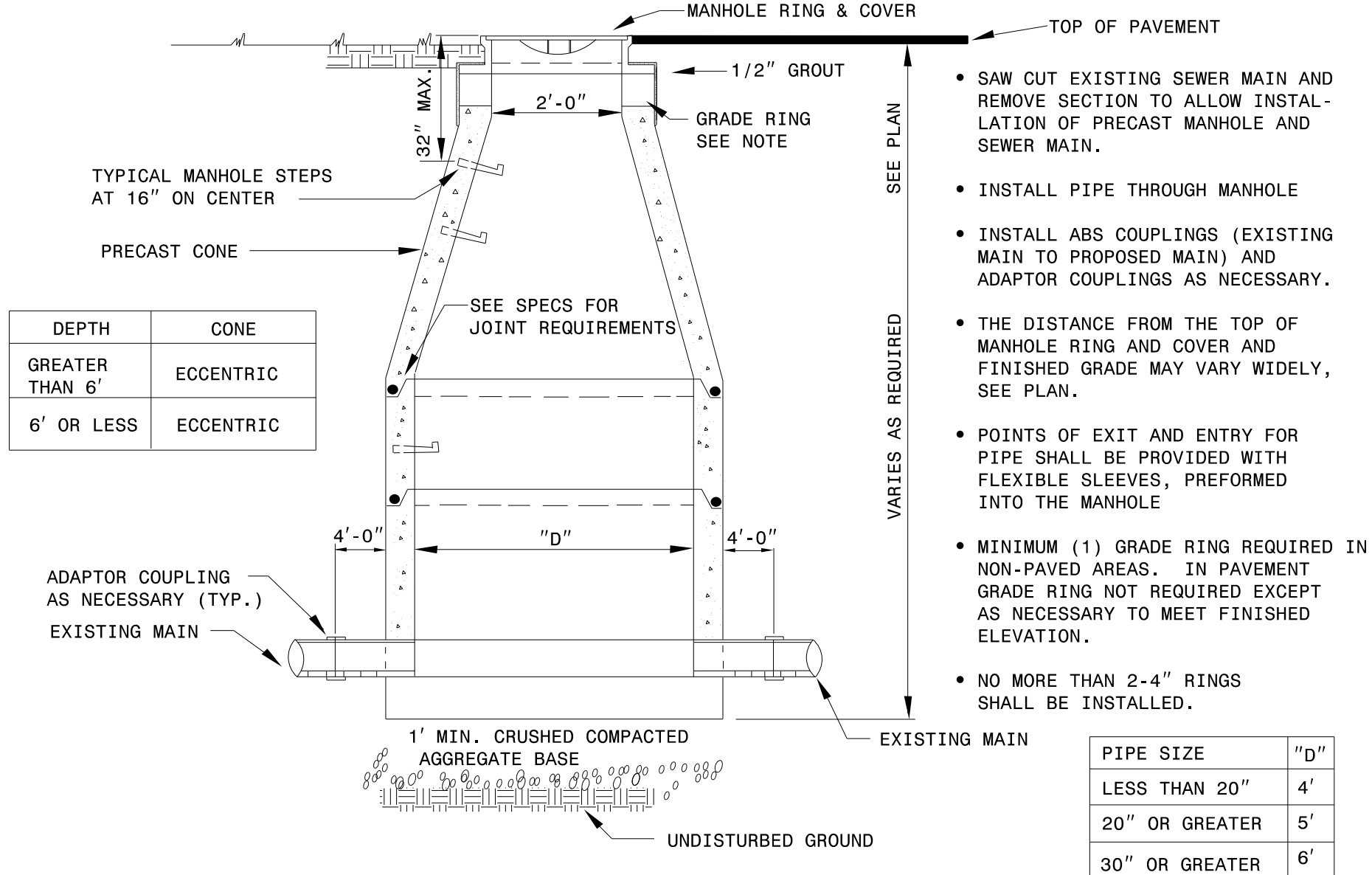
PVC SANITARY SEWER SERVICE DETAIL FOR AREA WITH CURB AND GUTTER FOR MAINS WITH A MAXIMUM DEPTH OF 12'

NOT TO SCALE



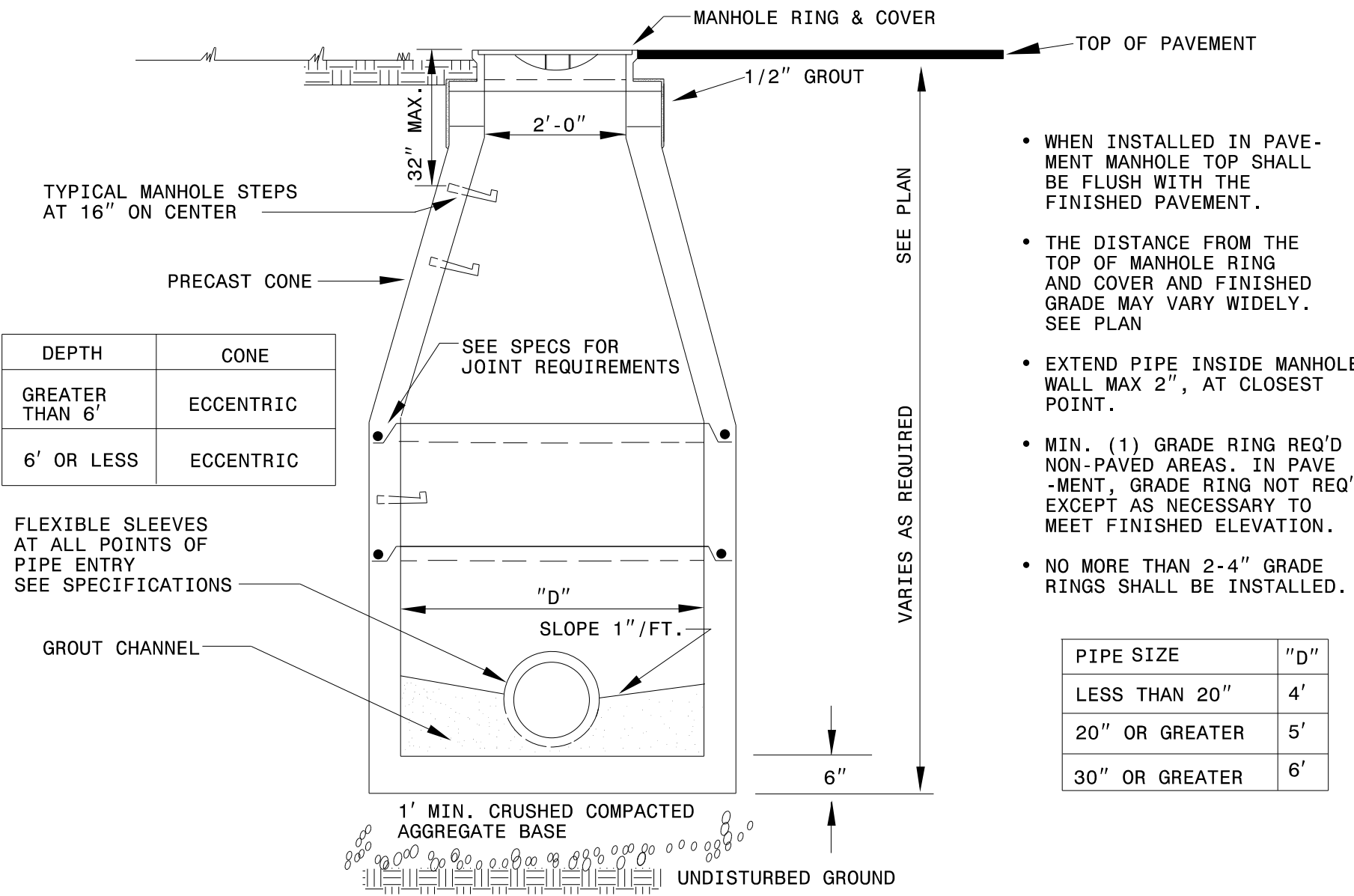
PVC SANITARY SEWER SERVICE DETAIL FOR AREAS WITHOUT CURB AND GUTTER FOR MAINS WITH A MAXIMUM DEPTH OF 12'

NOT TO SCALE



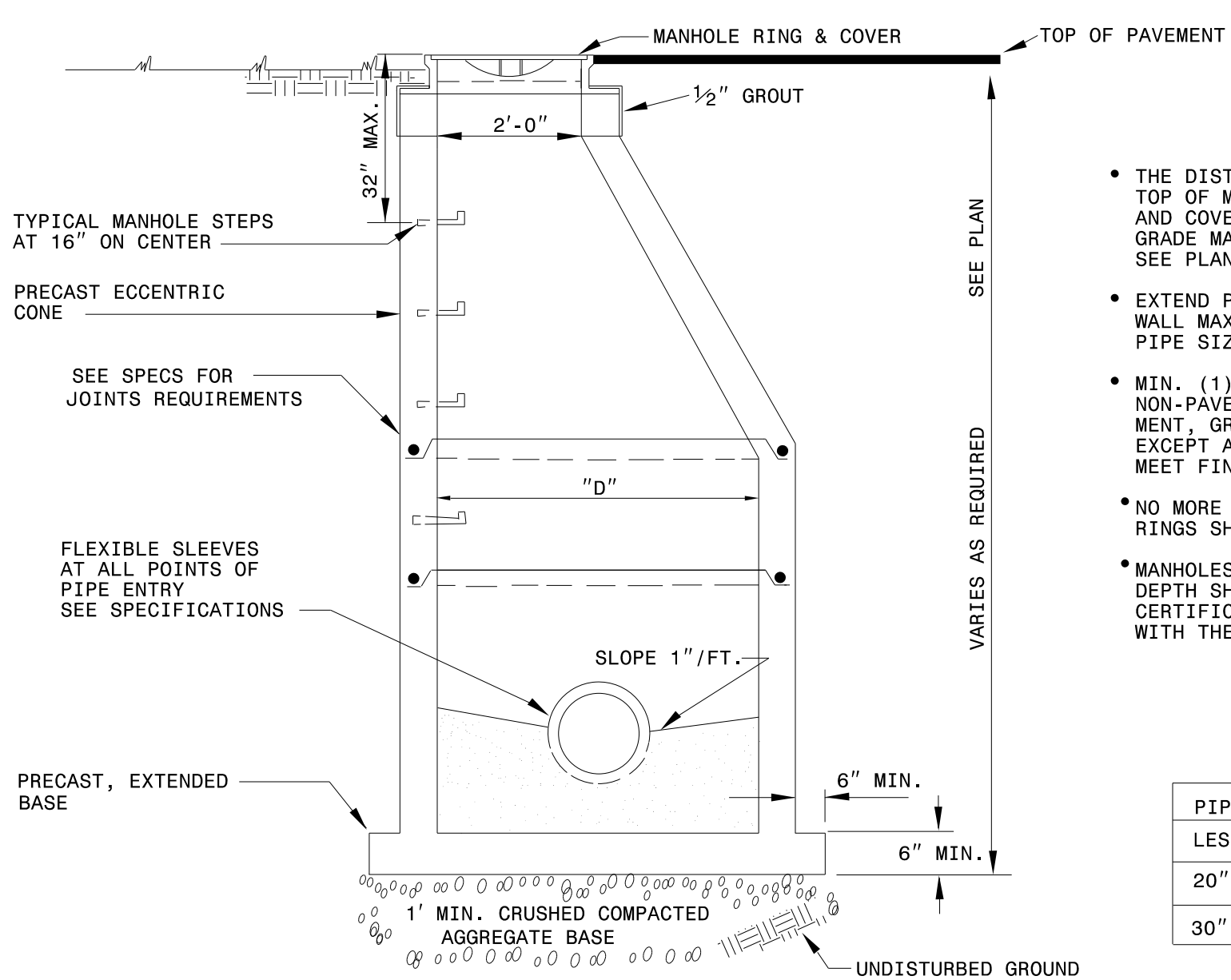
PRECAST MANHOLE INSTALLATION OVER EXISTING SEWER MAIN

NOT TO SCALE



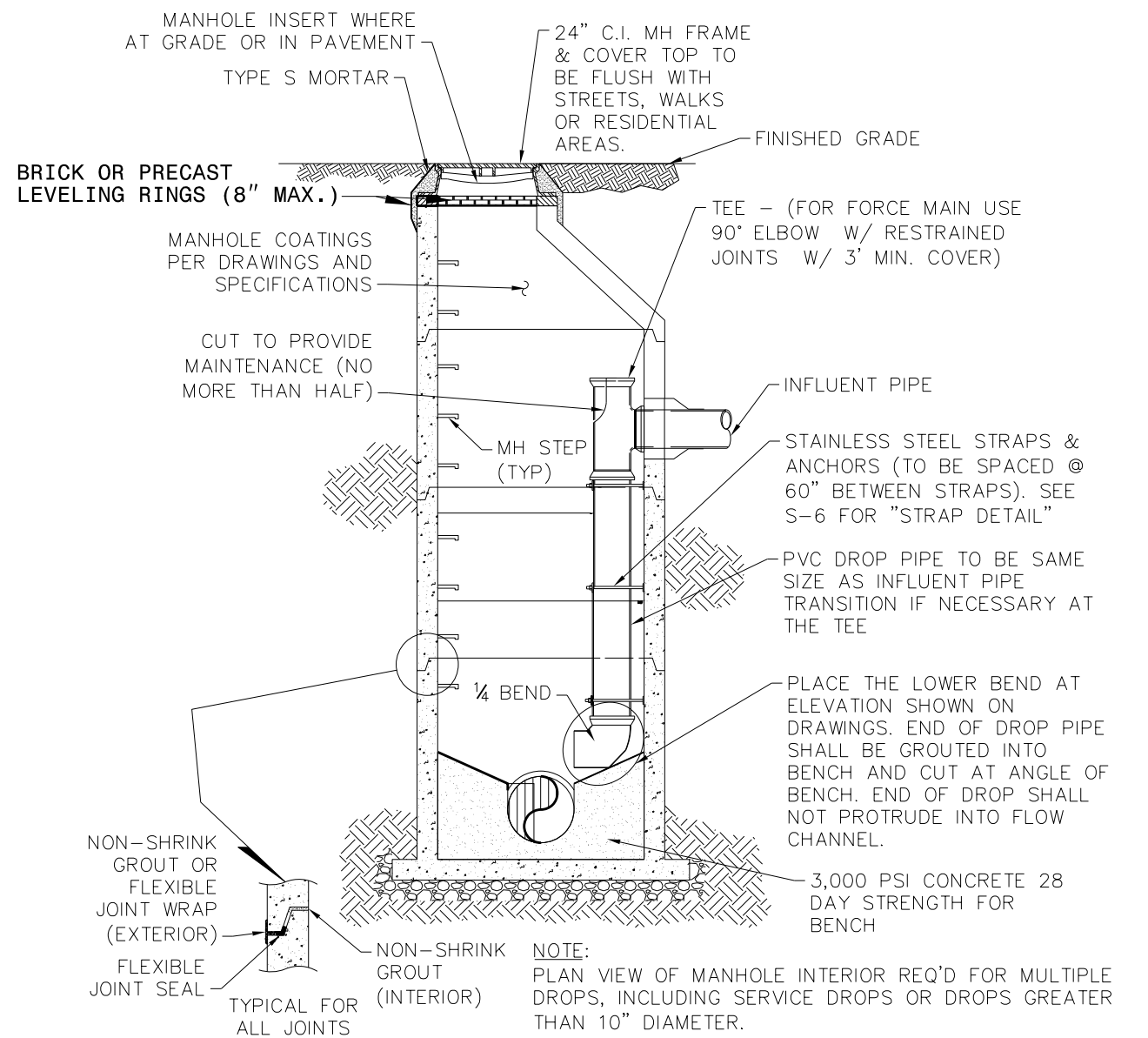
TYPICAL PRECAST MANHOLE FOR MANHOLES 12' OR LESS IN DEPTH

NOT TO SCALE



TYPICAL PRECAST MANHOLE FOR MANHOLES OVER 12' IN DEPTH

NOT TO SCALE



DROP MANHOLE SECTION

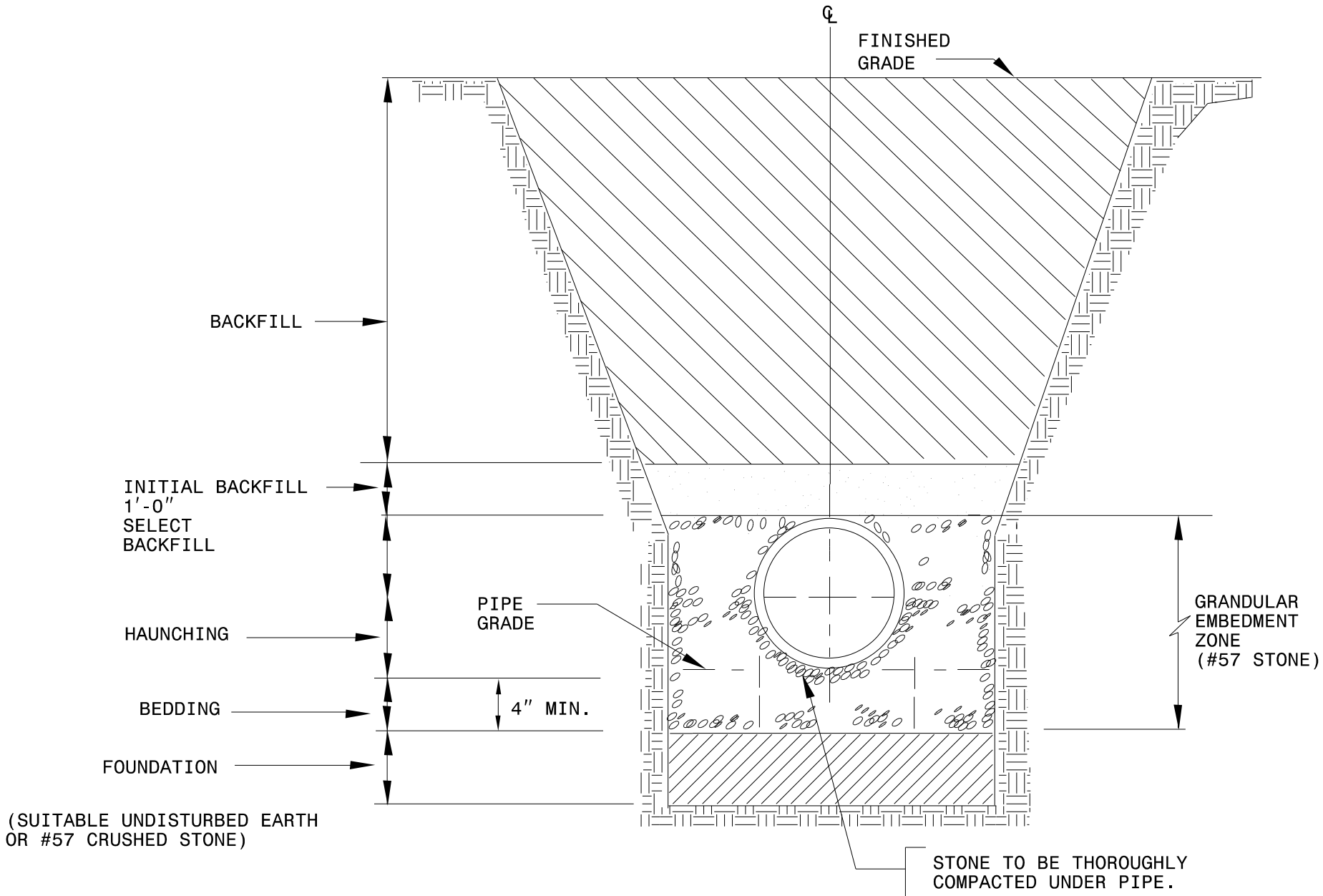
NOT TO SCALE

GRAVITY & FORCE MAIN SEWER DETAILS

Weston & Sampson
WSE of North Carolina, PC
2062 Energy Drive
Phone: 919.297.0220

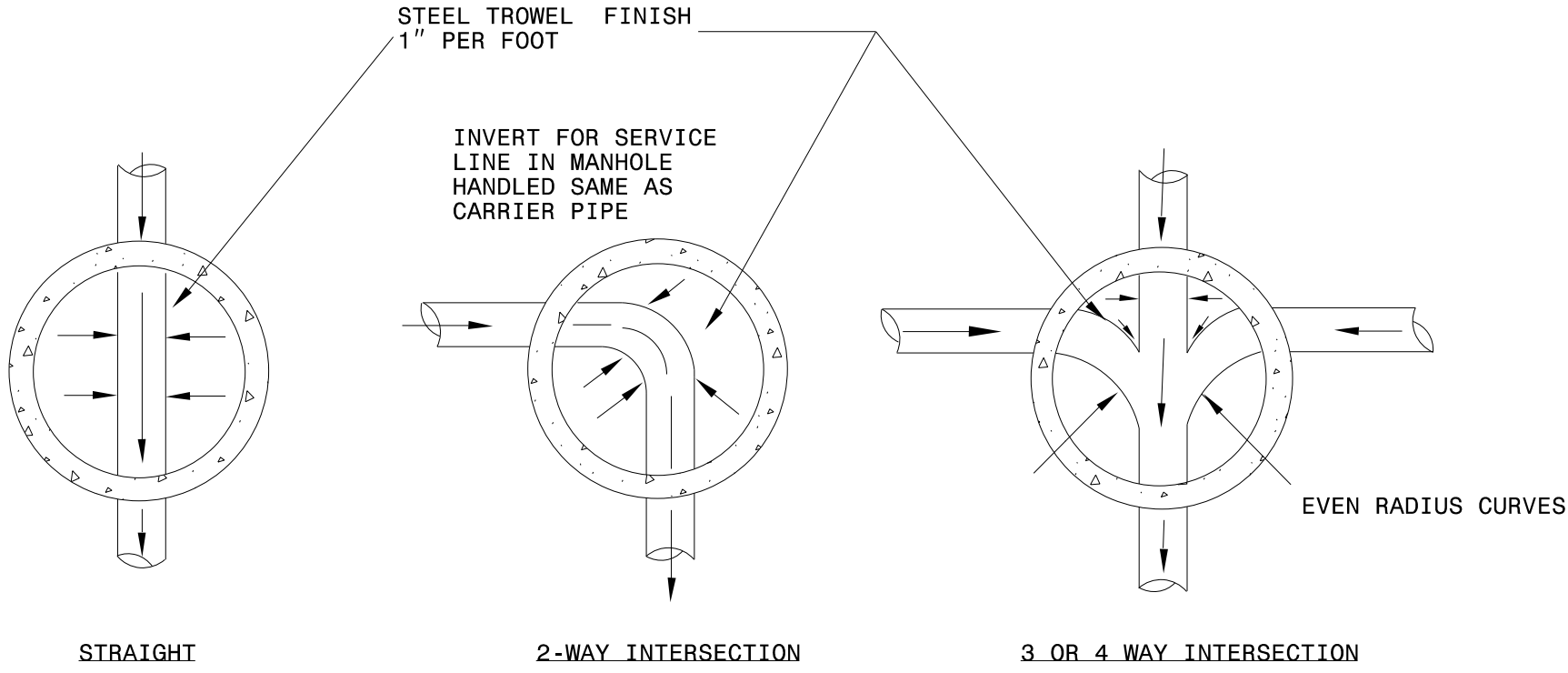
NC
License:
C-4847
Apex, NC 27502
westonandsampson.com

PROJECT REFERENCE NO.		SHEET NO.	
R-5759		UC-036	
DESIGNED BY:	CAR	PROFESSIONAL SEAL 39283 KSH NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
DRAWN BY:	CAR		
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APPROVED BY:	KSH		
REVISED:			
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TRENCH SECTION DETAIL FOR THE INSTALLATION OF
PVC SANITARY SEWER PIPE (NOT INCLUDING TRUSS)

NOT TO SCALE



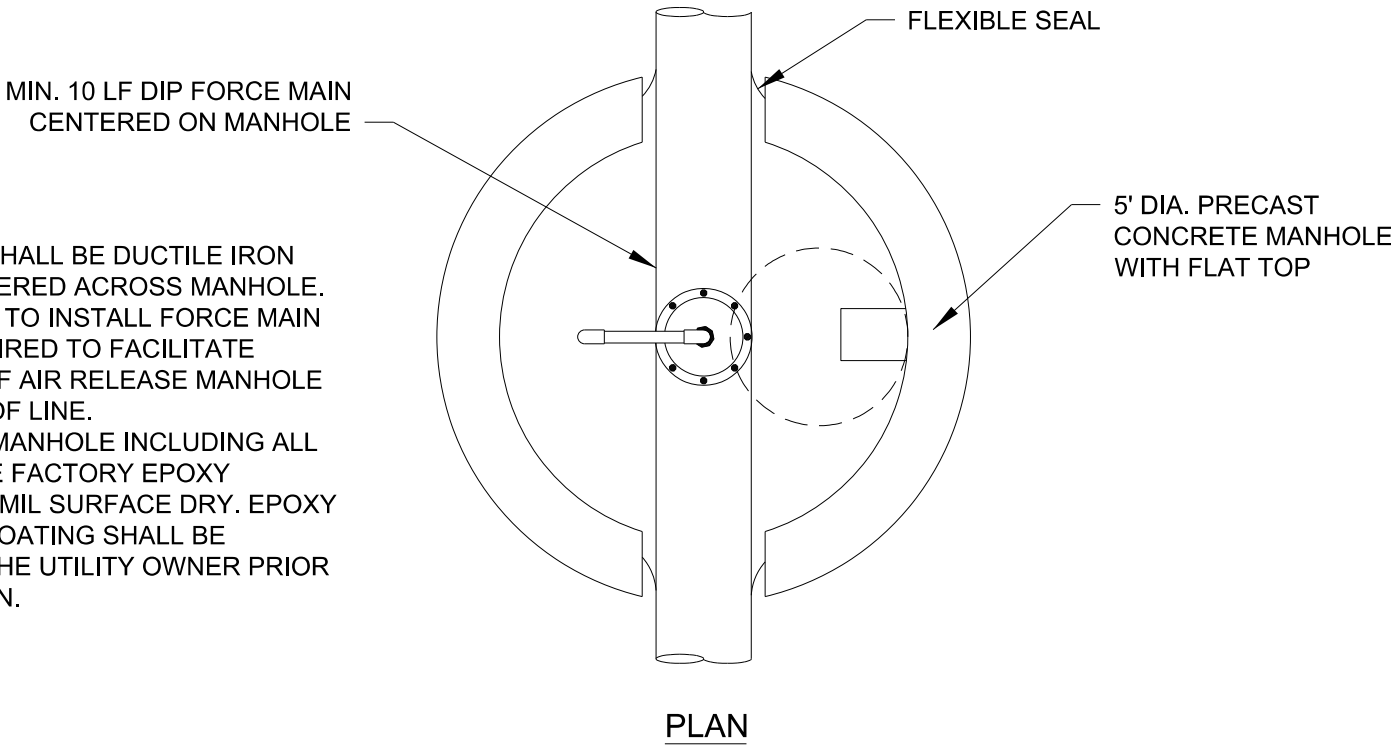
- NOTES:
1. ACCURATELY SHAPE THE INVERTS TO A SMOOTH SEMI-CIRCLE CONFORMING TO THE INSIDE CONTOUR OF THE ADJACENT SEWER SECTIONS. ALL ENTERING BRANCHES AND CHANGES IN DIRECTIONS SHALL BE FORMED BY A CIRCULAR CURVE IN THE INVERT OF AS LARGE A RADIUS AS THE SIZE OF MANHOLE WILL PERMIT. CHANGES IN SIZE AND GRADE OF THE CHANNELS SHALL BE MADE GRADUALLY AND EVENLY. THE INVERT CHANNELS SHALL BE FORMED DIRECTLY IN THE CONCRETE OF THE MANHOLE BASE, OR SHALL BE BUILT UP WITH BRICK AND MORTAR. THE FLOOR OF THE MANHOLE OUTSIDE THE CHANNELS SHALL BE SMOOTH AND SHALL SLOPE TOWARD THE CHANNELS NOT LESS THAN 1 INCH PER FOOT NOR MORE THAN 2 INCHES PER FOOT.

MANHOLE INVERTS

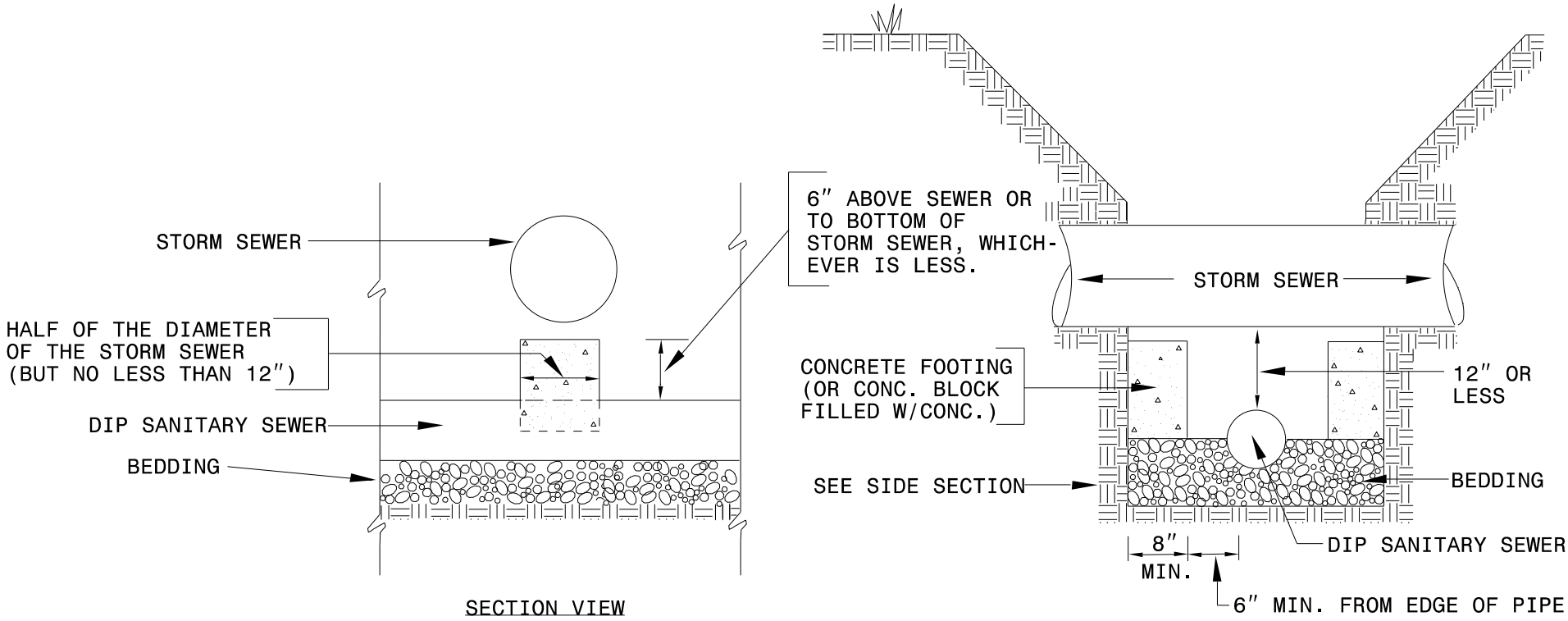
NOT TO SCALE

NOTES:

1. FORCE MAIN SHALL BE DUCTILE IRON PIPE 10 LF CENTERED ACROSS MANHOLE.
2. CONTRACTOR TO INSTALL FORCE MAIN AT DEPTH REQUIRED TO FACILITATE INSTALLATION OF AIR RELEASE MANHOLE AT HIGH POINT OF LINE.
3. INTERIOR OF MANHOLE INCLUDING ALL PIPING SHALL BE FACTORY EPOXY COATED MIN. 50 MIL SURFACE DRY. EPOXY DEALER PRIMECOATING SHALL BE APPROVED BY THE UTILITY OWNER PRIOR TO INSTALLATION.



PLAN

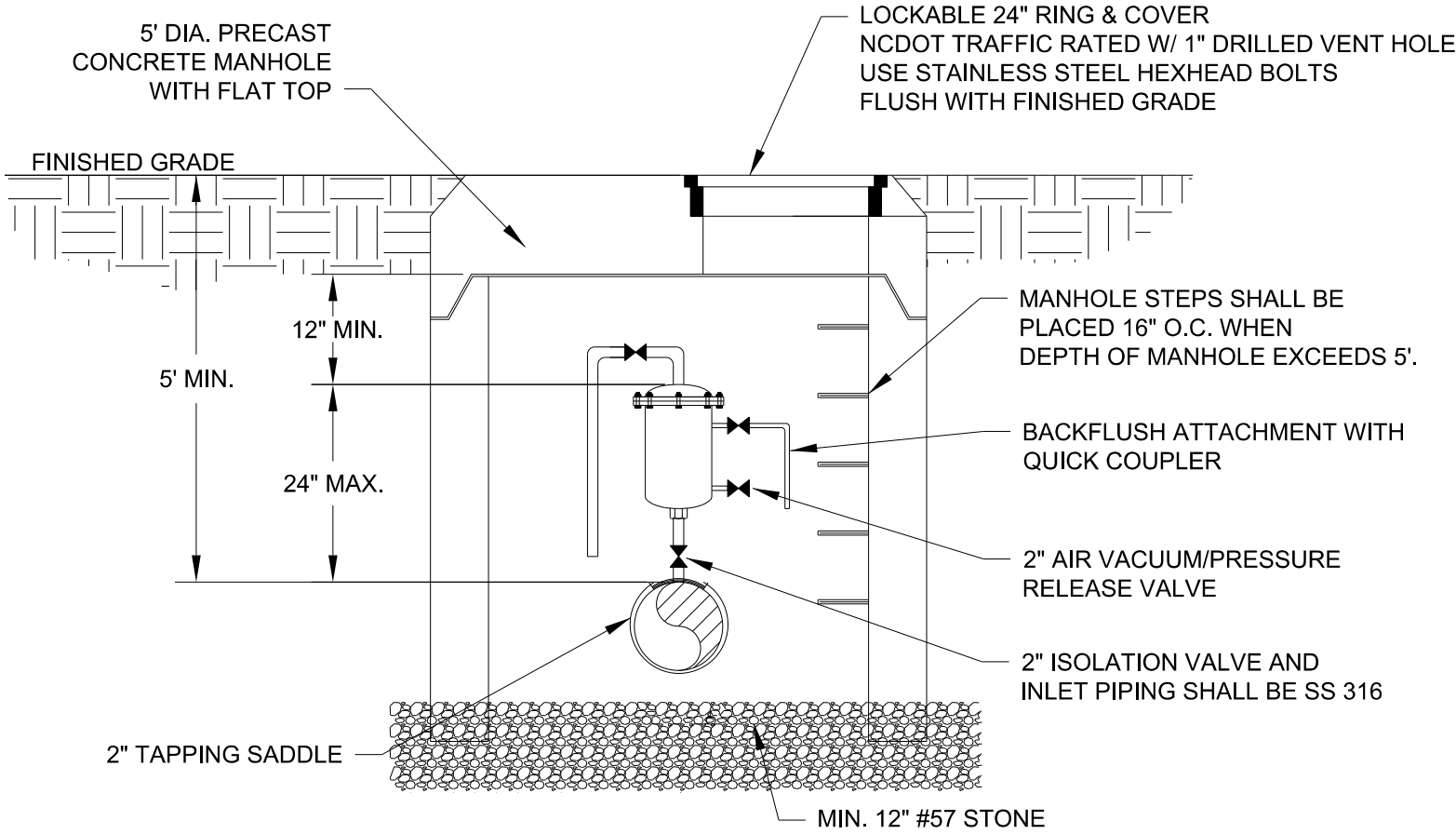


SECTION VIEW

- NOTES:
1. WHEN A SANITARY SEWER MUST BE INSTALLED UNDER A STORM SEWER, 24" OF VERTICAL SEPARATION SHALL BE PROVIDED. WHEN SEWER IS SDR 35 PVC BEDDING SHALL BE IN ACCORDANCE WITH DETAIL #S-4.
 2. IF REQUIRED SEPARATION CAN NOT BE OBTAINED BOTH MAINS HAVE TO BE DUCTILE IRON PIPE CLASS 350.

SANITARY SEWER CROSSING BELOW STORM SEWER

NOT TO SCALE



SECTION

STANDARD AIR RELEASE
MANHOLE FOR FORCE MAIN

NOT TO SCALE

5/14/2019

8/10/2026
2:45:53 PM
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WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
BROADWAY WATER ASSOCIATION
EXISTING UTILITIES:
WATER LINE 6"
CONTACT:
JEFF CARTY
EMAIL: BWJCARTY@BROADWAYWATER.NET
PHONE: (336) 667-1483 (0)

THE ESTIMATED QUANTITY OF
DUCTILE IRON WATER PIPE FITTINGS
ON THIS PLAN SHEET IS 640 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

REFERENCE NOTES:
1. REFER TO SHEET UC-17 FOR WL-01 PROFILE.

CURVATURE ABBREVIATIONS:
PC-W1C HORZ. = THIRD HORIZONTAL
POINT-OF-CURVATURE
ALONG WL-01

PT-W1C HORZ. = THIRD HORIZONTAL
POINT-OF-TANGENCY
ALONG WL-01

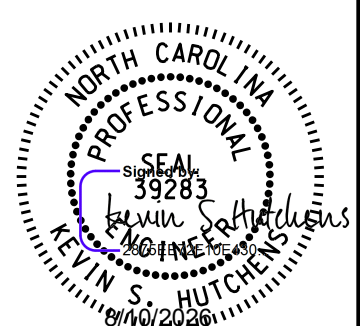
GENERAL NOTES:
1. CONTRACTOR TO VERIFY ALL UNDERGROUND UTILITIES TO BE
ABANDONED ARE REMOVED PRIOR TO PIT EXCAVATION.
UNDERGROUND UTILITIES TO REMAIN SHALL BE PROTECTED AND
SUPPORTED DURING EXCAVATION. CONTRACTOR IS RESPONSIBLE
FOR BORE PIT ENGINEERED DESIGN. PROVIDED INFORMATION IS
ONLY APPROXIMATE.

NAD 83/
NA 2011

Weston & Sampson

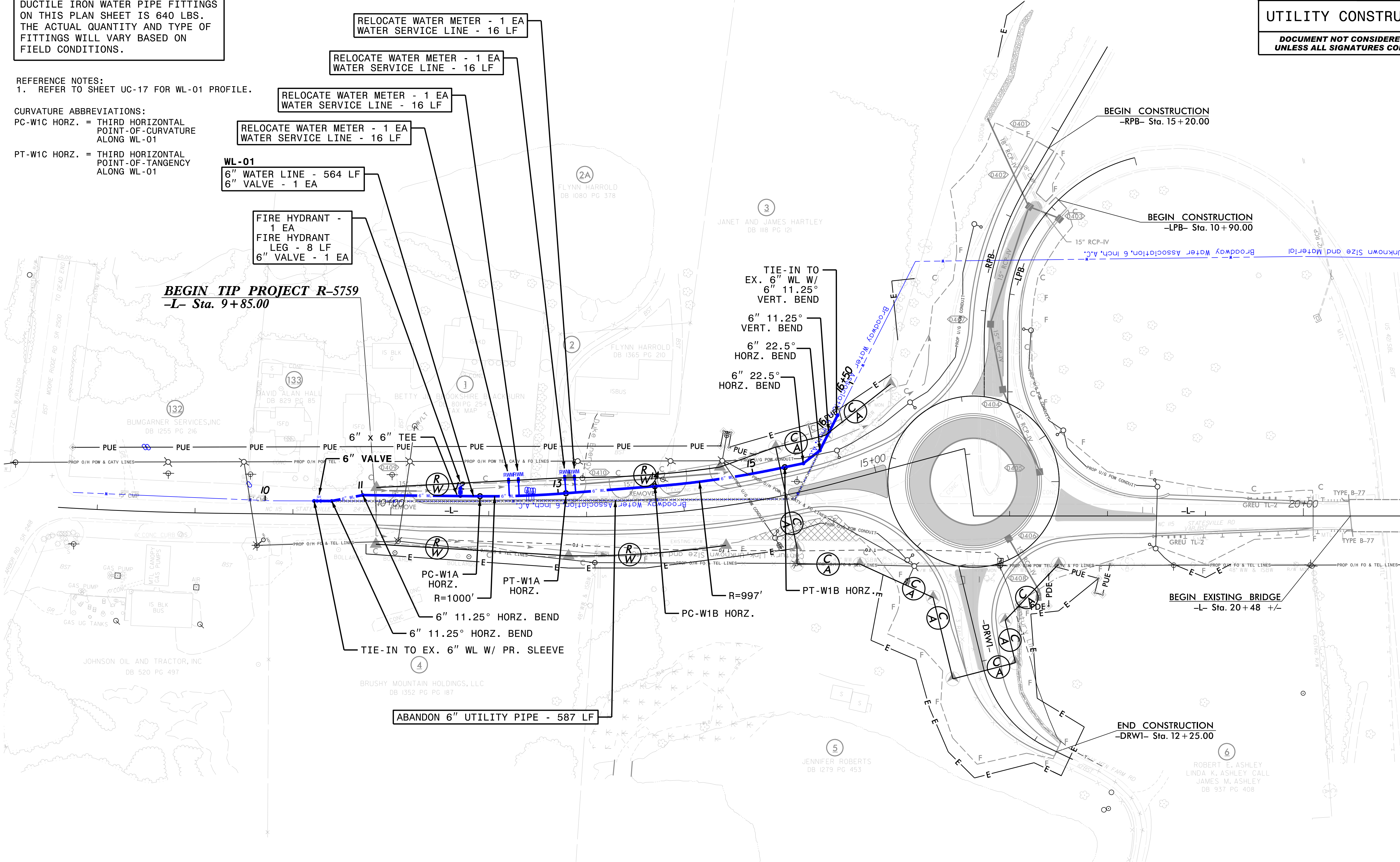
WSE of North Carolina, PC
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License:
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Apex, NC 27602
westonandsampson.com

PROJECT REFERENCE NO.		SHEET NO.	
R-5759		UC-04	
DESIGNED BY:	CAR		UTILITY CONSTRUCTION PLANS ONLY
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CHECKED BY:	KD		
APPROVED BY:	KSH		
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



MATCHLINE -L- STA. 21+00.00 SEE SHEET UC-05

5/14/2026

8/10/2026
C:\Users\jwse\OneDrive\Projects\NC\HNTB\Division 11\ENG20-0571_R-5759_Wilkes Utilities Engineering\UC\Proj\R-5759_ut_UC_05_PSH.dgn

WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
BROADWAY WATER ASSOCIATION
EXISTING UTILITIES:
WATER LINE 6"
CONTACT:
JEFF CARTY
EMAIL: BWJCARTY@BROADWAYWATER.NET
PHONE: (336) 667-1483 (0)

WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
TOWN OF NORTH WILKESBORO
EXISTING UTILITIES:
GRAVITY SEWER 8"
SAN. FORCE MAIN 3"
CONTACT:
DAVID POORE
EMAIL: PUBLICUTILITIES@NORTHWILKESBORONC.GOV
PHONE: (336) 928-5377

GENERAL NOTES:
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF EXISTING WATER LINE AT THE PROPOSED DITCH BEFORE STARTING WORK. IF THE WATER LINE IS FOUND AT A DEPTH LESS THAN 2.5 FEET BELOW THE PROPOSED DITCH ELEVATION, THEN AN ADDITIONAL RELOCATION IS REQUIRED.
2. ALL PROPOSED MANHOLES LOCATED IN THE SIDEWALK SHALL HAVE ECCENTRIC CONES INSTALLED TO PLACE LIDS OUT OF THE SIDEWALK AREA.
3. CONTRACTOR TO AVOID VALVE INSTALLATION IN SIDEWALKS AND DRIVEWAYS IF POSSIBLE.
4. CONTRACTOR TO VERIFY ALL UNDERGROUND UTILITIES TO BE ABANDONED ARE REMOVED PRIOR TO PIT EXCAVATION. UNDERGROUND UTILITIES TO REMAIN SHALL BE PROTECTED AND SUPPORTED DURING EXCAVATION. CONTRACTOR IS RESPONSIBLE FOR BORE PIT ENGINEERED DESIGN. PROVIDED INFORMATION IS ONLY APPROXIMATE.

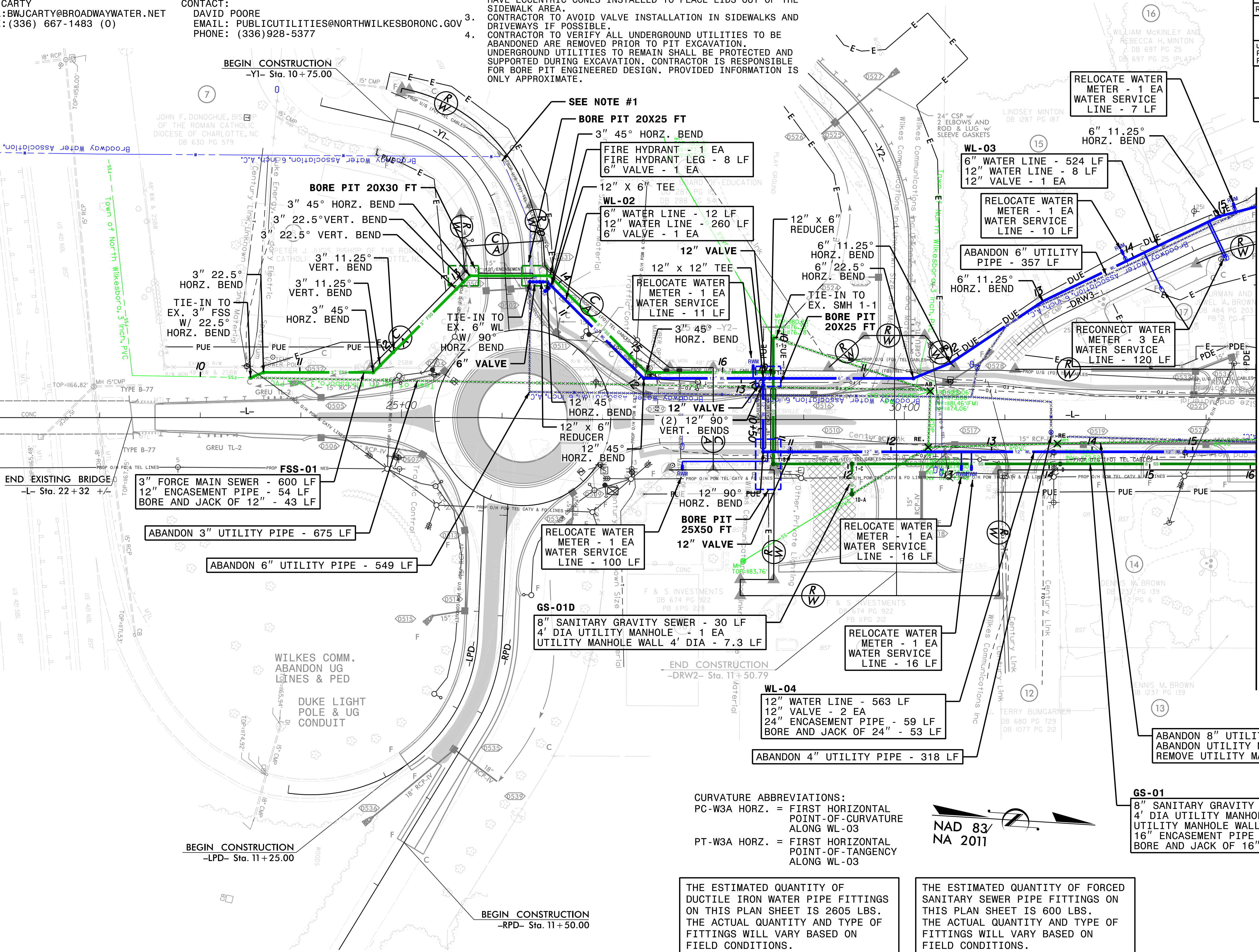
REFERENCE NOTES:
1. REFER TO SHEET UC-17 FOR WL-02 PROFILE.
2. REFER TO SHEET UC-17 FOR WL-03 PROFILE.
3. REFER TO SHEET UC-18 FOR WL-04 PROFILE.
4. REFER TO SHEET UC-28 FOR FSS-01 PROFILE.
5. REFER TO SHEET UC-34 FOR GS-01 PROFILE.

Weston & Sampson
WSE of North Carolina, PC
2052 Energy Drive
Phone: 919.297.0220
NC License: C-4847
Apex, NC 27502
westonandsampson.com

PROJECT REFERENCE NO.		SHEET NO.		
R-5759		UC-05		
DESIGNED BY: CAR			UTILITY CONSTRUCTION PLANS ONLY	
DRAWN BY: CAR				
CHECKED BY: KSH				
APPROVED BY: KSH				
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				

MATCHLINE -L- STA. 21 + 00.00 SEE SHEET UC-04

MATCHLINE -L- STA. 33 + 50.00 SEE SHEET UC-06





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License:
C-4647
WSE of North Carolina, PC
2052 Energy Drive
Phone: 919.297.0220
Apex, NC 27502
westonandsampson.com

THE ESTIMATED QUANTITY OF
DUCTILE IRON WATER PIPE FITTINGS
ON THIS PLAN SHEET IS 5495 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

WATER / SANITARY SEWER UTILITY OWNERS ON THIS SHEET: BROADWAY WATER ASSOCIATION EXISTING UTILITIES: WATER LINE 4" CONTACT: JEFF CARTY EMAIL: BWJCARTY@BROADWAYWATER.NET PHONE: (336) 667-1483 (0)	WATER / SANITARY SEWER UTILITY OWNERS ON THIS SHEET: TOWN OF NORTH WILKESBORO EXISTING UTILITIES: GRAVITY SEWER 8" SAN. FORCE MAIN 3" CONTACT: DAVID POORE EMAIL: PUBLICUTILITIES@NORTHWILKESBORONC.GOV PHONE: (336) 928-5377	4" LINE STOP W 12" WATER LINE 12" VALVE - 1
--	---	--

12"	SANITARY GRAVITY SEWER	-	587 LF
4'	DIA UTILITY MANHOLE	-	2 EA
UTILITY MANHOLE WALL	4' DIA	-	8.6 LF
5'	DIA UTILITY MANHOLE	-	1 EA
UTILITY MANHOLE WALL	5' DIA	-	15.1 LF
ADJUSTMENT OF MANHOLES		-	1 EA

SEE NOTE #2

NAD 83/
NA 2011

5/14/2026

8/10/2026 Local\WSE\Projects\NC\HNTB\Division 11\ENG20-0571_LR-5759_Wilkes Utilities Engineering\UC\Proj_LR-5759_uc_07_PSH.dgn

Weston & Sampson
WSE of North Carolina, PC
2052 Energy Drive
Phone: 919.297.0220

NC License:
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Apex, NC 27502
westonandsampson.com

PROJECT REFERENCE NO.
R-5759

SHEET NO.
UC-07

DESIGNED BY: CAR

DRAWN BY: CAR

CHECKED BY: KSH

APPROVED BY: KSH

REVISED:

NORTH CAROLINA
DEPARTMENT OF
TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE: (919) 707-6690
FAX: (919) 250-4151

UTILITY CONSTRUCTION
PLANS ONLY

SEAL
39283
K. S. HUTCHINS
8/10/2026

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
BROADWAY WATER ASSOCIATION
EXISTING UTILITIES:
WATER LINE 2", 4", UNK
CONTACT:
JEFF CARTY
EMAIL: BWJCARTY@BROADWAYWATER.NET
PHONE: (336) 667-1483 (0)

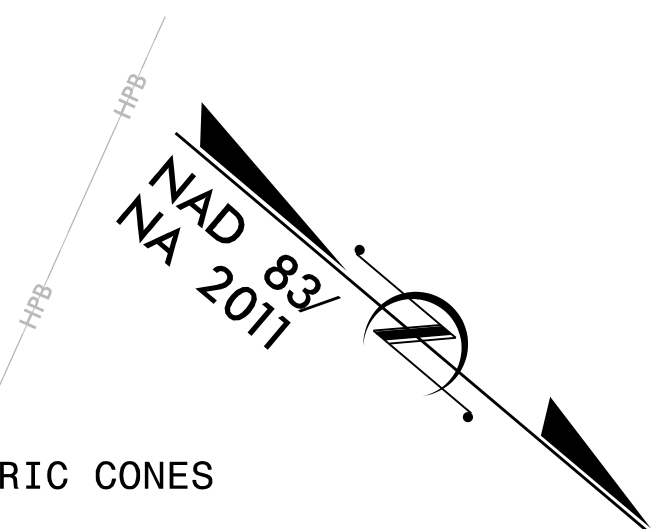
WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
TOWN OF NORTH WILKESBORO
EXISTING UTILITIES:
GRAVITY SEWER: 8"
SAN. FORCE MAIN: 3"
CONTACT:
DAVID POORE
EMAIL: PUBLICUTILITIES@NORTHWILKESBORONC.GOV
PHONE: (336) 928-5377

THE ESTIMATED QUANTITY OF
DUCTILE IRON WATER PIPE FITTINGS
ON THIS PLAN SHEET IS 3255 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

THE ESTIMATED QUANTITY OF FORCED
SANITARY SEWER PIPE FITTINGS ON
THIS PLAN SHEET IS 990 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

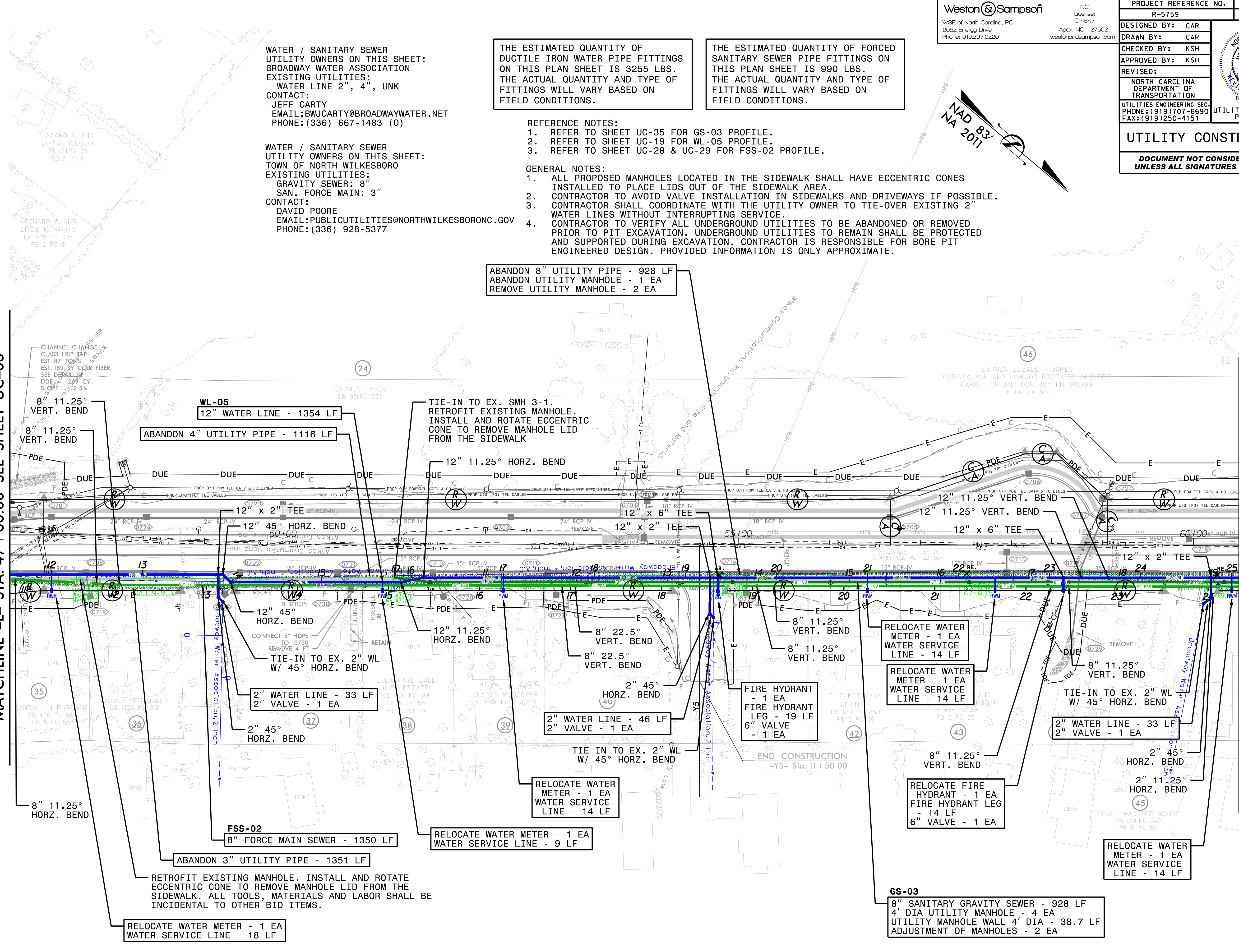
- REFERENCE NOTES:
1. REFER TO SHEET UC-35 FOR GS-03 PROFILE.
 2. REFER TO SHEET UC-19 FOR WL-05 PROFILE.
 3. REFER TO SHEET UC-28 & UC-29 FOR FSS-02 PROFILE.

- GENERAL NOTES:
1. ALL PROPOSED MANHOLES LOCATED IN THE SIDEWALK SHALL HAVE ECCENTRIC CONES INSTALLED TO PLACE LIDS OUT OF THE SIDEWALK AREA.
 2. CONTRACTOR TO AVOID VALVE INSTALLATION IN SIDEWALKS AND DRIVEWAYS IF POSSIBLE.
 3. CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER TO TIE-OVER EXISTING 2" WATER LINES WITHOUT INTERRUPTING SERVICE.
 4. CONTRACTOR TO VERIFY ALL UNDERGROUND UTILITIES TO BE ABANDONED OR REMOVED PRIOR TO PIT EXCAVATION. UNDERGROUND UTILITIES TO REMAIN SHALL BE PROTECTED AND SUPPORTED DURING EXCAVATION. CONTRACTOR IS RESPONSIBLE FOR BORE PIT ENGINEERED DESIGN. PROVIDED INFORMATION IS ONLY APPROXIMATE.



MATCHLINE -L- STA. 47 + 00.00 SEE SHEET UC-06

MATCHLINE -L- STA. 60 + 50.00 SEE SHEET UC-08



5/14/2026

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Weston & Sampson

NC
License:
C-4847
WSE of North Carolina, PC
2052 Energy Drive
Phone: 919.297.0220

Apex, NC 27502
westonandsampson.com

PROJECT REFERENCE NO.		SHEET NO.	
R-5759		UC-08	
DESIGNED BY: CAR			UTILITY CONSTRUCTION PLANS ONLY
DRAWN BY: CAR			
CHECKED BY: KSH			
APPROVED BY: KSH			
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

WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
BROADWAY WATER ASSOCIATION
EXISTING UTILITIES:
WATER LINE 4", 6", 8"
CONTACT:
JEFF CARTY
EMAIL: BWJCARTY@BROADWAYWATER.NET
PHONE: (336) 667-1483 (0)

CURVATURE ABBREVIATIONS:
PC-W5A HORZ. = FIRST HORIZONTAL
POINT-OF-CURVATURE
ALONG WL-05
PT-W5A HORZ. = FIRST HORIZONTAL
POINT-OF-TANGENCY
ALONG WL-05

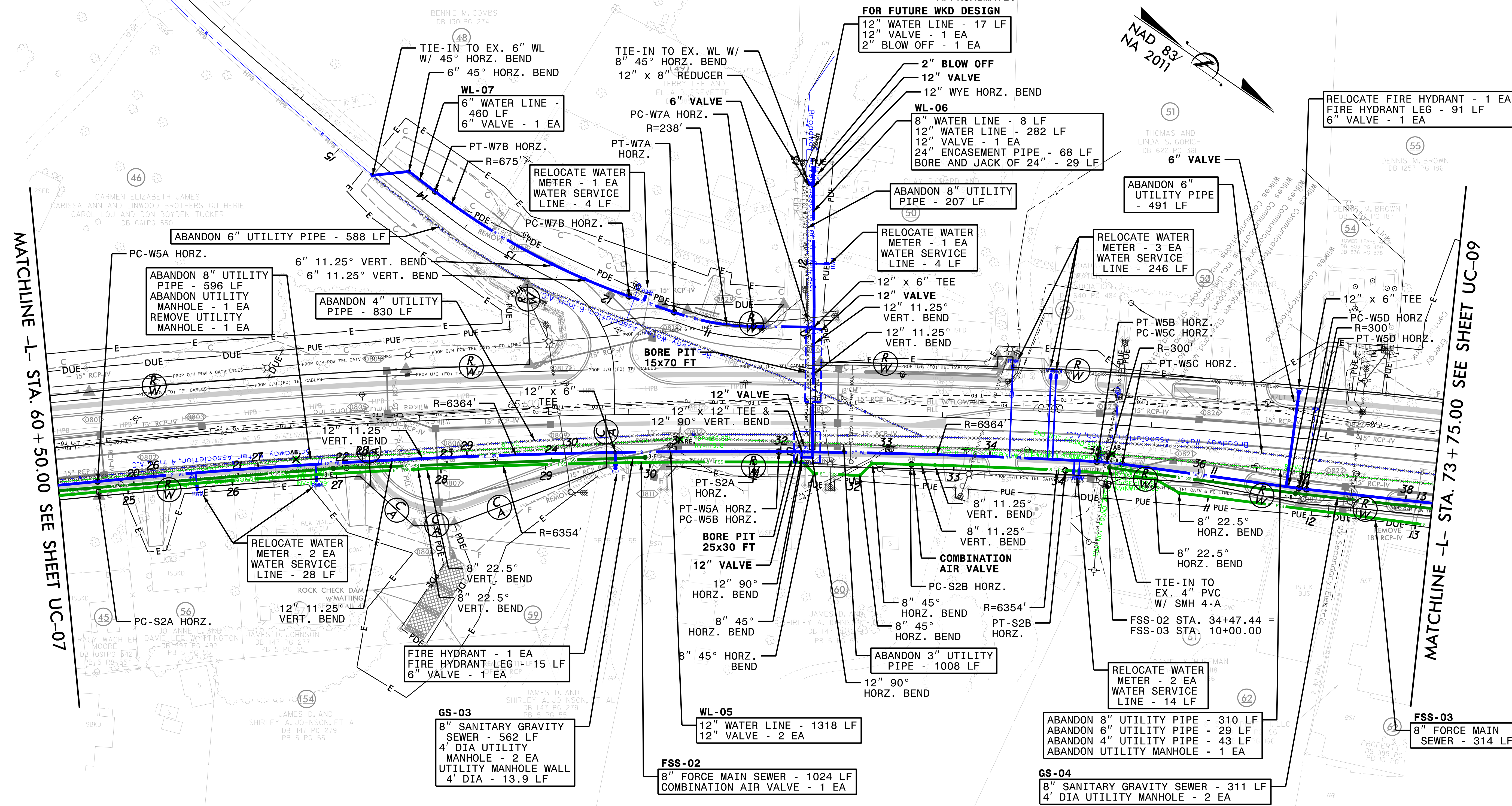
WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
TOWN OF NORTH WILKESBORO
EXISTING UTILITIES:
GRAVITY SEWER 4", 6", 8"
SAN. FORCE MAIN 3"
CONTACT:
DAVID POORE
EMAIL: PUBLICUTILITIES@NORTH
WILKESBORO.NC.GOV
PHONE: (336) 928-5377

REFERENCE NOTES:
1. REFER TO SHEET UC-35 FOR GS-03 PROFILE.
2. REFER TO SHEET UC-35 FOR GS-04 PROFILE.
3. REFER TO SHEET UC-19 & UC-20 FOR WL-05 PROFILE.
4. REFER TO SHEET UC-23 FOR WL-06 PROFILE.
5. REFER TO SHEET UC-23 FOR WL-07 PROFILE.
6. REFER TO SHEET UC-29 FOR FSS-02 PROFILE.
7. REFER TO SHEET UC-30 FOR FSS-03 PROFILE.

THE ESTIMATED QUANTITY OF
DUCTILE IRON WATER PIPE FITTINGS
ON THIS PLAN SHEET IS 4,005 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

THE ESTIMATED QUANTITY OF FORCED
SANITARY SEWER PIPE FITTINGS ON
THIS PLAN SHEET IS 1100 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

- GENERAL NOTES:
- ALL PROPOSED MANHOLES LOCATED IN THE SIDEWALK SHALL HAVE ECCENTRIC CONES INSTALLED TO PLACE LIDS OUT OF THE SIDEWALK AREA.
 - CONTRACTOR TO AVOID VALVE INSTALLATION IN SIDEWALKS AND DRIVEWAYS IF POSSIBLE.
 - CONTRACTOR TO VERIFY ALL UNDERGROUND UTILITIES TO BE ABANDONED ARE REMOVED PRIOR TO PIT EXCAVATION. UNDERGROUND UTILITIES TO REMAIN SHALL BE PROTECTED AND SUPPORTED DURING EXCAVATION. CONTRACTOR IS RESPONSIBLE FOR BORE PIT ENGINEERED DESIGN. PROVIDED INFORMATION IS ONLY APPROXIMATE.



5/14/2026

8/10/2026 Local\\WSE\\Projects\\NC\\HNTB\\Division 11\\ENG20-0571_R-5759_Wilkes Utilities Engineering\\UC\\Proj\\R-5759_ut_UC_09_PSH.dgn

WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
BROADWAY WATER ASSOCIATION
EXISTING UTILITIES:
WATER LINE 6"
CONTACT:
JEFF CARTY
EMAIL:BWJCARTY@BROADWAYWATER.NET
PHONE:(336) 667-1483 (0)

WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
TOWN OF NORTH WILKESBORO
EXISTING UTILITIES:
GRAVITY SEWER 8"
CONTACT:
DAVID POORE
EMAIL:PUBLICUTILITIES@NORTH
WILKESBORO.NC.GOV
PHONE:(336) 928-5377

REFERENCE NOTES:
1. REFER TO SHEET UC-35 & UC-36 FOR GS-04 PROFILE.
2. REFER TO SHEET UC-20 FOR WL-05 PROFILE.
3. REFER TO SHEET UC-23 FOR WL-08 PROFILE.
4. REFER TO SHEET UC-30 FOR FSS-03 PROFILE.

THE ESTIMATED QUANTITY OF
DUCTILE IRON WATER PIPE FITTINGS
ON THIS PLAN SHEET IS 3550 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

THE ESTIMATED QUANTITY OF FORCED
SANITARY SEWER PIPE FITTINGS ON
THIS PLAN SHEET IS 880 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

CURVATURE ABBREVIATIONS:
PC-W5E HORZ. = FIFTH HORIZONTAL
POINT-OF-CURVATURE
ALONG WL-05

PT-W5E HORZ. = FIFTH HORIZONTAL
POINT-OF-TANGENCY
ALONG WL-05

Weston & Sampson

WSE of North Carolina, PC
2052 Energy Drive
Phone: 919.297.0220

NC
License:
C-4847
Apex, NC 27602
westonandsampson.com

PROJECT REFERENCE NO.

R-5759

SHEET NO.

UC-09

DESIGNED BY: CAR

DRAWN BY: CAR

CHECKED BY: KD

APPROVED BY: KSH

REVISED:

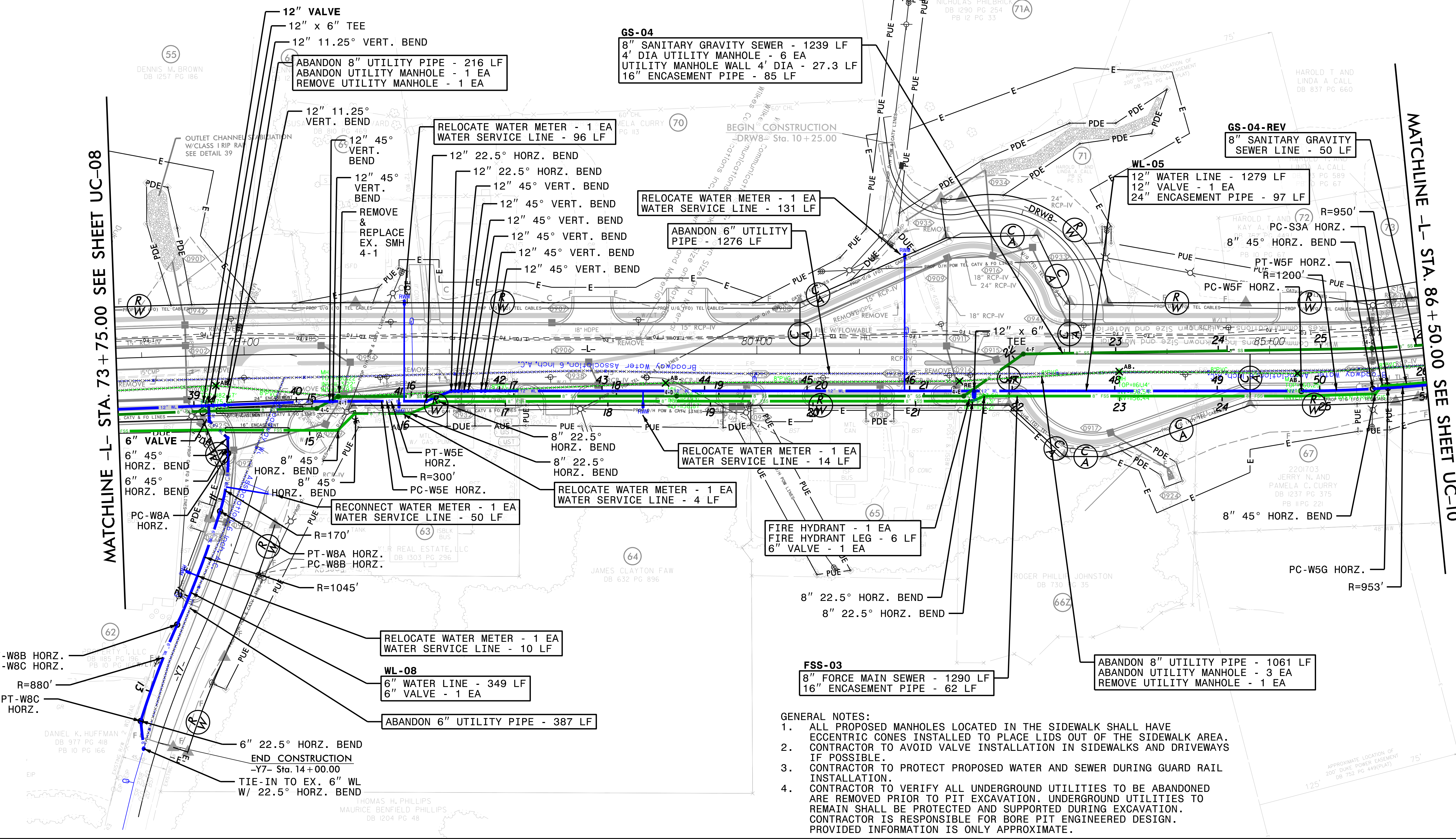
NORTH CAROLINA
DEPARTMENT OF
TRANSPORTATION

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



GENERAL NOTES:
1. ALL PROPOSED MANHOLES LOCATED IN THE SIDEWALK SHALL HAVE
ECCENTRIC CONES INSTALLED TO PLACE LIDS OUT OF THE SIDEWALK AREA.
2. CONTRACTOR TO AVOID VALVE INSTALLATION IN SIDEWALKS AND DRIVEWAYS
IF POSSIBLE.
3. CONTRACTOR TO PROTECT PROPOSED WATER AND SEWER DURING GUARD RAIL
INSTALLATION.
4. CONTRACTOR TO VERIFY ALL UNDERGROUND UTILITIES TO BE ABANDONED
ARE REMOVED PRIOR TO PIT EXCAVATION. UNDERGROUND UTILITIES TO
REMAIN SHALL BE PROTECTED AND SUPPORTED DURING EXCAVATION.
CONTRACTOR IS RESPONSIBLE FOR BORE PIT ENGINEERED DESIGN.
PROVIDED INFORMATION IS ONLY APPROXIMATE.

5/14/99

WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
BROADWAY WATER ASSOCIATION
EXISTING UTILITIES:
WATER LINE 6"
CONTACT:
JEFF CARTY
EMAIL:BWJCARTY@BROADWAYWATER.NET
PHONE:(336) 667-1483 (0)

WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
TOWN OF NORTH WILKESBORO
EXISTING UTILITIES:
GRAVITY SEWER 8"
SAN. FORCE MAIN 4"
CONTACT:
DAVID POORE
EMAIL:PUBLICUTILITIES@NORTHWILKESBORONC.GOV
PHONE:(336) 928-5377

CURVATURE ABBREVIATIONS:
PC-W5H HORZ. = EIGHTH HORIZONTAL
POINT-OF-CURVATURE
ALONG WL-05

PT-W5H HORZ. = EIGHTH HORIZONTAL
POINT-OF-TANGENCY
ALONG WL-05

REFERENCE NOTES:
1. REFER TO SHEET UC-36 FOR GS-04 PROFILE.
2. REFER TO SHEET UC-20 & UC-21 FOR WL-05 PROFILE.
3. REFER TO SHEET UC-23 FOR WL-09 PROFILE.
4. REFER TO SHEET UC-30 & UC-31 FOR FSS-03 PROFILE.

THE ESTIMATED QUANTITY OF
DUCTILE IRON WATER PIPE FITTINGS
ON THIS PLAN SHEET IS 2830 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

THE ESTIMATED QUANTITY OF FORCED
SANITARY SEWER PIPE FITTINGS ON
THIS PLAN SHEET IS 1050 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

Weston & Sampson

WSE of North Carolina, PC
2052 Energy Drive
Phone: 919.297.0220

NC
License:
C-4847
Apex, NC 27602
westonandsampson.com

PROJECT REFERENCE NO.

R-5759

SHEET NO.

UC-10

DESIGNED BY: CAR

DRAWN BY: CAR

CHECKED BY: KSH

APPROVED BY: KSH

REVISED:

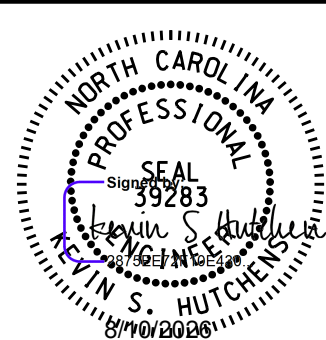
NORTH CAROLINA
DEPARTMENT OF
TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

UTILITY CONSTRUCTION
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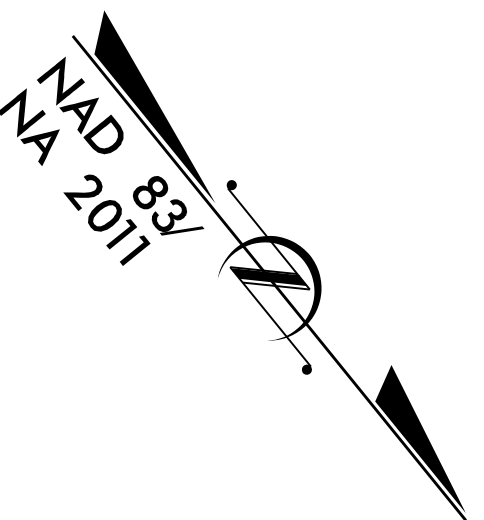
UTILITY CONSTRUCTION

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MATCHLINE -L- STA. 86 + 50.00 SEE SHEET UC-9

MATCHLINE -L- STA. 99 + 50.00 SEE SHEET UC-11



BEGIN
CONSTRUCTION
-DRW5-
Sta. 10 + 15.00

END CONSTRUCTION
-Y8- Sta. 12 + 25.00

END CONSTRUCTION
-DRW6- Sta. 12 + 00.00

GENERAL NOTES:

- ALL PROPOSED MANHOLES LOCATED IN THE SIDEWALK SHALL HAVE ECCENTRIC CONES INSTALLED TO PLACE LIDS OUT OF THE SIDEWALK AREA.
- CONTRACTOR TO AVOID VALVE INSTALLATION IN SIDEWALKS AND DRIVEWAYS IF POSSIBLE.
- CONTRACTOR TO PROTECT PROPOSED WATER AND SEWER DURING GUARD RAIL INSTALLATION.
- CONTRACTOR TO VERIFY ALL UNDERGROUND UTILITIES TO BE ABANDONED ARE REMOVED PRIOR TO PIT EXCAVATION. UNDERGROUND UTILITIES TO REMAIN SHALL BE PROTECTED AND SUPPORTED DURING EXCAVATION. CONTRACTOR IS RESPONSIBLE FOR BORE PIT ENGINEERED DESIGN. PROVIDED INFORMATION IS ONLY APPROXIMATE.

WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
BROADWAY WATER ASSOCIATION
EXISTING UTILITIES:
WATER LINE 3", 4", 6"
CONTACT:
JEFF CARTY
EMAIL: BWJCARTY@BROADWAYWATER.NET
PHONE: (336) 667-1483 (0)

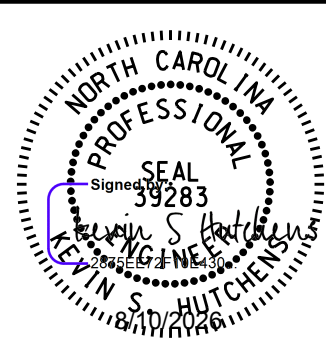
WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
TOWN OF NORTH WILKESBORO
EXISTING UTILITIES:
GRAVITY SEWER 8"
SAN. FORCE MAIN 4"
CONTACT:
DAVID POORE
EMAIL: PUBLICUTILITIES@NORTHWILKESBORO.NC.GOV
PHONE: (336) 928-5377

THE ESTIMATED QUANTITY OF
DUCTILE IRON WATER PIPE FITTINGS
ON THIS PLAN SHEET IS 7395 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

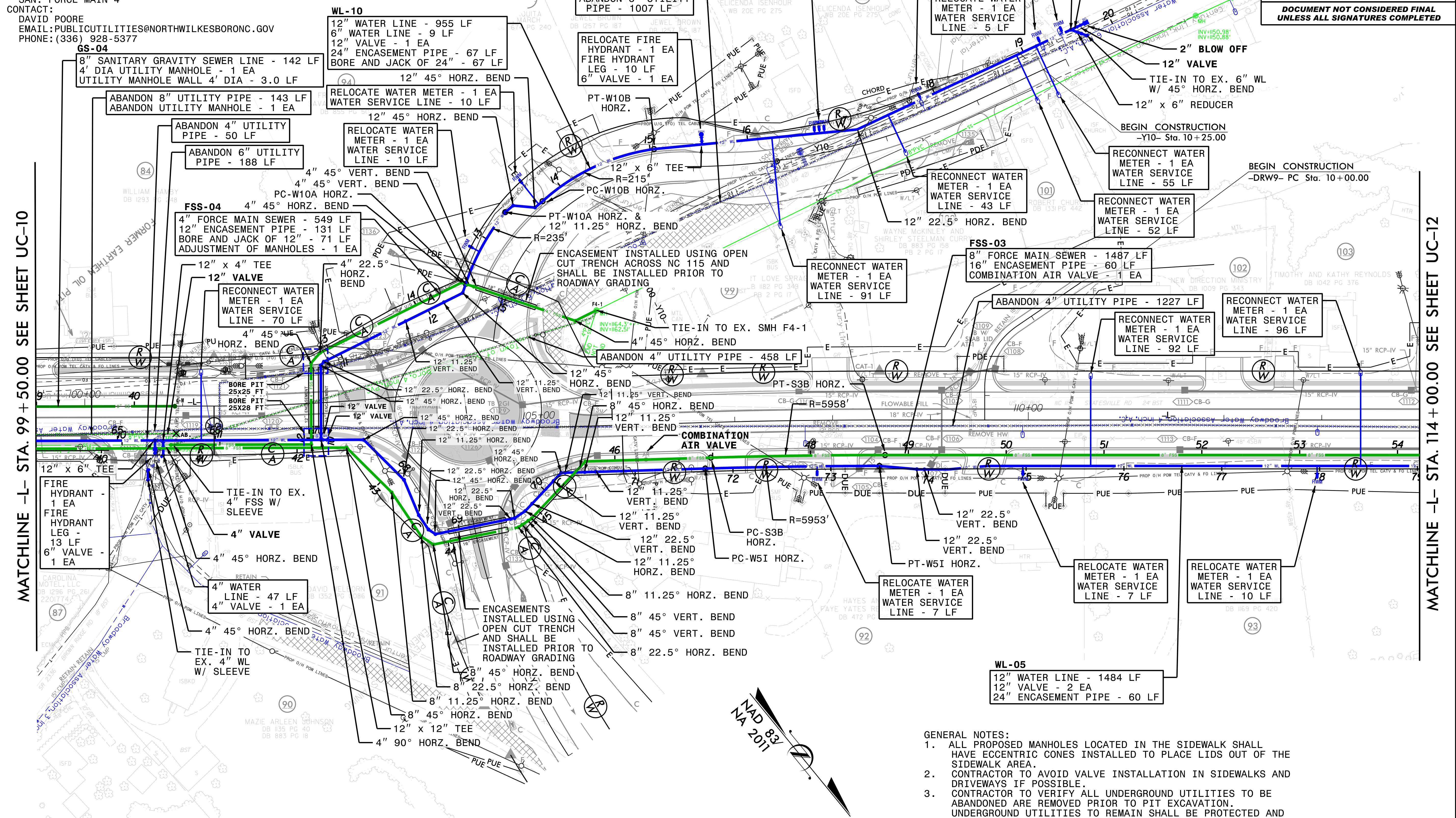
THE ESTIMATED QUANTITY OF FORCED
SANITARY SEWER PIPE FITTINGS ON
THIS PLAN SHEET IS 1390 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

CURVATURE ABBREVIATIONS:
PC-W5I HORZ. = NINTH HORIZONTAL
POINT-OF-CURVATURE
ALONG WL-05
PT-W5I HORZ. = NINTH HORIZONTAL
POINT-OF-TANGENCY
ALONG WL-05

Weston & Sampson
WSE of North Carolina, PC
2052 Energy Drive
Phone: 919.287.0220
NC License:
C-4847
Apex, NC 27602
westonandsampson.com

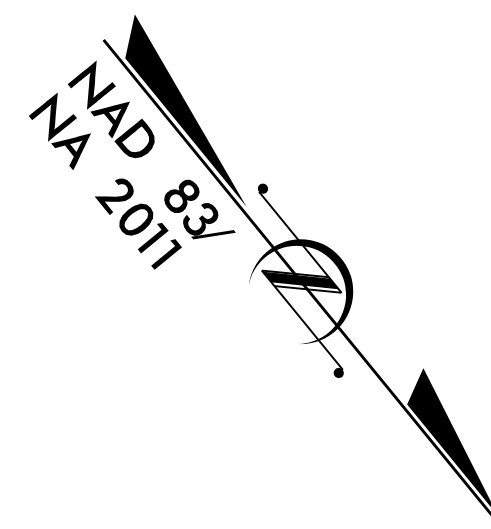
PROJECT REFERENCE NO. R-5759		SHEET NO. UC-11	
DESIGNED BY: CAR			
DRAWN BY: CAR			
CHECKED BY: KSH			
APPROVED BY: KSH			
REVISED:		UTILITY CONSTRUCTION PLANS ONLY	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			
UTILITY CONSTRUCTION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

- REFERENCE NOTES:
1. REFER TO SHEET UC-36 FOR GS-04 PROFILE.
 2. REFER TO SHEET UC-21 & UC-22 FOR WL-05 PROFILE.
 3. REFER TO SHEET UC-24 FOR WL-10 PROFILE.
 4. REFER TO SHEET UC-31 FOR FSS-03 PROFILE.
 5. REFER TO SHEET UC-33 FOR FSS-04 PROFILE.



MATCHLINE -L- STA. 99 + 50.00 SEE SHEET UC-10

MATCHLINE -L- STA. 114 + 00.00 SEE SHEET UC-12



- GENERAL NOTES:
1. ALL PROPOSED MANHOLES LOCATED IN THE SIDEWALK SHALL HAVE ECCENTRIC CONES INSTALLED TO PLACE LIDS OUT OF THE SIDEWALK AREA.
 2. CONTRACTOR TO AVOID VALVE INSTALLATION IN SIDEWALKS AND DRIVEWAYS IF POSSIBLE.
 3. CONTRACTOR TO VERIFY ALL UNDERGROUND UTILITIES TO BE ABANDONED ARE REMOVED PRIOR TO PIT EXCAVATION. UNDERGROUND UTILITIES TO REMAIN SHALL BE PROTECTED AND SUPPORTED DURING EXCAVATION. CONTRACTOR IS RESPONSIBLE FOR BORE PIT ENGINEERED DESIGN. PROVIDED INFORMATION IS ONLY APPROXIMATE.

5/14/2019
8/10/2026
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WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
BROADWAY WATER ASSOCIATION
EXISTING UTILITIES:
WATER LINE 2", 4"
CONTACT:
JEFF CARTY
EMAIL: BWJCARTY@BROADWAYWATER.NET
PHONE: (336) 667-1483 (O)

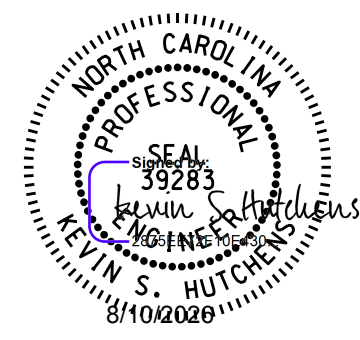
WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
TOWN OF NORTH WILKESBORO
EXISTING UTILITIES:
WATER LINE 6", 8"
CONTACT:
DAVID POORE
EMAIL: PUBLICUTILITIES@NORTH
WILKESBORO.NC.GOV
PHONE: (336) 928-5377

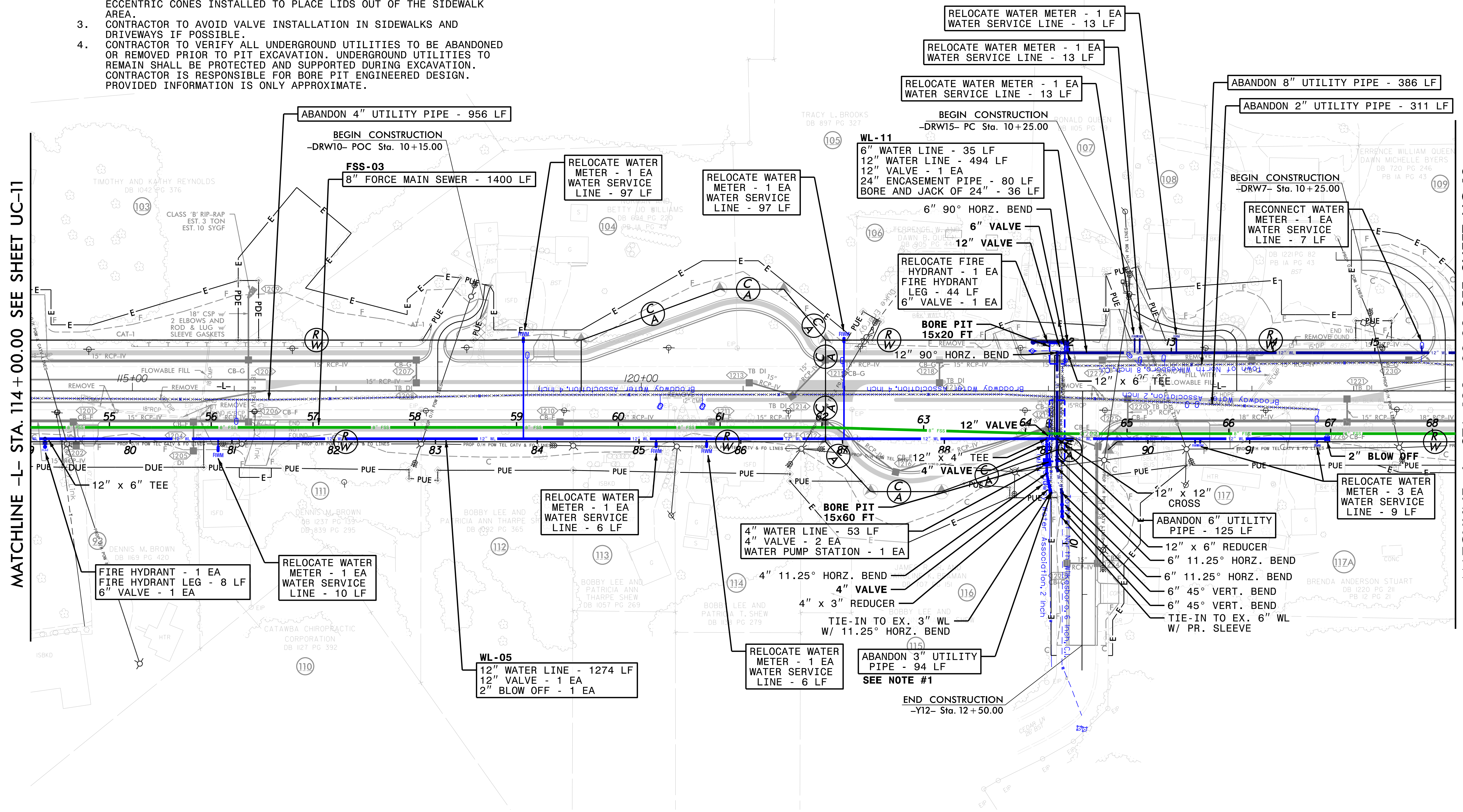
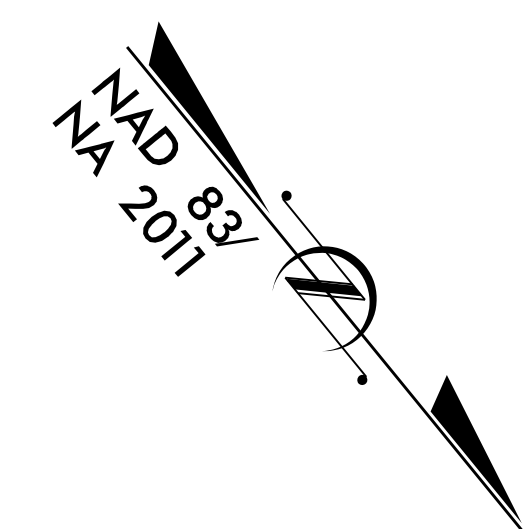
BROADWAY WATER ASSOCIATION
THE ESTIMATED QUANTITY OF
DUCTILE IRON WATER PIPE FITTINGS
ON THIS PLAN SHEET IS 1295 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

TOWN OF NORTH WILKESBORO
THE ESTIMATED QUANTITY OF
DUCTILE IRON WATER PIPE FITTINGS
ON THIS PLAN SHEET IS 1175 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

THE ESTIMATED QUANTITY OF FORCED
SANITARY SEWER PIPE FITTINGS ON
THIS PLAN SHEET IS 0 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

Weston & Sampson
WSE of North Carolina, PC
2052 Energy Drive
Phone: 919.297.0220
NC License:
C-4847
Apex, NC 27602
westonandsampson.com

PROJECT REFERENCE NO.		SHEET NO.			
R-5759		UC-12			
DESIGNED BY: CAR			UTILITY CONSTRUCTION PLANS ONLY		
DRAWN BY: CAR					
CHECKED BY: KSH					
APPROVED BY: KSH					
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					



MATCHLINE -L- STA. 114 + 00.00 SEE SHEET UC-11

MATCHLINE -L- STA. 128 + 00.00 SEE SHEET UC-13

5/14/99

8/10/2026
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THE ESTIMATED QUANTITY OF FORCED SANITARY SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 440 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 3730 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

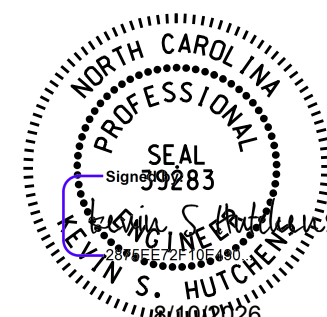
CURVATURE ABBREVIATIONS:
PC-W11B HORZ. = SECOND HORIZONTAL POINT-OF-CURVATURE ALONG WL-11
PT-W11B HORZ. = SECOND HORIZONTAL POINT-OF-TANGENCY ALONG WL-11

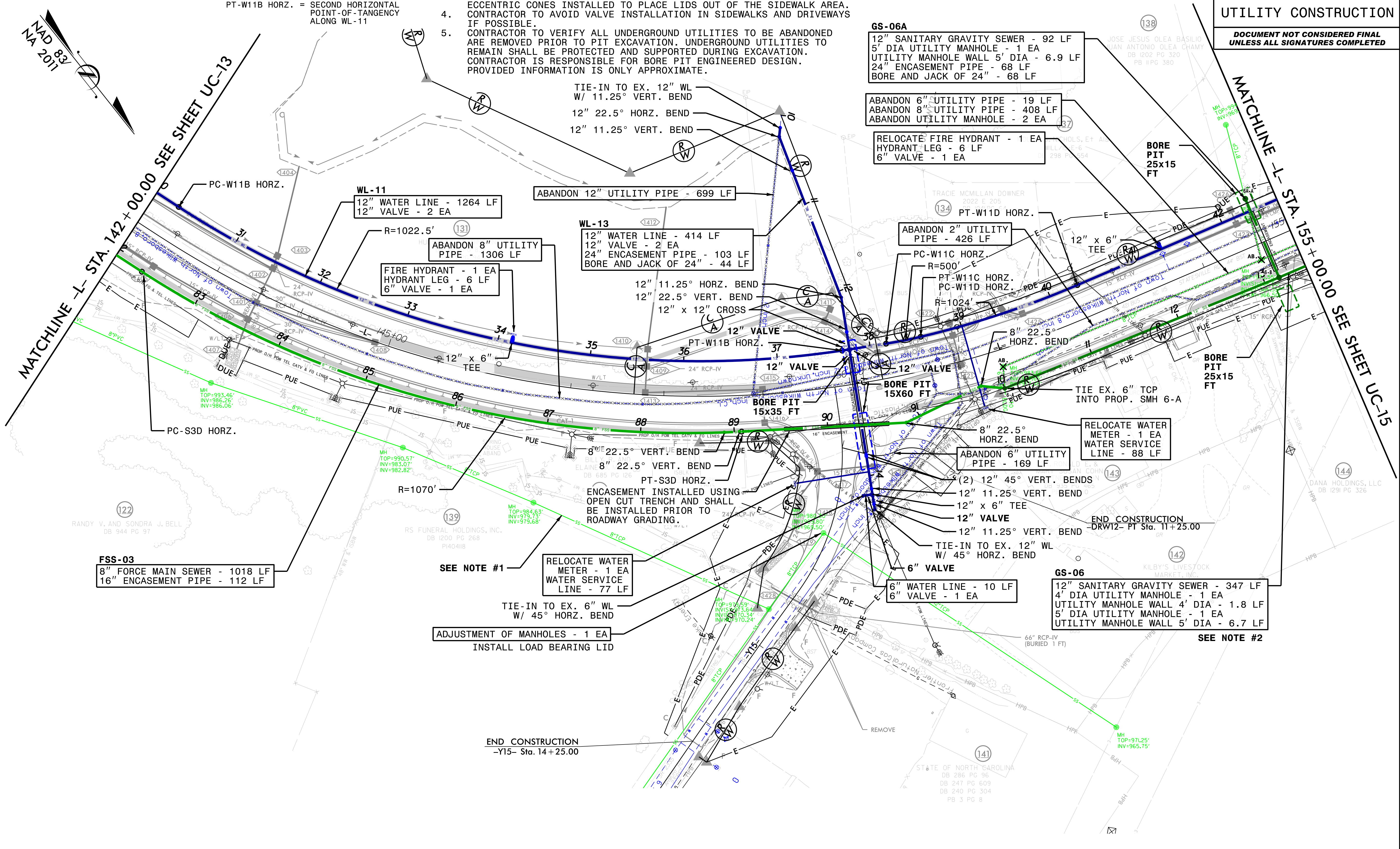
- REFERENCE NOTES:
1. REFER TO SHEET UC-37 FOR GS-06 PROFILE.
 2. REFER TO SHEET UC-25 & UC-26 FOR WL-11 PROFILE.
 3. REFER TO SHEET UC-27 FOR WL-13 PROFILE.
 4. REFER TO SHEET UC-32 & UC-33 FOR FSS-03 PROFILE.

- GENERAL NOTES:
1. TERRA COTTA PIPE (TCP) GRAVITY SEWER ALONG AND CROSSING ARMORY ROAD CONSIDERED TO HAVE ADEQUATE DEPTH AND NOT REQUIRE RELOCATION DUE TO PROPOSED ROADWAY CONSTRUCTION.
 2. GRAVITY SEWER MAIN ALONG ROADWAY -L- SHALL BE INSTALLED AT AN 8-FOOT OFFSET FROM THE RIGHT-OF-WAY LINE.
 3. ALL PROPOSED MANHOLES LOCATED IN THE SIDEWALK SHALL HAVE ECCENTRIC CONES INSTALLED TO PLACE LIDS OUT OF THE SIDEWALK AREA.
 4. CONTRACTOR TO AVOID VALVE INSTALLATION IN SIDEWALKS AND DRIVEWAYS IF POSSIBLE.
 5. CONTRACTOR TO VERIFY ALL UNDERGROUND UTILITIES TO BE ABANDONED ARE REMOVED PRIOR TO PIT EXCAVATION. UNDERGROUND UTILITIES TO REMAIN SHALL BE PROTECTED AND SUPPORTED DURING EXCAVATION. CONTRACTOR IS RESPONSIBLE FOR BORE PIT ENGINEERED DESIGN. PROVIDED INFORMATION IS ONLY APPROXIMATE.

WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
TOWN OF NORTH WILKESBORO
EXISTING UTILITIES:
WATER LINE: 2", 6", 8", 12"
GRAVITY SEWER: 6", 8", 12"
CONTACT:
DAVID POORE
EMAIL: PUBLICUTILITIES@NORTHWILKESBORONC.GOV
PHONE: (336) 928-5377

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2052 Energy Drive
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PROJECT REFERENCE NO.		SHEET NO.	
R-5759		UC-14	
DESIGNED BY: CAR		UTILITY CONSTRUCTION PLANS ONLY	
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APPROVED BY: KSH			
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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION			
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			
UTILITY CONSTRUCTION PLANS ONLY			
UTILITY CONSTRUCTION			
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5/14/09

8/10/2026
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WATER / SANITARY SEWER
UTILITY OWNERS ON THIS SHEET:
TOWN OF NORTH WILKESBORO
EXISTING UTILITIES:
WATER LINE: 2", 6", 8"
GRAVITY SEWER: 4", 6", 8", 12", UNK
CONTACT:
DAVID POORE
EMAIL:PUBLICUTILITIES@NORTHWILKESBORONC.GOV
PHONE:(336) 928-5377

REFERENCE NOTES:
1. REFER TO SHEET UC-37 & UC-38 FOR GS-06 PROFILE.
2. REFER TO SHEET UC-38 FOR GS-06D PROFILE.
3. REFER TO SHEET UC-38 FOR GS-07 PROFILE.
4. REFER TO SHEET UC-26 FOR WL-11 PROFILE.
5. REFER TO SHEET UC-27 FOR WL-14 PROFILE.

THE ESTIMATED QUANTITY OF
DUCTILE IRON WATER PIPE FITTINGS
ON THIS PLAN SHEET IS 2395 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

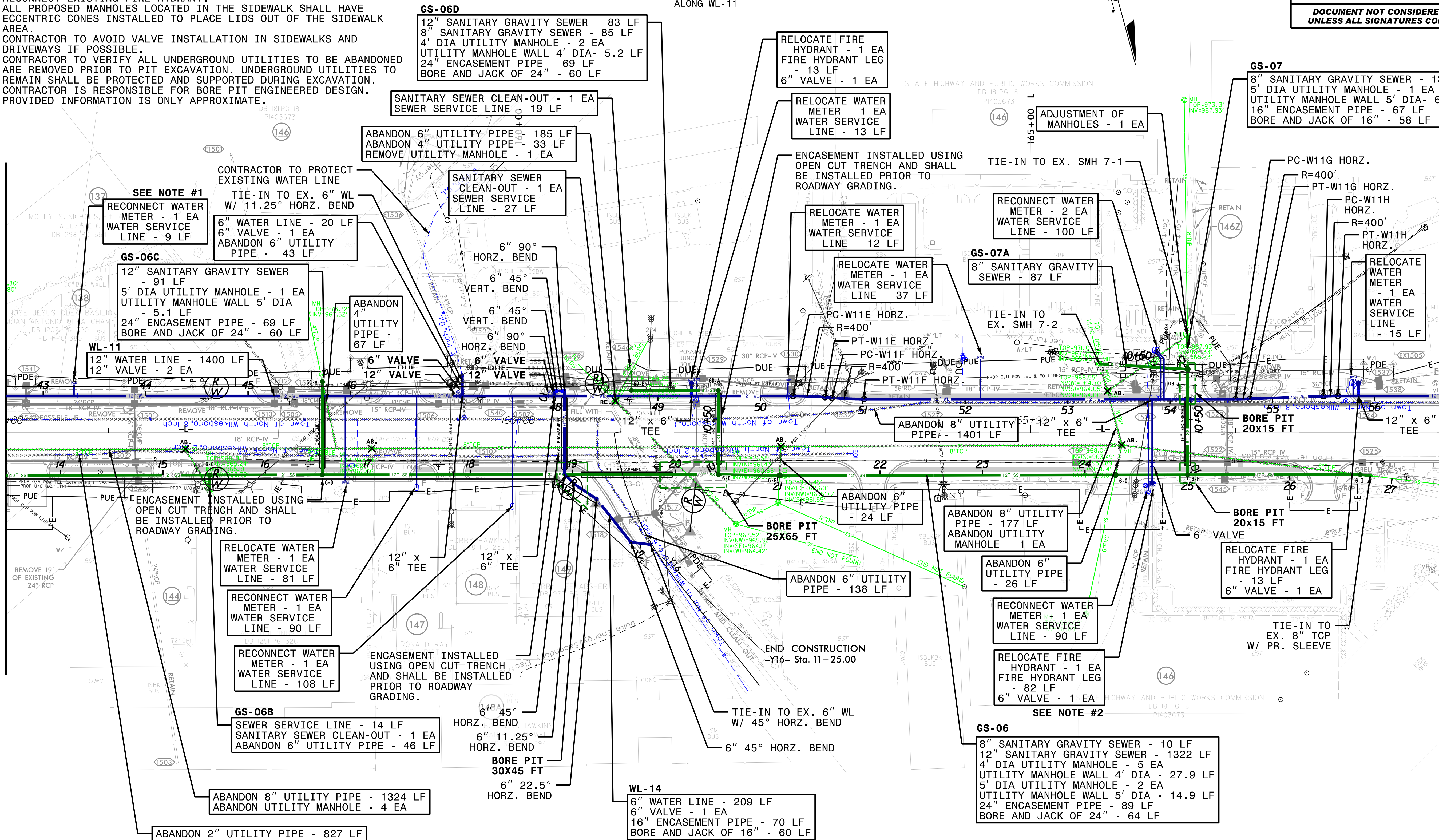
THE ESTIMATED QUANTITY OF
SANITARY SEWER PIPE FITTINGS ON
THIS PLAN SHEET IS 85 LBS.
THE ACTUAL QUANTITY AND TYPE OF
FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

CURVATURE ABBREVIATIONS:
PC-W11E HORZ. = FIFTH HORIZONTAL
POINT-OF-CURVATURE
ALONG WL-11
PT-W11E HORZ. = FIFTH HORIZONTAL
POINT-OF-TANGENCY
ALONG WL-11

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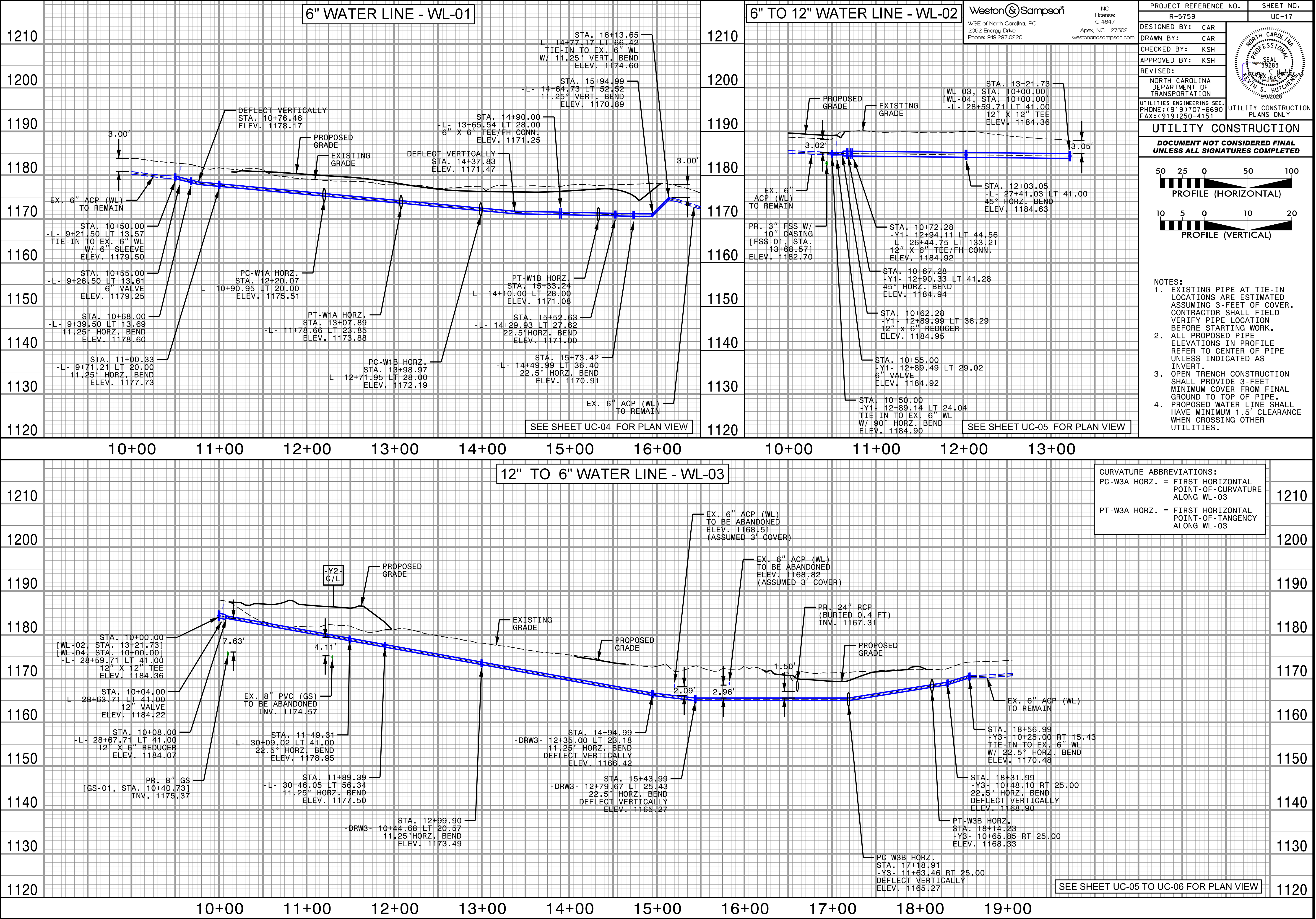
PROJECT REFERENCE NO.		SHEET NO.			
R-5759		UC-15			
DESIGNED BY: CAR		UTILITY CONSTRUCTION PLANS ONLY			
DRAWN BY: CAR					
CHECKED BY: KSH					
APPROVED BY: KSH					
REVISED:					
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		8/10/2026			
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UTILITY CONSTRUCTION					
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED					

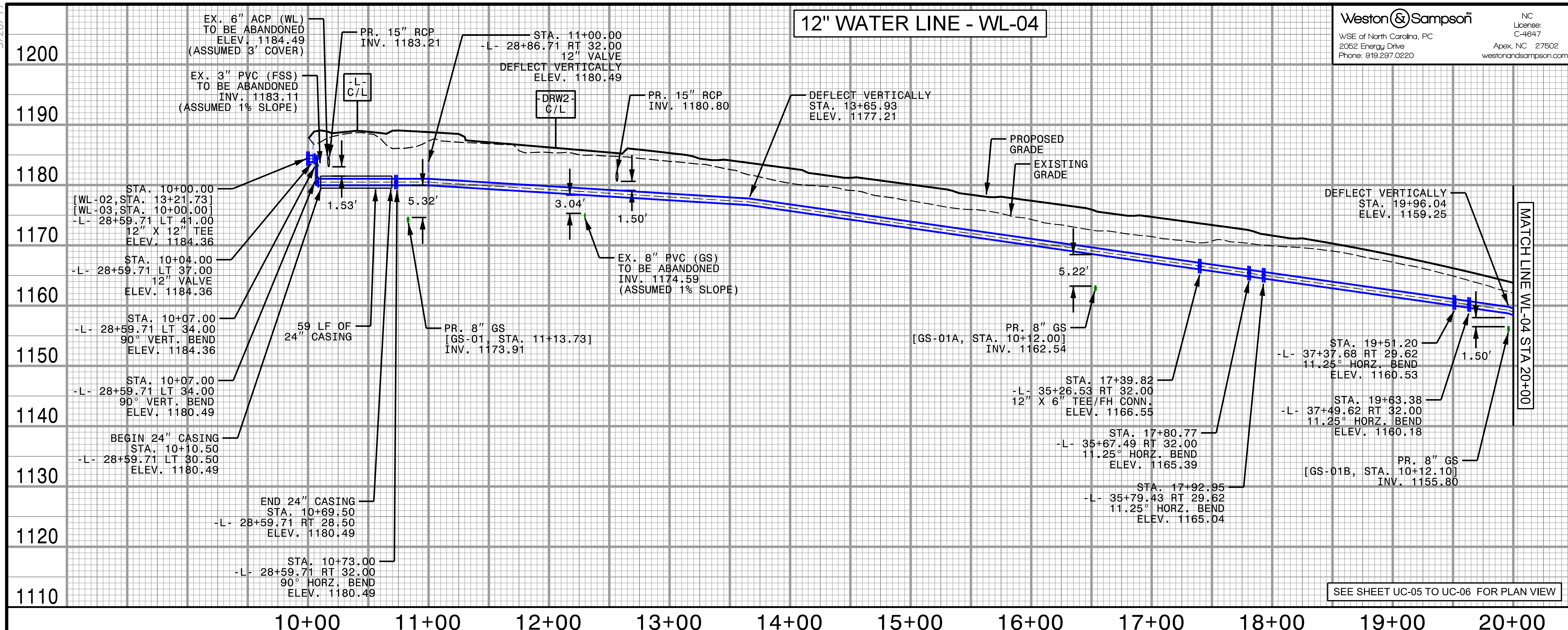
MATCHLINE -L- STA. 155 + 00.00 SEE SHEET UC-14



MATCHLINE -L- STA. 169 + 00.00 SEE SHEET UC-16

83/ NAD 2011 NA





PROJECT REFERENCE NO. R-5759		SHEET NO. UC-18	
DESIGNED BY:	CAR		
DRAWN BY:	CAR		
CHECKED BY:	KSH		
APPROVED BY:	KSH		
REVISED:		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

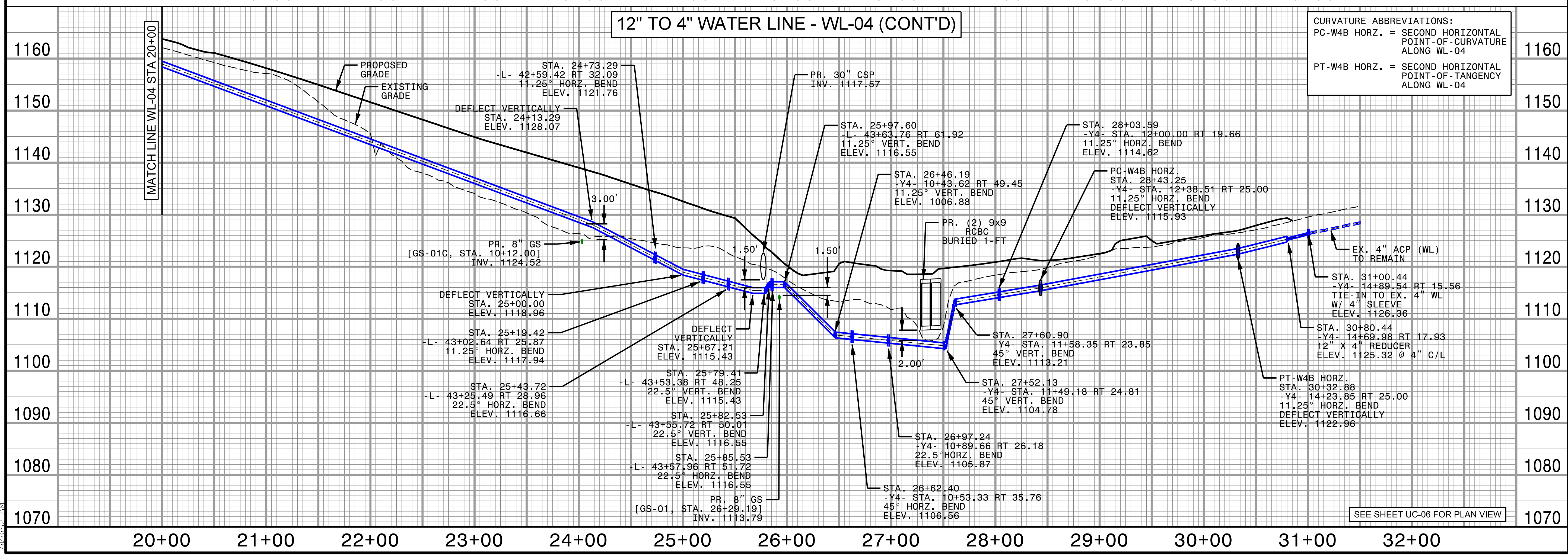
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROFILE (HORIZONTAL)

PROFILE (VERTICAL)

NOTES:

- EXISTING PIPE AT TIE-IN LOCATIONS ARE ESTIMATED ASSUMING 3-FEET OF COVER. CONTRACTOR SHALL FIELD VERIFY PIPE LOCATION BEFORE STARTING WORK.
- ALL PROPOSED PIPE ELEVATIONS IN PROFILE REFER TO CENTER OF PIPE UNLESS INDICATED AS INVERT.
- OPEN TRENCH CONSTRUCTION SHALL PROVIDE 3-FEET MINIMUM COVER FROM FINAL GRADE TO TOP OF PIPE.
- PROPOSED WATER LINE SHALL HAVE MINIMUM 1.5' CLEARANCE WHEN CROSSING OTHER UTILITIES.



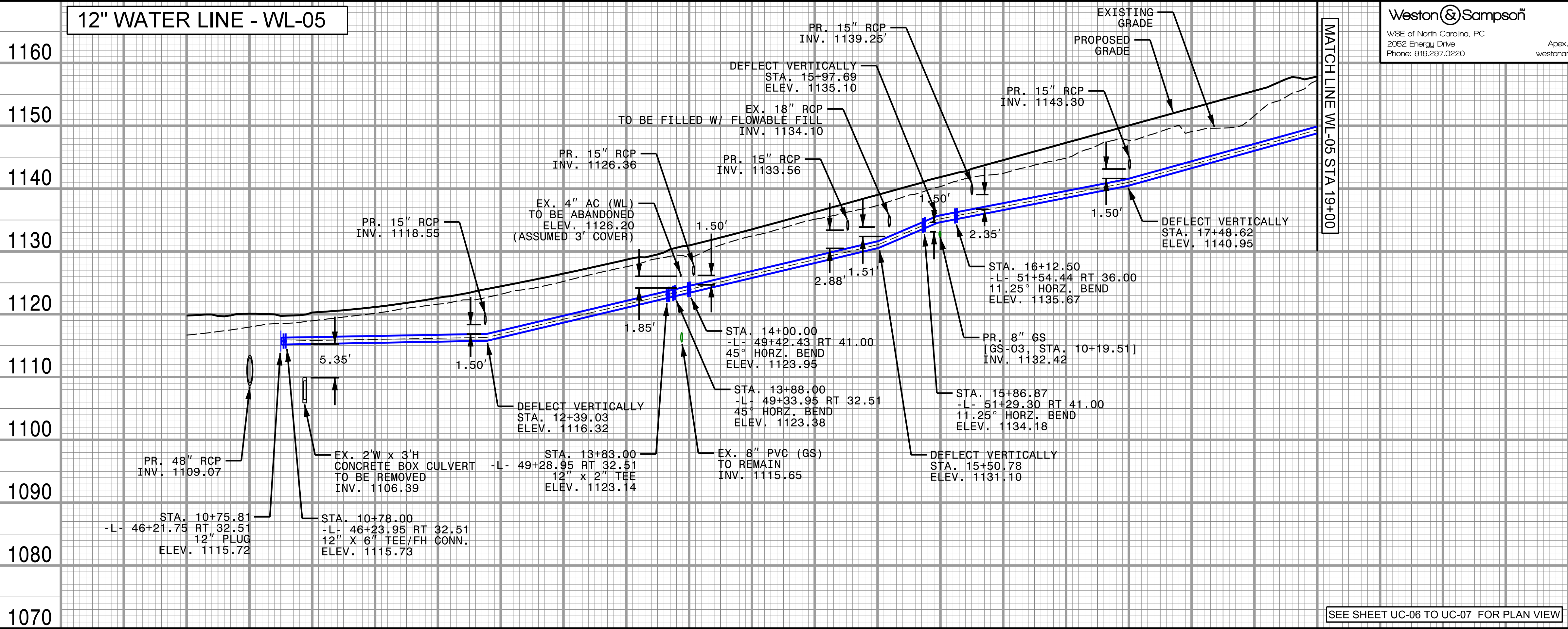
CURVATURE ABBREVIATIONS:

PC-W4B HORZ. = SECOND HORIZONTAL POINT-OF-CURVATURE ALONG WL-04

PT-W4B HORZ. = SECOND HORIZONTAL POINT-OF-TANGENCY ALONG WL-04

SEE SHEET UC-06 FOR PLAN VIEW

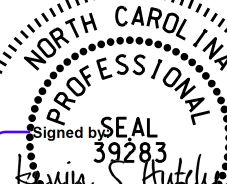
5/28/2026 8:52/2026 local\\WSE-Projects\\NC\\HNTB\\Division 11\\ENG20-0571_R-5759_Wilkes\\Utilities\\Engineering\\UC\\Proj\\R-5759\\ut_UC_19-20-21-22.pfl... (WL-05).dgn



Weston & Sampson

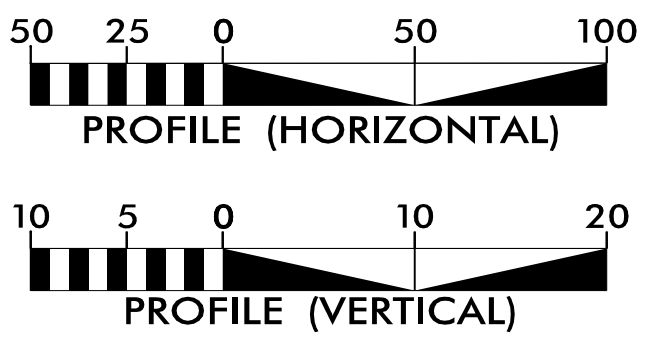
WSE of North Carolina, PC
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License:
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Apex, NC 27602
westonandsampson.com

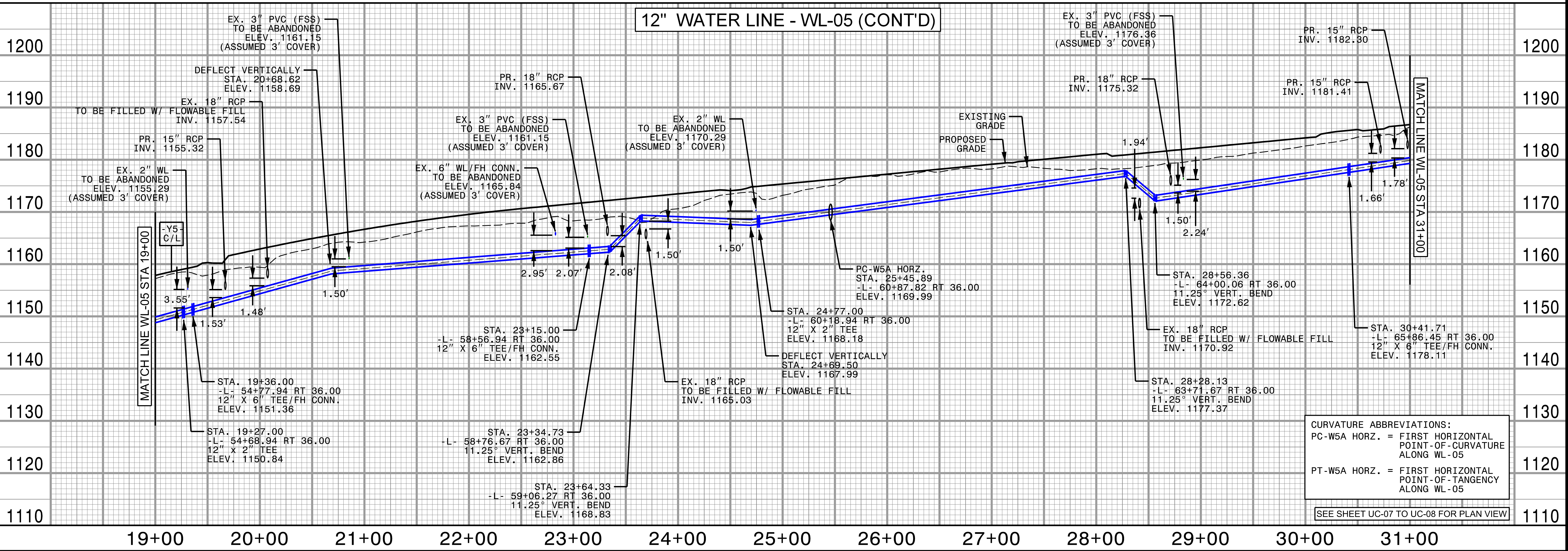
PROJECT REFERENCE NO.		SHEET NO.	
R-5759		UC-19	
DESIGNED BY: CAR		UTILITY CONSTRUCTION PLANS ONLY	
DRAWN BY: CAR			
CHECKED BY: KSH			
APPROVED BY: KSH			
REVISED:			
NORTH CAROLINA DEPT. MENT OF TRANSPORTATION			
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			
UTILITY CONSTRUCTION			

UTILITY CONSTRUCTION

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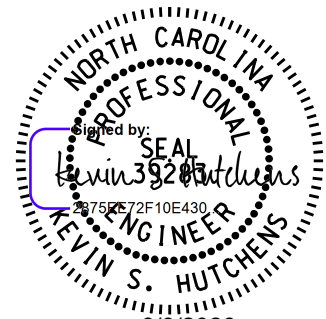


- NOTES:
- EXISTING PIPE AT TIE-IN LOCATIONS ARE ESTIMATED ASSUMING 3- FEET OF COVER. CONTRACTOR SHALL FIELD VERIFY PIPE LOCATION BEFORE STARTING WORK.
 - ALL PROPOSED PIPE ELEVATIONS IN PROFILE REFER TO CENTER OF PIPE UNLESS INDICATED AS INVERT.
 - OPEN TRENCH CONSTRUCTION SHALL PROVIDE 3- FEET MINIMUM COVER FROM FINAL GRADE TO TOP OF PIPE.
 - PROPOSED WATER LINE SHALL HAVE MINIMUM 1.5' CLEARANCE WHEN CROSSING OTHER UTILITIES.



CURVATURE ABBREVIATIONS:
PC- W5A HORZ. = FIRST HORIZONTAL POINT- OF- CURVATURE ALONG WL- 05
PT- W5A HORZ. = FIRST HORIZONTAL POINT- OF- TANGENCY ALONG WL- 05

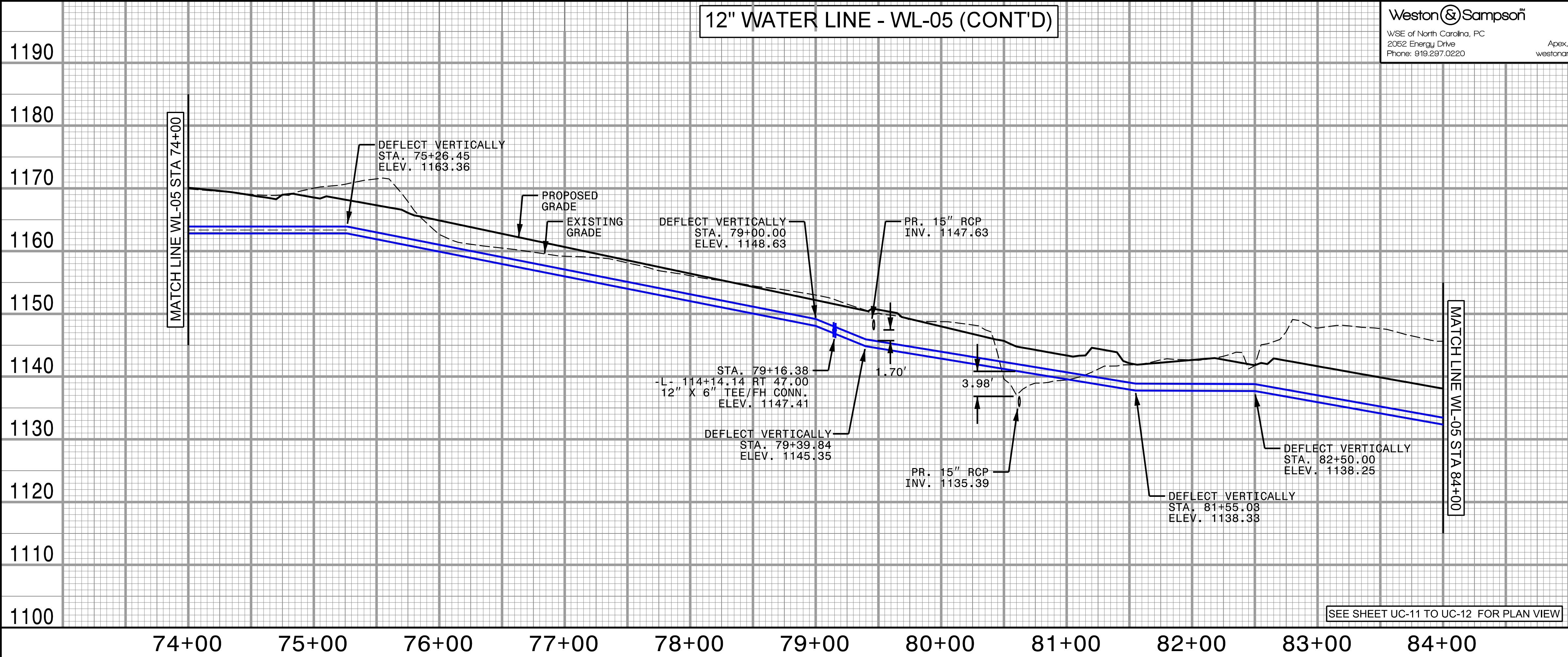
SEE SHEET UC- 07 TO UC- 08 FOR PLAN VIEW





5/28/99

8/5/2026 local\\WSE\\Projects\\NC\\HNTB\\Division 11\\ENG20-0571_R-5759_Wilkes\\Utilities\\Engineering\\UC\\Proj\\R-5759_ut_UC_19-20-21-22.pfl_... (WL-05).dgn



PROJECT REFERENCE NO. R-5759		SHEET NO. UC-22	
DESIGNED BY: CAR		DRAWN BY: CAR	
CHECKED BY: KSH		APPROVED BY: KSH	
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			
NOTES: 1. EXISTING PIPE AT TIE-IN LOCATIONS ARE ESTIMATED ASSUMING 3- FEET OF COVER. CONTRACTOR SHALL FIELD VERIFY PIPE LOCATION BEFORE STARTING WORK. 2. ALL PROPOSED PIPE ELEVATIONS IN PROFILE REFER TO CENTER OF PIPE UNLESS INDICATED AS INVERT. 3. OPEN TRENCH CONSTRUCTION SHALL PROVIDE 3- FEET MINIMUM COVER FROM FINAL GRADE TO TOP OF PIPE. 4. PROPOSED WATER LINE SHALL HAVE MINIMUM 1.5' CLEARANCE WHEN CROSSING OTHER UTILITIES.			

