

SHEET	DRAWING TITLE
G-0	COVER SHEET
G-1	TITLES, LEGEND, ABBREVIATIONS, & GENERAL NOTES
C-1	WATERLINE PLAN A & B
C-2	WATERLINE PLAN C & DETAILS
C-3	MISCELLANEOUS DETAILS & EROSION & SEDIMENT CONTROL NOTES & DETAILS

KEY CONTACTS

WESTERN VIRGINIA WATER AUTHORITY (WVWA)
-SEE WVWA GENERAL NOTES

STEARNS AND WHEELER, LLC
-GARY ROKSTOOL 540-882-1910

CITY OF ROANOKE
-SEE WVWA GENERAL NOTES

SURVEY CONTROL POINTS				
CONTROL POINT #	DESCRIPTION	NORTHING (Y)	EASTING (X)	ELEVATION (FT)
1109	SPIKE NAIL	3635395.539	11066818.328	1019.56
1108	MAG. NAIL	3635122.859	11067258.537	982.24
1107	SPIKE NAIL	3635055.421	11067764.090	986.35

WESTERN VIRGINIA WATER AUTHORITY STANDARD GENERAL NOTES:

- ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE LATEST EDITION OF THE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE WESTERN VIRGINIA WATER AUTHORITY (AUTHORITY) AVAILABLE AT WWW.WESTERNVWATER.ORG OR BY CONTACTING THE AUTHORITY AT 540-853-5700. THE PROJECT SHALL ALSO COMPLY WITH THE GOVERNING JURISDICTION'S STANDARDS AND OTHER AGENCY STANDARDS (E.G., VDOT, DEQ, DCR, VDH, ETC.) WHERE APPLICABLE.
- THE AUTHORITY WILL INSTALL ALL NEW WATER METERS AND REMOVE ALL EXISTING WATER METERS. THE CONTRACTOR SHALL INSTALL COMPLETE NEW WATER SERVICES INCLUDING THE METER SETTER AND VAULT. FOLLOWING METER REPLACEMENT BY THE AUTHORITY, THE CONTRACTOR SHALL DEMOLISH THE EXISTING WATER METER SETTER AND VAULT. THE CONTRACTOR SHALL COORDINATE EXISTING METER REMOVAL AND NEW METER INSTALLATION DIRECTLY WITH THE AUTHORITY. THE CONTRACTOR SHALL PROVIDE AT LEAST THREE (3) BUSINESS DAYS ADVANCE NOTICE TO THE AUTHORITY PRIOR TO NEEDING METER INSTALLATIONS. THE CONTRACTOR SHALL SEQUENCE CONSTRUCTION ACTIVITY TO PROVIDE A SERIES OF AT LEAST TEN (10) SERVICES THAT ARE READY TO RECEIVE NEW METERS BEFORE CONTACTING THE AUTHORITY FOR WATER METER REPLACEMENT.
- ALL CONNECTIONS TO EXISTING WATERLINES SHALL BE PERFORMED BY THE AUTHORITY. THE CONTRACTOR SHALL PROVIDE FULL STAINLESS STEEL TAPPING SLEEVES(S) AND VALVE(S). THE CONTRACTOR SHALL EXCAVATE TO THE EXISTING WATERLINE, SHORE THE TRENCH PER OSHA REQUIREMENTS, CLEAN THE EXISTING WATERLINE, AND INSTALL THE TAPPING SLEEVE AND VALVE PRIOR TO THE AUTHORITY PERFORMING THE TAP. THE CONTRACTOR SHALL NOTIFY THE AUTHORITY'S UTILITY LINE SERVICES DIVISION AT 540-853-2792 AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO REQUIRING THE CONNECTION.
- ALL CONNECTIONS TO EXISTING SANITARY SEWERLINES SHALL BE PERFORMED BY THE AUTHORITY. THE CONTRACTOR SHALL EXCAVATE TO THE EXISTING SEWERLINE, SHORE THE TRENCH PER OSHA REQUIREMENTS, AND CLEAN THE EXISTING SEWERLINE PRIOR TO THE AUTHORITY PERFORMING THE TAP. THE CONTRACTOR SHALL NOTIFY THE AUTHORITY'S UTILITY LINE SERVICES DIVISION AT 540-853-2792 AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO REQUIRING THE CONNECTION.
- THE CONTRACTOR SHALL PERFORM ALL MANHOLE CONNECTIONS. THE CORING AND BOOT INSTALLATION SHALL BE INSPECTED AND APPROVED BY AN AUTHORITY CONSTRUCTION INSPECTOR PRIOR TO ACTIVATING SEWER SERVICE. THE CONTRACTOR SHALL CONTACT THE AUTHORITY'S CONSTRUCTION INSPECTOR RESPONSIBLE FOR THE PROJECT AT LEAST ONE (1) DAY PRIOR TO INITIATING THE MANHOLE CONNECTION.
- PRIOR TO CONSTRUCTION IN THE RIGHT-OF-WAY, ALL APPLICABLE PERMIT(S) FROM THE GOVERNING JURISDICTION AND/OR AGENCY MUST BE OBTAINED AND A COPY KEPT ON THE PROJECT SITE.
- FOR PROJECTS REQUIRING TRAFFIC CONTROL IN THE CITY OF ROANOKE, NOTIFY MANAGER OF TRANSPORTATION, MARK JAMISON, AT 540-853-5471 AT LEAST TWO WEEKS IN ADVANCE OF REQUIRING TRAFFIC CONTROL. FOR A LANE CLOSURE PERMIT IN THE CITY OF ROANOKE, CONTACT THE TRAFFIC ENGINEER, GARY BOWMAN, AT 540-853-5834. TRAFFIC CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH THE MOST RECENT MUTCD MANUAL AND THE VDOT WORK AREA PROTECTION MANUAL UNLESS OTHERWISE SPECIFIED BY THE CITY.
- THE CONTRACTOR SHALL NOTIFY THE AUTHORITY'S ENGINEERING COORDINATOR, CHUCK CLARK, AT 540-537-3243 AT LEAST THREE (3) DAYS PRIOR TO CONSTRUCTION.
- A PRE-CONSTRUCTION CONFERENCE SHALL BE SCHEDULED AT LEAST ONE (1) DAY PRIOR TO ANY CONSTRUCTION.
- THE CONTRACTOR SHALL HAVE A VALID MISS UTILITY TICKET PRIOR TO EXCAVATION. CONTACT MISS UTILITY AT 1-800-552-7001.
- ALL EXISTING UTILITIES MAY NOT BE SHOWN OR MAY NOT BE SHOWN IN THEIR EXACT LOCATION. CONTRACTOR SHALL LOCATE ALL UTILITIES AND DETERMINE ALL INVERTS PRIOR TO CONSTRUCTION TO ALLOW FOR ADJUSTMENTS DUE TO CONFLICTS WITH OTHER UTILITIES. THE CONTRACTOR SHALL COMPLY WITH THE VIRGINIA STATE WATER WORKS REGULATIONS, SECTION 12.05.03, AND THE VIRGINIA STATE SEWAGE COLLECTION AND TREATMENT REGULATIONS WHERE LINES CROSS.
- AN APPROVED SET OF PLANS AND PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES.
- CONSTRUCTION DEBRIS SHALL BE CONTAINERIZED IN ACCORDANCE WITH THE VIRGINIA LITTER CONTROL ACT.
- PRIOR TO COMMENCING WORK, THE CONTRACTOR'S CERTIFIED RESPONSIBLE LAND DISTURBER SHALL OBTAIN AN EROSION AND SEDIMENT CONTROL PERMIT FOR THE PROJECT FROM THE LOCAL GOVERNING JURISDICTION AND DCR (IF REQUIRED). ALL EROSION AND SEDIMENT CONTROL MEASURES MUST BE IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND SHALL BE INSTALLED PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CLEANING ALL VEHICLES AND EQUIPMENT PRIOR TO ENTERING PUBLIC STREETS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE STREETS ARE KEPT IN A CLEAN, MUD- AND DUST-FREE CONDITION AT ALL TIMES.
- FIELD CHANGES SHALL BE APPROVED BY THE AUTHORITY'S ENGINEERING DIVISION PRIOR TO SUCH CONSTRUCTION.
- THE CONTRACTOR SHALL MAKE PROVISIONS TO PROVIDE ACCESS TO ALL PROPERTIES DURING CONSTRUCTION AND SHALL MAINTAIN SAFE ACCESSIBILITY TO FIRE HYDRANTS AT ALL TIMES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND UNCOVERING ALL MANHOLES AFTER PAVING. MANHOLE RIMS SHALL BE INSTALLED TO GRADE AND FLUSH WITH THE FINAL PAVEMENT.
- UNREPAIRED ROADWAYS OPENED TO TRAFFIC SHALL HAVE, AT A MINIMUM, COMPACTED AGGREGATE MATERIAL VDOT 21A OR 21B FLUSH WITH THE ADJACENT ROADWAY SURFACE AND SHALL BE INSPECTED AND REPAIRED ON A DAILY BASIS. SOME AREAS WILL REQUIRE A TEMPORARY PATCH UNTIL FINAL PAVING CAN BE COMPLETED.
- THE CONTRACTOR SHALL NOT EXCAVATE MORE TRENCH LENGTH THAN CAN BE RESTORED WITHIN THE SAME WORK DAY. ALL TRENCHES SHALL BE BACKFILLED OR PLATED AT THE END OF EACH WORK DAY OR WHEN THE CONTRACTOR IS NOT ON SITE.
- THE CONTRACTOR SHALL SUPPLY THE AUTHORITY WITH CORRECT AS-BUILT PLANS BEFORE SUBSTANTIAL COMPLETION WILL BE GRANTED.

TEMPORARY SERVICE NOTE:

- CONTRACTOR SHALL NOTIFY OWNER AT LEAST FIVE (5) BUSINESS DAYS PRIOR TO SCHEDULING WORK REQUIRING A SHUTDOWNS, INCLUDING ISOLATION VALVE OPERATION AND TEMPORARY WATER SUPPLY SYSTEMS. CONTRACTOR SHALL DEWATER ISOLATED WATERLINE SEGMENTS.

ADDITIONAL GENERAL NOTES:

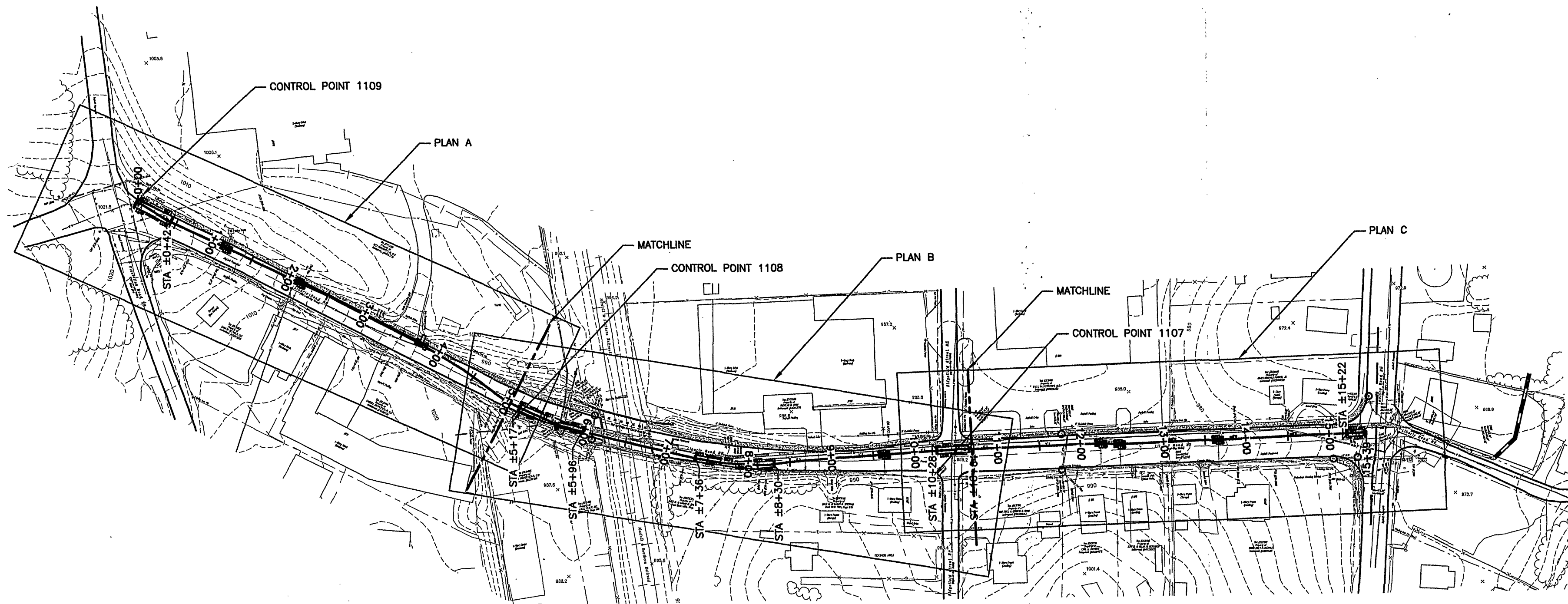
- EXISTING FACILITIES AND PIPING SHOWN LIGHT. NEW FACILITIES AND PIPING SHOWN DARK.
- EXISTING CONDITIONS SHOWN ON THESE CONTRACT DRAWINGS ARE BASED ON A 2009 TOPOGRAPHIC SURVEY PERFORMED BY LUMSDEN ASSOCIATES PC, 4664 BRAMBLETON AVE., ROANOKE VA. (540)774-4411. AND OBTAINED FROM AVAILABLE GIS DATA. THEREFORE, LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY.
- CONTRACTOR IS ADVISED THAT A SUBSURFACE GEOTECHNICAL ENGINEERING REPORT HAS NOT BEEN PERFORMED.
- CONTRACTOR SHALL FIELD VERIFY AND COORDINATE ALL EXISTING PIPING ELEVATIONS, LOCATIONS, SIZE AND TYPE OF MATERIAL WITH NEW PIPING PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATIONS AS NECESSARY TO VERIFY LOCATIONS OF EXISTING UNDERGROUND PIPING AND UTILITIES PRIOR TO CONSTRUCTING NEW FACILITIES.
- ALL EXISTING UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THESE PLANS ARE APPROXIMATE AND DO NOT REPRESENT ALL UNDERGROUND UTILITIES OR SERVICE LINES IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL CONTACT THE PERTINENT UTILITY COMPANIES AND/OR LOCATING SERVICES TO HAVE ALL UNDERGROUND UTILITIES LOCATED AND MARKED.
- CONTRACTOR SHALL REPLACE ALL PAVEMENT THAT IS 1) SHOWN AS REPAIR/REPLACE ON THE CONTRACT DRAWINGS, 2) IMPACTED BY NEW CONSTRUCTION, AND 3) IMPACTED BY CONTRACTOR'S OPERATIONS.
- ANY FENCING DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE IMMEDIATELY REPLACED OR SUPPLEMENTED BY TEMPORARY FENCING TO MAINTAIN A SECURE SITE THROUGHOUT CONSTRUCTION. UPON COMPLETION OF CONSTRUCTION ACTIVITIES, FENCING SHALL BE RESTORED TO ORIGINAL CONDITIONS.
- WHERE SHEETING IS SHOWN, CONTRACTOR IS REQUIRED TO INSTALL SHEETING TO PROTECT EXISTING FACILITIES, UTILITIES, WETLANDS, ETC. WHERE SHEETING IS NOT SHOWN, SHEETING SHALL BE USED AT THE DISCRETION OF THE CONTRACTOR.
- CULVERTS OR STORM DRAINS REMOVED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- ALL DISTURBED AREAS SHALL BE RETURNED TO LIKE OR BETTER CONDITION WHETHER THEY ARE GRASSED, LANDSCAPED, GRAVELED OR OTHER. ANY DISTURBED PLANTINGS SHALL BE REPLACED BY LIKE SPECIES.
- VALVES AND BOXES: PROVIDE AN EXTENDED VALVE STEM WHERE DEPTH TO TOP OF VALVE EXCEEDS 5 FEET.
- WHEN LOCATED IN CITY OF ROANOKE RIGHT-OF-WAY, VALVE BOXES SHALL BE BURIED 2" BELOW GRADE. FIRE HYDRANTS SHALL BE LOCATED BEHIND THE DITCH LINE. VALVE BOXES SHALL BE INSTALLED OUTSIDE THE EDGE OF PAVEMENT.
- CONTRACTOR SHALL NOT PILE ANY EXCAVATED MATERIAL DIRECTLY ON THE PAVEMENT SURFACE.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL AS REQUIRED BY CITY OF ROANOKE TRANSPORTATION DIVISION AND MINIMIZE TRAFFIC INTERRUPTIONS TO THE MAXIMUM EXTENT POSSIBLE.
- CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS AND MAIL SERVICE AT ALL TIMES.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXACT LOCATION, DEPTH, SIZE, AND TYPE OF UTILITIES SHOWN. THE CONTRACTOR SHALL COMPLY WITH SECTION 12 VAC 8-590-1150 OF WATERWORKS REGULATIONS, DATED NOVEMBER 1995, WHERE UTILITY LINES CROSS.
- CONTRACTOR IS RESPONSIBLE FOR STABILIZING UTILITY POLES DURING CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OR DISTURBANCE OF INDIVIDUAL PROPERTY CORNER MONUMENTS CAUSED BY CONSTRUCTION ACTIVITIES AND SHALL HAVE THEM REPLACED BY A LAND SURVEYOR LICENSED IN THE COMMONWEALTH OF VIRGINIA.
- CONTRACTOR IS RESPONSIBLE FOR REMEDIATING ANY DAMAGE THAT OCCURS DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ANY LIVESTOCK, PETS AND/OR DOMESTICATED ANIMALS THAT ARE ENCOUNTERED AT THE PROJECT SITE.
- THE CONTRACTOR SHALL NAME AN ONSITE HEALTH AND SAFETY OFFICER RESPONSIBLE FOR ALL ONSITE OSHA AND HEALTH AND SAFETY ISSUES. THE NAME AND CONTACT NUMBER OF SAID PERSON SHALL BE SUBMITTED TO THE OWNER/ENGINEER.
- ANY WORK THAT WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT IS THE CONTRACTOR'S RESPONSIBILITY WHERE NOT SPECIFICALLY NOTED.
- WVWA WILL COORDINATE AND IMPLEMENT WATERLINE SEGMENT SHUTDOWNS, INCLUDING ISOLATION VALVE OPERATION AND TEMPORARY WATER SUPPLY SYSTEMS. CONTRACTOR SHALL NOTIFY WVWA AT LEAST TEN (10) BUSINESS DAYS PRIOR TO SCHEDULING WORK REQUIRING A SHUTDOWN.
- TEMPORARY SERVICE SHALL ONLY BE USED FROM MARCH 15 TO NOVEMBER 15.
- REFER TO SPECIFICATION SECTION 02080 FOR TRAFFIC CONTROL REQUIREMENTS.
- ALL PAVEMENT, SIDEWALKS, AND CURB AND GUTTER RESTORATION SHALL CONFORM TO THE CITY OF ROANOKE RIGHT OF WAY EXCAVATION AND RESTORATION STANDARDS, LATEST EDITION.
- STATIC PRESSURE IN EXISTING LINE IS APPROXIMATELY 75 PSI BASED ON HYDRAULIC GRADE LINE.
- CONTRACTOR MAY EXCAVATE IF REQUIRED AT SECTIONS PREVIOUSLY REPAIRED WITH PVC.
- CONTRACTOR SHALL LIMIT HIS WORK TO THE LIMITS OF THE ROAD RIGHT-OF-WAY AND SHALL CONTAIN HIS OPERATIONS ACCORDING TO THE CONTRACTOR DEVELOPED TRAFFIC CONTROL PLAN.
- BLASTING SHALL NOT BE USED.

EXISTING CONDITION NOTE:

- CONTRACTOR SHALL EXPECT TO ENCOUNTER STAINLESS STEEL REPAIR COUPLINGS.

LEGEND FOR CIVIL DRAWINGS

— LOD — LOD —	LIMITS OF DISTURBANCE	(IP)	INLET PROTECTION
— X — X —	EXISTING FENCE	[]	PROPOSED ACCESS PIT
---20---	EXISTING CONTOUR LINE	EXISTING	PROPOSED
— EXIST — EXIST —	EXISTING STORM DRAIN		LABELING STYLES
— UGT — UGT —	EXISTING UNDERGROUND TELEPHONE		
— OHU — OHU —	EXISTING OVERHEAD UTILITY		
~~~~~	WOODS		
— — —	PROPERTY LINE		
— — —	RAILROAD TRACK		
— — —	WATERLINE FOR REPAIR		
△	SURVEY CONTROL MONUMENT	⊕	FIRE HYDRANT
⊙	PROPERTY CORNER	⊕	FIRE PLUG
⊙	PROPERTY MONUMENT	⊕	UTILITY POLE
⊙	GAS VALVE	⊕	GUY WIRE
⊕	WATER METER	⊕	SANITARY SEWER MANHOLE
⊕	WATER MANHOLE	⊕	SANITARY SEWER CLEANOUT
⊕	WATER VALVE	⊕	SIGN
		⊕	BOLLARD
		⊕	STORM DRAINAGE MANHOLE
		⊕	TRAFFIC SIGNAL POLE
		⊕	TRAFFIC SIGNAL LIGHT
		⊕	TRAFFIC SIGNAL MANHOLE
		⊕	TRAFFIC CONTROL BOX
		⊕	VDOT MANHOLE
		⊕	DIRECTIONAL ARROW



KEY PLAN  
SCALE: 1"=100'-0"

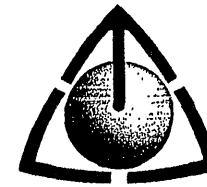
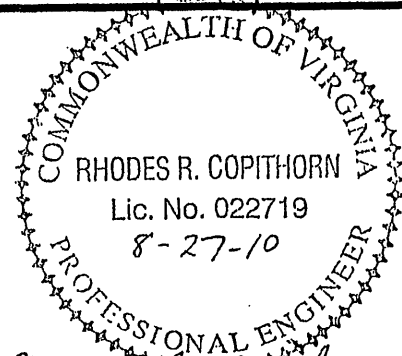
1"=100'-0" 100 50 0 100 200

#### NOTES:

Underground facilities, structures, and utilities have been plotted from available surveys and records, and therefore their locations must be considered approximate only. There may be others, the existence of which is presently not known. Anyone using utility information and data provided herein shall call Miss Utility at 1-800-552-7001 forty eight (48) hours, 2 business days in advance to verify the location of utilities prior to start of construction.

FOR CONSTRUCTION		FOR APPROVAL	
JSS	08/2010	GHR	JSS
JSS	05/2010	GHR	JSS
ISSUE NO.	DRAWN	DATE	CHECKED
	DESIGNER	APPROVED	DATE
PROJECT SUPERVISOR		DEPARTMENT SUPERVISOR	

ISSUE NO.	DRAWN	DATE	CHECKED	DESIGNER	APPROVED	DATE



**STEARNS & WHEELER** LLC  
Environmental Engineers & Scientists

ROANOKE, VIRGINIA

CITY OF ROANOKE, VIRGINIA		
WESTERN VIRGINIA WATER AUTHORITY LIBERTY ROAD WATERLINE		
TITLES, LEGEND, ABBREVIATIONS, GENERAL NOTES, AND KEY PLAN		
JOB NO.	8614089	CONTRACT
DRAWING	G-1	