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METER REPLACEMENT NOTES

- CONTRACTOR SHALL NOTIFY THE AUTHORITY AT LEAST TEN (10) BUSINESS DAYS PRIOR TO BEGINNING ANY SERVICE CHANGES.
- EXISTING METER SETTER SIZES VARY. CONTRACTOR SHALL INSPECT EACH EXISTING METER SETTER AND FURNISH A NEW METER SETTER WITH MATCHING INLET AND OUTLET SIZES.
- THE OWNER SHALL REMOVE ALL EXISTING METERS FROM EXISTING METER SETTERS AND RE-INSTALL EXISTING METERS IN NEW METER SETTERS. THE CONTRACTOR SHALL COORDINATE METER RE-LOCATION WITH THE OWNER IN ADVANCE AS SPECIFIED.
- ALL PROPOSED SERVICE LINES, WATER METER SETTERS, IDLERS, AND BOXES SHALL BE INSTALLED BEFORE PROPOSED MAINLINE IS FILLED FOR TESTING AND FLUSHING. OUTLET LINES FROM PROPOSED METERS SHALL BE TEMPORARILY CAPPED ABOVE GROUND LEVEL. LENGTH OF OUTLET LINE SHALL BE SUFFICIENT TO CONNECT TO EXISTING SERVICE LINES WITHOUT MORE THAN ONE COUPLING.
- DURING FILLING OF MAINLINE, METER SETTER VALVES SHALL BE SEQUENTIALLY OPENED TO EXPEL AIR AND FILL SERVICE LINES WITH CHLORINATED WATER, THEN RECLOSED. PRESSURE TESTING SHALL BE AGAINST METER SETTER VALVES.
- ONLY AFTER ALL PROPOSED WATERLINES HAVE SUCCESSFULLY PASSED PRESSURE TESTING, BACTERIOLOGICAL TESTING, BEEN PROPERLY FLUSHED AND ACCEPTED BY THE AUTHORITY, CAN ANY CONNECTIONS BE MADE TO EXISTING CUSTOMER SERVICE LINES. PROPOSED METER SETTERS, IDLERS, AND OUTLET LINES SHALL BE FLUSHED IMMEDIATELY PRIOR TO CONNECTION TO EXISTING SERVICE LINES.
- CONTRACTOR SHALL EXPOSE LINES TO VERIFY EXISTING SIZES AND MATERIAL TYPES AT ALL CONNECTION POINTS. BEFORE INTERRUPTION/CUTTING OF ANY EXISTING SERVICES, CONTRACTOR SHALL ENSURE THAT THE CORRECT MATERIAL TYPES, SIZES, AND CONFIGURATIONS ARE AVAILABLE ON SITE, ALONG WITH PROPER MEANS AND EQUIPMENT, TO COMPLETE RESTORATION OF SERVICE WITHOUT DELAY.
- EXISTING MAINLINES AND APPURTENANCES SHALL REMAIN IN CONTINUOUS SERVICE AND PRESSURIZED UNTIL THE AUTHORITY HAS GIVEN APPROVAL FOR THE ABANDONMENT OF EXISTING SYSTEM.

GENERAL UTILITY NOTES

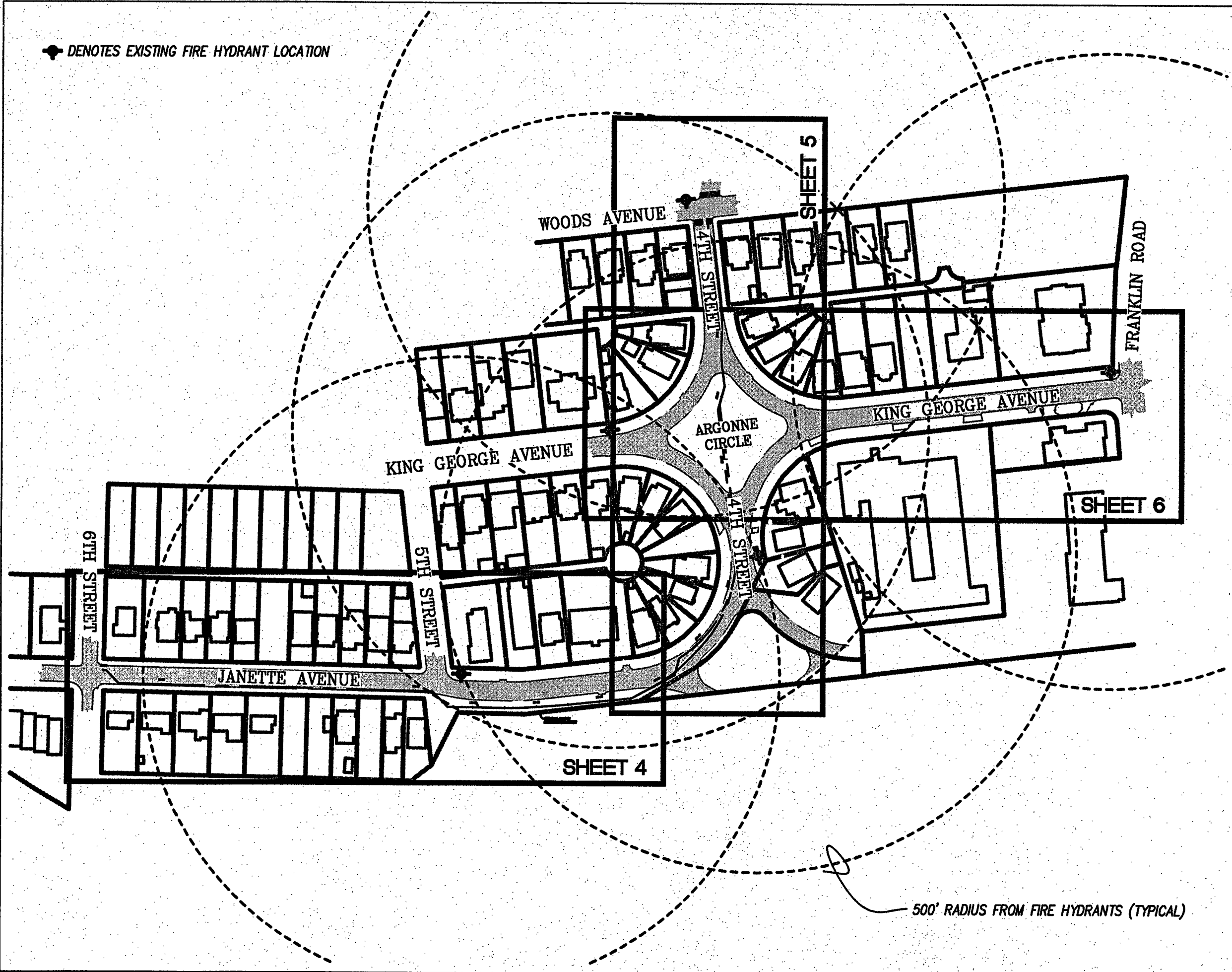
- ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE LATEST EDITION OF THE WESTERN VIRGINIA REGIONAL DESIGN AND CONSTRUCTION STANDARDS AVAILABLE AT WWW.WESTERNVAVATER.ORG OR BY CONTACTING THE AUTHORITY AT 540-853-5700. THE PROJECT SHALL ALSO COMPLY WITH THE GOVERNING JURISDICTION'S STANDARDS 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 BOX. FOLLOWING METER REPLACEMENT BY THE AUTHORITY, THE CONTRACTOR SHALL DEMOLISH THE EXISTING WATER METER SETTER AND BOX. 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 SLEEVE(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, HONG LIU, AT 540-853-2888. IN ROANOKE OR FRANKLIN COUNTIES, TRAFFIC CONTROL REQUIREMENTS SHALL BE DETERMINED ONCE THE VDOT LAND USE PERMIT HAS BEEN ISSUED. PLEASE CONTACT THE LOCAL VDOT OFFICE. TRAFFIC CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH THE MOST RECENT MUTCD MANUAL AND THE VDOT WORK AREA PROTECTION MANUAL UNLESS OTHERWISE SPECIFIED.
- THE CONTRACTOR SHALL NOTIFY THE AUTHORITY'S ENGINEERING COORDINATOR, MARK SINK, AT 540-537-3460 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 12VACS-590-1150, 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 DEQ (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.

WATERLINE NOTES

- INSTALL WATERLINE AND APPURTENANCES IN ACCORDANCE WITH THE DETAILS SHOWN ON THESE DRAWINGS AND ALL OTHER AUTHORITY REGULATIONS.
- A TYPICAL MINIMUM COVER OF THREE (3) FEET IS REQUIRED OVER PROPOSED WATERLINES UNLESS OTHERWISE INDICATED ON PLANS.
- WATER MAINS SHALL BE A MINIMUM CLASS 350 DUCTILE IRON PER AWWA C151, OR DR-14 PVC PER AWWA C-900, UNLESS OTHERWISE INDICATED ON PLANS.
- ALL WATERLINES SHALL BE INSTALLED ACCORDING TO THE PROFILES INCLUDED WITH THESE PLANS AND WITHOUT ANY ADDITIONAL HIGH POINTS OTHER THAN THOSE INDICATED ON PROFILES. SHOULD THE CONTRACTOR CONSTRUCT WATERLINE WITH HIGH POINTS NOT SHOWN ON PROFILES, THE CONTRACTOR SHALL INSTALL ADDITIONAL AIR RELEASE VALVES AT SUCH HIGH POINTS AND IN-LINE BLOW-OFFS AT ADJACENT LOW POINTS WITH NO ADDITIONAL COST TO THE AUTHORITY.
- ALL SERVICE LATERALS CROSSING ROADWAYS SHOULD BE BORED ACROSS TO A POINT PAST OPPOSITE EDGE OF PAVEMENT WITH MINIMAL ADDITIONAL DAMAGE TO ROAD SURFACE.
- ALL WATERLINES SHALL CROSS OVER SANITARY SEWER LINES IN ACCORDANCE WITH VIRGINIA WATERWORKS REGULATIONS SECTION 12VACS-590-1150.
- THE TOPS OF ALL VALVE BOXES, VALVE VAULTS, AND ACCESS MANHOLES SHALL BE INSTALLED TO GRADE AND FLUSH WITH PAVED SURFACES.
- WHERE IT IS NECESSARY TO DEFLECT PIPE EITHER HORIZONTALLY OR VERTICALLY, PIPE JOINT DEFLECTION OR BARREL BEND RADIUS SHALL NOT EXCEED 75% OF THE MANUFACTURERS MAXIMUM DEFLECTION ANGLE OR BEND RADIUS.
- ALL WATERLINES SHALL BE PROPERLY RESTRAINED WITH THRUST BLOCKS OR JOINT RESTRAINTS AS SHOWN ON AUTHORITY'S DETAILS.
- WHERE WATERLINE MUST CROSS UNDER STORM DRAINS, PIPES SHALL HAVE A MINIMUM OF 18" OF SEPARATION, OR THE STORM PIPE SHALL BE SUPPORTED IN ACCORDANCE WITH THE AUTHORITY'S DETAIL.
- OPERATION OF ALL EXISTING WATERLINE VALVES SHALL BE PERFORMED BY THE AUTHORITY. THE CONTRACTOR SHALL NOTIFY THE AUTHORITY'S UTILITY LINE SERVICE DIVISION AT LEAST 72 HOURS PRIOR TO REQUIRING LINE FILLING. WATERLINES SHOULD BE FILLED FROM LOW POINT ALONG ALIGNMENTS AS POSSIBLE.
- ALL WATERLINES AND SERVICE LATERALS SHALL BE DISINFECTED AND FLUSHED IN ACCORDANCE WITH AUTHORITY REGULATIONS AND AWWA C-851.
- ALL WATERLINES AND SERVICE LATERALS SHALL BE PRESSURE TESTED, AFTER BACKFILLING, TO A HYDROSTATIC PRESSURE OF NOT LESS THAN 100psi ABOVE THE DESIGN WATER PRESSURE FOR THE SYSTEM OR 200psi, WHICHEVER IS GREATER. TESTING PROCEDURE AND ALLOWABLE LEAKAGE SHALL BE ACCORDING TO AUTHORITY STANDARDS.
- SERVICE LATERALS SHALL BE BORED UNDER PAVEMENT WHENEVER POSSIBLE TO MINIMIZE PAVEMENT REPLACEMENT.

LEGEND		
ITEM	EXISTING	PROPOSED
Pavement	----	-----
Curb and Gutter	=====	=====
Curb	=====	=====
Pavement Replacement	-----	-----
Storm Drain Line	-----	-----
Sanitary Sewer Manhole	-----	-----
Sanitary Sewer Line	-----	-----
Waterline	-----	-----
Single Water Service	-----	-----
Double Water Service	-----	-----
Hydrant	-----	-----
Gate Valve	-----	-----
Underground Electric Line	-----	-----
Overhead Electric Line	-----	-----
Underground Telephone Line	-----	-----
Underground Gas Line	-----	-----
Utility Pole	-----	-----
Fence	-----	-----
Contours	-----	-----
Spot Elevation	-----	-----
Trailline	-----	-----

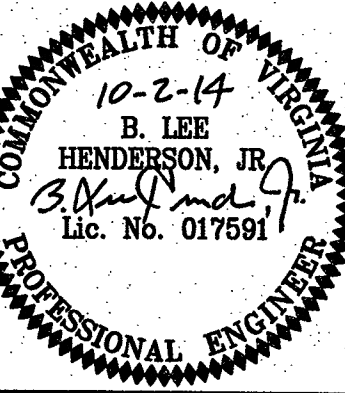
ABBREVIATIONS	
D.E.	DRAINAGE EASEMENT
W.E.	WATER LINE EASEMENT
S.S.E.	SANITARY SEWER EASEMENT
P.U.E.	PUBLIC UTILITY EASEMENT
ESMT	EASEMENT
M.B.L.	MINIMUM BUILDING LINE
R/W	RIGHT OF WAY
VAR.	VARIABLE
EX.	EXISTING
D.B.	DEED BOOK
P.B.	PLAT BOOK
P.G.	PAGE
No.	NUMBER
TYP.	TYPICAL
STA.	STATION
L.T.	LEFT
R.T.	RIGHT
RCP	REINFORCED CONCRETE PIPE
CMP	CORRUGATED METAL PIPE
OPP	CORRUGATED PLASTIC PIPE
PVC	POLYVINYL CHLORIDE
DRP	DUCTILE IRON PIPE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
W	WATER LINE



SHEET LAYOUT AND FIRE HYDRANT LOCATION

1" = 150'

LUMSDEN ASSOCIATES, P.C.
ENGINEERS-SURVEYORS-PLANNERS
ROANOKE, VIRGINIA



NOTES & DETAILS

OLD SOUTHWEST WATERLINE REPLACEMENTS - PHASE I

PREPARED FOR
WESTERN VIRGINIA WATER AUTHORITY
SITUATED IN
THE CITY OF ROANOKE, VIRGINIA

REVISIONS		DESCRIPTION	
NO.	DATE	1	2
1			
2			
3			
4			
5			

DATE: OCTOBER 2, 2014

SCALE: AS SHOWN

COMMISSION NO.: 12-184

SHEET 3 OF 8