

ROUTE 115  
UTILITY RELOCATION  
ON 7-2-21

Anderson  
Associates, Inc.  
Engineers  
Surveyors  
Planners  
Roanoke, Virginia

SUPERVISED BY: P.C. SCHIRMER  
DESIGNED BY: C.W. KING  
CADD OPERATOR: C.W. KING  
REVISED BY: 04 MAY 90  
PLAN DATE: 04 MAY 90

DATE: \_\_\_\_\_ BY: \_\_\_\_\_  
CHECKED: \_\_\_\_\_  
PLANNED: \_\_\_\_\_  
NO. \_\_\_\_\_  
NOTE BOOK: \_\_\_\_\_  
ADJUSTMENT CHECKED: \_\_\_\_\_  
DATE OF ANY CHECK: \_\_\_\_\_

# UTILITY ADJUSTMENT QUANTITIES & NOTES

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

REVISED	FHWA REGION	STATE	FEDERAL AID PROJECT	ROUTE	STATE PROJECT	SHEET NO.
	3	VA.		115	0115-080-103, PE-102 R11-202 C-501	0(1)

## WATER NOTES - CITY OF ROANOKE

- THE CONTRACTOR SHALL INSTALL REACTION BLOCKING IN ACCORDANCE WITH STANDARD RB-1.
- WATER MAIN PIPE SHALL BE DUCTILE IRON CONFORMING TO AWWA C151. ALL PIPE SHALL BE BITUMINOUS COATED AND CEMENT LINED IN ACCORDANCE WITH AWWA C104.
- THICKNESS CLASS FOR WATER MAIN PIPE 12 INCHES OR SMALLER IN DIAMETER SHALL BE CLASS 50. ALL PIPE THICKNESS DESIGN SHALL BE IN ACCORDANCE WITH AWWA C104.
- PIPE JOINTS SHALL BE IN 18 FOOT LENGTHS AND SHALL BE SINGLE RUBBER GASKET TYPE. SINGLE RUBBER GASKET TYPE JOINTS SHALL BE INDUSTRY STANDARD AND SHALL BE MADE IN ACCORDANCE WITH AWWA C111. JOINTS SHALL BE PUSH ON TYPE.
- WATER MAIN FITTINGS SHALL BE MECHANICAL JOINT CAST IRON, CLASS 250, DIMENSIONS MEETING THE REQUIREMENTS OF AWWA C110. JOINTS SHALL MEET THE REQUIREMENTS OF AWWA C111. ALL FITTINGS SHALL BE COATED AND CEMENT LINED IN ACCORDANCE WITH AWWA C104.
- GATE VALVES SHALL BE IRON BODY, BRONZE MOUNTED, DOUBLE DISC, PARALLEL SEAT, O-RING SEALED, INSIDE SCREW, NON-RISING STEM, FITTING WITH A 2 INCH SQUARE OPERATING NUT FOR VALVE VAULT SERVICE, ALL IN ACCORDANCE WITH AWWA C500. CONNECTIONS SHALL BE SUITABLE FOR 200 PSI WATER WORKING PRESSURE AND SHALL BE TESTED AT TWICE THE RATED WORKING PRESSURE. THE OPERATING NUT SHALL BE MARKED WITH AN ARROW AND THE WORD "OPEN" AND SHALL OPEN BY TURNING TO THE RIGHT (CLOCKWISE). THE VALVES SHALL BE MUELLER # A-2380-22 IMPROVED GATE VALVES, DARLING #55 OR APPROVED EQUAL.
- FIRE HYDRANTS SHALL BE DRY TOP, DRY BARREL, COMPRESSION TYPE WITH A 6 INCH BASE AND WITH DOUBLE O-RING SEALS, AND SHALL CONFORM TO AWWA C502. FIRE HYDRANTS SHALL BE MUELLER A24113, DARLING B50B, KENNEDY K10B OR APPROVED EQUAL.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL VALVE VAULTS & WATER METER VAULTS. THE CONTRACTOR SHALL ALSO PROVIDE AND INSTALL ALL REQUIRED WATER LINES TO AND FROM THE WATER METER. THE CITY OF ROANOKE SHALL PROVIDE THE WATER METER ASSEMBLY, WHICH INCLUDES THE WATER METER AND ALL ASSOCIATED BYPASS VALVES AND PIPE. THE CONTRACTOR SHALL INSTALL THE WATER METER ASSEMBLY.
- STRUCTURES TO BE ABANDONED SHALL BE CUT OFF OR REMOVED TO A MINIMUM DEPTH OF TWENTY FOUR (24) INCHES BELOW FINISHED GRADE AND BACKFILLED COMPLETELY. ALL EXISTING WATER METER ASSEMBLIES, VALVES, & VALVE BOXES NOT REUSED SHALL BE RETURNED TO THE CITY OF ROANOKE.
- ALL WATER SERVICE LINES LARGER THAN 1 1/2" SHALL BE TYPE "K" RIGID COPPER PIPE.
- ALL WATER LINE ADJUSTMENTS ARE TO THE BENEFIT OF THE CITY OF ROANOKE EXCEPT FOR BRANCH LINE TAPS WHICH ARE TO THE BENEFIT OF ROANOKE COUNTY.
- VALVE VAULTS & FRAMES & COVERS SHALL BE CONSTRUCTED ACCORDING TO DETAILS AT RIGHT.

## SANITARY SEWER NOTES - ROANOKE COUNTY

- POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS SHALL BE SDR 35 AND SHALL CONFORM WITH ASTM D 3034.
- PVC PIPE AND FITTINGS SHALL BE BELL AND SPIGOT TYPE JOINTS. THE BELL AND SPIGOT JOINT SHALL BE SEALED WITH ELASTOMERIC GASKETS CONFORMING TO ASTM D 3212 AND IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPE MANUFACTURER.
- RECONSTRUCTED MANHOLE INVERTS SHALL BE SHAPED IN ACCORDANCE WITH STANDARD IS-1.
- PIPE CONNECTIONS WITH MANHOLES SHALL BE MADE WITH A FLEXIBLE BOOT CONFORMING WITH ASTM C-443.
- PIPE TO BE ABANDONED SHALL BE PLUGGED, CAPPED OR SEALED WITH CONCRETE.
- STRUCTURES TO BE ABANDONED SHALL BE CUT OFF OR REMOVED TO A MINIMUM DEPTH OF TWENTY FOUR (24) INCHES BELOW FINISHED GRADE AND BACKFILLED COMPLETELY. EXISTING FRAMES & COVERS NOT REUSED SHALL BE RETURNED TO THE CITY OF ROANOKE.
- ALL UNITS USED IN MANHOLE CONSTRUCTION SHALL BE SECURELY CONNECTED BY INTERLOCKING BETWEEN UNITS, CONCRETE COLLARS OR OTHER APPROVED METHODS.
- MANHOLE FRAMES & COVERS SHALL BE DEWEY BROS., INC. MH-ROR-3000EC IN PAVED AREAS & MH-ROR-3000W IN UNPAVED AREAS OR APPROVED EQUAL.

## GENERAL UTILITY NOTES

- VAULTS, MANHOLE BASES, RISERS, TAPERS, AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE MANUFACTURED IN ACCORDANCE TO VIRGINIA DEPARTMENT OF TRANSPORTATION, ROAD AND BRIDGE SPECIFICATIONS, SECTION 503.
- A MAXIMUM OF 2 CONSTRUCTION GRADE RINGS OR MAXIMUM OF 1' OF GRADE RINGS AND FRAME AND COVER ADJUSTMENT ARE ALLOWABLE.
- FINAL ADJUSTMENT OF FRAME AND COVER SHALL BE IN ACCORDANCE TO FRAME AND COVER ADJUSTMENT DETAIL USING NON SHRINK CONCRETE WITH MAXIMUM OF 4 BRICKS OR CONCRETE BLOCKS FOR GRADE CONTROL. FRAME AND COVERS ARE TO BE SET AT FINISH GRADE OR 1/4" ABOVE FINISH GRADE IN PAVEMENT AND YARD AREAS AND MINIMUM 6" ABOVE FINISH GRADE IN OTHER AREAS. MANHOLE FRAMES AND COVERS ARE NOT TO BE SET IN DRAINAGE SWALE, VALLEY GUTTER, ETC.
- JOINTS AND OPENINGS IN MANHOLE UNITS SHALL BE MADE WATERTIGHT BY USING BUTYL SEALANTS, "O" RING GASKETS OR MASTIC. THE CONCRETE SURFACE SHALL BE CLEANED PRIOR TO USE OF SEALANT.
- ALL LIFT HOLES, OPENINGS AROUND PIPE, ETC. SHALL BE FILLED INSIDE AND OUTSIDE TO THICKNESS OF STRUCTURE.

Power Poles Property of APCO, Roanoke, Va.  
Telephone Poles & Underground Cable Property of C&P Telephone Co., Roanoke, Va.  
Water Lines Property of City of Roanoke, Roanoke, Va.  
Sewer Lines Property of Roanoke County, Salem, Va.  
Gas Lines Property of Roanoke Gas Co., Roanoke, Va.

## SANITARY SEWER SUMMARY

SHEET NUMBER	18" STEEL CASING PIPE			SHEET NUMBER
	ADJUST EXISTING	FRAME & COVER	RECONSTRUCT MANHOLE	
6(2)	68	2	10.8	6(2)
6(3)	154	1		6(3)
6(4)		1		6(4)
TOTAL	222	4	10.8	TOTAL

## TELEPHONE & COAXIAL CABLE SUMMARY

FACILITY	QUANTITY
UNDERGROUND TELEPHONE CABLE ADJUSTMENTS	347 L.F.
TELEPHONE CABLE SPLICING	1 EA.
UNDERGROUND COAXIAL CABLE ADJUSTMENTS	400 L.F.
COAXIAL CABLE SPLICING	1 EA.

## HYDROGEN LINE SUMMARY

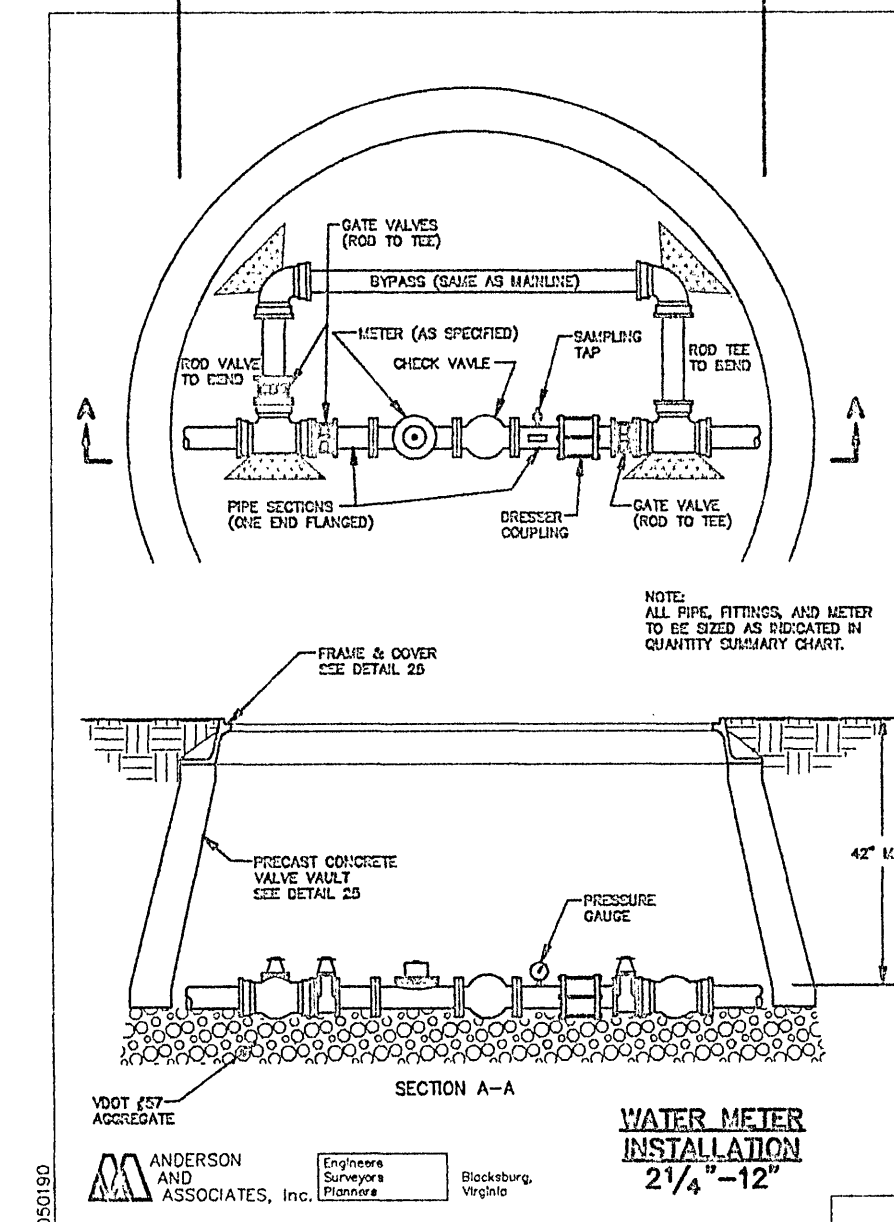
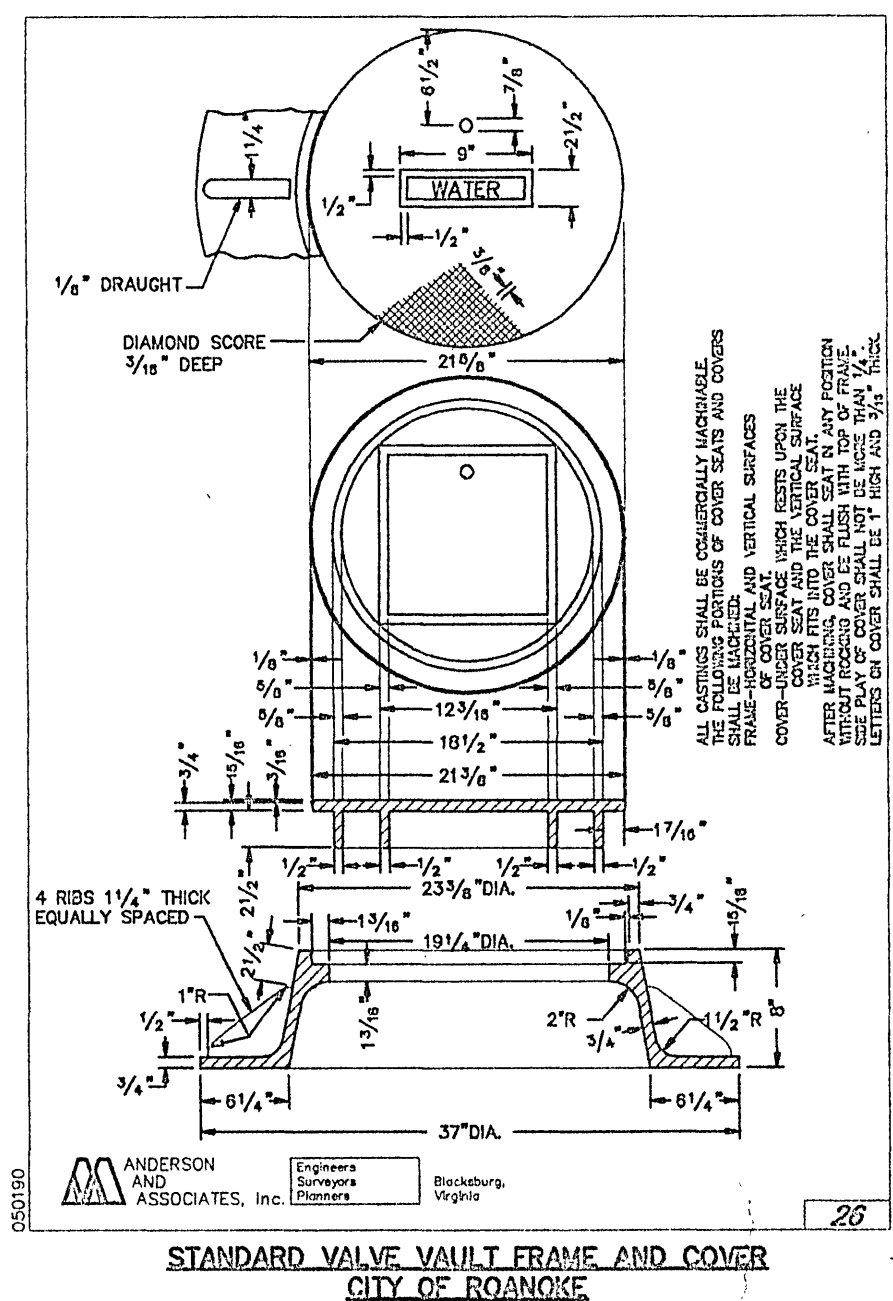
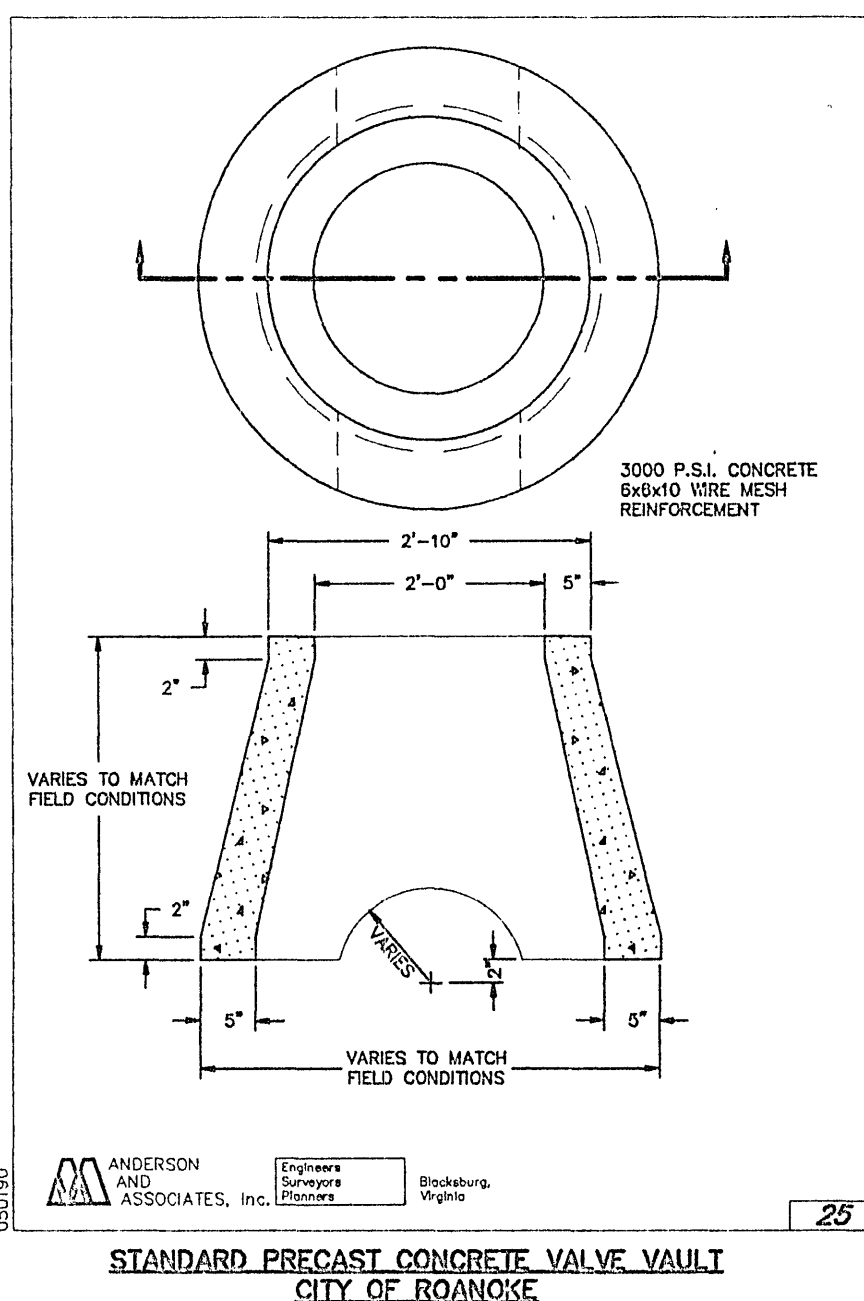
2 1/2" STEEL CASING PIPE	105 L.F.
STEEL PRESSURE PIPE	105 L.F.

## WATER MAIN SUMMARY

SHEET NUMBER	DI WATER MAIN			ADJUST EXISTING			TAPPING SLEEVE, VALVE & VAULT			RELOCATE EXISTING		WATER SERVICE LINE TYPE 1/2" COPPER			WATER METER & VAULT			SHEET NUMBER
	6"	8"	10"	VALVE & BOX	VALVE BOX	VALVE MANHOLE	12"x8"	12"x8"	12"x10"	FIRE HYDRANT	METER ASSEMBLY & BOX	3/4"	1 1/2"	2"	1 1/2"	2"	LARGE	
6(2)	125	127	212	EA	EA	EA	EA	EA	EA	EA	EA	L.F.	L.F.	L.F.	EA	EA	EA	6(2)
6(3)	15			3			1	1	2	1	1	10	127	41	1	1	4	6(3)
6(4)					1													6(4)
TOTAL	140	127	212	3	1	1	1	1	2	1	1	10	127	41	1	1	4	TOTAL

## LEGEND

4"W	PROPOSED WATER LINE	○	EX. MANHOLE	WATER MAIN STRUCTURE	
4"W	EXISTING WATER LINE	□	POWER POLE		
T	UNDERGROUND TELEPHONE	⋈	TELEPHONE OR TELEGRAPH POLE	SANITARY SEWER STRUCTURE	
=====	PROPOSED STORM SEWER	-----	PROPOSED RIGHT-OF-WAY LINE		
○ 6"S	EXISTING SANITARY SEWER	-----	PROPERTY LINE	UTILITY SHEET LOCATION	
4"F	EXISTING FORCE MAIN	-----	CENTER LINE		
=====	EXISTING STORM SEWER	-----	LIMITS OF CONSTRUCTION	UTILITY SHEET LOCATION	
=====	EXISTING STORM SEWER	-----	EXISTING GUARD RAIL		
2"G	EXISTING GAS LINE	-----	PROPOSED GUARD RAIL	UTILITY SHEET LOCATION	
⊙	VALVE	-----	EQUALITY		
○	EXISTING WATER METER	⊙	PROPOSED FIRE HYDRANT	UTILITY SHEET LOCATION	
○	PROPOSED WATER METER	⊙	PROP. SANITARY SEWER		
⊙	EX. FIRE HYDRANT	⊙			



NOTE:  
CONTRACTOR TO PROVIDE  
AND INSTALL VAULT OR BOX.

