1. A ROAD WORK AHEAD sign or SHOULDER WORK AHEAD sign should be placed on the left side of the oadway for a divided or one-way street only if the left shoulder is affected. Sign spacing should be 1300'-1500' for limited access highways, and on all other roadways 500'-800'
where the posted speed limit is greater than 45 mph, and 350-500' where the posted speed limit is 45 mph

4. The buffer space length shall be as shown in Table 6H-4 for the posted speed lim 5. Cone Taper Length (L):

Lane Width in Fee

6. A shadow vehicle with either an arrow board operating in the caution mode, or at least one high-intensity amber rotating, oscillating, or strobe light shall be parked 50'-100' in advance of the first

7. For short-duration operations of 60 minutes or less, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity amber rotating, oscillating, or strobe lights is used.

8. Vehicle hazard warning signals may be used to supplement high-intensity rotating, flashing, oscillating, or

control devices shall be placed as needed

ELLUMNATED FLASHING AMBER (CAUTION MODE) - CONES- SEE NOTE 3 SEE NOTE 1 (Figure TTC-4.0)

ure TTC-18.0)

1. Sign spacing distance should be 500'-800' where the posted speed limit is greater than 45 mph, and 350' 00' where the posted speed limit is 45 mph or less. 2. Care should be exercised when establishing the limits of the work zone to insure maximum possible sight

distance in advance of the flagger station and transition, based on the posted speed limit and at least equal to or greater than the values in Appendix A, Page A-8. 3. Where Right-of-Way or geometric conditions prevent the use of 48" x 48" signs, 36" x 36" signs may be

4. Flagging stations shall be located far enough in advance of the work zone to permit approaching traffic to reduce speed and/or stop before passing the work zone and allow sufficient distance for

5. All flaggers shall be state certified and have their certification card in their possession when performing flagging duties. (See Section 6E.01, Qualifications i

6. Cone spacing shall be at the following

7. A shadow vehicle with at least one high intensity rotating, oscillating, or amber strobe light shall be

8. A supplemental flagger may be required in this area to give advance warning of the operation ahead by

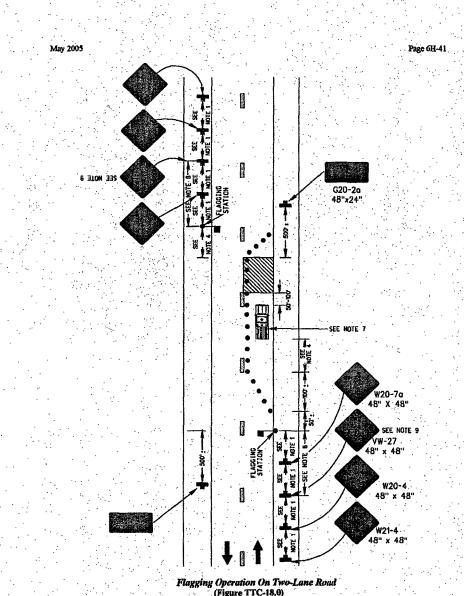
9. If the queue of traffic reaches the "BE PREPARED TO STOP" sign, then the signs should be readjusted at

10. When a highway-rail crossing exists within or upstream of the transition area and it is anticipated that queues resulting from the lane closure might extend through the highway-rail grade crossing, the temporary traffic control zone should be extended so that the transition area precedes the highway-rail crossing (See

11. At night, flagger stations shall be illuminated, except in emergencies

12. Cones may be eliminated when using a pilot vehicle operation or when the total roadway width is 20 feet or

13. For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible to road users approa from both directions, may be used (see Chapter 6B).



TYPICAL APPLICATIONS OF TEMPORARY TRAFFIC CONTROL AS GIVEN IN THE VIRGINIA WORK AREA PROTECTION MANUAL

GENERAL NOTES

1. A SAW CUT IS REQUIRED FOR ALL PAVEMENT DISTURBANCES PRIOR TO TRENCH EXCAVATION. THE VERTICAL SAW CUT IS TO BE MADE THROUGH THE FULL PAVEMENT DEPTH. A TACK COAT MUST BE APPLIED TO THE VERTICAL CUT PRIOR TO PLACING NEW PAVEMENT.

THE REPLACEMENT PAVEMENT SECTION SHALL BE AS SET FORTH IN SECTION 5.1 OF THE CITY OF ROANOKE RIGHT OF WAY EXCAVATION AND RESTORATION STANDARDS. SEE UTILITY $ec{ec{ec{v}}}$ TRENCH REPAIR DETAIL (UTR-1) IN SAME STANDARDS.

PAVEMENT RESTORATION SHALL INCLUDE REPLACEMENT TO THE NEAR SIDE EXISTING EDGE OF PAVEMENT OR CURBLINE, REGARDLESS OF THE TRENCH WIDTH AND LOCATION.

UNREPAIRED ROADWAYS OPENED TO TRAFFIC SHALL HAVE, AT A MINIMUM, COMPACTED AGGREGATE MATERIAL VDOT 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.

A LICENSED GEOTECHNICAL ENGINEER MUST OBSERVE BACKFILL OPERATIONS AND PROVIDE TEST RESULTS FOR SUB-BASE AND PAVEMENT STRUCTURE TO THE CITY OF ROANOKE. ON PAVED SURFACES, THE CONTRACTOR SHALL NOT USE OR OPERATE TRACTORS, BULLDOZERS, OR OTHER POWER-OPERATED EQUIPMENT WHICH HAVE TREADS, WHEELS, OR

SUPPORTS THAT WILL CUT OR OTHERWISE DAMAGE SUCH SURFACES. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING ROADWAY SIGNS. IF TEMPORARY REMOVAL OF SIGNS IS NECESSARY, SIGNS SHALL BE RESET BY END OF WORK DAY AS PREVIOUSLY LOCATED, OR AS DIRECTED BY THE CITY OF ROANOKE.

THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR CLEANING MUD FROM TRUCKS AND OTHER EQUIPMENT PRIOR TO ENTERING PUBLIC STREETS. IT IS THE CONTRACTORS RESPONSIBILITY TO INSURE TRAVEL WAYS ARE IN A CLEAN, MUD AND DEBRIS FREE CONDITION AT ALL TIMES.

ALL EQUIPMENT STAGING AND BULK MATERIAL STORAGE MUST OCCUR OUTSIDE OF THE RIGHT-OF-WAY. CONSTRUCTION MATERIALS SHALL NOT BE STAGED FROM CURB TO CURB { WITHIN THE ROADWAY SECTION.

10. ALL ABOVE GROUND APPURTENANCES, SUCH AS FIRE HYDRANTS, SHALL MEET VDOT CLEAR arphiZONE REQUIREMENTS.

MAINTENANCE OF TRAFFIC NOTES

LANE CLOSURES IN THIS AREA ARE RESTRICTED BY THE CITY OF ROANOKE TRANSPORTATION DEPARTMENT. LANE CLOSURES AND SHOULDER CLOSURES ARE ALLOWABLE BETWEEN THE HOURS OF 9:00AM AND 3:00PM MONDAY THROUGH FRIDAY.

LANE CLOSURES WILL NOT BE PERMITTED ON HOLIDAYS NOR ON THE DAY BEFORE OR AFTER, UNLESS OTHERWISE DIRECTED BY WVWA AND THE CITY OF ROANOKE. NO SATURDAY OR SUNDAY CLOSURES UNLESS DIRECTED BY THE WVWA AND THE CITY OF

CONTRACTOR SHALL MAINTAIN ONE WAY TRAFFIC ALONG ALL STREETS AND INTERSECTIONS 🗸 ADJACENT TO WORK AREA AT ALL TIMES. TOTAL STREET CLOSURE IS NOT ALLOWED WITH

DURING CONSTRUCTION, CONTRACTOR SHALL LIMIT DISRUPTION TO RESIDENTIAL ACCESS DRIVEWAYS, COORDINATE CONSTRUCTION ACTIVITIES THAT MAY AFFECT DRIVEWAYS WITH THE PROPERTY OWNER, AND PROVIDE OWNER WITH ACCESS BY END OF WORK DAY OR SOONER $\ensuremath{\,\,\smile}$

ALL STANDARDS AND GUIDELINES OF THE VIRGINIA WORK AREA PROTECTION MANUAL (VWAPM) SHALL APPLY TO ANY TRAFFIC CONTROL MEASURES INCLUDING, BUT NOT LIMITED $ec{}$ TO, ALL DEVICES, METHODS, AND DIMENSIONS. CONTRACTOR SHALL PROVIDE WARNING SIGNS, AND APPROVED PORTABLE SIGN STANDS AND

INSURE AN UNRESTRICTED VIEW OF ADVANCE WARNING SIGN MESSAGES FOR SAFETY OF \sim \checkmark TRAFFIC AND IN ACCORDANCE WITH THE VWAPM.

ALL WORK WITHIN THE RIGHT-OF-WAY SHALL BE APPROPRIATELY SIGNED REGARDLESS OF MHETHER A LANE OR SHOULDER CLOSURE IS NEEDED. DURING LANE CLOSURES, CONTRACTOR SHALL USE AT LEAST 2 FLAGMEN AT ALL TIMES

AND IN ACCORDANCE WITH THE VWAPM. CONES MAY BE USED IN AREAS WHERE PERSONNEL WILL BE PRESENT TO INSURE THEIR PROPER ALIGNMENT; GROUP II DRUMS SHALL BE REQUIRED WHEN THE WORK ZONE IS

UNMANNED. ALL CONES SHALL BE A MINIMUM OF 36" IN HEIGHT AND PLACED IN

ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE ALL TRAFFIC CONTROL EQUIPMENT AND OBJECTS SHALL MEET NCHRP 350 CRASH TESTING CRITERIA.

THESE NOTES ARE PROVIDED AS GUIDELINES ONLY. THE CONTRACTOR SHALL PREPARE A SPECIFIC TRAFFIC CONTROL PLAN THAT MATCHES HIS PLANNED OPERATIONS AND PROJECT

COMMUNICATION NOTES

THE CONTRACTOR SHALL ADVISE THE CITY OF ROANOKE TRANSPORTATION DEPARMENT OF PLANNED LANE CLOSURES A MINIMUM OF 72 HOURS IN ADVANCE OF PLANNED LANE

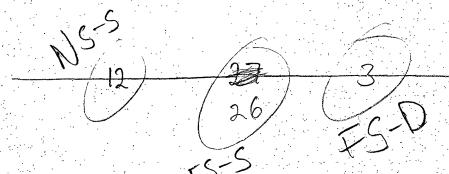
THE CONTRACTOR SHOULD IMMEDIATELY NOTIFY 911 FOR ANY EMERGENCY. IF AN EMERGENCY IS TRAFFIC RELATED, THE CITY OF ROANOKE TRANSPORTATION DEPARTMENT, OR HIS DESIGNEE SHOULD BE NOTIFIED IMMEDIATELY AFTER CALLING 911.

TAX MAP NUMBER	PROPERTY ADDRESS	ZONING	APPROXIMATE METER PRESSURE (psi)	METER TYPE
1140412	1618 6TH STREET, S.W.	RM-1	76 FS-S	S
1031011	1620 5TH STREET, S.W.	RM-2	62 FS-S	s,
1031109	343 JANETTE AVENUE, S.W.	RM-1	60 FS-S	S
1031019	401 JANETTE AVENUE, S.W.	RM-1	60 NS-S	s,
1031018	405 JANETTE AVENUE, S.W.	RM-1	60 NS-S	S
1031017	411 JANETTE AVENUE, S.W.	RM-1	61 FS Als-S	S
1031016	417 JANETTE AVENUE, S.W.	RM-1	61 FS-S	S
1031015	423 JANETTE AVENUE, S.W.	RM-2	61 FS-S	S
1031014	429 JANETTE AVENUE, S.W.	RM-2	61 FS-S	S
1031013	433 JANETTE AVENUE, S.W.	RM-2	62 F3~S	S
1140423	501 JANETTE AVENUE, S.W.	RM-1	63 ES-S	S,
1140513	502 JANETTE AVENUE, S.W.	RM-1	63 NS-S	S
1140512	504 JANETTE AVENUE, S.W.	RM-1	65 NS-S	S 1
1140422	505 JANETTE AVENUE, S.W.	RM-1	65 FS-D	3 D
1140510	508 JANETTE AVENUE, S.W.	RM-1	67 NS-S	S
1140421	509 JANETTE AVENUE, S.W.	RM-1	67 FS-D	D
1140420	511 JANETTE AVENUE, S.W.	RM-1	67	D
1140419	515 JANETTE AVENUE, S.W.	RW-1	68 ES S	S
1140507	520 JANETTE AVENUE, S.W.	RM-1	71 NS-S	S
1140417	521 JANETTE AVENUE, S.W.	RM-1	72 = S - S	-D -S
1140505	524 JANETTE AVENUE, S.W.	RM-1	72 NS-S	S
1140416	525 JANETTE AVENUE, S.W.	RM-1	72 F5-5	-05
1140504	528 JANETTE AVENUE, S.W.	RM-1	74 NS-S	S
1140415	529 JANETTE AVENUE, S.W.	RM-1		S
1140414	531 JANETTE AVENUE, S.W.	RM-1	74 FS-S 74 FS-S	S
1140502	532 JANETTE AVENUE, S.W.	RM-1		S
1140501	536 JANETTE AVENUE, S.W.	RM-1	133 3	S
1031112	347 4TH STREET, S.W.	RM-1		s,
1031111	352 4TH STREET, S.W.	RM-1		Su
1030819	1509 4TH STREET, S.W.	RM-1		
1030919	315 KING GEORGE AVENUE, S.W.	MX	-100 0	SU
1031106	324 KING GEORGE AVENUE, S.W.	MX	300	S
1030917	327 KING GEORGE AVENUE, S.W.	MX	Com 110	S
1030916	331 KING GEORGE AVENUE, S.W.	MX	62 FS-S	S
1030915	333 KING GEORGE AVENUE, S.W.	RM-1	62 FS-S	
1030914	339 KING GEORGE AVENUE, S.W.	RM-1	62 FS-S	S _√
1030913	341 KING GEORGE AVENUE, S.W.	RM-1	62 FS-S	S
1031101	344 KING GEORGE AVENUE, S.W.	RM-1	63 FS-S	
			60 FS-S	S
1030912	349 KING GEORGE AVENUE, S.W.	RM-1	67 NS-S	S
1030818	401 KING GEORGE AVENUE, S.W.	RM-1	67 FS-S	S
1030817	405 KING GEORGE AVENUE, S.W.	RM-1	65 TS-S	S
1031009	408 KING GEORGE AVENUE, S.W.	RM-1	1-112 FS-U	
1030920	1515 FRANKLIN ROAD, S.W.	MX	office County 155-5	S
1031107	1603 FRANKLIN ROAD, S.W.	MX	70 NS-S	S

PRESSURE AND METER TYPE FOR WATER SERVICE

Suposed to be:

S - DENOTES SINGLE METER SETTER, D - DENOTES DOUBLE METER SETTER



FS-S

SITE AND ZONING TABULATIONS

CURRENT ZONING: ZONING VARIES, SEE CHART TO THE LEFT. PROPOSED USE: SAME RESIDENTIAL USE WITH WATERLINE BETTERMENT. SITE ACREAGE: LOT SIZE VARIES. PROPOSED NUMBER OF LOTS: NO CHANGE IN NUMBER OF LOTS.

GENERAL NOTES

THE PROPERTIES SHOWN ON THESE PLANS ARE LOCATED AT ROANOKE CITY TAX ASSESSMENT MAP NUMBERS AS LISTED IN CHART AT LEFT.

OWNER/DEVELOPER: WESTERN VIRGINIA WATER AUTHORITY

(ATTN: EARL SMITH, P.E.)

601 SOUTH JEFFERSON STREET ROANOKE, VA 24011 (540) 853-5792

NO PORTION OF THIS PROJECT IS LOCATED WITHIN THE LIMITS OF A 100 YEAR FLOOD BOUNDARY AS DESIGNATED BY FEMA. THIS OPINION IS BASED ON AN INSPECTION OF THE FLOOD INSURANCE RATE MAP #51161C0164G, DATED SEPTEMBER 28, 2007.

THE PROPERTY LINES AND RIGHT OF WAY SHOWN ARE THE RESULT OF REPRODUCING RECORDED SUBDIVISION PLATS FOR THE LOTS INVOLVED AND JUSTIFYING THESE WITH PROPERTY CORNERS AS LOCATED BY FIELD SURVEY PERFORMED BY LUMSDEN ASSOCIATES,

TOPOGRAPHIC DATA BASED ON ROANOKE CITY GIS MAPPING. DATA IS SUPPLEMENTED BY A FIELD SURVEY PERFORMED BY LUMSDEN ASSOCIATES, P.C. IN 2012. THE LOCATION OF THE NEAR SIDE CURB, OR EDGE OF PAVEMENT, AND PROFILE ELEVATIONS ARE TAKEN DIRECTLY FROM THE FIELD SURVEY.

A TITLE REPORT WAS NOT FURNISHED FOR THESE PROPERTIES. THE PROPERTIES SHOWN ON THESE PLANS ARE CURRENTLY SERVED BY WESTERN VIRGINIA

WATER AUTHORITY WATER AND SANITARY SEWER. THE PROPERTIES SHOWN ON THESE PLANS ARE ACCESSED BY PUBLIC ROADS.

AN APPROVED SET OF PLANS SHALL BE KEPT ON SITE AT ALL TIMES. NO CONSTRUCTION/FIELD REVISIONS ARE ALLOWED WITHOUT THE APPROVAL OF THE

WESTERN VIRGINIA WATER AUTHORITY, THE CONSULTING ENGINEER, AND/OR ROANOKE CITY. MEASURES WILL REQUIRE A NEW SET OF PLANS STAMPED BY THE CONSULTING ENGINEER.

11. ANY NEW ALIGNMENTS, CHANGES IN GRADES, ALTERNATE PIPE SIZES, MANHOLES, OR ESC CITY AND WVWA ENGINEERS WILL REVIEW PLANS WITHIN ONE DAY OF SUBMITTAL. AFFECTED PLAN SHEETS SHALL BE REVISED WITH CHANGES/REVISIONS CLEARLY CLOUDED AND/OR REFERENCED IN THE REVISION BLOCK AND SUBMITTED TO ROANOKE CITY FOR APPROVAL AS A NUMBERED PLAN REVISION. 12. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO CLEAN OUT THE EXISTING STORM

SEWER SYSTEM WITHIN EXISTING DEVELOPMENTS SHOULD THESE SYSTEMS BECOME SILTED OR BLOCKED IN ANY WAY DUE TO THE CONSTRUCTION OF THIS PROPOSED PROJECT.

CONSTRUCTION NOTES

ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE WESTERN VIRGINIA WATER AUTHORITY, THE CITY OF ROANOKE, AND THE VIRGINIA DEPARTMENT OF TRANSPORTATION.

2. ALL WORK SHALL BE SUBJECT TO INSPECTION BY THE WESTERN VIRGINIA WATER AUTHORITY, AND THE CITY OF ROANOKE.

THE CONTRACTOR SHALL ADHERE TO CURRENT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, AND MAINTAIN THE CONSTRUCTION AREA IN A SAFE AND ACCEPTABLE MANNER AND SHALL BE RESPONSIBLE FOR ANY DAMAGES RESULTING FROM HIS FAILURE TO DO SO.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FROM ANY AGENCY AS NECESSARY FOR CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND THE ENGINEER

OF ANY CHANGES OR CONDITIONS ATTACHED TO PERMITS OBTAINED FROM ANY AUTHORITY COPIES OF COMPLETE AS-BUILT PLANS SHALL BE PROVIDED TO THE WESTERN VIRGINIA

WATER AUTHORITY, AND THE CITY OF ROANOKE. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.

THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION. CALL MISS UTILITY AT 1-800-552-7001 AT LEAST THREE WORKING DAYS BEFORE EXCAVATING.

THE CONTRACTOR SHALL PROVIDE A STORAGE CONTAINER FOR TEMPORARY STORAGE AND DISPOSAL OF LAND CLEARANCE DEBRIS AND BUILDING MATERIALS. ON-SITE BURIAL OF MATERIAL SHALL NOT BE PERMITTED. DEBRIS (EG., TREES, STUMPS. ETC.) TO BE DISPOSED OF IN AN APPROVED LANDFILL. COPY OF DUMP TICKETS TO BE SUBMITTED TO ROANOKE CITY, PLANNING, BUILDING, AND DEVELOPMENT DEPARTMENT.

GRADING NOTES

AREAS TO BE GRADED SHALL BE CLEARED OF ALL VEGETATION, STRUCTURES, AND OTHER PHYSICAL FEATURES IN PREPARATION OF GRADING. TOPSOIL SHALL BE REMOVED FROM THE CLEARED AREA AND STOCKPILED FOR FUTURE USE.

FILL MATERIAL SHALL BE FREE FROM ORGANIC MATTER AND ROCKS LARGER THEN 6 INCHES IN DIAMETER. THE EXISTING SURFACE SHALL BE SCARIFIED PRIOR TO PLACING FILL.

4. FILL MATERIAL SHALL BE PLACED AND COMPACTED IN EIGHT (8) INCH LOOSE LIFTS AND COMPACTED TO AT LEAST NINETY-FIVE (95) PERCENT OF THE MATERIAL'S MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698, STANDARD PROCTOR. MAINTAIN MOISTURE CONTENT OF FILL MATERIAL WITHIN THREE (3) PERCENT OF OPTIMUM TO ATTAIN REQUIRED COMPACTION DENSITY. WHERE NEW FILL IS PLACED ON AN EXISTING GROUND SURFACE THAT SLOPES MORE THAN

4:1, HORIZONTAL BENCHES SHALL BE CUT INTO THE EXISTING SURFACE PRIOR TO FILL PLACEMENT TO PROMOTE BINDING OF NEW FILL TO EXISTING GROUND.

NO SUBSURFACE SOILS INFORMATION HAS BEEN FURNISHED TO THE DESIGNING ENGINEER (LUMSDEN ASSOCIATES, PC.). A QUALIFIED GEOTECHNICAL ENGINEER, LICENSED IN THE STATE OF VIRGINIA, SHALL BE CONSULTED CONCERNING SOIL STABILITY, SLOPE STABILIZATION, SOIL COMPACTION, TESTING, AND OTHER SOIL CHARACTERISTICS. LUMSDEN ASSOCIATES ASSUMES NO RESPONSIBILITY OR LIABILITY RELATING TO FAILURES RESULTING FROM SAME.

FINISHED GRADES SHALL CONFORM AS NEAR AS POSSIBLE TO THE PRECONSTRUCTION SLOPES, SHAPES, AND ELEVATIONS, UNLESS OTHERWISE DIRECTED BY THE WESTERN VIRGINIA WATER AUTHORITY REPRESENTATIVE AND/OR THE CITY OF ROANOKE.

THE CONTRACTOR SHALL MAINTAIN A CLEAR FLOW PATH FOR SURFACE WATER TO STORM WATER DRAINAGE FACILITIES AT ALL TIMES.

OVERNIGHT STOCKPILES SHALL NOT BE LOCATED IN ROADWAYS, SIDEWALKS, RESIDENTIAL YARDS OR DRIVEWAYS AND SHALL BE REMOVED AT THE END OF THE WORK DAY.

OCTOBER 2, 2014 AS SHOWN

LUMSDEN ENGINEERS-SI ROANOKE, VIF

EALTH OF

10-2-19

B. LEE

HENDERSON, JR

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