

COUNTY OF YORK

MEMORANDUM

DATE: July 14, 2023
TO: York County Board of Supervisors
FROM: Neil A. Morgan, County Administrator
SUBJECT: Feasibility Study for Springfield Road Alternative



Current Situation

Staff has now received the draft Springfield Road alternative feasibility study that I was directed by the Board of Supervisors to obtain. The cost of this study was \$48,000. Because of the interest in this topic, I am forwarding the report to the Board and making it public even though the staff has only conducted a cursory analysis and continues to review the report at this time. In summary, our engineering consultants believe that a functional alternate temporary road could be designed and constructed at the rough order of magnitude cost of \$1,970,000 and could conceivably be completed within three years, two for design/permitting and one for construction.

Discussion

Our preliminary review of the report finds that the critical variables have been properly identified and a rational potential route has been selected for analysis. We have identified some questions and concerns that need clarification which we are currently studying. Those items include but are not limited to the following:

- Were there any potential alternative routes that would be advantageous to consider?
- What alterations to the Tranquility site and erosion and sediment control plans would be necessary and what are the time and cost implications of those adjustments?
- What is required to connect the suggested temporary road into the state system in terms of time and cost?
- How many property owners would be impacted by the suggested route and what would be the approval mechanisms and time frame for those approvals?

My own observation is that the major timing factor that was not adequately considered in the time estimate was that of governmental process. York County would first have to make a decision to proceed with design (and presumably with construction) and then procure engineering services and identify at least \$1,970,000 in funding. Other impacted parties including Tranquility, Virginia Department of Transportation (VDOT), and the Eastern Virginia Regional Industrial Facility Authority (EVRIFA) would also need to be consulted. Although the consultant's report provides reasonable time frame projections of the various environmental reviews, some of these could very well become more complicated, take longer, and cost more. The most obvious possibility is that the final

design could not limit wetlands disturbance to under an acre thereby triggering a more onerous individual application to the Corps of Engineers and the Department of Environmental Quality. My opinion is that for planning purposes, one might easily expect project completion to take more than three years and cost substantially more than estimated.

The wisdom of pursuing this idea is questionable. First, there would be the need to identify at least \$1,970,000. The opportunity cost for deploying funds in this manner would be substantial. What are all of the productive investments the County could make with this sum of money? One clear example is our inability to maximize VDOT revenue-sharing matches in each two-year application cycle. We could match up to \$5,000,000 every two years and we have been averaging less than half of that amount for general transportation improvements.

Although no one can say with certainty how long Tranquility will be under construction, based on the observed pace, there is a good chance the project will be completed or nearing completion before this conceptual road could become available. That would result in the complete waste of \$1,970,000 or more for a road that would have no purpose. I continue to believe that a better investment in County funds would be to upgrade Springfield Road if that is something the residents desire.

Next Steps

Staff will complete its assessment of the feasibility report and conduct any follow-up discussions with our consultant within the next thirty days. At that time I will provide my definitive recommendation to the Board of Supervisors for your consideration.

NAM/dci

Attachments:



TO: Travis Rhodes, PE, Assistant Engineering Manager
York County, Virginia
Department of Public Works (DPW)

FROM: AH Engineering Consultants (AH)

SUBJECT: Hawk's Nest/Diesel Drive Temporary Access Road Feasibility

CONTRACT: P1742-03

AH PROJECT: 141-03

DATE: 7/3/2023

1. BACKGROUND

A new housing development is currently under construction in the vicinity of Kings Creek area in northern York County off Penniman Road (Rt 641). Construction traffic is accessing the property from Penniman Road and along Springfield Road (Rt 687), which is a narrow (approximately 14-16 feet wide), residential roadway running from Penniman Road to the southeast. Residents have expressed concerns over the construction traffic noise, nuisance, and limited ability to allow 2-way vehicular traffic. York County has requested that a feasibility study be prepared to construct a temporary access road from Hawk's Nest Drive extending along an existing gravel road in the Kings Creek Commerce Center Development Area. This would allow construction vehicles access along the north side of the new development and mitigate use of Springfield Road by construction vehicle access.

This feasibility study includes environmental permitting requirements, a concept alignment of the proposed temporary road, order of magnitude costs, and an estimated schedule.

2. EXISTING CONDITIONS

Hawks Nest Drive is located approximately 1700 feet to the northeast along Penniman Road from Springfield Road and is an existing asphalt drive providing access to the Jamestown-Yorktown Foundation building and parking lot. After the second parking lot entrance to this facility, the paved section of Hawks Nest Drive ends at an existing fence/gate. After the gate, Hawks Nest Drive transitions to Diesel Drive, which is one of a network of cleared partial gravel/dirt access roads within an approximately 430-acre parcel owned by the Eastern Virginia Regional Industrial Facility Authority. Wetlands exist within this parcel, as do

Chesapeake Bay Preservation Areas (both Resource Management Areas [RMA's] and Resource Protection Areas [RPA's]). See photos below for reference.



Figure 1 – End of paved road on Hawk's Nest Drive.



Figure 2 – Mid-point in gravel road looking east.



Figure 3 – Gravel road turning south.



Figure 4 – Wetlands crossing looking towards the development.



Figure 5 – Wetlands crossing at development looking back towards proposed access road.

3. ENVIRONMENTAL PERMITTING REQUIREMENTS

Development of the Diesel Drive construction entrance to the Eagles Nest mixed use residential subdivision would require building a roadway crossing of an unnamed tributary to Kings Creek. The roadway would traverse a perennial stream flanked with floodplain wetlands on both sides. The stream and associated wetlands are jurisdictional aquatic resources regulated by both the United States Army Corps of Engineers (USACE) and the Virginia Department of Environmental Quality (VDEQ). Based on remotely sensed data, the roadway will cross approximately 230 linear feet of jurisdictional aquatic resources. The roadway prism will provide a 20-foot-wide surface, with 3:1 slide slopes approximately 20 feet above the wetland surface. The total impact footprint will comprise approximately 32,200 square feet or 0.7392 acres of jurisdictional area.

3.1 PERMITS REQUIRED

The USACE Norfolk District currently has a Regional Permit for impacts of less than 1-acre to aquatic resources, which may be used to permit this type of project but has numerous requirements that must be met prior to project authorization. VDEQ will be the primary regulatory agency responsible for processing the application package. Primary evaluation elements include the following:

A wetland delineation and report must be submitted to USACE for review and approval before an application for work may be submitted. Submission of a completed Joint Permit Application (JPA) will be sent to the Virginia Marine Resources Commission (VMRC) for distribution to the regulatory agencies. VDEQ’s Programmatic General Permit-22 (SPGP-22) is the evaluation and permitting vehicle most likely to be utilized for the project, however USACE will still do a federal review. For impacts over 0.5 acre, USACE is required to coordinate with the Environmental Protection Agency, which will most likely require documentation regarding avoidance and minimization and an alternatives analysis.

An aquatic resources mitigation plan must be submitted along with the JPA. Mitigation for forested wetland resources will be established at a 2:1 ratio and stream impacts at a 1:1 ratio.

The regulatory agencies, at their individual discretion, may require a detailed alternatives analysis to determine the least environmentally damaging most practical alternative. That alternative would then become the preferred alternative and would potentially require revisions to, or redesign of, the proposed roadway.

Clearances from all consulting federal, state, and local resources must be obtained. These may include the United States Fish and Wildlife Service (USFWS), Virginia Game and Inland Fisheries, Virginia Department of Conservation and Recreation for Threatened and Endangered Species, and the York County Chesapeake Bay Board for potential impacts to Chesapeake Bay Resource Protection Areas. Time-of-year (TOY) restrictions for cutting trees to protect the Northern Long-eared Bat are currently established from April 1 - November 15 in any given year. These TOY restrictions may change on or before March 31, 2024, by the USFWS when they issue a new Final Rule in the Federal Register.

The project must be coordinated with the State Historic Preservation Officer (SHPO) for any potential impacts to archeological or historic resources.

A VDEQ Virginia Water Protection (VWP) individual permit or general permit coverage for the project must be obtained.

The activity must comply with applicable Federal Emergency Management Agency (FEMA) approved state or local floodplain management requirements.

The project also may require coordination and approval by the Virginia Department of Transportation (VDOT).

Should the application not qualify for RP-22, an individual Department of the Army permit would be required. Such action would then trigger preparation of a National Environmental Policy Act (NEPA) alternatives review analysis and an Environmental Assessment. Additional analyses would include, but not be limited to, such items as socioeconomic impacts, environmental justice, noise, traffic circulation and traffic patterns, aesthetics and visual impacts, and ground contamination.

4. PERMITTING SCHEDULE

Site surveys and reports, application preparation, review, agency processing and coordination requirements under RP-22 generally take approximately 1.5-2 years to complete. If an individual Department of the Army permit is required, the process will take at least 2 years.

5. TEMPORARY ACCESS ROAD CONCEPT

The AH Team has conducted preliminary investigations utilizing provided York County geographic information systems (GIS) data, available Light Detection and Ranging (LiDAR) data, soil maps, and applicable design guidelines to provide a conceptual alignment and cross-section of this temporary access roadway. To limit the amount of tree clearing and overall disturbance, the proposed access road alignment follows the existing cleared Diesel Drive away from Hawks Nest Drive approximately 1800 feet before turning to the south. This initial section will follow the existing roadway and will have minimal longitudinal slopes (0.3%-4%). After this turn, the roadway will continue to follow the existing ground, including slightly steeper slopes (up to 5%), prior to beginning the descent towards the wetland crossing. To match the existing topography, this descent will include a maximum 12% grade for approximately 300 feet. After the wetland crossing, the road will climb back up to terminate at the proposed development currently under construction along Timber Passage Trail. This segment has the steepest topography, resulting in a proposed 15% roadway slope. The area of the roadway alignment between the turn and the ending at the residential development is located within both RMA and RPA designated areas. See the provided Hawks Nest Drive / Diesel Drive Temporary Access Roadway Conceptual Alignment exhibit located in Appendix A of this study.

The AH Team has created this conceptual alignment utilizing references from the following design guidelines:

- VDOT’s Geometric Design Standards for Service Roads. GS-9
- United States Department of Transportation Federal Highway Administration Gravel Roads Construction and Maintenance Guide. 2015. FHWA-OTS-15-0002

- North Carolina Forest Service’s A Guide for Forest Access Road Construction and Maintenance in the Southern Appalachian Mountains. 2014. WQ-02-14
- United States Forest Service – Appendix G Hoosier National Forest Road Design Guidelines.
- Dirt & Gravel Road Best Management Practice Guide. Culpepper Soil and Water Conservation District. 2019.

Utilizing the above referenced design guidelines, the design criteria for this study have been set as shown in Table 1. Typical sections for both the minimum width and the two-lane width gravel sections are shown in Figure 1 and Figure 2.

Table 1 – Design Criteria	
Design Speed	10 mph
Longitudinal Slope	8% desirable, 12% for rolling terrain, 15% maximum
Roadway Width	20-foot minimum gravel section (16-foot minimum travel way with 2-foot minimum shoulder width)
Turnout Sections	10-foot width, 50-foot length, 25-foot tapers The AH Team has intermittently located the turnouts blending safety, sight distance, and cost. Due to only construction traffic (not mixed use) and low design speed, turnouts have been placed strategically on ridges and high points.
Cross Slope	For this study, the cross-section utilized is a minimum 4% crowned gravel roadway. Depending on the actual survey of the area, the roadway can be crowned, insloped, or outsloped as necessary to better follow the existing terrain and to facilitate drainage.
Clearing Width	5-foot minimum from edge of shoulder

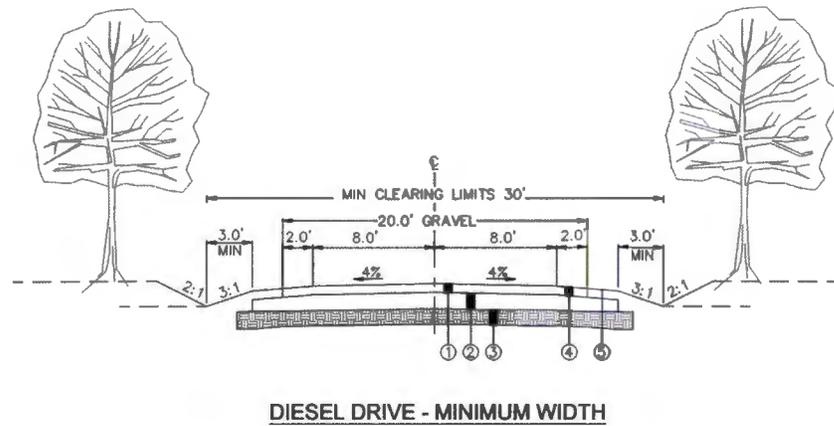


Figure 6 – Minimum width roadway section.

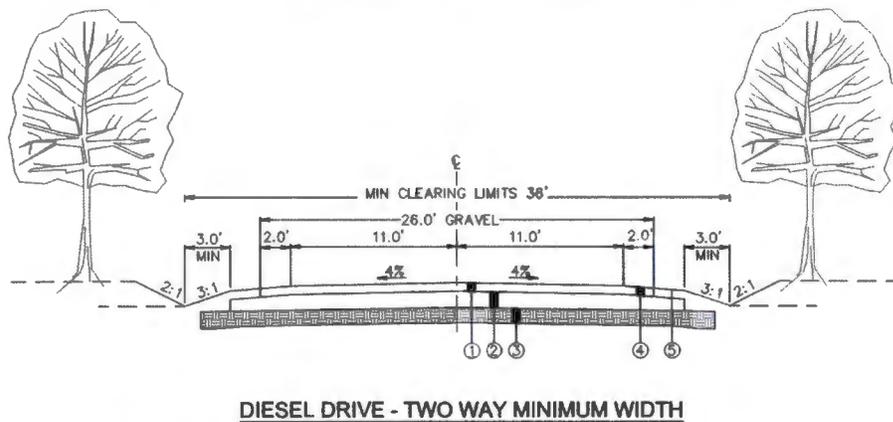


Figure 7 – Two-way minimum width roadway section.

The final pavement section shall be provided by a licensed geotechnical engineer after an on-site field investigation. For the purpose of this study, the AH Team has provided the thickness based on recommendations in the above stated design guidelines. A section of 6" of fine gravel similar to VDOT #21A over a base aggregate of VDOT #57 for strength and drainage is recommended. Proper compaction and routine blading and smoothing of the gravel roadway will reduce the loss of gravel. Geotextile fabric has been provided in the cost estimate for the area of steep slopes.

- ① AGGREGATE BASE – 6.0" AGGREGATE BASE 21-A
- ② AGGREGATE BASE – 8.0" VDOT #57, COMPACTED TO A DRY DENSITY OF AT LEAST 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D698)
- ③ SUBGRADE – STABLE, COMPACTED TO A DRY DENSITY OF AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (VTM-1), PROFFROLLED, AND APPROVED BY THE LOCAL INSPECTOR
- ④ 2' GRAVEL SHOULDER
- ⑤ 2' GRADED SHOULDER

5.1 PRELIMINARY CULVERT SIZING

The temporary access road will require a temporary wetland crossing. To facilitate this crossing, the AH Team developed preliminary culvert sizing calculations using methodologies consistent with the Federal Highway Administration Hydraulic Design Series Number 5 (HDS-5).

Calculations include hydrologic calculations to estimate of the peak flow associated with the 10-year storm event at the proposed crossing location and iterative calculations supported by HDS-5 nomographs for culvert selection (number and size).

The 10-year peak flow (Q_{10}) was estimated to be approximately 123 cubic feet per second (cfs) using the Rational Method where $Q_{10} = CiA$, and

- C = runoff coefficient based on land use = 0.186
- i = average intensity of rainfall = 5.52 inches per hour (iph)
- A = drainage basin area (acres) = 120 acres

The runoff coefficient was approximated using aerial imagery. Rainfall intensity was estimated using the NOAA Atlas 14 Precipitation Frequency Data Server (PFDS) for the 10-year, 24-hour storm event. The drainage basin area was delineated using USGS quadrangle map data.

Using the peak flowrate, and the following assumptions, the AH team proceeded to analyze various culvert sizes and configurations (i.e., number of culverts):

- Culvert material is corrugated metal pipe (circular)
- Culvert length = 100 feet (ft)
- Culvert slope = 0.005 ft/ft
- Culvert entrance loss coefficient = 0.9 (projecting from fill)

Using HDS-5 nomographs, the AH Team trialed several combinations of pipe diameter and number of pipes and calculated associated headwater depths (HW) under inlet and outlet control conditions. Critical depth, to aid in determining HW under outlet control conditions, was estimated to be approximately 3.2 ft using Manning’s equation and a roughly assumed

downstream geometry (triangular channel with 3H:1V side slopes). Based on its calculation, the AH Team preliminarily proposes one of the following culvert configurations:

- Two 42-inch CMPs, or
- Three 36-inch CMPs

Each of these potential solutions results in HW less than 5 ft, which provides sufficient freeboard based on preliminary proposed wetland crossing geometry.

5.2 EROSION AND SEDIMENT CONTROLS CONSIDERATIONS

To protect the existing wooded area outside the clearing limits, the AH Team has included tree protection along both sides of the alignment for the length of the project. Since tree protection is included for the whole length, it has not been added to the graphic to allow for better legibility.

Silt fence has been included on the downslope side of the alignment as provided in Appendix A. In locations where construction is located in the RPA areas, reinforced silt fence will be provided in lieu of regular silt fence.

In ditch locations, temporary check dams shall be provided in the roadside ditches and inlet protection has been included on anticipated drainage crossings.

5.3 WETLAND CROSSING

The conceptual alignment will cross an existing wetland area prior to ending at the residential development. According to the provided GIS contour and elevation data, existing elevations in this wetland crossing area are approximately 10'. Due to the limitation of the allowable longitudinal roadway grades and the existing terrain, the proposed roadway elevation is approximately 21.5'-24' in the wetland area. The results in 12'-14' of fill at the crossing. Based on preliminary hydraulic calculations, the culverts would need to be 2-42" pipes or 3-36" pipes. Utilizing VDOT's Temporary Vehicular Watercourse Crossing detail (EC-14), side slopes can be up to 1½: 1 with 12"x12" timbers lining the roadway. Due to the non-recoverable/non-traversable fill slopes, the AH Team has included guardrail in the construction cost estimate for this crossing as well. The crossing profile can be found in Appendix C.

5.4 SOILS

A web soil survey for the project area was generated utilizing USDA NRSC's web soil survey platform. The entire report can be found in Appendix B. A snapshot of the soil distribution profile at shown in Table 2 below.

Table 3– Conceptual Project Schedule		
Task Number	Project Phase/Deliverable	Schedule
1	Site Survey and Geotechnical	6 weeks following NTP
2	Environmental Permitting	104 weeks from NTP
3	Prefinal (90%) Design	8 weeks following Task 1
4	Review and Comment Period	4 weeks following Task 2
5	Final (100%) Design	6 weeks following Task 3
6	Procurement and Construction	36 weeks following Task 4
Total Estimated Duration		2 years

6.3 RECOMMENDATION

The following are preliminary recommendations associated with design and construction of the Hawk’s Nest/Diesel Drive temporary access road:

- Construction of a temporary access road is feasible but must be compared with the construction schedule of the residential development.
- Budget considerations associated with construction of a temporary access road should be compared with potential improvements to Springfield Road or other alternatives. Permanent improvements to Springfield Road may provide more long-term benefits to the stakeholders currently being impacted by the construction traffic.

In summary, while constructing a temporary access road is feasible, the budget and schedule requirements may be prohibitive when compared against the anticipated residential development construction schedule and potential benefits associated with permanent improvements to Springfield Road.

Table 2 – Soil Distribution Profile				
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	Soil Type
11C	Craven-Uchee complex, 6 to 10 percent slopes	0.8	15.2%	D/B
14B	Emporia fine sandy loam, 2 to 6 percent slopes	1.3	25.0%	B
15F	Emporia complex, 25 to 50 percent slopes	1.2	23.5%	B
19B	Kempsville-Emporia fine sandy loams, 2 to 6 percent slopes	0.0	0.5%	A/B
29B	Slagle fine sandy loam, 2 to 6 percent slopes	0.7	12.9%	C
35	Udorthents, loamy	1.2	22.9%	-
Total for Area of Interest		5.1	100%	

6. SUMMARY

6.1 ESTIMATED COSTS

With the current level of information provided, total costs for the design, permitting, and construction of the access road are estimated to be **\$1,978,000**. See Appendix D Feasibility Study ROM cost estimate for a detailed breakdown. Note, that ROM construction cost estimate does not include the cost of removal of the temporary roadway once construction of the housing development is complete since the intent of the roadway is not known at this time.

6.2 SCHEDULE

The following conceptual project schedule is provided for general timeframes. Please note that this schedule does not account for time of year restrictions for clearing and grubbing.



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for James City and York Counties and the City of Williamsburg, Virginia

York County - Diesel Drive Construction Entrance



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

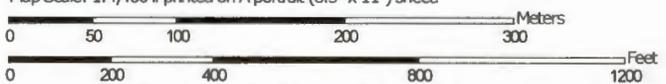
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

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Soil Map



Map Scale: 1:4,460 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

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MAP LEGEND

Area of Interest (AOI)		 Spoil Area	
 Area of Interest (AOI)		 Stony Spot	
Soils		 Very Stony Spot	
 Soil Map Unit Polygons		 Wet Spot	
 Soil Map Unit Lines		 Other	
 Soil Map Unit Points		 Special Line Features	
Special Point Features		Water Features	
 Blowout		 Streams and Canals	
 Borrow Pit		Transportation	
 Clay Spot		 Rails	
 Closed Depression		 Interstate Highways	
 Gravel Pit		 US Routes	
 Gravelly Spot		 Major Roads	
 Landfill		 Local Roads	
 Lava Flow		Background	
 Marsh or swamp		 Aerial Photography	
 Mine or Quarry			
 Miscellaneous Water			
 Perennial Water			
 Rock Outcrop			
 Saline Spot			
 Sandy Spot			
 Severely Eroded Spot			
 Sinkhole			
 Slide or Slip			
 Sodic Spot			

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: James City and York Counties and the City of Williamsburg, Virginia
 Survey Area Data: Version 20, Aug 29, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 21, 2022—Jul 13, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
11C	Craven-Uchee complex, 6 to 10 percent slopes	0.8	15.2%
14B	Emporia fine sandy loam, 2 to 6 percent slopes	1.3	25.0%
15F	Emporia complex, 25 to 50 percent slopes	1.2	23.5%
19B	Kempsville-Emporia fine sandy loams, 2 to 6 percent slopes	0.0	0.5%
29B	Slagle fine sandy loam, 2 to 6 percent slopes	0.7	12.9%
35	Udorthents, loamy	1.2	22.9%
Totals for Area of Interest		5.1	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

Custom Soil Resource Report

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

James City and York Counties and the City of Williamsburg, Virginia

11C—Craven-Uchee complex, 6 to 10 percent slopes

Map Unit Setting

National map unit symbol: 41pq

Elevation: 0 to 700 feet

Mean annual precipitation: 40 to 55 inches

Mean annual air temperature: 57 to 61 degrees F

Frost-free period: 165 to 193 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Craven and similar soils: 36 percent

Uchee and similar soils: 34 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Craven

Setting

Landform: Marine terraces

Landform position (three-dimensional): Tread

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Marine deposits

Typical profile

H1 - 0 to 9 inches: fine sandy loam

H2 - 9 to 53 inches: clay

H3 - 53 to 80 inches: sandy clay loam

Properties and qualities

Slope: 6 to 10 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 24 to 36 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: D

Hydric soil rating: No

Description of Uchee

Setting

Landform: Marine terraces

Landform position (three-dimensional): Tread

Down-slope shape: Convex

Across-slope shape: Convex

Custom Soil Resource Report

Parent material: Marine deposits

Typical profile

H1 - 0 to 24 inches: loamy fine sand

H2 - 24 to 56 inches: sandy clay loam

H3 - 56 to 65 inches: sandy loam

Properties and qualities

Slope: 6 to 10 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 1.98 in/hr)

Depth to water table: About 42 to 60 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: B

Hydric soil rating: No

14B—Emporia fine sandy loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 41pt

Elevation: 20 to 150 feet

Mean annual precipitation: 40 to 55 inches

Mean annual air temperature: 57 to 61 degrees F

Frost-free period: 165 to 193 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Emporia and similar soils: 80 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Emporia

Setting

Landform: Marine terraces

Landform position (three-dimensional): Tread

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Marine deposits

Typical profile

H1 - 0 to 13 inches: fine sandy loam

H2 - 13 to 58 inches: loam

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H3 - 58 to 75 inches: sandy clay loam

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Very low

*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.06 to 1.98 in/hr)*

Depth to water table: About 36 to 54 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

Hydric soil rating: No

15F—Emporia complex, 25 to 50 percent slopes

Map Unit Setting

National map unit symbol: 41py

Elevation: 20 to 150 feet

Mean annual precipitation: 40 to 55 inches

Mean annual air temperature: 57 to 61 degrees F

Frost-free period: 165 to 193 days

Farmland classification: Not prime farmland

Map Unit Composition

Emporia and similar soils: 75 percent

Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Emporia

Setting

Landform: Marine terraces

Landform position (three-dimensional): Riser

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Marine deposits

Typical profile

H1 - 0 to 13 inches: fine sandy loam

H2 - 13 to 58 inches: loam

H3 - 58 to 75 inches: sandy clay loam

Properties and qualities

Slope: 25 to 50 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

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Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.06 to 1.98 in/hr)

Depth to water table: About 36 to 54 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Hydric soil rating: No

Minor Components

Johnston

Percent of map unit: 5 percent

Landform: Flood plains

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

19B—Kempsville-Emporia fine sandy loams, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 41q2

Elevation: 20 to 400 feet

Mean annual precipitation: 40 to 55 inches

Mean annual air temperature: 57 to 61 degrees F

Frost-free period: 165 to 193 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Kempsville and similar soils: 50 percent

Emporia and similar soils: 30 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kempsville

Setting

Landform: Marine terraces

Landform position (three-dimensional): Tread

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Marine deposits

Typical profile

H1 - 0 to 14 inches: fine sandy loam

H2 - 14 to 55 inches: sandy clay loam

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H3 - 55 to 68 inches: fine sandy loam

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Very low

*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 supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: A

Hydric soil rating: No

Description of Emporia

Setting

Landform: Marine terraces

Landform position (three-dimensional): Tread

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Marine deposits

Typical profile

H1 - 0 to 13 inches: fine sandy loam

H2 - 13 to 58 inches: loam

H3 - 58 to 75 inches: sandy clay loam

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Very low

*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.06 to 1.98 in/hr)*

Depth to water table: About 36 to 54 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

Hydric soil rating: No

29B—Slagle fine sandy loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 2sgy1

Elevation: 70 to 330 feet

Mean annual precipitation: 32 to 51 inches

Mean annual air temperature: 47 to 70 degrees F

Frost-free period: 158 to 206 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Slagle and similar soils: 83 percent

Minor components: 3 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Slagle

Setting

Landform: Marine terraces

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Riser, tread, rise

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy marine deposits

Typical profile

Ap - 0 to 8 inches: fine sandy loam

Bt - 8 to 51 inches: sandy clay loam

C - 51 to 70 inches: sandy loam

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)

Depth to water table: About 18 to 36 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C

Hydric soil rating: No

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Minor Components

Myatt

Percent of map unit: 3 percent
Landform: Depressions
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: Yes

35—Udorthents, loamy

Map Unit Setting

National map unit symbol: 41qq
Elevation: 0 to 130 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 165 to 193 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 75 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Landform: Marine terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex

Properties and qualities

Slope: 0 to 70 percent
Depth to restrictive feature: More than 80 inches
Runoff class: High
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Minor Components

Bethera

Percent of map unit: 3 percent
Landform: Depressions
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave

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Hydric soil rating: Yes

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. *Soil survey manual*. Soil Conservation Service, U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. *Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys*. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. *Keys to soil taxonomy*. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX D: Hawk's Nest / Diesel Drive Feasibility Study – ROM Cost Estimate		
Base Civil Construction Cost:		
Demolition / Erosion and Sediment Control		\$164,000
Civil Roadway		\$1,016,000
Subtotal		\$1,180,000
Contractor Mobilization/Demobilization	10%	\$118,000
Subtotal		\$1,298,000
Contingency	30%	\$390,000
Construction Subtotal		\$1,688,000
ROM Roadway Design Cost:		
Roadway Design Construction Documents		\$195,000.00
Survey		\$35,000.00
Geotechnical Investigations		\$25,000.00
Environmental Permitting		\$35,000.00
Design Subtotal		\$290,000
ESTIMATED PROJECT TOTAL		\$1,978,000

CONSTRUCTION COSTS DETAILED BREAKDOWN

DEMOLITION AND E&S QUANTITIES

Item No.	Item	Unit	Quantity	Unit Price	Total Price (rounded up the nearest \$1k)
1	Clearing and Grubbing	AC	1.5	\$42,000.00	\$65,000
2	Erosion Control – Inlet Protection	EA	3	\$260.00	\$1,000
3	Erosion Control – Silt Fence	LF	3640	\$5.00	\$19,000
4	Erosion Control – Reinforced Silt Fence	LF	460	\$7.00	\$4,000
5	Erosion Control – Temporary Check Dams	EA	66	\$400.00	\$27,000
6	Erosion Control – Temporary Seed	LB	227	\$100.00	\$23,000
7	Erosion Control – Tree Protection	LF	6250	\$3.90	\$25,000
SUBTOTAL					\$164,000

CIVIL QUANTITIES

Item No.	Item	Unit	Quantity	Unit Price	Total Price
1	Earthwork – Regular Excavation	CY	4049	\$38.00	\$154,000
2	Earthwork – Fill	CY	1587	\$34.00	\$54,000
3	Earthwork – Undercut and Select Material, Backfill	CY	810	\$92.00	\$75,000
4	6" Crushed Stone Aggregate Base, #21-A	TON	2787	\$53.00	\$148,000
5	8" VDOT #57	TON	4354	\$64.00	\$279,000
6	Television Inspection	LF	170	\$4.50	\$1,000
7	VDOT DI-1 Yard Drop Inlet	EA	3	\$4,200	\$13,000
8	18" RCP Storm Pipe	LF	170	\$190.00	\$33,000
9	42" RCP Storm Pipe	LF	148	\$260.00	\$39,000
10	Dry Rip Rap, Class 1	SY	1200	\$120.00	\$144,000

11	New Sign Panel, Fabricated	SF	125	\$52.00	\$7,000
12	Telspar Signpost	LF	180	\$40.00	\$7,000
13	Guardrail	LS	1	\$34,500	\$35,000
14	Stabilization Fabric - Geotextile	SY	2667	\$10.00	\$27,000
SUBTOTAL					\$1,016,000

DEMOLITION AND E&S SUBTOTAL				\$164,000
CIVIL SUBTOTAL				\$1,016,000
TOTAL				\$1,180,000

COUNTY OF YORK

MEMORANDUM

DATE: July 13, 2023
TO: York County Board of Supervisors
FROM: Neil A. Morgan, County Administrator
SUBJECT: Notification of Certain Procurements



In accordance with the Board's policy for the procurement of items in the County's approved Capital Improvements Program (CIP) involving the purchase of goods and services costing between \$50,000 and \$100,000, or when otherwise stipulated by a prior resolution, notification is hereby given that staff has completed the procurement arrangements for the following County project:

- The County conducted a public solicitation which was awarded to AH Environmental. AH Environmental has a VDOT-Certified inspector on staff. The County has several sidewalk construction projects which require a VDOT-Certified inspector on-site in order to receive grant funding. Due to the timing of VDOT reporting requirements, in order to not lose the grant funding for these projects, an emergency/exigency Purchase Order (PO) was placed with AH Environmental. The original PO was placed in the amount of \$39,528, and a 30-day extension for continuing work was placed in the amount of \$25,668.76 bringing the total spend amount to \$65,196.76.

Dudley/3717

Ingram, Diane

From: Bellamy, Mark
Sent: Friday, July 14, 2023 1:52 PM
To: Ingram, Diane
Subject: FW: swearing in BOS and SB members for new term

From: Latham, Walt <walt.latham@yorkcounty.gov>
Sent: Friday, July 14, 2023 10:36 AM
To: Morgan, Neil <Neil.Morgan@yorkcounty.gov>; Bellamy, Mark <bellamy@yorkcounty.gov>; Fuller, Brian <bfuller@yorkcounty.gov>; 'Shandor, Victor' <vshandor@ycsd.york.va.us>; Schott, Heather <heather.schott@yorkcounty.gov>; 'Ford, Sandra' <sford@ycsd.york.va.us>; Hill, Richard <Richard.Hill@yorkcounty.gov>
Cc: Chair, Electoral Board <Richard.Rawls@yorkcounty.gov>; Vice Chair, Electoral Board <constance.jones@yorkcounty.gov>; Secretary, Electoral Board <Sandra.Molineaux@yorkcounty.gov>
Subject: swearing in BOS and SB members for new term

Good morning –

The supervisors and school board members will be elected on November 7. The canvass of the results of the election should be complete by November 14.

In the past, the county and the school division have held ceremonies for their respective boards to be sworn in and presented with their election certificates. This isn't a requirement, but I thought I would reach out to you in anticipation of these events to see if you wanted to do one again, and, if so, if you could let me know when you might want to hold them.

Some things to consider regarding any swearing-in event:

1. Before being sworn in, the candidate must be certified as the winner by the local electoral board.
2. All successful candidates must have complied with all pertinent campaign finance requirements prior to qualifying for office, entering upon the duties of office, or receiving any salary or emoluments for that office. The electoral board is specifically prohibited by Code from issuing a certificate of election until copies of the pertinent reports have been filed as required. (Va. Code 24.2-948.2)
3. There is a chance that final certification could be delayed in the event of a recount, contest, or audit of the election results.

Walt

WALTER T. LATHAM, JR.
State-Certified General Registrar
General Registrar and Director of Elections
County of York, Virginia

Mailing Address:
PO Box 451
Yorktown, VA 23690

Physical Address:

Washington Sq. Shopping Center
5322 Geo. Wash. Mem. Hwy.
Yorktown, VA 23692

Telephone: 757-890-3440

Website: <http://www.yorkcounty.gov/voting>