

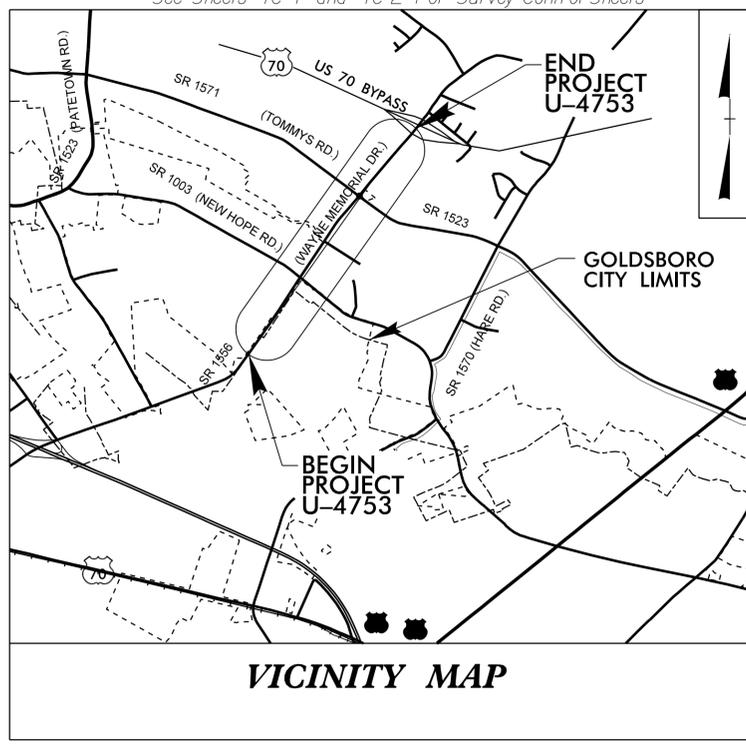
See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols
See Sheets 1C-1 and 1C-2 For Survey Control Sheets

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
U-4753	UC-1

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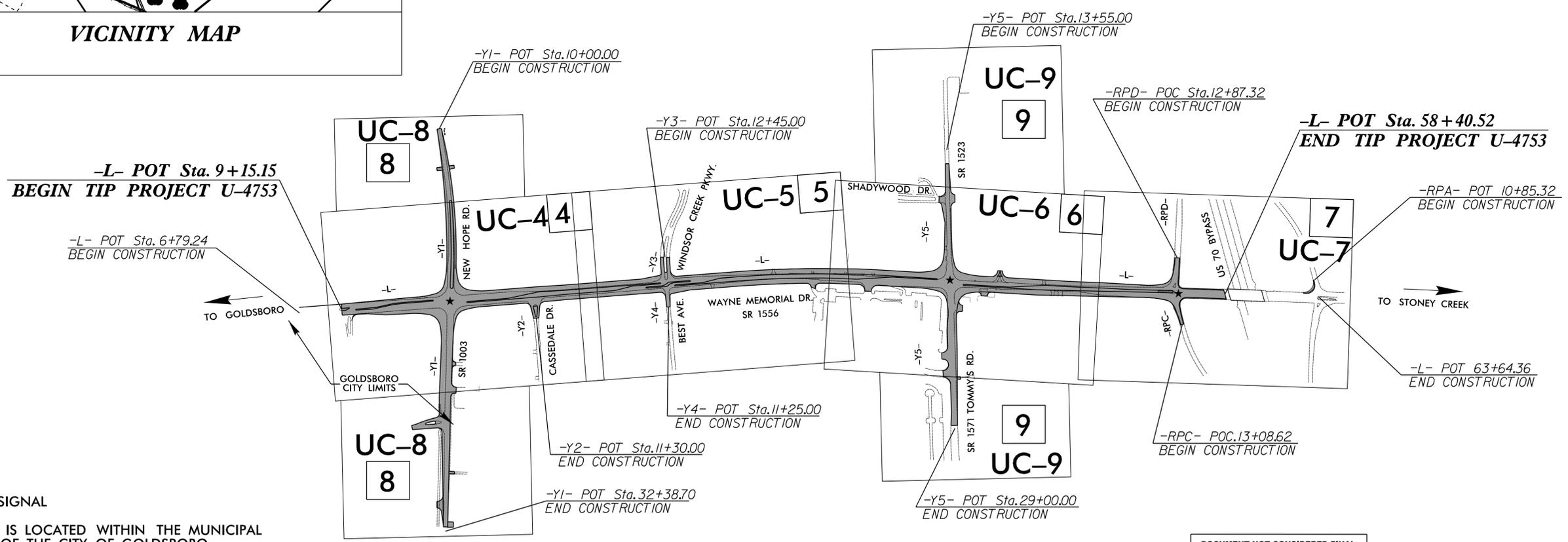
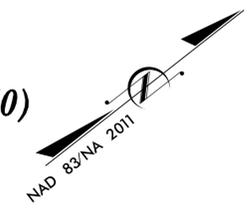
TIP PROJECT: U-4753



UTILITY CONSTRUCTION PLANS WAYNE COUNTY

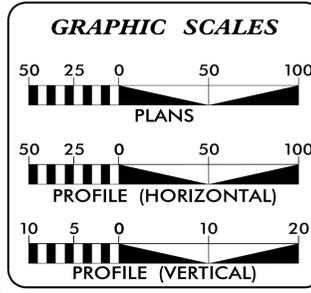
**LOCATION: SR 1556 (WAYNE MEMORIAL DRIVE) FROM
SR 1003 (NEW HOPE ROAD) TO I-42 (FORMERLY US-70)
IN GOLDSBORO. WIDEN TO FOUR LANES.**

TYPE OF WORK: WATER AND SEWER LINE RELOCATIONS



★ DENOTES SIGNAL
THIS PROJECT IS LOCATED WITHIN THE MUNICIPAL
BOUNDARIES OF THE CITY OF GOLDSBORO

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INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A THRU UC-3G	DETAILS
UC-4 THRU UC-9	UTILITY CONSTRUCTION SHEETS
UC-10 THRU UC-22	PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

(A) CITY OF GOLDSBORO - WATER AND GRAVITY SEWER
(B) BELFAST-PATETOWN SANITARY DISTRICT - WATER
(C) FORK TOWNSHIP SANITARY DISTRICT - WATER
(D) WAYNE COUNTY BOARD OF EDUCATION - 6" FORCE MAIN

PREPARED IN THE OFFICE OF:

HINDE ENGINEERING

License No. C-2639
401 Harrison Oaks Blvd., Suite 229 Cary, NC 27513
Ph. (919) 653-0001

Clint L. Stevens, P.E. UTILITIES PROJECT MANAGER
Corey D. Bousquet, P.E. UTILITIES PROJECT ENGINEER
Jordan K. Chapman UTILITIES PROJECT DESIGNER

SEAL

DIVISION OF HIGHWAYS UTILITIES UNIT
1555 MAIL SERVICES CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

Man Clarke, P.E. DIVISION 4 ENGINEER
Jason M. Lee, P.E. RESIDENT ENGINEER
Lonny Sleeper UTILITIES ENGINEER
Corey McLamb, P.E. DIVISION CONSTRUCTION ENGINEER

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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	+X
45 Degree Bend	+X
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	PRPZ
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	o
Telephone Pole	-o-
Joint Use Pole	-o-
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" ENCASMENT

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	?UL
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)

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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 WATER AND GRAVITY SEWER LINES BELONG TO THE FOLLOWING:

CITY OF GOLDSBORO CONTACT PERSON - JONATHAN PERRY PHONE # 919-580-4317

FORK TOWNSHIP SANITARY DISTRICT CONTACT PERSON - GLENN KENNEDY PHONE # 919-736-2551

BELFAST-PATETOWN SANITARY DISTRICT CONTACT PERSON - LARRY BRIDGES PHONE # 919-731-2310

WAYNE COUNTY BOARD OF EDUCATION CONTACT PERSON - BRANDON JONES PHONE # 919-738-7954
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.

UTILITY CONSTRUCTION

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.
7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.
8. MAKE CONNECTIONS BETWEEN THE EXISTING AND PROPOSED WATER LINES DURING THE DAY (MONDAY THROUGH FRIDAY 8:00 AM TO 5:00 PM). THE MAIN WATER LINE TIE -IN POINTS SHALL BE DONE IN 4 HOURS. THE EXISTING WATER LINES AND PROPOSED WATER LINES SHALL BE ACTIVE AT THE SAME TIME SO THE SERVICE LINE TIE -INS ALONG THE PROPOSED WATER LINES ARE LIMITED TO A 1-HOUR SHUT DOWN TIME.
9. ALL UTILITY MATERIALS SHALL BE APPROVED BY OWNERS PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

PROJECT SPECIFIC NOTES:

1. THE CONTRACTOR SHALL DESIGN THE CONCRETE THRUST BLOCKING AT THE TIE POINTS FOR THE 16" WATER LINE. THE CONCRETE THRUST BLOCKING DETAIL SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER. THE CONCRETE THRUST BLOCKING SHALL BE REVIEWED AND APPROVED BY NCDOT AND THE CITY OF GOLDSBORO PRIOR TO BEING INSTALLED. THE CONCRETE BLOCKING DETAIL FOR ALL OTHER WATER LINES AT THE TIE-IN POINTS SHALL BE SUBMITTED TO THE OWNERS AND NCDOT FOR REVIEW AND APPROVAL. THE CONCRETE THRUST BLOCKING SHALL BE IN PLACE AND CURED TO FULL STRENGTH PRIOR TO MAKING THE TIE-IN TO THE EXISTING WATER LINE.
2. THE PROPOSED WATER AND SEWER LINES INSTALLED BY OPEN CUT NEAR OR IN THE EXISTING ROADWAYS MAY NEED TO BE DONE AT NIGHT OR AS DIRECTED BY THE ENGINEER. MAINTAIN TRAFFIC AS SHOWN IN THE TRAFFIC CONTROL PLANS OR AS DIRECTED BY THE ENGINEER.
3. DUE TO THE NUMBER OF WATER SERVICES BEING RELOCATED, THE CONTRACTOR MAY NEED TO KEEP THE EXISTING AND PROPOSED WATER LINES ACTIVE AT THE SAME TIME UNTIL ALL WATER SERVICES ARE RELOCATED TO THE NEW WATER LINE. THE COST TO INSTALL TEMPORARY - (PIPE, VALVES, FITTINGS AND INCIDENTALS) NECESSARY TO KEEP THE EXISTING AND PROPOSED WATER LINES ACTIVE DURING THE WATER METER AND FIRE HYDRANT RELOCATIONS WILL BE INCIDENTAL TO THE COSTS OF PROPOSED WATER LINES.
4. IF THE WATER SERVICE CANNOT BE INTERRUPTED, THE BELFAST-PATETOWN SANITARY DISTRICT WILL NOT ALLOW UNPROTECTED BYPASS AROUND A RELOCATED BACKFLOW PREVENTER, A PARALLEL BACKFLOW PREVENTION ASSEMBLY MUST BE USED UNTIL THE RELOCATED BACKFLOW ASSEMBLY HAS BEEN TESTED AND APPROVED BY BELFAST-PATETOWN SANITARY DISTRICT. THE COST WILL BE INCIDENTAL TO THE PAY ITEMS FOR RELOCATE BACKFLOW PREVENTERS.
5. FOLLOWING THE INSTALLATION OF THE RELOCATED BACKFLOW PREVENTER, THE BACKFLOW PREVENTER SHALL BE TESTED BY A CERTIFIED BACKFLOW PREVENTION ASSEMBLY TECHNICIAN APPROVED BY BELFAST-PATETOWN SANITARY DISTRICT WITHIN 10 DAYS. THE PROPOSED SERVICE LINE CANNOT BE ACTIVATED UNTIL THE TECHNICIAN AND BELFAST-PATETOWN SANITARY DISTRICT HAS TESTED AND APPROVED THE INSTALLATION OF THE RELOCATED BACKFLOW ASSEMBLY.

6. ALL CERTIFIED BACKFLOW PREVENTION ASSEMBLY TECHNICIANS MUST OBTAIN AND EMPLOY BACKFLOW PREVENTION ASSEMBLY TEST EQUIPMENT, WHICH HAS BEEN EVALUATED AND/OR APPROVED BY BELFAST-PATETOWN SANITARY DISTRICT. ALL TEST EQUIPMENT SHALL BE REGISTERED WITH BELFAST-PATETOWN SANITARY DISTRICT AND SHALL BE CHECKED FOR ACCURACY ANNUALLY (AT A MINIMUM), CALIBRATED IF NECESSARY, AND CERTIFIED TO BELFAST-PATETOWN SANITARY DISTRICT AS TO SUCH ACCURACY/CALIBRATION, EMPLOYING A CALIBRATION METHOD ACCEPTABLE TO BELFAST-PATETOWN SANITARY DISTRICT. ALL COSTS ASSOCIATE WITH TESTING AND CERTIFICATION OF THE RELOCATED BACKFLOW PREVENTERS WILL BE INCIDENTAL TO THE PAY ITEMS FOR RELOCATE BACKFLOW PREVENTERS.

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PROJECT REFERENCE NO. U-4753	SHEET NO. UC-3
DESIGNED BY: CDB	
DRAWN BY: JNA	
CHECKED BY: CLS	
APPROVED BY: CDB	
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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PROJECT TYPICAL DETAILS

CITY OF GOLDSBORO

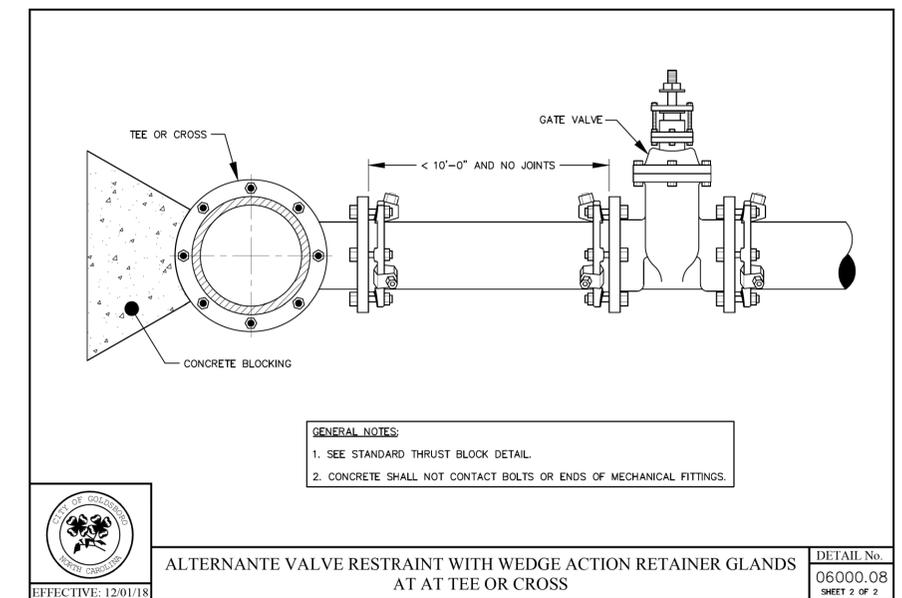
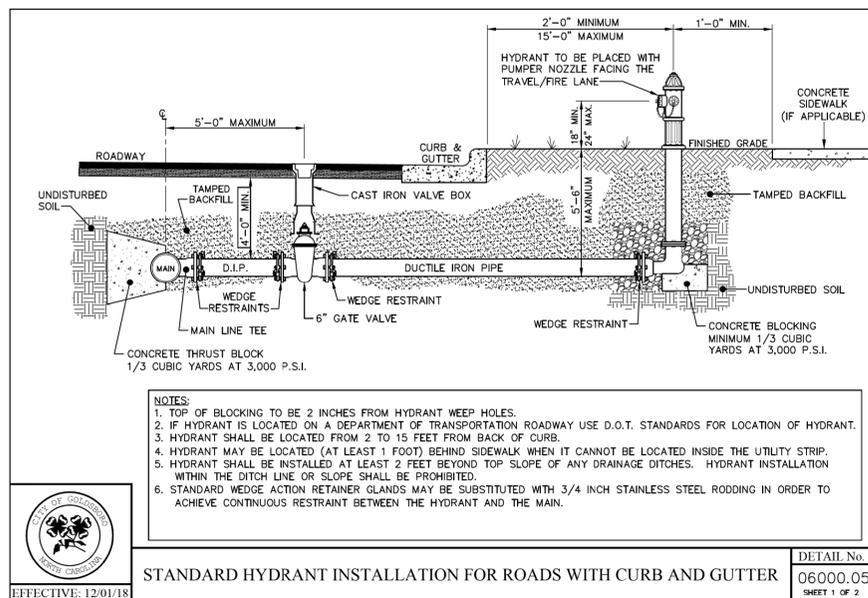
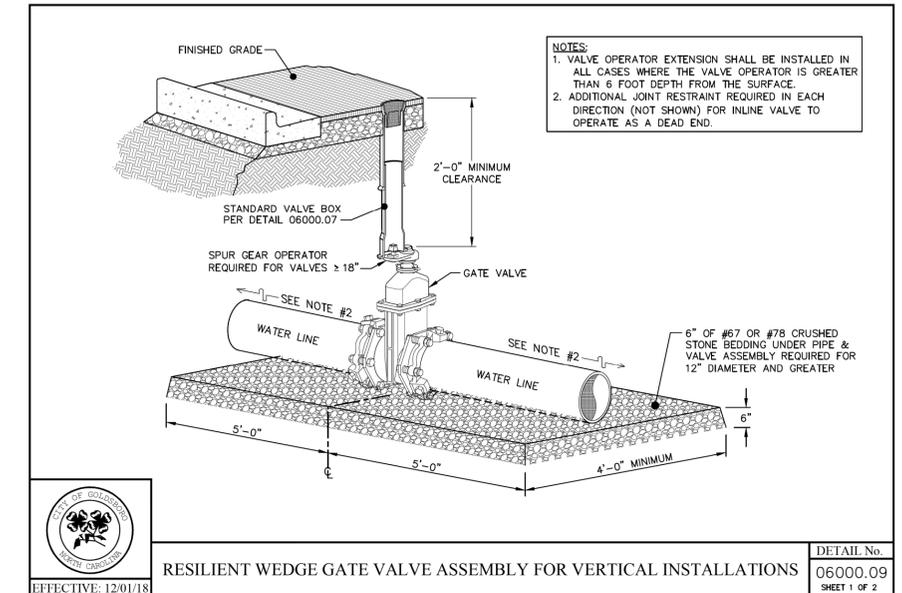
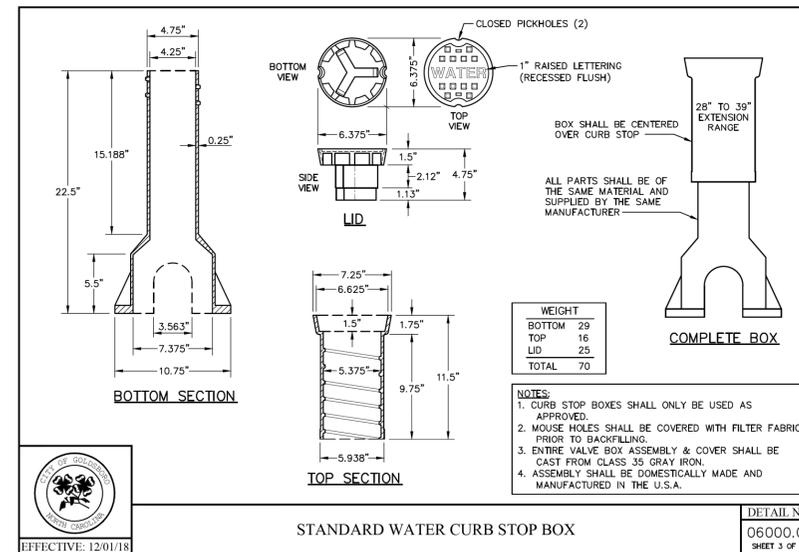
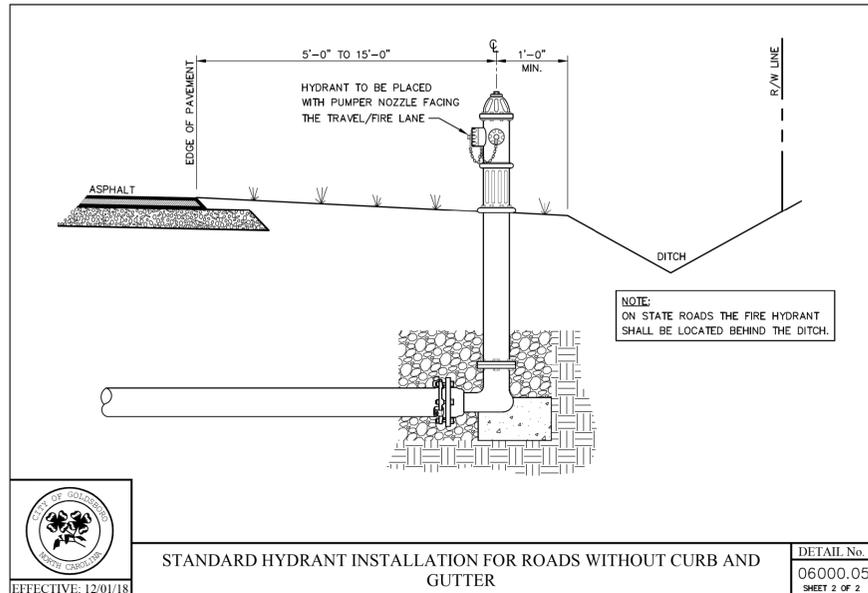
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UTILITY CONSTRUCTION



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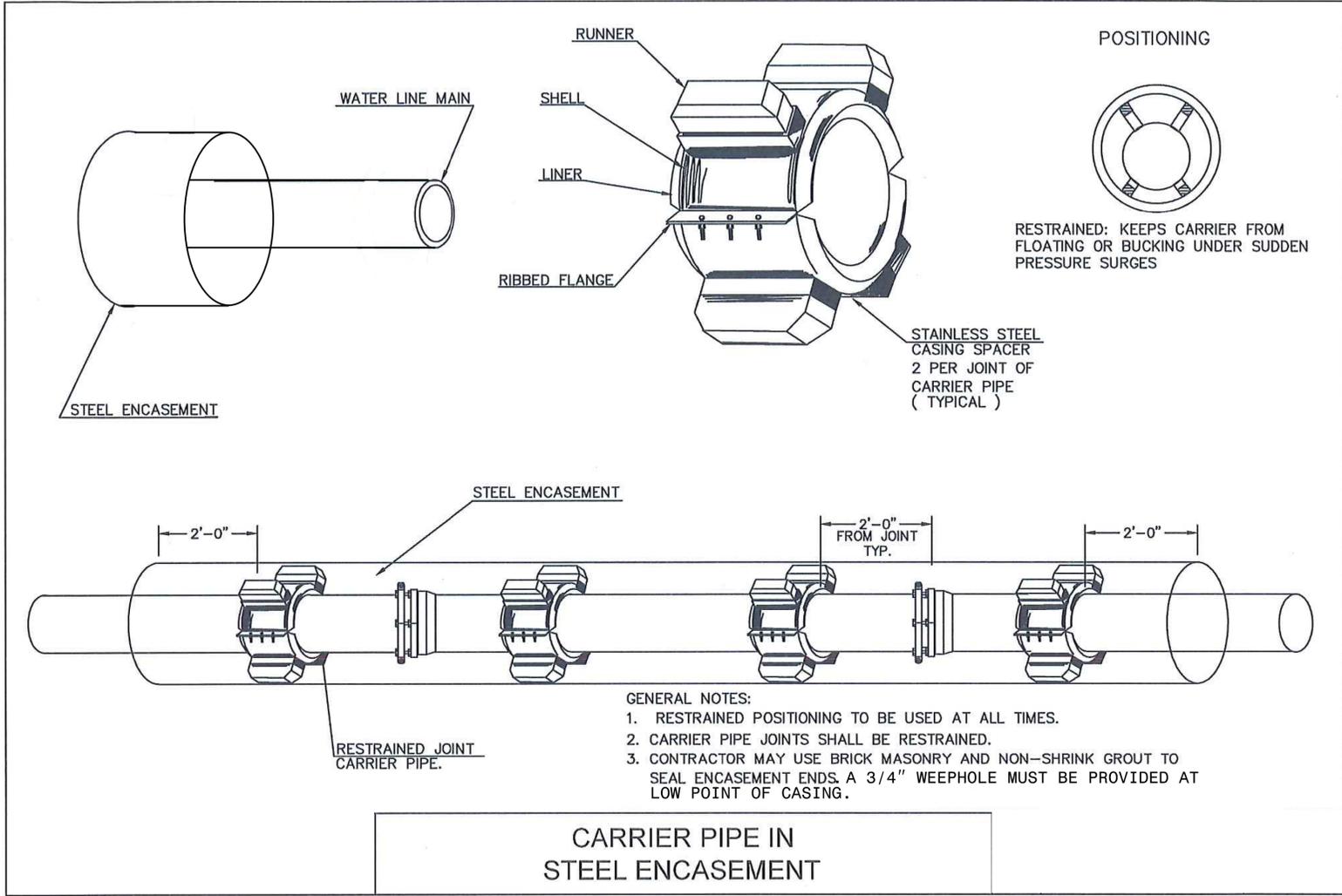
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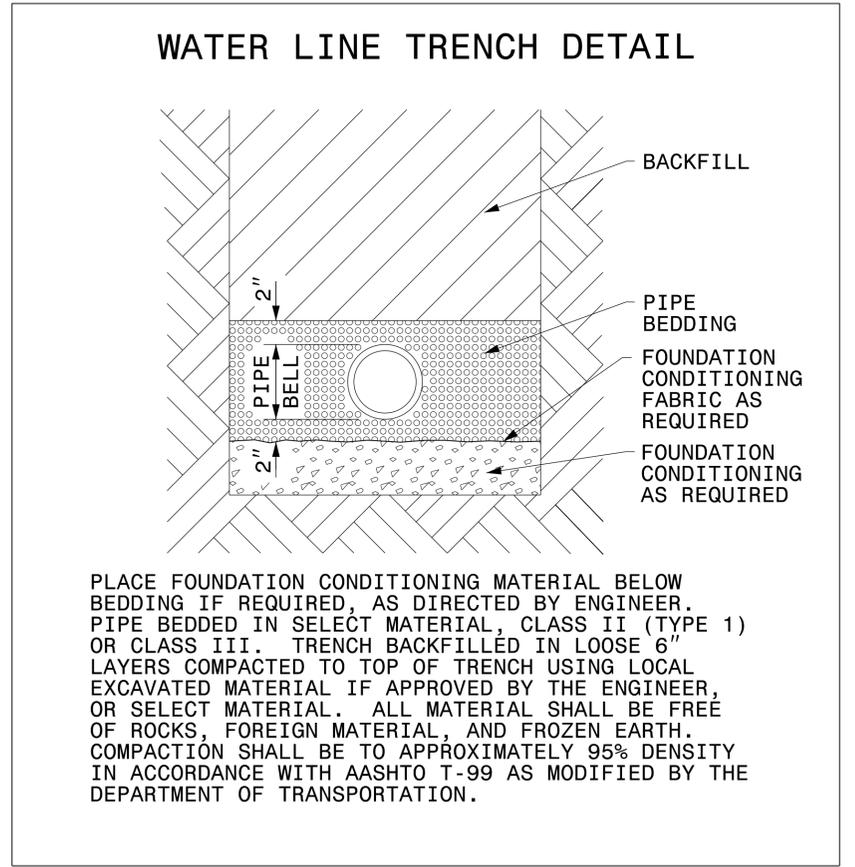
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CITY OF GOLDSBORO- FORK TOWNSHIP SANITARY DISTRICT
 BELFAST-PATETOWN SANITARY DISTRICT
 WAYNE COUNTY BOARD OF EDUCATION



UTILITY CONSTRUCTION
 BELFAST-PATETOWN SANITARY DISTRICT
 FORK TOWNSHIP SANITARY DISTRICT
 CITY OF GOLDSBORO

**USE BEDDING DETAIL TRENCH
 WIDTH FOR ALL OWNERS (WATER LINES)**



- SHELL** - MINIMUM 14 GAUGE T-304 STAINLESS STEEL.
- RISERS** - MAX 10 GA. T-304 STAINLESS STEEL, REINFORCED 6" AND OVER HEIGHT.
- FASTENERS** - 5/16-18 T-304 STAINLESS STEEL
- LINER** - PVC - .090 THICK, 85-90 DUROMETER(ASTM D1706-61T)
- RUNNERS** - ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE
 LOW COEFFICIENT OF FRICTION
 HIGH RESISTANCE TO ABRASION AND SLIDING WEAR TOUGHNESS UNDER IMPACT
 LOW DEFLECTION UNDER COMPRESSION DIELECTRIC INSULATION

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		

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CITY OF GOLDSBORO

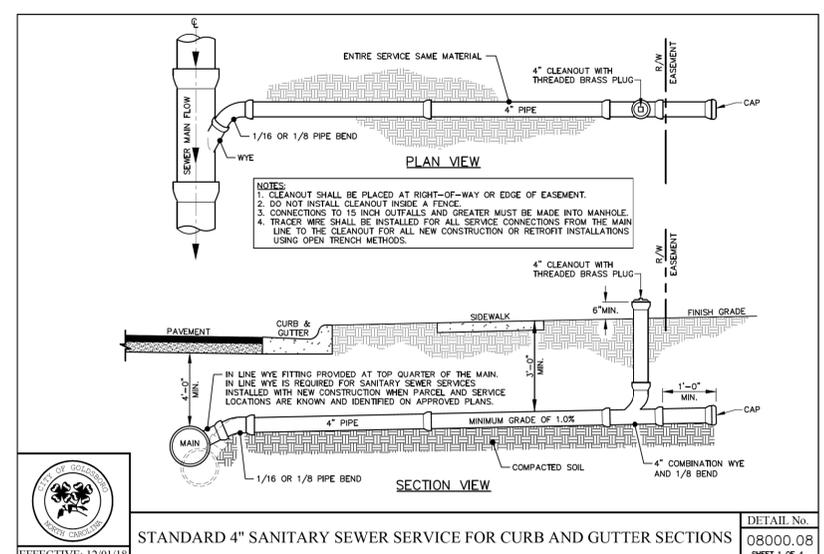
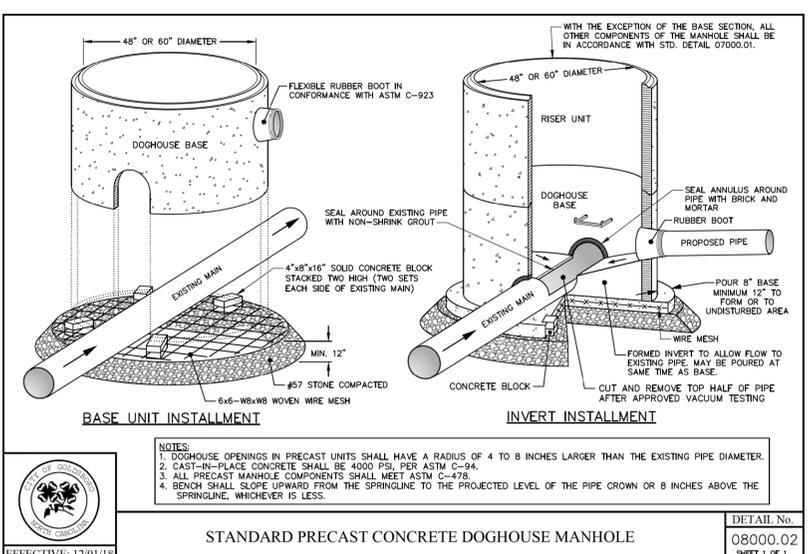
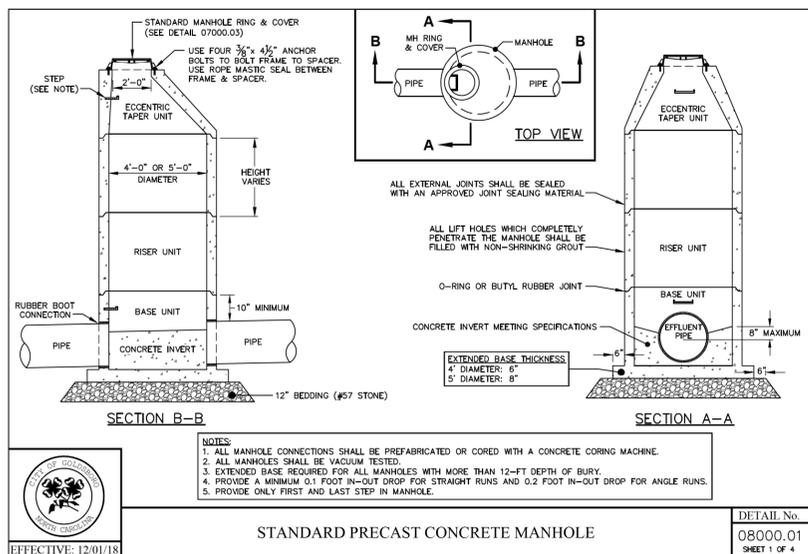
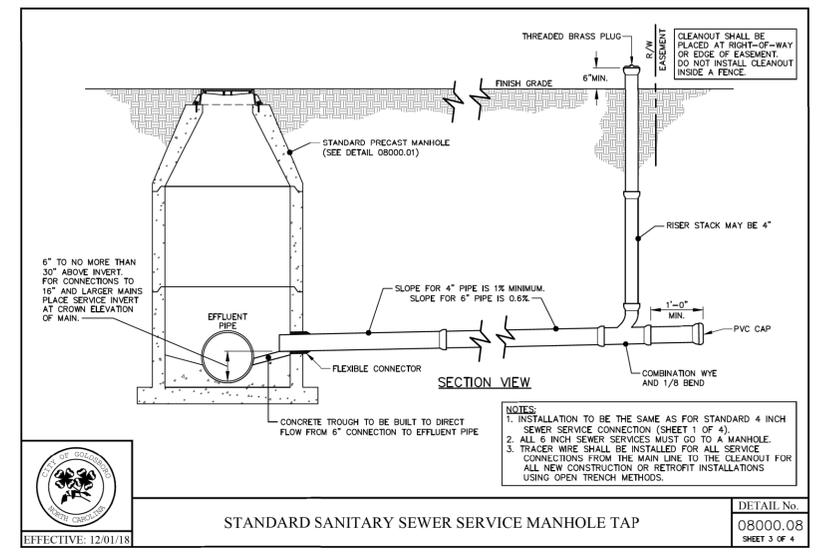
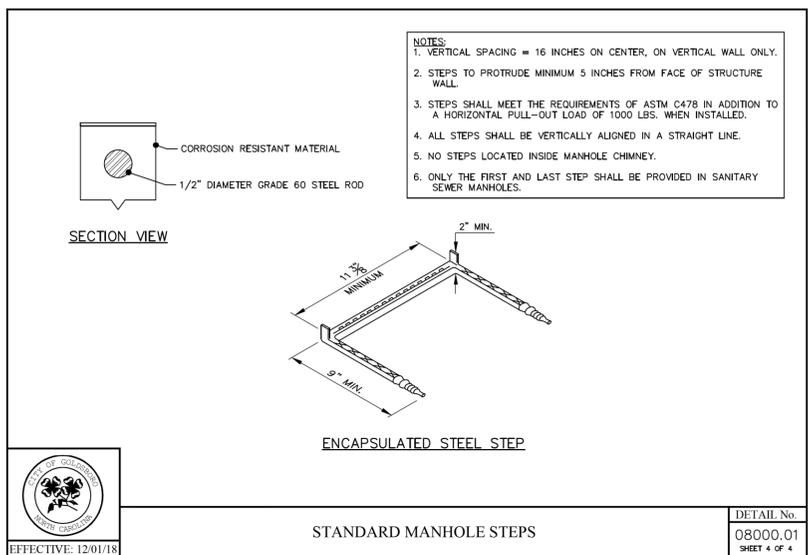
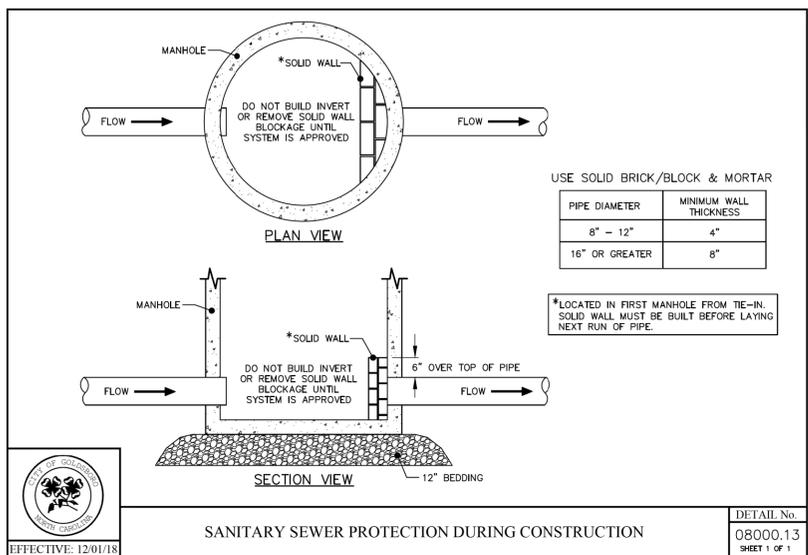
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UTILITY CONSTRUCTION



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 401 Harrison Oaks Blvd., Suite 145 Cary, NC 27513

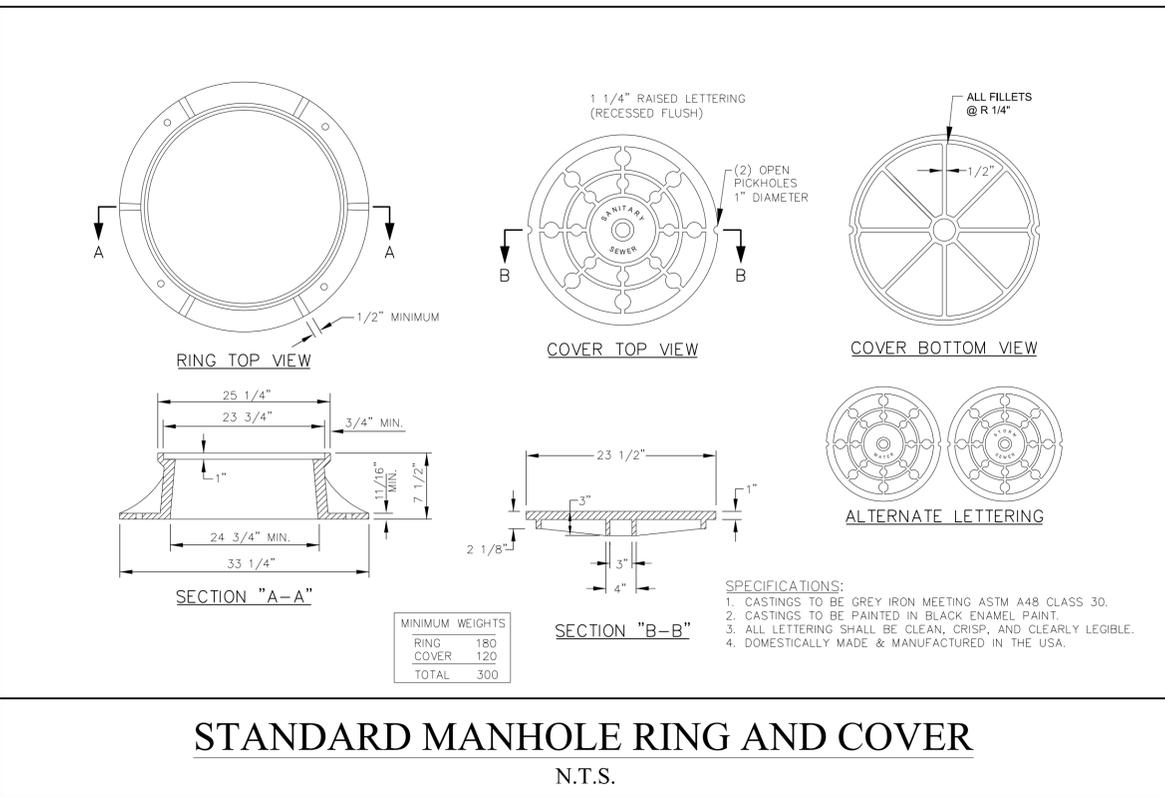
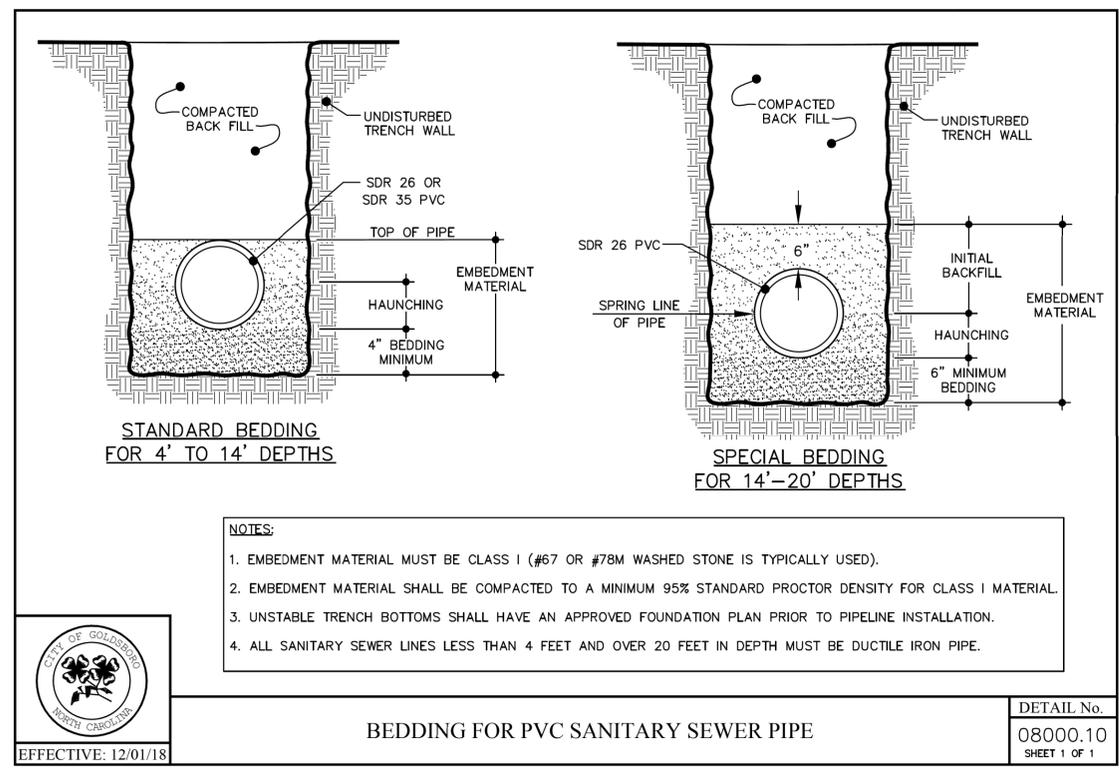
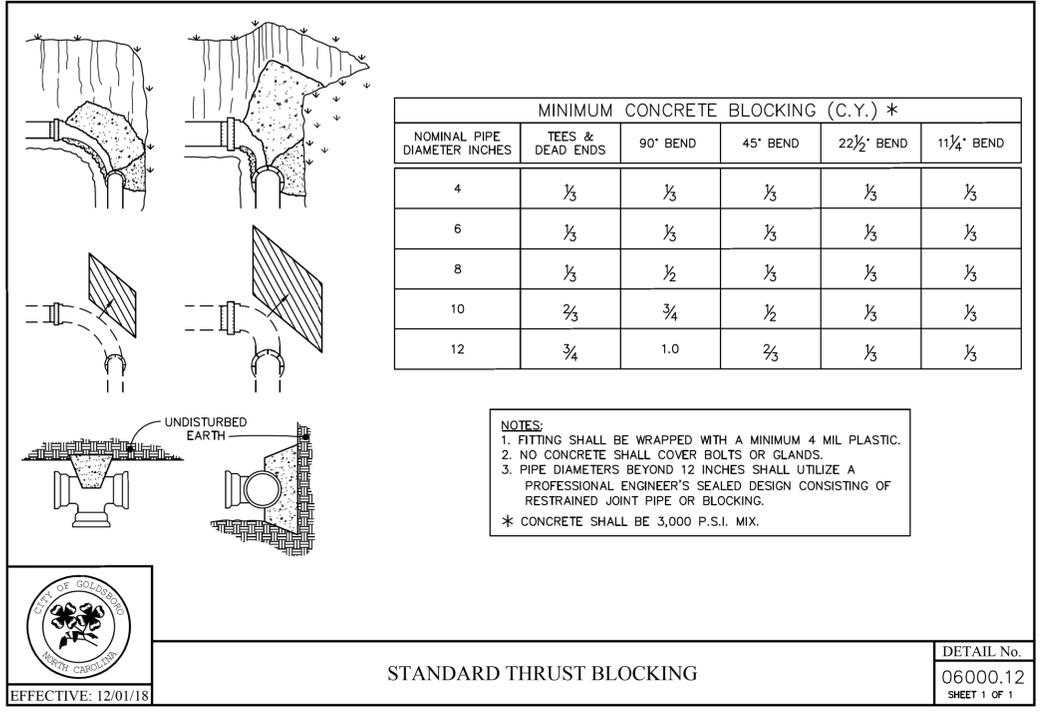
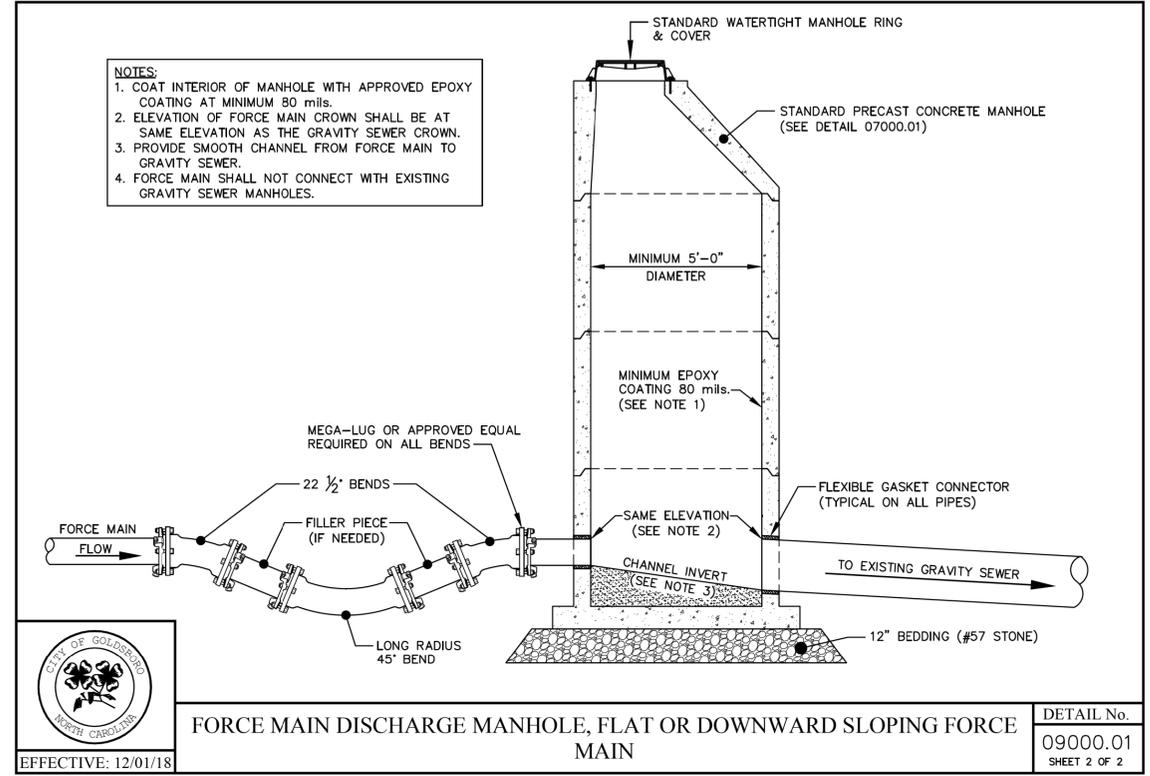
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CITY OF GOLDSBORO

THRUST BLOCKING USED AT TIE-INS, TEES AND RELOCATED FIRE HYDRANTS ONLY USE RESTRAINED RETAINER GLANDS AT ALL OTHER LOCATIONS FOR RESTRAINT

UTILITY CONSTRUCTION



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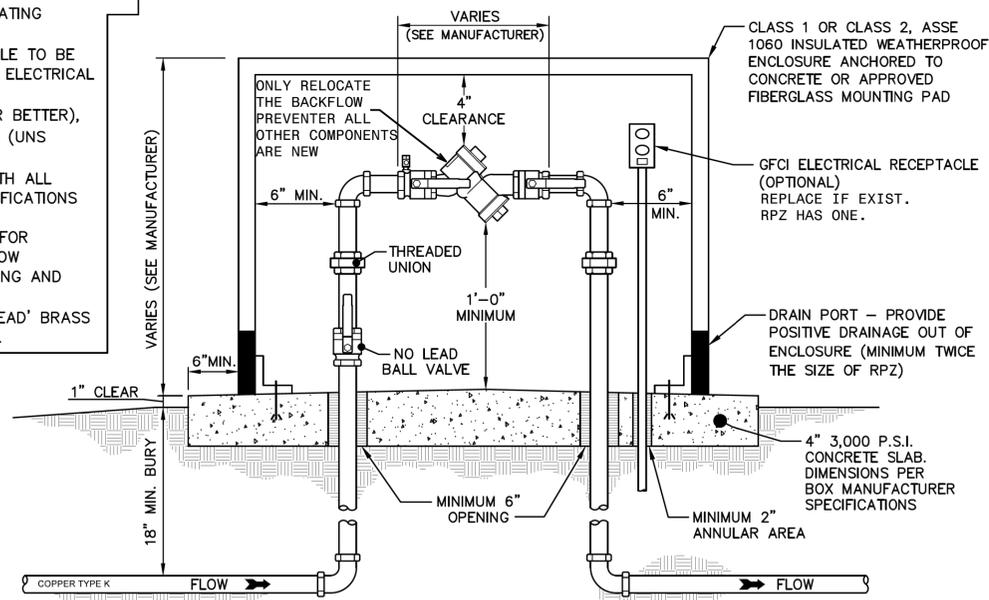
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10/14/2025 UTILITY CONSTRUCTION PLANS ONLY	

BELFAST-PATETOWN SANITARY DISTRICT

UTILITY CONSTRUCTION

- NOTES:**
- REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY SHALL COMPLY WITH ASSE 1013 & AWWA C511.
 - DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY SHALL COMPLY WITH ASSE 1015 & AWWA C510.
 - BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED WITHIN 5 FEET OF THE METER BOX.
 - BACKFLOW PREVENTION ASSEMBLY SHALL BE CENTERED ON CONCRETE OR APPROVED FIBERGLASS MOUNTING PAD AND CENTERED WITHIN ENCLOSURE.
 - MINIMUM INSULATED CLASS I OR CLASS II, ASSE 1060 WEATHERPROOF ENCLOSURE REQUIRED (HEATING OPTIONAL).
 - OPTIONAL 120V GFCI ELECTRICAL RECEPTACLE TO BE INSTALLED IN ACCORDANCE WITH THE N.C. ELECTRICAL CODE FOR OUTDOOR OPERATION.
 - PIPE MATERIAL SHALL BE PVC (SCH. 80 OR BETTER), C.T.S. POLY-TUBING, OR 'NO LEAD' BRASS (UNS C89833 PER ASTM B584).
 - INSTALLATION SHALL BE IN COMPLIANCE WITH ALL APPLICABLE TOWN ORDINANCES AND SPECIFICATIONS IN ADDITION TO THE N.C. PLUMBING CODE.
 - PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE AND OPERATION OF BACKFLOW ASSEMBLY AND COMPLIANCE WITH REPORTING AND TESTING REQUIREMENTS.
 - ALL BRASS COMPONENTS SHALL BE 'NO LEAD' BRASS MEETING UNS C89833 AS PER ASTM B584.



STANDARD 1" TO 2 1/2" COMMERCIAL OUTDOOR BACKFLOW ASSEMBLY

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PROJECT TYPICAL DETAILS

BELFAST-PATETOWN SANITARY DISTRICT FORK TOWNSHIP SANITARY DISTRICT

NOT TO SCALE

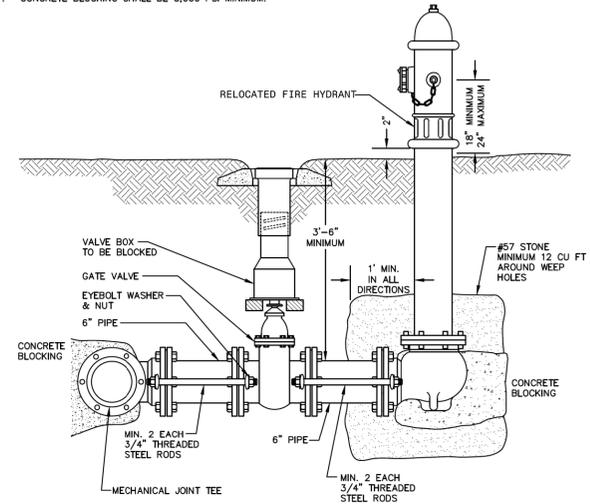


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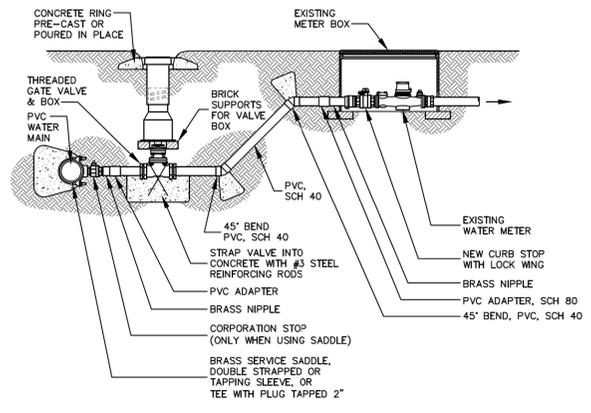
PROJECT REFERENCE NO.	SHEET NO.
U-4753	UC-3F
DESIGNED BY: CDB	
DRAWN BY: JNA	
CHECKED BY: CLS	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
10/14/2025 UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

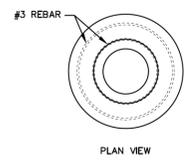
- NOTES:
- UNIT PRICE OF THE HYDRANT SHALL INCLUDE ALL BARREL EXTENSIONS AS REQUIRED TO PROPERLY MOUNT HYDRANT WITH RESPECT TO TOPOGRAPHY.
 - HYDRANT LEG UNDER DITCHES SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER BELOW DITCH INVERT.
 - PROVIDE CONCRETE THRUST BLOCKING IN ACCORDANCE TO THE THRUST BLOCKING DETAIL ON SHEET UC-3G.
 - PROVIDE EITHER THRUST RODDING OR GRIPPING RINGS IN ADDITION TO CONCRETE THRUST BLOCKING FROM THE MAIN LINE TEE TO THE HYDRANT INCLUDING ALL VALVES, FITTINGS AND PIPE IN ACCORDANCE TO THE THRUST BLOCKING DETAIL ON SHEET UC-3G.
 - WEDGE ACTION AND SET SCREW RETAINER GLANDS ARE NOT ACCEPTABLE RESTRAINTS FOR HYDRANT LEGS.
 - 6" HYDRANT LEG PIPE SHALL BE DIP.
 - CONCRETE BLOCKING SHALL BE 3,000 PSI MINIMUM.



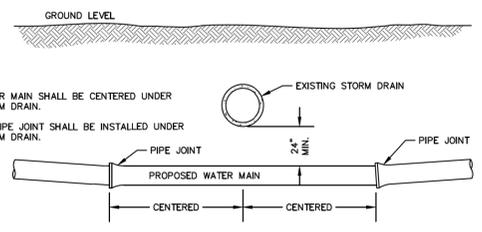
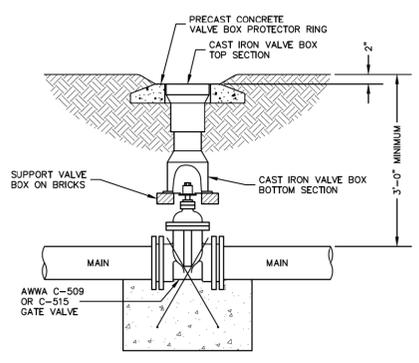
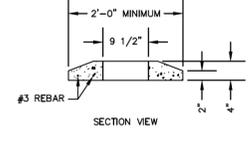
** THIS PROJECT INVOLVES TRANSFER OF EXISTING SERVICES FROM AN EXISTING WATER LINE TO ANOTHER EXISTING OR NEW WATER LINE. 2" SERVICE SHALL INCLUDE SADDLE, CORP. STOP, GATE VALVE, BRASS NIPPLE AND 2" SERVICE LINE AND METER STOP. EXISTING METER BOX, METER AND ACCESSORIES DOWNSTREAM OF METER TO REMAIN.



- CONSTRUCTION NOTES:
- INSTALL SERVICE LINES A MINIMUM OF THREE (3) FEET BELOW FINISHED GRADE AND A MINIMUM OF THREE (3) FEET BELOW DITCH INVERTS AND A MINIMUM OF FOUR (4) FEET BELOW PROPOSED DITCH INVERTS.
 - ENCASE SERVICE LINE IN PVC PIPE OR GALVANIZED STEEL PIPE WHEREVER SERVICE LINE IS INSTALLED UNDER PAVEMENT.



CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.

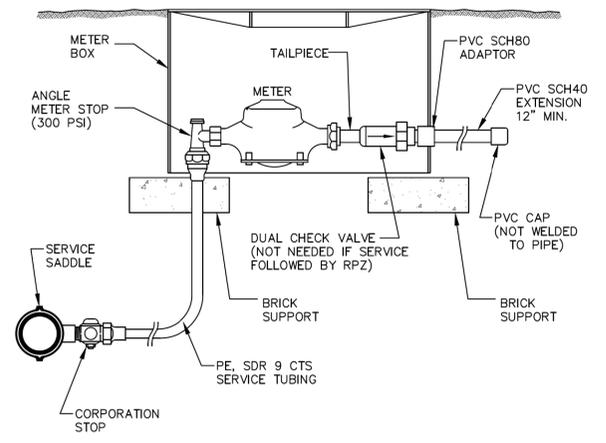


WATER MAINS SHALL BE INSTALLED UNDER STORM DRAINS (MINIMUM 24" COVER) OR BEYOND THE ENDS OF STORM DRAINS (MINIMUM 48" COVER). TYPICALLY WITHIN FIVE (5) FEET OF THE EDGE OF THE RIGHT-OF-WAY. WHERE UNCAUSED BORES ARE NOT POSSIBLE OR WHERE DURING INSTALLATION THE BEDDING BENEATH THE EXISTING STORM DRAIN IS DISTURBED, THE FOLLOWING ACTION SHALL BE REQUIRED:

- THE EXISTING STORM DRAIN SHALL BE REMOVED AND #57 STONE BEDDING SHALL BE USED BETWEEN THE WATERLINE AND THE CENTERLINE OF THE STORM DRAIN, OR
- THE EXISTING STORM DRAIN SHALL BE SUPPORTED IN PLACE AND FLOWABLE FILL (CEMENT GROUT) SHALL BE USED AS BEDDING BETWEEN THE WATER LINE AND THE CENTERLINE OF THE STORM DRAIN.

THE COST OF BEDDING, #57 STONE, FLOWABLE FILL, ETC. SHALL BE INCLUDED IN THE UNIT PRICE OF THE PROPOSED MAIN.

** THIS PROJECT INVOLVES TRANSFER OF EXISTING SERVICES FROM AN EXISTING WATER LINE TO ANOTHER EXISTING OR NEW WATER LINE. SERVICE TRANSFER TO INCLUDE SADDLE, CORP. STOP, SERVICE TUBING AND ANGLE METER STOP. EXISTING METER BOX, METER AND ACCESSORIES DOWNSTREAM OF METER TO REMAIN.



- NOTES:
- INSTALL SERVICE TUBING A MINIMUM OF THREE (3) FEET BELOW FINISHED GRADE AND A MINIMUM OF THREE (3) FEET BELOW EXISTING DITCH INVERTS AND A MINIMUM OF FOUR (4) FEET BELOW PROPOSED DITCH INVERTS.
 - ENCASE SERVICE TUBING IN PVC PIPE WHEREVER SERVICE TUBING IS INSTALLED UNDER PAVEMENT.
 - SET RELOCATED WATER METER (1) FOOT INSIDE NCDOT R/W OR AS SHOWN ON PLANS

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PROJECT TYPICAL DETAILS

NOT TO SCALE

BELFAST-PATETOWN SANITARY DISTRICT
 FORK TOWNSHIP SANITARY DISTRICT

THRUST BLOCKING USED
 AT TIE-INS, TEES AND RELOCATED FIRE HYDRANTS ONLY
 USE RESTRAINED RETAINER GLANDS AT ALL OTHER LOCATIONS
 FOR RESTRAINT

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 401 Harrison Oaks Blvd., Suite 145 Cary, NC 27513

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PROJECT REFERENCE NO. U-4753	SHEET NO. UC-3G
DESIGNED BY: CDB	
DRAWN BY: JNA	
CHECKED BY: CLS	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

UTILITY CONSTRUCTION

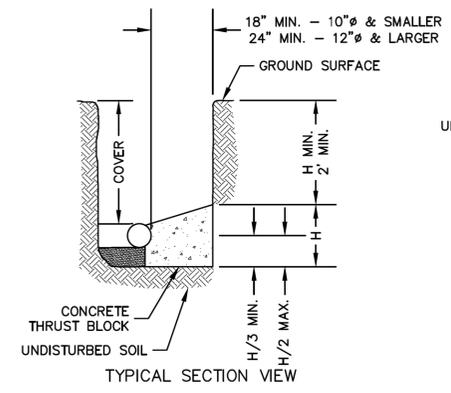
TABLE 1 - MINIMUM THRUST BLOCK AREAS AND DIMENSIONS

NOMINAL PIPE SIZE	90° BEND			45° BEND			22½° BEND			11¼° BEND			TEES, PLUGS AND VALVES		
	AREA (sf)	B (in)	H (in)	AREA (sf)	B (in)	H (in)	AREA (sf)	B (in)	H (in)	AREA (sf)	B (in)	H (in)	AREA (sf)	B (in)	H (in)
2"	0.4	10	6	0.2	8	4	0.1	6	3	0.1	6	3	0.3	8	6
3"	0.8	13	9	0.4	10	6	0.2	6	5	0.1	6	4	0.6	11	8
4"	1.5	18	12	0.8	13	9	0.4	10	6	0.2	6	6	1.0	15	10
6"	3.0	24	18	1.6	20	12	0.8	13	9	0.4	8	8	2.1	21	15
8"	5.2	32	24	2.8	24	17	1.4	17	12	0.7	11	11	3.6	26	20
10"	7.7	40	28	4.2	30	20	2.1	22	14	1.1	13	13	5.5	33	24
12"	10.9	50	32	5.9	36	24	3.0	24	18	1.5	15	15	7.7	40	28

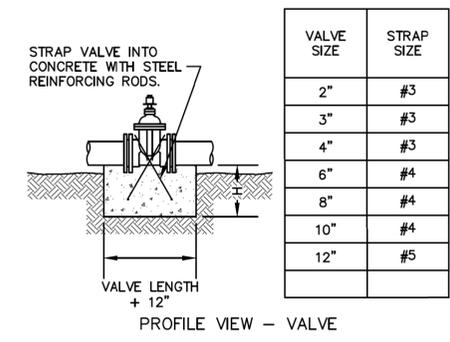
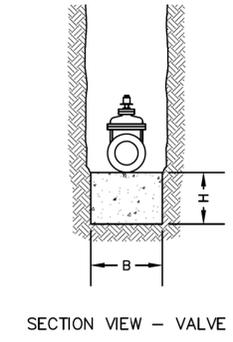
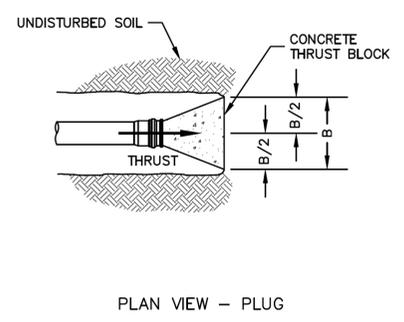
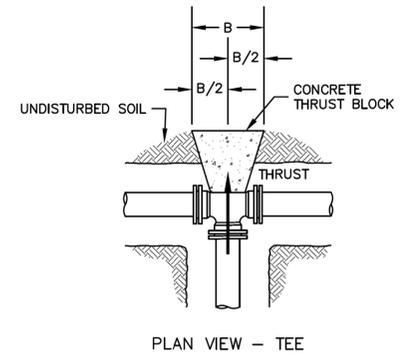
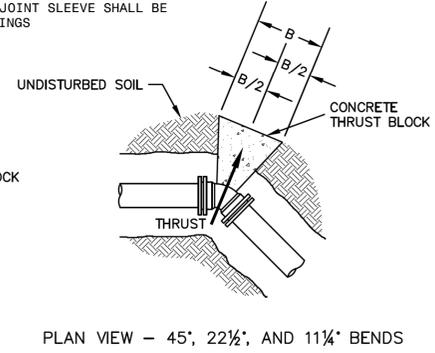
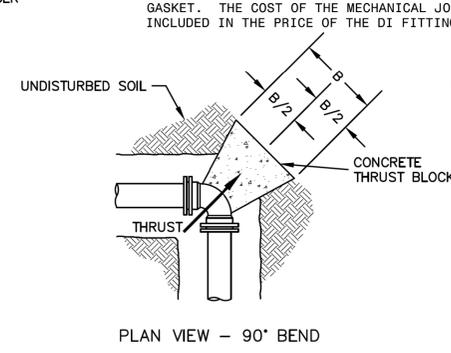
BEARING AREAS IN TABLE 1 ABOVE ARE BASED ON BEARING AGAINST SAND. FOR OTHER SOIL CONDITIONS, THE AREAS AND DIMENSIONS IN TABLE 1 ABOVE SHALL BE MULTIPLIED BY THE APPROPRIATE MULTIPLIER FROM TABLE 2 BELOW.

TABLE 2 - SOIL MULTIPLIERS

SOIL TYPE	SOIL BEARING STRENGTH (psf)	AREA MULTIPLIER	DIMENSION MULTIPLIER
SOFT CLAY	1,000	4.00	2.00
SILT	1,500	2.67	1.64
SANDY SILT	3,000	1.33	1.16
SAND	4,000	1.00	1.00
SANDY CLAY	5,000	0.80	0.90
HARD CLAY	9,000	0.45	0.67



- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
- MINIMUM THRUST BLOCK BEARING AREAS SHALL BE AS SHOWN IN TABLE 1. THRUST BLOCK DIMENSIONS SHALL BE CHOSEN SUCH THAT THE WIDTH (B) IS BETWEEN ONE AND TWO TIMES THE BLOCK HEIGHT (H). DIMENSIONS SHOWN IN TABLE 1 ARE PREFERRED BUT MAY BE VARIED TO MEET SITE CONDITIONS.
- THRUST BLOCKS SHALL BEAR AGAINST THE ITEM BEING BLOCKED FOR A MINIMUM OF 60" ABOVE AND BELOW THE HORIZONTAL CENTERLINE OF THE ITEM.
- SURFACES OF ITEM BEING BLOCKED SHALL BE COVERED WITH POLYETHYLENE ENCASUREMENT PRIOR TO PLACING CONCRETE TO PREVENT DIRECT CONTACT AND BONDING WITH CONCRETE.
- ALL JOINTS SHALL BE ACCESSIBLE FOR REPAIR AND/OR FUTURE CONNECTIONS. CONCRETE SHALL NOT COVER BOLTS, NUTS, OR GLANDS.
- FOR 12" AND SMALLER DIAMETER FITTINGS (BOTH RESTRAINED JOINT AND NON RESTRAINED JOINT) CONCRETE THRUST BLOCKING IS REQUIRED.
- WHERE DIFFERENT TYPE WATER MAIN MATERIALS ARE JOINED TOGETHER SUCH AS PVC TO DUCTILE IRON, THE TRANSITION SHALL BE ACCOMPLISHED WITH A MECHANICAL JOINT DUCTILE IRON SLEEVE WITH TRANSITION GASKET. THE COST OF THE MECHANICAL JOINT SLEEVE SHALL BE INCLUDED IN THE PRICE OF THE DI FITTINGS



VALVE SIZE	STRAP SIZE
2"	#3
3"	#3
4"	#3
6"	#4
8"	#4
10"	#4
12"	#5

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NOTE:
THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 6885 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

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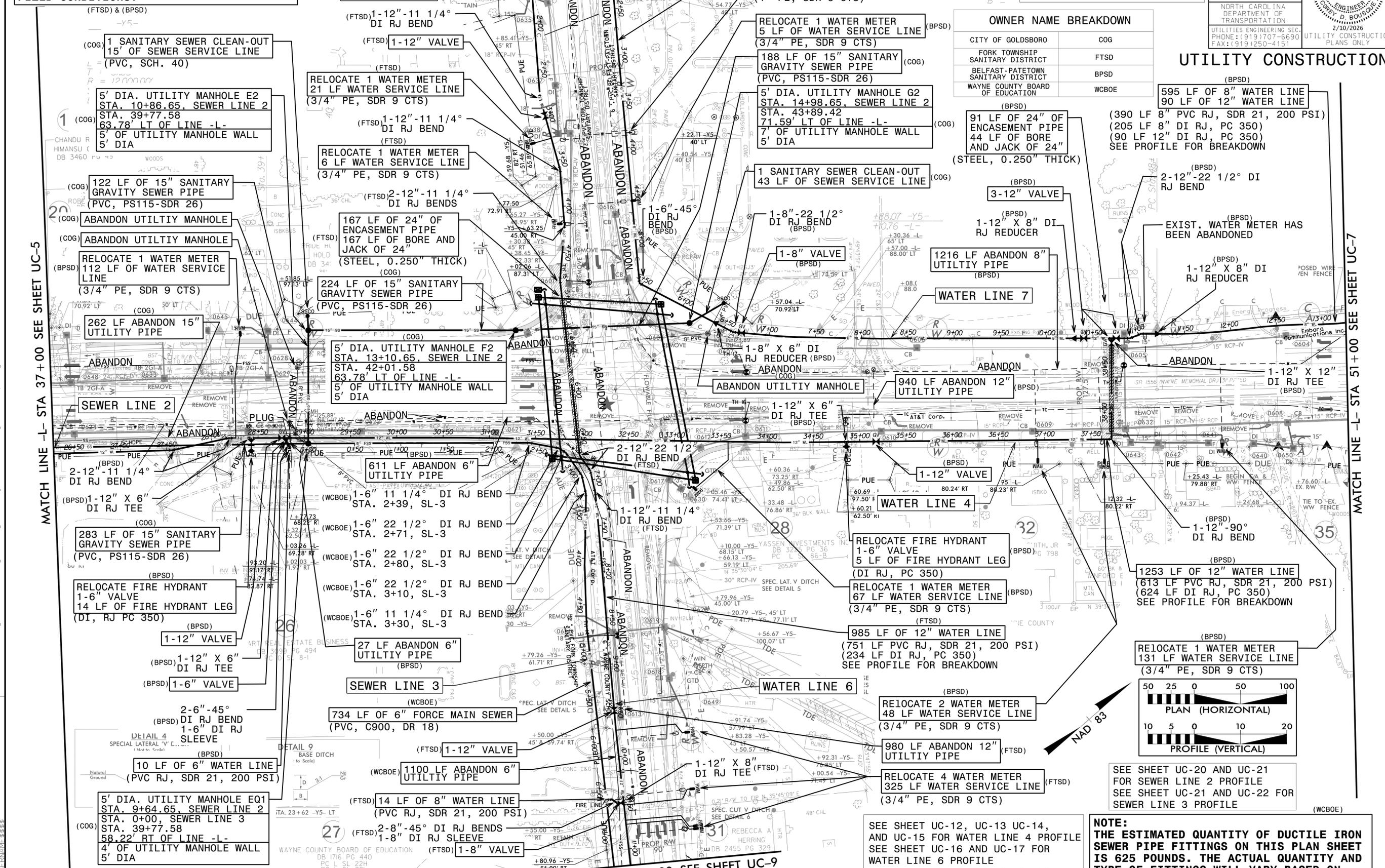
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PROJECT REFERENCE NO.	U-4753	SHEET NO.	UC-6
DESIGNED BY:	CDB		
DRAWN BY:	AW		
CHECKED BY:	CLS		
APPROVED BY:	CDB		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		UTILITY CONSTRUCTION PLANS ONLY	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			

OWNER NAME BREAKDOWN

CITY OF GOLDSBORO	COG
FORK TOWNSHIP SANITARY DISTRICT	FTSD
BELFAST-PATETOWN SANITARY DISTRICT	BPSD
WAYNE COUNTY BOARD OF EDUCATION	WBOE

UTILITY CONSTRUCTION

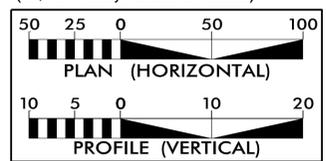


MATCH LINE -L- STA 37+00 SEE SHEET UC-5

MATCH LINE -L- STA 51+00 SEE SHEET UC-7

REVISIONS

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SEE SHEET UC-20 AND UC-21 FOR SEWER LINE 2 PROFILE
SEE SHEET UC-21 AND UC-22 FOR SEWER LINE 3 PROFILE

NOTE:
THE ESTIMATED QUANTITY OF DUCTILE IRON SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 625 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

SEE SHEET UC-12, UC-13 UC-14, AND UC-15 FOR WATER LINE 4 PROFILE
SEE SHEET UC-16 AND UC-17 FOR WATER LINE 6 PROFILE
SEE SHEET UC-17 AND UC-18 FOR WATER LINE 7 PROFILE

MATCH LINE -Y5- STA 16+20 SEE SHEET UC-9

MATCH LINE -Y5- STA 26+00 SEE SHEET UC-9

DETAIL 4
SPECIAL LATERAL 'V' L...

DETAIL 9
BASE DITCH

5' DIA. UTILITY MANHOLE EQ1
STA. 9+64.65, SEWER LINE 2
STA. 0+00, SEWER LINE 3
STA. 39+77.58
58.22' RT OF LINE -L-
4' OF UTILITY MANHOLE WALL
5' DIA

14 LF OF 8" WATER LINE
(PVC RJ, SDR 21, 200 PSI)
2-8"-45° DI RJ BENDS
1-8" DI RJ SLEEVE
1-8" VALVE

RELOCATE FIRE HYDRANT
1-6" VALVE
5 LF OF FIRE HYDRANT LEG
(DI RJ, PC 350)

RELOCATE 1 WATER METER
67 LF WATER SERVICE LINE
(3/4" PE, SDR 9 CTS)

985 LF OF 12" WATER LINE
(751 LF PVC RJ, SDR 21, 200 PSI)
(234 LF DI RJ, PC 350)
SEE PROFILE FOR BREAKDOWN

RELOCATE 2 WATER METER
48 LF WATER SERVICE LINE
(3/4" PE, SDR 9 CTS)

RELOCATE 4 WATER METER
325 LF WATER SERVICE LINE
(3/4" PE, SDR 9 CTS)

595 LF OF 8" WATER LINE
90 LF OF 12" WATER LINE
(390 LF 8" PVC RJ, SDR 21, 200 PSI)
(205 LF 8" DI RJ, PC 350)
(90 LF 12" DI RJ, PC 350)
SEE PROFILE FOR BREAKDOWN

2-12"-22 1/2° DI RJ BEND
EXIST. WATER METER HAS BEEN ABANDONED

1-12" X 8" DI RJ REDUCER
1-12" X 8" DI RJ TEE

1-12" X 12" DI RJ TEE

1-12"-90° DI RJ BEND

1253 LF OF 12" WATER LINE
(613 LF PVC RJ, SDR 21, 200 PSI)
(624 LF DI RJ, PC 350)
SEE PROFILE FOR BREAKDOWN

RELOCATE 1 WATER METER
131 LF WATER SERVICE LINE
(3/4" PE, SDR 9 CTS)

1 SANITARY SEWER CLEAN-OUT
15' OF SEWER SERVICE LINE
(PVC, SCH. 40)

5' DIA. UTILITY MANHOLE E2
STA. 10+86.65, SEWER LINE 2
STA. 39+77.58
63.78' LT OF LINE -L-
5' OF UTILITY MANHOLE WALL
5' DIA

122 LF OF 15" SANITARY GRAVITY SEWER PIPE
(PVC, PS115-SDR 26)

RELOCATE 1 WATER METER
112 LF OF WATER SERVICE LINE
(3/4" PE, SDR 9 CTS)

262 LF ABANDON 15" UTILITY PIPE

2-12"-11 1/4° DI RJ BEND

1-12" X 6" DI RJ TEE

283 LF OF 15" SANITARY GRAVITY SEWER PIPE
(PVC, PS115-SDR 26)

RELOCATE FIRE HYDRANT
1-6" VALVE
14 LF OF FIRE HYDRANT LEG
(DI, RJ PC 350)

1-12" VALVE
1-12" X 6" DI RJ TEE
1-6" VALVE

10 LF OF 6" WATER LINE
(PVC RJ, SDR 21, 200 PSI)

RELOCATE 1 WATER METER
21 LF WATER SERVICE LINE
(3/4" PE, SDR 9 CTS)

RELOCATE 1 WATER METER
6 LF WATER SERVICE LINE
(3/4" PE, SDR 9 CTS)

167 LF OF 24" OF ENCASEMENT PIPE
167 LF OF BORE AND JACK OF 24"
(STEEL, 0.250" THICK)

224 LF OF 15" SANITARY GRAVITY SEWER PIPE
(PVC, PS115-SDR 26)

5' DIA. UTILITY MANHOLE F2
STA. 13+10.65, SEWER LINE 2
STA. 42+01.58
63.78' LT OF LINE -L-
5' OF UTILITY MANHOLE WALL
5' DIA

611 LF ABANDON 6" UTILITY PIPE

1-6" 11 1/4° DI RJ BEND
STA. 2+39, SL-3

1-6" 22 1/2° DI RJ BEND
STA. 2+71, SL-3

1-6" 22 1/2° DI RJ BEND
STA. 2+80, SL-3

1-6" 22 1/2° DI RJ BEND
STA. 3+10, SL-3

1-6" 11 1/4° DI RJ BEND
STA. 3+30, SL-3

27 LF ABANDON 6" UTILITY PIPE

734 LF OF 6" FORCE MAIN SEWER
(PVC, C900, DR 18)

1100 LF ABANDON 6" UTILITY PIPE

1-12" VALVE

449 LF OF 6" WATER LINE (BPSD)
(PVC RJ, SDR 21, 200 PSI)

RECONNECT 1 WATER METER (BPSD)
(1" PE, SDR 9 CTS)

RELOCATE 1 WATER METER
5 LF OF WATER SERVICE LINE
(3/4" PE, SDR 9 CTS)

188 LF OF 15" SANITARY GRAVITY SEWER PIPE
(PVC, PS115-SDR 26)

5' DIA. UTILITY MANHOLE G2
STA. 14+98.65, SEWER LINE 2
STA. 43+89.42
71.59' LT OF LINE -L-
7' OF UTILITY MANHOLE WALL
5' DIA

1 SANITARY SEWER CLEAN-OUT
43 LF OF SEWER SERVICE LINE (COG)

1-8" VALVE (BPSD)

1-8" X 6" DI RJ REDUCER (BPSD)

1-12" X 6" DI RJ TEE (BPSD)

2-12"-22 1/2° DI RJ BEND (FTSD)

1-12"-11 1/4° DI RJ BEND (FTSD)

1-12" X 8" DI RJ TEE (FTSD)

1-8" VALVE (BPSD)

1-8" DI RJ SLEEVE (FTSD)

91 LF OF 24" OF ENCASEMENT PIPE
44 LF OF BORE AND JACK OF 24"
(STEEL, 0.250" THICK)

3-12" VALVE (BPSD)

1-12" X 8" DI RJ REDUCER (BPSD)

1216 LF ABANDON 8" UTILITY PIPE (BPSD)

WATER LINE 7

940 LF ABANDON 12" UTILITY PIPE (BPSD)

1-12" VALVE (BPSD)

WATER LINE 4

1-12" X 6" DI RJ TEE (BPSD)

1-12"-90° DI RJ BEND (BPSD)

1-12" X 8" DI RJ TEE (BPSD)

1-12" VALVE (BPSD)

2-12"-22 1/2° DI RJ BEND (BPSD)

EXIST. WATER METER HAS BEEN ABANDONED

1-12" X 8" DI RJ REDUCER (BPSD)

1-12" X 12" DI RJ TEE (BPSD)

1-12"-90° DI RJ BEND (BPSD)

1253 LF OF 12" WATER LINE (BPSD)

RELOCATE 1 WATER METER (BPSD)

131 LF WATER SERVICE LINE (BPSD)

50 25 0 50 100

10 5 0 10 20

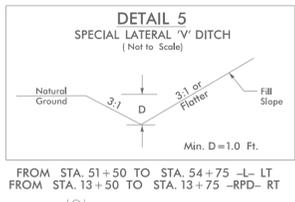
SEE SHEET UC-20 AND UC-21 FOR SEWER LINE 2 PROFILE
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SEE SHEET UC-17 AND UC-18 FOR WATER LINE 7 PROFILE

-L-
 PI Sta. 50+27.22
 $\Delta = 1^{\circ} 41' 28.9"$ (LT)
 $D = 0^{\circ} 38' 11.8"$
 $L = 265.68'$
 $T = 132.85'$
 $R = 9,000.00'$
 $SE = NC$
 $DS = 50$ MPH

-RPC-
 PI Sta. 11+72.51
 $\Delta = 23^{\circ} 00' 12.9"$ (RT)
 $D = 6^{\circ} 45' 52.4"$
 $L = 340.06'$
 $T = 172.35'$
 $R = 847.00'$
 $R.O. = 95'$
 $SE = EXIST.$
 $DS = 30$ MPH

-RPD- POT Sta. 10+00.00

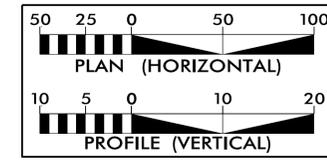


-RPD-
 PI Sta. 12+80.39
 $\Delta = 2^{\circ} 05' 33.4"$ (RT)
 $D = 0^{\circ} 45' 50.2"$
 $L = 273.92'$
 $T = 136.98'$
 $R = 7,500.00'$
 $R.O. = 108'$
 $SE = EXIST.$
 $DS = 50$ MPH

FROM STA. 51+50 TO STA. 54+75 -L- LT
 FROM STA. 13+50 TO STA. 13+75 -RPD- RT

MATCH LINE -L- STA 51+00 SEE SHEET UC-6

OWNER NAME BREAKDOWN	
CITY OF GOLDSBORO	COG
FORK TOWNSHIP SANITARY DISTRICT	FTSD
BELFAST-PATETOWN SANITARY DISTRICT	BPSD
WAYNE COUNTY BOARD OF EDUCATION	WCBEO

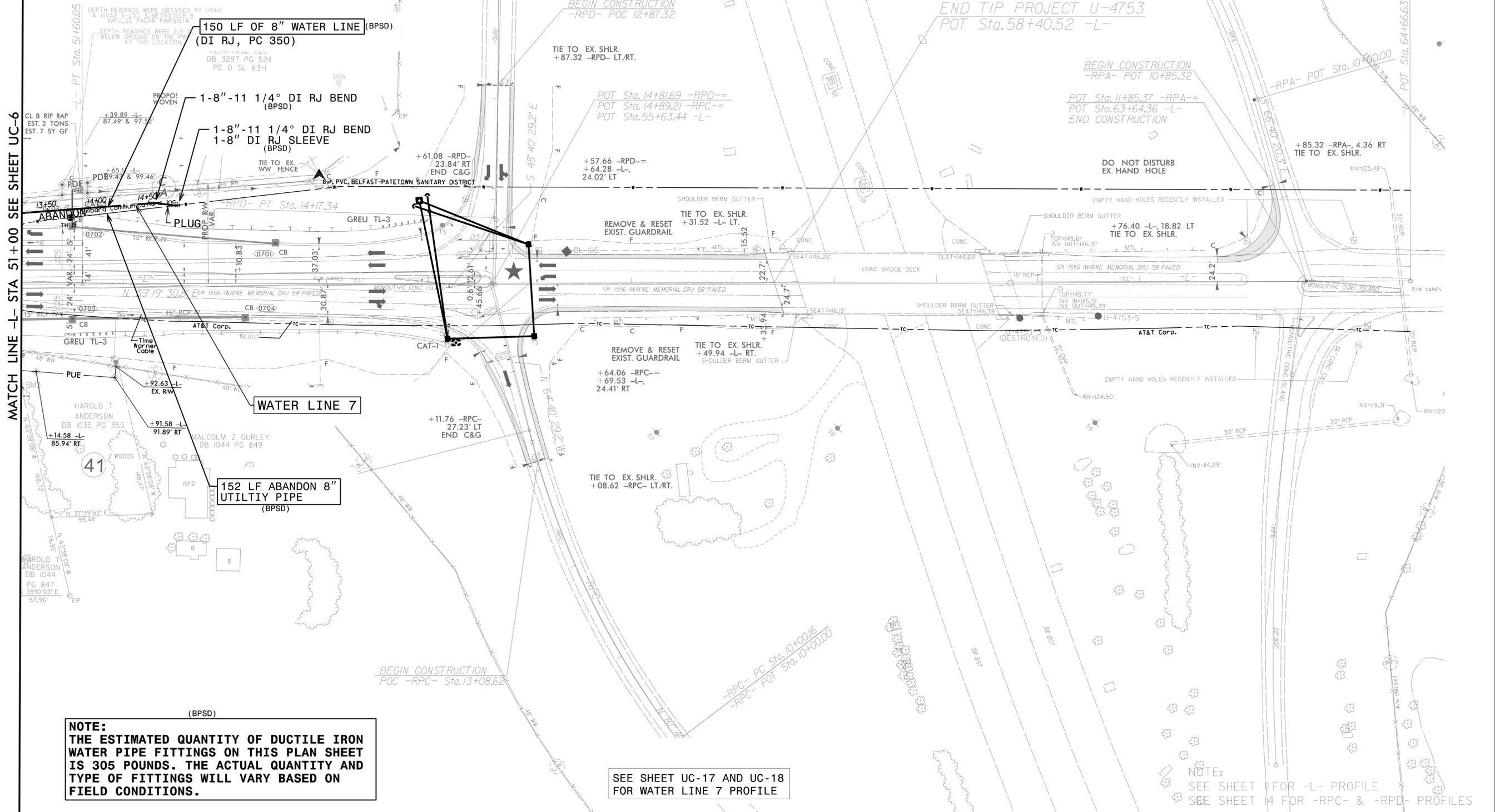


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DESIGNED BY: CDB	
DRAWN BY: AW	
CHECKED BY: CLS	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



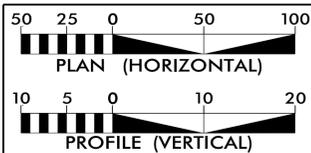
NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 305 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

SEE SHEET UC-17 AND UC-18 FOR WATER LINE 7 PROFILE

NOTE:
 SEE SHEET 11 FOR -L- PROFILE
 SEE SHEET 14 FOR -RPC- & -RPD- PROFILES

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OWNER NAME BREAKDOWN	
CITY OF GOLDSBORO	COG
FORT TOWNSHIP SANITARY DISTRICT	FTSD
BELFAST-PATETOWN SANITARY DISTRICT	BPSD
WAYNE COUNTY BOARD OF EDUCATION	WCBOE

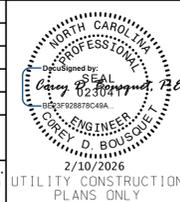


SEE SHEET UC-10 AND UC-11 FOR
WATER LINE 2 PROFILE
SEE SHEET UC-12, UC-13, UC-14,
AND UC-15 FOR WATER LINE 4 PROFILE
SEE SHEET UC-19 FOR SEWER LINE 1
PROFILE

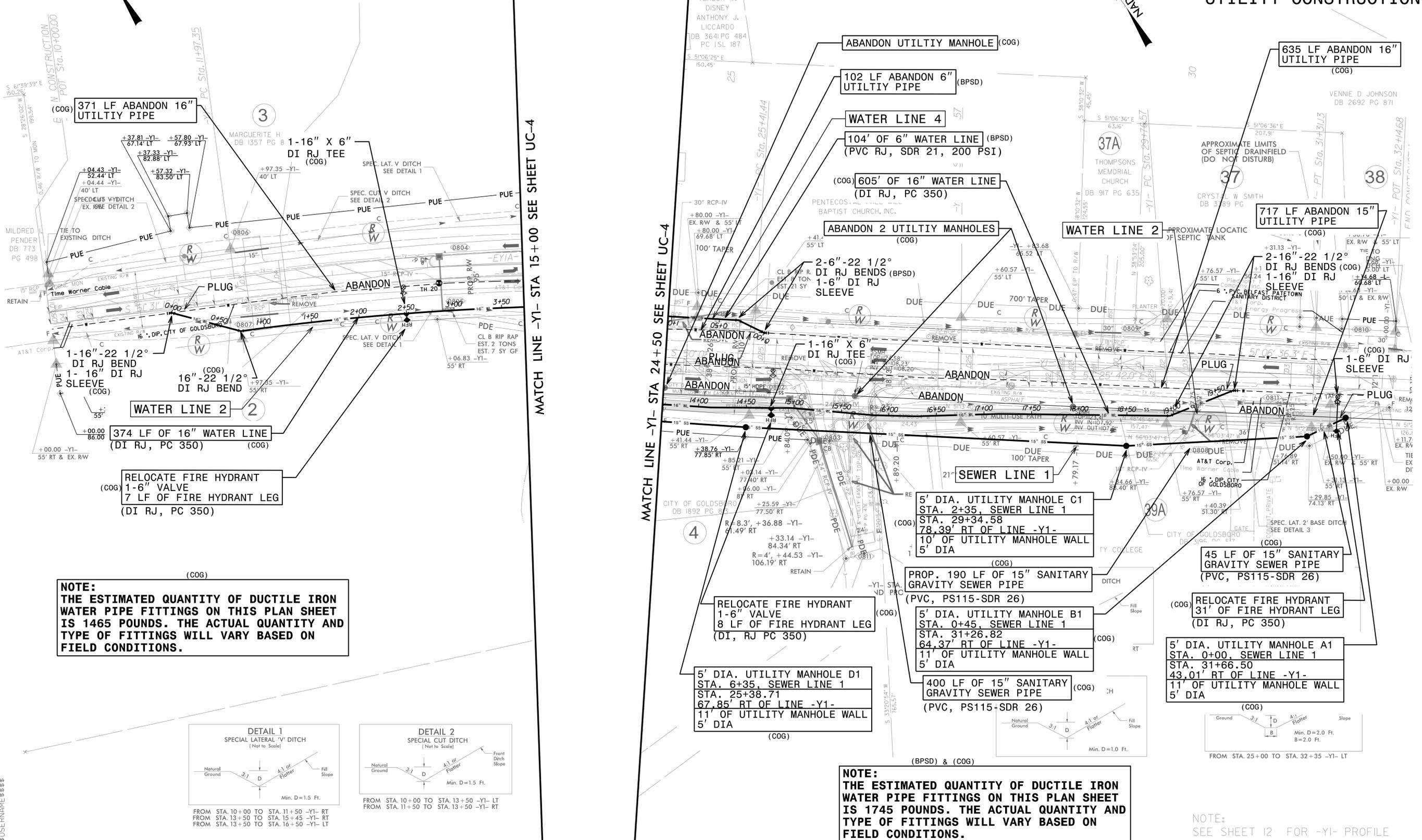


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PROJECT REFERENCE NO.	SHEET NO.
U-4753	UC-8
DESIGNED BY: CDB	
DRAWN BY: JKC	
CHECKED BY: CLS	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
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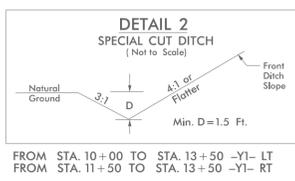
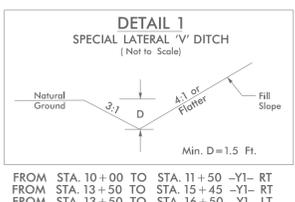
UTILITY CONSTRUCTION



NOTE:
THE ESTIMATED QUANTITY OF DUCTILE IRON
WATER PIPE FITTINGS ON THIS PLAN SHEET
IS 1465 POUNDS. THE ACTUAL QUANTITY AND
TYPE OF FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

NOTE:
THE ESTIMATED QUANTITY OF DUCTILE IRON
WATER PIPE FITTINGS ON THIS PLAN SHEET
IS 1745 POUNDS. THE ACTUAL QUANTITY AND
TYPE OF FITTINGS WILL VARY BASED ON
FIELD CONDITIONS.

NOTE:
SEE SHEET I2 FOR -YI- PROFILE



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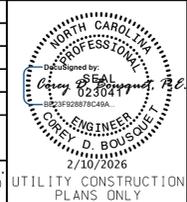
OWNER NAME BREAKDOWN	
CITY OF GOLDSBORO	COG
FORK TOWNSHIP SANITARY DISTRICT	FTSD
BELFAST-PATETOWN SANITARY DISTRICT	BPSD
WAYNE COUNTY BOARD OF EDUCATION	WCBOE

SEE SHEET UC-16 AND UC-17 FOR WATER LINE 6 PROFILE
 SEE SHEET UC-17 AND UC-18 FOR WATER LINE 7 PROFILE
 SEE SHEET UC-18 FOR WATER LINE 8 PROFILE
 SEE SHEET UC-21 AND UC-22 FOR SEWER LINE 3 PROFILE

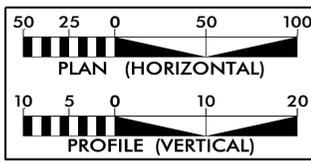
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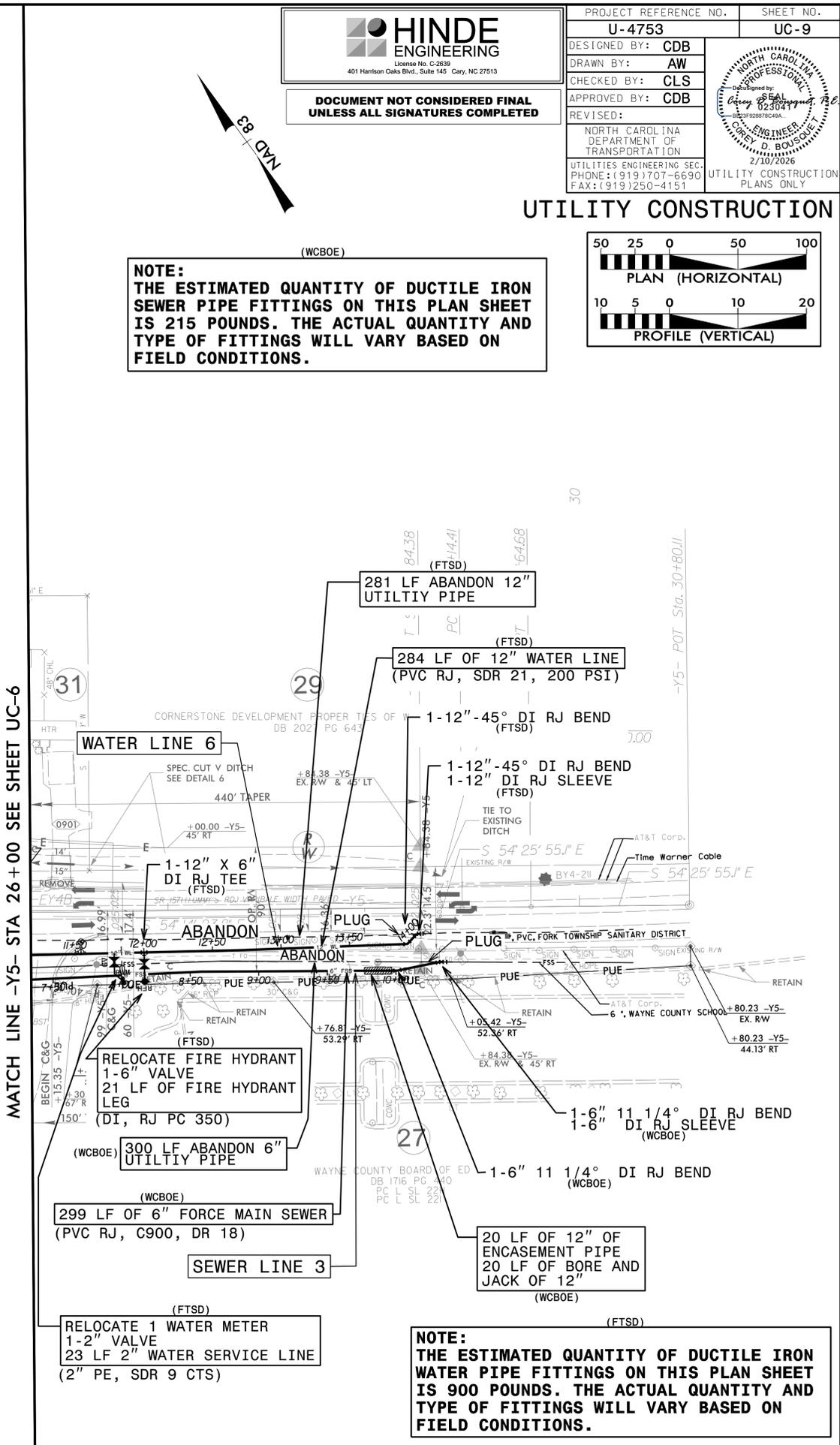
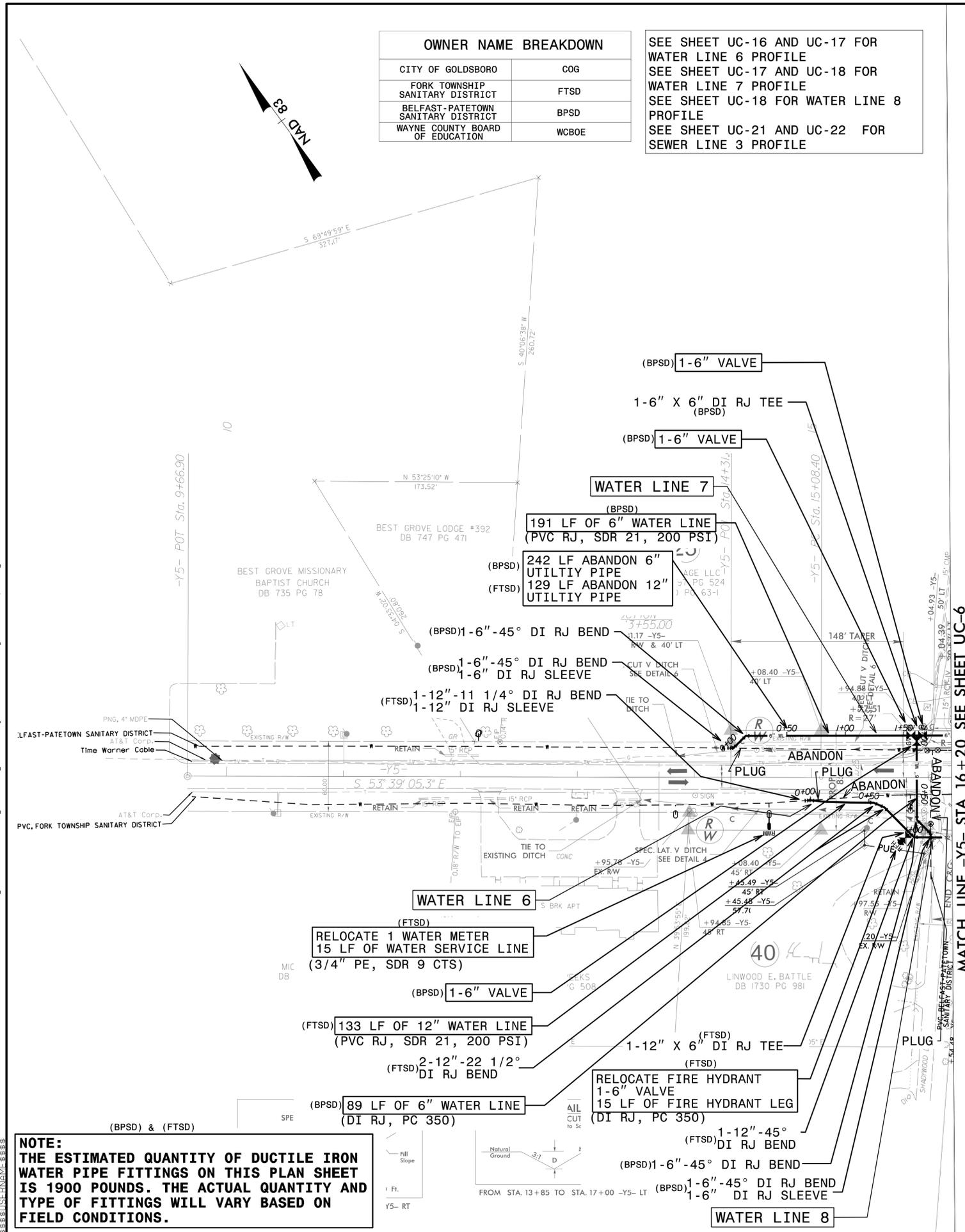
PROJECT REFERENCE NO.	SHEET NO.
U-4753	UC-9
DESIGNED BY: CDB	
DRAWN BY: AW	
CHECKED BY: CLS	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY



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NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 215 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

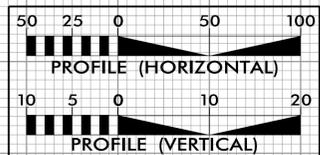


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INSTALL WATER LINES WITH 36" OF MINIMUM COVER TO FINISHED GRADE

INSTALL THE WATER LINES WITH A MINIMUM VERTICAL SEPARATION OF 18" BETWEEN THE OUTSIDE OF THE WATER LINE AND THE OUTSIDE OF THE STORM DRAINAGE AND SEWER LINES

ALL OTHER UTILITIES INSTALL THE WATER LINES WITH A MINIMUM VERTICAL SEPARATION OF 12" BETWEEN THE OUTSIDE OF THE WATER LINE AND THE OUTSIDE OF THE OTHER UTILITIES.

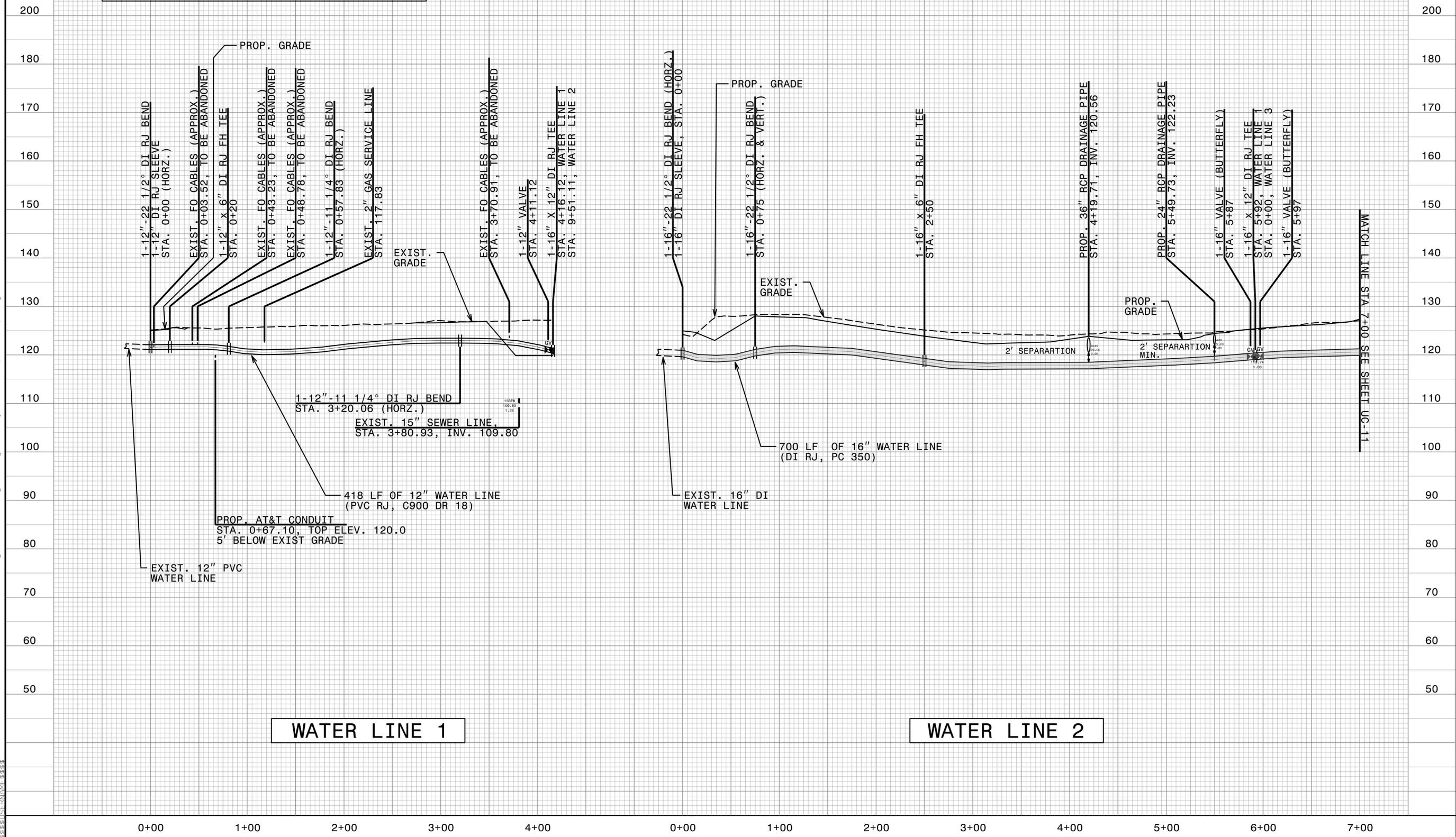


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PROJECT REFERENCE NO. U-4753	SHEET NO. UC-10
DESIGNED BY: JKC	
DRAWN BY: JKC	
CHECKED BY: CLS	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
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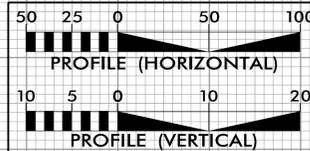


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PROJECT REFERENCE NO.	SHEET NO.
U-4753	UC-12
DESIGNED BY: JKC	
DRAWN BY: JKC	
CHECKED BY: CLS	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
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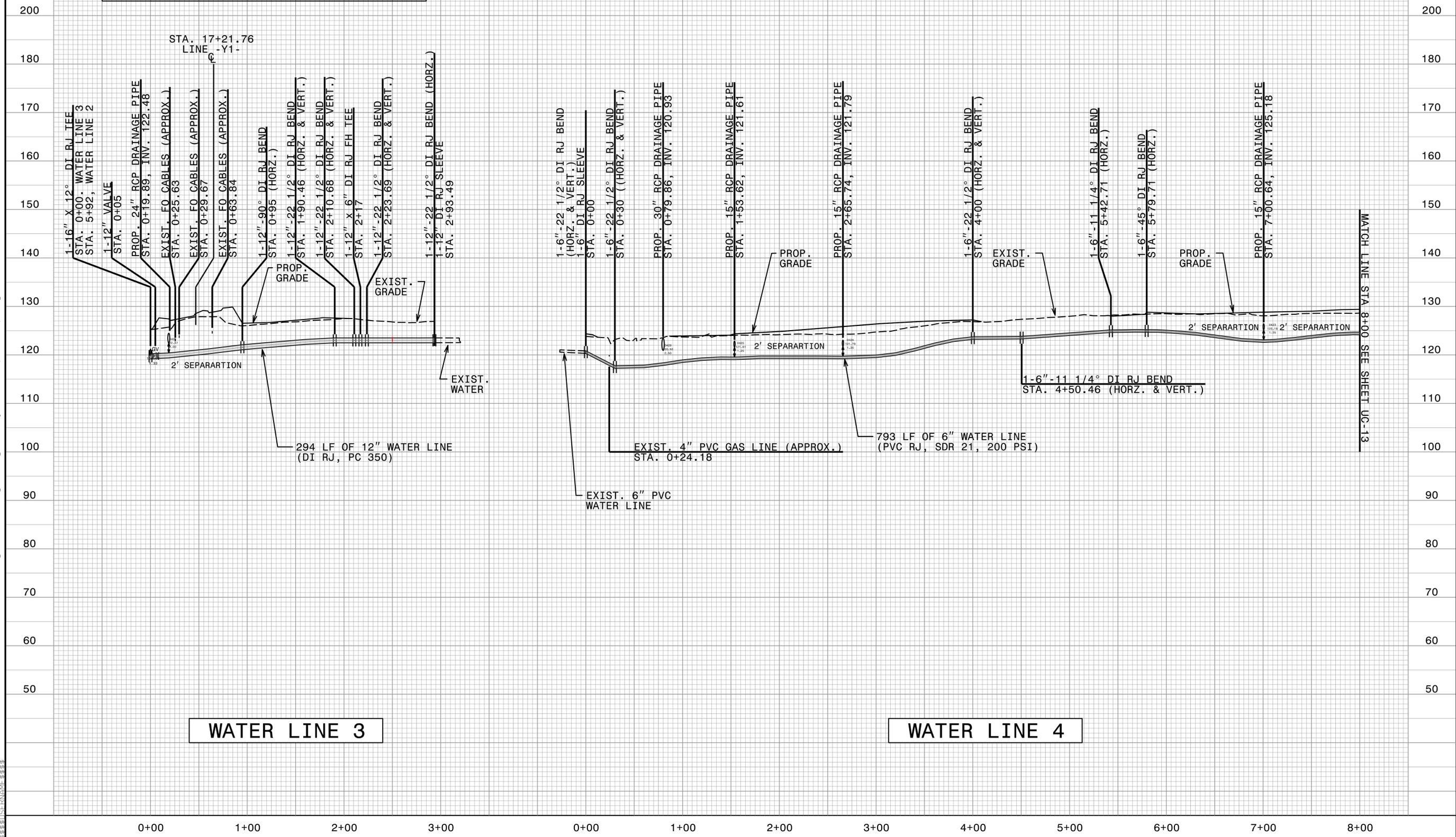


INSTALL WATER LINES WITH 36" OF MINIMUM COVER TO FINISHED GRADE

INSTALL THE WATER LINES WITH A MINIMUM VERTICAL SEPARATION OF 18" BETWEEN THE OUTSIDE OF THE WATER LINE AND THE OUTSIDE OF THE STORM DRAINAGE AND SEWER LINES

ALL OTHER UTILITIES INSTALL THE WATER LINES WITH A MINIMUM VERTICAL SEPARATION OF 12" BETWEEN THE OUTSIDE OF THE WATER LINE AND THE OUTSIDE OF THE OTHER UTILITIES.

UTILITY CONSTRUCTION



WATER LINE 3

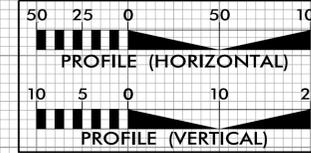
WATER LINE 4

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INSTALL WATER LINES WITH 36" OF MINIMUM COVER TO FINISHED GRADE

INSTALL THE WATER LINES WITH A MINIMUM VERTICAL SEPARATION OF 18" BETWEEN THE OUTSIDE OF THE WATER LINE AND THE OUTSIDE OF THE STORM DRAINAGE AND SEWER LINES

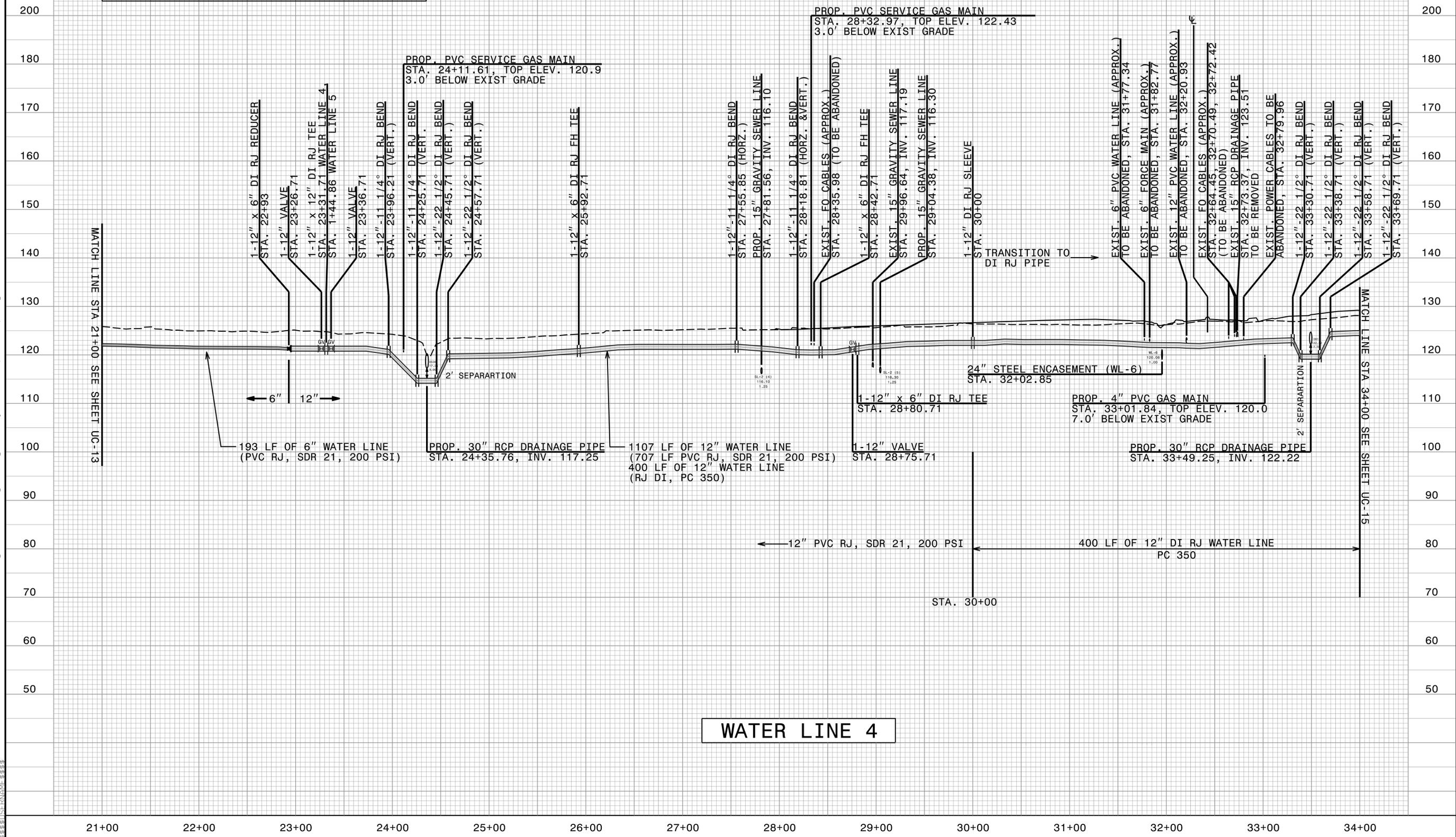
ALL OTHER UTILITIES INSTALL THE WATER LINES WITH A MINIMUM VERTICAL SEPARATION OF 12" BETWEEN THE OUTSIDE OF THE WATER LINE AND THE OUTSIDE OF THE OTHER UTILITIES.



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PROJECT REFERENCE NO. U-4753	SHEET NO. UC-14
DESIGNED BY: JKC	
DRAWN BY: JKC	
CHECKED BY: CLS	
APPROVED BY: CDB	
REVISED:	
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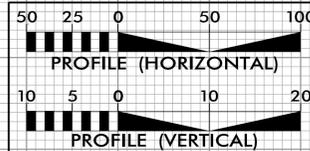


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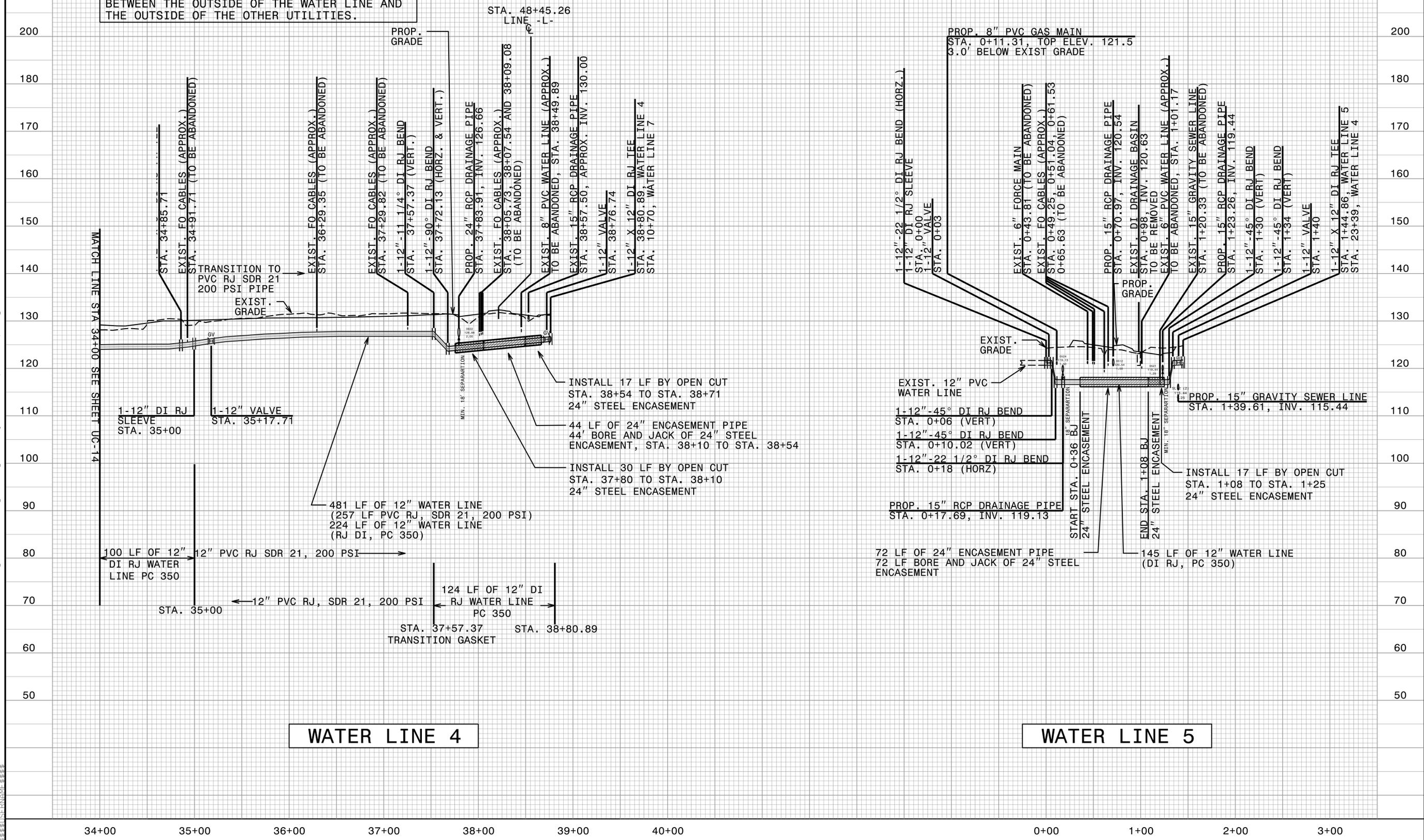


INSTALL WATER LINES WITH 36" OF MINIMUM COVER TO FINISHED GRADE

INSTALL THE WATER LINES WITH A MINIMUM VERTICAL SEPARATION OF 18" BETWEEN THE OUTSIDE OF THE WATER LINE AND THE OUTSIDE OF THE STORM DRAINAGE AND SEWER LINES

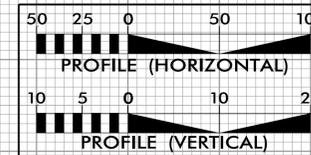
ALL OTHER UTILITIES INSTALL THE WATER LINES WITH A MINIMUM VERTICAL SEPARATION OF 12" BETWEEN THE OUTSIDE OF THE WATER LINE AND THE OUTSIDE OF THE OTHER UTILITIES.

UTILITY CONSTRUCTION



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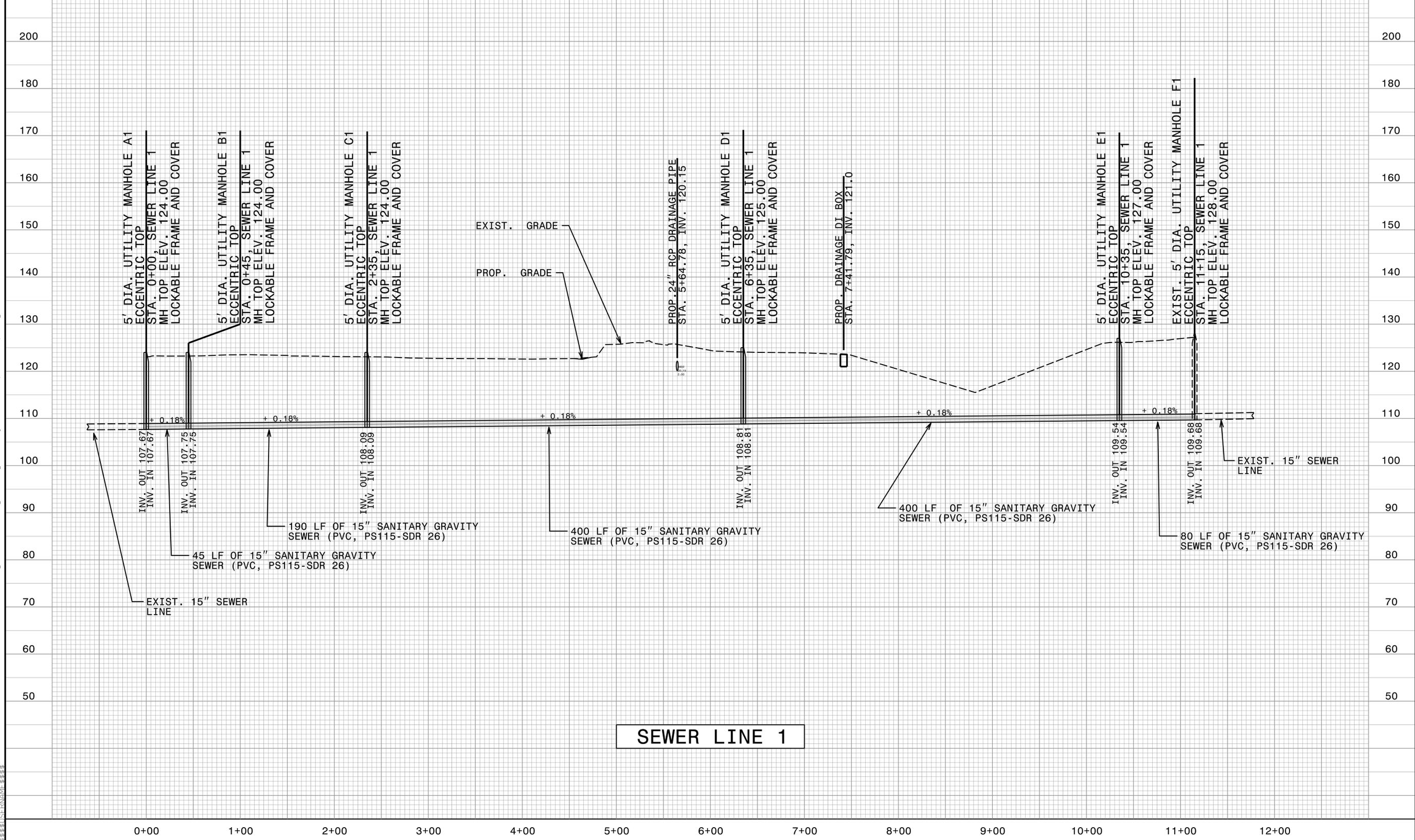


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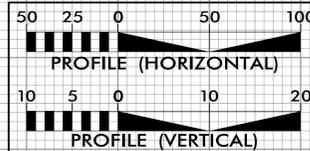
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PROJECT REFERENCE NO. U-4753	SHEET NO. UC-19
DESIGNED BY: JKC	
DRAWN BY: JKC	
CHECKED BY: CLS	
APPROVED BY: CDB	
REVISED:	
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UTILITY CONSTRUCTION



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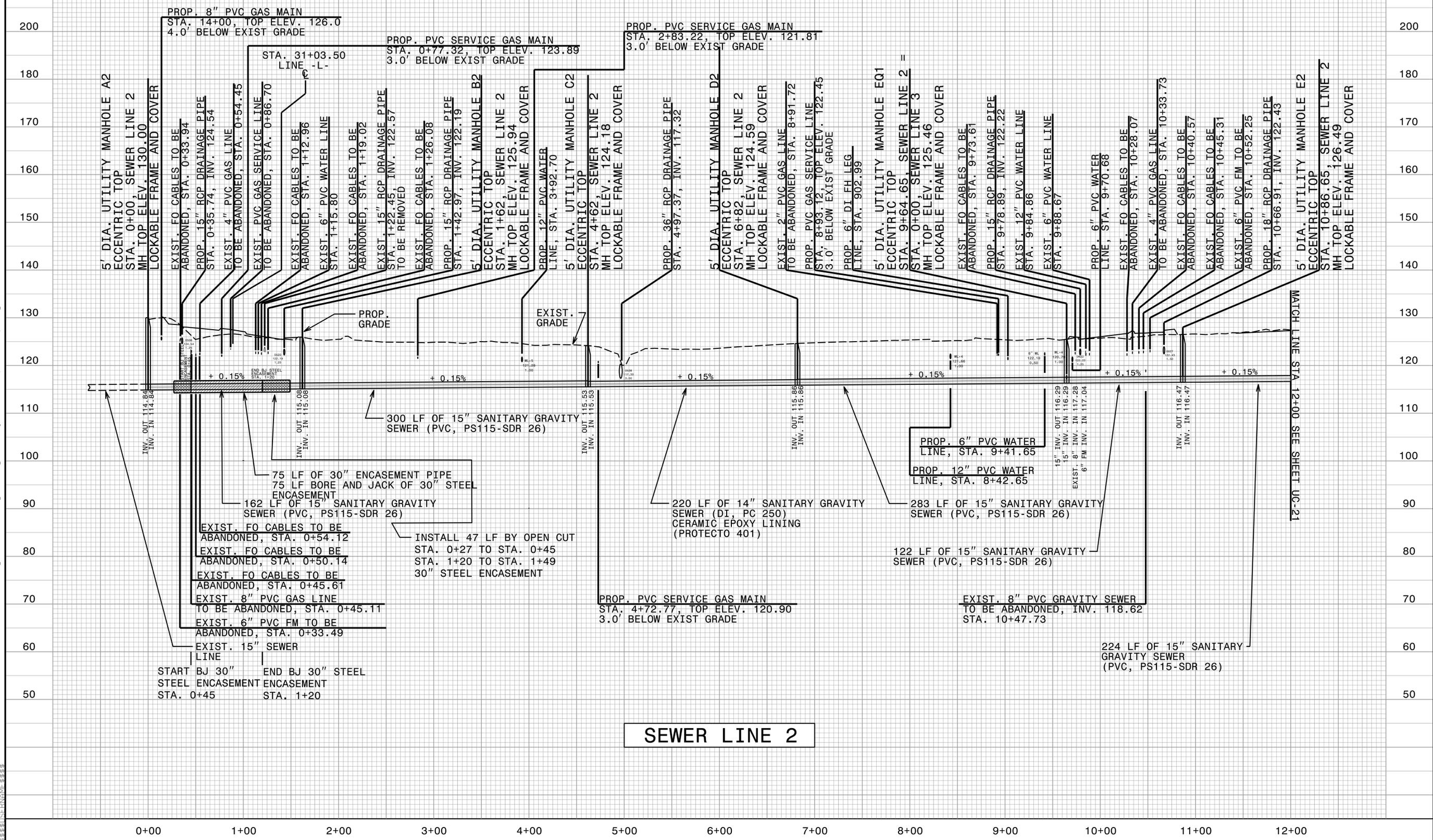


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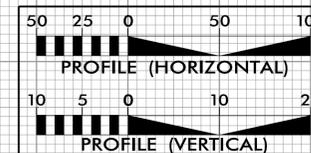
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DESIGNED BY: JKC	
DRAWN BY: JKC	
CHECKED BY: CLS	
APPROVED BY: CDB	
REVISED:	
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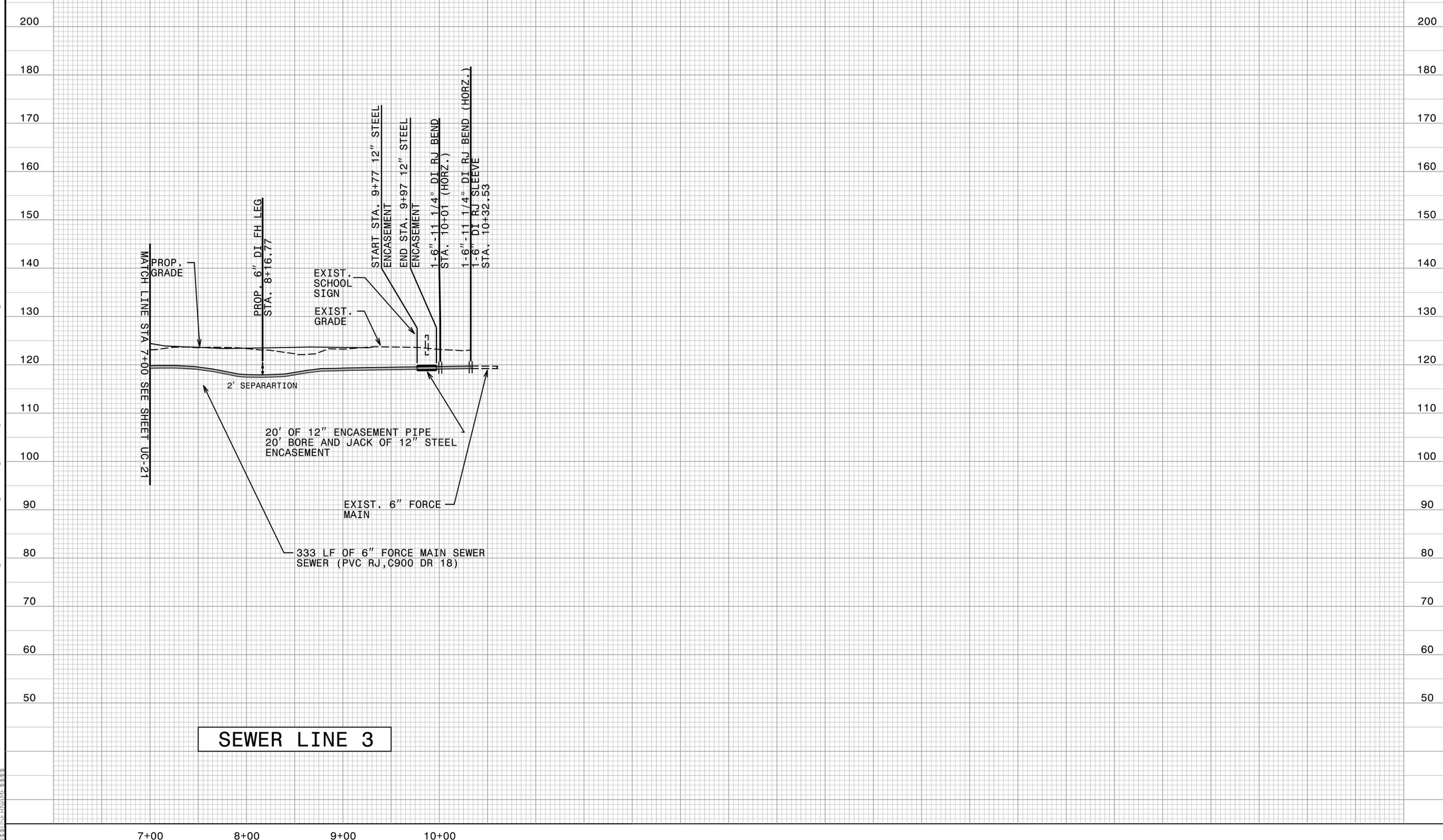


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PROJECT REFERENCE NO. U-4753	SHEET NO. UC-22
DESIGNED BY: JKC	
DRAWN BY: JKC	
CHECKED BY: CLS	
APPROVED BY: CDB	
REVISED:	
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SEWER LINE 3

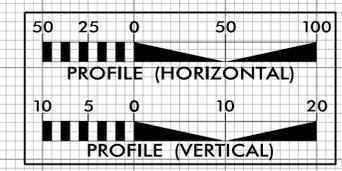
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PROJECT REFERENCE NO.	SHEET NO.
U-4753	UC-23
DESIGNED BY: JKC	
DRAWN BY: JKC	
CHECKED BY: CLS	
APPROVED BY: CDB	
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