SITE LOCATION AND DESCRIPTION

THIS PROJECT CONSISTS OF THE CONSTRUCTION OF APPROXIMATELY 6,000-FEET OF 12-INCH DUCTILE IRON WATERLINE LOCATED IN THE CAVE SPRING MAGISTERIAL DISTRICT OF ROANOKE COUNTY, VIRGINIA. MULTIPLE TAX MAP AND PARCEL IDENTIFICATION FOR THE PROPERTIES INVOLVED ARE AS SHOWN ON THE PLANS. THE PROJECT IS EXPECTED TO BEGIN IN THE WINTER OF 2008 AND TAKE 6 TO 8 MONTHS TO COMPLETE.

EXISTING SITE CONDITIONS

THE EXISTING CONDITIONS VARY, BUT CONSISTS OF INSTALLING THE WATERLINE ON THE SHOULDER OF U.S. ROUTE 220.

ADJACENT AREAS

THE VDOT RIGHT OF WAY IS BOUNDED BY NUMEROUS PROPERTY OWNERS AS SHOWN ON PLANS.

OFF-SITE AREAS

AT THIS TIME, OFF-SITE GRADING IS NOT ANTICIPATED. SHOULD ADDITIONAL SOIL BE NECESSARY TO COMPLETE THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE EROSION & SEDIMENT CONTROL REGULATIONS AT THE OFF-SITE LOCATION.

CRITICAL AREAS

CRITICAL AREAS ASSOCIATED WITH THIS SITE:

THE STREAM CROSSINGS ARE THE MOST CRITICAL AREAS OF THE SITE. STREAM BANKS SHALL BE PROTECTED WITH SILT FENCE TO MINIMIZE THE AMOUNT OF SEDIMENT ENTERING THE STREAM.

EROSION & SEDIMENT CONTROL MEASURES

IN ACCORDANCE WITH THE VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK (VESCH), EROSION AND SEDIMENT CONTROL MEASURES SHALL BE USED TO CONTROL THE MOVEMENT OF SURFACE WATER AND DEPOSITION OF SEDIMENT ON SITE DURING CONSTRUCTION ACTIVITIES, TO ENSURE THE STORAGE CAPACITY OF THE DRAINAGE SYSTEM, AND FOR THE ESTABLISHMENT OF A PROPER VEGETATIVE COVER AFTER CONSTRUCTION. BASED ON THE CONSTRUCTION DESIGN AND PROPERTY ATTRIBUTES. SPECIFIC EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN IDENTIFIED AND ARE EXPLAINED IN THE FOLLOWING SECTIONS. THE MINIMUM STANDARDS OF THE VESCH SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE.

SILT FENCE (VESCH STANDARD AND SPEC. 3.05)

SILT FENCE WILL BE USED TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT FROM DISTURBED AREAS DURING CONSTRUCTION OPERATIONS AND TO MINIMIZE SEDIMENT FROM LEAVING THE SITE.

CULVERT INLET PROTECTION (VESCH STANDARD AND SPEC. 3.08)

CULVERT INLET PROTECTION WILL BE USED TO MINIMIZE SEDIMENT FROM ENTEERING THE CULVERT AND BEING TRANSFERRED DOWNSTREAM.

TEMPORARY SEEDING (VESCH STANDARD AND SPEC. 3.31)

TEMPORARY SEEDING WILL BE USED TO ESTABLISH VEGETATIVE COVER AND TO REDUCE SILT RUNOFF FROM DISTURBED AREAS.

PERMANENT SEEDING (VESCH STANDARD AND SPEC. 3.32)

PERMANENT SEEDING WILL BE USED TO ESTABLISH VEGÉTATIVE COVER AND TO REDUCE SILT RUNOFF FROM DISTURBED AREAS NOT BEING DEVELOPED.

MULCHING (VESCH STANDARD AND SPEC. 3.35)

MULCHING WILL BE USED TO MINIMIZE EROSION BY PROTECTING THE SOIL SURFACE FROM RAINDROP IMPACT AND REDUCING THE VELOCITY OF OVERLAND FLOW. PRIMARY MULCHING WILL BE DONE WITH STRAW, AND SOIL STABILIZATION MATTING WILL BE APPLIED TO AREAS THAT DO NOT PROVIDE A GOOD STAND OF GRASS AFTER THE FIRST SEEDING OPERATION.

SOIL STABILIZATION BLANKETS AND MATTING (VESCH STANDARD AND SPEC. 3.36)

PROTECTIVE BLANKETS WILL BE UTILIZED ON PREPARED SLOPES 2:1 OR STEEPER AND ALSO TO LINE DITCH CHANNELS WHERE VELOCITIES EXCEED THE ALLOWABLE FOR GRASS LINED CHANNELS.

CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE. AREAS WHICH ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED BY FLAGS.

EROSION AND SEDIMENT CONTROLS WILL BE CONDUCTED IN THE FOLLOWING SEQUENCE:

- > INSTALL SILT FENCE GRADIENT OF DISTURBED AREAS AS NOTED ON THE PLAN SHEETS.
- > PERMANENT SEEDING AND MULCH WILL BE PLACED ON NON-DEVELOPED DISTURBED AREAS WITHIN 7 DAYS. > REMOVE ALL TEMPORARY SEDIMENT AND EROSION CONTROL FEATURES ONCE FINAL STABILIZATION HAS BEEN OBTAINED.
- THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.

ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED IMMEDIATELY FOLLOWING FINISHED CLEARING. SEEDING SHALL BE DONE WITH KENTUCKY 31 TALL FESCUE OR TURF-TYPE FESCUE ACCORDING TO VESCH STANDARD AND SPEC. 3.32, UNLESS A SPORTS-TYPE TURF GRASS IS INSTALLED FOR HIGHER TRAFFIC. IN ALL SEEDING OPERATIONS, SEED, FERTILIZER, AND LIME WILL BE APPLIED TO HELP PROMOTE A HEALTHY STAND OF VEGETATION.

ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY DURING CONSTRUCTION AND AFTER EACH SIGNIFICANT RAINFALL. THE FOLLOWING ITEMS WILL BE CHECKED IN PARTICULAR:

> THE SILT FENCE BARRIER WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF THE SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER. > SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND OF GRASS IS MAINTAINED. AREAS SHOULD BE FERTILIZED, IRRIGATED, AND RE-SEEDED AS NECESSARY.

EXISTING SOIL INFORMATION:

NOT ALL MAPPING UNIT DESCRIPTIONS ARE SHOWN. SOILS LISTED BELOW RELATE TO THE PROJECT AREA.

8A—Combs loam, 0 to 2 percent slopes, occasionally flooded Elevation: 750 to 2,600 feet Mean annual precipitation: 30 to 45 inches Mean annual air temperature: 50 to 57 degrees F Frost-free period: 171 to 207 days Map Unit Composition Combs and similar soils: 75 percent Minor components: 5 percent Description of Combs Landform: Flood plains

Landform position (three-dimensional): Tread Down-slope shape: Linear Across—slope shape: Linear Parent material: Alluvium Properties and qualities Slope: 0 to 2 percent Depth to restrictive feature: More than 80 inches Drainage class: Well drained Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr) Depth to water table: More than 80 inches Frequency of flooding: Occasional Frequency of ponding: None Available water capacity: High (about 9.8 inches) Interpretive groups Land capability (nonirrigated): 2w 0 to 18 inches: Loam 18 to 72 inches: Loam

Minor Components Percent of map unit: 5 percent Landform: Depressions on flood plains Landform position (three-dimensional): Tread Down-slope shape: Linear, concave

Mean annual precipitation: 30 to 45 inches Mean annual air temperature: 50 to 57 degrees F Frost-free period: 171 to 207 days Map Unit Composition Hayesville and similar soils: 75 percent Description of Hayesville Landform: Mountains Landform position (two-dimensional): Shoulder, summit Landform position (three-dimensional): Mountaintop

26C—Hayesville fine sandy loam, 7 to 15 percent slopes

Across-slope shape: Convex Parent material: Residuum weathered from granite and gneiss and Properties and qualities Slope: 7 to 15 percent Depth to restrictive feature: More than 80 inches Drainage class: Well drained Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None

Available water capacity: High (about 10.4 inches) Interpretive groups Land capability (nonirrigated): 4e 0 to 8 inches: Fine sandy loam 8 to 51 inches: Clay 51 to 62 inches: Sandy clay loam

Map Unit Setting Elevation: 1,200 to 2,600 feet Mean annual precipitation: 30 to 45 inches Mean annual air temperature: 50 to 57 degrees F Frost-free period: 171 to 207 days Map Unit Composition Derroc and similar soils: 75 percent Minor components: 5 percent Description of Derroc Landform: Flood plains Landform position (three—dimensional): Tread Down-slope shape: Linear Across-slope shape: Linear

occasionally flooded

13A—Derroc cobbly sandy loam, 0 to 4 percent slopes,

Parent material: Moderate and coarse textured alluvium Properties and qualities Slope: 0 to 4 percent Depth to restrictive feature: More than 80 inches Drainage class: Well drained Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr) Depth to water table: More than 80 inches Frequency of flooding: Occasional Frequency of ponding: None Available water capacity: Low (about 4.4 inches) Interpretive groups Land capability (nonirrigated): 2s

0 to 4 inches: Cobbly sandy loam 4 to 31 inches: Very cobbly sandy loam 31 to 65 inches: Extremely cobbly loamy sand Minor Components Percent of map unit: 5 percent Landform: Depressions on flood plains Landform position (three—dimensional): Tread

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Mean annual precipitation: 30 to 45 inches Mean annual air temperature: 50 to 57 degrees F Frost-free period: 171 to 207 days Map Unit Composition Hayesville and similar soils: 75 percent Description of Hayesville Landform: Mountains Landform position (two-dimensional): Summit, backslope, shoulder Landform position (three-dimensional): Mountainflank, mountaintop Down-slope shape: Convex Across-slope shape: Convex Parent material: Residuum weathered from granite and gneiss and Properties and qualities Slope: 15 to 25 percent Depth to restrictive feature: More than 80 inches Drainage class: Well drained Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Available water capacity: High (about 10.4 inches) Interpretive groups Land capability (nonirrigated): 6e Typical profile 0 to 8 inches: Fine sandy loam 8 to 51 inches: Clay

26D—Hayesville fine sandy loam, 15 to 25 percent slopes

Soil Map—Franklin County, Virginia, and Roancke County and the Cities of Roancke and Satem, Virginia

Web Soil Survey 2.

National Cooperative Soil Survey

Map Blake it 20 100 it briefled on A size (6 Efficitity) sheet.

USDA Natural Resources
Conservation Service

slopes, very stony Map Unit Setting Mean annual precipitation: 30 to 45 inches Mean annual air temperature: 50 to 57 degrees F Frost-free period: 171 to 207 days Map Unit Composition Hayesville and similar soils: 75 percent Description of Hayesville Landform: Mountains Landform position (two-dimensional): Backslope Landform position (three—dimensional): Mountainflank Down-slope shape: Linear Across-slope shape: Convex Parent material: Residuum weathered from granite and gneiss and Properties and qualities Slope: 25 to 50 percent Surface area covered with cobbles, stones or boulders: 1.5 Depth to restrictive feature: More than 80 inches Drainage class: Well drained Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None Available water capacity: High (about 10.4 inches) Interpretive groups Land capability (nonirrigated): 7s Typical profile 0 to 8 inches: Fine sandy loam

8 to 51 inches: Clay

51 to 62 inches: Sandy clay loam

Page 1 of 3

28E—Hayesville channery fine sandy loam, 25 to 50 percent

Soil Map-Franklin County, Virginia, and Roanoke County and the Cilies of Roanoke and Salem, Virginia **MAP LEGEND** MAP INFORMATION Map Scale: 1 29,300 if printed on A size (8.5" × 11") sheet Very Stony Spot Area of Interest (AOI Wet Spot The soil surveys that comprise your AOI were mapped at 1:24,000 ▲ Other Please rely on the bar scale on each map sheet for accurate map Soil Map Units Special Line Feature Special Point Feature: Source of Map: Natural Resources Conservation Service ∵ુ Gully Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov . . . Short Steep Sh Coordinate System UTM Zone 17N NAD83 Borrow Pit This product is generated from the USDA-NRCS certified data as of Political Features the version date(s) listed below Closed Depression Cities Soil Survey Area. Franklin County, Virginia Survey Area Dala Version 9, Sep 22, 2008 Water Features Soil Survey Area Roanoke County and the Cities of Roanoke and Salem, Virginia Streams and Canal Survey Area Data Version 5, Dec 18, 2007 Your area of interest (AOI) includes more than one soil survey area Marsh or swamp These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels Mine of Quarry of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area Local Roads Date(s) aerial images were photographed: 9/16/2003 Rack Outcrop The orthophoto or other base map on which the soil lines were + Saline Spo compiled and digitized probably differs from the background Sandy Spo Imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident Slide or \$1i; து Socic Spo Stony 5pe Natural Resources Web Soil Survey 2.1 Conservation Service National Cooperative Soil Survey Page 2 of 3

> Soil Map-Franklin County, Virginia, and Roanoke County and the Cities of Roanoke and Salem, Virginia

> > Map Unit Symbol

Map Unit Legend

20E	Hayesville loam, 25 to 45 percent slopes, very stony	7.4	1 0%	
Subtotals for Soil Surv	vey Area	7.4	1.0%	
Totals for Area of Inter	est	748.7	100.0%	
	Roanoke County and the Cities of Roanoke and S	alem, Virginia (VA161)		
Map Unit Symbol	Map Unit Name	Acres In AOI	Percent of AOI	
8A	Combs loam, 0 to 2 percent slopes, occasionally flooded	4.7	0.6%	
17E	Evard fine sandy loam, 25 to 55 percent slopes	22.4	22.4 3 0%	
26B	Hayesville fine sandy loam, 2 to 7 percent slopes	7.9	7.9 1.1%	
26C	Hayesville fine sandy loam, 7 to 15 percent slopes	56.1	7 5%	
26D	Hayesville fine sandy loam, 15 to 25 percent slopes	138.0	18.4%	
27D	Hayesville gravelly fine sandy loam, 15 to 25 percent slopes	0 0	0 0%	
28E	Hayesville channery fine sandy loam, 25 to 50 percent slopes, very stony	486 2	64 9%	
34E	Peaks gravelly loam, 35 to 60 percent slopes, very stony	ercent slopes, very 6.7		
34F	Peaks gravelly loam, 60 to 75 percent slopes, very stony	5.8 0.8%		
42A	Sindion loam, 0 to 2 percent slopes, occasionally flooded	11.6	1 5%	
47C	Thurmont sandy loam, 7 to 15 percent slopes	19	0 3%	
Subtotals for Soll Survey Area		741.4	99.0%	
Totals for Area of Interest		748.7	100.0%	

Franklin County, Virginia (VA067)

Acres in AOI

Percent of AOI

Map Unit Name

USD\ Natural Resources
Conservation Service

Web Sai Survey 2.1 National Cooperative Soil Survey

Page 3 of 3

Down-slope shape: Linear, concave ROANOKE COUNTY COMMENTS 12/2 4

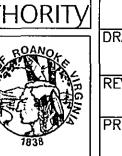
EARTH ENVIRONMENTAL CONSULTANTS, INC

Mate Pulled MARTY EUGENE PRILLAMAN Lic. No. 043205 12/2/08 Phone: (540) 483-5975 Fax: (540) 483-2221

51 to 62 inches: Sandy clay loam

Map Unit Setting





TOURT				
WISTERN VIRGINIA	DESIGN BY:	PROJECT:		DATE:
WATER AUTHORITY	BKS/MEP		WATERLINE EXTENSION PHASE I—A ROUTE 220	8/12/08
ROANO	DRAWN BY:		CE COUNTY, VA	DRAWING NUMBER:
		TITLE: EROSION & SEDIMENT CONTROL NARRATIVE		C5
	REVIEWED BY: MEP			
in County 30		DRAWING NAME:	SCALE:	SHEET NUMBER:
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